

SLU BIOMEDICAL ENGINEERING NEWSLETTER



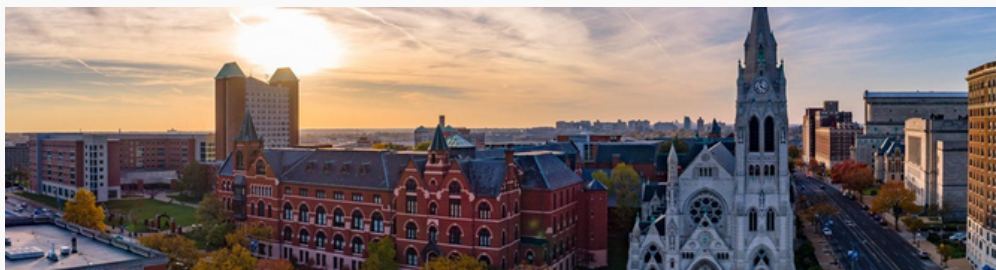
SAINT LOUIS UNIVERSITY

DEPARTMENT OF BIOMEDICAL
ENGINEERING

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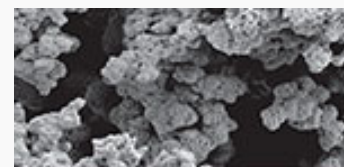
PUBLICATIONS

Congratulations to **Dr. Zustiak** for editing the publication of the Special Issue reprint book "**Feature Reviews in Pharmaceutical Technology.**" The reprint aims to highlight exciting developments in pharmaceutical technologies. With the continuous discovery of a plethora of new drug candidates, both small-molecule drugs and large biomolecules, such technologies are becoming essential for the advancement of patient treatments. This issue features twelve review papers broadly classified into formulation development and drug delivery devices. These technologies address important issues of improving drug bioavailability, decreasing treatment toxicity and side effects, and enhancing treatment efficacy to both cure patients and improve their quality of life.

Maddie Andres, a BME alumni from **Dr. Sell's** lab, had the following article published: **M. Andres, E. Robertson, A. Hall**, S. McBride-Gagyi, **S. Sell**, "Controlled pore anisotropy in chitosan-gelatin cryogels for use in bone tissue engineering", January 2024, Journal of Biomaterials Applications, 38(7), 797-807.



[Click here to check out the book!](#)



[Click here to check out the publication!](#)

CONFERENCE PRESENTATIONS

Dr. Koyal Garg, Dr. Alex Reiter, David Johnson, and Avantika Jain attended the Orthopedic Research Society 2024 Annual Meeting in Long Beach, California from February 2-6.

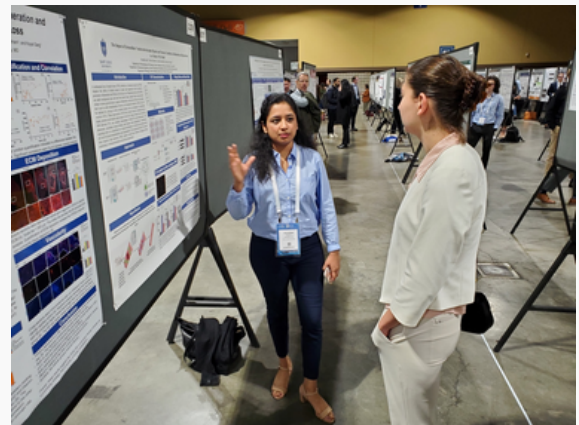
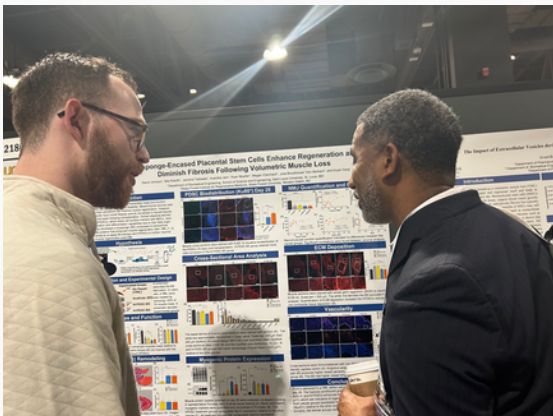


Dr. Koyal Garg was a part of the panel discussion for the “Women in Leadership Forum” session at the 2024 Orthopedic Research Society Annual Meeting.

POSTERS

D. Johnson, M. Ridolfo, J. Tadiwala, A. Jain, J. Brockhouse, R. Mueller, M. Chermack, J. Robinson, S. Shringarpure, K. Bertram, K. Garg, “Biosponge-Encased Placental Stem Cells Enhance Regeneration and Diminish Fibrosis following Volumetric Muscle Loss”, (Poster), ORS Conference, February 2-6, 2024, Long Beach, CA

A. Jain, D. Johnson, J. Kornbluth, and K. Garg, “The Impact of Extracellular Vesicles derived under Hypoxic and Normoxic Conditions on Inflammation and Muscle Regeneration”, (Poster), ORS Conference, February 2-6, 2024, Long Beach, CA



NEW GRADUATE STUDENTS

Ryan Fallon was born and raised in Southern California. He graduated from San Jose University with his Bachelor's in Biomedical Engineering. His research experience focused on the development of making more compliant synthetic coronary bypass grafts through bioreactor fabrication and simulations to determine biomarkers for failure modes to alleviate those failures. At the same time, he pursued professional experience in the industry by working for Heartflow, a diagnostic CT software company that is helping to revolutionize the treatment pathway for coronary artery disease. Currently, he works at Young Innovations as a Product development engineer, where he conducts research and develops current and new products for the market for the professional dental equipment industry. He is pursuing a non-thesis master's and he is excited to learn and grow as much as possible while he is here at SLU.



Maxwell Adinkra is from Ghana, graduating with a bachelor's degree in Biomedical Engineering from Hangzhou Dianzi University in China. His research interests include tissue engineering, medical instruments, and biomaterials. He is a new non-thesis master's graduate student. Please give a warm welcome to our new graduate students!

UNDERGRADUATE STUDENT SPOTLIGHT

Thank you to Abbott for speaking to SLU's student chapter of the Biomedical Engineering Society (BMES) about potential career and internship opportunities within the cardiac rhythm management (CRM) division! Follow BMES on Instagram @slu_bmes or search for them on SLU Groups for announcements about upcoming speakers!



UNDERGRADUATE STUDENT SPOTLIGHT

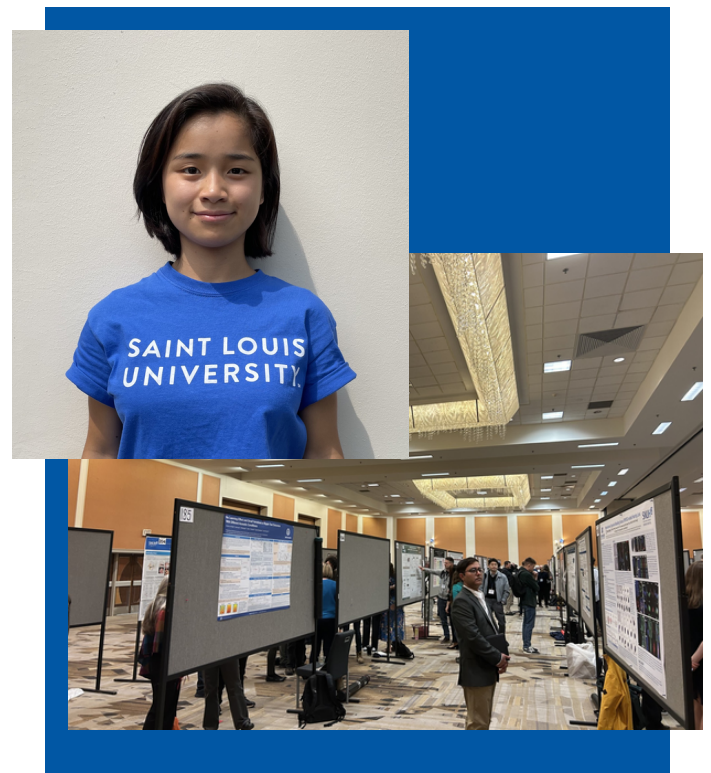
Ryan Mueller (senior) attended the American Physical Therapy Association Combined Sections Meeting (APTA CSM) in Boston, MA from February 14-17, 2024. This is one of the largest physical therapy conferences in the United States.

He presented a platform presentation titled, "Enhancing Healthcare Education: A Model for Joint End-Feel Replication" discussing a tool that he and his research group developed. The group is headed by Dr. Ann Hayes of the Department of Physical Therapy. This tool aided in educating physical therapy students in their confidence in defining and assessing joint end-feels to simulate a real patient's movement. Results showed that physical therapy students showed an increase in overall knowledge on the topic of joint end-feels due to the use of the tool. Also, students showed a higher than expected rate of correctly identifying a joint end-feels when using their tool.



Elizabeth Flad (junior) attended the Association for Research in Otolaryngology (ARO) 2024 Midwinter Meeting from Feb. 3-7 in Anaheim, CA. ARO is the world's largest organization of hearing and balance researchers. She presented on simplifying an existing algorithm to test its ability to artificially localize different sound types in the horizontal direction, based on human sound localization cues. The goals include advancing the algorithm to selectively segregate out specific sounds and apply this to hearing aid device development.

E. Flad, J. Orr, Y. Gai, "A Fast and Accurate Algorithm of Sound Localization for Smart Hearing Aids", (Poster), ARO 2024, February 3-7, Anaheim, CA

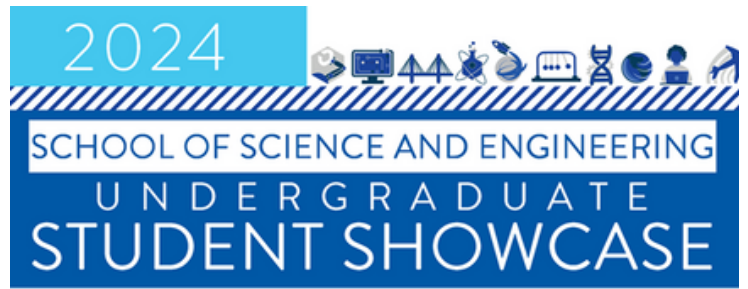


UPCOMING SYMPOSIUMS

Dr. Garg will be presenting a talk on “Regenerative Rehabilitation for Musculoskeletal Trauma” at the NC NM4R 2024



Showcase Symposium. This free virtual conference takes place from March 14-15, 2024. Click on the flyer below to register and please consider attending!



Wednesday, April 24, 2024
4:00 - 7:00pm
Saint Louis University's Busch Student Center



The *Undergraduate Student Showcase* is coming up! This is an opportunity for our undergraduates to showcase their research and design projects from their capstone experiences in the engineering, science and aviation programs. Industry partners, faculty, staff, alumni, families, peers, and members of the SLU Community are invited to attend. Light refreshments and drinks will be served! Register to attend by clicking on the picture above!

UPCOMING SEMINARS

Date: Wednesdays (see dates below)
Time: 3:30-4:45 PM
Location: BME 1004

3/6 No Seminar
3/13 No Seminar – Spring break
3/20 Jakeh Orr, Alli Faber
Gai Lab and Zustiak Lab
3/27 No seminar – Easter break



NC NM4R 2024 Showcase Symposium

March 14-15, 2024 | 10AM ET, Via Zoom

Join the National Center of NeuroModulation for Rehabilitation for a free, two-day, virtual symposium showcasing the diverse portfolio of research supported by the NC NM4R.

Perspective Speakers



Charlotte Stagg, Ph.D.
University of Oxford,
St Hilda's College



Friedhelm Hummel, M.D.
Ecole Polytechnique Federale
de Lausanne (EPFL)
University of Geneva

Featured Presentations From NC NM4R Supported Speakers

Deborah Barany, Ph.D. University of Georgia	Ashley Dalrymple, Ph.D. University of Utah	Gonzalo Revuelta, DO Medical University of South Carolina
Andreana Benitez, Ph.D. Medical University of SC	Wayne Feng, M.D. Duke University	James Sulzer, Ph.D. MetroHealth System
Michael Borich, DPT, Ph.D. Emory University	Koyal Garg, Ph.D. Saint Louis University	Andrew Tan, Ph.D. University of Colorado, Boulder
Marian Dale, M.D. Oregon Health and Science University	Dorothea Jenkins, M.D. Medical University of South Carolina	Mike Urbin, Ph.D. University of Pittsburgh
Sharyl Samargia-Grivette, Ph.D., CCC-SLP University of Minnesota, Duluth	Marlon Wong, PT, Ph.D. University of Miami	

**Stay Tuned, More
Perspective Speakers
To Be Announced!**

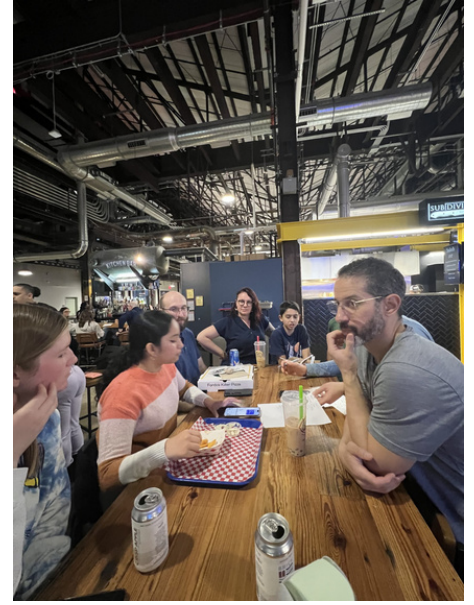
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NC NM4R is funded by the National Institutes of Health's Eunice Kennedy Shriver National Institute of Child and Human Development (NICHD), the NCCIH, the NIDCD, and the NINDS. Together these resources enhance and strengthen the medical rehabilitation research landscape nationwide. | NIH grant: P2C HD086844

SOCIAL EVENTS

Thank you to everyone who attended our graduate student social event: Trivia at the City Foundry STL on February 8, 2024. BME commends everyone's efforts in testing your knowledge outside of academics! Take a look at the fun below!



BME NEWSLETTER ACCESS

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