



Biomedical Engineering Graduate Program & Research Newsletter

School of Science and Engineering | Saint Louis University

Published Articles

Clancy, A., Chen, D., Bruns, J., Nadella, J., Stealey, S., Zhang, Y., *Timperman, A. and *Zustiak, S.P., 2022. Hydrogel-based microfluidic device with multiplexed 3D in vitro cell culture. *Scientific Reports*, 12(1), pp.1-13.

Grants Awarded

Congratulations to **Koyal Garg, Ph.D.**, who was awarded an R15 renewal grant entitled “*Proregenerative Immunotherapies for Volumetric Muscle Loss*” by the National Institute of General Medical Sciences (NIGMS) in the amount of ~\$403,000. **Silviya Zustiak, Ph.D.**, and Richard DiPaolo, Ph.D., will serve as co-investigators on this 3-year project that will combine regenerative biomaterials with immunomodulatory factors to boost muscle recovery following traumatic injury.

Student Proposal Defenses

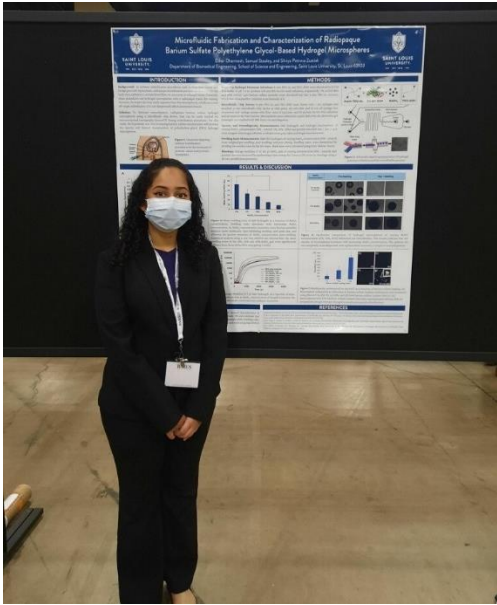
Congratulations to **Eileen Robertson, advisor Dr. Scott Sell**, who successfully passed her oral examination for her Ph.D. degree on the “*Progression of Tissue Engineered Scaffold for use in Bone Regeneration from Acellular Cryogel to Preconditioned Osteoblasts on Electrospun Scaffold*

using *Microfluidics*” and advanced to doctoral candidacy on Wednesday, October 26th.

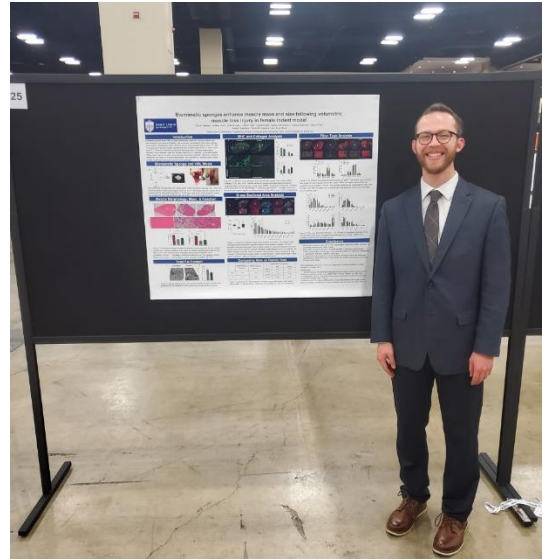
BMES Conference

The annual BMES conference was held in San Antonio, Texas from Wednesday, October 12 through Saturday, October 15. Dr. Silviya Zustiak along with undergraduate students Ether Dharmesh, and Danielle McTigue, and graduate students Eya Ferchichi, David Johnson, Shabnam Nejat, and Samuel Stealey presented at the conference. We were excited to have such a vibrant presence at the first in-person BMES conference in 3 years!

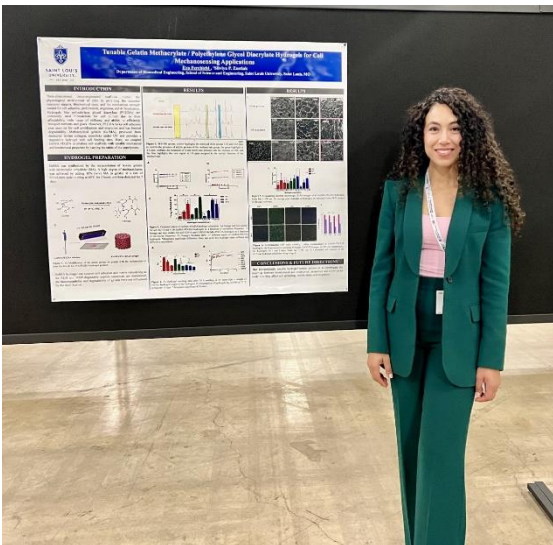




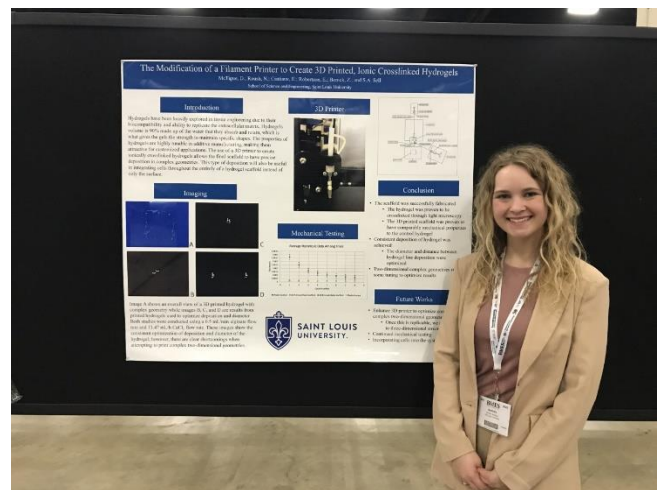
E Dharmesh, advisor Dr. SP Zustiak presented a poster titled: “*Microfluidic Fabrication and Characterization of Radiopaque Barium Sulfate Polyethylene Glycol-Based Hydrogel Microspheres.*” The work was co-authored by S Stealey.



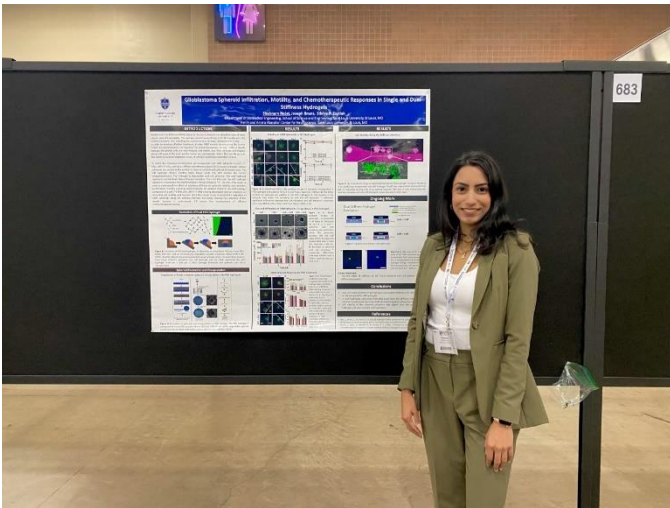
D Johnson, advisor Dr. K Garg, presented a poster titled: “*Biomimetic sponges Enhance Muscle Mass and Size Following Volumetric Muscle Loss Injury in Female Rodent Model.*” The work was co-authored by A Dunn, G Haas, C Tobo, C West, N Ziemkiewicz, J Robinson, A Paoli, A, Nagarapu, and S Shringapure.



E Ferchichi, advisor Dr. SP Zustiak, presented a poster titled: “*Tunable Gelatin Methacrylate / Polyethylene Glycol Diacrylate Hydrogels for Cell Mechanosensing Applications.*”



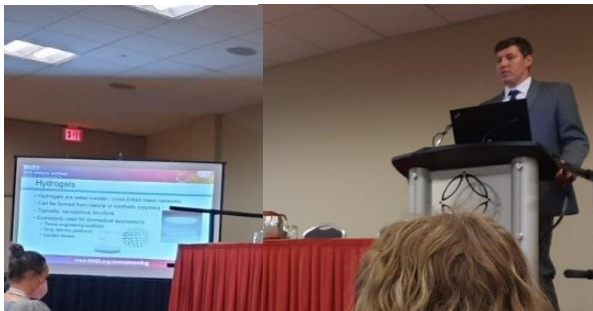
D McTigue, advisor Dr. SA Sell, presented a poster titled: “*The Modification of a Filament Printer to Create 3D Printed, Ionic Crosslinked Hydrogels.*” The work was co-authored by N Roush, E Castiaux, E Robertson, and Z Bonick.



S Nejat, advisor Dr. SP. Zustiak, presented a poster titled: “*Glioblastoma Spheroid Infiltration, Motility, and Chemotherapeutic Responses in Single and Dual-Stiffness Hydrogels.*” The work was co-authored by J Bruns.



Enjoying a stroll and a dinner at the River Walk, San Antonio, TX.



S Stealey, advisor Dr. SP Zustiak, gave an oral presentation titled: “*Development of Nanosilicate–Hydrogel Composites for Sustained Delivery of Charged Biopharmaceuticals*”, The work was co-authored by Dr. A Gaharwar (TAMU), and Dr. N Pozzi (SLU SOM).