

SLU BIOMEDICAL ENGINEERING NEWSLETTER



SAINT LOUIS UNIVERSITY

DEPARTMENT OF BIOMEDICAL
ENGINEERING

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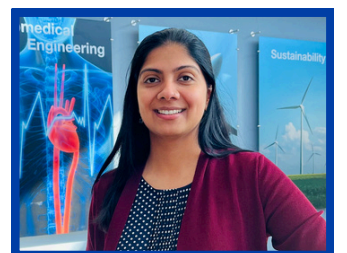
SLU BME FACULTY RECOGNIZED BY NAI

On February 20th, the National Academy of Inventors unveiled the distinguished 2025 Class of NAI Senior Members who are “rising stars who foster a spirit of innovation within their communities and institutions while educating and mentoring the next generation of inventors.”

Silviya Zustiak, Ph.D., is recognized for her patented technology related to the fabrication of hydrogel materials for drug and biotherapeutic discovery, delivery, and controlled release. Her expertise has enabled multiple opportunities for industry collaboration, including fabrication and validation of potential treatments of osteoarthritis, drug screening in 3D cultures for cancer, and development of tunable and traceable hydrogel microspheres.



Koyal Garg, Ph.D., is recognized for her research and development of biomimetic sponges designed for tissue regeneration, addressing the critical lack of effective treatments for volumetric muscle loss. Licensed to GenAssist, Inc., the technology enables creation of sponges with tailored strength, elasticity, and therapeutic delivery properties.



SLU BME ATTENDS ORS ANNUAL MEETING

The 2025 Orthopaedic Research Society (ORS) Annual Meeting, held in Phoenix, AZ February 7-11, was an exciting opportunity to showcase the latest research and connect with leaders in musculoskeletal science. BME Associate Professor, **Dr. Koyal Garg**, and BME Assistant Professor, **Dr. Alex Reiter**, attended the conference alongside several graduate students who presented their cutting-edge work in tissue engineering, biomechanics, and orthopedic research. The event also provided valuable networking opportunities, where attendees forged new partnerships with clinicians and industry professionals, helping to push the boundaries of innovation in orthopedics. It was a proud moment for the department to be so well-represented at such a prestigious conference. We look forward to participating in the years to come!

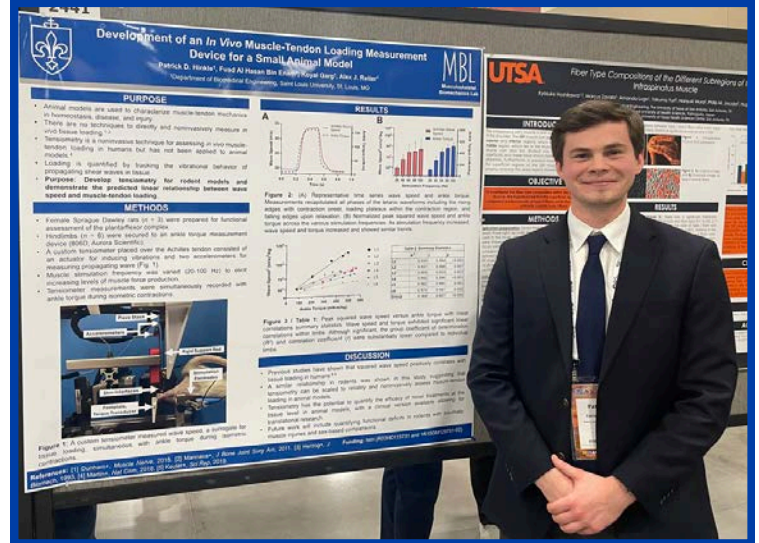


Additionally, Dr. Garg's Lab was pleased to reconnect with 2024 SLU BME alum, **David Johnson, Ph.D.**, who is now advancing muscle trauma research as a postdoctoral fellow at the University of Oregon.

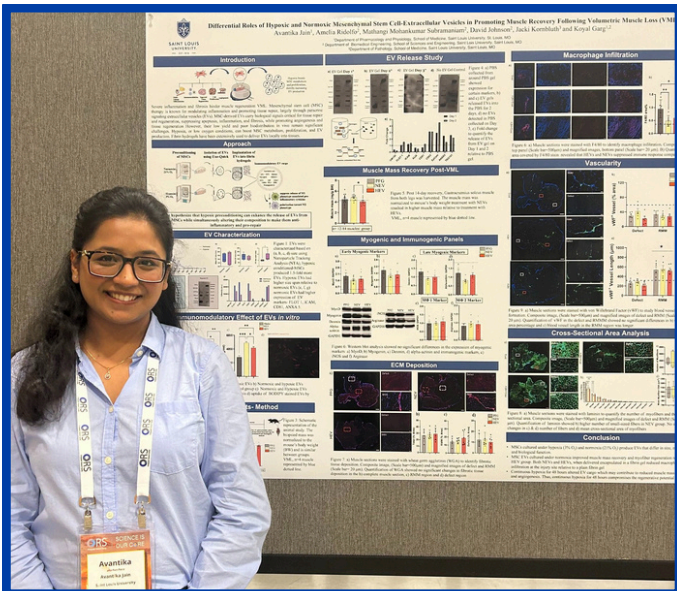


Dr. Reiter, **Patrick Hinkle**, and **Jamshid Tadiwala** tackled the challenging 2.5 mile Piestawa Peak Trail in Phoenix, climbing nearly 1,000 feet to reach the summit and take in the stunning desert views.

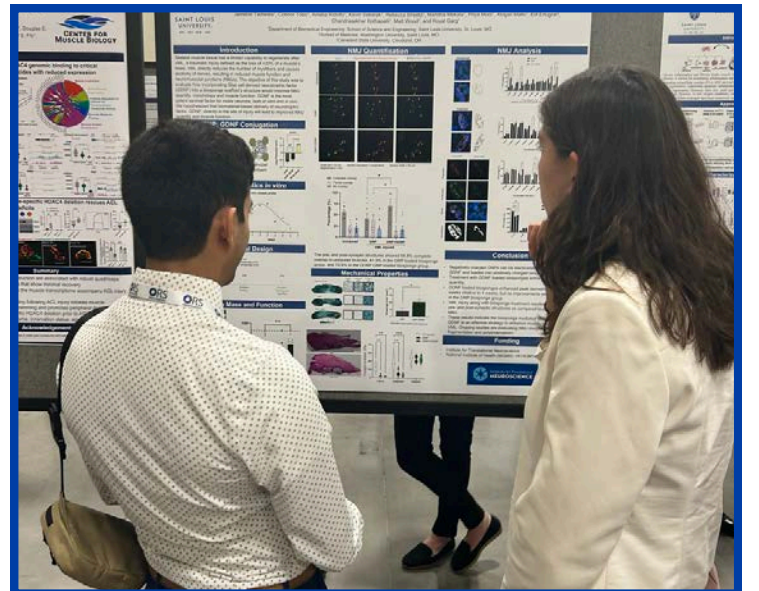
ORS ANNUAL MEETING CONTINUED



P. Hinkle, F. Al Hasan Bin Enam, K. Garg, A. Reiter, "Development of an In Vivo Muscle-Tendon Loading Measurement Device for a Small Animal Model," (Poster)



A. Jain, A. Ridolfo, M. M. Subramaniam, D. Johnson, J. Kornbluth, K. Garg, "Differential Effects of Hypoxic and Normoxic Extracellular Vesicles in Muscle Trauma Recovery," (Poster)



J. Tadiwala, C. Tobo, A. Ridolfo, K. Sekerak, R. Sheetz, N. Mekala, P. Modi, A. Mallo, E. Ertugral, C. Kothapalli, M. Wood, K. Garg, "Biosponges Embedded with GDNF Preserve Neuromuscular Junctions Following Volumetric Muscle Loss," (Poster)

ORS ANNUAL MEETING CONTINUED



BME Associate Professor, **Dr. Koyal Garg**, along with colleagues Dr. Michael McClure (Virginia Commonwealth University) and Dr. Karina Nakayama (Oregon Health and Science University), organized and moderated the scientific workshop, "Advancing Regenerative Rehabilitation for Muscle Trauma." The event featured leading experts, including Dr. Fabrisia Ambrosio (Harvard Medical School), Dr. Thomas Rando (UC Los Angeles), Dr. Christopher Fry (University of Kentucky), and Dr. Hirotaka Iijima (Harvard Medical School). These researchers shared groundbreaking insights and cutting-edge advancements in muscle repair and recovery. The workshop attracted a highly engaged audience and received excellent feedback.

SSE ADMITTED GRADUATE STUDENT WEEKEND

The School of Science and Engineering (SSE) hosted prospective fall 2025 graduate students on January 31st and February 1st for a weekend of fun. Things kicked off with the Three Minute Thesis competition where BME BS/MS student, **Patrick Hinkle**, won the Master's category with his research on tendon force measurement.

SLU BME welcomed two prospective Ph.D. students for an immersive experience. Current BME graduate students guided them through the weekend, while **Dr. Silviya Zustiak** provided an overview of the Ph.D. program. Lab tours offered insight into exciting research projects. Students also connected over lunch, mini golf at Puttshack, and dinner at The Foundry with current students and BME faculty.

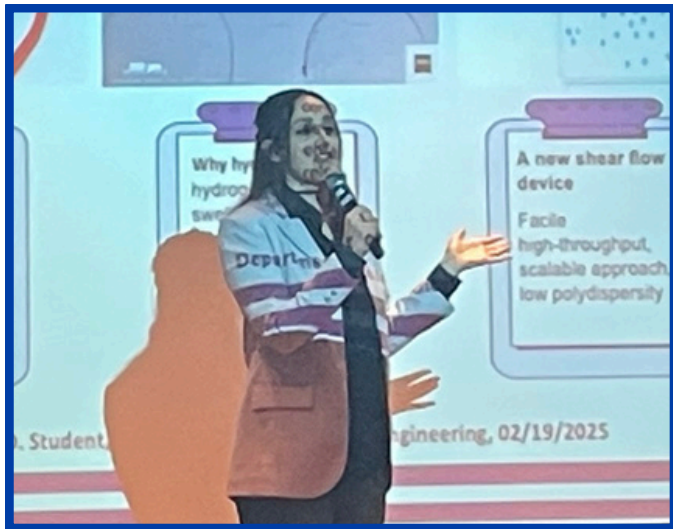


SLU THREE-MINUTE THESIS COMPETITION

Saint Louis University's annual Three-Minute Thesis (3MT) competition, held on February 19th, showcased the impressive research of graduate students from across the university. The event, sponsored by the Office of Graduate Education, challenges participants to communicate their research in just three minutes without the use of props or jargon. Among the participants, **Patrick Hinkle** earned second place in the Master's Student category for his



Patrick Hinkle, BS/MS student, presented and won 2nd place in the MS division with his thesis titled, "Gauging Force by Tapping Tendons in a Small Animal Model."



Hanieh Shokrani, Ph.D. student, presented her dissertation titled, "Shear Flow-Based Method for Making Embolization Spheres."

compelling research presentation. **Hanieh Shokrani**, BME Ph.D. student, also took part, contributing her innovative research to the event. Congratulations to both Patrick and Hanieh for their outstanding performances! The competition not only hones academic and presentation skills but also helps students connect their research with broader audiences. Well done to all participants for their dedication and ability to communicate complex ideas concisely!

“

I learned a lot about the art of presentation—how to present with confidence and how even the smallest details can have a big impact on stage. This was a great experience for me. Although I didn't win, I gained valuable insights into crafting a strong research story, viewing it as a journey, and sharing it with others without unnecessary stress that only hinders performance. Overall, I would gladly participate again, even without the prospect of winning. It is a HUGE learning experience.

Hanieh Shokrani

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BME GRADUATE STUDENT EVENT – TRIVIA NIGHT



On February 20th, BME graduate students gathered for the first grad event of the semester—a highly anticipated Trivia Night at the Foundry Food Hall. This popular event returned with an extra dose of excitement, as participants competed to break last year’s tie and crown a new champion. In addition to the trivia, the night offered a great opportunity to socialize and enjoy some delicious food. It was the perfect way to kick off the semester.

BMES LEARNS ABOUT NEW MEDICAL SCHOOL IN ARKANSAS

On February 5th, the student BMES chapter at SLU hosted a virtual visit with the Director of Admissions for the Alice L. Walton School of Medicine, a new medical school in Northwest Arkansas. The session offered an in-depth look at the school’s 4-year MD program. Attendees learned about the curriculum and environment, clinical opportunities, state-of-the-art facilities, and the school’s holistic admissions process. The event also featured a Q&A session, providing prospective students with valuable insights into this exciting new medical school.



Classes begin in Summer 2025!

BMES ATTENDS SCIFEST: ENGINEERING EXPO



On February 22nd, SLU's Biomedical Engineering Society (BMES) chapter participated in SciFest: Engineering Expo at the Saint Louis Science Center. This is an exciting event that brings together STEM enthusiasts of all ages. At their booth, BMES engaged visitors with a fun and educational "Match the Implant" game, where participants matched various medical implants to their correct body parts. The event was a wonderful opportunity for the community to explore the world of biomedical engineering (BME), interact with current BME students and industry professionals, and discover the practical applications of STEM in healthcare.

SSE ENGINEERS WEEK – BME DAY

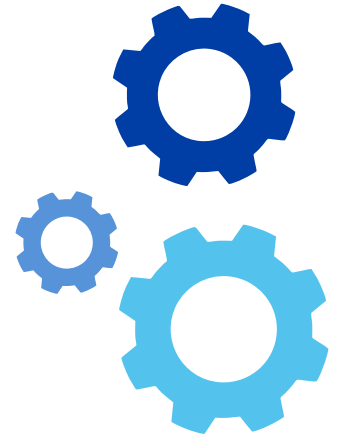
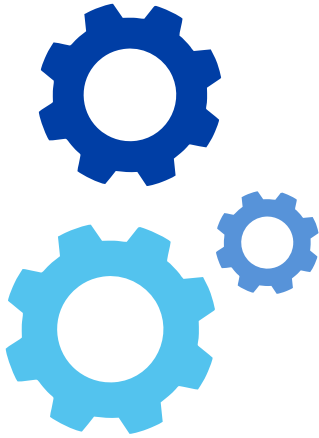
The School of Science and Engineering hosted a week of fun and informational events for students as part of Engineers Week held February 17-21. Day 4 was the designated BME day and was a big success thanks to the BME department and BMES club! Students connected with top industry leaders like Biosense Webster, Medtronic, and the U.S. Department of Veterans Affairs, gaining valuable insights into career opportunities and innovations in BME. It was a great chance to network and learn about the future of the field.



STUDENT ORGANIZATION HIGHLIGHT - SWE



The Society of Women Engineers (SWE) chapter at Saint Louis University is dedicated to empowering and supporting women pursuing careers in engineering. SWE provides a dynamic platform where members can gain valuable career experience, build lasting connections, and access a wide network of industry professionals, internships, workshops, and career development resources. These opportunities help women enhance the skills, knowledge, and confidence needed to succeed in the engineering field.



This semester, SWE is excited to be back in action with a full slate of events and initiatives with BME Assistant Professor, **Dr. Natasha Case**, serving as the faculty mentor. At their first general body meeting, SWE introduced their faculty advisor and executive board, discussed upcoming plans, and had some fun bonding with Valentine's crafts. SWE is thrilled to participate in events like Golf & Give, Introduce A Girl to Engineering Day, SciFest at the Science Center, and more. They are looking forward to a March bowling networking event with RSM Consulting and collaboration with WashU's student chapter of SWE. Promoting networking opportunities with companies, alumni, and industry professionals is a top priority, alongside engaging in meaningful outreach within the community. The SWE chapter at SLU is committed to creating opportunities for women to lead, connect, and succeed in the ever-evolving field of engineering.



SSE GOLF AND GIVE



SWE's design took 2nd place.



BME's theme: "Make Your Way Through My Heart!"

On February 25–26, SSE hosted Golf and Give at the Wool Ballrooms in the Busch Student Center. The event featured a unique, student organization–designed golf course, offering a fun challenge for all participants. BME students competed alongside their peers, showcasing their putting skills and voting on their favorite holes. SWE's design finished as the runner-up winning \$500. The event provided a great opportunity for the BME community to connect outside the classroom while supporting a worthy cause. Participants donated non-perishable food items or cash to Billiken Bounty, SLU's food pantry, adding a charitable element to the competition. The event was a success, fostering friendly rivalry and community spirit.

BME SPRING SEMINAR – MARCH/APRIL SCHEDULE

The BME department hosts a weekly seminar that features invited speakers from academia and industry as well as SLU biomedical engineering graduate students. The seminar is a great opportunity to learn about the latest research taking place broadly in the biomedical engineering field and the amazing work our graduate students are performing at SLU. Sign up [here](#) to receive BME Seminar announcements for upcoming speakers. This is separate from our newsletter distribution list.

Coming Up:



3/5 and **3/12** No seminar – Midterms and Spring Break

3/19 Muruhan Rathinam, Ph.D., Professor, Mathematics and Statistics, University of Maryland Baltimore County

3/26 Mia Ridolfo, BME BS/MS Student, and Esha Pattan, BME Undergraduate Student

4/2 No seminar – Sigma Xi Research Symposium

4/9 Jason Longhurst, Ph.D., Assistant Professor, Physical Therapy and Athletic Training, SLU

4/16 Michael Borovik, BME Graduate Student and James Baker, BME BS/MS Student

4/23 Kristina Pinkham and Annelise Le, BME BS/MS Students

4/30 No seminar

SLU Department of Biomedical Engineering
BME Research and Experiential Learning
Opportunities for Undergraduates

Are you interested in experiential learning opportunities in BME?

- Work closely with professors and graduate students on impactful research
- Acquire exposure to hands-on applications in improving healthcare
- Apply class knowledge to real-life situations
- Develop lab skills
- Gain resume experience

Research Areas

- +Biomaterials
- +Biomechanics
- +Mechanobiology
- +Neuroengineering and Brain Computer Interface
- +Regenerative Engineering
- +Scaffold Production
- +Tissue Engineering



Scan me for faculty profiles!

CALLING ALL UNDERGRADUATES!

Are you eager to collaborate with professors and graduate students on impactful research? Want to gain hands-on experience that's advancing healthcare? Looking to develop lab skills and boost your resume? Apply for the BME Research and Experiential Learning Opportunities for Undergraduates! This program offers a unique chance to immerse yourself in meaningful research and practical applications. Don't miss out! Click [here](#) to fill out the application and then submit your resume to biomed@slu.edu.

THE MENTOR COLLECTIVE FOR UNDERGRADUATES AND ALUMNI!

We're calling on valued members of our community to serve in Saint Louis University's School of Science and Engineering Mentor Collective Alumni Network! This program matches undergraduate sophomores, juniors, and seniors with mentors like you who have been in their shoes and know first-hand what it's like to learn at SLU. Click [here](#) to sign up to be a mentor.

**CONNECT.
INSPIRE.
MENTOR.**

Join the Mentor Collective Alumni Network at SLU's School of Science and Engineering today.

Register:

ATTENTION BME ALUMNI

Are you a SLU BME Alumni? If so, we'd like to invite you to fill out the form below to give us your updated contact information (email) and tell us where you have landed after graduation. With your permission, we would love to highlight your career achievements and stay connected with you in the future!

[BME ALUMNI FORM](#)

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