INNOVATION WITH IMPACT

A Celebration of Graduate Student Projects, Research, Teaching and Service

Cross-Disciplinary Exhibition of Graduate Student Work
Awards Ceremony and Reception
Rangos Ballroom, Cohon University Center
April 9, 2015
Order of Events

4:30-6:00 p.m.
Exhibition of Graduate Student Work and Reception

5:00 p.m.

Opening Remarks by President Subra Suresh

Presentation of Carnegie Mellon University Graduate Student Service and Teaching Awards and Recognition of the Three Minute Thesis Awardee by Vice Provost Amy Burkert

6:00 p.m.
The exhibition and reception will close
2015 Graduate Student Service Award

Public Communication for Researchers

Jesse Dunietz
Computer Science - School of Computer Science

Adona Iosif
Machine Learning - School of Computer Science

Ardon Shorr
Biological Sciences - Mellon College of Science

2015 Graduate Student Teaching Award

Matthew Eicholtz
Mechanical Engineering
Carnegie Institute of Technology
Carnegie Institute of Technology

**Biomedical Engineering**

Kuan-Chieh Chen  
Spatial Density Estimation Based Segmentation of Super-Resolution Localization Microscopy Images

Chad Cummings  
Stimuli-responsive Chymotrypsin Conjugates Synthesized Using Polymer-based Protein Engineering

Craig Lehockey  
Flexible Needles for Intracerebral Navigation

Natasha Loghmanpour  
A Patient-Specific Risk Model for Predicting Major Bleeding, Thromboembolic Events and Mortality after a Continuous Flow Left Ventricular Assist Device (CF-LVAD)

Michael McCann  
Algorithm and Benchmark Dataset for Stain Separation in Histology Images

Andrea Martin  
Magnetic Apheresis Device for Filtration of Malaria-Infected Red Blood Cells

Diane Nelson  
Perfluorocarbon Based Intrapulmonary Drug Delivery to Enhance Alveolar Repair Following Acute Lung Injury

Elaine Soohoo  
Applied Apical Torsion for Cardiac Assist: Design Considerations & Prototype Development

**Chemical Engineering**

Johnathan Goldman  
Free-solution Electrophoresis of End-alkylated DNA in Entangled Networks of Wormlike Micelles

Irene Lotero  
Decomposition Method for the Multiperiod Blending Problem

Matthew Payne  
Surface-Science Techniques for High-Throughput Study of Alloy Oxidation Across Composition Space

**Civil & Environmental Engineering**

Negin Ashoori  
Water Supply for Los Angeles, California: Sources, Stressors and Sustainability

Matineh Eybpoosh  
Data-driven Methods for Robust Damage Diagnosis of Pipelines, Under Varying Environmental and Operational Conditions

Suman Giri  
Automated Identification of Appliances

Joe Moore  
Impacts of Engineered Nanomaterials on Important Wetland Microbial Communities

Hariprasad Parthasarathy, Aniela Burant  
Fate of Inorganic and Organic Contaminants in Geologic Carbon Storage Environments

**Electrical & Computer Engineering**

Luís Brandão  
Practical Contributions to Secure Two-Party Computation

Jonathan Donadee  
Optimal Autonomous Charging of Electric Vehicles with Stochastic Driver Behavior

Abhinav Jauhri  
A Comparison of Antenna Placement Algorithms
Kyle Soska
Longitudinal Evolution of the Online Anonymous Marketplace Ecosystem

Jian Wang
LiSens— A Scalable Architecture for Video Compressive Sensing

Xiaoqi Yin
Toward Design of Risk-Based Real-Time Dispatch at Value

Jun Zhao
Random Intersection Graphs and Their Applications in Security, Wireless Communication and Social Networks

Energy Science, Technology & Policy
Evelyn Fairman
Avoiding Aggregation During the Drying and Rehydration Phases of Nanocellulose Production

Suraj Peri, Bharat Ramkrishnan
Opportunities for Carbon Capture from Automobiles

Engineering & Public Policy
Sara Abdollahi
Water Withdrawal from Household Consumption in the United States

Daniel Gingerich
Evaluating the Techno-Economic Feasibility of Forward Osmosis Processes Utilizing Low Grade Heat for Power Plant Water and Wastewater Treatment

Nathaniel Horner
Energy Efficiency in Data Centres: Moving Beyond PUE

Carlos Kemeny
Trade Secret Protection and the Geography of Venture Capital Investments: Evidence from the Inevitable Disclosure Doctrine

Jose Prada
The Electric Energy Systems Group at the 2014 IEEE Power and Energy Society General Meeting

Allison Weis
Lifecycle Emissions and Damages of Plug-in Electric Vehicles in PJM

Information Networking Institute
Moritz Raabe
ShmooCon 2015

Divya Chandra Sekar
Grace Hopper Celebration of Women in Computing 2014

Material Science & Engineering
Justin Freedman
Effects of Adhesion Layer Thickness and Alloy Concentration on Metal-dielectric Thermal Interface Resistance

Jenifer Hajzus
Flexible Transparent Conducting Films from Ultraporous Aerogels of PEDOT:PSS and Single-Walled Carbon Nanotubes

Brian Lin
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Lily Nguyen
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Mechanical Engineering
Matt Eicholtz
Recognizing Planar Mechanical Linkages in Textbook Graphics and Hand-drawn Sketches

David Eisenberg
Effect of Thermal History on Mechanical Stress in Cryopreservation

Tao Fang
Predictions of Flow Separation at the Valve-Seat for Steady-State Port-Flow Simulation

Kangkang Hu
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Xiang Li
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Entertainment Technology Center

Cheryl-Jean Leo, Akshay Ramesh, Julian Toker
Entropy
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Innovation with Impact is brought to you by the Office of the Assistant Vice Provost for Graduate Education and the Graduate Student Assembly to highlight the research, project and studio work of our Carnegie Mellon graduate students during Graduate and Professional Student Appreciation Week.