

NEWSLETTER



SAINT LOUIS UNIVERSITY

DEPARTMENT OF BIOMEDICAL
ENGINEERING

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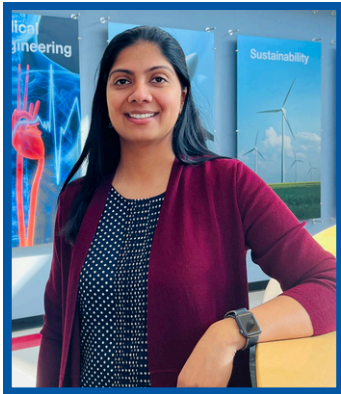
BME PROFESSOR EDITS SPECIAL ISSUE AND EBOOK

Dr. Silviya Zustiak, in collaboration with co-editor, Dr. Jennifer Robinson from the University of Washington, is excited to present the second edition of the “Women in Biomaterials Science” special issue and eBook featuring four original research manuscripts and six review articles highlighted by an editorial. This special issue aims to promote the



work of women researchers across Biomaterials Science and to encourage more women to pursue careers in the field. Each paper has a female corresponding author, all but one of the lead authors are female, and a total of twenty-nine female scientists are represented as co-authors. The diverse topics in this special issue cover the technical range of nanomaterials to 3D human-sized biomaterial models. Additionally, you can learn about biomaterial applications from combatting infections to the treatment of uniquely female conditions including endometriosis and cervical dysplasia. Congratulations to all featured authors! Click [here](#) to read this special edition!

DR. GARG'S SEPTEMBER SPEAKING ENGAGEMENTS



BME Associate Professor, **Dr. Koyal Garg**, had the privilege of speaking at two events this past month. On September 10th, Dr. Garg was invited by Steven Segal, Ph.D., Professor of Medical Pharmacology and Physiology from the University of Missouri at Columbia, to present a seminar on her research which was titled, "Biomaterial Interventions to Promote Muscle Regeneration and Reinnervation Post-Trauma."



On September 13th, Dr. Garg spoke at the Institute for Translational Neuroscience (ITN) Meeting at Saint Louis University School of Medicine. As an ITN member, Dr. Garg presented, "Bioengineering Approaches to Enhance Muscle Innervation Following Trauma."



BME UNDERGRADUATE EARNS TAU BETA PI AWARD

Congratulations to BME senior, **Kristina Pinkham**, who was awarded the Tau Beta Pi engineering award. This award acknowledges Kristina's campus leadership, service, and promise of future contributions to the engineering profession. Kristina is a BS/MS student minoring in Engineering Mathematics and the secretary of the Tau Beta Pi - Missouri Epsilon chapter at SLU. She works with BME Associate Professor, **Dr. Yan Gai**, on EEG sound localization. Kristina intends to continue furthering her research for medical device development after graduating from the SLU BME BS/MS program.



TAU BETA PI
THE ENGINEERING HONOR SOCIETY

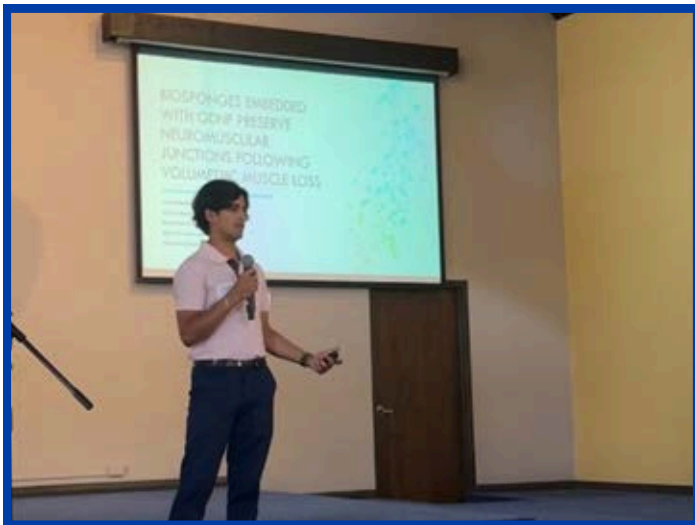


SLU-IDBI 3RD ANNUAL RESEARCH SYMPOSIUM

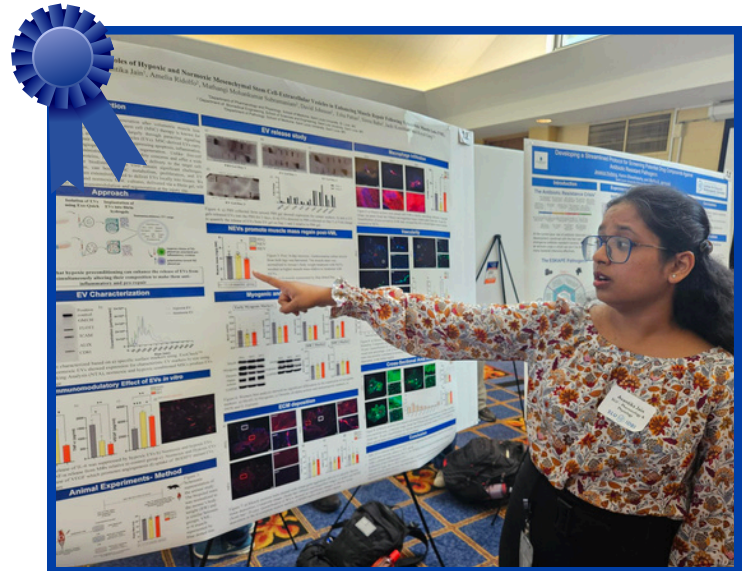


Students from the labs of **Dr. Silviya Zustiak** and **Dr. Koyal Garg** had the opportunity to present their research at [Saint Louis University's Institute for Drug and Biotherapeutic Innovation \(IDBI\)](#) research symposium on September 6th, 2024. SLU-IDBI is a multidisciplinary association of researchers with an interest in drug and biotherapeutic discovery and development. SLU-IDBI aims to share expertise, stimulate ideas, and foster collaboration.

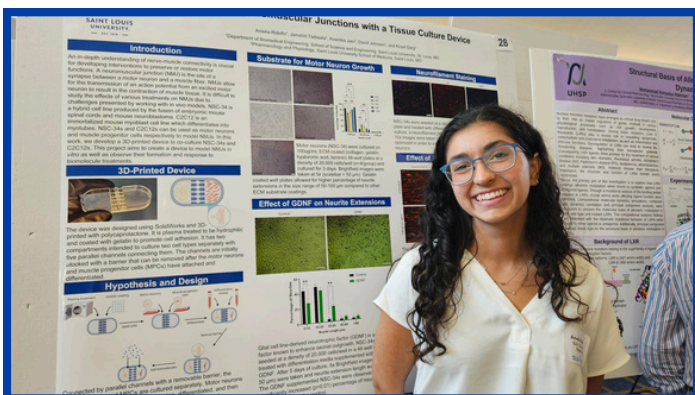
J. Tadiwala , C. Tobo , A. Ridolfo , M. Wood, K. Garg, "GDNF-infused Biosponges for Improved Muscle Reinnervation Following Volumetric Muscle Loss," Podium Presentation



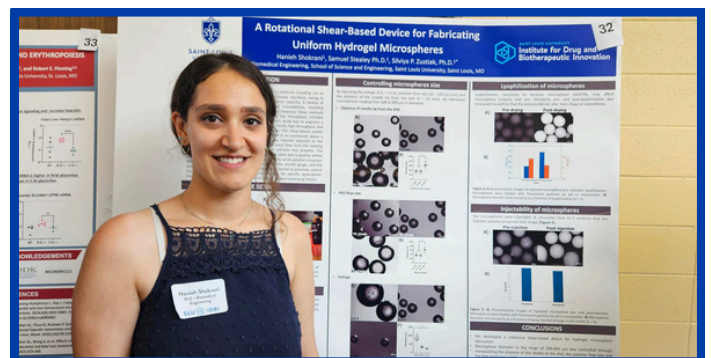
A. Jain, D. Johnson, J. Kornbluth, **K. Garg**, "Enhancing Muscle Regeneration: Distinct Roles of Hypoxic and Normoxic MSC-Derived EVs in VML Treatment," Poster Award Winner



A. Ridolfo, J. Tadiwala, A. Jain, D. Johnson, K. Garg, "Modeling of Neuromuscular Junctions with a Tissue Culture Device," (Poster)

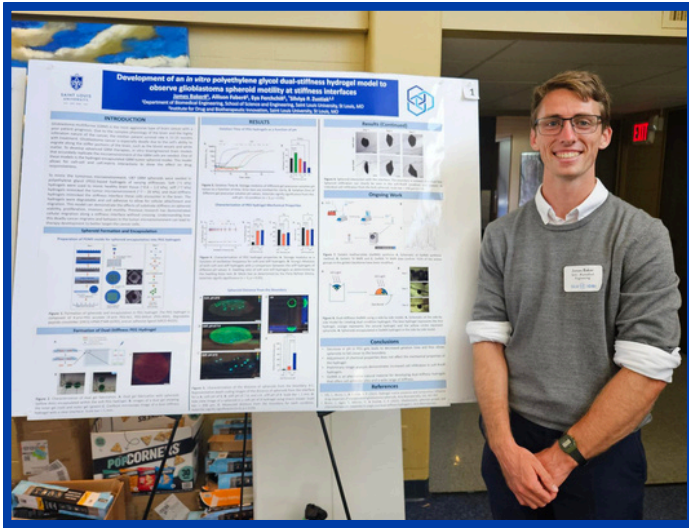


H. Shokrani, S. Stealey, S. P. Zustiak, "A Rotational Shear-Based Device for Fabricating Uniform Hydrogel Microspheres," (Poster)

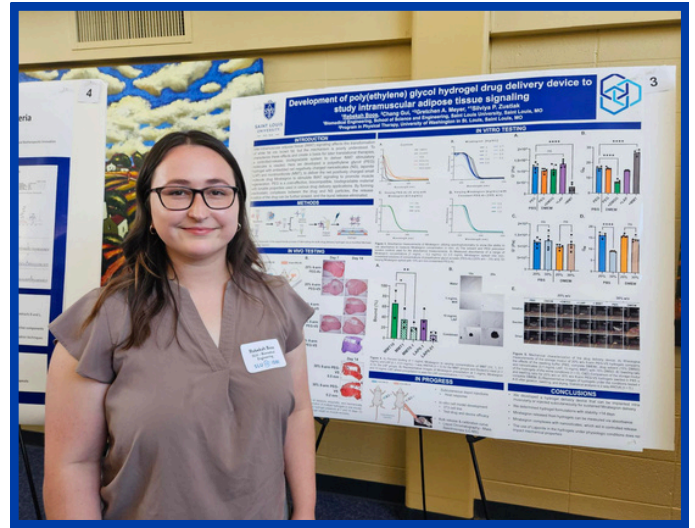


SLU – IDBI 3RD ANNUAL RESERACH SYMPOSIUM CONT. SAINT LOUIS UNIVERSITY Institute for Drug and Biotherapeutic Innovation

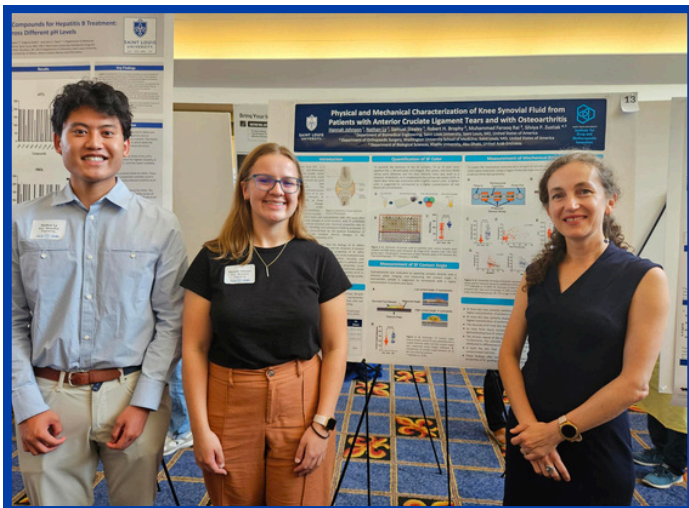
J. Baker, A. Faber, E. Ferchichi, S. P. Zustiak, “Development of an In Vitro Polyethylene Glycol Dual-Stiffness Hydrogel Model to Observe Glioblastoma Spheroid Motility at Stiffness Interfaces,” (Poster)



R. Boos, C. Gui, G. A. Meyer, S. P. Zustiak, “Development of Poly(ethylene) Glycol Vinyl Sulfone Hydrogel Drug Delivery Device to Study Intramuscular Adipose Tissue Signaling,” (Poster)

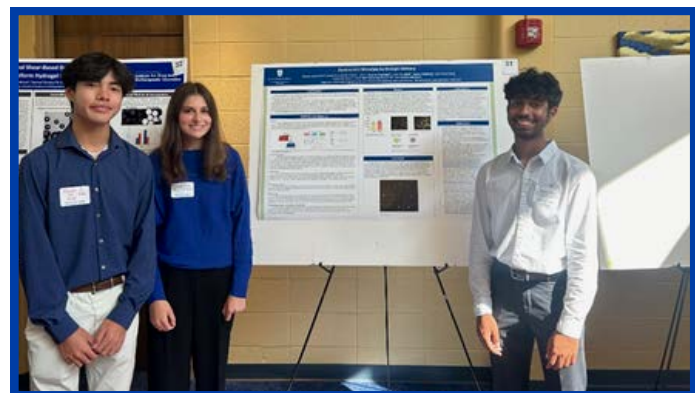


H. Johnson, N. Ly, S. Stealey, R. H. Brophy, M. F. Rai, S. P. Zustiak, “Physical and Mechanical Characterization of Knee Synovial Fluid from Patients with Anterior Cruciate Ligament Tears and with Osteoarthritis,” (Poster)



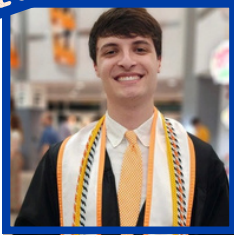
***S. Shaji, *N. Wolk, V. Ly, J. Tadiwala, A. Jain, A. Ridolfo, and K. Garg**, “Electrostatic MicroGels for Biologic Delivery,” *co-first authors, equal contribution (Poster)

Click [here](#) to read Stephen Shaji’s interview with Rockwood School District about his SLU experience this summer!





FALL 2024 NEW GRADUATE STUDENTS



Fisher Addisson

PhD Student

Research Focus: Identifying Tensiometry to Track Achilles Tendon Ruptures from Knoxville, Tennessee



Fuad Al Hasan Bin Enam

PhD Student

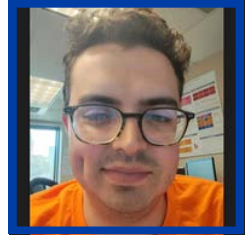
Research Focus: Assessing Injury Model Treatment Using Novel Biomechanical Techniques from Dhaka, Bangladesh



Rebecca Sheetz

PhD Student

Research Focus: Use of Human Derived Placental Stem Cells in the Treatment of Volumetric Muscle Loss from St. Charles, Illinois



Kevin Sekerak

PhD Student

Research Focus: Use of Human Derived Placental Stem Cells in the Treatment of Volumetric Muscle Loss from Dearborn Heights, MI



Trent Hardwick

MS Thesis Student

Research Focus: Orthopedic Tissue Engineering from Belize City, Belize



Preston Shake

MS Thesis Student

Research Focus: Electrospinning Applications from Newburgh, Indiana



Gabriella Robert

MS Non-Thesis Student

from Coimbatore, India



Yashwanth Upputuri

MS Non-Thesis Student



Elizabeth Flad

BS/MS Thesis Student

Research Focus: Enhancing Complex Movement and Range of Motion for Prosthetic Arms from Saint Louis, Missouri



Mia Ridolfo

BS/MS Thesis Student

Research Focus: In Vitro Modeling of Neuromuscular Junctions from Zionsville, Indiana



Annalise Le

BS/MS - Non-Thesis Student

from Wentzville, Missouri



Tanishaa Manna

BS/MS - Non-Thesis Student

from Kolkata, India



Van Phan

BS/MS - Non-Thesis Student

from Saigon, Vietnam



Kristina Pinkham

BS/MS Non-Thesis Student

from New London, Missouri



Michael Pritchard

BS/MS Non-Thesis Student

from Edwardsville, Illinois



Raghav Yalamanchili

BS/MS Non-Thesis Student

from Apple Valley, Minnesota

BME EVENTS – AXE THROWING AND PICKLEBALL

The BME department had its first BME Hangout on September 16th with inflatable axe throwing for all to enjoy. Be sure to join us next time on October 30th for a pizza party and cornhole tournament! All are welcome!



The BME Department prioritizes ways for its grad students to make connections and support each other throughout their academic careers. The Events Chairs organize a couple events each semester as a way to de-stress and get to know the graduate students and the BME faculty in a non-work environment. This year, Ph.D. students, **Patrick Hinkle** and **Rebecca Boos**, are serving as the co-chairs. On September 25th, the department gathered at Francis Park to play pickleball. Everyone enjoyed the great weather and friendly competition!

PICKLE



BALL



NEWLY RE-DESIGNED BME GRADUATE PROGRAMS

Advance your career with a MS or PhD in Biomedical Engineering at SLU! [Apply](#) to our program if you are passionate about applying engineering solutions to healthcare problems! At Saint Louis University, we offer [PhD](#) and [MS](#) graduate programs, both thesis and non-thesis, in Biomedical Engineering. Students pursuing an MS or PhD will be provided a world-class education by our outstanding [faculty](#). The programs are rigorously designed to prepare graduates for interdisciplinary roles in academia, industry, and other professional tracks and to empower them to make significant contributions to the field. To learn more, visit our [website](#).



OCTOBER BME SEMINARS

OCTOBER 2024

SUN	MON	TUE	WED	THU	FRI	SAT
		1	2	3	4	5
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		

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. Every seminar is held in the Biomedical Engineering Department Building, room 1004, 3:30 - 4:45 pm.

Coming Up:

10/2 Matt Welles, Counselor, SLU Career Center

10/9 Patrick Hinkle, BME Graduate Student and Sonia Patel, SLU Medical Student (Dr. Reiter's Lab)

10/16 No seminar - Midterm Exams

10/23 No seminar - BMES annual meeting

10/30 Matthew Wood, Ph.D. Associate Professor, Surgery, Washington University in St. Louis

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.

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

Register:

ATTENTION 2024 GRADUATES AND BME ALUMNI

Did you graduate this year? 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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