



Biomedical Engineering Graduate Program & Research Newsletter

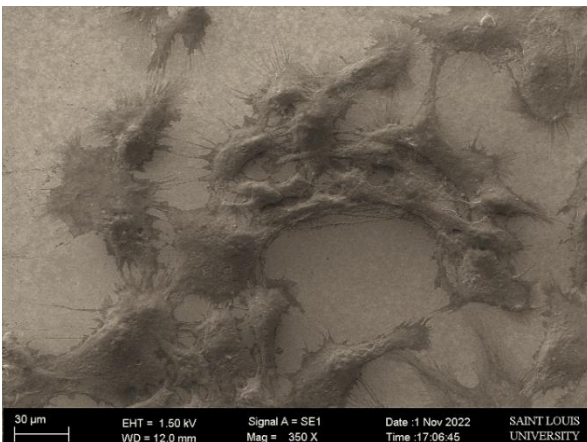
School of Science and Engineering | Saint Louis University

Grants Awarded

“Synthesis and optimization of poly-(DMA/SBMA) polymer as a lubricous coating for microgels: towards application in the treatment of knee osteoarthritis”, \$3,000, Foundational Interdisciplinary Research Experience, School of Science and Engineering, SLU, Dates: 01/01/2023-12/31/2023, **Role – PI** (Multiple PI: **Silviya Zustiak**, Ph.D. and Paul Jelliss, Ph.D.)

Student Awards

Congratulations to **Emily Luc**, advisors **Dr. Silviya Zustiak** and Dr. Irma Kuljanishvili, for winning the **Sci-Art Competition** (Engineering Cells and Their Microenvironment SIG; Society for Biomaterials) regarding her SEM image of NIH 3T3 cells on carbon nanotubes pictured below.



Published Articles

#**M. Khachani**, #**S. Stealey**, #**E. Dharmesh**, M. S. Kader, S. Buckner, P. Jelliss, ***S. P. Zustiak**, “Silicate Clay-Hydrogel Nanoscale Composites for Sustained Delivery of Small Molecules”, in press at ACS Applied Nano Materials (IF: 6.140)

Grants Submitted

2306988: “Multiscale limits of random walks on graphs: An approach to predict macroscale transport”, National Science Foundation, \$109,977, Dates: 07/01/2024 – 06/30/2026, Subcontract PI: **Dr. Silviya Zustiak** (PI: Muruhan Rathinam UMBC Baltimore, MD)

Conferences

The Institute for Translational Neuroscience

The 4th Annual Henry and Amelia Nasrallah Center for Neuroscience Research Symposium was held here at Saint Louis University in Saint Louis, Missouri on Wednesday, November 2.

Dr. Silviya Zustiak attended along with graduate students, Qi Chen, Eya Ferchichi, David Johnson, Shabnam Nejat, and Jakeh Orr, Olivia Widdoes along with undergraduate student Grace Almgren who delivered poster presentations.



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

D Johnson, advisor Dr. K Garg, presented a poster titled: “*Regenerative Rehabilitation for Enhancing Muscle Recovery Following Volumetric Muscle Loss.*” The work was co-authored by J Au, C Tobo, A Nagarapu, N Ziemkiewicz, H Chauvin, J Robinson, S Shringapure, A Paoli, C West, A Jain, and C Flaveny.

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.

J Orr, advisor Dr. Y. Gai presented a poster titled: “*Localizing Concurrent Sound Sources with Binaural Microphones: A Simulation Study.*”

O Widdoes, Q Chen, and G Almgren, advisor Dr. Y. Gai presented a poster titled: “*Decoding Finger Movements with Multichannel EEG and EMG.*”

Sigma Xi National Conference

Dr. Silviya Zustiak attended the International Forum on Research Excellence Conference, Alexandria, VA, November 3-6, 2022. She served as a designated delegate for the SLU Sigma Xi Honor Research Society chapter, and judged student presentations.

BME Seminars

Monday, November 28: Professor Zhang from the University of Miami gave a BME seminar titled “*Arginyltransferase co-evolves with mitochondria and mediates oxygen sensing in different eukaryotic kingdoms*” via Zoom.

Upcoming Graduate Student Events

The Chair, **Shabnam Nejat**, and Co-Chair, **David Johnson**, of the Graduate Student Leadership Committee are proud to present the first graduate student holiday outing post-COVID on Friday, December 9th for Anheuser- Busch Lights Brewery Tour at 6 PM.