

SLU BIOMEDICAL ENGINEERING NEWSLETTER



SAINT LOUIS UNIVERSITY

DEPARTMENT OF BIOMEDICAL
ENGINEERING

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YOUNG INVESTIGATOR AWARD



Congratulations to 2024 BME graduate, **David Johnson, Ph.D.**, who recently received the Wake Forest Institute for Regenerative Medicine Young Investigator Award. This award was established in 2008 to recognize outstanding achievements by members of the Tissue Engineering and Regenerative Medicine International Society (TERMIS) who are in the early stages of a career in regenerative medicine.

 **Wake Forest®**
School of Medicine
Institute for Regenerative Medicine

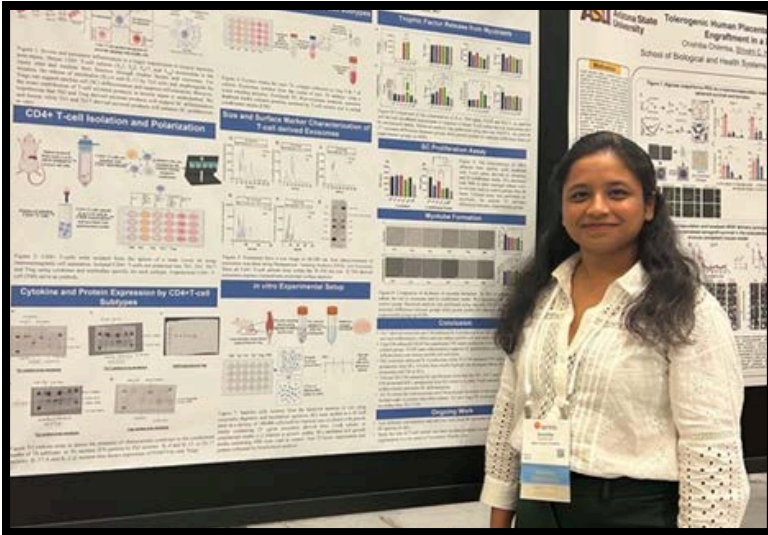
The \$2500 monetary award was presented at the TERMIS World Congress in Seattle, WA this past June. While at SLU, Dr. Johnson was a graduate research assistant in **Dr. Koyal Garg's** Musculoskeletal Tissue Engineering Lab. He plans to continue his research career at the University of Oregon as a Postdoctoral Scholar. To read more about this award and Dr. Johnson's research click [here](#).



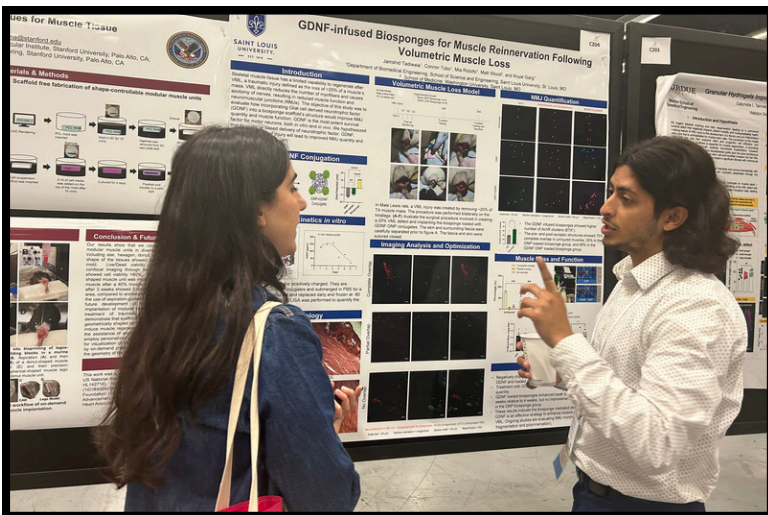
ORAL AND POSTER PRESENTATIONS

Ph.D. students, David Johnson, Avantika Jain, and Jamshid Tadiwala from Dr. Koyal Garg's lab presented their research at the 7th TERMIS World Congress held in Seattle, WA from June 25-28, 2024.

Jain A., DiPaolo R., Kornbluth J., Garg K., "Comparative Effects of Proteins and Exosomes Derived from CD4+ T-cell Subsets on Satellite Cell Activity *in vitro*" (Poster)



Tadiwala J., Tobo C., Ridolfo M., Garg K., "GDNF-infused Biosponges for Muscle Reinnervation Following Volumetric Muscle Loss," (Poster)



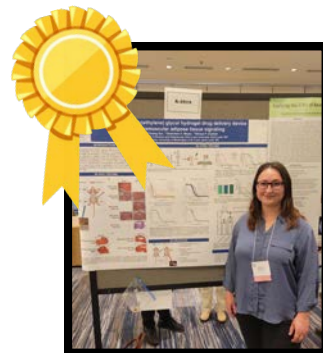
Johnson D., Ridolfo A., Mueller R., Chermack M., Brockhouse J., Tadiwala J., Jain A., Bertram K., Garg K., "Biosponge-Encased Placental Stem Cells Enhance Regeneration and Diminish Fibrosis Following Volumetric Muscle Loss," (Oral)



ORAL AND POSTER PRESENTATIONS CONTINUED

Ph.D. Candidate, Rebekah Boos, won a Best Poster Presentation at the Society for In-Vitro Biology Annual Meeting in St. Louis, MO June 8-12, 2024. Congrats, Rebekah!

Boos R., Gui, C., Meyer, G.A., **Zustiak, S.P.**, "Development of polyethylene glycol hydrogel drug delivery device to study intramuscular adipose tissue signaling."



NEW PUBLICATIONS FROM DR. ZUSTIAK'S LAB



BME Ph.D. Candidate, **Eya Ferchichi**, and co-authors from **Dr. Zustiak's** lab had an open access article published in *Frontiers in Biomaterials Science* for a special issue on Women in Biomaterials Science.

Article: Tunable Gelatin Methacrylate Polyethylene Glycol Diacrylate Hydrogels for Cell Mechanosensing Applications

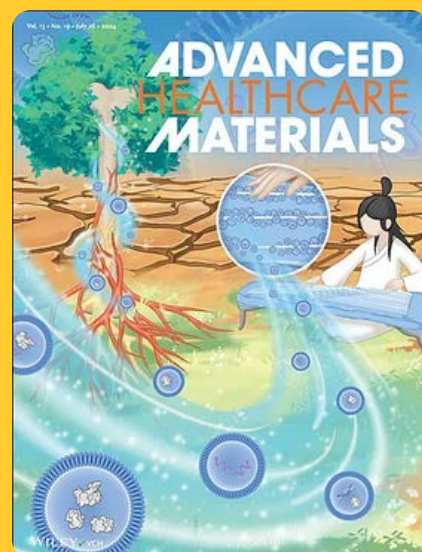
Co-authors: **Samuel Stealey**, **Paige Bogert**, and **Silviya Zustiak**

Click [here](#) to read the article.

In collaboration with Drs. Nathaniel Huebsch and Guy Genin from Washington University's Biomedical and Mechanical Engineering departments respectively, Dr. Zustiak's lab had an article published in *Advanced Healthcare Materials* this month.

Article: Tunable Viscoelasticity of Alginate Hydrogels via Serial Autoclaving

Authors: Hamidreza Moheimani, **Samuel Stealey**, Sydney Neal, **Eya Ferchichi**, Jialiang Zhang, Marcus Foston, Lori A. Setton, Guy M. Genin, Nathaniel Huebsch, and **Silviya P. Zustiak**



Click [here](#) to read the article.



SAINT LOUIS SCIENCE CENTER SCIFEST

The BME department recently had a busy day at the Saint Louis Science Center! Student representatives had a booth at the SciFest Play and Creativity Expo on July 13th where they educated the public about the world of medical implants and biomedical engineering. BMES president, Chris Lau, also gave a stage presentation and engaged visitors with an interactive activity in the afternoon that went more in-depth about the science of the human body and the need for implants. Special thanks to Medtronic for supplying a Micra Pacemaker demo kit!



Congratulations!

BME DEFENSES



Qi Chen, Ph.D.

Grace Yost, M.S.

Parul Nigam, M.S.

Prathamesh
Bhagvath, Ph.D.

Biologic-Signal Features Underlying Fine-Motor Movements Explored with Artificial Neural Network

Advisor: **Dr. Yan Gai**

July 2, 2024

Modeling Choroid and Retina Structures Using an Electrospun Bruch's Membrane Analog and a Flow Device

Advisor: **Dr. Scott Sell**

July 10, 2024

A Shear Flow Device for Facile Fabrication of Hydrogel Microspheres

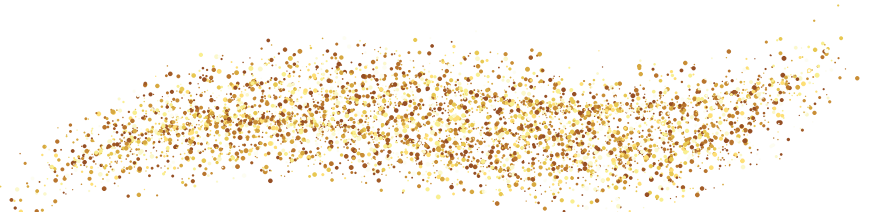
Advisor: **Dr. Silviya Zustiak**

July 17, 2024

Procedure Automation in Image-guided Robotic Spine Surgery

Advisor: **Dr. Andrew Hall**

July 19, 2024



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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