About

The focus area of our Research Experiences for Undergraduates (REU) site is computational modeling to serve and enhance the Portland metropolitan region as it grows and evolves. Students will be involved in cutting-edge, multi-disciplinary research projects and trained in computational thinking across difference disciplines and communities. In doing so, they will gain an understanding of the potential and limits of these tools and how they can serve diverse urban communities. Portland State University, with its newly-funded Portland Institute for Computational Science (PICS), has developed a reputation and as a national model for urban universities that enhance their region by working with partners to solve problems. The community-oriented aspect is aligned with PSU's motto "Let knowledge serve the city."

Acknowledgements

Elizabeth Autio
Neil Babson
Kenton Berg
Michael Bowman
Joseph Broach
Erick Burns
Kelly Clifton
Dow Drake
Will Garrick
Frank Goovaerts
Jay Gopalakrishnan
Tathagata Goswami
MacKenzie Gray
Aleks Herynk
Lewis Hicks
Phillip Kearns
Erin Kenzie
John Lipor

Paul Loikith
Yasuyo Makido
Shaun McGillis
Mau Nam Nguyen
Jeffrey Ovall
Saurabh Puri
Ahmed El Sakori
Vivek Shandas
Baxter Shandobil
Kevin Stoltz
Mohammad Taha
Christof Teuscher
Wayne Wakeland
Michael Weisdorf
Mike Wells
Heather Wild
Joey Williams

MCECS Computer Action Team (CAT)
Metro
City of Portland
U.S. Geological Survey
NeuroRelational Framework Global Communities (NRFGC)
Thermo Fisher Scientific
Microstructure Engineering, Portland

2019

Research Symposium

NSF Research Experience for Undergraduates

Computational Modeling Serving the City

Computational Modeling
Serving the City

0101010 **REU**

Portland State
University

August 23rd, 2019
1 - 4:30pm
FAB 60 - 19

PICS
PORTLAND INSTITUTE FOR
COMPUTATIONAL SCIENCE

Portland State
UNIVERSITY

NSF

Presentation Schedule

1pm-1:10pm
Welcome

1:10pm-1:30pm
Modeling Defects in Crystalline Materials
Kiet Tran
Mentor: Dr. Jay Gopalakrishnan

1:30pm-1:50pm
Discretization of the Hellinger-Reissner Variational Form of Linear Elasticity Equations
Kevin Sweet
Mentor: Dr. Jeff Ovall

1:50pm-2:10pm
Numerical Algorithms for Solving Nonsmooth Optimization Problems and Applications to Image Reconstructions
Karina Rodriguez
Mentor: Dr. Mau Nam Nguyen

2:10pm-2:30pm
Computational Modeling and Child Stress
Anna Smith
Mentor: Dr. Wayne Wakeland

2:30pm-2:50pm
Modeling Changes in Public Transit and Private-for-Hire Usage When Implementing a Spatial Tax
Ty Lazarchik
Mentor: Dr. Christof Teuscher

2:50pm-3:10pm
Break

3:10pm-3:30pm
A Resource Constrained Shortest Paths Approach to Reducing Personal Pollution Exposure
Elling Payne
Mentor: Dr. John Lipor

3:30pm-3:50pm
Analyzing disparities in tree cover in US cities: The relationship between tree cover and socio-demographics
Kate Cendrowski
Mentor: Dr. Vivek Shandas

3:50pm-4:10pm
Modeling Climate-Driven Urban Migration in the United States
Julia Beckwith
Mentor: Dr. Vivek Shandas

4:10pm-4:20pm
Wrap Up

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