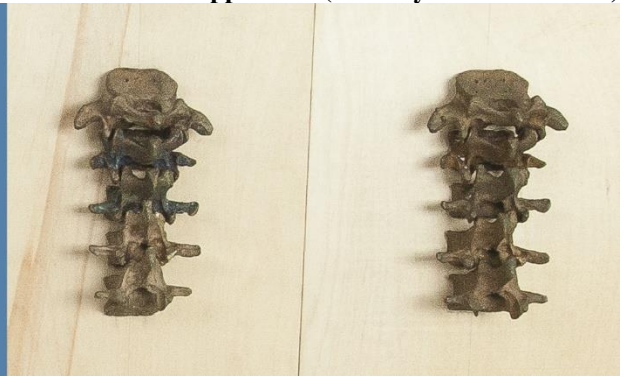


ATSU Research

A newsletter produced by the Department of Research Support

Image (lumbar spine models) courtesy of Dr. Brian Degenhardt, Dr. Eric Snider, Ken Pamperin, and Kelly Rogers



*“If everyone is moving forward together, then success takes care of itself.”
~Henry Ford*

2022 A.T. Still University research symposiums

Despite continuing challenges related to the pandemic, several research symposiums were held at A.T. Still University (ATSU) this year. Through a combination of virtual and in-person formats, faculty and students were able to share their research with the ATSU community. On the Mesa, Arizona, campus, the Arizona School of Dentistry & Oral Health (ATSU-ASDOH) and three departments from the Arizona School of Health Sciences (ATSU-ASHS) hosted student research days. In Missouri, the Missouri School of Dentistry & Oral Health (ATSU-MOSDOH) held a research day at its St. Louis clinic, and the A.T. Still Research Institute (ATSRI) hosted its annual symposium in Kirksville.

ATSU-ASDOH Research Week and Student Research Day

From Feb. 21-25, ATSU-ASDOH held a research week in conjunction with its annual Student Research Day. The virtual event began on Feb. 21 with a presentation, “Evidence Synthesis to Inform Policy and Practice: A Global Oral Health Perspective,” by Alonso Carrasco-Labra, DDS, PhD, MSc, from the Center for Integrative Global Oral Health and the Department of Preventive and Restorative Sciences at the University of Pennsylvania School of Dental Medicine. During the rest of the week, 11 second-year, third-year, and fourth-year students and four orthodontics residents presented results of their research at the 15th annual ATSU-ASDOH Student Research Day. Over 150 students and faculty from ATSU attended the presentations.

2022 ATSU-ASDOH Research Day student and resident presentations

*indicates presenter

Abrams J*, Gettleman B, Makin I, Spolarich A. Effect of apical patency on hypochlorite extrusion in a negative pressure system.

Bauer D*, Spolarich A. Evaluating antibiotic prophylaxis protocols for the prevention of dental implant failure.

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Presentations, continued

Brugo A*, Tompkins A*, Park JH, Talesh T, Kim J, Liu A. Accuracy, reliability, and clinical feasibility of AI-assisted remote orthodontic tooth monitoring technology.

Hoerr C*, Shlossman M. Effect of diode laser therapy on periodontal parameters in maintenance patients.

Kajeh P*, Shlossman M, Spolarich A, Brady J. Efficacy of ClōSYS® anticavity toothpaste and GentleMINT rinse regimen on plaque, gingival inflammation and bleeding upon probing.

Kim M*, Spolarich A, Gettleman B. Risk factors for infectious flare-ups after endodontic treatment.

Kumar P*, Shlossman M, Spolarich A, Makin I, Duffy R. Salivary pH and buffering change following use of pHighter Mint™.

Larkin A*, Huh Y, Park JH. Accuracy of AI-assisted growth prediction model using diverse malocclusion cases with longitudinal follow-up.

Nowamooz N*, Shlossman M, Spolarich A. Dental students' perceptions and preparedness to counsel patients about e-cigarette use and vaping.

Patel K*, Nenad MW, Howell S, Ratto L. Assessment of LGBTQ knowledge and attitudes among health care student clinicians: a pilot study.

Rana R*, Caputo A, Spolarich A. Nasotracheal intubation vs nasopharyngeal (open) airway: understating dental provider preferences.

Roseth J*, Simonsen J*, El-Gendy T, Crockett R. Analysis of interproximal contact loss between fixed implant crowns and adjacent teeth.

Serrano E*, Park JH. Orthodontic assistant retention: which office benefit has the best prognosis for maintaining orthodontic staff?

ATSU-MOSDOH D3 Research Day

ATSU-MOSDOH held its fourth annual D3 Research Day as an in-person and virtual event on April 21. Twenty presentations were included from the research projects of three second-year dental students, 58 third-year students, and 24 faculty. Over 300 faculty, staff, and students from ATSU-MOSDOH and the ATSU community attended the event. The [Kubify](https://atsu.edu/mosdoh-posters) (atsu.edu/mosdoh-posters) platform was used to share posters, presentation slides and videos, abstracts, and other support material for the day's event. The student project mentored by David Greaves, DDS, was selected as the winner of the Outstanding Research and Development category, and the project mentored by Akshay Vij, BDS, ACT, was selected as the winner of the Outstanding Clinical/Basic Science Research category. Three student projects tied as the winners of the Outstanding Social Science/Behavioral/Educational Research category. Jody Pfeuffer, D3, was selected as the Dentsply Sirona winner of the Student Competition for Advancing Dental Research and Its Application (SCADA) award.

2022 ATSU-MOSDOH D3 Research Day presentations and posters

*indicates presenter

Arcipowski J, Dekrell A*, Eschbach C. Oral care for older adults: pre- and post-treatment assessment. Faculty mentor: Inks P.

Atia M*, Arpin T, Yokley T. The effect of cannabis use on local anesthesia and parenteral sedation. Faculty mentor: Haribabu P.

Coronel I, Grutz C*, Ho V, Thomas J. The effects of cannabis use on oral health. Faculty mentors: Dunivan D, Davis J.

Felfeli M*, Lee SJ, Nguyen HH. Cultural competency education of dental students and its impact on patient care: a qualitative study. Faculty mentor: Rashid S.

Fulmer W*, Karafa E, McNamara A, Ivie E. Reasons for definitive restoration completion outcomes following endodontic treatment: a qualitative assessment. Faculty mentor: Davis J. *Outstanding Social Science/Behavioral/Educational Research Project*

Gooding SJ, Liggett T, Stayton M*. Dentures for Veterans program assessment: database creation. Faculty mentor: Greaves D. *Outstanding Research and Development Project*

Hook T, Kuhns C, Hardack M*. MOSDOH nutritional influence assessment. Faculty mentor: Jain P. *Outstanding Social Science/Behavioral/Educational Research Project*

Leavitt BD, Valassis M*, Zehra S. Evaluating the accuracy and precision of intraoral scanners. Faculty mentor: Vij A. *Outstanding Clinical/Basic Science Research Project*

Ligocki J, Koester E*, Nguyen V, Nodarse L, Holte K. Oral manifestations of patients self-disclosing cannabis use at the St. Louis Dental Center. Faculty mentors: Vargo R, Greaves M.

Murza S*, Danylyk S. Development of a chairside multilingual oral health literacy assessment tool. Faculty mentor: Muller R.

Nam A, Nguyen K*, Le V. Presence of xerostomia/dry mouth and management protocols amongst ATSU-MOSDOH patients: a pilot study. Faculty mentor: Zarrough A.

Newton H*, Thomas K, Wilkerson A. Excessive daytime sleepiness for OCOA patients at the ATSU/Affinia dental clinic in St. Louis. Faculty mentor: Greaves M.

Palmer J*. SATB2 and MDM2 immunexpression and diagnostic role in primary osteosarcomas of the jaw. Faculty mentor: Owosho A.

Pearson M, Collier A, Bauer R*. COVID-19's effect on parent's perception of dental treatment. Faculty mentors: Marquez I, Reddy A. *Outstanding Social Science/Behavioral/Educational Research Project*

Pfeuffer J, Gutovitz J, Jones V*, Reed G. Cannabis use and oral health study. Faculty mentors: Crivello B, Davis J, Greaves M.

Pyle R, Wilhite R*, Williams M. The customization and trends associated with biological width observed utilizing combination scan technique. Faculty mentors: Abdulkarim H, Ahmadi A.

Reagan S, Shuck ST, Syed TH*. Silver diamine fluoride usage in the St. Louis Dental Center. Faculty mentor: Abels M.

Stewart A*, Webster J, Thueson R. Oral health related quality of life: the impact of removable dental prosthesis on elderly patients. Faculty mentors: Krueger G, Bhide P.

Presentations and posters, continued

Swanson A*, O’Ryan L, Guan M. How to better manage special needs patients in a dental setting. Faculty mentors: Schmidt R, Omar H, Batista G.

Tadros S*, Bauer R. *HMGA2* immunoexpression is frequent in salivary gland pleomorphic adenoma: immunohistochemical and molecular analyses of *PLAG1* and *HMGA2* in 25 cases. Faculty mentor: Owosho A.

ATSU-ASHS Athletic Training Applied Research Projects

In May and December, the Athletic Training department hosted its annual Applied Research Project (ARP) presentations for its doctor of athletic training students. The goal of the ARP is to advance practical knowledge in athletic training based on applied research and analysis. Students identify a project of interest that is applicable to their work setting and learn the process of identifying a problem, researching solutions, implementing change, and measuring outcomes. Students can engage in original research, case reports, quality improvement initiatives, or special projects. Using the [Kubify ePoster](https://my.ltb.io/#/showcase/atsudat) (<https://my.ltb.io/#/showcase/atsudat>) platform, 38 students presented results of their research projects. The benefit of this virtual platform allows ATSU students and faculty to access the projects at any time.

2022 ATSU-ASHS Athletic Training Applied Research Project presentations

Balderas ET. Perinatal health considerations in athletic health care. Faculty advisors: Welch Bacon C, Geoghegan R (external).

Banks B. Professional development program focused on cultural competence in secondary school athletic training. Faculty advisors: Welch Bacon C, Harris N.

Barnhart M. The ability of vestibular and oculomotor screenings to predict recovery after concussion: a systematic review. Faculty advisor: Valovich McLeod T.

Bobier BP. The use of region-specific patient-reported outcome measures in athletic training—lower extremity: when and how athletic trainers utilize PROMs. Faculty advisor: Lam KC.

Borden Harris EC. Evaluating clinical responsibilities of athletic trainers in the physician practice. Faculty advisor: Snyder Valier AR.

Conti K. The relationship between physical activity and health-related quality of life in patients with Crohn’s disease: a systematic review. Faculty advisor: Harris N.

Detwiler K. Negotiating salary among athletic trainers: experiences of negotiators and non-negotiators. Faculty advisors: Welch Bacon CE, Cavallario JM (external).

Donahue B. Athletic training students’ perceptions of and experiences with knowledge translation. Faculty advisors: Welch Bacon C, Cavallario J (external).

Duncan CT. Ensuring the use of best practices for hand hygiene in an athletic training healthcare system. Faculty advisor: Snyder Valier A.

Evans Windsor C. Athletic trainers’ observations of social determinants of health in the collegiate setting. Faculty advisor: Picha K.

Presentations, continued

Ferian K. Best practices for managing mental health conditions in the collegiate setting. Faculty advisor: Harris N.

Freiburger R. Implementation of social determinants of health screening into rural family medical clinics. Faculty advisors: Snyder Valier A, Picha K.

Herbst A. Use of upper extremity region-specific patient-reported outcome measures by athletic trainers. Faculty advisor: Lam KC.

Hlavaty R. Agreement between concussion policy and clinical practice on aspects of concussion management. Faculty advisors: Valovich McLeod T, Beidler E (external), Welch Bacon CE.

Hobbs SL. Enhancing clinical employers' understanding of athletic trainers with a doctor of athletic training degree. Faculty advisor: Welch Bacon CE.

Kirsch G. Mental health emergency action plans. Faculty advisor: Lam K.

Kosan BC. Current clinical concepts: omega-3 supplementation for concussion management in adults. Faculty advisor: Valovich McLeod T.

Marshall K. The influence of sport specialization on quality of life, physical literacy and injury history in adolescent hockey players. Faculty advisors: Chimera NJ (external), Valovich McLeod T.

Melstrom AJ. Blood-flow restriction: evidence to practice review. Faculty advisor: Anderson B.

Morgan SL. Foundational and functional lower extremity program protocol with minimal to no equipment. Faculty advisor: Anderson B.

Muniz B. Development of a shoulder screening and intervention program for collegiate baseball pitchers. Faculty advisors: Anderson BE, Falsone S.

Pena A. QI: return to learn protocol for the college setting. Faculty advisor: Valovich McLeod TC.

Pierce J. Patient, injury, and treatment characteristics of low back pain managed by athletic trainers: a report from the Athletic Training Practice-Based Research Network. Faculty advisor: Lam KC.

Powless KA. Establishing value of athletic trainers in the secondary school setting. Faculty advisor: Anderson B.

Ralph J. The influence of socioeconomic status on concussion recovery time in high school athletes. Faculty advisors: Valovich McLeod TC, Lam KC, Harris N.

Rizzo C. Preceptors' perceptions of student competence in athletic training. Faculty advisors: Welch Bacon CE, Anderson B, Clements C.

Rodriguez R. Epidemiology of shoulder dislocations presenting to emergency departments in the United States, 2007-2020. Faculty advisor: Lam K.

Rogge J. PARS knotless mid-substance jig system for an Achilles rupture surgical repair for a 22-year-old collegiate indoor and beach volleyball player: an exploratory case study. Faculty advisors: Falsone S, Lam K.

Shelton T. Cardiovascular screening in high school athletics. Faculty advisor: Anderson B.

Smith R. Development of medial tibial stress syndrome injury prevention program. Faculty advisor: Valovich McLeod TC.

Presentations, continued

Snyder B. Secondary athletic trainers' perceptions to concussion care in management along the US/Mexico border. Faculty advisor: Valovich McLeod TC.

Spadafora AR. Development of a return-to-learn protocol in the secondary school setting. Faculty advisor: Valovich McLeod TC.

Straughter S. QI: education and implementing best return to learn strategies in collegiate athletics. Faculty advisor: Valovich McLeod T.

Strout NR. Athletic trainers' experiences developing and maintaining contemporary expertise. Faculty advisors: Welch Bacon CE, Cavallario JM (external).

Thompson SP. Transitioning into athletic training practice: changes in clinical practice behaviors, knowledge, skills, and confidence. Faculty advisor: Anderson BE.

Tranquillo C. Preceptor education: where's the gap and how do we fill it? Faculty advisor: Anderson B.

Valazquez K. Return to duty following head injury of service members assigned to 1st Marine Raider Battalion. Faculty advisors: Valovich McLeod T, Falsone S.

Zubke CA. Implementing diaphragmatic breathing techniques into a collegiate women's basketball program. Faculty advisor: Anderson B.

ATSU-ASHS Occupational Therapy Evidence-based Practice Research Day

The Occupational Therapy department held an evidence-based practice research poster day on May 25. Posters were a culmination of a two-semester research project for second-year master's level students. For the project, students created an answerable evidence-based practice research question, searched through relevant literature, and found the best applicable evidence to appropriately answer their question. Brandi Fulwider, PhD, OTR/L, was the faculty advisor for all projects. Eight posters were presented by 37 second-year occupational therapy students. The event was attended by about 75 students, faculty, and staff from the Occupational Therapy department and the ATSU community.

2022 ATSU-ASHS Occupational Therapy Evidence-based Practice Research Day posters

Agonoy J, Khinnarath A, Kogut B, Ngo K, Nielson K. Interventions for work-related carpal tunnel syndrome.

Bigby L, Fader T, Lynch E, Santos K. What is the effect of music on cognitive skills in patients with dementia?

Brian C, Newport E, Kuhns J, Miranda J, Clem M. How can occupational therapists intervene with women of child bearing age with vaginismus to improve participation in sexual activities?

Brionez-Wooster M, Lui D, Lawrence J, Patterson J, Pace H. Non-pharmacological sleep interventions and its effects on sleep quality.

Elomina M, Mooney T, Robinson M, Santiago K. Which occupation-based interventions improve postpartum mental health in mothers with infants in the neonatal intensive care unit?

Posters, continued

Harrison M, Hernandez N, Hollister L, Wolf C, Zamora J. The use of virtual reality in pain management for pediatric patients in the acute hospital setting.

Joyce J, Nuñez D, Shinkle R, McDonald L, O'Toole K. Incarcerated adults and community reintegration.

Venman A, Bartlett K, MacDonald J, Harness L. Does caregiver training improve safety and functional outcomes for patients with dementia?

ATSU-ASHS Occupational Therapy Doctoral Student Capstone Presentations

The Occupational Therapy department held its annual Doctoral Student Capstone Poster Presentations virtually on May 31 and in person on June 1. The doctoral capstone is an integral part of the curriculum and the culminating experience of the program. It allows students to demonstrate synthesis and application of their acquired knowledge and achieve advanced knowledge and skills in specific areas of practice, such as clinical practice, research, administration, leadership, program and policy development, advocacy, education, and theory development. Throughout the project, individualized mentorship in a specific setting helps students assimilate contextual knowledge and learning into a unique experience that prepares future leaders in the profession. Twenty-one posters were presented during the event, and it was attended by approximately 100 participants representing students, faculty, and alumni from ATSU, family members, and community-based clinicians. The clinicians who attended the event received continuing education credits.

2022 ATSU-ASHS Occupational Therapy Doctoral Student Capstone Presentations

Barboza S. Fostering health therapeutic relationships: foster parent education program. Faculty advisor: Wolf RL. Community mentor: Esquibel W.

Cherry M. The relationship between head and neck lymphedema and dysphagia for individuals with oropharyngeal cancer: a retrospective study. Faculty advisors: Jones K, Muriithi B. Community mentor: Mackie L.

Dawley A. Occupational health and safety for commercial pilots during the coronavirus pandemic. Faculty advisor: Gupta J.

Eklund K. Implementation of a protocol for conservative treatment of thumb carpometacarpal osteoarthritis. Faculty advisors: Radziak J, Shearon T. Community mentor: Burgeson V.

Filion T. Ability360 Center for Independent Living program evaluation and modification. Faculty advisors: Wolf RL, Fulwider BM. Community mentor: Christenson D.

Gore K. Establishing test-retest reliability and internal consistency of the occupational resilience measure. Faculty advisor: Muriithi B.

Hackl L. Impact of the level of parental involvement in occupational therapy services on patient outcomes for children ages 0-3 in the outpatient setting. Faculty advisors: Glenn MA, Wolf RL. Community mentor: Cunningham S.

Hansen B. Home health occupational therapy program through the Arizona Division of Developmental Disabilities. Faculty advisors: Wolf RL, Jones K. Community mentor: Hurstwicker K.

Heldt E. The development of an exercise-based fall prevention program tailored to incorporate caregivers caring for older adults at risk for falls. Faculty advisors: Shearon T, Buchanan B. Community mentor: Buchanan B.

Presentations, continued

Holcom M. The effectiveness of sensory interventions on social participation. Faculty advisor: Wolf RL. Community mentor: Piller A.

Lochhead A. A comprehensive manual of the shoulder exercise machine and an introduction to the potential benefits of the novel device. Faculty advisors: Shearon T, Wolf RL, Story A. Community mentor: Berzins B.

Oster M. How can occupational therapists better facilitate feeding interventions and family training post-NICU discharge to produce the best health outcomes for infants? Faculty advisors: Jones K, Muriithi B. Community mentor: Harrison J.

Richardson E. Implementing an aging in place program for accessible and safe homes to support older adults living in the community. Faculty advisors: Muriithi B, Fulwider B. Community mentors: Wasylak J, Lindstrom J.

Rosas-Ojeda MDC. Developing a resource for optimizing occupational engagement in adults with dementia. Faculty advisor: Muriithi B. Community mentor: Krantzman T.

Spotskey M. Implementation of functional cognition screening tool and program development in an inpatient rehabilitation setting. Faculty advisors: Shearon T, Story A. Community mentor: Beach J.

Tanyag VC. The effects of a teletherapy follow-up education program on the quality of life and self-management of lymphedema among breast cancer patients. Faculty advisors: Jones K, Muriithi B. Community mentor: Wolfe E.

Tonks T. Identifying an association between sensory processing and food sensitivities. Faculty advisor: Wolf RL. Community mentor: Piller A.

Urbanik F. A cognitive protocol for individuals with concussion. Faculty advisor: Gupta J. Community mentor: Miller A.

Varnell K. Occupational therapy scope of practice: pediatric mental health across the continuum. Faculty advisors: Gupta J, Jones K. Community mentor: King A.

Veazey C. Pilot study for the use of the Spurgeon Method™ of breast massage after mastectomy. Faculty advisor: Radziak J. Community mentor: Grajeda B.

Zimmer K. Video-based educational module to support adaptive gaming services. Faculty advisors: Wolf RL, Anders L. Community mentor: Guffey C.

ATSU-ASHS Physical Therapy Student Research Capstone Poster Day

The Physical Therapy department held its annual Student Research Capstone Poster Day virtually on June 1 using the [Kubify ePoster](https://my.ltb.io/#/showcase/atsudpt) (https://my.ltb.io/#/showcase/atsudpt) platform. Sixteen posters involving 61 students were presented. Each research poster is the outcome of a two-year capstone project for doctor of physical therapy students. Projects typically involve multiple students and are mentored by full-time physical therapy faculty. With the support of the Department of Research Support and of Academic Technologies, the poster day was attended by over 130 participants representing students and faculty from ATSU, alumni, community-based clinicians, and families. One presentation received the Outstanding Applied Research Capstone Award and one received an honorable mention.

2022 ATSU-ASHS Physical Therapy Poster Day presentations and posters

*indicates presenter

Algarra A, Vogt R, Schuler D, Gomez O*. Difficult conversations in various physical therapy settings: pilot study. Faculty mentors: Robinson C, Bordenave L, Wilkinson T.

Arcus K, Brennan K*, Cring K, Nakata M. Perceived experience of participating in a virtual whole body drumming class for adults with PD. Faculty mentors: McIsaac TL, Hodges C.

Azorr S, Jimenez I*, Murakami A. Physical therapy pro-bono clinic and its impact on clinical experience readiness. Faculty mentor: Ellison T.

Barton A, Weigel J*, Meza K, Cisney N. The use of dual inclinometry to measure cervical rotation: an assessment of validity and reliability. Faculty mentors: Cuka C, McIsaac TL.

Buyer E*, Farnham M, Duecker M, Wilcox B. Healthcare experiences of persons with chronic pelvic pain described on Reddit: a qualitative study. Faculty mentors: Kays P, Roehling T.

Durnil L*. A qualitative pilot study to investigate the attitudes and beliefs of clinical instructors about low back pain classification systems. Faculty mentor: Manton C.

Harris-Kinnick C, Lester B*. Reliability of scoring student performance of thrust joint manipulation using the MPRT. Faculty mentor: Manton C.

Jones I, Lebeck B, Ball B, Porter D*. Our experience with action research: managing patient with low back pain. Faculty mentor: Manton C.

Layton J, Largent K, Nelson M*, Vazquez R. Relationship between sensory impairment and gait performance following stroke. Faculty mentor: Little V.

Leake J, Bakken S, Bengston A*, Norstrom J. Self-reported driving habits and their relationship to measures of dual task mobility, attention, and cognition in PD. Faculty mentors: McIsaac TL, McFadden E.

Lucero A*, Gonzales D, Romer E, Carey L. The relationship between sensory impairment and gait performance in adults: a review. Faculty mentor: Little V.

Morse A, Credle M, Garcia Escalante R*, Hicks S. Defining adaptive sports experiences: a national survey of PT and PTA programs. Faculty mentors: Black K, Fay D.

Peterson M, Davis T, Sherman T*. Locomotor and cognitive effects of high intensity gait training in early post-stroke rehabilitation. Faculty mentors: Karstens J, Little V.

Ruzan I, Tuell M, Russell K*, Suyematsu N, Mazur K, Englestead B, Jarecki M, Henderson N*. Reference values in individuals without disabilities for activity limitation tests used in para-athletics classification. Faculty mentor: Fay D.
Outstanding Applied Research Capstone Award

Underwood K, Payne M*, Herron C, Merhavy E. Qualities of ATSU DPT graduates identified as contributing factors to leadership in the physical therapy profession. Faculty mentors: Kuettel J, Bordenave L, Black K. *Honorable Mention*

Underwood R*, Mueller G, Klar L, Van Damme C. Development of a clinician education module on hippotherapy with Parkinson's disease. Faculty mentor: McIsaac TL.

ATSU-ASDOH Fall Research Day Scientific Poster Session

On Sept. 21, ATSU-ASDOH held an in-person fall Student Research Day. Eight posters from student and faculty research were presented during the session. The event was open to the Mesa, Arizona, campus, and over 175 people attended.

2022 ATSU-ASDOH Fall Research Day student poster presentations

*indicates presenter

Abrams J*, Gettleman B, Makin IRS, Spolarich A. Relationship between apical patency and irrigant fluid extrusion.

Kim M*, Vitale-Cross L, Nemeth K, Gopffarth K, Mezey E. The role of stromal derived hCG in erythropoiesis.

Krueger K*, Chang KCJ. Xenograft morphology impact on hard and soft tissue growth in site preservation: a case report.

Lee H*, Spolarich A. Oral health care and malocclusion in children with autism spectrum disorder.

Leibow W, Tommarello G*, Beckett M. Where's MB2?

Ly M*, Perry M, Howell S. Lesbian, gay, bisexual, transgender, queer, intersex, asexual, and other (LGBTQIA+) education in dental schools.

Yu M*, Spolarich A. The impact of COVID-19 on food insecurity and oral health in America.

Zlobinskaya M*, Reay L*, El-Gendy T, Crockett R. Interproximal contact loss between implant and adjacent tooth.

Interdisciplinary Biomedical Research Symposium

On Nov. 12, the 14th annual Interdisciplinary Biomedical Research Symposium was held on the Kirksville, Missouri, campus as an in-person and virtual event. The event was hosted by ATSRI, and Alonso Carrasco-Labra, DDS, PhD, MSc, was the keynote speaker. Over 170 people attended the symposium in person, and about 60 people attended virtually. Students, faculty, alumni, residents, and staff from ATSU, Still OPTI, Northeast Regional Medical Center, Rocky Vista University, and Truman State University were involved with 100 oral and poster presentations during the event; 84 were in person and 16 were virtual. Ninety presentations involved researchers from ATSU, and over 50 students from various schools and programs and nine faculty and staff were the presenters.

Fourteenth annual Interdisciplinary Biomedical Research Symposium oral presentations

* indicates presenter

Corrick J*. Exploring the effects of e-health on rural population mental health.

Hajicek J*, Gillette J*, Starks Z, Wang YF, Degenhardt B. Effect of objective training on asymmetry assessments of the pelvis.

Huhn M*, Starks Z, Wang YF, Degenhardt B. Comparison of outcomes of diagnostic palpation training delivery methods.

Schubert B*, Waite M, Markand S. Protective effects of melatonin on elevated homocysteine in human RPE cells. *Best Oral Presentation*

Thorndal C*, Datario A. Potential of the autolysin protein ATL as a vaccine candidate in protection.

Oral presentations, continued

Watson M*, Saitis T*, Lakhani M, Ahmad Z. Inhibition of *Escherichia coli* ATP synthase by shikonin and alkannin.

Worobec A*, Oligschlaeger A, Hunter M, Arabas JL, Mayhew JL, Brechue WF. BMD and BMC in college women basketball players and swimmers.

Fourteenth annual Interdisciplinary Biomedical Research Symposium posters

* indicates presenter

Alfarra M*. Large scale dynamical model of macrophage/HIV interaction.

Avina J*, Skinner AG, Singh V, Akhtar S. Inulin protects intestinal epithelial cells from LPS-induced inflammation.

Ayers J*, Singh V. Lack of MsrA activity reduced *S. aureus* pathogenesis in murine abscess model.

Azim S*, Singh V. Expression of ATP synthase encoding genes.

Barner M*, Markand S, Kondrashov P, Schubert B, Suh T, Cramberg M. Immunohistochemical analysis of MTHFR in rat and human eyes.

Barnwell C*, Starks Z, Wang YF, Degenhardt B. Practice makes improvement: training accurate force delivery to spine models.

Bashir S*, MacSwords J, Holbrook K. KFM continuity of care and patient retention QI project.

Berrios M*, Phillips P, Roberts W. Cloning and expression of PG_RS02100 protein in *Porphyromonas gingivalis*.

Boss S*, Bertolio M, Lipke L. Inflammatory changes in healthy adults due to e-cig use: a scoping review.

Bouton M*. Professional support of experienced physician assistant researchers.

Bruntmyer H*, Ramey KA. Autism spectrum disorder and OMM: a case report.

Carter W*, Cleaver D. Lymphomatoid papulosis or is it?

Chartrand H*, Zetterlund E, Smith K, Hauge K. AHEC Scholars: addressing health workforce shortages.

Chastain N*. Analysis of experience vs no experience in osteopathic medical training.

Cramberg M*, Walter C, Houser J, Carroll J, Loguda-Summers D, Young BA. The biomechanics of pedal anchoring in *Alligator mississippiensis*.

Crotts M*, Baer R, Cox J. Doramectin induces apoptosis in B16 melanoma cells.

Datario A*, Thorndal C. Cytokine analysis of mice vaccinated with *S. aureus* autolysin protein ATL.

Delzell M*, Bloebaum L, Ramaraj P. Is testosterone responsible for increased male mortality in melanoma?

Diemer C*, Schubert B, Markand S. Analysis of variation in the obturator artery in Midwestern donor bodies.

Dochterman M*, Starks Z, Degenhardt B, Wang Y. Surface topography to measure respiratory mechanics: a pilot study.

Doublestein D*, Spinelli B, Goldberg A, Larson C, Yorke A. Use of outcome measures by lymphedema therapists.

Posters, continued

Elmslie K*, Kim-Han JS. Composition of TTX-S Nav current in rat muscle afferent neurons.

English C*, Taylor Z, Cramberg M, Young BA. Cerebrospinal fluid pressure is significantly influenced by movement.

Farrell J*, Stuart MK. Fetal bovine serum induces chemotaxis and chemokinesis by *Trichomonas tenax*. *First Runner-up award* and *Neil J. Sargentini, PhD, Memorial Award*

Forman C*, Koogler A, Diehl B, Tipton R, Humphrey C, Ostrowski T, Ostrowski D. Glutamatergic signaling in a rat model of Alzheimer's disease (AD).

George E*, Arcibal L, DeLeeuw J. Risk stratifying COVID-19 patients before and after creating a lab order set.

Goff A*, Heller E, Han BH. Protection against amyloid- β -induced cerebrovascular dysfunction.

Grondel B*, Jones K, Ferrin Z. Gender differences in screening colonoscopies: ADR, WT, and adenomas.

Grondel B*, Pinheiro D. Hyperparathyroidism in the setting of multiglandular hyperplasia.

Hilfer A*, Newell S, Arabas JL, Mayhew JL, Brechue WF. Work capacity and estimation of 1RM bench press in athletes.

Hilton B*, Cleaver D, Cleaver L. Adalimumab inducing pyoderma gangrenosum.

Huffman J*, Millhouse R, Will M. A retrospective study of OMM consults for hospitalized COVID-19 patients.

Hutzley S*, Ruden E, Vanden Bosch K, Schubert B, Markand S. Morphometric analysis of pyramidalis muscle in Midwestern Americans.

Inkabi S*, Martinez LR. Understanding the impact of *Cryptococcus neoformans*: microglia interactions.

Jacobs J*, Crotts M, Cox J. Silibinin protects melanoma cells from staurosporine-induced cell death.

Johnson A*, Towakoli M, Holt C, Sukhanova KY, Koirala A, Kim-Han JS, Elmslie KS. G protein-coupled receptors potentially mediate the exercise pressor reflex.

Johnson B*, Headlee J, Houser J. Characterization of colorectal polyps in cadavers. *Overall Competition award*

Jones B*, Welch Bacon CE, Snyder Valier AR, Picha KJ. Social determinants of health in athletic training education.

Jones M*, Arabas JL, Mayhew JL, Brechue WF. Anthropometric dimensions to predict body weight in college-aged women.

Kim M*, Mezey A, Vitale-Cross LA, Nemeth K, Gopffarth K. The role of stromal derived hCG in erythropoiesis.

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