



Fall 2022 HiPerGator Symposium  
Tuesday, November 1, 2022  
9:00 a.m. – 1:00 p.m.  
Virtual Event

Presented by:



# Symposium Agenda

- 9:00 AM** Welcome, Opening Remarks  
*Erik Deumens, Ph.D.*  
*Senior Director – UFIT Research Computing*
- 9:20 AM** **Keynote:** What Can One Do with the Entire Supercomputer? – New Science and Digital Twins  
*Sivaramakrishnan Balachandar, Ph.D., Newton C. Ebaugh Professor, Distinguished Professor - Department of Mechanical & Aerospace Engineering, Herbert Wertheim College of Engineering*
- 9:40 AM** Lightning Talks
- 9:40 AM High Performance Computing Used in Identifying Mechanisms of PARP Inhibitor Resistance in Cancer  
*Adriana Del Pino Herrera, Graduate Research Assistant – Department of Biomedical Engineering, Herbert Wertheim College of Engineering*
- 9:50 AM Simulating the Fission Gas Behavior and Release in UO<sub>2</sub> Nuclear Fuel Using HiPerGator  
*Md Ali Muntaha, Graduate Research Assistant – Department of Materials Science & Engineering, Herbert Wertheim College of Engineering*
- 10:00 AM Genome-wide Detection of Copy Number Variation in U.S. Holstein Dairy Cattle  
*Giovanni Ladeira, Graduate Research Assistant – Department of Animal Science, College of Agriculture and Life Sciences*
- 10:10 AM Phase Transitions May have Induced Plume and Slab Stagnation in Earth’s Past: Modeling with a New Entropy Method and Visco-plastic Rheology  
*Ranpeng Li, Graduate Research Assistant – Department of Geological Science, College of Liberal Arts and Sciences*
- 10:20 AM Simulations of Black Hole Fueling in Isolated and Merging Galaxies with an Explicit, Multiphase ISM  
*Aneesh Sivasankaran, Graduate Research Assistant – Department of Physics, College of Liberal Arts and Sciences*
- 10:30 AM** 10-Minute Break
- 10:40 AM DOMINO: Domain-aware Calibration in Medical Image Segmentation  
*Skylar Stolte, Graduate Research Assistant – Department of Biomedical Engineering, Herbert Wertheim College of Engineering*
- 10:50 AM Gator Glaciology  
*Nathan Schoedl, Undergraduate Research Assistant – Major in Math, Statistics and Computing Science, College of Liberal Arts and Sciences*

- 11:00 AM High Resolution Mantle Flow Models Constrain Balance of Plate-tectonic Forces by Matching GPS Velocities  
*Arushi Saxena, Ph.D., Postdoctoral Researcher – Department of Geological Sciences, College of Liberal Arts and Sciences*
- 11:10 AM Novel Analytical Methods for Discovery with qCLASH Chimeric miRNA/Target Sequence Data  
*Daniel Stribling, Graduate Research Assistant – Department of Molecular Genetics & Microbiology, College of Medicine*
- 11:20 AM Recycled Basaltic Material in Mantle Plumes Explains the Appearance of the X-discontinuity in the Upper Mantle: 2D Geodynamic Numerical Models  
*Martina Monaco, Graduate Research Assistant – Department of Geology, College of Liberal Arts and Sciences*
- 11:30 AM Genome Wide Association Studies for Sweat Gland Properties in a Multibreed Angus-Brahman Herd  
*Aakilah Hernandez, Graduate Research Assistant – Department of Animal Science, College of Agriculture and Life Sciences*
- 11:40 PM** 10-Minute Break
- 11:50 PM** Poster Session
- High Performance Computing Used in Identifying Mechanisms of PARP Inhibitor Resistance in Cancer  
*Adriana Del Pino Herrera, Graduate Research Assistant – Department of Biomedical Engineering, Herbert Wertheim College of Engineering*
- Computer Assisted Prostate Annotation on Micro-Ultrasound Image Using Deep Neural Networks  
*Wenbin Guo, Ph.D., Postdoctoral Associate – UF Digital Worlds Institute, College of the Arts*
- Genome-wide Detection of Copy Number Variation in U.S. Holstein Dairy Cattle  
*Giovanni Ladeira, Graduate Research Assistant – Department of Animal Science, College of Agriculture and Life Sciences*
- Phase Transitions May have Induced Plume and Slab Stagnation in Earth's Past: Modeling with a New Entropy Method and Visco-plastic Rheology  
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High Resolution Mantle Flow Models Constrain Balance of Plate-tectonic Forces by Matching GPS Velocities

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DOMINO: Domain-aware Calibration in Medical Image Segmentation

*Skylar Stolte, Graduate Research Assistant – Department of Biomedical Engineering, Herbert Wertheim College of Engineering*

**12:30 PM**      2022 Fall HiPerGator Symposium Concludes