SIMMONS MECHANOBIOLOGY LAB

Dr. Chelsey S. Simmons, Ph.D.

POSTDOCTORAL ASSOCIATE WANTED!

Do you have what it takes to join our fearless team?

The Simmons Mechanobiology Lab is looking for a postdoc to contribute to our research into the feedback loop between tissue mechanics and cellular processes. We use custom tools to quantify tissue mechanics and engineer microenvironments to mimic these target properties. This unique approach to tissue engineering allows us to build tissues-in-a-dish to understand fundamental biological mechanisms of regeneration, cancer, stem cell biology and more.

ABOUT THE POSITION

Postdoc will be responsible for in vitro experiments to understand the relationship of resident cells (e.g. fibroblasts) and blood cells (e.g. macrophages) in Spiny Mouse regeneration (see inside for details on research). In addition to typical responsibilities at the bench, opportunities for professional development will include supervising trainees, assisting with budgeting and accounting, contributing to proposals (though not responsible for generating grant funds), and building professional network in academia and industry. More details and application can be found at apply.interfolio.com/68085.

ABOUT DR. SIMMONS

Chelsey S. Simmons, Ph.D., joined the University of Florida in Fall 2013 following a visiting research position at the Swiss Federal Institute of Technology (ETH) Zurich. Dr. Simmons received her B.S. cum laude from Harvard University and her M.S. and Ph.D. from Stanford University. She has received numerous fellowships and awards, including ASEE-SE's New Researcher Award (2018), BMES-CMBE's Rising Star Award (2017), ASME's New Faces Award (2015) and an NSF Graduate Research Fellowship as a student. She teaches Mechanics of Materials and BioMEMS courses and was named department Teacher of the Year in 2017. In addition to her engineering research and teaching, Dr. Simmons leads an NSF-funded professional development program for elementary educators.

APPLY AT APPLY.INTERFOLIO.COM/68085

UF Herbert Wertheim College of Engineering
UNIVERSITY of FLORIDA

LIFE IN THE SIMMONS LAB

Our creative and hard-working group of postdocs, PhD students, and undergrads meets weekly with the PI for research updates and journal clubs, underscoring our collaborative attitude. Our excitement and dedication to our projects keeps us in the lab long hours, but our inclusivity and collegiality make research fun! In addition to our teamwork at the bench, postdocs can expect to participate in monthly social events, annual retreats, and celebrations of personal and professional milestones.

UNLOCKING THE SECRETS OF MAMMALIAN REGENERATION

Our research program into the relationship between cellular processes and tissue mechanics leverages a novel model of mammalian regeneration, the African Spiny Mouse, to understand and combat fibrosis in humans. Fibrosis accompanies many acute and chronic diseases and is the cause of >40% of deaths in the US. The African Spiny Mouse (Acomys) can regenerate normal fibrosis-free matrix after various traumas, including full-thickness cuts, burns, myocardial infarction, spinal cord injury, and muscle necrosis. Unfortunately, what enables this adult mouse with this remarkable ability to regenerate normal matrix is poorly understood.

The African Spiny Mouse

Dr. Simmons was recently awarded $1.8M from the National Institutes of Health (NIGMS R35 Maximizing Investigators' Research Award for Early Stage Investigators) to engineer systems to understand fibrosis. The broad goals are to identify and target mechanisms of fibroproliferative cell function by utilizing engineered in vitro platforms and Acomys chimeras. Postdoc's role is to develop and characterize cellular mechaisms of regeneration in Acomys fibrobalsts and macrophages.

STEM CELLS, CANCER, AND MORE...

We apply our engineered systems to a wide range of other biomedical problems

Establishing a testbed for gene therapy using microenvironmental control of iPSCs

Revolutionizing models of tissue mechanics to incorporate active contribution of contractile cells

Recreating tumors-in-a-dish for applications in drug development and drug screening

READ MORE AT FACULTY.ENG.UFL.EDU/SIMMONS-MECHANOBIOLOGY-LAB

Simmons Lab

- PI on 3 federally funded projects totaling ~$3M
- Alumni placed at the FDA and BioMarin
- Located in brand new Wertheim Laboratory, adjacent to student union and a 5-minute walk from College of Medicine and parking

Wertheim Laboratory Opening 2019

University of Florida

- #8 in Public Universities, *US News & World Reports*
- Top Ten Nationally in total STEM degrees awarded
- Top Ten Nationally in total STEM degrees awarded to minorities
- #4 Nationally in number of startups created
- 2x the national average of inventions produced per research dollar

Gainesville

- #1 Fastest Growing City in US (*Nerd Wallet*, 2013)
- #1 Biotechnology Incubator in the World (Sid Martin Biotech)
- Surrounded by natural springs, water sports, and more outdoor activities
- 90 minutes to Tampa Bay Area, Disney, and Jacksonville Beaches

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