

SPARK



**ATSU
disruptors**

Second-year ATSU-MOSDOH student Jenna Arcipowski works in the dental simulation lab on the Kirksville, Missouri, campus.



FEATURES

- 12 ATSU disruptors**
Just as A.T. Still, DO, positively disrupted healthcare in the late 1800s, ATSU faculty and staff members are continuing to make significant advancements and discoveries in their respective areas of expertise.
- 18 ATSU research symposia**
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Tim Ostrowski, PhD, focuses his research on the lesser-known symptoms of Alzheimer's disease, and he ensures students are involved every step of the way to gain valuable research experience.
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ATSU Mission

A.T. Still University of Health Sciences serves as a learning-centered university dedicated to preparing highly competent professionals through innovative academic programs with a commitment to continue its osteopathic heritage and focus on whole person healthcare, scholarship, community health, interprofessional education, diversity, and underserved populations.

ATSU schools and colleges

ATSU is comprised of Kirksville College of Osteopathic Medicine (ATSU-KCOM), Arizona School of Health Sciences (ATSU-ASHS), College of Graduate Health Studies (ATSU-CGHS), Arizona School of Dentistry & Oral Health (ATSU-ASDOH), School of Osteopathic Medicine in Arizona (ATSU-SOMA), and Missouri School of Dentistry & Oral Health (ATSU-MOSDOH).

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Disruptors amid disruptions

In this third issue of *Spark*, we are featuring ATSU disruptors, those members of the University community who are making important advancements in their fields and changing healthcare knowledge and education for the better. ATSU's culture of positively disrupting healthcare began with our founder, A.T. Still, DO, who established a whole person approach to patient care. This culture continues today with dedicated faculty, staff, and students working to make a difference in their communities.

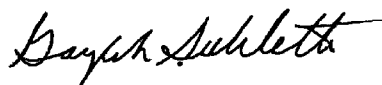
While some disruptions are good, other kinds – like a pandemic – are more challenging. The disruptions caused by COVID-19 have affected nearly every aspect of our lives, changing how we interact with each other and how we carry out our daily routines and responsibilities. At ATSU, we have adapted processes to keep the University community safe while continuing to learn and work. For our faculty, staff, and students pursuing scholarly activity, limited access to facilities may have slowed their work, but they have persevered. These motivated individuals have continued to work remotely, taking advantage of opportunities to complete tasks, including analyzing data and submitting funding applications.

The University is fortunate to have many faculty and staff who are experts in a range of health disciplines. From microbiology to health administration and everything in between, these devoted faculty and staff are leading students toward their career goals. We hope you enjoy reading about some of their latest scholarly endeavors, and we encourage you to share how the founding osteopathic institution continues to make positive changes locally and around the world.

Yours in service,



Craig M. Phelps, DO, '84
President



Gaylah Sublette, MBA
Vice President
Research & Sponsored Programs



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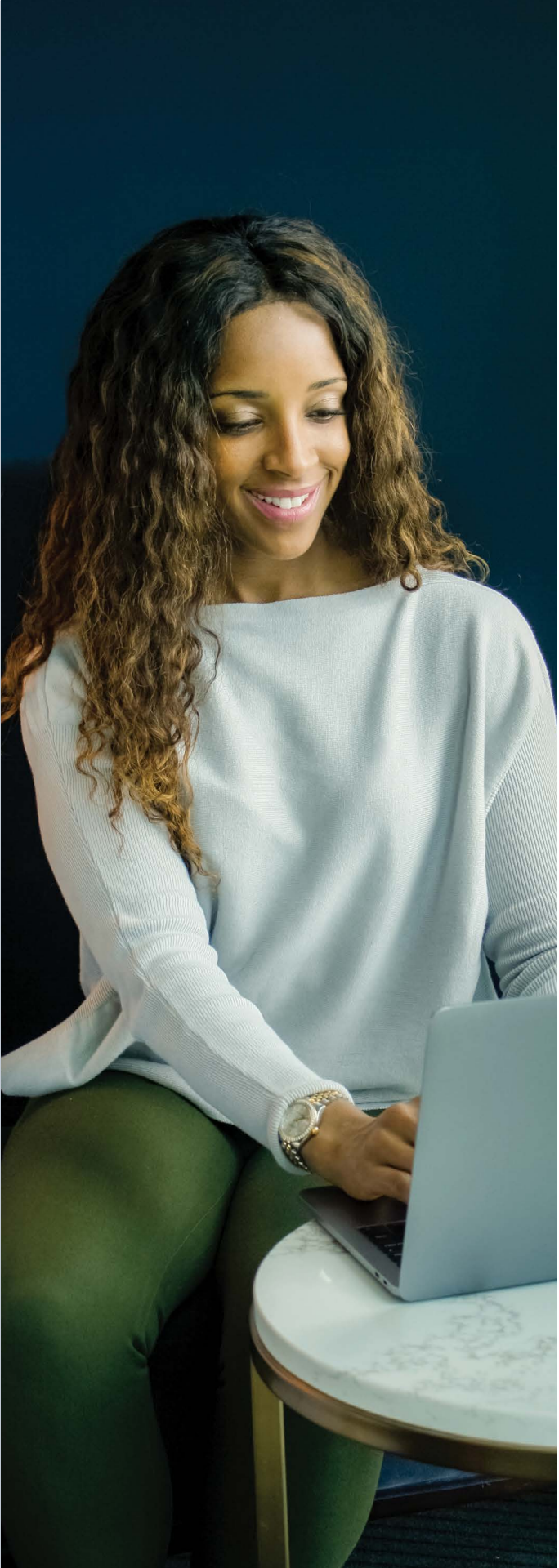
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Your feedback is welcome.
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Published in 2021.



Teach. Lead. Inspire.

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Arizona School of Health Sciences

Doctoral programs

- Athletic Training (DAT)
- Medical Science (DMSc), for physician assistants only
- Post-professional Audiology (AuD)
- Post-professional Audiology - non-degree
- Post-professional Physical Therapy (DPT)
- Post-professional Physical Therapy - non-degree

Master's degree program

- Post-professional Athletic Training (MSAT), for athletic trainers only

Certificate programs

- Clinical Decision-Making in Athletic Training
- Leadership and Education
- Orthopaedics
- Rehabilitation
- Sport Neurology and Concussion

CONTACT

ATSU-ASHS Online
877.469.2878 toll-free
DAT: 480.400.0328
MSAT: 480.405.0328
onlineinquiry@atsu.edu

ATSU employees receive a 50% tuition remission up to \$5,250, and alumni receive a 20% tuition discount.

Employees and alumni are encouraged to contact a tax professional about any tax implications. Discounts are independent and cannot be combined.

College of Graduate Health Studies

Doctoral programs

- Education in Health Professions (EdD)
- Health Administration (DHA)
- Health Sciences (DHSc)
- Nursing Practice (DNP)

Master's degree programs

- Education in Health Professions (MEd)
- Health Administration (MHA)
- Health Sciences (MHSc)
- Kinesiology (MS)
- Nursing (MSN)
- Public Health (MPH)
- Public Health - Dental Emphasis (MPH)

Certificate programs

- Adaptive Sports
- Corrective Exercise and Orthopedic Rehabilitation
- Exercise and Sport Psychology
- Fundamentals of Education
- Geriatric Exercise Sciences
- Global Health
- Health Professions Education
- Leadership and Organizational Behavior
- Public Health, Emergency Preparedness, and Disaster Response
- Sports Conditioning

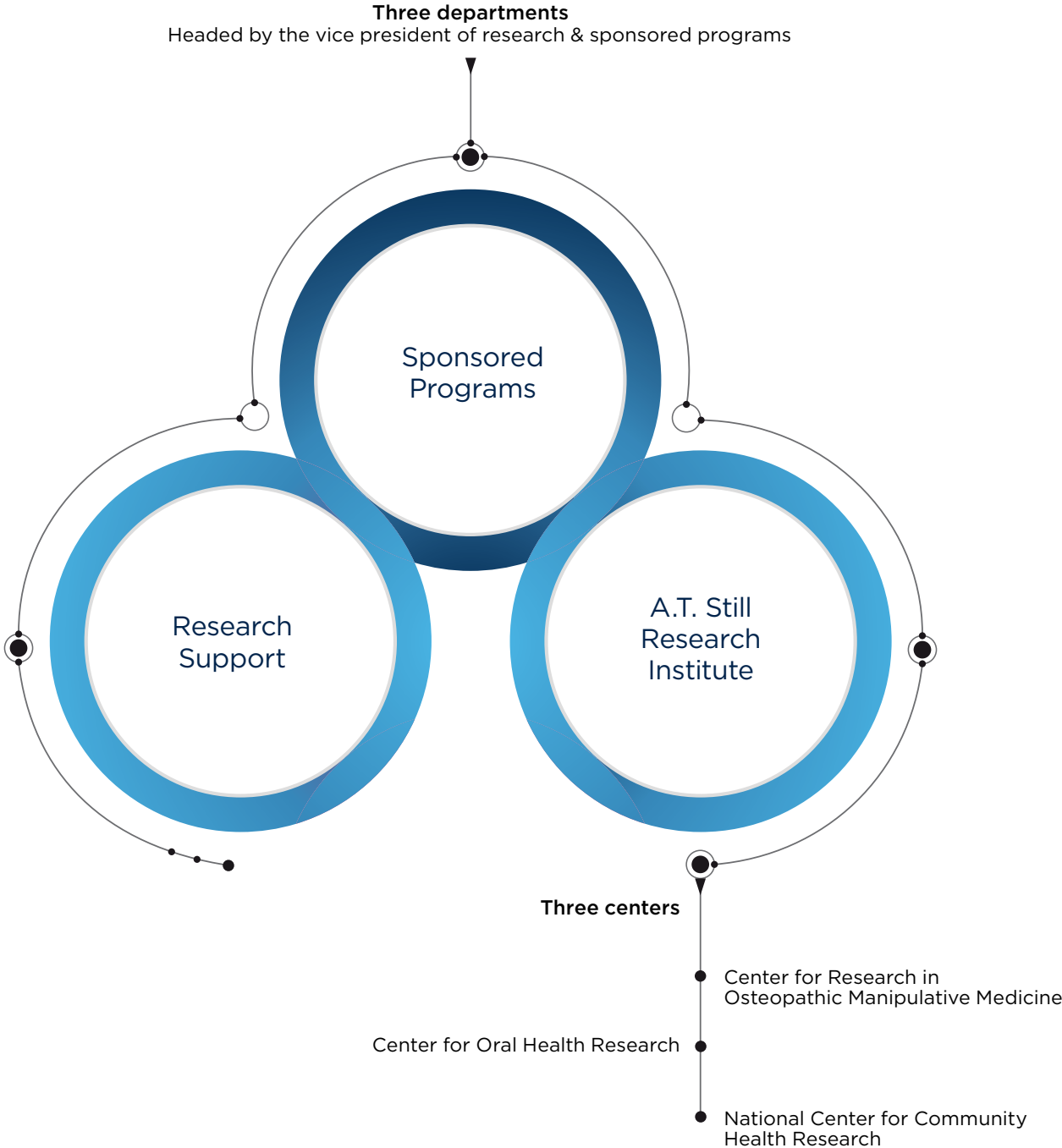
CONTACT

ATSU-CGHS enrollment representatives
877.626.5577 toll-free
cghsonlineadmissions@atsu.edu

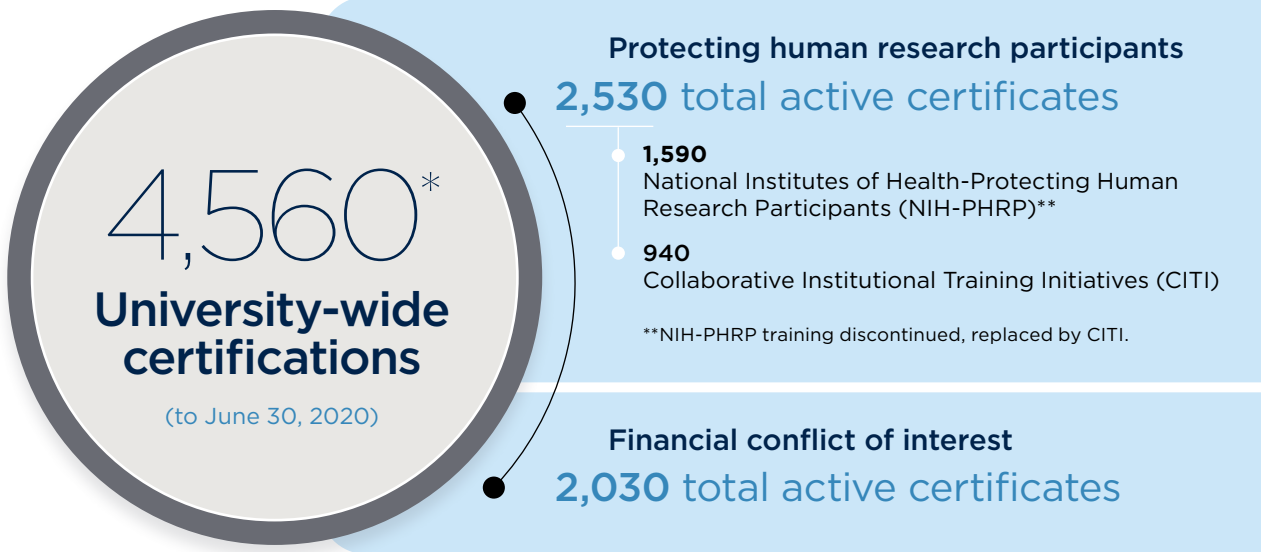
ATSU Research, Grants, & Scholarly Innovations

Annual Impact Report

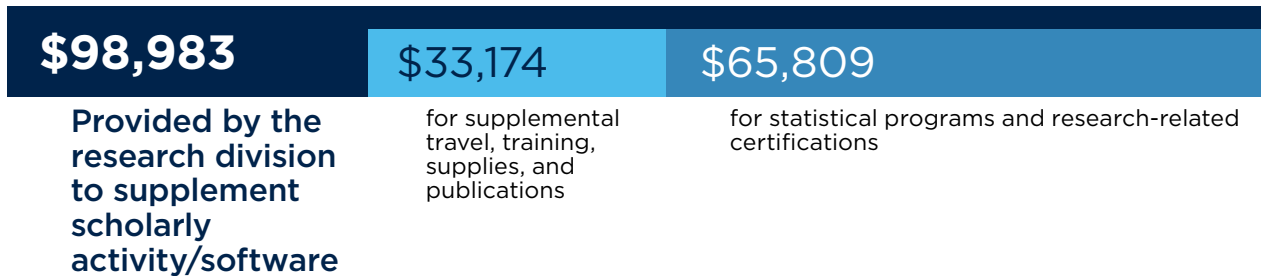
July 1, 2019-June 30, 2020



Research, Grants, & Scholarly Innovations



*Total number of certifications (up to two per person) held by faculty, staff, students, and external research collaborators



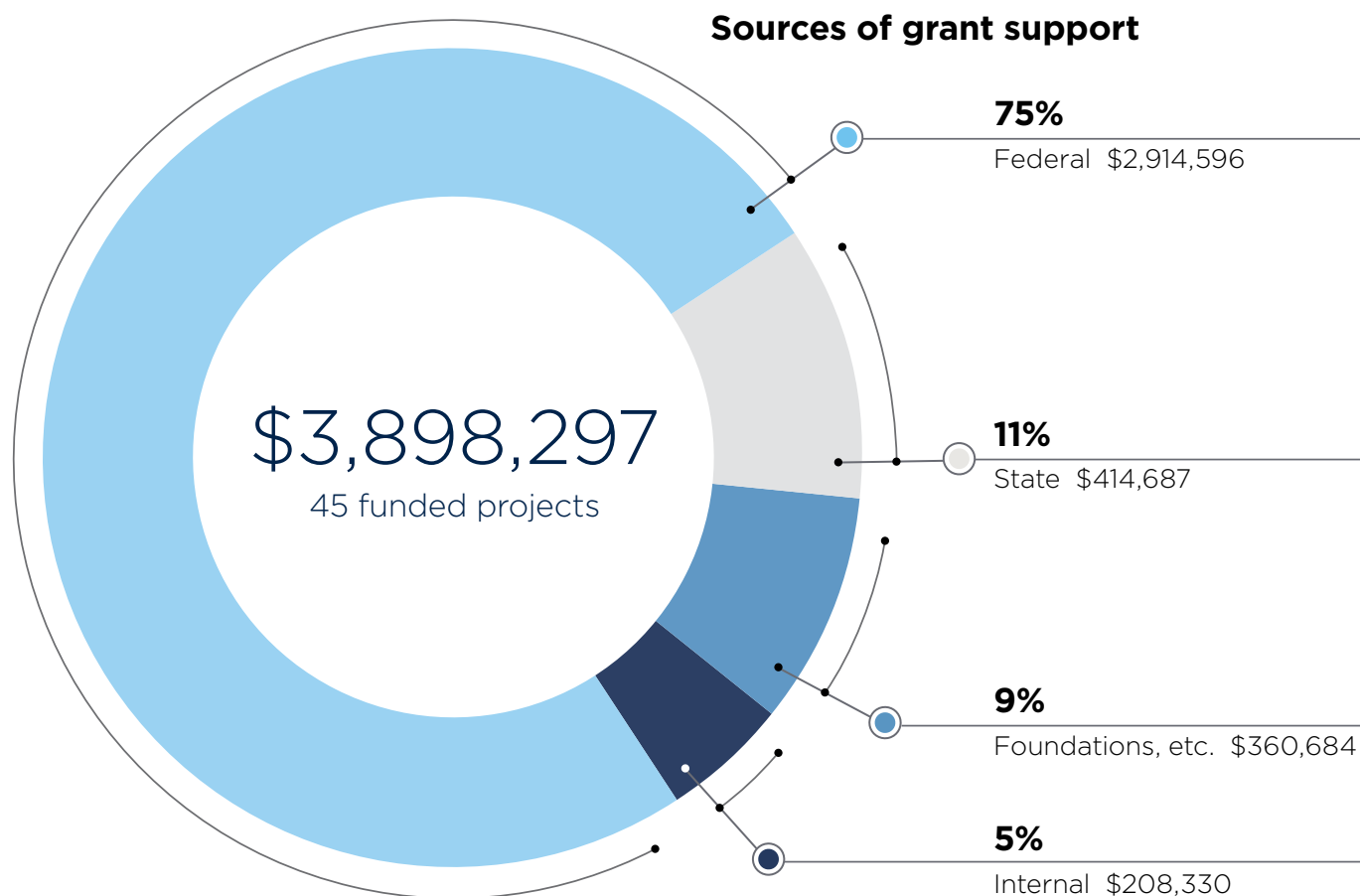
Regulatory Committee applications reviewed

- 154** Institutional Review Board - Missouri campus
- 246** Institutional Review Board - Arizona campus
- 6** Hazardous material(s) - Missouri campus
- 17** Institutional Animal Care and Use Committee (IACUC) - Missouri campus*

*Required for any use of vertebrate animals in research. IACUC charged with evaluating scientific merit, impact for healthcare, and the care and welfare of animals used in research.

Please contact Research, Grants, & Scholarly Innovations at 660.626.2860 for more information.

Sponsored Programs



Grant awards by category



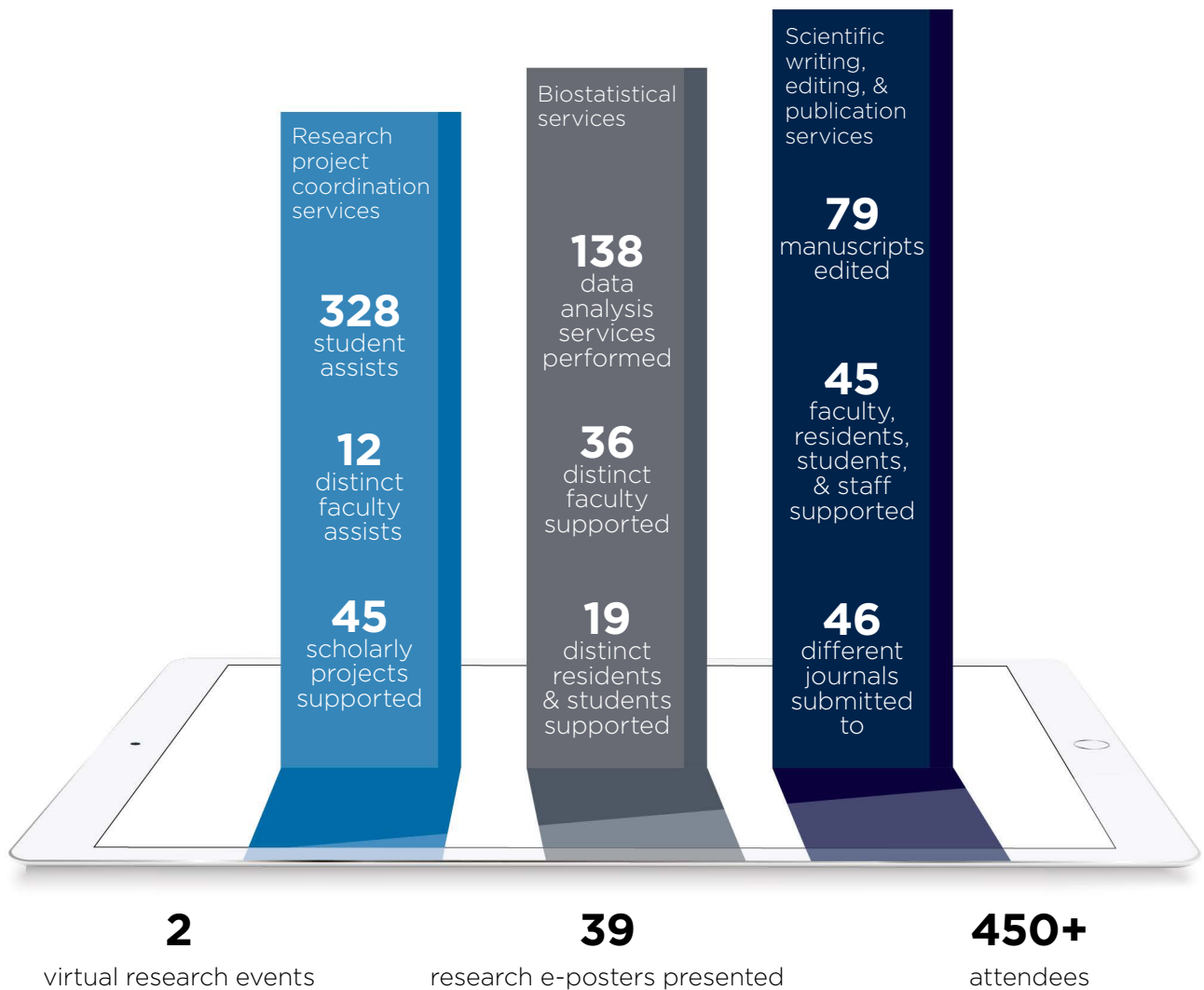
Sponsored Programs quick facts

Grant approval rate (as of July 2020)	66%
Applications submitted	73
Subawards issued (\$1,359,277)	34
Research reinvestment to PIs	\$97,801
F&A (indirect costs) received	\$307,580
Active external grants managed	70
Active multiyear HRSA & NIH awards	13

Contact Sponsored Programs at 660.626.2860 or grants.atsu.edu.

Research Support

Supporting ATSU scholarly efforts



Contact Research Support at 660.626.2444 or atsu.edu/research-support.

A.T. Still Research Institute

Annual biomedical symposium

170 attendees
40 judges
34 residents

77 posters
11 consecutive years

Presentations

96 — **29** regional
57 national
10 international



Osteopathic Heritage Foundation Endowment

Brian F. Degenhardt, DO, Endowed Chair
 13th consecutive year of funding
 Supports Center for Research in Osteopathic Manipulative Medicine

Membership & member grants

52 research members currently engaged & reporting	7 new members for FY20	Grants
		Federal \$856,724
		Private 393,028
		ATSU 75,501
		Total \$1,325,253

Publications

86 — **57** refereed
29 non-refereed

Includes 1 book, 6 book chapters, 4 magazines, 12 conference proceedings, and 1 case study

DO-Touch.NET

The osteopathic manipulative medicine practice-based research network

731 members

21 countries



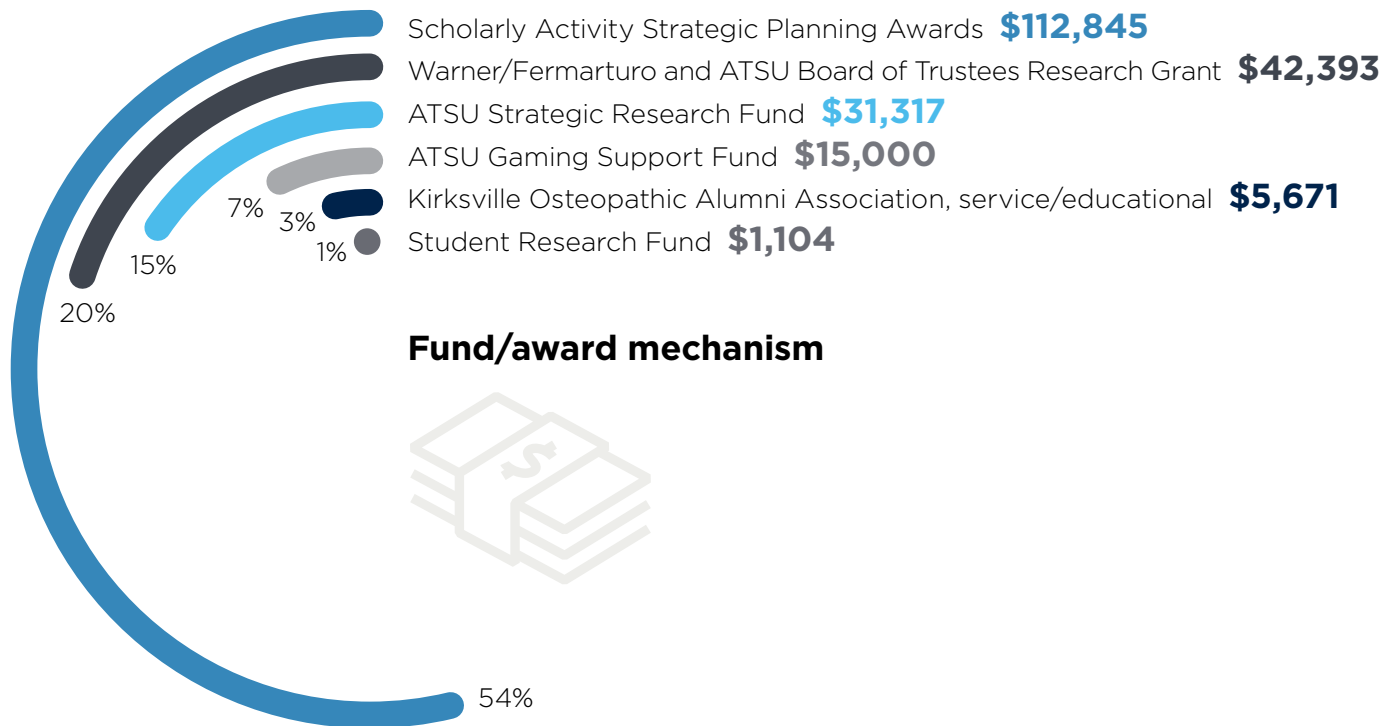
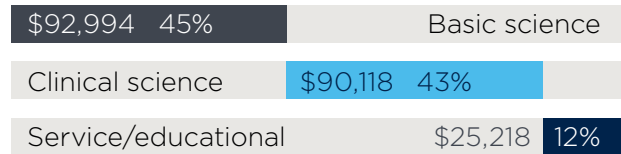
Contact A.T. Still Research Institute at 660.626.2102 or atsu.edu/research.

Internal grants

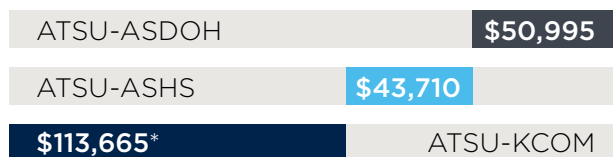
\$208,330
total amount awarded

18 internal grants awarded in FY20
35 active internal grants underway in FY20

Award categories

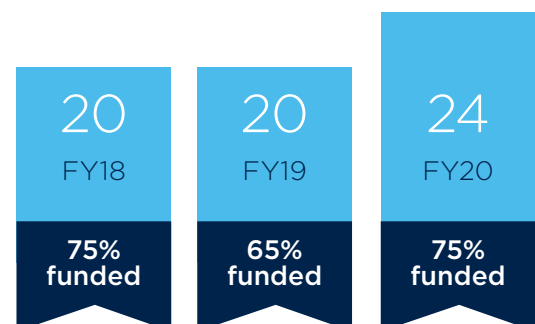


Funded projects by college/school



*Includes \$5,671 from the Kirkville Osteopathic Alumni Association, which is exclusive to ATSU-KCOM

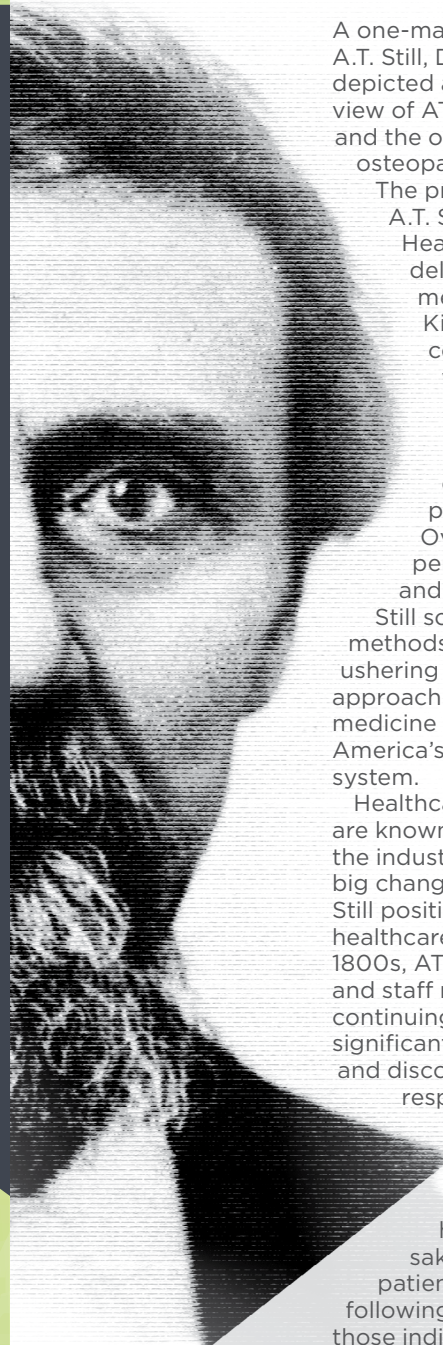
Applications submitted by FY





ATSU disruptors

By Katie Hubbard



A one-man portrayal of A.T. Still, DO, in fall 2019 depicted an intimate view of ATSU's namesake and the origins of osteopathic medicine.

The premiere of "Dr. A.T. Still - America's Healthcare Disruptor" delighted audience members of the Kirksville, Missouri, community while providing a poignant reminder of challenges the osteopathic profession faced. Overcoming personal tragedy and defeat, Dr.

Still sought better methods for patient care, ushering in a whole person approach to practicing medicine and disrupting America's healthcare system.

Healthcare disruptors are known for shaking up the industry and making big changes. Just as Dr. Still positively disrupted healthcare in the late 1800s, ATSU faculty and staff members are continuing to make significant advancements and discoveries in their respective fields.

Their scholarly activity is changing the face of healthcare for the sake of improved patient care. The following are a few of those individuals with current project funding from the National Institutes of Health (NIH) and Health Resources and Services Administration (HRSA).

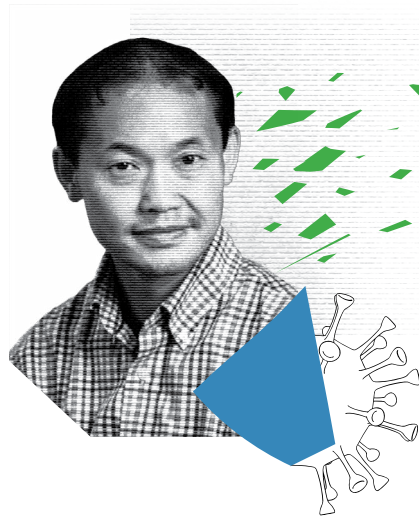
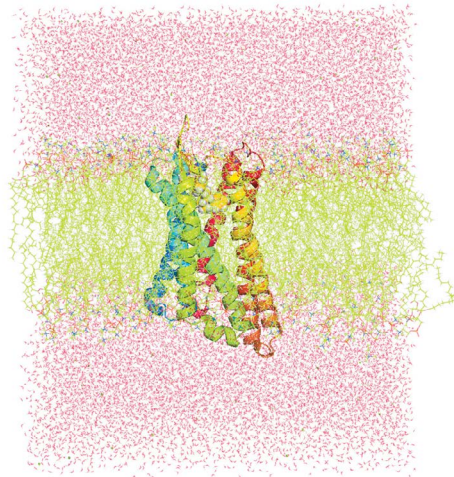
Yohei Norimatsu, PhD

Dr. Yohei Norimatsu's pursuit of knowledge has led him around the world. He earned his doctorate at Flinders University in South Australia, followed by a postdoctoral fellowship at Oregon Health & Science University. In 2013, he joined ATSU-KCOM and five years later obtained NIH funding of \$382,343 for his study, "Atomic-Scale Refinement of CFTR and TAAR1 Molecular Models for the Study of Drug Binding*."

The purpose of this three-year study is to improve the design and discovery of pharmacological therapies for cystic fibrosis (CF), secretory diarrhea, schizophrenia, and drug addiction. Cystic fibrosis transmembrane conductance regulator (CFTR) is a drug target for CF, the most common lethal genetic disease in the U.S., and for secretory diarrhea, one of the leading causes of death among children globally. Trace amine-associated receptor 1 (TAAR1) is a promising drug target for schizophrenia, a devastating psychiatric illness affecting approximately 1% of the U.S. population, and for drug addiction, which causes at least 196 drug overdose deaths every day in the U.S.

Dr. Norimatsu, an associate professor of physiology, has been using computer-based modeling of proteins to find novel drug target locations and promising drug candidates. With assistance from Arizona State University's Oliver Beckstein, PhD, and ATSU-KCOM and Truman State University students, his current focus is to understand protein function at the atomic level,

A molecular dynamics simulation system shows μ -opioid receptor (MOR), in rainbow colors, interacting with fentanyl, shown in yellow. Opioid drugs, like morphine, hydrocodone, and fentanyl, bind to MOR, which is found on the surface of some human cells. In the brain and spinal cord, the binding of opioids to MOR leads to pain reduction. Unfortunately, the same receptor is involved in the reward circuit of the brain and in formation of drug addiction with opioids.



**Research reported in this publication was supported by the National Institute of General Medical Sciences of the National Institutes of Health under Award No. R15GM124623 (a \$382,343 grant with 0% financed by nongovernmental sources). The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.*

with the goal of biochemical, pharmacological, and genetic control of protein function.

"What excites me most is the use of such control for therapeutic purposes," Dr. Norimatsu said, "but the manipulation of protein function is also useful in research to find good targets of pharmaceutical and gene therapies, or more fundamentally, to understand how human cells, tissues, and organs work."

Most recently, the team developed a computational protocol to refine their molecular models of drug targets CFTR and TAAR1. They were granted access to supercomputers at the Pittsburgh Supercomputing Center (PSC) to run this protocol and other computational analyses. Their models predict some mutations dramatically change CFTR and TAAR1 functions, but the team is still in early stages of electrophysiological testing and has not yet confirmed the effects of protein mutations predicted by their models.

Separate from his NIH-funded study, Dr. Norimatsu is also using a supercomputer at PSC to design a protein that sticks to SARS-CoV-2, the virus that causes COVID-19. This project is part of the COVID-19 High Performance Computing Consortium effort launched by the White House.

Atomistic molecular modeling with physics-based techniques can provide plausible models of protein functions, but models need to be validated with empirical data, such as data generated by biochemical and electrophysiological experiments of protein function. Dr. Norimatsu and his team are combining atomistic molecular modeling with empirical experiments.

"What is novel is the iterative process of model generation and empirical testing," Dr. Norimatsu said. "Initial molecular models determine experiments that need to be conducted, and data generated from the experiments guide refinement of molecular models."

Joy H. Lewis, DO, PhD, FACP

Dr. Joy Lewis is an accomplished healthcare professional and ATSU-SOMA faculty member. Currently chair and professor of public health and founding director of the National Center for Community Health Research, Dr. Lewis' professional background began in quantitative economics and community health. With interests in health policy, health economics, and health systems science, her career has spanned the financial sector, medical school, the federal government, private practice, and academia, ultimately leading to ATSU-SOMA in 2011.

In 2018, Dr. Lewis and her ATSU-SOMA team received nearly \$2 million in HRSA funding for "Leading and Teaching in the Nation's Health Centers: The Primary Care Transformation Executive (PCTE) Fellowship*." This five-year project aims to strengthen the community-based primary care workforce, resulting in better patient outcomes and improved population health.

"This fellowship program is a culmination of much of my life's work," Dr. Lewis said. "To improve public health, promote health equity, and decrease health disparities, underrepresented populations must be included in research and other innovative programs. We teach health center providers how to practice community-oriented primary care (COPC) where they develop and evaluate projects that address social and economic determinants of health."

Dr. Lewis serves as project director. Her core team consists of Ebony B. Whisenant, MD, fellowship director; Kelli Glaser, DO, FACOFP, co-deputy director for curriculum; Valerie Sheridan, DO, FACOS, FACS, co-deputy director for partnerships; Eboni Anderson, DHEd, MA, MEd, MSW, associate director of curriculum; Surekha Appikatla, BDS, MPH, data analyst; and Malissa Ellsworth, MBA, project manager. Currently training the third cohort of fellows, the program is meeting its primary objectives.

The one-year PCTE Fellowship is designed for primary care physicians and physician assistants who work and teach in federally qualified health centers across the country. The curriculum, focused on leadership, education, healthcare transformation, and health systems science, allows these healthcare professionals to remain in their health center caring for patients while completing the program. Additionally, fellows conduct COPC projects to address specific needs of their communities.

"Social determinants of health are an important part of health systems science," Dr. Lewis said. "We have worked to bring attention to the need for all health professionals to identify and address social



determinants affecting the health and well-being of patients and communities."

After completion of the fellowship, the PCTE Leadership Academy allows fellows to continue engaging with curricular topic areas and developing leadership knowledge and skills. By providing fellows with ongoing social support, camaraderie, access to strategies and tools, and opportunities for networking and mentoring, the fellowship's impact is extended beyond the first year and creates an active scholarly community.

ATSU-SOMA's methods for project evaluation and outcomes dissemination are comprehensive and follow HRSA-endorsed best practices. Using a train-the-trainer approach, physicians and physician assistants who participated in the PCTE Fellowship and PCTE Leadership Academy become primary care champions and mentor ATSU-SOMA students in their respective health centers, creating program sustainability and strengthening community partnerships.

"Our work doesn't stop with the publication of a paper," Dr. Lewis said. "We are making research accessible to providers, and we are designing projects and programs that meet the needs of vulnerable populations."

**Acknowledgment and disclaimer: This project is supported by the Health Resources and Services Administration (HRSA) of the U.S. Department of Health and Human Services (HHS) as part of an award totaling \$1,999,650. The Federal Award Identification Number is T13HP31895. The contents are those of the authors and do not necessarily represent the official views of, nor an endorsement by, HRSA, HHS, or the U.S. government.*

Tara McIsaac, PT, PhD

Early in her career, Dr. Tara McIsaac never planned to become a researcher or study Parkinson's disease. She was a physical therapist and kept seeing increasingly more patients who presented with the disease. Her clinical expertise and interest in the topic led her to become a clinical research therapist and eventually earn her doctorate in neuroscience. Currently, Dr. McIsaac is a professor of physical therapy and director of research at ATSU-ASHS.

Parkinson's disease is a neurodegenerative disorder affecting approximately 60,000 Americans each year. Attention control is affected early in the progression of Parkinson's disease, and many studies have focused on dual-task attention. However, none have looked at attention shifting relative to controlling movement of different limbs, particularly in a seated activity like driving. This area of interest prompted her study, "Multi-Limb Control in Parkinson's Disease: Implicit and Explicit Control of Attention*," which was funded in 2017 by NIH for \$384,317 over three years.

The purpose of Dr. McIsaac's study is to understand how attention affects the way people with the disease move and how they shift their attention. To complete her research, Dr. McIsaac collaborated with Jyothi Gupta, PhD, OTR/L, professor and chair, occupational therapy, ATSU-ASHS; Curt Bay, PhD, professor, interdisciplinary health sciences, ATSU-ASHS; Rajal Cohen, PhD, associate professor, psychology and communication studies, University of Idaho; and Charles Adler, MD, PhD, professor of neurology, Mayo Clinic College of Medicine and Science. She has also involved 22 ATSU students in her research, including Emily



**Research reported in this publication was supported by the National Institute of Neurological Disorders and Stroke of the National Institutes of Health under Award No. R15NS098340 (a \$384,317 grant with 0% financed by nongovernmental sources). The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health.*

McFadden, OTD, '19, who now serves as the study's research occupational therapist and coordinator.

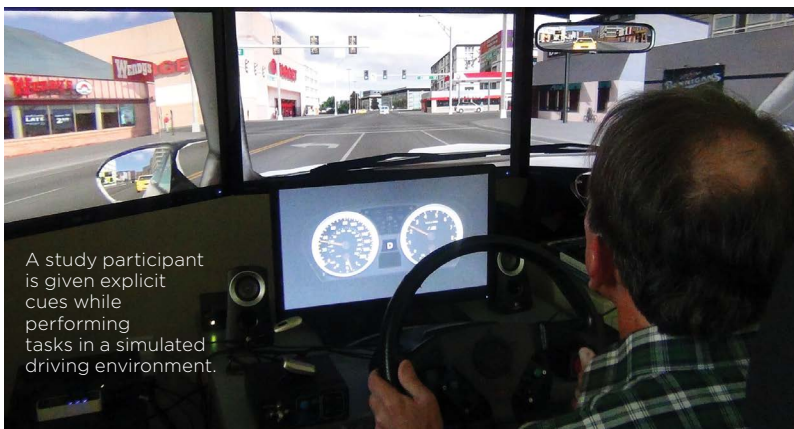
The first aim of the grant investigated how attention shifts between a hand and foot task. In laboratory-based experiments mimicking driving, participants were given tasks, such as reaching for a glass of water with their hand while pressing on an instrumented gas pedal with their foot. They were also given explicit instructional cues and implicit situational cues.

"We found people with Parkinson's disease had more trouble shifting their attention based on implicit contextual cues," Dr. McIsaac said. "When participants were explicitly told what to pay attention to, they did as well as people without Parkinson's disease."

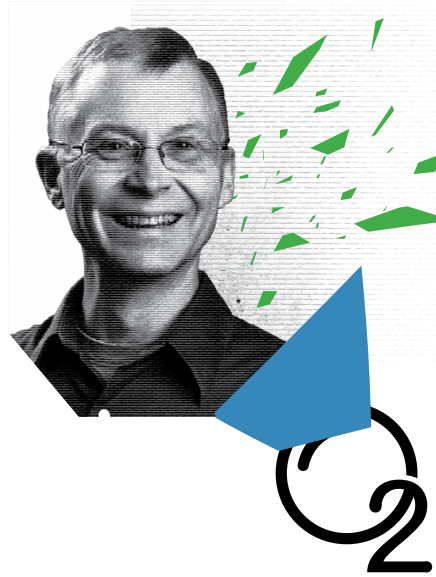
Because dual tasking, multitasking, and attention control are important in driving, the second aim of the grant moved those laboratory-based experiments into a more realistic environment involving a driving simulator. After a few delays in the research process, including the COVID-19 pandemic, Dr. McIsaac obtained a one-year, no-cost extension to complete data collection and analysis.

Once Dr. McIsaac and her team complete their analysis and understand more about participants' ability to shift attention during driving tasks, their goal is to develop therapy interventions so people with Parkinson's disease can practice their attention shifting.

"At some point, people with Parkinson's disease have to give up their keys, and that's very difficult," Dr. McIsaac said. "With therapy, we are hoping they can practice driving situations where they need to pay more attention to what they should prioritize and ultimately drive safer for longer."



Keith S. Elmslie, PhD



Before joining ATSU-KCOM, Dr. Keith Elmslie worked in the Anesthesiology department at Penn State Health Milton S. Hershey Medical Center. While at Penn State, he met colleagues Victor Ruiz-Velasco, PhD, MA, and Marc Kaufman, PhD, MA. The trio began planning a grant collaboration and, two years later, submitted “Excitability of Afferents Evoking the Exercise Pressor Reflex*” to NIH.

After Dr. Elmslie arrived at ATSU-KCOM in 2010, he was notified their grant had received \$2,156,822 in funding for five years. Renewed in 2015 for another five years and \$3,165,524, the grant’s purpose is to improve understanding of ion channels that control the excitability of neurons mediating the exercise pressor reflex. This reflex is generated in response to exercise and elicits a cascade of body responses, including systemic blood pressure and cardiac output, which help maintain blood flow to the exercising muscles.

One trigger of this reflex is low muscle oxygen levels. In a healthy individual, the reflex is required to deliver extra oxygen and glucose to maintain working muscles, but in patients with diseases, such as heart failure or peripheral vascular disease, the reflex may be inappropriately activated. Both diseases can limit blood flow and chronically reduce muscle oxygen levels, resulting in sustained activation of the exercise pressor reflex. This constant stimulatory activity puts an added strain on the heart and leads to an increased risk of heart attack or exacerbated heart failure.

“By understanding the receptors and ion channels involved in generating the exercise pressor reflex, we are striving to determine drug targets that would inhibit this reflex activity to reduce risk for further cardiac damage in patients with cardiovascular diseases,” said Dr. Elmslie, who currently serves as professor and chair, pharmacology.

According to Dr. Elmslie, no studies have isolated neurons to determine which ion channels and receptors are controlling excitability. The advantage of using isolated neurons is more rapid identification of involved channels and receptors relative to whole animal studies, but the disadvantage is the loss of important interactions of these neurons with muscle and other neurons. To determine how results from isolated neurons lead to neurophysiological effects in the whole animal, Dr. Elmslie’s team has collaborated with researchers at Penn State College of Medicine to conduct whole animal studies.

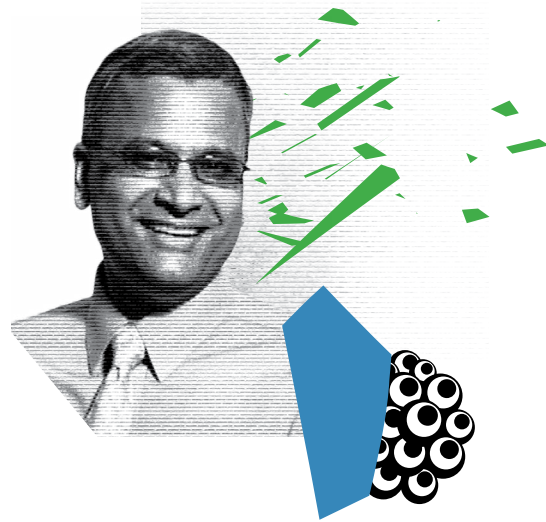
Throughout this study, Dr. Elmslie has enlisted help from graduate students and postdoctoral research fellows. In early 2020, he was allotted a one-year, no-cost extension from NIH and was able to hire a new postdoctoral research fellow, Khrystyna Sukhanova, PhD. With their drug targets identified, Drs. Elmslie and Sukhanova are working to complete grant aims, along with the help of Jeong-Sook Kim-Han, PhD, director of ATSU-KCOM’s core imaging facility.

Through the work of former graduate student Andrew Wright, DO, ’20, the team recently submitted a paper showing a drug approved for use in humans works as an activator of a type of ion channel in the neurons. The particular channel is a voltage-dependent potassium channel called Kv7, which can reduce neuronal excitability when activated. The drug retigabine is an activator of this channel and is FDA-approved to treat seizures.

“We found Kv7 channels are expressed by neurons that produce the exercise pressor reflex and retigabine increases the activity of these channels,” Dr. Elmslie said. “Therefore, it’s possible this drug could be repurposed for use in patients with cardiovascular diseases that inappropriately activate the exercise pressor reflex.”

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Vineet K. Singh, PhD



For 23 years, Dr. Vineet Singh has studied *Staphylococcus aureus*, the bacterium carried by approximately one-third of healthy individuals in their noses, on their skin, and on other areas of the body. *S. aureus* causes no harm in most immunocompetent people, but it may cause serious infections if it breaches natural immune barriers, such as through injury to the skin, allowing bacteria to reach deeper tissues. With most *S. aureus* strains resistant to commonly used antibiotics, treatment of these infections poses a significant challenge and is the reason behind Dr. Singh's years of study.

A professor of microbiology and immunology at ATSU-KCOM, Dr. Singh's research has focused on understanding how *S. aureus* responds to environmental and host defense challenges, evades lethal actions of antibiotics, and expresses its virulence. He hopes his findings will help overcome this bacterium's ability to survive, spread, and cause infections in humans. Overall, his research has led to more than 50 peer-reviewed publications, which have been cited in scholarly journals more than 2,200 times.

"I am trying to understand the genetic and molecular changes that occur in the bacterium when it faces a change in the environment," Dr. Singh said. "I have been able to identify several genes and gene products that play important roles in helping this bacterium survive fluctuations in



A student assists Dr. Singh in setting up a DNA ligation reaction for gene cloning.

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temperatures, bacterial surface structures, and their ability to withstand host immune response and cause disease."

Most recently, Dr. Singh has been focusing on membrane fatty acids of *S. aureus*. He is part of a study, "Impact of Unsaturated Fatty Acids on *S. aureus* Membrane Properties*," which is funded by NIH through Illinois State University for \$404,094 over three years. According to Dr. Singh, the bacterium alters composition of unsaturated and branched-chain fatty acids (BCFAs) to adapt to colder temperatures and keep the membrane fluid. Survival at lower temperatures is critical for bacterial persistence in the environment and its success in transmission as a pathogen.

This NIH study has led him to learn more about BCFAs and how their presence disrupts close packing and confers greater fluidity to the cell membrane. Branched-chain α -keto acid dehydrogenase (BKD) is an enzyme responsible for synthesis of BCFAs. However, Dr. Singh's findings suggest a genetically modified BKD-deficient *S. aureus* still produces BCFAs, although at a lower level. This BKD-deficient strain is less pathogenic and shows poor persistence in the environment. While his research supports BKD's role in BCFA synthesis in *S. aureus*, it suggests the presence of additional resources for these fatty acids.

"It is clear there are redundant pathways present in this bacterium to accomplish the same end goals," Dr. Singh said. "We are currently investigating pathways that help the bacteria produce BCFAs under BKD-deficient conditions." ■



With dedicated
faculty
and engaged
students,
research has
become part
of ATSU's DNA

By Jason Hunsicker

ATSU has experienced robust development of research days and symposia in recent years, powered by dedicated faculty and students interested in expanding their breadth of knowledge.

Gaylah Sublette, MBA, vice president of research & sponsored programs, has been part of that growth since she joined the University in 1987, starting as a research assistant “in an office about the size of a closet.”

Things have changed. The A.T. Still Research Institute (ATSRI) was established in 2001 to develop and support premier clinical and translational research and now includes three centers: Center for Research in Osteopathic Manipulative Medicine, Center for Oral Health Research, and National Center for Community Health Research.

Volume and consistency of research events have changed, too. ATSRI's Interdisciplinary Biomedical Research Symposium began at ATSU-KCOM in 2009, and this past November marked its 12th successful year. This growing event is now open to all ATSU schools and programs, as well as external collaborators.

Other research events have come and gone over time, but the last half-decade has brought regular research days and

symposia from ATSU-ASHS' Physical Therapy (PT) and Occupational Therapy programs, ATSU-ASDOH, and now ATSU-MOSDOH.

"Historically, we haven't had all of these research events," Sublette said. "We would have a symposium here and there, but nothing like in recent years. I credit the faculty. We've secured some really dedicated research faculty and mentors, and they are building richer research experiences within our academic programs.

"Research has really become a part of our DNA at ATSU."

Research days and symposia are a natural outcome of what Sublette called an "intentional curricular infusion." After students are mentored through a research project, University leaders want them to have a place to disseminate their research outcomes and develop an abstract, submit a poster, and be judged.

Participating students also learn from each other's research projects and acquire more knowledge of the entire research process. That knowledge will prove valuable as they advance in their professions.

"If we teach people to be critical thinkers, to be able to take in the world around them, analyze it with the scientific method, they are going to be better practitioners and healthcare leaders," Sublette said. "They are going to impact their communities at a higher and more meaningful level."

ATSU-ASDOH hosts two main research events each year, open to the entire University. Fall Research Day features student and faculty research through a scientific poster session. In February, ATSU-ASDOH Research Week features a series of presentations and culminates with ATSU-ASDOH Research Day, during which students provide oral and poster presentations.

Ann Eshenaur Spolarich, PhD, RDH, FSCDH, ATSU-ASDOH professor and assistant dean for research, said participation in research and related scholarly activities supports ATSU's mission. It also positions the University as a recognized contributor to the scientific knowledge base supporting dentistry.

"I hope my students learn to adopt an evidence-based philosophy of practice," Dr. Spolarich said. "Current best evidence should guide their decision-making in practice, and that evidence comes from research."

ATSU-MOSDOH has a unique model for research activity, said Joan Davis, PhD, RDH, professor and assistant dean, research. Clinical research is performed by full-time clinical faculty who pair with third-year

students to form research teams at the St. Louis, Missouri, location. Projects culminate in an annual research day held each spring.

The projects are part of a required course for students, which means 100% of clinical faculty and third-year students are involved.

"We have the unique opportunity to empower, train, and provide support for our clinical faculty and students, to capture the great work they are providing the underserved in St. Louis," Dr. Davis said.

"We then are able to publish our findings, sharing ways that support effective oral care in community health centers.

"Faculty development in the area of research enables faculty to advance their careers as well as support students in clinical decision-making, and provides research experience for those who go to residency programs."

ATSU-MOSDOH's Kirksville, Missouri, faculty also engage first- and second-year students in their primary and educational research activities, helping set a tone for research as students move to St. Louis.

ATSU-ASHS' Doctor of Physical Therapy program requires all students to complete capstone research projects and present during a poster day just before graduation. Tara McIsaac, PT, PhD, professor of physical therapy and director of research, said being involved in research provides students a deeper understanding of the entire research process and positions them to better assimilate future research advances.

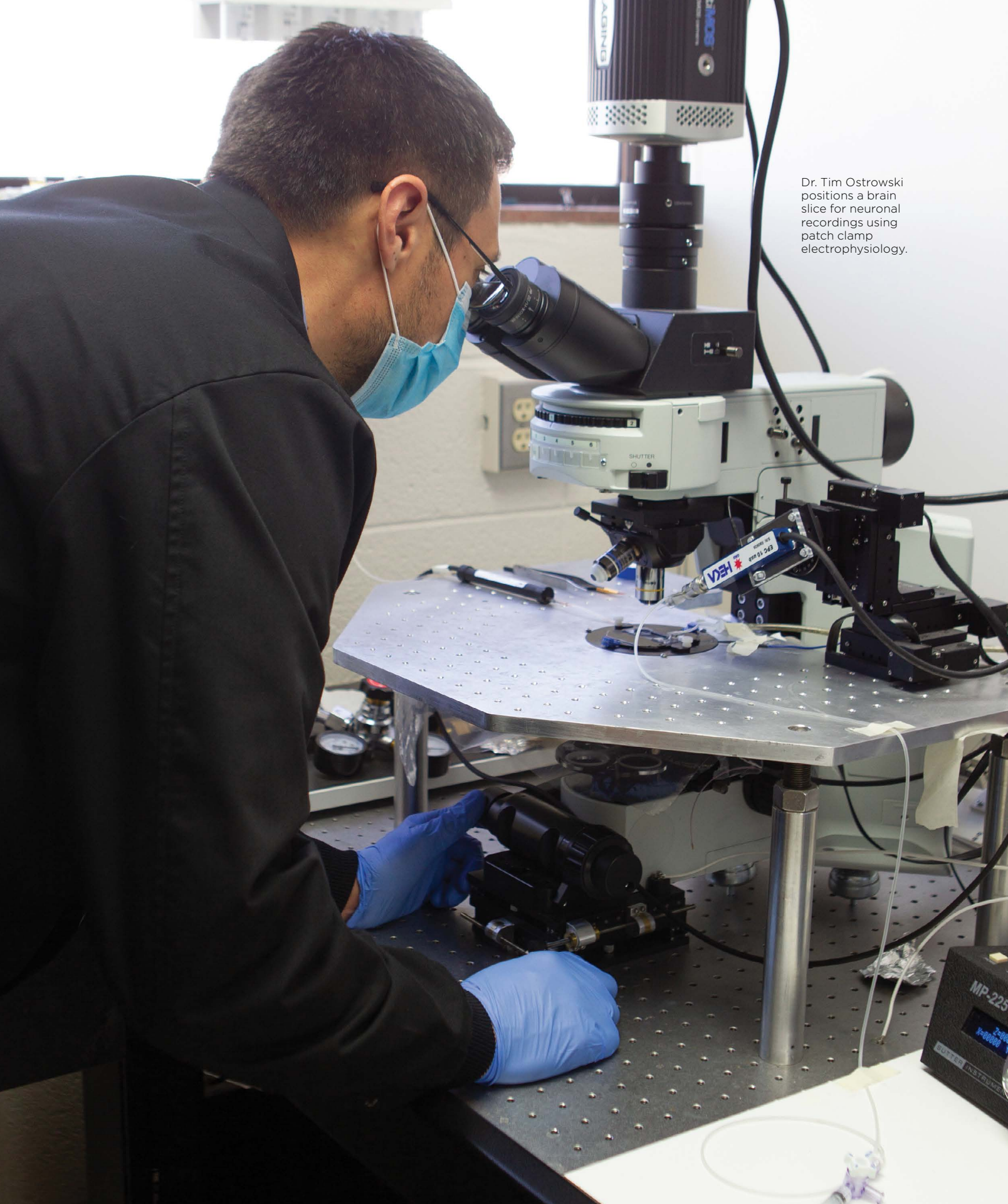
"It's giving them increased knowledge of how to use research literature and an increased knowledge base and confidence to be involved in research themselves," Dr. McIsaac said.

Sublette noted the growth of ATSU research wouldn't be possible without collaboration and enthusiasm by numerous University departments, and grants continue to play a starring role.

ATSU's growing research capstone and dissemination events, Sublette said, are being noticed by ATSU's peers.

"We're not following. We're leading," she said. "Moving in the right direction and going there with such enthusiasm is, and has always been, the ATSU way."

COVID-19 update: In 2020, ATSU's research dissemination events incorporated virtual, online methods. With assistance from the Department of Research Support and A.T. Still Research Institute, e-Poster platforms, with live judging, were successfully introduced and implemented. Please visit the following sites to view these presentations: atsu.edu/mosdoh-posters; atsu.edu/dpt-posters; atsu.edu/dat-posters. 📄



Dr. Tim Ostrowski positions a brain slice for neuronal recordings using patch clamp electrophysiology.

Alzheimer's research enhances student learning

By Kaley Burroughs

When thinking about Alzheimer's disease, memory problems are often one of the first symptoms that come to mind. The disease's other health effects, including respiratory, cardiovascular, and sleep problems, garner less attention but pose a serious risk to patient health. Tim Ostrowski, PhD, assistant professor, physiology, ATSU-KCOM, focuses his research on these lesser-known symptoms.

Since 2015, Dr. Ostrowski has developed projects to analyze cardiorespiratory and neural mechanism changes associated with Alzheimer's disease. His current research uses a common animal model that mimics memory deficits and cardiorespiratory problems in humans.

At every stage, Dr. Ostrowski seeks to involve students in his research. ATSU-KCOM students are able to gain valuable laboratory experience, and he often includes undergraduate students from Truman State University, giving them an opportunity to contribute to his research.

"I see many benefits of having Truman students involved in the laboratory," Dr. Ostrowski said. "Besides helping the students gain valuable research experience, this relationship ensures a steady progression of my projects with the mutual goal to publish our data and help advance the field of Alzheimer's disease research."

Currently, Dr. Ostrowski and his team of student researchers are evaluating their animal model to ensure it accurately and reliably reflects Alzheimer's disease and its progression in humans. They investigate major brainstem areas that control breathing and blood pressure to try to uncover the neural mechanisms leading to comorbidities

often observed in patients with Alzheimer's disease.

While many laboratories around the world study Alzheimer's disease, as of right now there is no cure and only a limited understanding of mechanisms leading to the disease.

"By using such an established animal model and its good resemblance to human Alzheimer's disease, we hope to identify critical targets of Alzheimer's disease," Dr. Ostrowski said. "Identifying these targets may then allow us to intervene at the correct time point during progression of the disease."

Financial support from ATSU, Truman, and external sources has been instrumental in Dr. Ostrowski's research. He received funding through internal grants and seed money from ATSU to start his research. His work with Truman students has resulted in summer research grants awarded to students in the laboratory. In 2019, the team also received funding from the São Paulo Research Foundation for a doctoral student researcher in the laboratory.

"Without this steady stream of funding," Dr. Ostrowski said, "it would have been impossible to keep the laboratory going and incorporate so many ATSU-KCOM and Truman students in research."

Though the COVID-19 pandemic has slowed his research, Dr. Ostrowski is currently able to work in his lab with one ATSU-KCOM student.

"I am running experiments for my Truman students, and they are remotely analyzing the data," Dr. Ostrowski said. "Many of their projects are so advanced they started to write the manuscripts, which is easy to do from home." 📧



Dr. Tim Ostrowski has been studying Alzheimer's disease since joining ATSU-KCOM in 2015.

Relevant, impactful, and practical research

By Lizzy Ellery

Before earning her doctoral degree, Lihua Dishman, DBA, MBA, associate professor, ATSU-CGHS, heard several other doctoral students say their final dissertation was only read by five people. Dr. Dishman knew if she was going to invest time pursuing a doctorate she needed to make an impact with her research so big it would not be easy for people to ignore.

To accomplish her goal, she developed her own set of research practices, which led to her dissertation, "A Quantitative Longitudinal Study with Moderation Analyses: The Relationship of U.S. Hospitals' Patient Experience, Types, and Financial Performance," being published by *SAGE Research Methods Cases: Medicine and Health*.

The first step of Dr. Dishman's research practices is to choose a group of connected research ideas following her "RIP" method. This means selecting a research topic that is relevant, impactful, and practical.

"I also wanted to make sure my research fits my five-year strategic plan," Dr. Dishman said. "And my five-year strategic plan was to be promoted from assistant professor to associate professor, which meant my research needed to be part of my career development."

Before starting her career in teaching, Dr. Dishman spent two decades in the finance industry, so she decided to take a financial angle with her research. She also decided to take advantage of her own experiences as a healthcare consumer to research how patient experience affects a hospital's financial performance.

The next two steps of Dr. Dishman's research practices go hand in hand: regularly attend academic and professional conferences, and network proactively and purposefully.

"I found attending professional conferences to be very important for three major reasons," Dr. Dishman said. "One is for professional development. The second is to get research ideas or to affirm your research idea is on the right track. And then the third piece is networking – not just with anyone. You've got to be really purposeful with networking, and you will have some results."

The future of Dr. Dishman's research was markedly impacted when she attended an Academy of Management conference. Not only did she receive affirmation she needed to feel her research ideas were on track with the industry, but she also met a research professor from The Ohio State University who offered to help her acquire data

to complete her longitudinal study. Her study involved secondary analysis of quantitative data already available in the public domain, but she couldn't access it on her own.

"The U.S. government publishes the data," Dr. Dishman said. "However, the data files are so large the average person like me doesn't have computer capacity powerful enough to download them."

It was at this same conference where Dr. Dishman began networking with SAGE Publishing. When she noticed SAGE's name on the list of exhibitors, she made an effort to find SAGE staff so she could express her gratitude for their research books.

"I used the books as a student, and I use them as a teacher at ATSU. I spent some time and networked with SAGE staff that year," Dr. Dishman said. "Then the following year, SAGE invited me to lunch with a focus group. From there, I learned they were actually doing a collection of research methods cases of medicine and health sciences."

After hearing this news, Dr. Dishman revised the final draft of her dissertation to a research methods case and submitted it to SAGE Publishing, where it was selected for publication after the peer-review process.

Another piece of Dr. Dishman's research practices involves building resilience to overcome obstacles throughout the research marathon. There were moments when she had to refine her research, moments when she wanted to include certain things, like revenue cycle management, but her dissertation committee advised against it. This led to moments of frustration, especially when she had already completed a significant piece of the analysis.

"They said, 'You are better off not including that and focus on hospital type,'" Dr. Dishman said. "I was halfway through and already did analysis



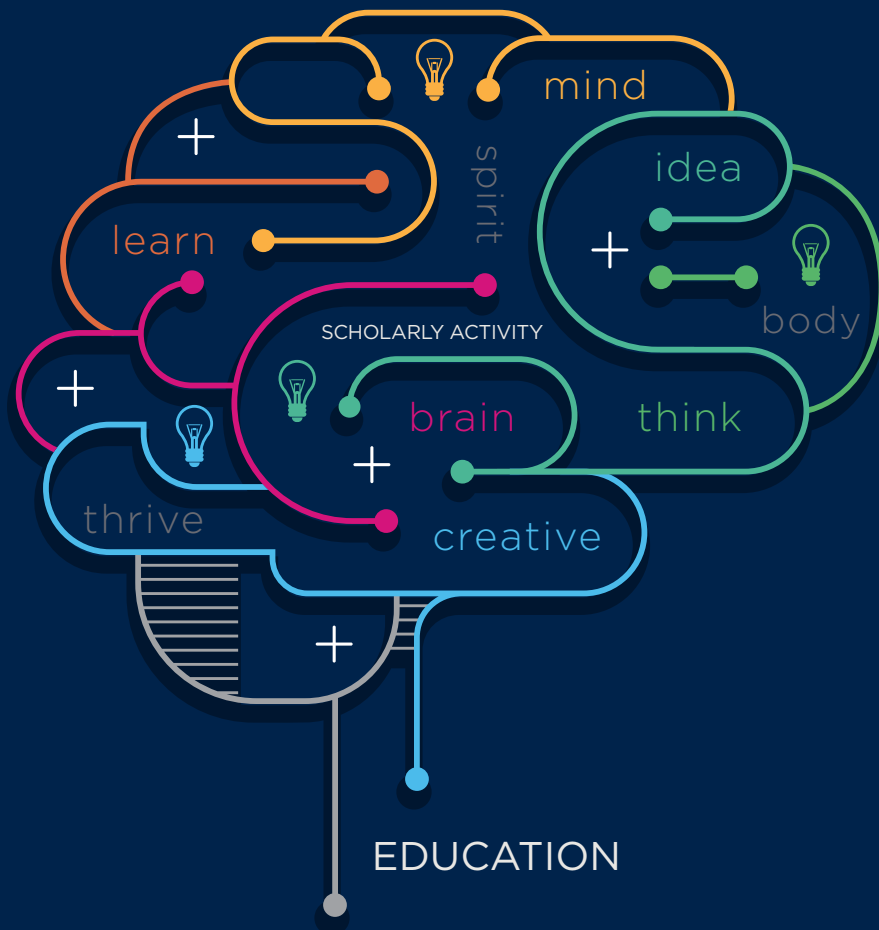
Dr. Lihua Dishman presents at the American College of Healthcare Executives Congress.

related to revenue cycle management. My dissertation committee had to give me a pep talk. They said, 'You have to let it go.'

In the end, Dr. Dishman said the final product came out very nicely. Shortly after completing her research, she achieved the final step in her research practices: share research with anyone who will listen. She was invited to present her research at the annual American College of Healthcare Executives Congress, an event bringing together more than 4,200 healthcare management executives for four days of education and networking.

When Dr. Dishman started her research, she didn't realize the impact her research would have on the healthcare industry. Patient experience was just an emerging research field at the time and didn't even have a clear definition. Now, patient experience research has been given more focus and attention. Several of Dr. Dishman's students have even selected this as their dissertation topic.

"When I started, I had this dream. I didn't know where it would take me. I wanted to make an impact, and I wanted it to be relevant and practical for practitioner use," she said. "And now, we are not only making an impact in the U.S., the SAGE case is available globally in digital form. It is available in over 100 countries across the world. I am very honored and pleased." 📖



Calling ATSU faculty and staff!

Do you have story ideas for an upcoming issue of *Spark* magazine? Do you have research or a scholarly project you would like to share with the University community?

Please send your ideas or suggestions to research@atsu.edu.



Improving quality of life for older adults

ATSU-MOSDOH's Joan M. Davis, PhD, RDH, assistant dean, research, and Patricia Inks, MS, RDH, director, dentistry in the community & integrated community service partnerships, submitted a grant to provide oral health education and comprehensive dental treatment for older adults in the St. Louis area. The three-year, \$875,958 grant project, "Improving Quality of Life: Oral Care for St. Louis Older Adults (OCAO)," was awarded by St. Louis City Senior Fund in July 2020. With COVID-19 infection control protocols in place, 69 older adults have participated in the project with 49 starting dental care as of November 2020.

Describe your grant project.

The project aims to improve oral function and mastication through education, comprehensive dental care, and subsequent preventive oral care, leading to better nutritional and health outcomes and an improved sense of well-being. Initial assessments are collected before the comprehensive dental examination using validated oral and general health surveys. Participants may self-administer or have a dental student or OCAO staff member administer the two surveys. An essential component of the project's assessments is to administer the same surveys over three years – pre-treatment, post-treatment, and subsequent preventive, re-care appointments – to evaluate perceived quality of life and dental outcomes. In addition, electronic health records will be accessed retrospectively to assess participant health indicators over the same three years. An ethnographic qualitative methodological approach will be selectively used throughout the funding period.

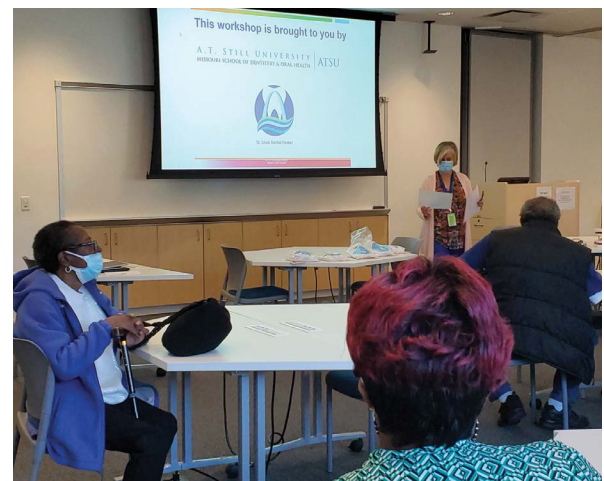
Who else is involved in your project?

From ATSU-MOSDOH, those involved are Jane Clark, MPH, MCHES, DTM, OCAO patient care program manager; Lori Crawford, RDH, education specialist; D3 and D4 students; and clinical faculty. The project also includes Shalini Bhatia, MS, biostatistician, ATSU Research Support, and Joy H. Lewis, DO, PhD, FACP; Ebony B. Whisenant, MD;

and Surekha Appikatla, BDS, MPH, from ATSU-SOMA's Public Health department. In addition, we have internal and external advisory boards.

Why is your research important?

Overall health is dependent, in part, on sound dentition to chew health-supporting food. When older adults have mouth pain, ill-fitting dentures, or no teeth at all, eating may be reduced to soft foods with limited nutritional value. These adults may also have limited access to comprehensive dental care, resulting in chronic disease and a diminished quality of life. This project will provide oral care and education, leading to an improved ability to masticate. In addition, prospective data will be generated documenting changes in oral, physical, medical, and emotional outcomes. Limited clinical data has been published on the oral, systemic, and emotional impact of dental care provided to disadvantaged older adults. Our assessments may provide needed data to support expansion and inclusion of oral health into state insurance and Medicare benefits.



Lori Crawford leads an OCAO education program at the St. Louis Dental Center.

Left: Alawia Farag (left) is a participant in the Oral Care for St. Louis Older Adults (OCAO) program and is shown with student dentist Shayna Vercruyse (right) and OCAO program manager Jane Clark (center).

Regarding the OCAO program, Farag says, "This is excellent! I got information at the workshop that helps me understand dental health, and my student dentist is very good."

Shoulder function and health

Kellie Huxel Bliven, PhD, ATC, professor and director, interdisciplinary health sciences, ATSU-ASHS, has focused her research on improving shoulder function and health. Through research collaborations, her goal is to provide evidence-based recommendations to clinicians on how to deliver more effective and patient-centered care.

Describe one of your research collaborations.

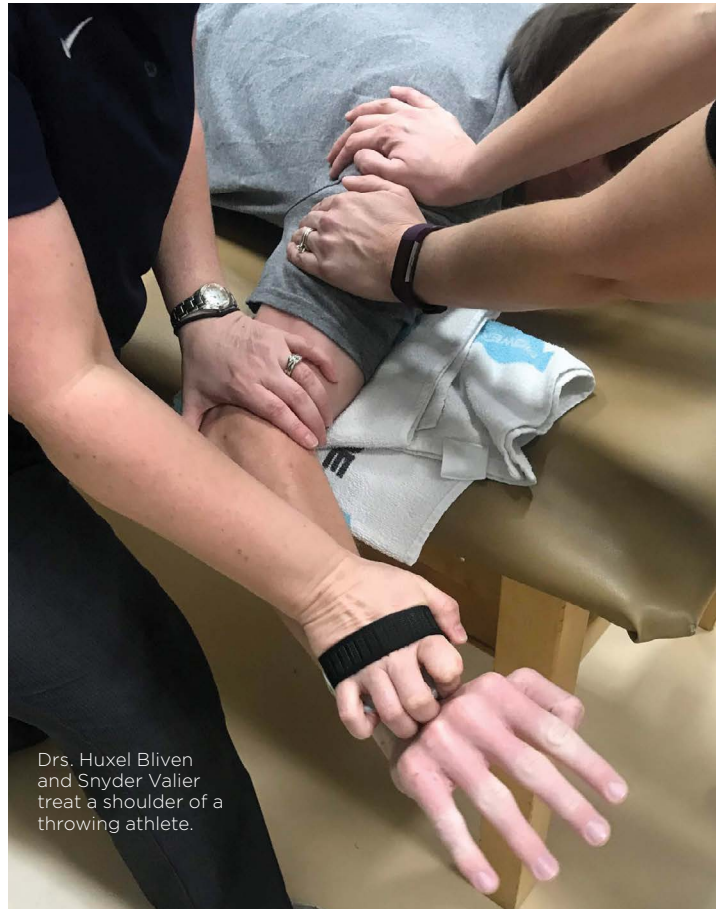
Eric Sauers, PhD, ATC, FNATA, '97, professor and chair, interdisciplinary health sciences; Alison Snyder Valier, PhD, ATC, FNATA, professor, athletic training; and Curt Bay, PhD, professor, interdisciplinary health sciences; and I developed and established measurement properties for the Functional Arm Scale for Throwers (FAST). FAST is a region- and population-specific patient-reported outcome scale used to assess health-related quality of life in multiple health domains for baseball and softball athletes. It is one of the few athlete-specific scales designed to help clinicians understand more about how athletes feel about and perceive their injury and changes over time. We're excited about recent interest from a research group at the Musculoskeletal Rehabilitation Research Center in Iran to translate the scale into Persian and modify it to include more throwing sports.

What is another research collaboration?

Dr. Snyder Valier and I have worked with Datalys Center's National Athletic Treatment, Injury, and Outcomes Network Surveillance Program to describe sport-related epidemiology of overhead athletes. This research identifies specific areas for targeted injury prevention and management based on known injury patterns. We recently published an article showing a higher rate of non-time-loss than time-loss injuries in secondary school softball athletes, which suggests the need for injury prevention programs to promote health and reduce injury occurrence. Currently, we're working with Datalys; Matt Moreau, DAT, '20; and Erik Nelson, PhD, MPH, of Indiana University, to examine injuries of secondary school baseball players across community levels of socioeconomic status. Our goal is to better understand the concept of concentrated disadvantage and its importance when establishing healthcare access and resource needs in a community.

Has the pandemic affected any collaborations?

I am part of a team examining injury risk factors



Drs. Huxel Bliven and Snyder Valier treat a shoulder of a throwing athlete.

in collegiate baseball players. Dr. Snyder Valier; Kevin Laudner, PhD, ATC, of University of Colorado Colorado Springs; Steve Tucker, PhD, LAT, ATC, of University of Central Arkansas; and I have been collecting shoulder, spine, and hip motion and strength data and have been working with athletic trainers to get weekly injury reports to explore risk factors for baseball injuries. This year, we worked with athletic trainers at New Hampshire Musculoskeletal Institute to take preseason measures for the study, but because of COVID-19, baseball seasons were canceled, and we weren't able to get weekly injury reports needed to determine injury risk. Instead, we analyzed preseason data and found joint motion and strength profiles differ between Division I and III baseball players. This is important because shoulder, spine, and hip motion and strength are thought to be key factors for injury risk.

Pandemic planning and emergency preparedness

Mary-Katherine McNatt, DrPH, MPH, MCHES, CPH, COI, serves as chair and associate professor of the Master of Public Health (MPH) program at ATSU-CGHS. Beginning her career as an epidemiology pandemic program planner, she has published multiple research articles on pandemic planning and emergency preparedness. Her background has led to a new public health certificate developed in collaboration with ATSU-CGHS instructional designers Susan Thomas, MEd, and Sue McDaniel, MS, and faculty member M. Lindsay Wright, DMD, MPH. Additional program review and input was provided by ATSU-CGHS colleagues Michael McCunniff, DDS, Ashley Love, DrPH, MPH, MS, CPH, Jaana Gold, DDS, PhD, MPH, CPH, and Don Altman, DDS, DHSc, EdD, MPH, MBA, MA, '12; MPH Curriculum Committee; and Ron Yee, MD, MBA, FAAFP, chief medical officer for National Association of Community Health Centers.

What is the purpose of the new certificate program?

This four-course certificate program will prepare students to respond in a public health capacity to an emergency or disaster. It will provide students with an understanding of emergency management systems and introduce them to various forms of disasters and public health threats. Students will also have an opportunity to practice and apply various disaster response skills essential to the public health response throughout the program. Students who successfully complete this certificate will earn three Federal Emergency Management Agency certificates and a certificate in contact tracing from the Association of State and Territorial Health Officials.

Why is this program important?

This certificate fills a void in the public health workforce. For years, public health has played a critical role in responding to emergencies and disasters of all kinds. However, many areas are underfunded and understaffed, and many personnel and staff have no formal training in public health emergency preparedness and disaster response. This is especially true for rural areas. In alignment with our department's purpose, and in response to the pandemic, we wanted to do our part to educate and ready as many public health responders to serve the profession and communities as we could, so we developed the certificate.



Dr. Mary-Katherine McNatt

What makes this program unique?

Our online courses are different; they are very interactive, experiential, and engaging and offer authentic assessments. Students will complete assessments mirroring what they will do in the field. They do not just write papers and have discussions but rather complete hands-on assessments. For example, students in the Epidemiology course perform actual contact tracing and an interactive outbreak scenario. In the Emergency Preparedness course, students participate in a tabletop exercise and write an after-action report. All faculty members have experience in the field related to the course they teach. Our faculty and academic advisors are very supportive. It is a great learner-centered and supportive environment.

Student-centered research

As a faculty member in ATSU-SOMA's Department of Public Health, Kate Whelihan, MPH, CPH, focuses her research on community-oriented primary care and social determinants of health. Through working relationships with National Association of Community Health Centers (NACHC) and National Center for Community Health Research, she collaborates on many projects designed to improve the health center experience for patients and staff.

What are you working on currently?

My current research focus is student research. As a faculty instructor, I advise all second-year ATSU-SOMA students on the community-based research project they must complete as part of their enrollment in Epidemiology and Biostatistics and Preventive Medicine courses. Students perform the yearlong projects at their community health center campus and are expected to address a pressing health issue in that community.

This year, students are pursuing public health topics related to barriers and facilitators to the use of telehealth; providing education on conditions, such as hepatitis C and colorectal cancer; adapting in-school wellness programs to an online format; and teaching children about the current coronavirus pandemic. These student projects are part of our long-standing relationship with NACHC and are designed as a way for ATSU-SOMA to give back to our health center partners. Each year,

students are required to submit results of their projects to NACHC for consideration to present either a poster or oral presentation during the annual Community Health Institute and Expo.

How has the pandemic affected student research?

We are working with students to adapt project requirements so they are feasible and still valuable during this COVID-19 era. Like in all things, there are challenges to getting students physically together and being physically present in their communities. So far, I am pleased with the projects students have designed and am excited to see the novel techniques they employ to get them done.

What are some of your recent publications?

Currently, I am in the final stages of ongoing research projects. These stages largely include writing manuscripts and submitting for publication. One upcoming publication I am very excited to share is a textbook chapter I authored with my supervisor, Joy H. Lewis, DO, PhD, FACP, chair and professor of public health. Together, we wrote an instructional chapter on performing community-based research projects with students. This chapter was requested by the American Medical Association for inclusion in its upcoming textbook on value-added roles in undergraduate medical education.



The quest to awaken persister cells

Neal Chamberlain, PhD, professor, microbiology and immunology, ATSU-KCOM, has been working to identify the factors *Staphylococcus aureus* and *S. epidermidis* produce to induce persistence to antibiotics. With the help of Timothy Geisbuhler, PhD, associate professor, physiology, and ATSU-KCOM graduate students, Dr. Chamberlain hopes to devise a means to awaken persister cells and kill them with antibiotic treatment.

Describe your research.

Most bottles of hand sanitizer include on their label, “Kills 99.99% of germs.” That is good. However, the ethanol in hand sanitizer does not kill 0.01% of germs. A small percentage of the microorganisms (bacteria) survive. The survivors could be resistant to ethanol in hand sanitizer, or they could be persistent.

Resistant survivors have found a way to either inactivate ethanol or keep ethanol from killing them. Resistant bacteria will not only survive but may also grow in ethanol. We have known for a long time bacteria are resistant to antibiotics used to treat human infections. This way of survival has caused pharmaceutical companies to constantly search for new antibiotics to treat resistant bacteria.

My research does not involve understanding how resistant bacteria survive antibiotics. Rather I am interested in understanding how persistent bacterial survivors avoid being killed by antibiotics and disinfectants, like ethanol. Persister bacteria do not inactivate or keep the ethanol or antibiotic from killing them. Instead, they have become tolerant to killing by these agents. They do not grow when the killing agent is present. They just sit there as if they were in hibernation.

Why is your research important?

Persistent bacteria are a problem for people with implanted medical devices infected with bacteria, like *S. aureus*. If a patient’s artificial knee is infected, the patient takes antibiotics to kill the infection on the artificial joint’s surface. In some cases, this does not kill all the organisms contaminating the joint. Research has shown these survivors are oftentimes persistent survivors. When the antibiotic treatment is finished and the antibiotic is no longer in the patient’s system, the persistent bacteria start growing again. Another round of antibiotic treatment may be tried, but if sufficient numbers of persisters are present, this treatment can also fail.

What exactly are you doing in your research?

Our lab has discovered small molecular weight factors for *S. aureus* and *S. epidermidis* that increase the number of persistent bacterial cells in a population of bacterial cells. Our current goals are to characterize and purify these persistence-inducing factors and understand how they are causing bacterial cells to become persister cells. If we understand how these persistence-inducing factors turn on persistence, we may find ways to keep staphylococci from becoming persisters and improve the chances of treating a contaminated indwelling medical device.



Dental podcast series

TIPS FOR IMPLEMENTING SPECIAL CARE DENTISTRY INTO DAILY PRACTICE



Ann Eshenaur Spolarich RDH, PhD, FSCDH | Scott Howell DMD, MPH, FSCD | Karen Fallone RDH, FSCDH
Ellen Gohlke RDH, BSDH, FSCDH | Kathleen Moralez CDA, EMT | Timothy Lukavsky DDS, FSCD
Mai-Ly Duong DMD, MPH, MAEd | Maureen Munnally Perry DDS, MPA, MAEd



[ColgateOralHealthNetwork.com](https://www.ColgateOralHealthNetwork.com)

Ann Eshenaur Spolarich, PhD, RDH, FSCDH, professor and assistant dean for research, ATSU-ASDOH, has worked in special care dentistry for the majority of her career. When Colgate approached her about hosting a special care dentistry podcast series, she jumped at the chance to provide listeners with practical tips and information. The eight-episode series is available on Colgate Oral Health Network's website and features a cast of expert guest speakers.

What is the purpose of this series?

The podcast series was created primarily to provide practical tips in response to requests from members of Colgate's international online community, known as Colgate Oral Health Network. Colgate provides these 15-minute episodes free of charge. Dental professionals may listen to the podcast just for interest, but they may complete a short quiz about content of each episode if they want continuing education credit. Continuing education credit is awarded through the American Dental Association Continuing Education Recognition Program (ADA CERP) in partnership with Colgate.

As the host, who were your guests and how did you choose topics?

Guest speakers were Scott Howell, DMD, MPH, FSCD, '14; Karen Fallone, RDH, FSCDH; Ellen Gohlke, RDH, FSCDH; Kathleen Moralez, CDA, EMT;

Timothy Lukavsky, DDS, FSCD; Mai-Ly Duong, DMD, MPH, MAEd, FAGD, FSCD, '12; and Maureen Perry, DDS, MPA, MAEd. All of these professionals work in our Special Care Dentistry Clinic, which is part of the Advanced Care Clinic at ATSU-ASDOH. They are active members of the Special Care Dentistry Association and are recognized experts in the field. I selected these individuals because of their expertise and professional reputations.

I met individually with speakers to discuss what they wanted to share with colleagues during the episode. With each speaker, we came to an agreement about topics to be covered, and then I developed a series of questions. I wanted to ensure interviews covered unique themes and takeaways were consistent and meaningful for listeners. When someone listens to the entire series, it becomes apparent we all share the same passion, commitment, and practice philosophies for special care dentistry.

What were the outcomes of this series?

I hope this series serves as a resource to encourage more dental professionals to treat individuals with special needs. According to Colgate, many educators are planning to incorporate the podcast series into their curriculum to train dental and dental hygiene students during their special care dentistry course work. As of October 2020, the podcast had 6,147 hits on the Colgate Oral Health Network website.

Training and roles of physician assistants in ophthalmology

Luis C. Gutierrez, MMS, PA-C, is a physician assistant (PA) in internal medicine in Glendale, Arizona. He is also a doctoral candidate in ATSU-CGHS' Doctor of Education in Health Professions program. Set to graduate in May 2021, he is working on his doctoral research project, which focuses on postgraduate training for PAs. His project is investigating the viability of postgraduate training programs to prepare PAs for ophthalmology careers.

Why is your research important?

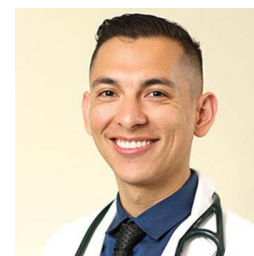
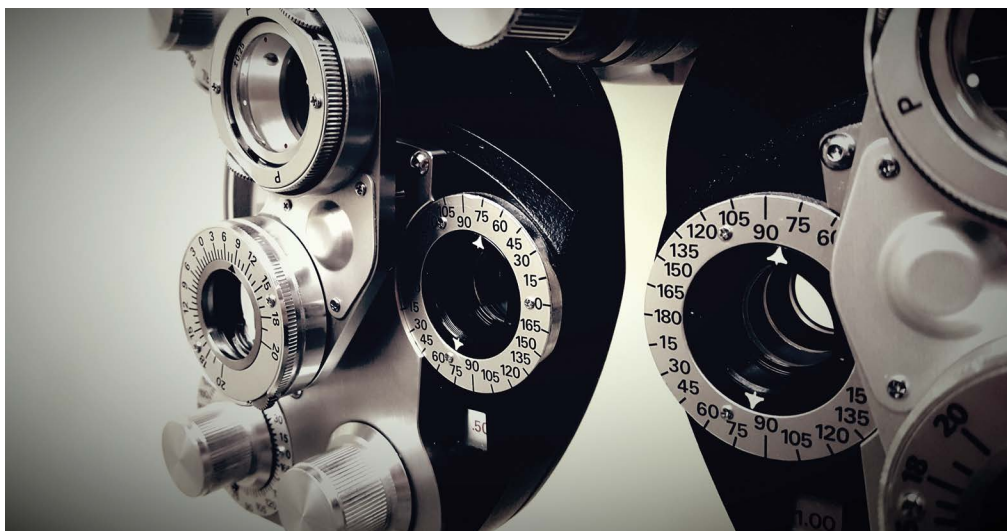
A shortage of ophthalmologists is expected in the years to come, and PAs have been sparsely employed in the ophthalmology specialty. PAs have successfully served as physician extenders throughout the U.S. to help meet demands faced by physicians. Unlike optometrists and ophthalmic technicians, PAs can perform medical procedures and bill for physician services, freeing ophthalmologists for more complex cases. Fewer scope-of-practice and legal limitations apply to PAs than to other allied health professionals, so PAs could be employed to close the gap between ophthalmology providers and patient demand. These important factors provide reasons for researching roles PAs may play in filling the predicted gap in the ophthalmology supply.

What exactly are you doing in this project?

I am conducting a qualitative case study of PAs in ophthalmology to understand the viability of postgraduate training programs to better prepare PAs who seek a career in ophthalmology. I am the sole investigator of this project and am completing data collection by myself. The research consists of interviewing PAs throughout the U.S., a difficult task as fewer than 100 PAs practice ophthalmology. The small number is attributed to the lack of eye care training PAs receive in school. The interview consists of 19 questions related to education, training, and roles in the workplace. All data will be de-identified, and confidentiality will be strictly upheld.

What do you hope to achieve?

If the status quo continues, PAs and PA students could lose out on rewarding career opportunities, and the decline in sufficient numbers of ophthalmologists is likely to continue. I hope this project can help open avenues for PAs to have a more prominent role in ophthalmology.



Luis C. Gutierrez

Carotid artery calcifications and veteran health

Working alongside faculty mentor Richard Vargo, DMD, ATSU-MOSDOH students Chris Gagnat, Kristen Howard, and Andrew Otto investigated the presence of carotid artery calcifications in veterans. The team analyzed X-rays from ATSU-MOSDOH's Dentures for Veterans program, which provides free dental screenings and care for military veterans, to emphasize how carotid artery calcifications may indicate the presence of other health concerns. These students presented their research at the School's virtual 2020 D3 Research Day, where they won first place.

Describe your research project.

Our project evaluated the presence of carotid artery calcifications in U.S. military veterans previously treated at the St. Louis Dental Center. Carotid artery calcifications have been linked to increased risks for cerebrovascular events and various health and social factors. We are able to see these calcifications in patient X-rays obtained during intake exams. We wanted to know whether the presence of these pathologies was associated with other health conditions, like diabetes, or with social factors, like consuming alcohol.

What exactly are you doing in this project?

First, we reviewed current literature for risk factors associated with carotid artery calcifications and for other previous health analyses for veteran populations. With help from Herbert Silva, DMD, we collected a confidential list of veterans treated through the Dentures for Veterans program. Then, we collected socioeconomic data and atherogenic risk factors associated with carotid artery calcifications for this veteran population. Most of our time was spent reviewing panoramic X-rays for the absence or presence of carotid artery calcifications, which appear white and irregularly shaped in soft tissue near vertebrae of the neck. Dr. Vargo was instrumental in teaching and aiding our identification of carotid artery calcifications. Finally, we analyzed results of our data. With help from Joan M. Davis, PhD, RDH, assistant dean, research, ATSU-MOSDOH, we presented our findings by video conference with faculty, students, and interested members of the dental community.

Why is your research important?

This research emphasizes how carotid artery calcifications may be an indicator of health. The pathology is easily evaluated using patient X-rays every dentist should have. Dentists may also educate patients on the pathology of these findings and refer them to a physician if their medical conditions, such as high cholesterol, have not been treated. Furthermore, previous studies show veterans have poorer health than civilians with higher incidences of cardiovascular disease, diabetes, smoking, and alcohol use. We found prevalence of carotid artery calcifications was high – almost 50% among the veterans of our study. Histories of alcohol consumption and hypertension were significant risk factors for carotid artery calcifications. Ultimately, our study provided more insight into veteran health, and any additional information related to better treatment of this population is essential.



Dr. Richard Vargo shows an X-ray to student researchers Andrew Otto, Chris Gagnat, and Kristen Howard (before COVID-19 infection control protocols).

Benefits of counseling

ATSU-ASHS' Matthew Wittwer, OTD, '20, used his capstone project to examine effects of counseling for Arizona's first responders after a traumatic work-related event. With a survey designed to measure perceived quality of life and stress levels after counseling visits, Dr. Wittwer investigated counseling's impact on first responders and how occupational therapy may further benefit Arizona's heroes.

Describe your research project.

For my capstone project, I was placed with a company that provides case management and coordinates licensed counseling services for first responders. In 2018, Arizona passed the Officer Craig Tiger Act, requiring state departments and agencies to provide sworn firefighters and police officers with 36 licensed counseling visits after a traumatic event. My research consisted of performing a cross-sectional study using an online self-reported survey. The survey was completed by first responders who received counseling through the Officer Craig Tiger Act.

What exactly are you doing in this project?

With guidance from my community mentor, I developed an online survey and sent it by email to 200 first responders in Arizona. Sixty-five participants fully completed the survey. Data from the survey indicated first responders found licensed counseling beneficial. Nearly all first

responders reported their quality of life was better than before they received counseling. Additionally, the data highlighted areas where occupational therapy could benefit this population. In the survey, participants identified coping skills they use to manage stress. The majority of participants identified exercise as a main coping skill. This result justifies inclusion of occupational therapy as an adaptive exercise routine in the event of an injury. Further, occupational therapy can teach a variety of coping skills to use in place of exercise. The survey also captured data about areas where licensed counseling helped and areas for improvement. One possible area where occupational therapy may be beneficial is with return to work. Occupational therapists have a distinct skill set to help clients with returning to work and regaining the worker role.

Why is your research important?

This research shows the Officer Craig Tiger Act positively affects first responders' lives. My study results showed those who used counseling services had an increased quality of life and decreased stress. Since the Officer Craig Tiger Act is scheduled to end in 2023, I hope this research will encourage policymakers to continue the act and make appropriate changes. Another goal of this project was to demonstrate a new area of practice for occupational therapy. My hope is occupational therapists who want work with first responders will use this research to develop treatment programs.



Dr. Matthew Wittwer

A new angle on head and neck muscles

In collaboration with ATSU-SOMA's Anatomy and Osteopathic Principles & Practice departments and the University of North Texas Health Science Center, fourth-year students Elizabeth St. Laurent and Grace Kim have taken an innovative approach to dissection and visualization, resulting in a unique perspective of deep cervical muscles.

Describe your research project.

Our project involves dissection of the deep cervical musculature to provide enhanced visualization of the suboccipital muscles. This dissection also provides an accurate visual representation of the craniovertebral junction, which differs in orientation and fiber position from representations in anatomy atlases. This region contains structures involved in the nervous, vascular, and muscular systems. It is the exit point for the spinal cord via the foramen magnum and the exit point for the vagus nerve via the jugular foramen. The vagus nerve has downstream effects on the heart, blood pressure regulation, and gastrointestinal tract. Also located in this area is the vertebral venous plexus, which drains the cranium when standing in an upright position. Vertebral arteries pass directly deep to these muscles, creating a close relationship between the suboccipital musculature and arterial blood flow to the brain. Increased muscle and fascia tension at the craniovertebral junction affects these functions and can cause pain and malfunction.

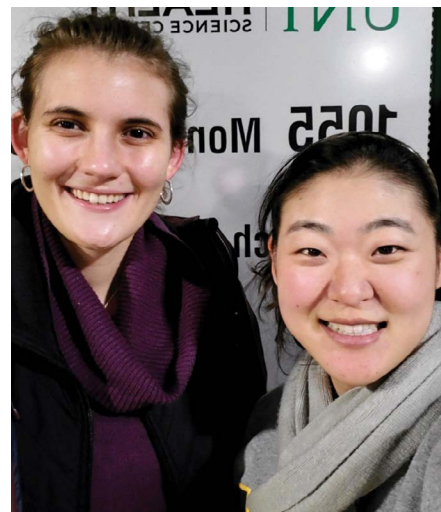
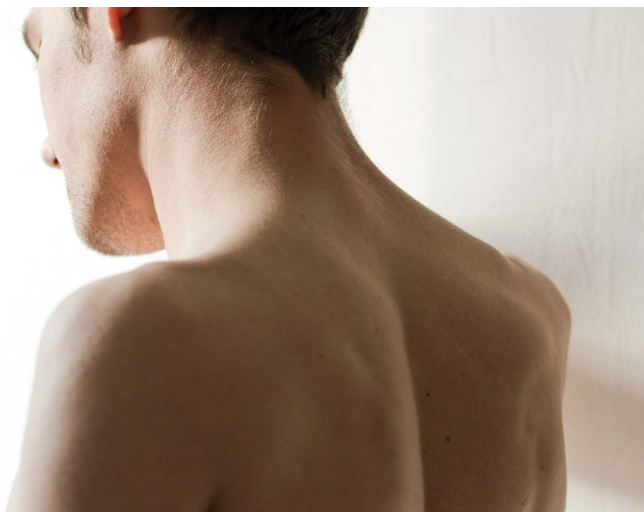
What exactly are you doing in this project?

The dissection took about 25 hours over four days and required the dedicated work of all five

members of the dissection team. We dissected three cadaveric specimens to visualize a top-down view of the ring of muscles forming the junction between the head and neck. This required removing all superficial skin and muscle and meticulous dissection once the deep muscle layers were reached. To achieve a top-down view, the skull was disarticulated, leaving only the muscles connecting the head and neck. This step provided an unobstructed view of the ring of 12 muscles, six pairs, involved in movement and function of the head and neck. Using photography and 360-degree videography to capture different nuances in the orientation of these anatomic structures, we revisited the occipitoatlantal release treatment technique and proposed a revised method. Revisiting this technique has far-reaching implications since treating this region potentially affects a patient's balance, head, neck, heart, arterial walls, and gastrointestinal tract. Our pilot presentation to ATSU-SOMA educators was well received.

Why is your research important?

No known cadaveric specimen images of this particular dissection view are available to the academic community. To fully appreciate the anatomy of this region of the head and neck, it is vital to have appropriate visualization of the ring formed by the six paired muscles in the craniovertebral junction. We believe enhanced 3D understanding of this region will improve student performance of the occipitoatlantal release treatment technique, resulting in enhanced learning and patient outcomes when using this technique.



Elizabeth St. Laurent and Grace Kim celebrate completion of their dissection project in December 2019.

Saliva and stimulant medication

ATSU-ASDOH's Michelle Heal, DMD, '20, and faculty mentor Ann Eshenaur Spolarich, PhD, RDH, FSCDH, professor and assistant dean for research, compared perceived dryness, resting salivary flow rate, and salivary pH between children diagnosed with attention-deficit/hyperactivity disorder (ADHD) who are prescribed ADHD medication and children not diagnosed with ADHD and not prescribed ADHD medication. With funding from an ATSU Student Research Grant, Dr. Heal hopes to demonstrate the importance of balancing potential negative oral health side effects of stimulant medications, like those used to treat children with ADHD, with preventive oral health interventions.

Why is your research important?

In the U.S., more than 1 in 10 children aged 12-17 years are diagnosed with ADHD. More than 60% of diagnosed children are treated with stimulant medication in addition to behavioral therapy. Children with ADHD are thought to have decreased salivary flow, more acidic saliva, higher dental plaque biofilm scores, and poorer oral hygiene. These factors can greatly increase risk for dental disease. Many medications are known to cause xerostomia (the perception of dry mouth) or reduced salivary flow in adults, but few studies have been conducted to clinically evaluate these oral adverse events in children. Stimulant medications, primarily prescribed for ADHD, are among medications known to alter salivary flow through their effects on the autonomic nervous system. Given the number of children taking these

medications, it is imperative to evaluate whether they are experiencing alterations in saliva and resulting negative oral health outcomes.

What exactly are you doing in this project?

I am collecting data from two groups of adolescents aged 12-17 years: those taking stimulant medications and those not taking stimulant medications. My data collection includes asking participants if they perceive their mouth to be dry, collecting unstimulated saliva in a test tube for one minute to determine their flow rate, and placing a pH strip into the saliva sample to record pH level. If these stimulant medications do produce adverse effects on saliva, our research will identify another risk factor for compromised oral health in children. As a next step, findings will need to be linked to actual oral health status in medicated children. Once known, appropriate treatment modalities and at-home self-care regimens can be recommended to negate oral effects of these medications.

What do you hope to achieve?

We hope to explore whether ADHD stimulant medications are associated with a perceived sensation of dry mouth, decreased salivary flow rate, and reduction in salivary pH. If so, we can identify medicated children who are at higher risk for developing dental caries. Our study findings will also inform other dental professionals about medication-associated risks for dental disease in the pediatric population.



Dr. Michelle Heal

Vision impairments after concussion

ATSU-KCOM's Jack Komro, OMS IV, is an ophthalmology residency candidate interested in common vision impairments after concussion and traumatic brain injury. He worked with clinical neuropsychologist Jamie Pardini, PhD, and athletic trainer Nick Hatstrup, MS, from Banner University Medical Center in Phoenix to increase awareness of concussion effects on vision, including improved management, optimized treatment, and quicker return to activity.

Describe your research project.

One of the most common forms of traumatic brain injury is concussion with 3.6 million injuries occurring annually across the U.S. Vision complaints are often reported after concussion. These visual disturbances may lead to reading difficulty, decreased visual focus, and eyestrain, all of which may compound decreased cognitive attention after injury.

We performed a computer-based query using patient records from May 2017 to January 2019 to develop a list of 297 individuals seen by a neuro-optometrist at a Southwestern concussion clinic. International Classification of Disease codes were used to determine the diagnosis at the first optometrist visit. Total symptom intensity at the visit and specific intensity complaints from a post-symptom questionnaire were recorded. Diagnoses of each patient were then grouped into a final list of diagnoses.

We found a median of three diagnoses per patient, and the three most common diagnoses were saccadic eye movement deficiency, convergence insufficiency, and binocular vision

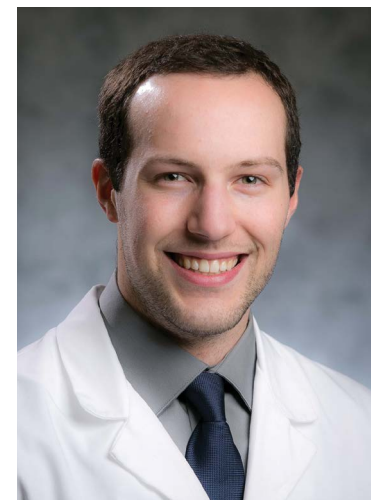
suppression. Of the top three diagnoses, the greatest concurrent overlap occurred between saccadic eye movement deficiency and convergence insufficiency. This finding points to the interaction between the visual system and symptoms of eyestrain, difficulty reading, and impaired visual focus. When patients present with persistent symptoms after concussion, a thorough vision exam is needed.

Why is your research important?

Few studies have examined the presence and nature of post-concussion vision dysfunction, and additional information is needed to inform healthcare practices. Previous studies used limited sample sizes and primarily described an individual diagnosis, such as convergence insufficiency, accommodation defects, or visual field deficits. Our study is a retrospective study with a large sample size and describes vision diagnoses in a sample of concussed adolescents and adults referred to a neuro-optometrist as part of an individualized multidisciplinary care model.

What do you think is the next step in this area of research?

Future research should establish a set of diagnostic criteria to define and diagnose eye disorders. These criteria will allow us to better compare and understand vision disorders after injury and provide more consistency among results reported in the vision research community. Additionally, more research is warranted on the benefits of vision therapy and corrective lenses after brain injury.



Jack Komro



Second-year audiology student Ediberto III Rodriguez practices immittance audiometry testing with third-year student Allie Adams.

Abdulkarim, H. Presentations/abstracts: Assessing the possible correlation between tactile sensation and CBCT software evaluation of bone density for edentulous dental implant patients. Correlation between tactile sensation and CBCT density in dental implants.

Abels, M. Presentations/abstracts: Magnification loupes and musculoskeletal discomfort.

Adams, C. Presentations/abstracts: Measuring the impact of nutrition education and a school garden on nutrition behavior among West Oahu elementary-aged children.

Adams, J. Publications: Educational value of ultrasonography used as a diagnostic tool by medical students at a student-run free clinic, *Missouri Medicine*. Hemodynamics of tonic immobility in the American alligator (*Alligator mississippiensis*) identified through Doppler ultrasonography, *Journal of Comparative Physiology A*. The narial musculature of *Alligator mississippiensis*: can a muscle be its own antagonist, *Journal of Morphology*. Presentations/abstracts: Muscular control of the external nares of the American alligator (*Alligator mississippiensis*).

Adams, S. Presentations/abstracts: Completion of definitive restoration following endodontic treatment at St. Louis Dental Center. Completion of definitive restoration following endodontic treatment for the underserved. Quality improvement assessment of endodontic care using dental school EDR.

Adler, K. Publications: Determining Carnegie units: student engagement in online courses without a residential equivalent, *Online Journal of Distance Learning Administration*.

Ahmad, Z. Publications: A connection between antimicrobial properties of venom peptides and microbial ATP synthase, *International Journal of Biological Macromolecules*. Functional importance of α Asp-350 in the catalytic sites of *Escherichia coli* ATP synthase, *Archives of Biochemistry and Biophysics*. Glu residues of β DELSEED-motif are essential for peptide binding in *Escherichia coli* ATP synthase, *International Journal of Biological Macromolecules*. Insect venom peptides as potent inhibitors of *Escherichia coli* ATP synthase, *International*

Journal of Biological Macromolecules. Preconditioning with atorvastatin against renal ischemia-reperfusion injury in nondiabetic versus diabetic rats, *Canadian Journal of Physiology and Pharmacology*. Presentations/abstracts: A connection between antimicrobial properties of dietary ginger phenolics and bacterial ATP synthase. ATP synthase: a potential molecular drug target. Functional importance of L382 and S383 in the β DELSEED-motif of ATP synthase. High-glucose disrupts coronary artery endothelial barrier function and prevents wound healing process via dismantling of junctional protein, VE cadherin. Inhibition of *Escherichia coli* ATP synthase by antimicrobial venom peptides. Metformin prevents high glucose induced disruption of coronary artery endothelial barrier function and accelerates wound healing via regulating junctional protein, VE-cadherin. Peptide binding and interaction at the β DELSEED-motif of ATP synthase. Significance of the highly conserved α VISITDG sequence in the catalytic sites of ATP synthase. VISITDG sequence residues and Pi binding in the catalytic sites of ATP synthase.

Alexander, JL. Publications: Clinical research nursing: awareness and understanding among baccalaureate nursing students, *Journal of Nursing Education*. Job satisfaction among physician assistants practicing cardiovascular medicine in the United States, *The Health Care Manager*. Management and treatment of HIV: are primary care clinicians prepared for their new role, *BMC Family Practice*. Patient attitudes toward telemedicine-delivered cardiac rehabilitation, *Rehabilitation Nursing*.

Allen, D. Publications: Four-year review of presenteeism data among employees of a large United States health care system: a retrospective prevalence study, *Human Resources for Health*.

Allgood, JA. Publications: Medical school strategies to address student well-being: a national survey, *Academic Medicine*. Presentations/abstracts: Integration of experiential lifestyle medicine and wellness into an osteopathic medicine curriculum.

Aishukri, M. Publications: Value-based payment for oral health in an accountable care organization, *Compendium of Continuing Education in Dentistry*.

Anast, A. Publications: Student and faculty perceptions of plagiarism in health sciences education, *Journal of Further and Higher Education*.

Anderson, BE. Publications: Athletic trainers' perceptions of advanced clinical practice: characteristics of advanced practice athletic trainers, *Athletic Training Education Journal*. Athletic trainers' perceptions of advanced clinical practice: defining advanced clinical practice

in athletic training, *Athletic Training Education Journal*. Clinical breathing mechanics differ based on test and position, *Journal of Sport Rehabilitation*. Commentary: integrating diagnostic ultrasound into athletic training education programs, *Athletic Training Education Journal*. Educational technique: using a phased approach to integrate diagnostic ultrasound into athletic training education, *Athletic Training Education Journal*. Patient, injury, assessment, and treatment characteristics and return-to-play timelines after sport-related concussion: an investigation from the Athletic Training Practice-Based Research Network, *Clinical Journal of Sport Medicine*. Relationships between core stability, sex, and movement capacity, *Athletic Training and Sports Health Care*. Presentations/abstracts: Patient, injury, and treatment characteristics of hip injuries presenting to athletic training clinics: a report from the Athletic Training Practice-Based Research Network.

Archer, L. Presentations/abstracts: "What was the intern thinking?" Improving intern rapid response competence through standardized human simulation training.

Ayars, C. Publications: Evaluation of a drug and alcohol safety education program in aviation using interrupted time series and the Kirkpatrick framework, *Evaluation and Program Planning*. The influence of family on doctoral student success, *International Journal of Doctoral Studies*.

Baer, R. Presentations/abstracts: Characterization of in vitro 3D spheroid growth and behavior in 4 melanoma cell lines. Preliminary characterization of cell surface markers and phagocytic behavior in MO THP1-derived macrophages. Use of a physician mentored patient rounds to observe EPA 4 in second-year medical students. Use of physician mentored patient rounds to observe second year medical students' treatment plans for a COPD patient.

Bansal, S. Presentations/abstracts: Creative education in school nutrition. Integration of experiential lifestyle medicine and wellness into an osteopathic medicine curriculum.

Batista, G. Presentations/abstracts: Profilometric analysis of direct and indirect composites after brushing simulation.

Bay, RC. Publications: A physical therapy decision-making tool for stratifying persons with Parkinson's disease into community exercise classes, *Neurodegenerative Disease Management*. A survey of pediatric dentists on the treatment timing and modalities for white spot lesions in the United States, *Journal of Clinical Pediatric Dentistry*. Authors' response: Determining condylar bone density in adolescents: an inconclusive cone-beam computed tomographic study, *American Journal of Orthodontics & Dentofacial Orthopedics*.

Authors' response: the influence of variables on predicting growth patterns of adolescents with varying skeletal patterns, *American Journal of Orthodontics & Dentofacial Orthopedics*. Burn injury outcome differences in Native Americans, *Burns*. Clinical breathing mechanics differ based on test and position, *Journal of Sport Rehabilitation*. Colorectal cancer: applying the Value Transformation Framework to increase the percent of patients receiving screening in federally qualified health centers, *Preventive Medicine Reports*. Evaluation of vertical and horizontal saccades using the Developmental Eye Movement test compared to the King-Devick Test, *International Journal of Sports Physical Therapy*. Exodus from the classroom: student perceptions, lecture capture technology, and the inception of on-demand preclinical medication education, *The Journal of the American Osteopathic Association*. Mandibular condyle bone density in adolescents with varying skeletal patterns evaluated using cone-beam computed tomography: a potential predictive tool, *American Journal of Orthodontics & Dentofacial Orthopedics*. Point-of-care clinical trials in sports medicine research: identifying effective treatment interventions through comparative effectiveness research, *Journal of Athletic Training*. Preliminary study: evaluating the reliability of CBCT images for tongue space measurements in the field of orthodontics, *Oral Radiology*. Reducing discomfort after cesarean birth using abdominal binders, *MCM The American Journal of Maternal/Child Nursing*. Relationships between core stability, sex, and movement capacity, *Athletic Training and Sports Health Care*. Retrospective comparison of ultrasound facilitated catheter-directed thrombolysis and systematically administered half-dose thrombolysis in treatment of pulmonary embolism, *Vascular Medicine*. Sport specialization and fitness and functional task performance among youth competitive gymnasts, *Journal of Athletic Training*. Sport specialization and risk of overuse injuries: a systematic review with meta-analysis, *Pediatrics*. The association between length of recovery following sport-related concussion and generic and specific health-related quality of life in adolescent athletes: a prospective, longitudinal study, *The Journal of Head Trauma Rehabilitation*. The relationship between postinjury symptomatology and days postinjury for the Graded Symptom Scale in concussed adolescent athletes, *International Journal of Athletic Therapy and Training*. Travel nurse onboarding: current trends and identified needs, *Journal of Nursing Administration*. Vaccination capability inventory of community, migrant, and homeless health centers: a survey report, *Journal of Public Health Management & Practice*. Who are the undiagnosed? Disparities in hypertension diagnoses in vulnerable populations, *Family and Community Health*. Presentations/abstracts: A brief

intervention model of physical therapy within the community health center: a randomized controlled trial. Athletic training student application of evidence-based practice during clinical education: a report from the Athletic Training Clinical Education Network. Athletic training student application of health information technology during clinical education: a report from the Athletic Training Clinical Education Network. Athletic training student application of interprofessional education during clinical education: a report from the Athletic Training Clinical Education Network. Athletic training student application of patient-centered care during clinical education: a report from the Athletic Training Clinical Education Network. Athletic training student application of quality improvement during clinical education: a report from the Athletic Training Clinical Education Network. Does injury history impact the recovery of self-report of function during the first two weeks after an ankle sprain injury? A report from the Athletic Training Practice-Based Research Network. Epidemiology of dance-related injuries presenting to emergency departments in the United States, 2014-2018. Epidemiology of sport-related knee injuries reporting to U.S. emergency departments from 2008-2017. Improved non-surgical treatment of chronic periodontitis with 980nm diode laser. Patient outcomes at return-to-play following ankle sprain injuries: a report from the Athletic Training Practice-Based Research Network. Predicting fall risk in an inpatient rehabilitation setting: the Continuity Assessment Record and Evaluation (CARE) Item Set versus the Morse Fall Scale. The Continuity Assessment Record and Evaluation (CARE) Item Set: predicting discharge after lower extremity fracture. Treatment of chronic periodontitis with 980 nm diode laser: microbiomic results.

Beary, JM. Publications: Improvement in sonographic vasospasm following intravenous milrinone in a subarachnoid hemorrhage patient with normal cardiac function, *Cureus*.

Bernstein, J. Publications: Ancel Benjamin Keys (1904-2004): his early works and the legacy of the modern Mediterranean diet, *Journal of Medical Biography*. Attitudes toward sweetened soft drinks and consumption patterns among Saudi women: a cross-sectional study, *Eating Behaviors*. Can dream science be used to elicit healthy behaviors? *International Journal of Dream Research*. Changing weight management self-efficacy among obese Puerto Rican adults: a quantitative study using a health coaching intervention, *The Internet Journal of Allied Health Science and Practice*. Food labeling use by consumers in Arab countries: a scoping review, *Journal of Community Health*. Fruits and vegetables embedded in classic video games: a health-promoting potential? *International Journal of*

Food Sciences and Nutrition. Nurses' drowsy driving prevention strategies: a qualitative exploratory multiple-case study, *Journal of Nursing Education and Practice*. Psychological stress and cellular aging in cancer: a meta-analysis, *Oxidative Medicine and Cellular Longevity*. Reducing hypovitaminosis D among Somali immigrants in Minnesota: a narrative review, *International Journal of Human Rights in Healthcare*. Revisiting Desmond Doss (1919-2006): merging combat medicine and benevolence on the battlefield, *The Journal of Emergency Medicine*. The influence of family on doctoral student success, *International Journal of Doctoral Studies*.

Bhatia, S. Publications: Assessing likelihood of using the Bruininks-Oseretsky test of motor proficiency to predict preclinical performance of dental students, *Clinical and Experimental Dental Research*. Developing neuraxial and regional pain procedural skills through innovative 3-dimensional printing technology, *The Journal of the American Osteopathic Association*. Osteopathic manipulative medicine practice patterns of third-year and fourth-year osteopathic medical students: an education research project, *The Journal of the American Osteopathic Association*. Reliability of the DIERS formetric 4D spine shape parameters in adults without postural deformities, *BioMed Research International*. Presentations/abstracts: Bilingual brochure for oral health literacy improvement in Vietnamese population. Characteristics and management of geriatric patients for a neuromusculoskeletal medicine/osteopathic manipulative medicine clinic. Outreach program impact on utilization of dental services by immigrants. Predicting the preclinical performance of dental students.

Black, K. Presentations/abstracts: Advanced clinical practice in cardiopulmonary: are you practicing best practice? Effects of cardiovascular and pulmonary simulated learning experiences on physical therapy study outcomes: systematic review.

Bonsall, A. Publications: Exploring participant experiences and research relationships, *Narrative Inquiry*. Presentations/abstracts: An examination of mothering occupations in the context of spinal cord injury. An examination of roles in theory and practice. Board games for kids: reducing stress and learning through play. Resiliency and proactive coping methods targeting perceived stress levels in older adults. "We don't like talking about toileting issues in front of everyone": parents' reflections on family-centered care.

Bordenave, L. Presentations/abstracts: Attributes of contributing authors in the *Journal of Neurologic Physical Therapy and Pediatric Physical Therapy*. CSM attendance: influence on DPT students' professional growth. Impact of A Matter of Balance falls prevention

Please note: Publications, presentations, and abstracts are included as reported in the Fall 2018 through Summer 2020 ATSU Research newsletters, prepared by the Department of Research Support. Individuals listed were full-time and part-time ATSU faculty and staff members at the time publications, presentations, or abstracts were reported to the Department of Research Support.

FACULTY and STAFF SCHOLARLY ACTIVITY (September 2018-August 2020)

outreach on student coaches. The lived experience of the PWR! Retreat for people with Parkinson's disease.

Bradbury, M. Presentations/abstracts: Algorithms and assumptions dilute DNA database information integrity. From the basic concept of pH to complex acid-base disorders in two hours using self-directed learning.

Brechue, W. Publications: A 20-sec stepping test and KINECT™ sensor provides objective quantification of movement/balance dysfunction in older individuals, *Experimental Aging Research*. Presentations/abstracts: Acceleration and velocity characteristics of college women athletes in a short sprint. Allometric scaling of strength performances by body mass and lean mass in college football players. Blood flow limitation during sustained maximal voluntary isometric contractions associated with external compressive forces. Comparison of bone density and bone mineral content between women athletes and sedentary controls. Comparison of maximal strength and submaximal repetitions in bench press performed with barbell and dumbbells. Comparison of methods for tracking body composition across a year training cycle in college soccer players. Comparison of selected bioelectrical impedance devices and skinfolds to dual-energy x-ray absorptiometry to estimate body fat in college male soccer players. Electrocardiograph changes associated with a 55-hour footrace. Heart rate variability and blood pressure regulation over a 24-hour period. Identifying physical deficiency and balance with a step-in-place test. Impact of repeated bouts of maximal voluntary isometric contractions on somatic and autonomic activation. Inconsistency of bilateral asymmetry between leg dominance, balance and jump performance. Influence of baseline strength and fat-free mass on upper-body strength improvement following machine weight and free weight resistance training in young men. Interaction between force and neural activation in determining blood pressure response to static contractions in men and women. Muscle fatigue associated with carbonic anhydrase inhibition is related to altered central command during sustained submaximal voluntary isometric contractions. Nonconscious priming of motor performance through stereotype activation. Nonconscious priming of muscle force and fatigue through stereotype activation. Prediction accuracy of height and weight in college men and women. Relationship between cardiac structure and blood pressure response to isometric contractions in men and women. Relationship of regional and total lean masses to strength performance in college football players. There are no differences in upper-body muscular endurance at equivalent %1RM in trained and untrained

college-aged men. Using a Kinect sensor to develop an objective quantification of the 20s-march test for ADL assessment in older individuals.

Breitenbach, E. Publications: Evaluating a model to increase doctorate program complete rates: a focus on social connectedness and structure, *International Journal of Doctoral Studies*. Four-year review of presenteeism data among employees of a large United States health care system: a retrospective prevalence study, *Human Resources for Health*. Strategic instructional design of interprofessional education in health professions curricula, *Journal of Applied Instructional Design*. The influence of family on doctoral student success, *International Journal of Doctoral Studies*.

Brennan, J. Presentations/abstracts: Transforming oral healthcare delivery to underserved adults with digital dentistry: a pilot study.

Bruning, G. Presentations/abstracts: Establishment of a suboxone clinic in a family medicine residency. Northeast Regional Medical Center heart failure readmission reduction project.

Bryant, VL. Publications: Myc-driven chromatin accessibility regulates Cdc45 assembly into CMG helicases, *Communications Biology*.

Burch, AL. Presentations/abstracts: A brief intervention model of physical therapy within the community health center: a randomized controlled trial.

Campbell, AM. Publications: Exodus from the classroom: student perceptions, lecture capture technology, and the inception of on-demand preclinical medication education, *The Journal of the American Osteopathic Association*. Faculty perspectives on student attendance in undergraduate medical education, *Advances in Medical Education and Practice*. Presentations/abstracts: Faculty perspectives on student attendance.

Chaffin, J. Publications: Association of food insecurity with early childhood caries, *Journal of Public Health Dentistry*. Effect and acceptance of silver diamine fluoride treatment on dental caries in primary teeth, *Journal of Public Health Dentistry*. Presentations/abstracts: Dental insurance value and quality.

Chamberlain, N. Presentations/abstracts: Purification of persistence inducing factor for *Staphylococcus aureus* SH1000. Surface sampling of mannequin simulators: are simulators contaminated by human pathogens? Use of a physician mentored patient rounds to observe EPA 4 in second-year medical students. Use of physician mentored patient rounds to

observe second year medical students' treatment plans for a COPD patient.

Chang, Y. Publications: Monocyte chemotactic protein 1-induced protein 1 contributes to neuronal injury following hypoxic-ischemia in the neonatal mouse brain, *NeuroReport*. Systemic MCP1 deficiency in mice impairs lipid homeostasis, *Current Research in Pharmacology and Drug Discovery*. Presentations/abstracts: β 3-Adrenergic receptor stimulation enhances bFGF-induced migration and proliferation of aortic smooth muscle cells in rat. β 3-Adrenergic receptor stimulation enhances bFGF-induced migration and proliferation of rat aortic smooth muscle cells. Protective role of MCP1 in brain injury following hypoxic-ischemia in neonatal mice. Vascular injury induces expression of β 3-adrenergic receptors (β 3-ARs) in neointima.

Chen, C. Presentations/abstracts: Transforming oral healthcare delivery to underserved adults with digital dentistry: a pilot study.

Ciesemier, LL. Presentations/abstracts: Cold urticaria and hymenoptera stings: a case report.

Cleaver, D. Presentations/abstracts: A deep fungal infection presenting as a histologic mimic of angioinvasive lymphomatoid papulosis. Apremilast in the management of generalized granuloma annulare. Borderline lepromatous leprosy: a case report and discussion. Confluent and reticulated papillomatosis (CARP): a case report and literature review. Cutaneous metastasis of urothelial origin: a case report and discussion. Cutaneous metastatic clear cell renal cell carcinoma: a report and discussion. GAPO syndrome: a rare genodermatosis. Gorlin syndrome. Granulomatous reaction to microneedling. Malignant transformation in linear porokeratosis: a case report and discussion. Paget disease of the breast. Type II cutaneous meningioma: a case report and discussion.

Cleaver, J. Presentations/abstracts: Apremilast in the management of generalized granuloma annulare. Cutaneous metastasis of urothelial origin: a case report and discussion. Granulomatous reaction to microneedling. Malignant transformation in linear porokeratosis: a case report and discussion.

Cleaver, L. Presentations/abstracts: Apremilast in the management of generalized granuloma annulare. Borderline lepromatous leprosy: a case report and discussion. Cutaneous metastasis of urothelial origin: a case report and discussion. GAPO syndrome: a rare genodermatosis. Granulomatous reaction to microneedling. Gorlin syndrome. Malignant transformation in

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linear prokeratosis: a case report and discussion. Paget disease of the breast.

Cleaver, NJ. Presentations/abstracts: Borderline lepromatous leprosy: a case report and discussion. Cutaneous metastatic clear cell renal cell carcinoma: a report and discussion. Cutaneous metastasis of urothelial origin: a case report and discussion. Granulomatous reaction to microneedling.

Cohen, J. Presentations/abstracts: Deployment of high-resolution ultrasound for oral musculoskeletal structures. Use of CBCT imaging for airway measurement to predict obstructive sleep apnea.

Cohen, R. Presentations/abstracts: Deployment of high-resolution ultrasound for oral musculoskeletal structures and guidance of dental interventions.

Conley, Q. Publications: MantarayAR: leveraging augmented reality to teach probability and sampling, *Computers and Education*. Presentations/abstracts: Digital literacy and special education: an investigation of special education teachers' digital literacy skills. Educational design research: the validation of application of case studies to enhance digital reading experiences. Maximizing the digital reading experience in e-textbooks: how much is too much on a page.

Corrick, J. Presentations/abstracts: Contributions to posture alterations from a controlled ankle motion (CAM) walker boot.

Cottam, W. Presentations/abstracts: A survey of healthcare student attitudes towards interprofessional education. Decreasing no show rates in a dental clinic at a federally qualified health center following referral from a medical clinic. Using teledentistry to deliver oral health services to underserved populations in the Phoenix metro area. Using teledentistry to evaluate oral health of youth in detention.

Cox, J. Presentations/abstracts: Characteristics and management of geriatric patients for a neuromusculoskeletal medicine/osteopathic manipulative medicine clinic. Treatment of B16 melanoma cells with quercetin and an autophagy inhibitor.

Cramberg, M. Publications: The narial musculature of *Alligator mississippiensis*: can a muscle be its own antagonist, *Journal of Morphology*. Presentations/abstracts: Muscular control of the external nares of the American alligator (*Alligator mississippiensis*).

Creech, J. Presentations/abstracts: Influence of parental anxiety and expectations on child self-reported dental anxiety, expectations, and dental services utilization. Influence of parental anxiety of expectations of child self-reported dental anxiety, expectations and dental services utilization.

Crivello, B. Presentations/abstracts: Dental student perceptions of experiential learning in clinical training of N₂O anxiety. Mentorship: availability and needs for junior dental faculty. Outcome evaluations of an experiential learning modality in dental education.

Cuka, C. Publications: Spinal manipulation after multiple fusions in an adult with scoliosis: a case report, *Journal of Manual and Manipulative Therapy*.

Dajani, T. Publications: Fat shaming in medicine: overview of alternative patient strategies, *Osteopathic Family Physician*. Learning to speak up for patient safety: interprofessional scenarios for training future healthcare professionals, *Journal of Medical Education and Curricular Development*. Preventing premature weaning: management options for common lactation conditions, including OMT, *Osteopathic Family Physician*. Presentations/abstracts: Integration of experiential lifestyle medicine and wellness into an osteopathic medicine curriculum.

Danks, R. Presentations/abstracts: Abdominal evisceration following blunt trauma. Retrospective analysis of geriatric rib fracture management and 30 day complication in a rural hospital.

Davis, JM. Publications: ADEA-ADEE shaping the future of dental education III: assessment in competency-based dental education: ways forward, *Journal of Dental Education*. ADEA-ADEE shaping the future of dental education III: engaging with global networking to enable global oral health, *Journal of Dental Education*. ADEA-ADEE shaping the future of dental education III: from interprofessional education to transprofessional learning: reflections from dentistry, applied linguistics, and law, *Journal of Dental Education*. ADEA-ADEE shaping the future of dental education III: the impact of scientific technologies and discoveries on oral health globally, *Journal of Dental Education*. Introducing career skills for dental students as an undergraduate course at the University of Szeged, Hungary, *BMC Medical Education*. Predicted prevalence of oral human papillomavirus (HPV) by periodontitis status and HPV vaccination status, *Journal of Public Health Dentistry*. Small area estimation of human papillomavirus vaccination coverage among school-age children in Alabama counties, *Public Health*. Presentations/abstracts: Correlation between tactile sensation and CBCT density in dental implants. Outcome evaluations of an experiential learning modality in dental education. Quality improvement assessment of endodontic care using dental school EDR. Using digital impressions to fabricate space maintainers: an instructional module.

De Wan, D. Presentations/abstracts: Establishing normative values for

temporomandibular joint measurements using ultrasonography.

Degenhardt, BF. Publications: Building a collaborative model of sacroiliac joint dysfunction and pelvic girdle pain to understand the diverse perspectives of experts, *Physical Medicine and Rehabilitation*. Characteristics and treatment of pediatric patients in an osteopathic manipulative medicine clinic, *The Journal of the American Osteopathic Association*. Reliability of the DIERS formetric 4D spine shape parameters in adults without postural deformities, *BioMed Research International*. Who uses osteopathic manipulative treatment? A prospective, observational study conducted by DO-Touch.NET, *The Journal of the American Osteopathic Association*. Presentations/abstracts: Assessment of sacral motion using palpation. Contributions to posture alterations from a controlled ankle motion (CAM) walker boot.

DeLeeuw, JM. Presentations/abstracts: Calciphylaxis: a study of two cases in a Northeast Missouri regional hospital. Comparison of rates of DEXA scans between gender and age groups among injured populations.

Diamant, R. Publications: Examining intraprofessional competencies for occupational therapist and occupational therapy assistant collaboration, *Occupational Therapy in Health Care*. Presentations/abstracts: Healthy brains, healthy bodies: addressing mealtime routines and self-regulation in children with dual diagnosis. The relationships between sensory processing behaviors, temperament characteristics for effortful control, and executive functioning in school-age children: preliminary outcomes. Use of a sensory room at an emergency children's shelter: program outcomes. Use of the Alert Program in a sensory room at an emergency children's shelter.

DiBaise, M. Publications: Hair, nails, and skin: differentiating cutaneous manifestations of micronutrient deficiency, *Nutrition in Clinical Practice*.

Dishman, L. Publications: A COVID-19 patient's experience: engagement in disease management, interactions with care teams and implications on health policies and managerial practices, *Patient Experience Journal*. A mixed-method study to examine the relationship among communication training, physician communication competency, and stroke patient outcomes: a journey of student-supervisor collaboration, *SAGE Research Methods Cases: Medicine and Health*. A quantitative longitudinal study with moderation analyses: the relationship of U.S. hospitals' patient experience, types, and financial performance, *SAGE Research Methods Cases: Medicine and Health*. Allocating hospital resources to improve patient experience, *SAGE Business Cases*. Do inpatient acute care

Please note: Publications, presentations, and abstracts are included as reported in the Fall 2018 through Summer 2020 ATSU Research newsletters, prepared by the Department of Research Support. Individuals listed were full-time and part-time ATSU faculty and staff members at the time publications, presentations, or abstracts were reported to the Department of Research Support.

hospitals with lower 30-day readmission rates have more satisfied patients? *Journal of Healthcare Management*. Patient experience and hospital financial performance: a longitudinal analysis of U.S. for-profit, nonprofit, and government hospitals, *Journal of Healthcare Management*. Presentations/abstracts: At the intersection of technology, ethics, and agribusiness: the case of U.S. sugar consumption enhanced by genetic-engineered crop (1970-2016). Can 30-day readmission-rates predict patient satisfaction of United States inpatient acute-care hospitals? COVID-19: lessons learned for healthcare management education. Do 30-day readmission-rates matter to patient satisfaction of inpatient acute-care hospitals in the United States? Do inpatient acute care hospitals with lower 30-day readmission rates have more satisfied patients? Do United States inpatient acute-care hospitals with lower 30-day readmission rates have more satisfied patients? Examining the relationship among hospitalist continuing education, hospitalist communication competency, and stroke patient outcomes: a discussion of findings. Examining the relationship among hospitalist continuing education, hospitalist communication competency, and stroke patient outcomes: a discussion of study implications. Examining the relationship among hospitalist continuing education, hospitalist communication competency, and stroke patient outcomes: perceptions of hospitalists. Exploring the effects of succession planning on leadership attrition in medical groups across the United States. How does consuming high-fructose corn syrup made from genetically-engineered corn link to obesity and diabetes in the United States? How does patient experience predict operating margins and cash-flow margins of US for-profit, non-profit, and governmental hospitals? Leadership-competency gaps of health administration graduates: what does the industry tell us? What are the attributes of US hospitals' financial performance? What health administration leadership competencies are important to the United States hospital industry? Working with executive and/or doctoral students.

Dixon, C. Presentations/abstracts: An evaluation of communication methods for community outreach in patients with diabetes.

Doublestein, D. Publications: Effects of manual lymphatic drainage techniques on conditions affecting the musculoskeletal system: a systematic review, *Orthopaedic Physical Therapy Practice*.

Dunivan, S. Presentations/abstracts: Oral hygiene protocol alterations.

Duong, ML. Publications: How can dental practitioners join the fight against

HPV-associated oropharyngeal cancer? *Compendium of Continuing Education in Dentistry*. Social media research strategy to understand clinician and public perception of health care messages, *JDR Clinical & Translational Research*. The future of oral cancer diagnosis: merging provider awareness, patient education, and technology to achieve early detection, *Compendium of Continuing Education in Dentistry*. Presentations/abstracts: Dental student behavioral intent following exposure to special care dentistry. Evaluating the effectiveness of animal-assisted therapy in a dental setting. Prevention and management of medical emergencies within the dental office. SCD talks: ideas worth sharing. Train the trainer model: oral care for special education teachers. Transforming oral healthcare delivery to underserved adults with digital dentistry: a pilot study.

Easterwood, J. Presentations/abstracts: Discovery of pleuritic pericardial effusion through arterial line waveforms. Management of post dural puncture headache with an epidural blood patch.

Ellsworth, M. Presentations/abstracts: Leveraging pediatric clinic visits to improve access to primary care in adult family members and caregivers. Optimizing health center opioid prescribing and monitoring practices. Utilizing a team-based approach for improving colorectal cancer screening in underserved populations.

Elmslie, KS. Publications: α -Neurexins together with α 2 δ -1 auxiliary subunits regulate Ca²⁺ influx through Cav2.1 channels, *Journal of Neuroscience*. Nav1.9 channels in muscle afferent neurons and axons, *Journal of Neurophysiology*. Presentations/abstracts: Modulation of Nav1.9 current in muscle afferent neurons by muscle metabolites. Different activities of specific blockers on human and rat voltage-gated sodium channel subtypes in HEK cells and rat DRG afferent neurons. Differential opioid receptor expression in group IV axons. Screening of cone snail venoms for Cav1.2 and Cav1.3 channel selective inhibitors.

Everman, S. Publications: The acute effects of mat Pilates on hemodynamic and salivary nitrate responses after exercise in postmenopausal women, *Journal of Aging and Physical Activity*.

Fallone, K. Presentations/abstracts: Dental hygiene student training outcomes in special care dentistry. Training dental hygiene students to care for individuals with special needs. Training dental hygiene students to care for individuals with special needs through didactic and clinical experiences. Training dental hygiene students to treat individuals with special needs.

Falsone, S. Publications: Current athletic training educational preparation for dry needling, *The Journal of Sports Medicine and Allied Health Sciences*.

Farris, J. Presentations/abstracts: Performance of Arizona Special Olympics athletes on the FUNfitness battery of tests.

Fay, D. Publications: Effects of modified instructions on Peabody Developmental Motor Scales, Second Edition, Gross Motor scores in children with typical development, *Physical and Occupational Therapy in Pediatrics*. Physical therapists' use and alteration of standardized assessments of motor function in children, *Pediatric Physical Therapy*. Presentations/abstracts: Evidence-based practitioners: perspectives from the clinic. Kids on the move: leveling the playing field with youth adaptive sports. The relationship between motor capacity and motor performance in children with cerebral palsy: a systematic review. US Paralympic sports movement: classification, competition, and PT involvement.

Fick, JW. Presentations/abstracts: Can 30-day readmission-rates predict patient satisfaction of United States inpatient acute-care hospitals? Do 30-day readmission-rates matter to patient satisfaction of inpatient acute-care hospitals in the United States? Do inpatient acute care hospitals with lower 30-day readmission rates have more satisfied patients? Do United States inpatient acute-care hospitals with lower 30-day readmission rates have more satisfied patients? Examining the relationship among hospitalist continuing education, hospitalist communication competency, and stroke patient outcomes: a discussion of findings. Examining the relationship among hospitalist continuing education, hospitalist communication competency, and stroke patient outcomes: a discussion of study implications. Examining the relationship among hospitalist continuing education, hospitalist communication competency, and stroke patient outcomes: perceptions of hospitalists. How does consuming high-fructose corn syrup made from genetically-engineered corn link to obesity and diabetes in the United States? Identifying and applying resilient and relevant authentic assessments in changing learning environments. Leadership-competency gaps of health administration graduates: what does the industry tell us? What health administration leadership competencies are important to the United States hospital industry?

Franklin, GS. Publications: Event Adjudication Committee Jury Room (EAC-Jury Room). Version v1.0.0, *Zenodo*.

Gaither, K. Presentations/abstracts: 9 Ways to drive campus-wide adoption.

Geisbuhler, TP. Presentations/abstracts: Purification of persistence inducing factor for *Staphylococcus aureus* SH1000.

Gerg, MJ. Presentations/abstracts: Case report: a modified early passive mobilization protocol for a zone II flexor pollicis longus repair.

Glaser, K. Publications: A process for assessment and quality improvement of the clerkship curriculum, *Journal of Medical Education and Curricular Development*. Success predictors for third-year osteopathic medical students on national standardized examinations: a family medicine clerkship course study, *The Journal of the American Osteopathic Association*. Presentations/abstracts: Seven essential elements for standardizing clerkship education with an online curriculum. Turning dreaded course evaluations into a teamwork triumph.

Gohlke, E. Presentations/abstracts: Dental hygiene student training outcomes in special care dentistry. Training dental hygiene students to care for individuals with special needs. Training dental hygiene students to care for individuals with special needs through didactic and clinical experiences. Training dental hygiene students to treat individuals with special needs.

Gold, J. Publications: Effect and acceptance of silver diamine fluoride treatment on dental caries in primary teeth, *Journal of Public Health Dentistry*. Evidence-based considerations for patients using cannabis, *Journal of the Michigan Dental Association*. Interdisciplinary community-based oral health program for women and children at WIC, *Maternal and Child Health Journal*. Silver diamine fluoride may prevent and arrest root caries in older adults, *Journal of Evidence-Based Dental Practice*. Silver diamine fluoride prevents caries in primary teeth superior to no treatment, placebo, or fluoride varnish, *Journal of Evidence-Based Dental Practice*. Presentations/abstracts: Effect of cannabis on oral health. Florida dental provider survey on obesity, dental caries and SSBs HRSA/FDOH Project #1. Incorporating research into clinical practice and teaching evidence-based dentistry.

Goldstein, LB. Publications: Cervicogenic headache: diagnosis and management, *Practical Pain Management*. Effective interventions for post-stroke shoulder subluxation and pain, *Practical Pain Management*. Inside performing arts medicine: a history of and treatment approaches for managing the unique MSK problems experienced by musicians, *Practical Pain Management*. Deep cervical muscle dysfunction in the head and neck: pain causes and osteopathic treatment options, *Practical Pain Management*. Lisinopril as a cause of psychosis in a patient with CLL and dermatomyositis, *EC Orthopaedics*. Managing pain in adults with intellectual disabilities, *Practical*

Pain Management. Obesity, nutrition, and pain management: multifaceted considerations for treatment, *Practical Pain Management*. Osteopathic manipulative treatment and psychosocial management of dysmenorrhea, *The Journal of the American Osteopathic Association*. Plantar fasciitis: diagnosis and management, *Practical Pain Management*. Temporomandibular disorders in performance artists: part 2, *Practical Pain Management*. The future of oral cancer diagnosis: merging provider awareness, patient education, and technology to achieve early detection, *Compendium of Continuing Education in Dentistry*. TMJ arthralgia: methylprednisolone injection may be no better than saline for relief, *Practical Pain Management*. Trigeminal neuralgia: current diagnosis and treatment options, *Practical Pain Management*. Value-based payment for oral health in an accountable care organization, *Compendium of Continuing Education in Dentistry*.

Grady, L. Presentations/abstracts: Impact of a two-minute education video on flu vaccination knowledge in a community health center setting.

Greaves, M. Presentations/abstracts: Transforming oral healthcare delivery to underserved adults with digital dentistry: a pilot study.

Greenwalt, S. Publications: Accuracy of the iPhysioMeter heart rate monitoring application, *Open Access Library Journal*.

Grider, JH. Presentations/abstracts: Calciphylaxis: a study of two cases in a Northeast Missouri regional hospital. Computed tomography visualization of a somatic reflex verified by osteopathic evaluation and treatment. Northeast Regional Medical Center heart failure readmission reduction project.

Grubb, J. Publications: Anterior open bite correction with 2-jaw orthognathic surgery, *American Journal of Orthodontics & Dentofacial Orthopedics*. Mandibular micrognathia and vertical maxillary excess correction with combination LeFort I and inverted L osteotomies, *American Journal of Orthodontics & Dentofacial Orthopedics*.

Guerra, H. Publications: Viewpoint: audiology transitions, innovations, and lessons learned during COVID-19, *The Hearing Journal*.

Gupta, J. Publications: Understanding policy influences on health and occupation through the use of the life course health development (LCHD) framework, *The American Journal of Occupational Therapy*. Presentations/abstracts: A dual-tasking study in Parkinson's disease. A mapping of evidence-informed interventions for UE rehabilitation post-stroke: a scoping review. A scoping review of preventative psychosocial interventions for stress in the workplace. Exploring the refugee

occupational experience across the socioecological model. Multi-limb control and attention during simulated driving in Parkinson's disease: study methods. Occupational therapy and veterans' resiliency post-amputation: addressing psychosocial needs. Resiliency in school experiences: a dropout prevention initiative.

Hale, TD. Publications: Assessing Veteran's with mTBI/PTSD, *The Hearing Journal*. Vestibular lab testing: interpreting the results in the headache patient with dizziness, *Current Neurology and Neuroscience Reports*. Viewpoint: audiology transitions, innovations, and lessons learned during COVID-19, *The Hearing Journal*. Presentations/abstracts: Discrepancies between reported hearing loss & test scores for veterans with PTSD/mTBI. Friedreich's ataxia: when the audiogram does not tell the full story. Introduction to administration & interpretation of VNG. Video-nystagmography (VNG): clinical utility for patients with dizziness and imbalance.

Han, BH. Publications: Monocyte chemotactic protein 1-induced protein 1 contributes to neuronal injury following hypoxic-ischemia in the neonatal mouse brain, *NeuroReport*. Polyphenolic biflavonoids inhibit amyloid-beta fibrillation and disaggregate preformed amyloid-beta fibrils, *Biomolecules & Therapeutics*. Presentations/abstracts: Cognition assessment in APPPS1 transgenic mice. Role of the orphan nuclear receptor NR4A-1 in neuroprotection from cytotoxic insults on neuronal N2A cells.

Hardee, MR. Presentations/abstracts: Use of a physician mentored patient rounds to observe EPA 4 in second-year medical students.

Haribabu, PK. Presentations/abstracts: Clinical manifestations leading to a diagnosis of HIV infection: a case report.

Haxton, J. Publications: The Native American heritage of the body-mind-spirit paradigm in osteopathic principles and practices, *International Journal of Osteopathic Medicine*.

Haynie, A. Presentations/abstracts: Prevention and management of medical emergencies within the dental office.

Heath, D. Publications: Assessing competency in family medicine residents using the osteopathic manipulative medicine Mini-Clinical Evaluation Exercise, *The Journal of the American Osteopathic Association*. Cervicogenic headache: diagnosis and management, *Practical Pain Management*. Presentations/abstracts: Effects of a focused ultrasound training session on first year osteopathic medical students' ability to incorporate point-of-care ultrasound in clinical assessment of the anterior knee.

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Hernandez, A. Presentations/abstracts: Fabrication of anterior FPD utilizing CAD/CAM technology. Patients' awareness and perception about dental implant therapy. Utilization of CAD/CAM technology for fabrication of immediate dentures.

Hodges, C. Presentations/abstracts: A brief intervention model of physical therapy within the community health center: a randomized controlled trial.

Houser, JJ. Publications: Development of competency in needle-guided procedures through the use of soft-embalmed cadavers, *Missouri Medicine*. Presentations/abstracts: Predictors of success in a medical gross anatomy course. The effectiveness of lecture prior to a skills lab for learning the cricothyrotomy procedure.

Howell, S. Publications: Attitudes and behaviors regarding public health of dental school graduates from A.T. Still University, *Journal of Dental Education*. Presentations/abstracts: A survey of healthcare student attitudes towards interprofessional education. Decreasing no show rates in a dental clinic at a federally qualified health center following referral from a medical clinic. IPE through the lens of oral health: a new curriculum. Managing dental pain in a medical setting: teaching dental anesthesia to medical providers. Using teledentistry to deliver oral health services to underserved populations in the Phoenix metro area. Using teledentistry to evaluate oral health of youth in detention.

Hudman, DA. Publications: Role of SigB and staphyloxanthin in radiation survival of *Staphylococcus aureus*, *Current Microbiology*. Presentations/abstracts: Exposure to ticks and their pathogens in Northeast Missouri. Effect of phytochemicals on the viability of the oral protozoan, *Trichomonas tenax*. Effect of phytochemicals on *Trichomonas tenax* (Tricomonadida: Trichomonadidae) viability. Evidence of transovarial transmission of *Ehrlichia chaffeensis* in *Amblyomma americanum* (Acari: Ixodidae).

Huxel Bliven, KC. Publications: Clinical breathing mechanics differ based on test and position, *Journal of Sport Rehabilitation*. Commentary: integrating diagnostic ultrasound into athletic training education programs, *Athletic Training Education Journal*. Educational technique: using a phased approach to integrate diagnostic ultrasound into athletic training education, *Athletic Training Education Journal*. Improvements in shoulder research and rehabilitation, *Journal of Sport Rehabilitation*. Incidence of shoulder injury in elite wheelchair athletes differ between sports: a critically appraised topic, *Journal of Sport Rehabilitation*. Multiple left accessory renal vessels, *International Journal of Anatomical*

Variations. Non-time-loss and time-loss softball injuries in secondary school athletes: a report from the National Athletic Treatment, Injury and Outcomes Network (NATION), *Journal of Athletic Training*. Opportunity awaits..., *Journal of Sport Rehabilitation*. Part I: doctoral education in athletic training. The Post-Professional Education Committee doctoral education workgroup report, *Athletic Training Education Journal*. Part II: examining stakeholder perceptions of the postprofessional clinical doctoral degree in athletic training, *Athletic Training Education Journal*. Relationships between core stability, sex, and movement capacity, *Athletic Training and Sports Health Care*. What are the strongest risk factors for MTSS in active individuals? *Athletic Training and Sports Health Care*. Presentations/abstracts: Clinical observations of the wrist and hand in dental professionals. Differences in spatial ability and mental effort among health professions students. Median nerve blood flow in dental professionals. Relationship between spine and hip range of motion, hip strength, and injury risk in collegiate baseball athletes.

Imundi, J. Presentations/abstracts: Trends in the PT/PTA patient care management model.

Jensby, A. Presentations/abstracts: Robo graders in dental school: the use of analytical software in preparation evaluation.

Johnson, JC. Publications: Anatomical and radiographic characterization of the lateral patellofemoral ligament of the knee, *Missouri Medicine*. Event Adjudication Committee Jury Room (EAC-Jury Room). Version v1.0.0, *Zenodo*. Who uses osteopathic manipulative treatment? A prospective, observational study conducted by DO-Touch.NET, *The Journal of the American Osteopathic Association*.

Jurado, CA. Publications: A conservative approach to ceramic veneers: a case report, *Operative Dentistry*. Chair-side CAD/CAM fabrication of a single-retainer resin bonded fixed dental prosthesis: a case report, *Restorative Dentistry & Endodontics*. Clear matrix use for composite resin core fabrication, *International Journal of Esthetic Dentistry*. Clinical workflow of two different CAD/CAM systems for veneers manufacture, *European Journal of General Dentistry*. Combining a single implant and a veneer restoration in the esthetic zone, *International Journal of Esthetic Dentistry*. Comparison of occlusal wear between bulk-fill and conventional flowable resin composites, *American Journal of Dentistry*. Digitally fabricated immediate complete dentures: case reports of milled and printed dentures, *The International Journal of Prosthodontics*. Effect of

layering techniques on polymerization shrinkage stress of high- and low-viscosity bulk-fill resins, *Operative Dentistry*. Etch-and-rinse vs self-etch mode for dentin bonding effectiveness of universal adhesives, *Journal of Oral Science*. Evaluation of abutment parallelism and path of withdrawal using three intra- and one extra-oral methods: A survey and in vitro study, *European Journal of General Dentistry*. Implant therapy with ultratranslucent monolithic zirconia restorations in the esthetic zone: a case report, *General Dentistry*. Influence of 38% silver diamine fluoride application on bond stability to enamel and dentin using universal adhesives in self-etch mode, *European Journal of Oral Sciences*. Minimally invasive technique for non-vital tooth bleaching using traditional Japanese paper, *Journal of Oral Science*. The art of minimal tooth reduction for veneer restorations, *European Journal of General Dentistry*. Two-piece mesostructure and vertically oriented locking screws design for implant-assisted prosthesis in the esthetic zone, *Nigerian Journal of Clinical Practice*. Wear resistance of indirect composite resins used for provisional restorations supported by implants, *Journal of Advanced Prosthodontics*.

Kahn, M. Presentations/abstracts: Transforming oral healthcare delivery to underserved adults with digital dentistry: a pilot study.

Kalamchi, S. Presentations/abstracts: Electric scooter-related craniofacial trauma: injury prevalence.

Kaleinikova, Z. Presentations/abstracts: Case study: restoration of dental root caries. Fabrication of anterior FPD utilizing CAD/CAM technology. Patients' awareness and perception about dental implant therapy. Utilization of CAD/CAM technology for fabrication of immediate dentures.

Keane, JF. Publications: Cervicogenic headache: diagnosis and management, *Practical Pain Management*. Deep cervical muscle dysfunction in the head and neck: pain causes and osteopathic treatment options, *Practical Pain Management*. Managing pain in adults with intellectual disabilities, *Practical Pain Management*. Obesity, nutrition, and pain management: multifaceted considerations for treatment, *Practical Pain Management*. Plantar fasciitis: diagnosis and management, *Practical Pain Management*. Trigeminal neuralgia: current diagnosis and treatment options, *Practical Pain Management*.

Kernan, D. Publications: A 5-week seminar on the biopsychosocial-spiritual model of self-care improves anxiety, self-compassion, mindfulness, depression, and stress in graduate healthcare students, *International Journal of Yoga Therapy*.

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Kim-Han, JS. Publications: Nav1.9 channels in muscle afferent neurons and axons, *Journal of Neurophysiology*. Thyroid hormone receptors mediate two distinct mechanisms of long-wavelength vision, *Proceedings of the National Academy of Sciences of the United States of America*. Presentations/abstracts: Different activities of specific blockers on human and rat voltage-gated sodium channel subtypes in HEK cells and rat DRG afferent neurons. Differential opioid receptor expression in group IV axons. Modulation of Nav1.9 current in muscle afferent neurons by muscle metabolites. Screening of cone snail venoms for Cav1.2 and Cav1.3 channel selective inhibitors.

Klawonn, A. Publications: A 5-week seminar on the biopsychosocial-spiritual model of self-care improves anxiety, self-compassion, mindfulness, depression, and stress in graduate healthcare students, *International Journal of Yoga Therapy*.

Kondrashov, P. Publications: Anatomical and radiographic characterization of the lateral patellofemoral ligament of the knee, *Missouri Medicine*. The role of excessive body weight and meniscal instability in the progression of osteoarthritis in a rat model, *The Knee*. Use of the contralateral knee as a control in the destabilization of medial meniscus osteoarthritis rat model, *Missouri Medicine*. Presentations/abstracts: Confluent and reticulated papillomatosis (CARP): a case report and literature review. Destabilization of medial meniscus in a rat model: can the contralateral knee be used as a control? Histological study of the anterior cruciate ligament in patients with osteoarthritis. Predictors of success in a medical gross anatomy course.

Kondrashova, T. Publications: Developing neuraxial and regional pain procedural skills through innovative 3-dimensional printing technology, *The Journal of the American Osteopathic Association*. Development of competency in needle-guided procedures through the use of soft-embalmed cadavers, *Missouri Medicine*. Dynamic assessment of cerebral blood flow and intracranial pressure during inversion table tilt using ultrasonography, *Journal of the Neurological Sciences*. Educational value of ultrasonography used as a diagnostic tool by medical students at a student-run free clinic, *Missouri Medicine*. Hemodynamics of tonic immobility in the American alligator (*Alligator mississippiensis*) identified through Doppler ultrasonography, *Journal of Comparative Physiology A*. Interprofessional approach to learning vascular access with ultrasonography by medical students and nurses, *Missouri Medicine*. Intracranial pressure in the American alligator (*Alligator mississippiensis*): reptilian meninges and orthostatic gradients, *Journal of Comparative Physiology A Neuroethology, Sensory, Neural, and Behavioral Physiology*. The influence of gravitational gradients on the American alligator (*Alligator*

mississippiensis), *Anatomy & Physiology: Current Research*. The influence of gravitational gradients on American alligators (*Alligator mississippiensis*), *The FASEB Journal*. Presentations/abstracts: Blood flow limitation during sustained maximal voluntary isometric contractions associated with external compressive forces. Changes in intracranial pressure and cardiovascular dynamics during postural inversion as evaluated by bedside ultrasonography. Developing injection skills through innovative technology using 3D-printed models. Developing neuraxial and regional pain procedural skills through innovative 3-dimensional printing technology. Does the American alligator have a barostatic reflex? Effect of occipitoatlantal decompression on cerebral blood flow dynamics as evaluated by doppler ultrasonography. Enhancing vascular access training with ultrasonography. Establishing normative values for temporomandibular joint measurements using ultrasonography. Evaluation of middle cerebral artery blood flow during inversion table therapy using transcranial Doppler ultrasonography in young healthy adults. Innovative spine and pelvic models for the joint injection techniques training. Intracranial pressure in the American alligator (*Alligator mississippiensis*): reptilian meninges and orthostatic gradients. Physiological effects of inversion table on cardiovascular hemodynamics using Doppler ultrasonography in young healthy adults. Real-time monitoring of intracranial pressure during inversion table therapy using optic nerve ultrasonography in young healthy adults. Relationship between cardiac structure and blood pressure response to isometric contractions in men and women. The influence of gravitational gradients on American alligators (*Alligator mississippiensis*).

Konecny, L. Publications: Four-year review of presenteeism data among employees of a large United States health care system: a retrospective prevalence study, *Human Resources for Health*. The influence of family on doctoral student success, *International Journal of Doctoral Studies*.

Kosel, E. Presentations/abstracts: Secondary caries with composite restorations: a clinical review.

Krueger, G. Presentations/abstracts: Conventional restorations vs. crowns for root canaled teeth.

Kuettel, J. Presentations/abstracts: Configurations of the Six-Minute Walk Test for people with Parkinson disease: do the number of turns matter? Is the MusicGlove a feasible and effective home-based treatment device for hand function in patients with Parkinson's disease? The six-minute walk test for people with Parkinson's disease: should I be concerned with configuration?

Kumar, S. Publications: Evidence-based update on diagnosis and management of gingivitis and periodontitis, *Dental Clinics of North America*. Reflective journaling by second-year dental students during a clinical rotation, *Journal of Dental Education*. Presentations/abstracts: Utilization of CAD/CAM technology for fabrication of immediate dentures.

LaBaere, RJ II. Publications: 2019 United States Osteopathic Medical Regulatory Summit: consensus, recommendations, and next steps in defining osteopathic distinctiveness, *The Journal of the American Osteopathic Association*. Impact of the single accreditation system on Missouri osteopathic graduate medical education, *Missouri Medicine*.

Lam, J. Presentations/abstracts: Establishment of a suboxone clinic in a family medicine residency.

Lam, KC. Publications: Age-appropriate sports patient-reported outcome measures and their psychometric properties: a systematic review, *The American Journal of Sports Medicine*. Disablement model and health-related quality of life classification for Patient-Reported Outcomes Measurement Information System (PROMIS) instruments, *Journal of Athletic Training*. Patient, injury, assessment, and treatment characteristics and return-to-play timelines after sport-related concussion: an investigation from the Athletic Training Practice-Based Research Network, *Clinical Journal of Sport Medicine*. Patient-reported outcome measures in sports medicine: a concise resource for clinicians and researchers, *Journal of Athletic Training*. Patient, treatment, and cost characteristics associated with sport-related ankle sprains: a report from the Athletic Training Practice-Based Research Network, *Athletic Training and Sports Health Care*. Point-of-care clinical trials in sports medicine research: identifying effective treatment interventions through comparative effectiveness research, *Journal of Athletic Training*. Research at the point of care: using electronic medical record systems to generate clinically meaningful evidence, *Journal of Athletic Training*. The association between length of recovery following sport-related concussion and generic and specific health-related quality of life in adolescent athletes: a prospective, longitudinal study, *The Journal of Head Trauma Rehabilitation*. The impact of a previous ankle injury on current health-related quality of life in collegiate athletes, *Journal of Sport Rehabilitation*. The impact of knee injury history on health-related quality of life in adolescent athletes, *Journal of Sport Rehabilitation*. Use of patient-reported outcome measures in athletic training: common measures, selection considerations, and practical barriers, *Journal of Athletic Training*. Presentations/abstracts: Assessment of patient-reported outcomes at return to sport following lateral ankle sprain

Please note: Publications, presentations, and abstracts are included as reported in the Fall 2018 through Summer 2020 ATSU Research newsletters, prepared by the Department of Research Support. Individuals listed were full-time and part-time ATSU faculty and staff members at the time publications, presentations, or abstracts were reported to the Department of Research Support.

injuries: a report from the Athletic Training Practice-Based Research Network. Association between rehabilitation and goal achievement in athletes discharged from care following an ankle sprain: a report from the Athletic Training Practice-Based Research Network. Athletic training medical care for Reserve Officer Training Corps: a report from the Athletic Training Practice-Based Research Network. Clinical evaluation of sport-related meniscal pathologies: a report from the Athletic Training Practice-Based Research Network. Comparison of clinician practice patterns with the International Ankle Consortium recommendations for the clinical assessment of lateral ankle sprain injuries: a report from the Athletic Training Practice-Based Research Network. Demonstrating clinician's impact on the patient experience: capturing quality and patient satisfaction. Describing sport-related genitourinary injuries in males reporting to emergency departments: a National Electronic Injury Surveillance System report. Does injury history impact the recovery of self-report of function during the first two weeks after an ankle sprain injury? A report from the Athletic Training Practice-Based Research Network. Epidemiology of dance-related injuries presenting to emergency departments in the United States, 2014-2018. Epidemiology of sport-related knee injuries reporting to U.S. emergency departments from 2008-2017. Got data? Using patient care documentation to drive clinical decisions and improve care. Health information technology: assessment and measurement across all levels of athletic training education. Incorporating patient-reported outcome measures into pediatric care: is your instrument appropriate for youth and adolescent athletes? Parsonage Turner Syndrome in a tactical athlete: a case study. Patient and injury demographics of athletic training medical care for Reserve Officer Training Corps (ROTC): a report from the Athletic Training Practice-Based Research Network. Patient, injury, and treatment characteristics of hip injuries presenting to athletic training clinics: a report from the Athletic Training Practice-Based Research Network. Patient outcomes at return-to-play following ankle sprain injuries: a report from the Athletic Training Practice-Based Research Network. Self-report of pain, function, improvement, and dismemberment at return-to-play following a knee sprain injury: a report from the Athletic Training Practice-Based Research Network. The diagnostic accuracy of residency trained athletic trainers for shoulder and knee pathologies.

Leafman, JS. Publications: Hospital Survey on Patient Safety Culture

(HSOPSC): a multi-method approach for target-language instrument translation, adaptation, and validation to improve the equivalence of meaning for cross-cultural research, *BMC Nursing*. Perceptions of telemedicine for patient education among online support group patients with chronic or rare conditions, *Cogent Medicine*.

LeBeau, L. Publications: Assessing competency in family medicine residents using the osteopathic manipulative medicine Mini-Clinical Evaluation Exercise, *The Journal of the American Osteopathic Association*. Relationship between elevated automatic blood pressure readings and manual blood pressure readings in adult patients with normal and high body mass index, *The Journal of the American Osteopathic Association*.

Leibow, W. Presentations/abstracts: Location of the MB2 canal in relation to MB1 in maxillary first molars using CBCT imaging.

Levine, R. Publications: The future of oral cancer diagnosis: merging provider awareness, patient education, and technology to achieve early detection, *Compendium of Continuing Education in Dentistry*. Presentations/abstracts: Improved non-surgical treatment of chronic periodontitis with 980nm diode laser. Treatment of chronic periodontitis with 980 nm diode laser: microbiomic results.

Levy, A. Presentations/abstracts: PIPS vs. standard treatment for endodontic bacterial decontamination.

Lewis, B. Presentations/abstracts: Emerging threats to child nutrition in urban and rural Nepal.

Lewis, JH. Publications: Addressing the social determinants of health in undergraduate medical education curricula: a survey report, *Advances in Medical Education and Practice*. Colorectal cancer: applying the Value Transformation Framework to increase the percent of patients receiving screening in federally qualified health centers, *Preventive Medicine Reports*. Exodus from the classroom: student perceptions, lecture capture technology, and the inception of on-demand preclinical medication education, *The Journal of the American Osteopathic Association*. Expanding medical education for local health promoters among remote communities of the Peruvian Amazon: an exploratory study of an innovative program model, *Advances in Medical Education and Practice*. Faculty perspectives on student attendance in undergraduate medical education, *Advances in Medical Education and Practice*. Learning to speak up for patient safety: interprofessional scenarios for training future healthcare professionals, *Journal of Medical Education and Curricular*

Development. Teaching students to identify and document social determinants of health, *Advances in Medical Education and Practice*. Vaccination capability inventory of community, migrant, and homeless health centers: a survey report, *Journal of Public Health Management & Practice*. Who are the undiagnosed? Disparities in hypertension diagnoses in vulnerable populations, *Family and Community Health*. Presentations/abstracts: An evaluation of communication methods for community outreach in patients with diabetes. Assessing Unity Health Care staff awareness of the Stork's Nest program. Assessment of elementary students' understanding of differences in viral and bacterial infections and education of proper antibiotic use. Community-based intervention to increase usage of medication disposal bins. Creative education in school nutrition. El Rio's Healthy Kids Move program. Evaluating responsiveness of underserved Chicago communities to colorectal cancer screening recommendations. Faculty perspectives on student attendance. Improving mental health diagnosis and treatment by primary care providers through introduction of a quick reference guide. Leveraging pediatric clinic visits to improve access to primary care in adult family members and caregivers. Measuring the impact of nutrition education and a school garden on nutrition behavior among West Oahu elementary-aged children. Mentors in medicine program: improving health education in Woodlake Unified School District and surrounding community. National Center for Community Health Research: highlights from A.T. Still University and health center partnerships. Optimizing health center opioid prescribing and monitoring practices. ParkRx: increasing provider prescription of outdoor physical activity to promote long-term health and well-being. Utilizing a team-based approach for improving colorectal cancer screening in underserved populations.

Little, VL. Publications: Gait asymmetry pattern following stroke determines acute response to locomotor task, *Gait & Posture*. Lower extremity long-latency reflexes differentiate walking function after stroke, *Experimental Brain Research*. Slower than normal walking speeds involve a pattern shift in joint and temporal coordination contributions, *Experimental Brain Research*.

Lodato, PB. Presentations/abstracts: Influence of ribonucleases E and G on the production of Shiga toxin and phages in enterohemorrhagic *Escherichia coli* (EHEC) O157:H7.

Loguda-Summers, DL. Publications: Developing neuraxial and regional pain procedural skills through innovative 3-dimensional printing technology, *The Journal of the American Osteopathic*

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Association. Presentations/abstracts: Developing neuraxial and regional pain procedure skills through innovative technology using 3D printing models. Innovative spine and pelvic models for the joint injection techniques training.

Lohman Bonfiglio, CM. Publications: Multiple left accessory renal vessels, *International Journal of Anatomical Variations*.

Long, R. Presentations/abstracts: "What was the intern thinking?" Improving intern rapid response competence through standardized human simulation training.

Lopez-Murray, E. Publications: Health of asylum-seeking immigrants: providing medical care from a volunteer's perspective, *Journal of the American Academy of Physician Assistants*.

Love, A. Publications: Association of food insecurity with early childhood caries, *Journal of Public Health Dentistry*.

Lovy, A. Presentations/abstracts: Electrocardiograph changes associated with a 55-hour footrace.

Luebbering, C. Publications: Vaccination capability inventory of community, migrant, and homeless health centers: a survey report, *Journal of Public Health Management & Practice*.

Lynskey, J. Publications: A 5-week seminar on the biopsychosocial-spiritual model of self-care improves anxiety, self-compassion, mindfulness, depression, and stress in graduate healthcare students, *International Journal of Yoga Therapy*. Clinical practice guideline to improve locomotor function following chronic stroke, incomplete spinal cord injury, and brain injury, *Journal of Neurologic Physical Therapy*. Presentations/abstracts: Attributes of contributing authors in the *Journal of Neurologic Physical Therapy and Pediatric Physical Therapy*. Factors associated with recovery of balance and locomotor function in chronic stroke survivors in an outpatient neurological rehabilitation facility. Factors associated with upper extremity recovery in chronic stroke survivors in an outpatient neurological rehabilitation facility. Reliability of wireless qEEG across four conditions in healthy individuals: a pilot study. Test-retest reliability of quantitative electroencephalography (qEEG) during four conditions in healthy individuals. The acute effects of robot-assisted ankle rehabilitation and tDCS on corticospinal excitability in chronic stroke survivors.

Makin, I. Publications: Commentary: integrating diagnostic ultrasound into athletic training education programs, *Athletic Training Education Journal*. Educational technique: using a phased approach to integrate diagnostic ultrasound into athletic training education, *Athletic Training Education Journal*.

Presentations/abstracts: Clinically-based point of care ultrasound procedures for the primary care physician. Clinical observations of the wrist and hand in dental professionals. Deployment of high-resolution ultrasound for oral musculoskeletal structures. Deployment of high-resolution ultrasound for oral musculoskeletal structures and guidance of dental interventions. Effects of a focused ultrasound training session on first year osteopathic medical students' ability to incorporate point-of-care ultrasound in clinical assessment of the anterior knee. Improved non-surgical treatment of chronic periodontitis with 980nm diode laser. Integration of point of care ultrasound (POCUS) instruction within multiple programs at a health sciences university. Inter-professional clinician-sonographer preceptors to implement ultrasound based medical education curriculum. Median nerve blood flow in dental professionals. Nasal MRSA colonization in dental students. Nasal MRSE colonization in dental students. Preliminary evaluation of an integrated ultrasound curriculum at the Arizona College of Osteopathic Medicine. Treatment of chronic periodontitis with 980 nm diode laser: microbiomic results.

Manton, C. Presentations/abstracts: Reliability of measuring glenohumeral abduction range of motion with a goniometer and a digital inclinometer.

Marberry, K. Publications: Anatomical and radiographic characterization of the lateral patellofemoral ligament of the knee, *Missouri Medicine*. Presentations/abstracts: Histological study of the anterior cruciate ligament in patients with osteoarthritis.

Marden, M. Presentations/abstracts: Salivary flow in children residing in households with smokers and non-smokers.

Marshall, AN. Publications: Impairment-based rehabilitation with patterned electrical neuromuscular stimulation and lower extremity function in individuals with patellofemoral pain: a preliminary study, *Journal of Athletic Training*. Open water swimming: medical and water quality considerations, *Current Sports Medicine Reports*. Patient-reported outcome measures in sports medicine: a concise resource for clinicians and researchers, *Journal of Athletic Training*. Patient, treatment, and cost characteristics associated with sport-related ankle sprains: a report from the Athletic Training Practice-Based Research Network, *Athletic Training and Sports Health Care*. Research at the point of care: using electronic medical record systems to generate clinically meaningful evidence, *Journal of Athletic Training*. Sport specialization and fitness and functional task performance among youth competitive gymnasts, *Journal of Athletic Training*. The impact of a previous ankle injury on current health-related quality of life in collegiate athletes, *Journal of Sport Rehabilitation*.

Presentations/abstracts: Assessment of patient-reported outcomes at return to sport following lateral ankle sprain injuries: a report from the Athletic Training Practice-Based Research Network. Athletic training medical care for Reserve Officer Training Corps: a report from the Athletic Training Practice-Based Research Network. Comparison of clinician practice patterns with the International Ankle Consortium recommendations for the clinical assessment of lateral ankle sprain injuries: a report from the Athletic Training Practice-Based Research Network. Comparison of HRQL across recovery following sport-related concussion or acute ankle injury: a report from the Athletic Training Practice-Based Research Network. Patient, injury, and treatment characteristics of hip injuries presenting to athletic training clinics: a report from the Athletic Training Practice-Based Research Network. Patient outcomes at return-to-play following ankle sprain injuries: a report from the Athletic Training Practice-Based Research Network. Self-report of pain, function, improvement, and disablement at return-to-play following a knee sprain injury: a report from the Athletic Training Practice-Based Research Network. The association between psychological readiness to return to sport and self-perceived function after anterior cruciate ligament reconstruction.

Mathieson, K. Publications: A comparison of practice patterns among certified and noncertified asthma educators, *Respiratory Care*. Emergency department nurses' attitudes toward barcode medication administration, *Canadian Journal of Emergency Nursing*. Hospital Survey on Patient Safety Culture (HSOPSC): a multi-method approach for target-language instrument translation, adaptation, and validation to improve the equivalence of meaning for cross-cultural research, *BMC Nursing*. Laboratory information system: electronic health record interconnection, usage, and functionality in ambulatory care settings, *Journal of Health and Medical Informatics*. Occupational therapy in Haiti: a pilot study to identify intervention methods used during short-term medical missions, *Occupational Therapy International*. Perceptions of telemedicine for patient education among online support group patients with chronic or rare conditions, *Cogent Medicine*. Student and faculty perceptions of plagiarism in health sciences education, *Journal of Further and Higher Education*. The effects of demographics on physician assistant attitudes and openness towards interprofessional medical collaboration and education, *Journal of Interprofessional Education and Practice*.

Matthews, EP. Publications: Clinical research nursing: awareness and understanding among baccalaureate nursing students, *Journal of Nursing Education*. Global surgery: the perspective of public health students, *Global Journal of Health Science*. Glow powder: see the

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FACULTY and STAFF SCHOLARLY ACTIVITY (September 2018-August 2020)

germs? An innovative teaching technique in a student sonography laboratory, *Journal of Diagnostic Medical Sonography*. Job satisfaction among physician assistants practicing cardiovascular medicine in the United States, *The Health Care Manager*. Radiation physics, biology, and protection, *Radiologic Technology*. Presentations/abstracts: Classroom assessment perspectives from progressive education.

Maxwell, B. Publications: Interprofessional education/practice and team-based care: policy action paper, *Social Innovations Journal*. Presentations/abstracts: Audiology students learn interprofessional collaboration. Global guidance on interprofessional education and collaborative practice (IPECP) research. Global leadership in IPECP research: an intro to co-creation of best practice guidelines. Interprofessional practice and education: uncovering what works, for whom, in which circumstances, in which respects, and why? Optimizing the interprofessional clinical learning environment of interprofessional student-run free clinics. The potential of realist evaluation. Team collaboration in practice. Theory use in interprofessional education and practice. Using realist evaluation to understand what's really happening in interprofessional education and practice: what works, for whom, in which circumstances, in what respects and why? Virtual interprofessional education (VIPE) during a pandemic. What questions must we ask together?

Mclsaac, T. Publications: A physical therapy decision-making tool for stratifying persons with Parkinson's disease into community exercise classes, *Neurodegenerative Disease Management*. Cognitive-motor interference in neurodegenerative disease: a narrative review and implications for clinical management, *Frontiers in Psychology*. Presentations/abstracts: Configurations of the Six-Minute Walk Test for people with Parkinson disease: do the number of turns matter? Dual task performance and prioritization in Parkinson's disease: a pilot/feasibility study using a novel assessment with increasing complexity (n=4). Dual task performance and prioritization in Parkinson's disease: comparison of a seated vs upright assessment. Effects of hippotherapy on axial rigidity and functional mobility in an individual with Parkinson's disease: a case study. Feasibility of using hippotherapy strategy to address axial symptoms, functional mobility, and strength of individuals with Parkinson disease: a case series. Multi-limb control and attention during simulated driving in Parkinson's disease: study methods. Scenario development of implicit and explicit cueing effects on simulated driving performance in Parkinson's disease. Stratifying community group exercise classes for optimizing therapy outcomes

in Parkinson disease. The lived experience of the PWR! Retreat for people with Parkinson's disease. The six-minute walk test for people with Parkinson's disease: should I be concerned with configuration?

McLeod, IA. Publications: The knowledge, attitudes, and beliefs of pediatric concussion among USA swim coaches, *Journal of Swimming Research*.

Mehta, ZA. Publications: Assessing Veteran's with mTBI/PTSD, *The Hearing Journal*. Viewpoint: audiology transitions, innovations, and lessons learned during COVID-19, *The Hearing Journal*. Presentations/abstracts: Discrepancies between reported hearing loss & test scores for veterans with PTSD/mTBI. Friedreich's ataxia: when the audiogram does not tell the full story.

Michaelis, RJ. Presentations/abstracts: Decreasing no show rates in a dental clinic at a federally qualified health center following referral from a medical clinic.

Michaels, VG. Presentations/abstracts: A 2 year review of the BRITE program.

Middlemas, D. Publications: Corticosterone induces depressive-like behavior in female peri-pubescent rats, but not in pre-pubescent rats, *Chronic Stress*. Intracerebroventricular Ghrelin administration increases depressive-like behavior in male juvenile rats, *Frontiers in Behavioral Neuroscience*. Presentations/abstracts: Is a brain derived neurotrophic factor (BDNF) mimetic a rapid acting antidepressant in juvenile rats? Is brain derived neurotrophic factor (BDNF) a rapid acting antidepressant in juvenile rats?

Miller, CL. Publications: Open educational resources: an analysis of Minnesota State Colleges and Universities student preferences, *Open Learning: The Journal of Open, Distance and e-Learning*.

Morgan, C. Publications: Assessing competency in family medicine residents using the osteopathic manipulative medicine Mini-Clinical Evaluation Exercise, *The Journal of the American Osteopathic Association*. Learning to speak up for patient safety: interprofessional scenarios for training future healthcare professionals, *Journal of Medical Education and Curricular Development*. Vaccination capability inventory of community, migrant, and homeless health centers: a survey report, *Journal of Public Health Management & Practice*. Presentations/abstracts: Health systems science: community clinic-based collaborative care practice.

Motahari, MZ. Publications: Should dental school faculty be measured and compensated using academic productivity models? Two viewpoints, *Journal of Dental*

Education. Presentations/abstracts: IPE through the lens of oral health: a new curriculum.

Muller, R. Presentations/abstracts: Bilingual brochure for oral health literacy improvement in Vietnamese population. Evaluation of the impact of bilingual oral health educational brochures on the oral health literacy (OHL) of Vietnamese individuals residing in St. Louis. Impact of an outreach program on utilization of dental school services by Persian speaking population. Outreach program impact on utilization of dental services by immigrants.

Musawi, A. Publications: Assessing likelihood of using the Bruininks-Oseretsky test of motor proficiency to predict preclinical performance of dental students, *Clinical and Experimental Dental Research*. Viscosity effects of polyvinyl siloxane impression materials on the accuracy of the stone die produced, *Journal of Clinical and Translational Research*. Presentations/abstracts: Effectiveness of collaborative learning tool for case-based learning in removable partial denture. Predicting the preclinical performance of dental students.

Navarro, I. Publications: Relationship between elevated automatic blood pressure readings and manual blood pressure readings in adult patients with normal and high body mass index, *The Journal of the American Osteopathic Association*.

Nenad, MW. Publications: The multiple mini-interview and dental hygiene admissions: a feasible option, *Journal of Dental Education*. Presentations/abstracts: Assessing dental hygiene applicant "soft skills" through a multiple mini-interview (MMI).

Novinger, JW. Presentations/abstracts: Muscle fatigue associated with carbonic anhydrase inhibition is related to altered central command during sustained submaximal voluntary isometric contractions.

Nurrohman, H. Publications: Assessing likelihood of using the Bruininks-Oseretsky test of motor proficiency to predict preclinical performance of dental students, *Clinical and Experimental Dental Research*. Influence of fluoride on the mineralization of collagen via the polymer-induced liquid-precursor (PILP) process, *Dental Materials*. Integrating the PILP-mineralization process into a restorative dental treatment, *Dental Materials*. Presentations/abstracts: Predicting the preclinical performance of dental students.

Obadia, S. Publications: Osteopathic distinction, one student at a time, *The Journal of the American Osteopathic Association*.

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Omar, H. Publications: Co-blend application mode of bulk fill composite resin, *Materials*. Novel riboflavin/VE-TPGS modified universal dentine adhesive with superior dentine bond strength and self-crosslinking potential, *Dental Materials*. Presentations/abstracts: Effectiveness of collaborative learning tool for case-based learning in removable partial denture. Students' generated videos to enhance first year dental students' cultural awareness.

Orskog, M. Presentations/abstracts: Establishment of a suboxone clinic in a family medicine residency.

Ostrowski, TD. Publications: Decreased excitability of locus coeruleus neurons during hypercapnia is exaggerated in the streptozotocin-model of Alzheimer's disease, *Experimental Neurology*. Impaired chemoreflex correlates with decreased c-Fos in respiratory brainstem centers of the streptozotocin-induced Alzheimer's disease rat model, *Experimental Neurology*. Intracerebroventricular Ghrelin administration increases depressive-like behavior in male juvenile rats, *Frontiers in Behavioral Neuroscience*. Temporal processing properties of auditory DUM neurons in a bush-cricket, *Journal of Comparative Physiology A*. Presentations/abstracts: Attenuated baroreflex regulation in the STZ-induced rat model of Alzheimer's disease. Change in baroreflex function with age. Excitability of LC neurons is reduced in the Streptozotocin-model of Alzheimer's disease. Is brain derived neurotrophic factor (BDNF) a rapid acting antidepressant in juvenile rats? Morphology and antioxidant status in the nucleus tractus solitarius of the brainstem in the streptozotocin-induced rat model of Alzheimer's disease. The CO₂/pH chemosensitivity of locus coeruleus neurons is increased in the streptozotocin-model of Alzheimer's disease.

Owosho, AA. Publications: A clinicopathologic study of secretory carcinoma of minor salivary gland: a series of 4 cases and diagnostic considerations, *Oral Surgery, Oral Medicine, Oral Pathology, and Oral Radiology*. Dental status and risk of odontogenic complication in patients undergoing hematopoietic stem cell transplant, *Supportive Care in Cancer*. MYB-NFIB translocation by FISH in adenoid cystic carcinoma of the head and neck in Nigerian patients: a preliminary report, *Head and Neck Pathology*. Predicting radiation dosimetric distribution in different regions of the jaw in patients receiving radiotherapy for squamous cell carcinoma of the tonsil, *Head & Neck*.

Palmieri, PA. Publications: Adherence to antiretroviral therapy and the associated factors among people living with HIV/AIDS in Northern Peru: a cross-sectional study, *AIDS Research and Therapy*. Faculty attitudes about caring for people living with HIV/AIDS: a comparative study, *Journal of Nursing Education*.

Hospital Survey on Patient Safety Culture (HSOPSC): a multi-method approach for target-language instrument translation, adaptation, and validation to improve the equivalence of meaning for cross-cultural research, *BMC Nursing*. National health policy reform for primary care in Chile: a qualitative analysis of the health program documents, *Journal of Primary Care & Community Health*. Spirituality, social support, and diabetes: a cross-sectional study of people enrolled in a nurse-led diabetes management program in Peru, *Hispanic Health Care International*. Presentations/abstracts: Nurse-led diabetes management programs and Latinos living with diabetes mellitus: the relationship between spirituality and social support. Resilience levels and family function of vulnerable adolescents residing in a shelter in Peru. The effect of shelter residency and parental interactions on the resilience of vulnerable adolescents. The lived experience of young Peruvian women following hysterectomy: a qualitative study to inform evidence-based nursing practice.

Papademetriou, M. Publications: Anterior open bite due to idiopathic condylar resorption during orthodontic retention of a Class II Division 1 malocclusion, *American Journal of Orthodontics & Dentofacial Orthopedics*. Anterior open bite correction with 2-jaw orthognathic surgery, *American Journal of Orthodontics & Dentofacial Orthopedics*. How would you treat this malocclusion? *Bulletin - Pacific Coast Society of Orthodontists*. Mandibular micrognathia and vertical maxillary excess correction with combination LeFort I and inverted L osteotomies, *American Journal of Orthodontics & Dentofacial Orthopedics*.

Park, JH. Publications: Additional aesthetic surgery that can be performed with orthognathic surgery, *Seminars in Orthodontics*. Adult skeletal Class III correction with camouflage orthodontic treatment, *American Journal of Orthodontics & Dentofacial Orthopedics*. A licensed orthodontist versus do-it-yourself orthodontics, *American Journal of Orthodontics & Dentofacial Orthopedics*. American Board of Orthodontics: progress of the scenario-based clinical examination, *American Journal of Orthodontics & Dentofacial Orthopedics*. American Board of Orthodontics: update on the new scenario-based clinical examination, *American Journal of Orthodontics & Dentofacial Orthopedics*. A modified palatal appliance for forced eruption of impacted central incisor, *Journal of Clinical Pediatric Dentistry*. A modified pontic appliance for missing maxillary incisors, *Journal of Clinical Pediatric Dentistry*. Anterior open bite correction with 2-jaw orthognathic surgery, *American Journal of Orthodontics & Dentofacial Orthopedics*. Anterior open bite due to idiopathic condylar resorption during orthodontic retention of a Class II Division 1 malocclusion, *American Journal of Orthodontics & Dentofacial Orthopedics*. Assessment of bone density

changes following two-jaw surgery using multidetector computed tomography: a pilot study, *The Korean Journal of Orthodontics*. A survey of pediatric dentists on the treatment timing and modalities for white spot lesions in the United States, *Journal of Clinical Pediatric Dentistry*. Authors' response. Determining condylar bone density in adolescents: an inconclusive cone-beam computed tomographic study, *American Journal of Orthodontics & Dentofacial Orthopedics*. Authors' response: the influence of variables on predicting growth patterns of adolescents with varying skeletal patterns, *American Journal of Orthodontics & Dentofacial Orthopedics*. Biomechanical analysis for total distalization of the mandibular dentition: a finite element study, *American Journal of Orthodontics & Dentofacial Orthopedics*. Biomechanical analysis for total mesialization of the mandibular dentition: a finite element study, *Orthodontics and Craniofacial Research*. Case report: how would you treat this malocclusion? *Bulletin - Pacific Coast Society of Orthodontists*. Closure of mandibular spaces during retention, *Journal of Clinical Orthodontics*. Comparison of tooth movement and biological response in corticotomy and micro-osteoperforation in rabbits, *Korean Journal of Orthodontics*. Comparison of treatment effects with modified C-palatal plates vs Greenfield molar distalizer appliances in adolescents, *Journal of Clinical Pediatric Dentistry*. Correcting severe scissor bite in an adult, *American Journal of Orthodontics & Dentofacial Orthopedics*. Die modifizierte C-Gaumenplatte (MCP), *Kieferorthopädie Nachrichten*. Displacement and stress distribution of the maxillofacial complex during maxillary protraction using palatal plates: a three-dimensional finite element analysis, *The Korean Journal of Orthodontics*. Displacement of mandibular dentition during total arch distalization according to locations and types of TSADs: 3D finite element analysis, *Orthodontics and Craniofacial Research*. Distalization with a modified C-palatal plate for severe upper crowding and a missing lower incisor, *The Korean Journal of Orthodontics*. Effect of hyaluronic acid filler injection on the interdental papilla in a mouse model of open gingival embrasure, *International Journal of Environmental Research and Public Health*. Envisioning post-treatment occlusions after space closure using temporary skeletal anchorage devices, *Journal of Clinical Pediatric Dentistry*. Evaluation of condyle-fossa relationships in adolescents with various skeletal patterns using cone-beam computed tomography, *The Angle Orthodontist*. Extraction alternatives in cases with missing lower first molars, *Journal of Clinical Orthodontics*. Factors associated with spontaneous angular changes of impacted mandibular third molars as a result of second molar protraction, *American Journal of Orthodontics & Dentofacial Orthopedics*.

Please note: Publications, presentations, and abstracts are included as reported in the Fall 2018 through Summer 2020 ATSU Research newsletters, prepared by the Department of Research Support. Individuals listed were full-time and part-time ATSU faculty and staff members at the time publications, presentations, or abstracts were reported to the Department of Research Support.

Heritability of teeth angulation and inclination in patients with overt malocclusion, *International Orthodontics*. Histological alterations from condyle repositioning with functional appliances in rats, *Journal of Clinical Pediatric Dentistry*. How would you treat this malocclusion? *Bulletin - Pacific Coast Society of Orthodontists*. Improvement of facial profile by nonextraction orthodontic treatment with temporary skeletal anchorage devices and visual treatment objectives, *American Journal of Orthodontics & Dentofacial Orthopedics*. Mandibular condyle bone density in adolescents with varying skeletal patterns evaluated using cone-beam computed tomography: a potential predictive tool, *American Journal of Orthodontics & Dentofacial Orthopedics*. Mandibular micrognathia and vertical maxillary excess correction with combination LeFort I and inverted L osteotomies, *American Journal of Orthodontics & Dentofacial Orthopedics*. Maxillary molar intrusion and transverse decompensation to enable mandibular single-jaw surgery with rotational setback and transverse shift for a patient with mandibular prognathism and asymmetry, *American Journal of Orthodontics & Dentofacial Orthopedics*. Modified surgical stent for accurate TAD placement, *Journal of Clinical Pediatric Dentistry*. Orthodontic treatment for a patient with anterior open bite and severe condylar resorption, *American Journal of Orthodontics & Dentofacial Orthopedics*. Orthodontic treatment protocols for patients with idiopathic condylar resorption, *Journal of Clinical Pediatric Dentistry*. Palatal en-masse retraction of segmented maxillary anterior teeth: a finite element study, *Korean Journal of Orthodontics*. Posterior available space for uprighting of horizontally impacted mandibular second molars using orthodontic microimplant anchorage, *Journal of Clinical Pediatric Dentistry*. Post-COVID-19 management guidelines for orthodontic practices, *Journal of Clinical Orthodontics*. Relapse correction with a modified spring aligner using expansion screw, *Journal of Clinical Orthodontics*. Response to the letter, *The Angle Orthodontist*. Short-term cone-beam computed tomography evaluation of maxillary third molar changes after total arch distalization in adolescents, *American Journal of Orthodontics & Dentofacial Orthopedics*. Team approach for orthognathic surgery, *Seminars in Orthodontics*. The congenitally missing second premolar: space closure. A viable option, *American Journal of Orthodontics & Dentofacial Orthopedics*. The role of mandibular stabilization in orthognathic surgery, *Seminars in Orthodontics*. The use of premolar extractions with orthodontic treatment does not guarantee an improved eruption potential of third molars, *Journal of Evidence-Based Dental Practice*. Three-dimensional changes of the zygomaticomaxillary complex after mini-

implant assisted rapid maxillary expansion, *American Journal of Orthodontics & Dentofacial Orthopedics*. Time and pattern of the fusion of the sphenoid-occipital synchondrosis in patients with skeletal Class I and Class III malocclusion, *Angle Orthodontist*. Treatment stability after total maxillary arch distalization with modified C-palatal plates in adults, *American Journal of Orthodontics & Dentofacial Orthopedics*. Presentations/abstracts: ABO clinical examination. Anterior open bite correction. CBCT and TADs in clinical orthodontics: 34th annual Frederick T. West orthodontic lectureship. Clinical applications of 3D CBCT and TADs in contemporary orthodontics. Excellence in clinical orthodontics. New changes in the ABO clinical examination. Preliminary study evaluating the accuracy and reliability of CBCT images for tongue space measurement in the field of orthodontics. TADs and CBCT in contemporary orthodontics. The application of TADs and CBCT in contemporary orthodontics and pediatric dentistry. The application of TADs in contemporary orthodontics. The relationship between the mandibular symphysis bone density and mandibular growth direction using CBCT.

Patel, S. Publications: Burning mouth syndrome: a review of etiology, diagnosis, and management, *General Dentistry*. Dental professionals' knowledge, attitudes, and practice behaviors related to human papillomavirus vaccination, *Journal of Public Health Dentistry*. How can dental practitioners join the fight against HPV-associated oropharyngeal cancer? *Compendium of Continuing Education in Dentistry*. Metoprolol-induced pemphigus-like reaction, *Clinical Advances in Periodontics*. Presentations/abstracts: Assessing Arizona orthodontists' knowledge and attitudes about HPV vaccine promotion. Compliance with fluoride therapy and caries rate in cancer patients. Dental professionals' knowledge and attitudes about HPV vaccine promotion. Direct oral anticoagulants (DOACs) and postoperative bleeding complications after dental extractions. Engaging oral health providers in vaccinating teens for HPV. HPV-associated cancers: the dentist's role in vaccination. Impact of compliance with fluoride therapy on caries incidence after cancer therapy. Investigating the prevalence of treatment-induced trismus in head and neck cancer patients: a retrospective chart review. Investigating treatment-induced trismus in patients with head and neck cancers.

Pazdernik, V. Publications: Assessing competency in family medicine residents using the osteopathic manipulative medicine Mini-Clinical Evaluation Exercise, *The Journal of the American Osteopathic Association*. Development of competency in needle-guided procedures through the use of soft-embalmed cadavers, *Missouri*

Medicine. Dynamic assessment of cerebral blood flow and intracranial pressure during inversion table tilt using ultrasonography, *Journal of the Neurological Sciences*. Four-year review of presenteeism data among employees of a large United States health care system: a retrospective prevalence study, *Human Resources for Health*. Interprofessional approach to learning vascular access with ultrasonography by medical students and nurses, *Missouri Medicine*. Relationship between elevated automatic blood pressure readings and manual blood pressure readings in adult patients with normal and high body mass index, *The Journal of the American Osteopathic Association*. Success predictors for third-year osteopathic medical students on national standardized examinations: a family medicine clerkship course study, *The Journal of the American Osteopathic Association*. Presentations/abstracts: Comparison of rates of DEXA scans between gender and age groups among injured populations. Predictors of success in a medical gross anatomy course.

Pedapati, C. Presentations/abstracts: Clinical observations of the wrist and hand in dental professionals. Median nerve blood flow in dental professionals.

Perry, M. Publications: Dental professionals' knowledge, attitudes, and practice behaviors related to human papillomavirus vaccination, *Journal of Public Health Dentistry*. Presentations/abstracts: Assessing Arizona orthodontists' knowledge and attitudes about HPV vaccine promotion. Compliance with fluoride therapy and caries rate in cancer patients. Dental professionals' knowledge and attitudes about HPV vaccine promotion. Dental student behavioral intent following exposure to special care dentistry. Evaluating the effectiveness of animal-assisted therapy in a dental setting. Impact of compliance with fluoride therapy on caries incidence after cancer therapy. IPE through the lens of oral health: a new curriculum. Measuring behavioral intent among dental students in special care dentistry. Measuring the effects of didactic and clinical environments on behavioral intent among dental students in special care dentistry. Recall of oral hygiene education among patients with IDD. Recall of oral hygiene education among patients with special needs. Recall of oral hygiene education among patients with special needs and their caregivers. Train the trainer model: oral care for special education teachers.

Peterson, S. Publications: Physical therapy management of patients with chronic low back pain and hip abductor weakness, *Journal of Geriatric Physical Therapy*. Short-term response to treatment targeting the thoracolumbar junction in patients with hip pain: a case series,

Please note: Publications, presentations, and abstracts are included as reported in the Fall 2018 through Summer 2020 ATSU Research newsletters, prepared by the Department of Research Support. Individuals listed were full-time and part-time ATSU faculty and staff members at the time publications, presentations, or abstracts were reported to the Department of Research Support.

Journal of Orthopaedic and Sports Physical Therapy. Use of a modified treatment-based classification system for subgrouping patients with low back pain: agreement between telerehabilitation and face-to-face assessments, *Physiotherapy Theory and Practice*.

Phillips, P. Publications: A uniquely altered oral microbiome composition was observed in pregnant rats with *Porphyromonas gingivalis* induced periodontal disease, *Frontiers in Cellular and Infection Microbiology*. Deletion of a conserved transcript PG_RS02100 expressed during logarithmic growth in *Porphyromonas gingivalis* results in hyperpigmentation and increased tolerance to oxidative stress, *PLoS One*. *Porphyromonas gingivalis* strain-dependent inhibition of uterine spiral artery remodeling in the pregnant rat, *Biology of Reproduction*. Presentations/abstracts: Efficacy of commercial hand sanitizers in the clinic setting. *Porphyromonas gingivalis* strain dependent cytokine modulation of human villous mesenchymal fibroblasts. Rat placenta at gestational day 18 is colonized by bacteria in health and disease. Surface sampling of mannequin simulators: are simulators contaminated by human pathogens? The expression of major fimbriae is secondary to other strain specific virulence factors that may contribute to *P. gingivalis*'s ability to invade and modulate the cytokine response in HVMFs.

Picha, K. Publications: Considerations of conservative treatment after a partial ulnar collateral ligament injury in overhead athletes: a systematic review, *Sports Health*. Improvements in shoulder research and rehabilitation, *Journal of Sport Rehabilitation*. Low self-efficacy and high kinesiophobia are associated with worse function in patients with femoroacetabular impingement syndrome, *Journal of Sport Rehabilitation*. Measurements of self-efficacy in musculoskeletal rehabilitation: a systematic review, *Musculoskeletal Care*. Test-retest reliability and methodological considerations of the sensory organization test in healthy young adults, *Athletic Training and Sports Health Care*. The Self-Efficacy for Home Exercise Programs Scale: development and psychometric properties, *Journal of Orthopaedic and Sports Physical Therapy*. Presentations/abstracts: Athletic trainers' familiarity and assessment of patient barriers to rehabilitation adherence. Athletic trainers' perceptions of and experience with social determinants of health in the collegiate and university setting. Athletic trainers' perceptions of and experiences with social determinants of health in the secondary school setting. Athletic trainers' perceptions of social determinants of health. Graduate students' use and perceptions of learning resources provided in a human anatomy course. The influence of dual task paradigm on reaction time utilizing a light board.

Pike Lacy, AM. Publications: Challenges faced by collegiate athletic trainers, part I: organizational conflict and clinical decision making, *Journal of Athletic Training*. Challenges faced by collegiate athletic trainers, part II: treating concussed student-athletes, *Journal of Athletic Training*. Collegiate athletic trainers' experiences with external pressures faced during decision making, *Journal of Athletic Training*. Legislators' perceptions and knowledge of the athletic training profession: specific considerations for secondary schools, *Journal of Athletic Training*.

Quezada, C. Presentations/abstracts: Improving mental health diagnosis and treatment by primary care providers through introduction of a quick reference guide. Mentors in medicine program: improving health education in Woodlake Unified School District and surrounding community.

Raines, DA. Publications: Format of parent education material preferred by new mothers, *Clinical Nursing Research*. Med-Match: an interactive game to learn medications for clinical practice, *Nursing Education Perspectives*. The impact of a mindfulness intervention for nurse managers, *Journal of Holistic Nursing*.

Ramaraj, P. Publications: A survey of in-vitro and in-vivo effects of steroids on melanoma growth and its implication on the nature of the disease, *Journal of Translational Science*. Can interleukin-8 alone be responsible for regulating melanoma growth and metastasis? In vitro studies based on treatments of human melanoma cell lines (BLM and 1205Lu) with sex steroids, IL-8, curcumin and active vitamin-D3, *FASEB Journal*. Interleukin-8: a possible target for melanoma treatment? In-vitro studies based on human melanoma cell models, *Journal of the Endocrine Society*. In-vitro anti-cancer actions of RU-486 on human melanoma cells based on RU-486 treated, caspase inhibitor rescued and recovered cell growth, adhesion and migration functions, *Journal of Translational Science*. Presentations/abstracts: Biochemical basis of steroid hormones inhibition of human melanoma cell growth in-vitro and its implication on melanoma treatment. Could IL-8 be the target for melanoma treatment? Could IL-8 be the target for melanoma treatment? An in vitro study based on curcumin pre-treatment and IL-8 treatment of human melanoma cell models. Differential biological effects of steroids and other chemical inhibitors between mouse and human melanoma cell lines. Interleukin-8 (IL-8): a possible target for melanoma treatment? In-vitro studies based on steroids, IL-8, curcumin and active vitamin-D3 treatments of human melanoma cell lines. In-vitro studies based on steroids, IL-8, curcumin and active vitamin-D3 treatments of human melanoma cell models. Involvement of IL-8 cytokine in the regulation of melanoma cell growth based on curcumin pre-treatment

and IL-8 treatment of human melanoma cell models. Is IL-8 the right target for melanoma treatment? In-vitro studies based on steroids, IL-8, curcumin and active vitamin-D3 treatments of human melanoma cell models. Is testosterone the male sex hormone responsible for increased male mortality in melanoma? Preliminary in-vitro studies based on progesterone, androstenedione and testosterone treatments of human melanoma (BLM) cells in the presence of endogenous IL-8 induced by endothelin.

Rawcliffe, M. Presentations/abstracts: Prevention and management of medical emergencies within the dental office.

Reddy, A. Publications: Using digital impressions to fabricate space maintainers: a case report, *Clinical Case Reports*. Presentations/abstracts: Salivary flow in children residing in households with smokers and non-smokers. Using digital impressions to fabricate space maintainers: an instructional module.

Rhea, M. Publications: Effects of strength training program and infrared thermography in soccer athletes injuries, *Sports*. Presentations/abstracts: A discussion of load management in today's sporting environments. Applications of the 1080 sprint to American football player development.

Roehling, T. Publications: Student and faculty perceptions of plagiarism in health sciences education, *Journal of Further and Higher Education*. Presentations/abstracts: The efficacy of physical therapy intervention in the treatment of male urinary incontinence: a pilot study.

Root, HJ. Publications: Application of a preventive training program implementation framework to youth soccer and basketball organizations, *Journal of Athletic Training*. Sport specialization and fitness and functional task performance among youth competitive gymnasts, *Journal of Athletic Training*. The relationship between physical literacy measures of balance and the Balance Error Scoring System in youth sports participants, *Athletic Training and Sports Health Care*. Presentations/abstracts: A comparison of physical literacy and landing strategies between low-resourced and high-resourced communities. Patient report outcome measure use for concussion among high school athletic trainers. Return-to-play protocols following sport-related concussion in NCAA gymnastics. Self-reported sports and recreational concussion history in male collegiate gymnasts. Sport sampling affects LESS scores and physical literacy competency in children.

Roush, J. Publications: Use of a modified treatment-based classification system for subgrouping patients with low back pain: agreement between telerehabilitation and face-to-face assessments, *Physiotherapy Theory and Practice*. Presentations/abstracts: The agreement in walking speed

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measured using four different outcome measures: 6-meter walk test, 10-meter walk test, 2-minute walk test, and 6-minute walk test. The effects of hand dominance, age, and sex on grip strength in subjects ages 65 to 89 years. The validity and reliability of the 4-step stair climb power test compared to the 10-step stair climb power test.

Roy, D. Publications: Methodology for finding and interpreting efficient biomarker signals, *Clinical Laboratory International*. Teaching students to identify and document social determinants of health, *Advances in Medical Education and Practice*. Vaccination capability inventory of community, migrant, and homeless health centers: a survey report, *Journal of Public Health Management & Practice*. Presentations/abstracts: Bayesian meta-analysis for diachronic interpretation of oral cancer biomarkers. Capacity building in patient-centered outcomes research involving traumatic brain injury patients: lessons from a PCORI funded project. El Rio's Healthy Kids Move program. Leveraging pediatric clinic visits to improve access to primary care in adult family members and caregivers. Optimizing health center opioid prescribing and monitoring practices. Utilizing a team-based approach for improving colorectal cancer screening in underserved populations.

Sackett, D. Publications: Fat shaming in medicine: overview of alternative patient strategies, *Osteopathic Family Physician*. Learning to speak up for patient safety: interprofessional scenarios for training future healthcare professionals, *Journal of Medical Education and Curricular Development*. Preventing premature weaning: management options for common lactation conditions, including OMT, *Osteopathic Family Physician*. Success predictors for third-year osteopathic medical students on national standardized examinations: a family medicine clerkship course study, *The Journal of the American Osteopathic Association*. Presentations/abstracts: Seven essential elements for standardizing clerkship education with an online curriculum.

Salisbury, H. Publications: Attitudes and perceptions of non-clinical health care students' towards interprofessional learning, *Health, Interprofessional Practice & Education*. Physical activity, exercise, and musculoskeletal disorders in sonographers, *Journal of Diagnostic Medical Sonography*.

Sartor-Glittenberg, C. Presentations/abstracts: A brief intervention model of physical therapy within the community health center: a randomized controlled trial. Predicting discharge destination from an acute in-patient rehabilitation setting for persons with a hip fracture: the Continuity Assessment Record and Evaluation

(CARE) item set and fracture-related variables. Predicting fall risk in an inpatient rehabilitation setting: the Continuity Assessment Record and Evaluation (CARE) Item Set versus the Morse Fall Scale. The Continuity Assessment Record and Evaluation (CARE) Item Set: predicting discharge after lower extremity fracture. The effect of high-intensity interval training (HIIT) on weight loss, pain, fatigue, and function for a person with multiple sclerosis: a case report.

Sauers, EL. Publications: Athletic trainers' perceptions of advanced clinical practice: characteristics of advanced practice athletic trainers, *Athletic Training Education Journal*. Athletic trainers' perceptions of advanced clinical practice: defining advanced clinical practice in athletic training, *Athletic Training Education Journal*. Point-of-care clinical trials in sports medicine research: identifying effective treatment interventions through comparative effectiveness research, *Journal of Athletic Training*. The first decade of web-based sports injury surveillance: descriptive epidemiology of injuries in US high school boys' baseball (2005-2006 through 2013-2014) and National Collegiate Athletic Association men's baseball (2004-2005 through 2013-2014), *Journal of Athletic Training*. The first decade of web-based sports injury surveillance: descriptive epidemiology of injuries in US high school girls' softball (2005-2006 through 2013-2014) and National Collegiate Athletic Association women's softball (2004-2005 through 2013-2014), *Journal of Athletic Training*.

Schneider, RP. Publications: Developing neuraxial and regional pain procedural skills through innovative 3-dimensional printing technology, *The Journal of the American Osteopathic Association*. Interprofessional approach to learning vascular access with ultrasonography by medical students and nurses, *Missouri Medicine*. Presentations/abstracts: Establishment of a suboxone clinic in a family medicine residency. Innovative spine and pelvic models for the joint injection techniques training.

Schrant, B. Presentations/abstracts: Comparison of preemptive analgesia between acetaminophen and ibuprofen in pediatric patients undergoing outpatient surgery. Discovery of pleuritic pericardial effusion through arterial line waveforms.

Schwartz, F. Presentations/abstracts: Patients, providers, and students: training to prevent emotional collapse and addiction.

Sexton, PS. Presentations/abstracts: Use of a physician mentored patient rounds to observe EPA 4 in second-year medical students. Use of physician mentored patient rounds to observe second year

medical students' treatment plans for a COPD patient.

Sexton, WL. Presentations/abstracts: Dietary nitrate supplementation attenuates fatigue in rat skeletal muscle. Dietary nitrate supplementation improves interstitial PO₂ kinetics and attenuates fatigue in the rat extensor digitorum longus muscle. Dietary nitrate supplementation slows interstitial PO₂ on-kinetics, reduces twitch tension, and attenuates fatigue in the rat EDL muscle. Short-term oral nitrate supplementation does not improve oxygen kinetics in skeletal muscle of diabetic rats.

Shanahan, C. Presentations/abstracts: Assessment of elementary students' understanding of differences in viral and bacterial infections and education of proper antibiotic use.

Shanker, K. Presentations/abstracts: Predicting cooperation of adult autistic patients in the dental clinic.

Shanti, SD. Publications: Association of food insecurity with early childhood caries, *Journal of Public Health Dentistry*.

Shiple, TS. Publications: Effects of high frequency acceleration device on aligner treatment: a pilot study, *Dentistry Journal*. Effect of high-frequency vibration on orthodontic tooth movement and bone density, *Journal of Orthodontic Science*. Effect of the application of high-frequency mechanical vibration on tooth length concurrent with orthodontic treatment using clear aligners: a retrospective study, *Journal of Orthodontic Science*.

Shlossman, M. Publications: Lung disease and e-cigarettes, *Dimensions of Dental Hygiene*. Toxicity of e-cigarettes on human health, *Decisions in Dentistry*. Presentations/abstracts: Case study: restoration of dental root caries. Dental students' perceived knowledge pertaining to e-cigarette oral health effects. Improved non-surgical treatment of chronic periodontitis with 980nm diode laser. Treatment of chronic periodontitis with 980 nm diode laser: microbiomic results.

Shoup, D. Publications: Inside performing arts medicine: a history of and treatment approaches for managing the unique MSK problems experienced by musicians, *Practical Pain Management*. Plantar fasciitis: diagnosis and management, *Practical Pain Management*. Preventing premature weaning: management options for common lactation conditions, including OMT, *Osteopathic Family Physician*. Temporomandibular disorders in performance artists: part 2, *Practical Pain Management*.

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Simon, H. Publications: Learning to speak up for patient safety: interprofessional scenarios for training future healthcare professionals, *Journal of Medical Education and Curricular Development*.

Singh, VK. Publications: Analysis of cytoplasmic and secreted proteins of *Staphylococcus aureus* revealed adaptive metabolic homeostasis in response to changes in the environmental conditions representative of the human wound site, *Microorganisms*. Exogenous fatty acids remodel *Staphylococcus aureus* lipid composition through fatty acid kinase, *Journal of Bacteriology*. Impact of deficiencies in branched-chain fatty acids and staphyloxanthin in *Staphylococcus aureus*, *BioMed Research International*. Role of SigB and staphyloxanthin in radiation survival of *Staphylococcus aureus*, *Current Microbiology*. The role of methionine sulfoxide reductases in oxidative stress tolerance and virulence of *Staphylococcus aureus* and other bacteria, *Antioxidants*. Presentations/abstracts: How deletion of the *fakA*, *fakB1*, and *fakB2* genes affect membrane fluidity of *Staphylococcus aureus*. Mutation and characterization of methicillin resistant *Staphylococcus aureus*. Phylogenetic distribution and expression of a penicillin-binding protein homologue, Ear and its significance in virulence of *Staphylococcus aureus*.

Skinner, K. Publications: Clinical effectiveness of an at-home auditory training program: a randomized controlled trial, *Ear and Hearing*. Presentations/abstracts: Audiology students learn interprofessional collaboration.

Smith, K. Publications: Assessing likelihood of using the Bruininks-Oseretsky test of motor proficiency to predict preclinical performance of dental students, *Clinical and Experimental Dental Research*. Presentations/abstracts: Predicting the preclinical performance of dental students.

Snider, KT. Publications: Characteristics and treatment of pediatric patients in an osteopathic manipulative medicine clinic, *The Journal of the American Osteopathic Association*. Osteopathic manipulative medicine practice patterns of third-year and fourth-year osteopathic medical students: an education research project, *The Journal of the American Osteopathic Association*. Presentations/abstracts: Characteristics and management of geriatric patients for a neuromusculoskeletal medicine/osteopathic manipulative medicine clinic.

Snyder Valier, AR. Publications: Athletic trainers' knowledge of appropriate care of spine injured athletes, *Athletic Training and Sports Health Care*. Changes in patient-reported outcome measures from the time of injury to return to play in adolescent athletes at secondary schools

with an athletic trainer, *Journal of Athletic Training*. Disablement model and health-related quality of life classification for Patient-Reported Outcomes Measurement Information System (PROMIS) instruments, *Journal of Athletic Training*. Epidemiology of secondary school boys' and girls' basketball injuries: National Athletic Treatment, Injury and Outcomes Network, *Journal of Athletic Training*. Implementation science: lessons learned from evaluating practice recommendations for the care of patients with spine injuries, *Journal of Athletic Training*. Navigating athletic training position statements: the strength of recommendation taxonomy system, *Journal of Athletic Training*. Non-time-loss and time-loss softball injuries in secondary school athletes: a report from the National Athletic Treatment, Injury and Outcomes Network (NATION), *Journal of Athletic Training*. Patient-reported outcome measures in sports medicine: a concise resource for clinicians and researchers, *Journal of Athletic Training*. Sport specialization and fitness and functional task performance among youth competitive gymnasts, *Journal of Athletic Training*. The association between length of recovery following sport-related concussion and generic and specific health-related quality of life in adolescent athletes: a prospective, longitudinal study, *The Journal of Head Trauma Rehabilitation*. The impact of a previous ankle injury on current health-related quality of life in collegiate athletes, *Journal of Sport Rehabilitation*. The prioritized research agenda for the athletic training profession: a report from the Strategic Alliance Research Agenda Task Force, *Journal of Athletic Training*. The use of orthotic insoles to prevent lower limb overuse injuries: a critically appraised topic, *Journal of Sport Rehabilitation*. Use of patient-reported outcome measures in athletic training: common measures, selection considerations, and practical barriers, *Journal of Athletic Training*. Presentations/abstracts: A systematic dry needling treatment supports recovery post-training for Division I ice hockey athletes: level 2 exploration case series. Assessing and measuring core competencies across all levels of athletic training education: quality improvement (QI). Athletic trainers' perceptions of and experience with social determinants of health in the collegiate and university setting. Athletic trainers' perceptions of and experiences with social determinants of health in the secondary school setting. Athletic trainers' perceptions of social determinants of health. Comparison of HRQL across recovery following sport-related concussion or acute ankle injury: a report from the Athletic Training Practice-Based Research Network. Interpreting scores on patient-reported outcome measures. Non-time loss and time loss injuries in secondary school girls' volleyball athletes: a report from the

National Athletic Treatment, Injury, and Outcomes Network. Patient-outcomes: supporting patient-centered care and quality improvement. Do the results matter? Quality improvement in athletic health care. Relationship between shoulder range of motion, strength and posture, and injury risk in collegiate baseball athlete. Relationship between spine and hip range of motion, hip strength, and injury risk in collegiate baseball athletes. The relationship between athletic trainers' perceptions of and experiences with social determinants of health.

Spolarich, A. Publications: Can a patient become resistant to chlorhexidine mouthrinse? *Dimensions of Dental Hygiene*. Challenges with adherence to clinical practice guidelines: lessons for implementation science, *Journal of Dental Hygiene*. Dental professionals' knowledge, attitudes, and practice behaviors related to human papillomavirus vaccination, *Journal of Public Health Dentistry*. Lung disease and e-cigarettes, *Dimensions of Dental Hygiene*. The escalating problem of pediatric substance abuse, *Inscriptions*. Toxicity of e-cigarettes on human health, *Decisions in Dentistry*. Using CTV to reduce caries risk, *Dimensions of Dental Hygiene*. What are the contraindications to chlorhexidine use, *Dimensions of Dental Hygiene*. Presentations/abstracts: Accreditation standards for dental hygiene education programs: proposed revisions. Advanced clinical decision-making with medically complex patients. An update on antibiotic stewardship. Assessing Arizona orthodontists' knowledge and attitudes about HPV vaccine promotion. Assessing patient referral patterns for HPV related oropharyngeal cancers. A survey of healthcare student attitudes towards interprofessional education. Compliance with fluoride therapy and caries rate in cancer patients. Dental hygiene student training outcomes in special care dentistry. Dental professionals' knowledge and attitudes about HPV vaccine promotion. Dental students' perceived knowledge pertaining to e-cigarette oral health effects. Direct oral anticoagulants (DOACs) and postoperative bleeding complications after dental extractions. Direct to consumer orthodontics. Engaging oral health providers in vaccinating teens for HPV. Evaluating the effectiveness of animal-assisted therapy in a dental setting. Impact of compliance with fluoride therapy on caries incidence after cancer therapy. Influence of parental anxiety and expectations on child self-reported dental anxiety, expectations, and dental services utilization. Inappropriate medication use among geriatric dental patients. Influence of parental anxiety of expectations of child self-reported dental anxiety, expectations and dental services utilization. Investigating treatment-induced trismus in patients with head and neck cancers. IPE through the lens

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of oral health: a new curriculum. Molar intrusion capabilities of Invisalign with or without miniscrew anchorage in the open bite patient: a pilot study. Nasal MRSA colonization in dental students. Nasal MRSE colonization in dental students. Optimizing whole mouth health. Oral health literacy in older adults with intellectual and developmental disabilities (IDD). Oral hygiene status and risk for ventriculitis. Orthodontists' interests and behaviors with treating patients with ID/DD. Orthodontists' interests and behaviors with treating patients with intellectual and developmental disabilities (ID/DD). Patients, providers, and students: training to prevent emotional collapse and addiction. PIPS vs. standard treatment for endodontic bacterial decontamination. Recall of oral hygiene education among patients with IDD. Recall of oral hygiene education among patients with special needs. Recall of oral hygiene education among patients with special needs and their caregivers. Redundant prescriptions and drug misuse among older adults. Stimulant medication-induced hyposalivation in adolescents. The older adult: the new face of addiction. The P4 approach to patient-centered oral healthcare: empowering our patients. Training dental hygiene students to care for individuals with special needs. Training dental hygiene students to care for individuals with special needs through didactic and clinical experiences. Training dental hygiene students to treat individuals with special needs. Whole mouth health: what is it and why do my patients care? RDH Under One Roof.

Stanley, EM. Publications: Corticosterone induces depressive-like behavior in female peri-pubescent rats, but not in pre-pubescent rats, *Chronic Stress*.

Starks, Z. Publications: Reliability of the DIERS formetric 4D spine shape parameters in adults without postural deformities, *BioMed Research International*. Presentations/abstracts: Contributions to posture alterations from a controlled ankle motion (CAM) walker boot.

Stuart, M. Presentations/abstracts: Effect of phytochemicals on the viability of the oral protozoan, *Trichomonas tenax*. Effect of phytochemicals on *Trichomonas tenax* (Tricomonadida: Trichomonadidae) viability. Evidence of transovarial transmission of *Ehrlichia chaffeensis* in *Amblyomma americanum* (Acari: Ixodidae). Human immune response to *Trichomonas tenax*. Membrane array analysis of macrophage cytokines elicited by oral trichomonads.

Teruel, A. Publications: Burning mouth syndrome: a review of etiology, diagnosis, and management, *General Dentistry*.

Theobald, RJ. Presentations/abstracts: Cognition assessment in APPPS1 transgenic mice.

Tidman, M. Publications: Effects of a community-based exercise program on mobility, balance, cognition, sleep, activities of daily living, and quality of life in PD: a pilot study, *Neurodegenerative Disease Management*.

Trombly, C. Presentations/abstracts: Managing dental pain in a medical setting: teaching dental anesthesia to medical providers. Using teledentistry to deliver oral health services to underserved populations in the Phoenix metro area. Using teledentistry to evaluate oral health of youth in detention.

Trombly, R. Publications: Perinatal oral health: a novel collaborative initiative to improve access, attitudes, comfort level, and knowledge of pregnant women and dental providers, *American Journal of Perinatology Reports*. Value-based payment for oral health in an accountable care organization, *Compendium of Continuing Education in Dentistry*.

Troncoso, VA. Publications: Cervicogenic headache: diagnosis and management, *Practical Pain Management*.

Valovich McLeod, T. Publications: Appropriate medical care standards for organizations sponsoring athletic activity for the secondary school-aged athlete: a summary statement, *Journal of Athletic Training*. Athletic trainers' perceptions of academic adjustment procedures for student-athletes with concussion, *Athletic Training and Sports Health Care*. Demographic, parental, and personal factors and youth athletes' concussion-related knowledge and beliefs, *Journal of Athletic Training*. Early controlled exercise and timing of treatment following concussion: a critically appraised topic, *Journal of Sport Rehabilitation*. Emergency preparedness of secondary school athletic programs in Arizona, *Journal of Athletic Training*. Evaluation of vertical and horizontal saccades using the Developmental Eye Movement test compared to the King-Devick Test, *International Journal of Sports Physical Therapy*. Management and outcomes of chronic athletic groin pain: a comparison of conservative and surgical intervention, *Athletic Training and Sports Health Care*. Optimizing return to learn following a sport-related concussion: a quality improvement project, *Athletic Training Education Journal*. Patient, injury, assessment, and treatment characteristics and return-to-play timelines after sport-related concussion: an investigation from the Athletic Training Practice-Based Research Network, *Clinical Journal of Sport Medicine*. Photobiomodulation reduces pain in patients with shoulder tendinopathy, *Athletic Training and Sports Health Care*. School counselors' perceptions of academic support for concussed students, *Health Behavior and Policy Review*. School nurses' management and collaborative practices for student-athletes following a sport-related

concussion, *Journal of School Nursing*. School nurses' perceived challenges with concussion management procedures in the secondary school setting, *SAGE Open Nursing*. School nurses' perceptions of concussion management for secondary school student-athletes, *Brain Injury*. Sport specialization and fitness and functional task performance among youth competitive gymnasts, *Journal of Athletic Training*. Sport specialization and risk of overuse injuries: a systematic review with meta-analysis, *Pediatrics*. Sport specialization is associated with injury history in youth soccer athletes, *Athletic Training and Sports Health Care*. Subsymptomatic aerobic exercise for patients with postconcussion syndrome: a critically appraised topic, *Journal of Sport Rehabilitation*. The association between length of recovery following sport-related concussion and generic and specific health-related quality of life in adolescent athletes: a prospective, longitudinal study, *The Journal of Head Trauma Rehabilitation*. The knowledge, attitudes, and beliefs of pediatric concussion among USA swim coaches, *Journal of Swimming Research*. The relationship between physical literacy measures of balance and the Balance Error Scoring System in youth sports participants, *Athletic Training and Sports Health Care*. The relationship between postinjury symptomatology and days postinjury for the Graded Symptom Scale in concussed adolescent athletes, *International Journal of Athletic Therapy and Training*. Treatment and return to participation following exertional rhabdomyolysis in athletes, *Athletic Training and Sports Health Care*. Presentations/abstracts: A comparison of post-professional athletic training students' accessibility to resources and perceived challenges of implementing concepts of evidence-based practice in clinical practice. Characteristics and cost savings of a telehealth consultation service for sport-related concussion. Comparison of HRQL across recovery following sport-related concussion or acute ankle injury: a report from the Athletic Training Practice-Based Research Network. Compliance with state law components of sport-related concussion protocols in Pennsylvania high schools. Conducting research in youth and adolescent sports settings. Data acquisition and analysis at a local level. Delayed versus immediate reporting of concussion and its impact on length of recovery among athletes. Differences among post-professional athletic training students' knowledge and confidence of evidence-based practice. Effect of concussion history on instrumental and clinical balance performance. Establishing reliability of the Dynavision D2 reaction tests in female adolescent athletes. Pain education with therapeutic exercise in chronic non-specific low back pain rehabilitation. Patient, injury, and treatment characteristics of hip injuries presenting to athletic training clinics: a report from the Athletic Training Practice-Based Research Network. Patient report

Please note: Publications, presentations, and abstracts are included as reported in the Fall 2018 through Summer 2020 ATSU Research newsletters, prepared by the Department of Research Support. Individuals listed were full-time and part-time ATSU faculty and staff members at the time publications, presentations, or abstracts were reported to the Department of Research Support.

FACULTY and STAFF SCHOLARLY ACTIVITY (September 2018-August 2020)

outcome measure use for concussion among high school athletic trainers. Post-professional athletic training students' attitudes and beliefs regarding evidence-based practice. Quality-of-life outcomes and academic concerns following pediatric concussion: initial findings from the PRISM concussion RIG. Return-to-play protocols following sport-related concussion in NCAA gymnastics. Self-reported sports and recreational concussion history in male collegiate gymnasts. Self-report of pain, function, improvement, and disablement at return-to-play following a knee sprain injury: a report from the Athletic Training Practice-Based Research Network. The association between psychological readiness to return to sport and self-perceived function after anterior cruciate ligament reconstruction. The influence of dual task paradigm on reaction time utilizing a light board. The treatment of sports-related concussion with co-morbid whiplash: a systematic review.

VanSickle, C. Publications: *Homo naledi* pelvic remains from the Dinaledi Chamber, South Africa, *Journal of Human Evolution*. Presentations/abstracts: Assessing hominin hips using ilium cross-sectional shape. Body size's bearing on the shape of the superior pubic ramus in adult males. Comparative anatomy and 3D geometric morphometrics of the SD-1663 hipbone from the El Sidrón Neandertal site (Asturias, Spain). Effect of sampling bias in endocast volume comparisons between Neandertals and recent modern humans. Exploring the effect of body mass on pelvic features that vary by sex. Influence of body size on the shape of the greater sciatic notch. The pelvis relates to gut size differently in male and female humans.

Vargo, R.J. Publications: Molar-incisor malformation: eight new cases and a review of the literature, *International Journal of Paediatric Dentistry*. Reappraising localized juvenile spongiotic gingival hyperplasia, *The Journal of the American Dental Association*. Symmetrical palatal fibromatosis: five new cases and a review of the literature, *Oral Diseases*. Presentations/abstracts: Clinical manifestations leading to a diagnosis of HIV infection: a case report. Stafne defect of the premolar area: report of rare presentation. Treatment of xerostomia and hyposalivation in elderly patients: will it work for Missouri School of Dentistry & Oral Health patients?

Vij, A. Publications: Combination scan technique: an innovative approach to diagnosing altered passive eruption, *Journal of Cosmetic Dentistry*. Interdisciplinary treatment of a "gummy smile" using digital smile design, *Journal of Cosmetic Dentistry*. Using digital impressions to fabricate space maintainers: a case report, *Clinical Case Reports*. Presentations/abstracts: Evaluating accuracy of intraoral scanners. Using digital imaging in the care of pediatric

patients. Using digital impressions to fabricate space maintainers: an instructional module.

Vora, R. Publications: Vaccination capability inventory of community, migrant, and homeless health centers: a survey report, *Journal of Public Health Management & Practice*. Presentations/abstracts: Patients, providers, and students: training to prevent emotional collapse and addiction.

Wagner, R. Presentations/abstracts: An evaluation of communication methods for community outreach in patients with diabetes. Health systems science: community clinic-based collaborative care practice.

Walker, A. Presentations/abstracts: Assessing Unity Health Care staff awareness of the Stork's Nest program.

Walker, SE. Publications: A report from the Athletic Training Clinical Education Network on scholarship requirements in professional athletic training programs, *Athletic Training Education Journal*. Athletic training educators' perceptions of using standardized patients in teaching, *Athletic Training Education Journal*. Student perceptions of standardized patient use in athletic training education, *Athletic Training Education Journal*. The preparation and development of preceptors in professional graduate athletic training programs, *Athletic Training Education Journal*. Presentations/abstracts: Athletic training educators' perceptions of using standardized patients in teaching. Athletic training student application of evidence-based practice during clinical education: a report from the Athletic Training Clinical Education Network. Athletic training student application of health information technology during clinical education: a report from the Athletic Training Clinical Education Network. Athletic training student application of interprofessional education during clinical education: a report from the Athletic Training Clinical Education Network. Athletic training student application of patient-centered care during clinical education: a report from the Athletic Training Clinical Education Network. Athletic training student application of quality improvement during clinical education: a report from the Athletic Training Clinical Education Network. Program administrators' perceived challenges associated with developing preceptors.

Walters, SL. Presentations/abstracts: Paralympic Track and Field classification as a participation barrier: a phenomenological study of events leading up to the Rio Paralympic Games.

Weaver, C. Publications: Integration of pre-intubation ultrasound into airway management course: a novel training program, *Indian Journal of Critical Care Medicine*. Presentations/abstracts: Effects of a focused ultrasound training session on first year osteopathic medical students' ability to incorporate point-of-care ultrasound in clinical assessment of the anterior knee.

Weber Rawlins, ML. Publications: A qualitative analysis of concussion reporting behavior, *Journal of Athletic Training*. Age at first concussion influences number of subsequent concussions, *Pediatric Neurology*. Coach, sports medicine, and parent influence on concussion care seeking intentions and behaviors in collegiate student-athletes, *Journal of Clinical and Translational Research*. Collegiate student-athlete sex, years of sport eligibility completed, and sport contact level influence on concussion reporting intentions and behaviours, *Brain Injury*. Examination of collegiate student-athlete concussion reporting intentions and behavior, *Journal of Clinical and Translational Research*. Health-related quality of life following concussion in collegiate student-athletes with and without concussion history, *Annals of Biomedical Engineering*. Improving concussion reporting across NCAA divisions using a theory-based, data-driven, multimedia concussion education intervention: a randomized control trial with one-year retention, *American Journal of Neurotrauma*. Influences of mental illness, current psychological state, and concussion history on baseline concussion assessment performance, *American Journal of Sports Medicine*. Medical disqualification following concussion in collegiate student-athletes: findings from the CARE Consortium, *Sports Medicine*. Post-concussion driving behaviors and opinions: a survey of collegiate student-athletes, *Journal of Neurotrauma*. School nurses' management and collaborative practices for student-athletes following a sport-related concussion, *Journal of School Nursing*. School nurses' perceived challenges with concussion management procedures in the secondary school setting, *Sage Open Nursing*. School nurses' perceptions of concussion management for secondary school student-athletes, *Brain Injury*. The influence of concussion knowledge on reporting intentions in collegiate student-athletes, *Athletic Training and Sports Health Care*. The influence of coping, perceptions of limitations, interference, and locus of control on concussion care-seeking intentions in collegiate athletes, *Journal of Clinical and Translational Research*. The influence of socioeconomic status and academic standing on concussion reporting intentions and behaviors in collegiate athletes, *Health Promotion Practice*. United States Air Force Academy cadets' perceived costs of concussion disclosure,

Please note: Publications, presentations, and abstracts are included as reported in the Fall 2018 through Summer 2020 ATSU Research newsletters, prepared by the Department of Research Support. Individuals listed were full-time and part-time ATSU faculty and staff members at the time publications, presentations, or abstracts were reported to the Department of Research Support.

Military Medicine. Using the health belief model to predict concussion reporting intentions and behavior, *Brain Injury*.

Welch Bacon, CE. Publications: A report from the Athletic Training Clinical Education Network on scholarship requirements in professional athletic training programs, *Athletic Training Education Journal*. Aspects of technology that influence athletic trainers' current patient care documentation strategies in the secondary school, *Journal of Athletic Training*. Athletic directors' perceptions regarding the value of employing athletic trainers in the secondary school setting, *Journal of Physical Education and Sports Management*. Athletic trainers' knowledge of appropriate care of spine injured athletes, *Athletic Training and Sports Health Care*. Athletic trainers' perceptions of academic adjustment procedures for student-athletes with concussion, *Athletic Training and Sports Health Care*. Athletic trainers' perceptions of advanced clinical practice: characteristics of advanced practice athletic trainers, *Athletic Training Education Journal*. Athletic trainers' perceptions of advanced clinical practice: defining advanced clinical practice in athletic training, *Athletic Training Education Journal*. Athletic trainers' practice patterns regarding medical documentation, *Journal of Athletic Training*. Athletic training educators' knowledge and confidence about competency-based education, *Athletic Training Education Journal*. Athletic training educators' perceptions of using standardized patients in teaching, *Athletic Training Education Journal*. Developing cognitive skills through active learning: a systematic review of health care professions, *Athletic Training Education Journal*. Disablement model and health-related quality of life classification for Patient-Reported Outcomes Measurement Information System (PROMIS) instruments, *Journal of Athletic Training*. Evaluation of conservative treatment and surgical intervention for Achilles tendon rupture in athletes, *Athletic Training and Sports Health Care*. Implementation science: lessons learned from evaluating practice recommendations for the care of patients with spine injuries, *Journal of Athletic Training*. Management and outcomes of chronic athletic groin pain: a comparison of conservative and surgical intervention, *Athletic Training and Sports Health Care*. Patient, injury, assessment, and treatment characteristics and return-to-play timelines after sport-related concussion: an investigation from the Athletic Training Practice-Based Research Network, *Clinical Journal of Sport Medicine*. Photobiomodulation reduces pain in patients with shoulder tendinopathy, *Athletic Training and Sports Health Care*. Point-of-care clinical trials in sports medicine research: identifying effective treatment interventions through comparative effectiveness research, *Journal of Athletic Training*. Postprofessional athletic training students' perceptions concerning the health care competencies,

Journal of Athletic Training. Preceptors' frequency and supervision of athletic training students' medical documentation during clinical education, *Athletic Training Education Journal*. School counselors' perceptions of academic support for concussed students, *Health Behavior and Policy Review*. School nurses' management and collaborative practices for student-athletes following a sport-related concussion, *Journal of School Nursing*. School nurses' perceived challenges with concussion management procedures in the secondary school setting, *SAGE Open Nursing*. School nurses' perceptions of concussion management for secondary school student-athletes, *Brain Injury*. Student perceptions of standardized patient use in athletic training education, *Athletic Training Education Journal*. The future of health professions education: considerations for competency-based education in athletic training, *Athletic Training Education Journal*. The knowledge, attitudes, and beliefs of pediatric concussion among USA swim coaches, *Journal of Swimming Research*. The preparation and development of preceptors in professional graduate athletic training programs, *Athletic Training Education Journal*. Treatment and return to participation following exertional rhabdomyolysis in athletes, *Athletic Training and Sports Health Care*. Understanding the athletic trainer's role in the return-to-learn process at National Collegiate Athletic Association Division II and III institutions, *Journal of Athletic Training*. Presentations/abstracts: 9 Ways to drive campus-wide adoption. Academic employers' impressions regarding the qualifications of athletic trainers with the Doctor of Athletic Training degree. Academic employers' perceived benefits and deterrents of hiring a Doctor of Athletic Training credentialed faculty member. A comparison of post-professional athletic training students' accessibility to resources and perceived challenges of implementing concepts of evidence-based practice in clinical practice. Aspects of technology that influence athletic trainers' current patient care documentation strategies in the secondary school. Athletic directors' perceptions regarding the value of athletic trainers employed in the secondary school setting. Athletic trainers' knowledge and application of medical documentation following an evidence-based educational intervention. Athletic training educators' perceptions of using standardized patients in teaching. Athletic training student application of evidence-based practice during clinical education: a report from the Athletic Training Clinical Education Network. Athletic training student application of health information technology during clinical education: a report from the Athletic Training Clinical Education Network. Athletic training student application of interprofessional education during clinical education: a report from the Athletic Training Clinical Education Network. Athletic training student application of patient-centered

care during clinical education: a report from the Athletic Training Clinical Education Network. Athletic training student application of quality improvement during clinical education: a report from the Athletic Training Clinical Education Network. Compliance with state law components of sport-related concussion protocols in Pennsylvania high schools. Delayed versus immediate reporting of concussion and its impact on length of recovery among athletes. Differences among post-professional athletic training students' knowledge and confidence of evidence-based practice. Differences in spatial ability and mental effort among health professions students. Facilitators and influencing factors to the use of athletic trainers in secondary schools. Pain education with therapeutic exercise in chronic non-specific low back pain rehabilitation. Post-professional athletic training students' attitudes and beliefs regarding evidence-based practice. Privacy protection behaviors and usage analysis for healthcare social media accounts. Program administrators' perceived challenges associated with developing preceptors. The association between psychological readiness to return to sport and self-perceived function after anterior cruciate ligament reconstruction. The role of academic debt and benefits to the profession on the interest of professional post-baccalaureate athletic training students' in a Doctor of Athletic Training degree. The role of curricular content and influential factors on the interest of professional post-baccalaureate athletic training students' in a Doctor of Athletic Training degree. Tracking and documenting patient encounters. Understanding analysis of educational research. Unique challenges and needs for patient care documentation in the secondary school setting.

Whelihan, K. Publications: Exodus from the classroom: student perceptions, lecture capture technology, and the inception of on-demand preclinical medication education, *The Journal of the American Osteopathic Association*. Faculty perspectives on student attendance in undergraduate medical education, *Advances in Medical Education and Practice*. Teaching students to identify and document social determinants of health, *Advances in Medical Education and Practice*. Vaccination capability inventory of community, migrant, and homeless health centers: a survey report, *Journal of Public Health Management & Practice*. Presentations/abstracts: An evaluation of communication methods for community outreach in patients with diabetes. Assessing Unity Health Care staff awareness of the Stork's Nest program. Assessment of elementary students' understanding of differences in viral and bacterial infections and education of proper antibiotic use. Community-based intervention to increase usage of medication disposal bins. Creative education in school nutrition. Evaluating responsiveness of underserved Chicago

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communities to colorectal cancer screening recommendations. Faculty perspectives on student attendance. Improving mental health diagnosis and treatment by primary care providers through introduction of a quick reference guide. Measuring the impact of nutrition education and a school garden on nutrition behavior among West Oahu elementary-aged children. Mentors in medicine program: improving health education in Woodlake Unified School District and surrounding community. National Center for Community Health Research: highlights from A.T. Still University and health center partnerships. ParkRx: increasing provider prescription of outdoor physical activity to promote long-term health and well-being.

Whisenant, E. Presentations/abstracts: El Rio's Healthy Kids Move program. Leveraging pediatric clinic visits to improve access to primary care in adult family members and caregivers. National Center for Community Health Research: highlights from A.T. Still University and health center partnerships. Optimizing health center opioid prescribing and monitoring practices. Utilizing a team-based approach for improving colorectal cancer screening in underserved populations.

White, E.J. Publications: Gaming science innovations to integrate health systems science into medical education and practice, *Advances in Medical Education and Practice*. Lessons learned: military screening for posttraumatic stress disorder, *The United States Army Medical Department Journal*. The impact of pediatric pressure injury prevention bundle on pediatric injury rates: a secondary analysis, *Journal of Wound, Ostomy and Continence Nursing*. The triple helix of clinical, research, and educational missions in academic health centers: a qualitative study of diverse stakeholder perspectives, *Learning Health Systems*. Vaccination capability inventory of community, migrant, and homeless health centers: a survey report, *Journal of Public Health Management & Practice*. Presentations/abstracts: ATSU-SOMA DO/MPH dual degree projects video. Community health assessment of children's health risks in Solola, Guatemala. Health systems science inaugural scholar project: lessons learned in the development of an undergraduate medical education department. Home-based, interactive nutrition education with low-income families of Southeast D.C. Perceptions of first-time Antiguan and Barbudan mothers towards breastfeeding and weaning. The third pillar of medical education: health systems science.

Wilkinson, T. Publications: Collaborations in clinical education: coordinating top-down and bottom-up efforts to advance best practices in physical therapist education, *Journal of Allied Health*. Effects of modified instructions on Peabody

Developmental Motor Scales, Second Edition, Gross Motor scores in children with typical development, *Physical and Occupational Therapy in Pediatrics*. Perspective in physical therapy education: creating a communication network to connect clinical education stakeholders, *Journal of Clinical Education in Physical Therapy*. Presentations/abstracts: CSM attendance: influence on DPT students' professional growth.

Williams, B. Presentations/abstracts: 9 Ways to drive campus-wide adoption.

Williams, L. Presentations/abstracts: Leadership-competency gaps of health administration graduates: what does the industry tell us? What health administration leadership competencies are important to the United States hospital industry?

Wilson, M. Publications: Transitioning medical education and healthcare delivery, *Missouri Medicine*.

Woldt, J. Presentations/abstracts: A survey of healthcare student attitudes towards interprofessional education.

Wolf, R. Presentations/abstracts: Occupational therapy in community corrections and reentry: program implementation for adult males with addiction. The occupation of sleep: promoting health and well-being of hospital shift workers.

Wolfe, J. Publications: Emergency department utilization for non-traumatic oral health conditions by rural Texas residents in 2016, *Texas Public Health Journal*.

Wong, B. Publications: Osteopathic manipulative treatment and psychosocial management of dysmenorrhea, *The Journal of the American Osteopathic Association*.

Yesudas, RR. Presentations/abstracts: Impact of nematodes on the gastric wall of the American alligator (*Alligator mississippiensis*).

Young, B. Publications: Active tympanic tuning facilitates sound localization in animals with internally coupled ears, *Hearing Research*. Hemodynamics of tonic immobility in the American alligator (*Alligator mississippiensis*) identified through Doppler ultrasonography, *Journal of Comparative Physiology A*. Intracranial pressure in the American alligator (*Alligator mississippiensis*): reptilian meninges and orthostatic gradients, *Journal of Comparative Physiology A Neuroethology, Sensory, Neural, and Behavioral Physiology*. On the median pharyngeal valve of the American alligator (*Alligator mississippiensis*), *Journal of Morphology*. The narial musculature of *Alligator mississippiensis*: can a

muscle be its own antagonist, *Journal of Morphology*. Presentations/abstracts: Impact of nematodes on the gastric wall of the American alligator (*Alligator mississippiensis*). Intracranial pressure in the American alligator (*Alligator mississippiensis*): reptilian meninges and orthostatic gradients. Muscular control of the external nares of the American alligator (*Alligator mississippiensis*). The influence of gravitational gradients on American alligators (*Alligator mississippiensis*).

Young, J. Presentations/abstracts: Defining conservative care prior to hip arthroscopy for femoroacetabular impingement syndrome: the role of physical therapy. Do specific manual therapy dosing variables impact the outcomes for individuals with cervicogenic headaches? Effectiveness of various manual therapy techniques for common shoulder conditions. Providers of manual therapy interventions for the lumbar spine: a systematic review. Review of manual therapy interventions for cervicothoracic conditions amongst different medical providers: a systematic review. Utilization of manual therapy interventions in the treatment of common knee conditions.

Zawada, WM. Presentations/abstracts: Angiotension receptor blocker, Telmisartan, reduces neuronal stress signatures in a murine model of neuroinflammatory neurodegeneration.

Zegarra-Parodi, R. Publications: Erweiterung des biopsychosozialen Modells für die muskuloskeletale Praxis. Teil 1: einföhrung religiöser und spiritueller Dimensionen in das biopsychosoziale Modell, *Osteopathische Medizin*. Models and theoretical frameworks for osteopathic care: a critical view and call for updates and research, *International Journal of Osteopathic Medicine*. Refining the biopsychosocial model for musculoskeletal practice by introducing religion and spirituality dimensions into the clinical scenario, *International Journal of Osteopathic Medicine*. The Native American heritage of the body-mind-spirit paradigm in osteopathic principles and practices, *International Journal of Osteopathic Medicine*. Presentations/abstracts: New Approach for Touch Interpretation Valuing and Emphasizing on Interoception for Osteopathic diagnosis after MEDITative states (Native in Ost Med). Updating the biopsychosocial model for musculoskeletal practice by introducing religion and spirituality dimensions into the clinical scenario.



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STUDENT SCHOLARLY ACTIVITY

September 2018-August 2020

Abdelrahim, A. Presentations/abstracts: Feasibility assessment of a teledentistry approach to address non-traumatic dental condition (NTDC) visits in emergency departments (EDs).

Adewole, A. Presentations/abstracts: Nonconscious priming of muscle force and fatigue through stereotype activation.

Agarwal, S. Presentations/abstracts: Community-based intervention to increase usage of medication disposal bins.

Agee, T. Presentations/abstracts: Assessing Arizona orthodontists' knowledge and attitudes about HPV vaccine promotion.

Agena, KM. Publications: Photobiomodulation reduces pain in patients with shoulder tendinopathy, *Athletic Training and Sports Health Care*.

Akintorin, Y. Presentations/abstracts: Deployment of high-resolution ultrasound for oral musculoskeletal structures.

Al-Samawi, Y. Presentations/abstracts: Preliminary study evaluating the accuracy and reliability of CBCT images for tongue space measurement in the field of orthodontics. Use of CBCT imaging for airway measurement to predict obstructive sleep apnea.

Aldava, E. Presentations/abstracts: Reliability of measuring glenohumeral abduction range of motion with a goniometer and a digital inclinometer.

Ali, S. Presentations/abstracts: ParkRx: increasing provider prescription of outdoor physical activity to promote long-term health and well-being.

Aljumaily, J. Presentations/abstracts: Improving mental health diagnosis and treatment by primary care providers through introduction of a quick reference guide.

Alkotob, U. Presentations/abstracts: Assessment of elementary students' understanding of differences in viral and bacterial infections and education of proper antibiotic use.

Allen, C. Presentations/abstracts: Impact of repeated bouts of maximal voluntary isometric contractions on somatic and autonomic activation.

Allen, S. Presentations/abstracts: Completion of definitive restoration following endodontic treatment at St. Louis Dental Center.

Amiri, A. Publications: Insect venom peptides as potent inhibitors of *Escherichia coli* ATP synthase, *International Journal of Biological Macromolecules*. Presentations/abstracts: Inhibition of *Escherichia coli* ATP synthase by antimicrobial venom peptides.

Anderson, C. Presentations/abstracts: Electrocardiograph changes associated with a 55-hour footrace.

Arnold, MF. Presentations/abstracts: Cutaneous metastatic clear cell renal cell carcinoma: a report and discussion.

Assani, K. Presentations/abstracts: Mentors in medicine program: improving health education in Woodlake Unified School District and surrounding community.

Augustine, A. Presentations/abstracts: Magnification loupes and musculoskeletal discomfort.

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Azim, S. Publications: Glu residues of β DELSEED-motif are essential for peptide binding in *Escherichia coli* ATP synthase, *International Journal of Biological Macromolecules*.

Bach, Q. Presentations/abstracts: β Hb suppresses mTOR signaling and inflammation in ovarian cancer cells. Effects of the ketogenic diet and ketones on metabolic sensors and inflammation: implications for the epileptic brain and ovarian cancer cell. Ketogenic diet confers hippocampal neuroprotection in epileptic Kcna1-null mice.

Badr, M. Presentations/abstracts: A brief intervention model of physical therapy within the community health center: a randomized controlled trial.

Baghat, S. Presentations/abstracts: Surface sampling of mannequin simulators: are simulators contaminated by human pathogens?

Bal, B. Presentations/abstracts: Improving mental health diagnosis and treatment by primary care providers through introduction of a quick reference guide.

Ball, K. Presentations/abstracts: Establishment of a suboxone clinic in a family medicine residency.

Banh, H. Presentations/abstracts: Improving mental health diagnosis and treatment by primary care providers through introduction of a quick reference guide.

Barnhart, M. Presentations/abstracts: Delayed versus immediate reporting of concussion and its impact on length of recovery among athletes.

Barrett, S. Presentations/abstracts: Nonconscious priming of motor performance through stereotype activation.

Barrett, T. Publications: Assessing likelihood of using the Bruininks-Oseretsky test of motor proficiency to predict preclinical performance of dental students, *Clinical and Experimental Dental Research*. Presentations/abstracts: Predicting the preclinical performance of dental students. Transforming oral healthcare delivery to underserved adults with digital dentistry: a pilot study.

Barringer, A. Presentations/abstracts: An evaluation of communication methods for community outreach in patients with diabetes.

Baskerville, A. Presentations/abstracts: Audiology students learn interprofessional collaboration.

Batten, S. Publications: Interprofessional approach to learning vascular access with ultrasonography by medical students and nurses, *Missouri Medicine*.

Baum, K. Publications: The role of methionine sulfoxide reductases in oxidative stress tolerance and virulence of *Staphylococcus aureus* and other bacteria, *Antioxidants*.

Bautista, S. Presentations/abstracts: Use of a sensory room at an emergency children's shelter: program outcomes. Use of the Alert Program in a sensory room at an emergency children's shelter.

Bayarsaikhan, Z. Presentations/abstracts: Fabrication of anterior FPD utilizing CAD/CAM technology.

- Bejarano, G.** Presentations/abstracts: The efficacy of physical therapy intervention in the treatment of male urinary incontinence: a pilot study.
- Besancenez, B.** Presentations/abstracts: Dental student perceptions of experiential learning in clinical training of N₂O analgesia.
- Betancourt, M.** Presentations/abstracts: Salivary flow in children residing in households with smokers and non-smokers.
- Bhatia, A.** Presentations/abstracts: Mentors in medicine program: improving health education in Woodlake Unified School District and surrounding community.
- Bhatti, P.** Publications: Oxytocin receptor gene (OXTR) and father support interact to predict depressive symptoms postpartum, *Biological Psychology*. Presentations/abstracts: An evaluation of communication methods for community outreach in patients with diabetes.
- Biegler, M.** Presentations/abstracts: Assessment of elementary students' understanding of differences in viral and bacterial infections and education of proper antibiotic use.
- Blauenstein, A.** Presentations/abstracts: Factors associated with upper extremity recovery in chronic stroke survivors in an outpatient neurological rehabilitation facility.
- Boguspour, N.** Presentations/abstracts: Robo graders in dental school: the use of analytical software in preparation evaluation.
- Bordelon, R.** Publications: Cough effectiveness and pulmonary hygiene practices in patients with Pompe disease, *Lung*.
- Brannen, D.** Presentations/abstracts: Predictors of success in a medical gross anatomy course.
- Braungardt, H.** Publications: Impact of deficiencies in branched-chain fatty acids and staphyloxanthin in *Staphylococcus aureus*, *BioMed Research International*.
- Bray, P.** Presentations/abstracts: Role of the orphan nuclear receptor NR4A-1 in neuroprotection from cytotoxic insults on neuronal N2A cells.
- Brewster, BD.** Publications: Management and outcomes of chronic athletic groin pain: a comparison of conservative and surgical intervention, *Athletic Training and Sports Health Care*.
- Bridgmon, K.** Publications: Dynamic assessment of cerebral blood flow and intracranial pressure during inversion table tilt using ultrasonography, *Journal of the Neurological Sciences*. Presentations/abstracts: Evaluation of middle cerebral artery blood flow during inversion table therapy using transcranial Doppler ultrasonography in young healthy adults. Physiological effects of inversion table on cardiovascular hemodynamics using Doppler ultrasonography in young healthy adults. Real-time monitoring of intracranial pressure during inversion table therapy using optic nerve ultrasonography in young healthy adults.
- Broussard, A.** Presentations/abstracts: Occupational therapy and veterans' resiliency post-amputation: addressing psychosocial needs. Trauma-informed approaches in child serving settings: a scoping review.
- Brown, AG.** Publications: Impaired chemoreflex correlates with decreased c-Fos in respiratory brainstem centers of the streptozotocin-induced Alzheimer's disease rat model, *Experimental Neurology*.
- Buchan, JM.** Presentations/abstracts: Northeast Regional Medical Center heart failure readmission reduction project.
- Bujnoski, E.** Presentations/abstracts: Investigating the prevalence of treatment-induced trismus in head and neck cancer patients: a retrospective chart review.
- Burke, MJ.** Presentations/abstracts: Rat placenta at gestational day 18 is colonized by bacteria in health and disease.
- Burr, J.** Presentations/abstracts: Community-based intervention to increase usage of medication disposal bins.
- Canaan, R.** Publications: Development of competency in needle-guided procedures through the use of soft-embalmed cadavers, *Missouri Medicine*.
- Carpenter, M.** Presentations/abstracts: Feasibility of using hippotherapy strategy to address axial symptoms, functional mobility, and strength of individuals with Parkinson disease: a case series.
- Carroll, C.** Presentations/abstracts: Dental student perceptions of experiential learning in clinical training of N₂O analgesia.
- Chae, JM.** Presentations/abstracts: The relationship between the mandibular symphysis bone density and mandibular growth direction using CBCT.
- Chandok, N.** Presentations/abstracts: Location of the MB2 canal in relation to MB1 in maxillary first molars using CBCT imaging.
- Chang, GC.** Publications: Laparoscopy in penetrating abdominal trauma is a safe and effective alternative to laparotomy, *Surgical Endoscopy*.
- Chang, J.** Presentations/abstracts: An evaluation of communication methods for community outreach in patients with diabetes.
- Chaudhry, U.** Presentations/abstracts: Use of CBCT imaging for airway measurement to predict obstructive sleep apnea.
- Chhea, N.** Presentations/abstracts: Prevention and management of medical emergencies within the dental office.
- Childs, A.** Presentations/abstracts: Reliability of measuring glenohumeral abduction range of motion with a goniometer and a digital inclinometer.
- Chitneni, A.** Presentations/abstracts: Evaluating responsiveness of underserved Chicago communities to colorectal cancer screening recommendations.
- Choi, A.** Presentations/abstracts: Assessing patient referral patterns for HPV related oropharyngeal cancers. Fabrication of anterior FPD utilizing CAD/CAM technology.
- Choi, H.** Publications: Comparison of tooth movement and biological response in corticotomy and micro-osteoperforation in rabbits, *Korean Journal of Orthodontics*.
- Choi, L.** Presentations/abstracts: Measuring behavioral intent among dental students in special care dentistry. Measuring the effects of didactic and clinical environments of behavioral intent among dental students in special care dentistry. Measuring the effects of didactic and clinical environments on behavioral intent among dental students in special care dentistry.
- Chokdee, D.** Presentations/abstracts: Investigating the molecular mechanisms underlying craniofacial development: mesenchymal stem cells in tooth roots. Measuring behavioral intent among dental students in special care dentistry. Measuring the effects of didactic and clinical environments of behavioral intent among dental students in special care dentistry. Measuring the effects of didactic and clinical environments on behavioral intent among dental students in special care dentistry.

Please note: Publications, presentations, and abstracts are included as reported in the Fall 2018 through Summer 2020 ATSU Research newsletters, prepared by the Department of Research Support. Individuals listed were ATSU students, fellows, and residents at the time publications, presentations, or abstracts were reported to the Department of Research Support.

STUDENT SCHOLARLY ACTIVITY (September 2018-August 2020)

Chon, M. Presentations/abstracts: Predicting cooperation of adult autistic patients in the dental clinic.

Chouinard, DM. Presentations/abstracts: The association between psychological readiness to return to sport and self-perceived function after anterior cruciate ligament reconstruction.

Chu, K. Presentations/abstracts: Transforming oral healthcare delivery to underserved adults with digital dentistry: a pilot study.

Chukwu, C. Presentations/abstracts: Direct oral anticoagulants (DOACs) and postoperative bleeding complications after dental extractions.

Chun, T. Presentations/abstracts: Measuring the impact of nutrition education and a school garden on nutrition behavior among West Oahu elementary-aged children.

Chung, J. Presentations/abstracts: Assessing Unity Health Care staff awareness of the Stork's Nest program.

Cistulli, A. Presentations/abstracts: ParkRx: increasing provider prescription of outdoor physical activity to promote long-term health and well-being.

Clark, JM. Publications: Reconsidering requests: fertility in IR, *Journal of Vascular and Interventional Radiology*. Understanding bias: a look at conflicts of interest in IR, *Journal of Vascular and Interventional Radiology*.

Clouse, K. Presentations/abstracts: Identifying physical deficiency and balance with a step-in-place test.

Coffman, K. Presentations/abstracts: Impact of A Matter of Balance falls prevention outreach on student coaches.

Colon, S. Presentations/abstracts: Impact of A Matter of Balance falls prevention outreach on student coaches.

Conger, C. Presentations/abstracts: Reliability of measuring glenohumeral abduction range of motion with a goniometer and a digital inclinometer.

Conley, R. Presentations/abstracts: The validity and reliability of the 4-step stair climb power test compared to the 10-step stair climb power test.

Connolly, C. Presentations/abstracts: Exploring the refugee occupational experience across the socioecological model.

Connolly, M. Presentations/abstracts: Creative education in school nutrition.

Conrad, C. Presentations/abstracts: Muscle fatigue associated with carbonic anhydrase inhibition is related to altered central command during sustained submaximal voluntary isometric contractions.

Cooney, R. Presentations/abstracts: Effectiveness of various manual therapy techniques for common shoulder conditions.

Cooper, C. Presentations/abstracts: Assessment of elementary students' understanding of differences in viral and bacterial infections and education of proper antibiotic use.

Cooper, J. Presentations/abstracts: Urinary retention and a markedly distended bladder due to a likely malignant neoplasm.

Cooper, T. Presentations/abstracts: Inconsistency of bilateral asymmetry between leg dominance, balance and jump performance.

Cornejo, M. Presentations/abstracts: Assessing Unity Health Care staff awareness of the Stork's Nest program.

Cornell, R. Publications: The use of premolar extractions with orthodontic treatment does not guarantee an improved eruption potential of third molars, *Journal of Evidence-Based Dental Practice*.

Cortes, G. Presentations/abstracts: Assessing Unity Health Care staff awareness of the Stork's Nest program.

Couch, R. Publications: Osteopathic manipulative medicine practice patterns of third-year and fourth-year osteopathic medical students: an education research project, *The Journal of the American Osteopathic Association*.

Cox, J. Presentations/abstracts: Characteristics and management of geriatric patients for a neuromusculoskeletal medicine/osteopathic manipulative medicine clinic.

Crockett, C. Presentations/abstracts: Parent reported concerns and major life changes in a clinical sample of school aged children with neurodevelopmental conditions: a qualitative study.

Curry, E. Presentations/abstracts: Purification of persistence inducing factor for *Staphylococcus aureus* SH1000. The effectiveness of lecture prior to a skills lab for learning the cricothyrotomy procedure.

Dagat, LA. Presentations/abstracts: Vascular injury induces expression of β_3 -adrenergic receptors (β_3 -ARs) in neointima.

Daher, Y. Presentations/abstracts: Assessment of elementary students' understanding of differences in viral and bacterial infections and education of proper antibiotic use.

Dalal, S. Presentations/abstracts: Evaluating responsiveness of underserved Chicago communities to colorectal cancer screening recommendations. Impact of a two-minute education video on flu vaccination knowledge in a community health center setting.

Darnall, C. Presentations/abstracts: Community-based intervention to increase usage of medication disposal bins.

De Shadarevian, M. Presentations/abstracts: An evaluation of communication methods for community outreach in patients with diabetes.

Deeba, F. Publications: Insect venom peptides as potent inhibitors of *Escherichia coli* ATP synthase, *International Journal of Biological Macromolecules*.

Delaney, T. Presentations/abstracts: Creative education in school nutrition.

Dhaliwal, J. Presentations/abstracts: Mentors in medicine program: improving health education in Woodlake Unified School District and surrounding community.

Dia, L. Presentations/abstracts: Evaluating responsiveness of underserved Chicago communities to colorectal cancer screening recommendations.

Diaz, M. Presentations/abstracts: Predicting discharge destination from an acute in-patient rehabilitation setting for persons with a hip fracture: the Continuity Assessment Record and Evaluation (CARE) item set and fracture-related variables.

Do, J. Presentations/abstracts: Assessment of elementary students' understanding of differences in viral and bacterial infections and education of proper antibiotic use.

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Donaldson, S. Presentations/abstracts: Predicting discharge destination from an acute in-patient rehabilitation setting for persons with a hip fracture: the Continuity Assessment Record and Evaluation (CARE) item set and fracture-related variables.

Doyle, B. Presentations/abstracts: ParkRx: increasing provider prescription of outdoor physical activity to promote long-term health and well-being.

Drake, L. Publications: Association between inflammatory bowel disease and chronic obstructive pulmonary disease: a systematic review and meta-analysis, *BMC Pulmonary Medicine*. CPAP in patients with obstructive sleep apnea and type 2 diabetes mellitus: systematic review and meta-analysis, *The Clinical Respiratory Journal*. Efficacy of continuous positive airway pressure (CPAP) in the prevention of cardiovascular events in patients with obstructive sleep apnea: systematic review and meta-analysis, *Sleep Medicine Reviews*.

Dugum, A. Presentations/abstracts: Impact of compliance with fluoride therapy on caries incidence after cancer therapy.

Duvidovich, S. Presentations/abstracts: Relationship between health literacy and parent-completed autism screens in a Spanish-speaking population.

Ehlen, J. Presentations/abstracts: Attenuated baroreflex regulation in the STZ-induced rat model of Alzheimer's disease. Change in baroreflex function with age.

El-Khalil, A. Presentations/abstracts: Community-based intervention to increase usage of medication disposal bins.

Eldridge, D. Presentations/abstracts: Multi-limb control and attention during simulated driving in Parkinson's disease: study methods.

Ellison, B. Presentations/abstracts: Community-based intervention to increase usage of medication disposal bins.

Elmslie, KL. Publications: Nav1.9 channels in muscle afferent neurons and axons, *Journal of Neurophysiology*.

Erickson, N. Presentations/abstracts: Effects of hippotherapy on axial rigidity and functional mobility in an individual with Parkinson's disease: a case study.

Ernest, TL. Publications: Use of the contralateral knee as a control in the destabilization of medial meniscus osteoarthritis rat model, *Missouri Medicine*. Presentations/abstracts: Destabilization of medial meniscus in a rat model: can the contralateral knee be used as a control?

Esperanza, SK. Presentations/abstracts: Measuring the impact of nutrition education and a school garden on nutrition behavior among West Oahu elementary-aged children.

Etemadi, K. Presentations/abstracts: Mentors in medicine program: improving health education in Woodlake Unified School District and surrounding community.

Eurek, D. Presentations/abstracts: The agreement in walking speed measured using four different outcome measures: 6-meter walk test, 10-meter walk test, 2-minute walk test, and 6-minute walk test.

Evans, CM. Presentations/abstracts: The association between psychological readiness to return to sport and self-perceived function after anterior cruciate ligament reconstruction.

Eversman, C. Presentations/abstracts: The effects of hand dominance, age, and sex on grip strength in subjects ages 65 to 89 years.

Fairbairn, JR. Publications: Incidence of shoulder injury in elite wheelchair athletes differ between sports: a critically appraised topic, *Journal of Sport Rehabilitation*.

Falconer, C. Presentations/abstracts: Review of manual therapy interventions for cervicothoracic conditions amongst different medical providers: a systematic review.

Ferguson, M. Presentations/abstracts: Relationship between cardiac structure and blood pressure response to isometric contractions in men and women.

Fernandez, D. Presentations/abstracts: Measuring the impact of nutrition education and a school garden on nutrition behavior among West Oahu elementary-aged children.

Figueroa, R. Presentations/abstracts: Trends in the PT/PTA patient care management model.

Finlay, E. Presentations/abstracts: Improving mental health diagnosis and treatment by primary care providers through introduction of a quick reference guide.

Finor, M. Presentations/abstracts: Utilization of CAD/CAM technology for fabrication of immediate dentures.

Frantzis, A. Presentations/abstracts: Computed tomography visualization of a somatic reflex verified by osteopathic evaluation and treatment.

Fritcher, C. Presentations/abstracts: The lived experience of the PWR! Retreat for people with Parkinson's disease.

Fritz, B. Presentations/abstracts: Do specific manual therapy dosing variables impact the outcomes for individuals with cervicogenic headaches?

Fujan, L. Presentations/abstracts: Factors associated with recovery of balance and locomotor function in chronic stroke survivors in an outpatient neurological rehabilitation facility.

Fulcher, A. Presentations/abstracts: Could IL-8 be the target for melanoma treatment?

Fulton, C. Presentations/abstracts: Identifying physical deficiency and balance with a step-in-place test.

Funnamark, R. Presentations/abstracts: Creative education in school nutrition.

Gadiok, G. Presentations/abstracts: Improving mental health diagnosis and treatment by primary care providers through introduction of a quick reference guide.

Gallagher, E. Presentations/abstracts: Creative education in school nutrition.

Gardiner, RL. Presentations/abstracts: Self-reported sports and recreational concussion history in male collegiate gymnasts.

Gettu, N. Presentations/abstracts: Improving mental health diagnosis and treatment by primary care providers through introduction of a quick reference guide.

Ghannam, K. Presentations/abstracts: Evaluating responsiveness of underserved Chicago communities to colorectal cancer screening recommendations.

Ghattan, S. Presentations/abstracts: Robo graders in dental school: the use of analytical software in preparation evaluation.

Ghazal, J. Presentations/abstracts: Oral hygiene protocol alterations.

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STUDENT SCHOLARLY ACTIVITY (September 2018-August 2020)

Ghushchyan, G. Presentations/abstracts: An examination of roles in theory and practice.

Ghushchyan-Tigranyan, G. Presentations/abstracts: An examination of mothering occupations in the context of spinal cord injury.

Gill, N. Presentations/abstracts: Electric scooter-related craniofacial trauma: injury prevalence.

Glogoza, AJ. Presentations/abstracts: Dietary nitrate supplementation attenuates fatigue in rat skeletal muscle.

Golden, K. Presentations/abstracts: Purification of persistence inducing factor for *Staphylococcus aureus* SH1000.

Goldenstein, A. Presentations/abstracts: Confluent and reticulated papillomatosis (CARP): a case report and literature review.

Gonzales, J. Presentations/abstracts: Histological study of the anterior cruciate ligament in patients with osteoarthritis.

Goodman, H. Presentations/abstracts: Evaluating responsiveness of underserved Chicago communities to colorectal cancer screening recommendations.

Gousman, J. Presentations/abstracts: The relationship between the mandibular symphysis bone density and mandibular growth direction using CBCT.

Greene, K. Presentations/abstracts: Magnification loupes and musculoskeletal discomfort.

Grewal, H. Presentations/abstracts: Improving mental health diagnosis and treatment by primary care providers through introduction of a quick reference guide.

Grewal, S. Presentations/abstracts: Evaluating responsiveness of underserved Chicago communities to colorectal cancer screening recommendations.

Grindstaff, A. Presentations/abstracts: Characterization of in vitro 3D spheroid growth and behavior in 4 melanoma cell lines. Preliminary characterization of cell surface markers and phagocytic behavior in MO THPI-derived macrophages.

Gunn, B. Publications: Development of competency in needle-guided procedures through the use of soft-embalmed cadavers, *Missouri Medicine*. Presentations/abstracts: Interaction between force and neural activation in determining blood pressure response to static contractions in men and women.

Gusciara, CH. Presentations/abstracts: Rat placenta at gestational day 18 is colonized by bacteria in health and disease.

Hackworth, JJ. Presentations/abstracts: Northeast Regional Medical Center heart failure readmission reduction project.

Hagino, J. Presentations/abstracts: Measuring the impact of nutrition education and a school garden on nutrition behavior among West Oahu elementary-aged children.

Hahn, L. Presentations/abstracts: Assessment of elementary students' understanding of differences in viral and bacterial infections and education of proper antibiotic use.

Hak, S. Presentations/abstracts: Evaluating responsiveness of underserved Chicago communities to colorectal cancer screening recommendations.

Halim, I. Presentations/abstracts: Preliminary study evaluating the accuracy and reliability of CBCT images for tongue space measurement in the field of orthodontics.

Hamann, B. Presentations/abstracts: Feasibility of using hippotherapy strategy to address axial symptoms, functional mobility, and strength of individuals with Parkinson disease: a case series.

Hanley, J. Presentations/abstracts: Direct oral anticoagulants (DOACs) and postoperative bleeding complications after dental extractions.

Hansen, N. Presentations/abstracts: Blood flow limitation during sustained maximal voluntary isometric contractions associated with external compressive forces.

Harb, CYW. Publications: Motivators and barriers to accessing sexual health care services for transgender/genderqueer individuals assigned female sex at birth, *Transgender Health*.

Harper, H. Presentations/abstracts: Assessing dental hygiene applicant "soft skills" through a multiple mini-interview (MMI).

Harpham, O. Presentations/abstracts: Effects of hippotherapy on axial rigidity and functional mobility in an individual with Parkinson's disease: a case study.

Hasan, N. Presentations/abstracts: Assessing Unity Health Care staff awareness of the Stork's Nest program.

Hatton, B. Presentations/abstracts: The effect of high-intensity interval training (HIIT) on weight loss, pain, fatigue, and function for a person with multiple sclerosis: a case report.

Hatrup, NM. Presentations/abstracts: The influence of dual task paradigm on reaction time utilizing a light board.

Hawk, T. Presentations/abstracts: The agreement in walking speed measured using four different outcome measures: 6-meter walk test, 10-meter walk test, 2-minute walk test, and 6-minute walk test.

Headman, ZC. Publications: Developing neuraxial and regional pain procedural skills through innovative 3-dimensional printing technology, *The Journal of the American Osteopathic Association*. Presentations/abstracts: Innovative spine and pelvic models for the joint injection techniques training.

Heal, M. Presentations/abstracts: Stimulant medication-induced hyposalivation in adolescents.

Heier, A. Presentations/abstracts: Modulation of Nav1.9 current in muscle afferent neurons by muscle metabolites.

Heier, AK. Publications: Nav1.9 channels in muscle afferent neurons and axons, *Journal of Neurophysiology*.

Helman, A. Presentations/abstracts: Predictors of success in a medical gross anatomy course.

Hendry, R. Presentations/abstracts: Creative education in school nutrition.

Hennessey, L. Presentations/abstracts: Reliability of measuring glenohumeral abduction range of motion with a goniometer and a digital inclinometer.

Hernandez, S. Presentations/abstracts: Oral hygiene protocol alterations.

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Hewett, R. Presentations/abstracts: Reliability of measuring glenohumeral abduction range of motion with a goniometer and a digital inclinometer.

Hezarkhani, A. Presentations/abstracts: Dental students' perceived knowledge pertaining to e-cigarette oral health effects.

Hilton, B. Presentations/abstracts: Preliminary characterization of cell surface markers and phagocytic behavior in MO THP1-derived macrophages.

Hintz, M. Publications: Use of the contralateral knee as a control in the destabilization of medial meniscus osteoarthritis rat model, *Missouri Medicine*. Presentations/abstracts: Predictors of success in a medical gross anatomy course.

Ho, J. Presentations/abstracts: Measuring the impact of nutrition education and a school garden on nutrition behavior among West Oahu elementary-aged children.

Hofstedt, D. Publications: A review of corneal endotheliitis and endotheliopathy: differential diagnosis, evaluation, and treatment, *Ophthalmology and Therapy*. Biometry in cataract surgery: a review of the current literature, *Current Opinion in Ophthalmology*. Use of Rho kinase inhibitors in ophthalmology: a review of the literature, *Medical Hypothesis, Discovery & Innovation in Ophthalmology*.

Holmes, K. Presentations/abstracts: Resiliency and proactive coping methods targeting perceived stress levels in older adults. The relationships between sensory processing behaviors, temperament characteristics for effortful control, and executive functioning in school-age children: preliminary outcomes.

Holt, A. Presentations/abstracts: Acute presentation of hepatoid carcinoma of the pancreatic head. Vascular injury induces expression of β 3-adrenergic receptors (β 3-ARs) in neointima.

Honrado, JS. Presentations/abstracts: Epidemiology of dance-related injuries presenting to emergency departments in the United States, 2014-2018.

Hoppa, L. Presentations/abstracts: Test-retest reliability of quantitative electroencephalography (qEEG) during four conditions in healthy individuals.

Horner, J. Presentations/abstracts: Review of manual therapy interventions for cervicothoracic conditions amongst different medical providers: a systematic review.

Howcroft, E. Presentations/abstracts: Rat placenta at gestational day 18 is colonized by bacteria in health and disease.

Howell, M. Presentations/abstracts: Documentation of and increased awareness of withdrawal times in screening colonoscopies will improve adenoma detection rates at Northeast Regional Medical Center and thereby decrease colon cancer risk within our patient population. Implementation of an endoscopic software program facilitates standardization for collecting quality data measures which will allow for hospital outcomes to be compared to the current standard of care.

Howell, WD. Presentations/abstracts: Dietary nitrate supplementation attenuates fatigue in rat skeletal muscle. Dietary nitrate supplementation slows interstitial PO₂ on-kinetics, reduces twitch tension, and attenuates fatigue in the rat EDL muscle. Short-term oral nitrate supplementation does not improve oxygen kinetics in skeletal muscle of diabetic rats.

Howey, E. Presentations/abstracts: Improving mental health diagnosis and treatment by primary care providers through introduction of a quick reference guide.

Hubbard, BL. Presentations/abstracts: Nonconscious priming of motor performance through stereotype activation.

Hughes, T. Presentations/abstracts: A connection between antimicrobial properties of dietary ginger phenolics and bacterial ATP synthase.

Immel, J. Presentations/abstracts: Treatment of xerostomia and hyposalivation in elderly patients: will it work for Missouri School of Dentistry & Oral Health patients?

Jafari, C. Presentations/abstracts: The effectiveness of lecture prior to a skills lab for learning the cricothyrotomy procedure.

Jepson, L. Presentations/abstracts: Body size's bearing on the shape of the superior pubic ramus in adult males. Exploring the effect of body mass on pelvic features that vary by sex. Influence of body size on the shape of the greater sciatic notch.

Jiao, B. Presentations/abstracts: Evaluating responsiveness of underserved Chicago communities to colorectal cancer screening recommendations.

John, P. Presentations/abstracts: Conventional restorations vs. crowns for root canaled teeth.

Johnson, B. Presentations/abstracts: Could IL-8 be the target for melanoma treatment?

Johnson, KK. Presentations/abstracts: Body size's bearing on the shape of the superior pubic ramus in adult males. Exploring the effect of body mass on pelvic features that vary by sex. Influence of body size on the shape of the greater sciatic notch.

Johnson, S. Presentations/abstracts: Mutation and characterization of methicillin resistant *Staphylococcus aureus*.

Jones, JL. Presentations/abstracts: Cutaneous metastasis of urothelial origin: a case report and discussion.

Jones, KC. Presentations/abstracts: Clinical evaluation of sport-related meniscal pathologies: a report from the Athletic Training Practice-Based Research Network. Pain education with therapeutic exercise in chronic non-specific low back pain rehabilitation.

Joseph, R. Presentations/abstracts: Salivary flow in children residing in households with smokers and non-smokers.

Kai, A. Publications: Post-COVID-19 management guidelines for orthodontic practices, *Journal of Clinical Orthodontics*.

Kalarn, S. Presentations/abstracts: An evaluation of communication methods for community outreach in patients with diabetes.

Kang, D. Presentations/abstracts: Assessing the possible correlation between tactile sensation and CBCT software evaluation of bone density for edentulous dental implant patients.

Kang, S. Presentations/abstracts: Assessment of elementary students' understanding of differences in viral and bacterial infections and education of proper antibiotic use.

Kanumalla, R. Publications: Inside performing arts medicine: a history of and treatment approaches for managing the unique MSK problems experienced by musicians, *Practical Pain Management*. Osteopathic manipulative treatment and psychosocial management of dysmenorrhea, *The Journal of the American Osteopathic Association*. Plantar fasciitis: diagnosis and management, *Practical Pain Management*.

Kasisa, M. Presentations/abstracts: Evaluating accuracy of intraoral scanners.

Kassenbrock, D. Presentations/abstracts: Community-based intervention to increase usage of medication disposal bins.

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STUDENT SCHOLARLY ACTIVITY (September 2018-August 2020)

Kaur, H. Presentations/abstracts: Deployment of high-resolution ultrasound for oral musculoskeletal structures.

Keith, B. Presentations/abstracts: Measuring the impact of nutrition education and a school garden on nutrition behavior among West Oahu elementary-aged children.

Kendall, K. Presentations/abstracts: Clinical observations of the wrist and hand in dental professionals. Median nerve blood flow in dental professionals.

Kennedy, J. Presentations/abstracts: Utilization of manual therapy interventions in the treatment of common knee conditions.

Kertels, K. Presentations/abstracts: Efficacy of commercial hand sanitizers in the clinic setting.

Khan, Q. Presentations/abstracts: Predicting discharge destination from an acute in-patient rehabilitation setting for persons with a hip fracture: the Continuity Assessment Record and Evaluation (CARE) item set and fracture-related variables.

Khodaparast, N. Presentations/abstracts: ParkRx: increasing provider prescription of outdoor physical activity to promote long-term health and well-being.

Khosraviani, N. Presentations/abstracts: Community-based intervention to increase usage of medication disposal bins.

Kiflu, D. Presentations/abstracts: The agreement in walking speed measured using four different outcome measures: 6-meter walk test, 10-meter walk test, 2-minute walk test, and 6-minute walk test.

Kim, GJ. Publications: Deep cervical muscle dysfunction in the head and neck: pain causes and osteopathic treatment options, *Practical Pain Management*. Obesity, nutrition, and pain management: multifaceted considerations for treatment, *Practical Pain Management*.

Kim, JH. Publications: Post-COVID-19 management guidelines for orthodontic practices, *Journal of Clinical Orthodontics*.

Kimbrough, M. Presentations/abstracts: Performance of Arizona Special Olympics athletes on the FUNfitness battery of tests.

King, A. Presentations/abstracts: Characteristics and management of geriatric patients for a neuromusculoskeletal medicine/osteopathic manipulative medicine clinic. Establishment of a suboxone clinic in a family medicine residency.

Kinney, KE. Presentations/abstracts: Blood flow limitation during sustained maximal voluntary isometric contractions associated with external compressive forces. Muscle fatigue associated with carbonic anhydrase inhibition is related to altered central command during sustained submaximal voluntary isometric contractions.

Klassen, M. Publications: The narial musculature of *Alligator mississippiensis*: can a muscle be its own antagonist, *Journal of Morphology*. Presentations/abstracts: Muscular control of the external nares of the American alligator (*Alligator mississippiensis*).

Kleutsch, K. Publications: Feasibility of establishing tele-dental approach to non-traumatic dental emergencies in medical settings, *American Journal of Dentistry*. Presentations/abstracts: Feasibility assessment of a teledentistry approach to address non-traumatic dental condition (NTDC) visits in emergency departments (EDs).

Knable, T. Presentations/abstracts: Completion of definitive restoration following endodontic treatment at St. Louis Dental Center.

Knoche, L. Publications: Intracranial pressure in the American alligator (*Alligator mississippiensis*): reptilian meninges and orthostatic gradients, *Journal of Comparative Physiology A Neuroethology, Sensory, Neural, and Behavioral Physiology*. The narial musculature of *Alligator mississippiensis*: can a muscle be its own antagonist, *Journal of Morphology*. Presentations/abstracts: Intracranial pressure in the American alligator (*Alligator mississippiensis*): reptilian meninges and orthostatic gradients. Muscular control of the external nares of the American alligator (*Alligator mississippiensis*). The influence of gravitational gradients on American alligators (*Alligator Mississippiensis*).

Knowles, R. Presentations/abstracts: A scoping review of preventative psychosocial interventions for stress in the workplace. The occupation of sleep: promoting health and well-being of hospital shift workers.

Kochar, M. Presentations/abstracts: ParkRx: increasing provider prescription of outdoor physical activity to promote long-term health and well-being.

Koerselmann, H. Presentations/abstracts: Reliability of measuring glenohumeral abduction range of motion with a goniometer and a digital inclinometer.

Komro, J. Publications: A rare case of incidental urachal mucinous cystadenocarcinoma, *Cureus*. Cerebral venous sinus thrombosis in adults with prothrombotic conditions: a systematic review and a case from our institution, *Cureus*. Not just another headache: cerebral venous sinus thrombosis in a patient with isolated antithrombin III deficiency, *Cureus*. Presentations/abstracts: Histological study of the anterior cruciate ligament in patients with osteoarthritis.

Kraft, D. Presentations/abstracts: Urinary retention and a markedly distended bladder due to a likely malignant neoplasm.

Kuczyc, B. Presentations/abstracts: Do specific manual therapy dosing variables impact the outcomes for individuals with cervicogenic headaches?

Kulkarni, R. Presentations/abstracts: Assessing Unity Health Care staff awareness of the Stork's Nest program.

Kyman, D. Presentations/abstracts: The relationship between motor capacity and motor performance in children with cerebral palsy: a systematic review.

Labban, N. Presentations/abstracts: Assessing Unity Health Care staff awareness of the Stork's Nest program.

Land, M. Presentations/abstracts: Mutation and characterization of methicillin resistant *Staphylococcus aureus*.

Langston, B. Presentations/abstracts: Conventional restorations vs. crowns for root canaled teeth.

Larkin, A. Presentations/abstracts: Deployment of high-resolution ultrasound for oral musculoskeletal structures and guidance of dental interventions. Molar intrusion capabilities of Invisalign with or without miniscrew anchorage in the open bite patient: a pilot study.

Latvis, L. Presentations/abstracts: What are the attributes of US hospitals' financial performance?

Lawler, C. Presentations/abstracts: Deployment of high-resolution ultrasound for oral musculoskeletal structures.

Please note: Publications, presentations, and abstracts are included as reported in the Fall 2018 through Summer 2020 ATSU Research newsletters, prepared by the Department of Research Support. Individuals listed were ATSU students, fellows, and residents at the time publications, presentations, or abstracts were reported to the Department of Research Support.

Deployment of high-resolution ultrasound for oral musculoskeletal structures and guidance of dental interventions.

Leach, K. Presentations/abstracts: Transforming oral healthcare delivery to underserved adults with digital dentistry: a pilot study.

Lee, B. Presentations/abstracts: Effectiveness of various manual therapy techniques for common shoulder conditions.

Lefebvre, J. Presentations/abstracts: Is the MusicGlove a feasible and effective home-based treatment device for hand function in patients with Parkinson's disease?

Lemery, D. Presentations/abstracts: Providers of manual therapy interventions for the lumbar spine: a systematic review.

Lesh, ER. Presentations/abstracts: Northeast Regional Medical Center heart failure readmission reduction project.

Li, S. Presentations/abstracts: Do specific manual therapy dosing variables impact the outcomes for individuals with cervicogenic headaches?

Liang, E. Presentations/abstracts: Impact of a two-minute education video on flu vaccination knowledge in a community health center setting. Relationship between health literacy and parent-completed autism screens in a Spanish-speaking population.

Liou, C. Presentations/abstracts: Mentors in medicine program: improving health education in Woodlake Unified School District and surrounding community.

Liou, EJ. Presentations/abstracts: Preliminary study evaluating the accuracy and reliability of CBCT images for tongue space measurement in the field of orthodontics.

Liow, G. Presentations/abstracts: Creative education in school nutrition.

Liu, A. Publications: Post-COVID-19 management guidelines for orthodontic practices, *Journal of Clinical Orthodontics*.

Liu, Y. Publications: Curcuminoids: implication for inflammation and oxidative stress in cardiovascular diseases, *Phytotherapy Research*.

Livingston, D. Presentations/abstracts: Creative education in school nutrition.

Lopez, G. Publications: Understanding the misunderstood, *Journal of the American Academy of Physician Assistants*.

Low, D. Presentations/abstracts: Relationship between cardiac structure and blood pressure response to isometric contractions in men and women.

Maddox, R. Presentations/abstracts: Effects of the ketogenic diet and ketones on metabolic sensors and inflammation: implications for the epileptic brain and ovarian cancer cell.

Makar, M. Publications: Dynamic assessment of cerebral blood flow and intracranial pressure during inversion table tilt using ultrasonography, *Journal of the Neurological Sciences*. Presentations/abstracts: Comparison of rates of DEXA scans between gender and age groups among injured populations. Evaluation of middle cerebral artery blood flow during inversion table therapy using transcranial Doppler ultrasonography in young healthy adults. Physiological effects of inversion table on cardiovascular hemodynamics using Doppler ultrasonography in young healthy adults. Real-time monitoring of intracranial pressure during inversion table therapy using optic nerve ultrasonography in young healthy adults.

Mandair, S. Publications: Envisioning post-treatment occlusions after space closure using temporary skeletal anchorage devices, *Journal of Clinical Pediatric Dentistry*. Extraction alternatives in cases with missing lower first molars, *Journal of Clinical Orthodontics*.

Mandala, R. Presentations/abstracts: Evaluating responsiveness of underserved Chicago communities to colorectal cancer screening recommendations.

Marfori, J. Presentations/abstracts: Measuring the impact of nutrition education and a school garden on nutrition behavior among West Oahu elementary-aged children.

Marler, TL. Publications: Nav1.9 channels in muscle afferent neurons and axons, *Journal of Neurophysiology*.

Marshall, L. Presentations/abstracts: A deep fungal infection presenting as a histologic mimic of angioinvasive lymphomatoid papulosis.

Martin, A. Presentations/abstracts: Creative education in school nutrition.

Marzvanyan, A. Publications: Lisinopril as a cause of psychosis in a patient with CLL and dermatomyositis, *EC Orthopaedics*.

Matson, M. Publications: Developing neuraxial and regional pain procedural skills through innovative 3-dimensional printing technology, *The Journal of the American Osteopathic Association*. Fatality of 33-year-old man involving Kratom toxicity, *Journal of Forensic Sciences*. Presentations/abstracts: Innovative spine and pelvic models for the joint injection techniques training.

Matsushita, S. Publications: Inside performing arts medicine: a history of and treatment approaches for managing the unique MSK problems experienced by musicians, *Practical Pain Management*. Osteopathic manipulative treatment and psychosocial management of dysmenorrhea, *The Journal of the American Osteopathic Association*. Plantar fasciitis: diagnosis and management, *Practical Pain Management*.

Maurath, B. Presentations/abstracts: Correlation between tactile sensation and CBCT density in dental implants.

McArthur, B. Presentations/abstracts: Utilization of CAD/CAM technology for fabrication of immediate dentures.

McClain, K. Presentations/abstracts: What are the attributes of US hospitals' financial performance?

McClement, M. Presentations/abstracts: Completion of definitive restoration following endodontic treatment at St. Louis Dental Center.

McFadden, E. Presentations/abstracts: A dual-tasking study in Parkinson's disease. A mapping of evidence-informed interventions for UE rehabilitation post-stroke: a scoping review.

McGinn, W. Presentations/abstracts: CSM attendance: influence on DPT students' professional growth.

McGonagill, P. Presentations/abstracts: Nonconscious priming of motor performance through stereotype activation.

Meza, A. Presentations/abstracts: The validity and reliability of the 4-step stair climb power test compared to the 10-step stair climb power test.

Michail, A. Presentations/abstracts: Nonconscious priming of muscle force and fatigue through stereotype activation.

Miller, JR. Presentations/abstracts: Differential opioid receptor expression in group IV axons.

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STUDENT SCHOLARLY ACTIVITY (September 2018-August 2020)

Moeller, A. Presentations/abstracts: ParkRx: increasing provider prescription of outdoor physical activity to promote long-term health and well-being.

Moore, H. Presentations/abstracts: Exploring the effects of succession planning on leadership attrition in medical groups across the United States.

Mopps, A. Presentations/abstracts: Treatment of xerostomia and hyposalivation in elderly patients: will it work for Missouri School of Dentistry & Oral Health patients?

Morello, B. Presentations/abstracts: An evaluation of communication methods for community outreach in patients with diabetes.

Motes, HC. Presentations/abstracts: Effect of phytochemicals on the viability of the oral protozoan, *Trichomonas tenax*. Effect of phytochemicals on *Trichomonas tenax* (Tricomonadida: Trichomonadidae) viability. Membrane array analysis of macrophage cytokines elicited by oral trichomonads.

Motes, HS. Presentations/abstracts: Human immune response to *Trichomonas tenax*.

Motzel, B. Presentations/abstracts: Interaction between force and neural activation in determining blood pressure response to static contractions in men and women.

Mowatt, K. Presentations/abstracts: ParkRx: increasing provider prescription of outdoor physical activity to promote long-term health and well-being.

Naik, R. Publications: Monocyte chemotactic protein 1-induced protein 1 contributes to neuronal injury following hypoxic-ischemia in the neonatal mouse brain, *NeuroReport*. Presentations/abstracts: Role of MCP1 on neurodegeneration following hypoxic-ischemia in neonatal mice.

Naranjo, J. Presentations/abstracts: An evaluation of communication methods for community outreach in patients with diabetes.

Narendran, S. Presentations/abstracts: Patients' awareness and perception about dental implant therapy.

Nasre-Esfahani, K. Presentations/abstracts: Improving mental health diagnosis and treatment by primary care providers through introduction of a quick reference guide.

Nelson, B. Presentations/abstracts: Interaction between force and neural activation in determining blood pressure response to static contractions in men and women.

Nelson, D. Presentations/abstracts: Do specific manual therapy dosing variables impact the outcomes for individuals with cervicogenic headaches?

Nesvik, JM. Presentations/abstracts: Apremilast in the management of generalized granuloma annulare.

Ngo, NK. Presentations/abstracts: Assessment of sacral motion using palpation.

Nguyen, C. Presentations/abstracts: Salivary flow in children residing in households with smokers and non-smokers.

Nguyen, D. Presentations/abstracts: Secondary caries with composite restorations: a clinical review.

Nguyen, E. Presentations/abstracts: Prevention and management of medical emergencies within the dental office.

Nguyen, N. Presentations/abstracts: Evaluation of the impact of bilingual oral health educational brochures on the oral health literacy (OHL) of Vietnamese individuals residing in St. Louis.

Nguyen, T. Presentations/abstracts: Evaluation of the impact of bilingual oral health educational brochures on the oral health literacy (OHL) of Vietnamese individuals residing in St. Louis.

Nicoll, R. Presentations/abstracts: Multi-limb control and attention during simulated driving in Parkinson's disease: study methods.

Norvell, L. Presentations/abstracts: Oral hygiene protocol alterations.

Noyon, TM. Presentations/abstracts: Impact of a two-minute education video on flu vaccination knowledge in a community health center setting.

Nwambunwo, U. Presentations/abstracts: The effect of high-intensity interval training (HIIT) on weight loss, pain, fatigue, and function for a person with multiple sclerosis: a case report.

Oliver, AS. Publications: Long-term durable response after treatment of metastatic salivary duct carcinoma with pembrolizumab, *JCO Oncology Practice*.

Ollar, P. Presentations/abstracts: Orthodontists' interests and behaviors with treating patients with ID/DD. Orthodontists' interests and behaviors with treating patients with intellectual and developmental disabilities (ID/DD).

Oney, K. Presentations/abstracts: Predictors of success in a medical gross anatomy course.

Orrell, B. Presentations/abstracts: Utilization of manual therapy interventions in the treatment of common knee conditions.

Oska, C. Presentations/abstracts: Assessment of elementary students' understanding of differences in viral and bacterial infections and education of proper antibiotic use.

Osmanski, Z. Presentations/abstracts: Is a brain derived neurotrophic factor (BDNF) mimetic a rapid acting antidepressant in juvenile rats?

Oswalt, E. Presentations/abstracts: The relationship between motor capacity and motor performance in children with cerebral palsy: a systematic review.

Owens, T. Presentations/abstracts: Measuring the impact of nutrition education and a school garden on nutrition behavior among West Oahu elementary-aged children.

Painter, M. Presentations/abstracts: Trends in the PT/PTA patient care management model.

Park, JJ. Publications: Anterior open bite due to idiopathic condylar resorption during orthodontic retention of a Class II Division 1 malocclusion, *American Journal of Orthodontics & Dentofacial Orthopedics*.

Parker, R. Presentations/abstracts: Treatment of xerostomia and hyposalivation in elderly patients: will it work for Missouri School of Dentistry & Oral Health patients?

Patel, J. Presentations/abstracts: Evaluating responsiveness of underserved Chicago communities to colorectal cancer screening recommendations.

Patel, P. Presentations/abstracts: Emerging threats to child nutrition in urban and rural Nepal.

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Pathak, M. Presentations/abstracts: Factors associated with recovery of balance and locomotor function in chronic stroke survivors in an outpatient neurological rehabilitation facility.

Pessin, YJ. Publications: Glow powder: see the germs? An innovative teaching technique in a student sonography laboratory, *Journal of Diagnostic Medical Sonography*.

Pham, D. Presentations/abstracts: Secondary caries with composite restorations: a clinical review.

Pham, K. Presentations/abstracts: Secondary caries with composite restorations: a clinical review.

Pinkston, T. Presentations/abstracts: Transforming oral healthcare delivery to underserved adults with digital dentistry: a pilot study.

Piper, FC. Presentations/abstracts: Acceleration and velocity characteristics of college women athletes in a short sprint.

Powell, J. Presentations/abstracts: Trends in the PT/PTA patient care management model.

Proctor, CJ. Publications: Dynamic assessment of cerebral blood flow and intracranial pressure during inversion table tilt using ultrasonography, *Journal of the Neurological Sciences*. Presentations/abstracts: Evaluation of middle cerebral artery blood flow during inversion table therapy using transcranial Doppler ultrasonography in young healthy adults. Is brain derived neurotrophic factor (BDNF) a rapid acting antidepressant in juvenile rats? Physiological effects of inversion table on cardiovascular hemodynamics using Doppler ultrasonography in young healthy adults. Real-time monitoring of intracranial pressure during inversion table therapy using optic nerve ultrasonography in young healthy adults.

Pyle, J. Presentations/abstracts: Predicting cooperation of adult autistic patients in the dental clinic.

Quebadeaux, QA. Presentations/abstracts: Northeast Regional Medical Center heart failure readmission reduction project.

Quintana, L. Presentations/abstracts: Patient, injury, and treatment characteristics of hip injuries presenting to athletic training clinics: a report from the Athletic Training Practice-Based Research Network.

Raheem, S. Publications: Functional importance of α Asp-350 in the catalytic sites of *Escherichia coli* ATP synthase, *Archives of Biochemistry and Biophysics*. Insect venom peptides as potent inhibitors of *Escherichia coli* ATP synthase, *International Journal of Biological Macromolecules*. Presentations/abstracts: Significance of the highly conserved α VISITDG sequence in the catalytic sites of ATP synthase. VISITDG sequence residues and Pi binding in the catalytic sites of ATP synthase.

Rash, H. Presentations/abstracts: Predicting cooperation of adult autistic patients in the dental clinic.

Ray, C. Presentations/abstracts: Influence of parental anxiety of expectations of child self-reported dental anxiety, expectations and dental services utilization. Influence of parental anxiety and expectations on child self-reported dental anxiety, expectations, and dental services utilization.

Reed, W. Presentations/abstracts: Trends in the PT/PTA patient care management model.

Reick-Mitrising, V. Publications: Scribe impacts on US health care: benefits may go beyond cost efficiency, *The Journal of Allergy and Clinical Immunology*.

Reimann, RM. Presentations/abstracts: Differences among post-professional athletic training students' knowledge and confidence of evidence-based practice.

Remily, E. Publications: Nav1.9 channels in muscle afferent neurons and axons, *Journal of Neurophysiology*.

Rigby, M. Presentations/abstracts: Heart rate variability and blood pressure regulation over a 24-hour period.

Ring, RP. Presentations/abstracts: Phylogenetic distribution and expression of a penicillin-binding protein homologue, Ear and its significance in virulence of *Staphylococcus aureus*.

Rogowski, L. Publications: Post-COVID-19 management guidelines for orthodontic practices, *Journal of Clinical Orthodontics*.

Rohani, S. Presentations/abstracts: Impact of an outreach program on utilization of dental school services by Persian speaking population.

Rosenbush, D. Presentations/abstracts: ParkRx: increasing provider prescription of outdoor physical activity to promote long-term health and well-being.

Roth-Garcia, A. Presentations/abstracts: Case study: restoration of dental root caries.

Roy, D. Presentations/abstracts: Capacity building in patient-centered outcomes research involving traumatic brain injury patients: lessons from a PCORI funded project.

Royter, E. Presentations/abstracts: Mentors in medicine program: improving health education in Woodlake Unified School District and surrounding community.

Ruiz, H. Presentations/abstracts: The relationships between sensory processing behaviors, temperament characteristics for effortful control, and executive functioning in school-age children: preliminary outcomes. "We don't like talking about toileting issues in front of everyone": parents' reflections on family-centered care.

Russell, A. Presentations/abstracts: Mutation and characterization of methicillin resistant *Staphylococcus aureus*.

Ryan, B. Presentations/abstracts: Case report: a modified early passive mobilization protocol for a zone II flexor pollicis longus repair. A mapping of evidence-informed interventions for UE rehabilitation post-stroke: a scoping review.

Saif, S. Presentations/abstracts: An evaluation of communication methods for community outreach in patients with diabetes.

Salar, E. Presentations/abstracts: Evaluating accuracy of intraoral scanners.

Salazar, A. Presentations/abstracts: An evaluation of communication methods for community outreach in patients with diabetes.

San Diego, E. Presentations/abstracts: Patients' awareness and perception about dental implant therapy.

Sandefur, K. Publications: Crohn's disease remission with a plant-based diet: a case report, *Nutrients*.

Sanders, JL. Presentations/abstracts: Conventional restorations vs. crowns for root canaled teeth.

Sanderson, J. Presentations/abstracts: Configurations of the Six-Minute Walk Test for people with Parkinson disease: do the number of turns matter? The six-minute walk test for people with Parkinson's disease: should I be concerned with configuration?

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STUDENT SCHOLARLY ACTIVITY (September 2018-August 2020)

Sankey, C. Presentations/abstracts: Occupational therapy in community corrections and reentry: program implementation for adult males with addiction. Trauma-informed approaches in child serving settings: a scoping review.

Saribekyan, H. Presentations/abstracts: Measuring the impact of nutrition education and a school garden on nutrition behavior among West Oahu elementary-aged children.

Savarani, AA. Presentations/abstracts: An evaluation of communication methods for community outreach in patients with diabetes.

Scheffer, C. Presentations/abstracts: An evaluation of communication methods for community outreach in patients with diabetes.

Schlosser, S. Presentations/abstracts: Factors associated with upper extremity recovery in chronic stroke survivors in an outpatient neurological rehabilitation facility.

Schroeder, B. Presentations/abstracts: Configurations of the Six-Minute Walk Test for people with Parkinson disease: do the number of turns matter? The six-minute walk test for people with Parkinson's disease: should I be concerned with configuration?

Schwarze, D. Presentations/abstracts: The effects of hand dominance, age, and sex on grip strength in subjects ages 65 to 89 years.

Scott, K. Presentations/abstracts: Characterization of in vitro 3D spheroid growth and behavior in 4 melanoma cell lines.

Sedinkin, J. Presentations/abstracts: Retrospective analysis of geriatric rib fracture management and 30 day complication in a rural hospital.

Senger, B. Presentations/abstracts: Is testosterone the male sex hormone responsible for increased male mortality in melanoma? Preliminary in-vitro studies based on progesterone, androstenedione and testosterone treatments of human melanoma (BLM) cells in the presence of endogenous IL-8 induced by endothelin.

Sethi, H. Publications: Anatomic nasal lining flaps for closure of the nasal floor in unilateral and bilateral cleft lip repairs reduce fistulas at the alveolus, *Plastic and Reconstructive Surgery*.

Shakiba, S. Presentations/abstracts: Impact of an outreach program on utilization of dental school services by Persian speaking population.

Shimpi, N. Presentations/abstracts: Feasibility assessment of a teledentistry approach to address non-traumatic dental condition (NTDC) visits in emergency departments (EDs).

Shivley, M. Presentations/abstracts: Nonconscious priming of muscle force and fatigue through stereotype activation.

Shtutman, D. Presentations/abstracts: Urinary retention and a markedly distended bladder due to a likely malignant neoplasm.

Shukla, C. Presentations/abstracts: Decreasing no show rates in a dental clinic at a federally qualified health center following referral from a medical clinic.

Silvey, E. Presentations/abstracts: Establishment of a suboxone clinic in a family medicine residency.

Siress, ZT. Presentations/abstracts: *Porphyromonas gingivalis* strain dependent cytokine modulation of human villous mesenchymal fibroblasts. Surface sampling of mannequin

simulators: are simulators contaminated by human pathogens? Vascular injury induces expression of β 3-adrenergic receptors (β 3-ARs) in neointima.

Smith, L. Presentations/abstracts: Trauma-informed approaches in child serving settings: a scoping review.

Smith, S. Presentations/abstracts: What are the attributes of US hospitals' financial performance?

Smith, SL. Presentations/abstracts: Resiliency in school experiences: a dropout prevention initiative.

Snyder, C. Presentations/abstracts: Mutation and characterization of methicillin resistant *Staphylococcus aureus*.

Sotoudeh, C. Presentations/abstracts: Mentors in medicine program: improving health education in Woodlake Unified School District and surrounding community.

St. Laurent, E. Publications: Deep cervical muscle dysfunction in the head and neck: pain causes and osteopathic treatment options, *Practical Pain Management*. Obesity, nutrition, and pain management: multifaceted considerations for treatment, *Practical Pain Management*.

Staputyte, K. Presentations/abstracts: Characterization of in vitro 3D spheroid growth and behavior in 4 melanoma cell lines. Vascular injury induces expression of β 3-adrenergic receptors (β 3-ARs) in neointima.

Steimel, A. Presentations/abstracts: Preliminary characterization of cell surface markers and phagocytic behavior in MO THP1-derived macrophages.

Steiner, A. Publications: Functional importance of α Asp-350 in the catalytic sites of *Escherichia coli* ATP synthase, *Archives of Biochemistry and Biophysics*. Insect venom peptides as potent inhibitors of *Escherichia coli* ATP synthase, *International Journal of Biological Macromolecules*. Presentations/abstracts: A connection between antimicrobial properties of dietary ginger phenolics and bacterial ATP synthase. Functional importance of L382 and S383 in the β DELSEED-motif of ATP synthase. Peptide binding and interaction at the β DELSEED-motif of ATP synthase.

Stoffel, ST. Presentations/abstracts: Change in baroreflex function with age.

Studley, J. Presentations/abstracts: What are the attributes of US hospitals' financial performance?

Suhardjo, J. Presentations/abstracts: Deployment of high-resolution ultrasound for oral musculoskeletal structures.

Sullivan, K. Presentations/abstracts: Multi-limb control and attention during simulated driving in Parkinson's disease: study methods.

Swamy, S. Presentations/abstracts: ParkRx: increasing provider prescription of outdoor physical activity to promote long-term health and well-being.

Syed, H. Publications: A connection between antimicrobial properties of venom peptides and microbial ATP synthase, *International Journal of Biological Macromolecules*.

Taddei, E. Presentations/abstracts: Coronary syndrome "X" in a patient with atypical chest pain.

Tagle, C. Presentations/abstracts: Improving mental health diagnosis and treatment by primary care providers through introduction of a quick reference guide.

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Tarling, M. Presentations/abstracts: Test-retest reliability of quantitative electroencephalography (qEEG) during four conditions in healthy individuals.

Teich-McGoldrick, R. Presentations/abstracts: Community-based intervention to increase usage of medication disposal bins.

Thomas, M. Presentations/abstracts: The effectiveness of lecture prior to a skills lab for learning the cricothyrotomy procedure.

Thomason, K. Publications: Are complications after the Bernese periacetabular osteotomy associated with subsequent outcomes scores? *Clinical Orthopaedics and Related Research*. Presentations/abstracts: Evaluating responsiveness of underserved Chicago communities to colorectal cancer screening recommendations.

Thornton, EP. Presentations/abstracts: Epidemiology of sport-related knee injuries reporting to U.S. emergency departments from 2008-2017.

Tjong, E. Publications: Antiepileptic drug optimization using ambulatory electrocorticographic data from an implanted brain-responsive neurostimulator. *Clinical Case Reports*. Managing pain in adults with intellectual disabilities. *Practical Pain Management*. SREAT presenting as decades of intractable seizures and isolated delusional episodes with clinical, laboratory, and EEG confirmation of treatment response. *SAGE Open Medical Case Reports*. Presentations/abstracts: An evaluation of communication methods for community outreach in patients with diabetes.

Tocco, EC. Presentations/abstracts: Pain education with therapeutic exercise in chronic non-specific low back pain rehabilitation.

Tomchuk, D. Publications: Treatment and return to participation following exertional rhabdomyolysis in athletes. *Athletic Training and Sports Health Care*.

Tomich, M. Presentations/abstracts: Providers of manual therapy interventions for the lumbar spine: a systematic review.

Tong, R. Presentations/abstracts: Improving mental health diagnosis and treatment by primary care providers through introduction of a quick reference guide.

Tran, E. Presentations/abstracts: Creative education in school nutrition.

Tsai, D. Presentations/abstracts: Assessing Unity Health Care staff awareness of the Stork's Nest program.

Tsang, C. Publications: Early childhood oral health and nutrition in urban and rural Nepal. *International Journal of Environmental Research and Public Health*. Presentations/abstracts: Emerging threats to child nutrition in urban and rural Nepal. Redundant prescriptions and drug misuse among older adults.

Tse, C. Presentations/abstracts: Recall of oral hygiene education among patients with IDD.

Ullal, K. Presentations/abstracts: Creative education in school nutrition.

Underwood-Wright, G. Publications: Improving PA diversity in Minnesota. *Journal of the American Academy of Physician Assistants*.

Van As, S. Presentations/abstracts: The relationship between motor capacity and motor performance in children with cerebral palsy: a systematic review.

VanWinkle, E. Presentations/abstracts: Evaluating accuracy of intraoral scanners.

Velasquez, T. Presentations/abstracts: Recall of oral hygiene education among patients with special needs and their caregivers. Recall of oral hygiene education among patients with special needs.

Vierra, A. Presentations/abstracts: Performance of Arizona Special Olympics athletes on the FUNfitness battery of tests.

Virk, H. Presentations/abstracts: Mentors in medicine program: improving health education in Woodlake Unified School District and surrounding community.

Walkenhorst, MS. Publications: A uniquely altered oral microbiome composition was observed in pregnant rats with *Porphyromonas gingivalis* induced periodontal disease. *Frontiers in Cellular and Infection Microbiology*.

Wallis, A. Presentations/abstracts: The agreement in walking speed measured using four different outcome measures: 6-meter walk test, 10-meter walk test, 2-minute walk test, and 6-minute walk test.

Warlick, C. Presentations/abstracts: Nonconscious priming of muscle force and fatigue through stereotype activation.

Warner, H. Presentations/abstracts: Healthy brains, healthy bodies: addressing mealtime routines and self-regulation in children with dual diagnosis. Parent reported concerns and major life changes in a clinical sample of school aged children with neurodevelopmental conditions: a qualitative study.

Watson, W. Presentations/abstracts: Configurations of the Six-Minute Walk Test for people with Parkinson disease: do the number of turns matter? The six-minute walk test for people with Parkinson's disease: should I be concerned with configuration?

Weidenbaum, C. Presentations/abstracts: ParkRx: increasing provider prescription of outdoor physical activity to promote long-term health and well-being.

Weng, C. Presentations/abstracts: Scenario development of implicit and explicit cueing effects on simulated driving performance in Parkinson's disease.

White, K. Presentations/abstracts: Magnification loupes and musculoskeletal discomfort.

Williams, A. Presentations/abstracts: Direct to consumer orthodontics.

Williams, M. Presentations/abstracts: Assessing the possible correlation between tactile sensation and CBCT software evaluation of bone density for edentulous dental implant patients.

Wilms, H. Presentations/abstracts: CSM attendance: influence on DPT students' professional growth.

Wilson, A. Presentations/abstracts: Delayed versus immediate reporting of concussion and its impact on length of recovery among athletes.

Wlodarkiewicz, C. Publications: Educational value of ultrasonography used as a diagnostic tool by medical students at a student-run free clinic. *Missouri Medicine*.

Wolf, B. Presentations/abstracts: An examination of roles in theory and practice. Board games for kids: reducing stress and learning through play.

Wood, D. Presentations/abstracts: Nonconscious priming of motor performance through stereotype activation.

Woods, L. Presentations/abstracts: Relationship between cardiac structure and blood pressure response to isometric contractions in men and women.

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STUDENT SCHOLARLY ACTIVITY (September 2018-August 2020)

Wresch, D. Presentations/abstracts: How deletion of the *fakA*, *fakB1*, and *fakB2* genes affect membrane fluidity of *Staphylococcus aureus*.

Wright, AB. Publications: Nav1.9 channels in muscle afferent neurons and axons, *Journal of Neurophysiology*.

Wu, J. Presentations/abstracts: Community-based intervention to increase usage of medication disposal bins.

Yellin, R. Presentations/abstracts: Mentors in medicine program: improving health education in Woodlake Unified School District and surrounding community.

Yen, A. Presentations/abstracts: Transforming oral healthcare delivery to underserved adults with digital dentistry: a pilot study.

Yineman, S. Presentations/abstracts: Dental student behavioral intent following exposure to special care dentistry.

Yoo, SK. Publications: Distalization with a modified C-palatal plate for severe upper crowding and a missing lower incisor, *The Korean Journal of Orthodontics*.

Yu, D. Presentations/abstracts: Is the MusicGlove a feasible and effective home-based treatment device for hand function in patients with Parkinson's disease?

Yusuf, A. Presentations/abstracts: Vascular injury induces expression of β_3 -adrenergic receptors (β_3 -ARs) in neointima.

Zachariash, D. Presentations/abstracts: Mentors in medicine program: improving health education in Woodlake Unified School District and surrounding community.

Zahriya, Y. Presentations/abstracts: Vascular injury induces expression of β_3 -adrenergic receptors (β_3 -ARs) in neointima.

Zeineiddin, M. Presentations/abstracts: Preliminary study evaluating the accuracy and reliability of CBCT images for tongue space measurement in the field of orthodontics.

Zellner, J. Presentations/abstracts: Oral hygiene status and risk for ventriculitis.

Zeng, R. Presentations/abstracts: Assessing the possible correlation between tactile sensation and CBCT software evaluation of bone density for edentulous dental implant patients.

Zupko, R. Presentations/abstracts: Scenario development of implicit and explicit cueing effects on simulated driving performance in Parkinson's disease.

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A.T. Still Research Institute

Established in 2001, A.T. Still Research Institute's (ATSRI) purpose is to advance whole person healthcare and wellness through the development and support of premier clinical and translational research.

ATSRI's infrastructure and culture promotes interprofessional research relevant to whole person healthcare. The institute collaborates with strategic external research centers and entities, both nationally and internationally. In addition, it provides research training and mentoring to develop preeminent clinician researchers.

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A retirement tribute to John T. Heard, PhD

Former Vice President
of Research, Grants,
& Information Systems

41 years with ATSU



“The outspoken and always dynamic Dr. John Heard has been a disruptor in his own right in multiple fields. At ATSU, Dr. Heard started as a faculty member and researcher in microbiology. Then, because of his love of math and technology, he quickly became ATSU’s first computer expert (self-taught), pioneering the Department of Information Technology. Next, he quickly moved into the broader field of research and grants administration, ending up as the vice president of Research, Grants, & Information Systems. Throughout his career, Dr. Heard served as a leader, mentor, and advocate for all things research. Every step of the way, he led with compassion, humility, and a heavy dose of humor!”

Gaylah Sublette, MBA
Vice President, Research & Sponsored Programs

“Over all the years with Dr. Heard, he has always provided practical and honest mentorship related to any issue, whether it be funding, research strategy, or a contentious professional situation. Dr. Heard has been a consensus builder, supporting any mission for the University much more by his candor and calmness than by pulling rank. Dr. Heard’s initiatives at the Mesa, Arizona, campus will be long lasting with an active interdisciplinary research program. Each time I would update him about a submitted proposal and its low probability of success, Dr. Heard would always remind me, ‘It is fine. If you had not applied, you for sure would not be funded!’ To me, Dr. Heard has always been a mentor, a colleague, and a good friend.”

Inder Makin, MD, PhD
Professor, ATSU-SOMA and ATSU-ASDOH

“What I most recall about my early on-campus days with Dr. Heard were his approachability and welcoming nature. He was patient with my rookie questions, sometimes hilarious in his responses, and a bona fide team player. Down to earth, witty, kind, and perhaps leaning a bit toward the messy office side of life, Dr. Heard answered every email, instant message, and phone call I sent as a remote employee, helping me feel connected despite the distance. Stories of Texas and his travels, pre-tied neckties stowed in the office for important meetings, and proclamations of ‘garbage’ as necessary and fitting still make me smile. He remains a confidence builder, straight shooter, and genuine soul. We’re all better for the time we spend with Dr. Heard.”

Julie Bauer Cook, MA
Director, Sponsored Programs
& QA Administrator

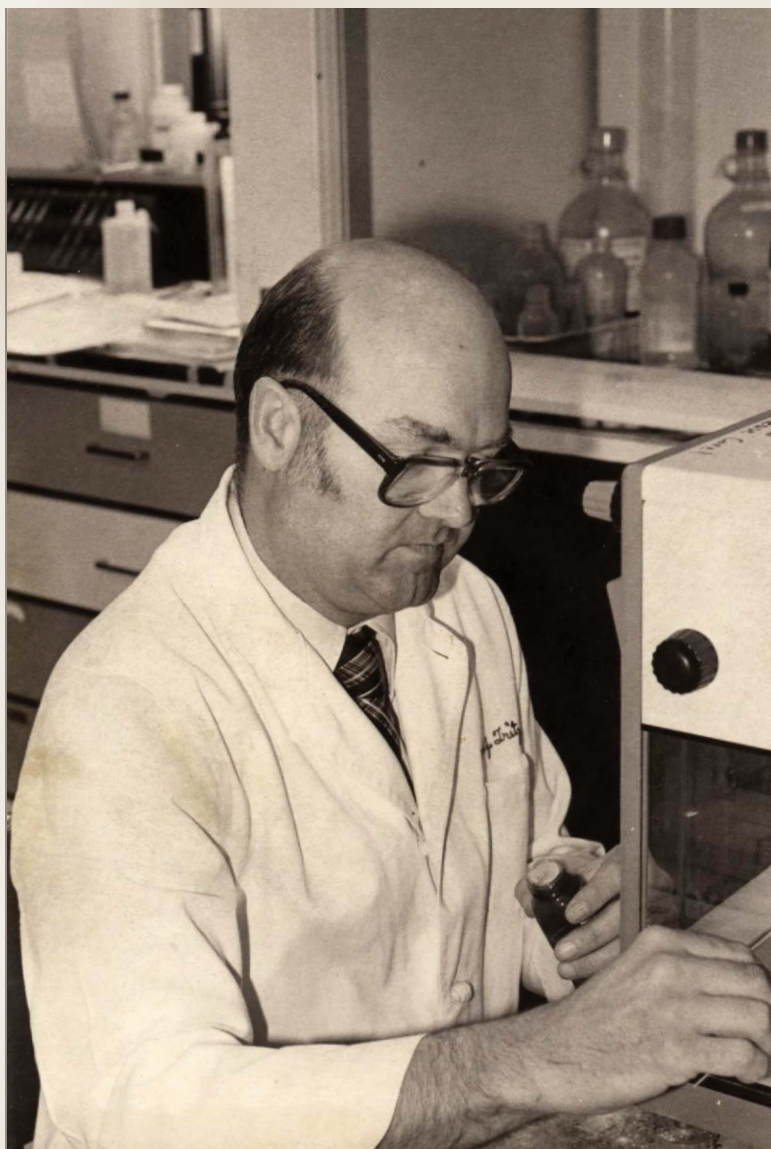
Gaylah's top 10 grant-writing tips

By Gaylah Sublette, MBA, vice president, research & sponsored programs

Start early! Every step will take longer than you think. Contact your internal Sponsored Programs staff early and often. Reserve writing time on your calendar. Back up your drafts often. Submit several days – not hours – ahead of the external deadline to allow for electronic processing.

- 1 The golden rule of grant writing: The funding agency rules!** Study the funding opportunity guidelines/announcement thoroughly to ensure you are not only eligible but also competitive.
- 2 As appropriate, contact the funding agency before you submit an application.** If you make a good impression and get early insight, experts agree this increases your chances of being funded.
- 3 If possible, secure a copy of a previously successful grant application to use as an organizational tool/template.** Never plagiarize content, but do replicate effective layout and organization.
- 4 Do a writing outline with section deadlines.** For most proposals, your writing outline becomes your road map as well as your table of contents.
- 5 Piece your application together so it won't be so overwhelming.** Ask others to draft supporting sections, if possible. A team effort will allow multiple sections to be written simultaneously.
- 6 Write the application with a "glass is half full" tone.** Be realistic, but tell the funder or reviewer what you can do, rather than what you can't.
- 7 Appearances matter.** Follow grant guidelines, but make your proposal "pop."
- 8 Appeal and cater to your grant reviewer.** Write and select every word with the grant reviewer in mind.
- 9 Spend extra time on your titles, abstracts, and aims.** These "headliners" must be flawless.
- 10 Have others you trust – internally and externally – critically review your application prior to submission.** Each person should be able to read and understand your proposal.

During her career at ATSU, Sublette has served as the lead author/senior editor of over 900 approved grant awards, worth more than \$100 million. She and the Sponsored Programs team specialize in Health Resources and Services Administration, National Institutes of Health, and other federal granting agencies, as well as state and public/private foundation grant sponsors. Let this award-winning team be your competitive edge for external grant writing. Visit grants.atsu.edu for more information.



From 1978-2003, Gerald Tritz, PhD, MS, served as chair and associate professor of Microbiology and Immunology at ATSU-KCOM. During that time, he used budding technology to modernize his research and his department. Early in his tenure, Dr. Tritz helped build ATSU-KCOM's first personal computer, which was initially used for secretarial purposes. Later, he was the first ATSU professor to incorporate personal computers into his courses. This new technology expanded research possibilities at the University, and for the first time, students learned to use computers to model microbiological experiments. Dr. Tritz published several articles focused on the use of desktop computers to model the NAD (nicotinamide adenine dinucleotide) biosynthesis pathway in *Escherichia coli*. Today, Dr. Tritz's legacy lives on in the medical microbiology and infectious diseases courses he modernized.