PRELIMINARY HEATS—4:30-6 pm in Posner Center
Proposed line-up of candidates, by college

**Wednesday, January 15—CIT**
- **Akanksha Garg**, CEE—Homogeneous Dislocation Nucleation
- **Miaolei Yan**, MSE—Strain Engineering and Microstructural Effects of Thin Film Solid Oxide Fuel Cell Cathode Materials
- **Aditya Balasubramanian**, MSE—Microfluidic Phase-Change for Rapid Control of Macroscopic Stiffness
- **Ajit Gopalakrishnan**, ChemE—Optimization in Energy Networks
- **Kristen Schell**, EPP—Impacts of Energy Network Design on Renewable Portfolio Standard Achievement
- **Gagan Srivastava**, MechE—Mixed Lubrication Modeling Approach to Tribological Interfaces
- **Yang Weng**, ECE—Smart Grids
- **Amy Dale**, EPP/CEE—Mathematical Modeling for Nanoparticle Risk Assessment
- **Junsung Kim**, ECE—Dependable Cyber-Physical Systems: A Software-Based Approach
- **Chetali Gupta**, MSE—Lignin Nanocomposites
- **Yuxin Want**, CEE—Recommendation for a Bromide Criteria in Surface Water for Drinking Water Protection
- **Yiyi Yu**, BME—Mitochondrial Morphological Dynamics and Motility Dynamics are Co-Regulated

**Thursday, January 16—Dietrich**
- **Patrick Foley**, Statistics—Statistical Methods in Diffusion MRI Tractography
- **Liam Bright**, Philosophy—Consciously Arranged Science
- **Fei Yu**, Statistics—Preserving the Privacy of Genome-Wide Association Study Databases
- **Filipp Velgach**, History—Fabricating Culture: Postwar Soviet Culture
- **Syed Naqvi**, History—Building the Urban Umma: Chicago's Muslim Community from 1965-1980
- **Samuel Ventura**, Statistics—I Count Dead People: Large-Scale Clustering Methods with Applications to Record Linkage
- **Mary Glavan**, English—Living Rhetoric: The Perils and Promise of Advocacy
- **Andrew Ramey**, History—A Watershed Movement: The Chesapeake Bay Foundation and U.S. Environmentalism Since 1966
- **Patricia Rich**, Philosophy—Practical Life Improvements Through the Meta-Theory of Rationality
• **Amanda Markey**, SDS—On Boredom: Methodology, Correlates and Theory
• **Eric VanEpps**, SDS—Novel Applications of Calorie Labeling to Reduce Calorie Consumption
• **Beatriz Etchegaray**, Statistics—Classification via Auxiliary Information: Formalism and Application to Classification of Astronomical Time Series
• **Ran Liu**, Psychology—Using Videogame-Based Perceptual Training to Bootstrap and Improve Second Language Learning

**Monday, January 20—CIT**
• **Rebecca Balebako**, EPP—Identifying and Communicating the Risks of Smartphone Application Data Sharing
• **Aniela Burant**, CEE—The Fate of Organic Compounds in High Salinity Waters in Carbon Storage Environments
• **Pengyun Wang**, CEE—Time-Dependent Seismic Risk Assessment for Induced Seismicity Associated with Subsurface Fluid Injection Unsupervised Activities
• **Kyle Anderson**, ECE—Energy Estimation for Non-Intrusive Load Monitoring
• **Jonathan Becker**, ECE—Dynamic Beamforming Optimization for Anti-Jamming and Hardware Fault Recovery
• **George Lederman**, CEE—Indirect Structural Health Monitoring
• **Kyri Baker**, ECE—Coordination of Resources across Areas for the Integration of Renewable Generation: Operation, Sizing and Siting of Storage Devices
• **Felipe Faria**, EPP—Estimating the Carbon Balance of the Hydropower Development in the Brazilian Amazon Region
• **Clare Mahoney**, MSE—Multifunctional Polymer Nanocomposites
• **Milad Memarzadeh**, CEE—Developing a Novel Method for Optimal Planning and Learning in Uncertain Dynamic Environments for the Management of Wind Farms
• **Melissa Day**, ChemE—Future Air Quality in the Eastern United States
• **Hassan Beydoun**, MechE—Contact Freezing Using Optical Tweezers
• **Brian Lin**, MSE—Annealing Twin Generation for Grain Boundary Engineering
• **Sudarshan Narayanan**, MSE—Metal-Polymer Hybrid Materials for Flexible Transparent Conductors

**Tuesday, January 21—Dietrich and SCS**
• **David Schuldt**, English—Authoring Dissent in Late Eighteenth-Century England: The Long Life of a Seventeenth-Century English Revolutionary Tradition
• **Colleen Davy**, Psychology—The Role of Speaking in the Acquisition of Second Language (L2) Vocabulary and Morphosyntax
• **Sonia Todorova**, Statistics—Model-Based Clustering of Non-Homogeneous Point Process Events, with Application to Neuroscience
• **Remco Heesen**, Philosophy—Why Does Science Work the Way It Does and How Can We Make It Better?
• **Aidan Kestigian**, Philosophy—Constructing Principled Voting Structures for Democratic Societies
• **Eva Dundas**, Psychology—Visual Word and Face Processing: An Interactive Account of the Development of Neural Selectivity
• **Ada Zhang**, Robotics Institute—Monitoring Parkinson’s Disease
• **Jun Araki**, LTI—Detecting Subevent Structure for Event Coreference Resolution
• **Derry Tanti Wijaya**, LTI—Read the Web
- Anvesh Komuravelli, CSD—Model Checking with Proofs and Counterexamples
- Ankur Parikh, MLD—Spectral Probabilistic Modeling and Applications to Natural Language Processing
- Xinlei Chen, LTI—Never Ending Image Learner: Extracting Visual Knowledge from the Web
- Guangyu Xia, MLD—Computer Automatic Accompaniment
- Benjamin Cowley, MLD—A Population of Neurons Goes White Water Rafting

**Wednesday, January 22—CIT**

- June Zhang, ECE—The Effects of Topology on Epidemics, Neuron Communication, and Other Applications
- Mehmet Yumer, MechE—Understanding and Manipulating 3D Shape Collections
- Rachel Ferebee, MSE—Bioactive Microporous Polymer Nanocomposites for Self-Regulatory Membranes
- Sid Ghosh, ECE—Acousto-Optic MEMS Resonators
- Soheil Kolouri, BME—Biomedical Image Processing for High Content Screening
- Mark Whiting, MechE—Users Are the Best Designers
- Keshav Seshadri, ECE—Robust Automatic Facial Landmark Detection
- Jason Marshall, CEE—Atomistic-to-Continuum Multiscale Modeling of Long-Range Electrostatic Interactions
- Craig Lehocky, BME—Flexible Needles for Navigating within the Human Body
- Shahriyar Amini, ECE—Mobile Application Evaluation using Automation and Crowdsourcing
- Djuna Gulliver, CEE—Effect of CO2 on Microbial Communities During Carbon Sequestration
- Joe Moore, CEE—Microbial Implications of Nanoparticles: From Molecular Mechanisms in the Lab to Community Impacts in Complex Environments
- William Frazier, MSE—Change Your (Inter) Facial Complexion and Expand Your (Grain) Boundaries! Modeling Abnormal Grain Growth in Ceramics
- Paul Egan, MechE—Complex Biological Systems
- Nikos Arechiga, ECE—Safe Machines

**Monday, January 27—MCS**

- William Huhn, Physics—Computational Prediction of Phase Diagrams and Material Properties Using First Principles Calculations
- Penglin Ye, Chemistry—Secondary Organic Aerosol Formation from Low Volatile Precursors
- Sukhdeep Singh, Physics—Intrinsic Alignments of Galaxies
- Devashish Gopalan, Physics—[no dissertation title provided]
- Madhumitha Ramesh, Biology—How Does a Living Cell Make These Nanomachines Called Ribosomes?
- Karen Kormuth, Biology—Guanine Quadruplexes as Potential Regulators of Ribosomal RNA Production
- Shanna Bowersox, Biology—Targeting Opioid Receptors to Cure Drug Addiction
- Exgi Kunttas-Tatli, Biology—Self-Association of the APC Tumor Suppressor Is Required for the Assembly, Stability and Activity of the Wnt Signaling Destruction Complex
- Karen Kormuth, Biology—Guanine Quadruplexes as Potential Regulators of Ribosome Production
- Eugenio Gallo, Biology—Engineering Fluorogen-Activating-Proteins for Improved Biodetection
- Stacie Oliver, Biology—A How-To Guide for Building Stem Cell Neighborhoods
- Michelle Ntampaka, Physics—Measuring Dark Matter Halo Mass Using Subhalo Velocity Dispersion
- Ardon Shorr, Biology—How Do Cells Sense Gravity?
- Michael Gamalinda, Biology—Learning the Ribosome Origami
Lea Veras, Chemistry—Molecular Mechanisms of Ca2+ Selectivity and Mg2+ Block of NMDA Receptors

**Wednesday, January 29—SCS**

- Fatima Al-Raisi, LTI—Machine Learning for Medical Diagnosis
- Ekaaterina Taralova, CSD—Structured Models for Videos
- David Rollinson, Robotics Institute—Towards Autonomy for Snake Robots
- Seungmoor Song, Robotics Institute—A Neuromuscular Control Model of Human Locomotion
- Ben Towne, ISR—Dynamic Structuring for Effective, Navigable, Online Deliberation
- Nicole Rafidi, CSD—Understanding Understanding
- Emmanouil Antonios Platanios, MLD—Improving Machine Learning Through Self-Reflection
- Prasanna Kumar Muthukumar, LTI—Improving the Naturalness of Computer-Generated Speech
- Alona Fyshe, MLD—Semantic Composition in the Human Brain
- Agha Ali Raza, LTI—Use of Viral Entertainment to Mass Disseminate Development-Related Speech Services to Low-Literate Telephone Users
- Laura Vogelaar, Robotics Institute—Customizable Shared Control for Assistive Robotic Arms
- Hanan Hibshi, ISR—Improving Usability of Security for Developers and Engineers
- Natasha Kholgade, Robotics Institute—Object Manipulation using Publicly Available 3D Models in a Single Photograph
- Cyrus Omar, CSD—Type-Specific Languages

**Friday, January 31—CIT**

- Raul Figueroa, EPP—Reducing the Risk of Building Damage or Collapse in Developing Countries through Technology, Information and Incentives
- Lauren Strahs, CEE—Characterizing Organic Matter for Predicting Conditioning Layer in Reverse Osmosis Membrane Fouling
- Kyle Gracey, EPP—What Makes Fracking Companies Break the Law?
- John Stegemeier, CEE—Environmental Implications of the Relevant Transformations of Metal Nanoparticles
- Amit Datta, ECE—Information Flow Experiments
- Reza Azimi, ECE—Intersection Management Using Vehicular Networks
- Divya Sharma, ECE—Defining Programs as Actual Causes: A building block for Accountability in Protocols
- Ramankur Sharma, ChemE—Surfactant Enhanced Aerosol Drug Delivery in Lungs
- Arun Shrivats, BME—Prevention of Heterotopic Ossification by RNA Interference
- Suman Giri, CEE—Appliance Level Energy Disaggregation from Main Circuit Data
- Megha Jampani, MSE—Increased Use of Natural Gas in Blast Furnace Iron-Making
- Lauren Powell, MSE—Optical and Surface Characterization Studies of CdSe Quantum Dots Undergoing Photooxidation
- Ryan Turner, EPP—Effects of Internet Usage on Academic Performance in a University Setting: Evidence from Portugal
- Utsav Drolia, ECE—Hyrax: Mobile Edge Clouds
Monday, February 3—SCS

- Aaron Wise, Ctr for Computational Biology—A Patient-Based Model for Time Series Gene Expression Analysis
- Wang Ling, LTI—Machine Translation 4 Microblogs
- Leila Wehbe, MLD—Predicting Neural Activity During Story Reading
- Jennifer Marlow, HCII—Impression Formation in Online Peer Production
- Nathan Schneider, LTI—Lexical Semantic Analysis in Natural Language Text
- Jeffrey Flanigan, LTI—Semantic Parsing into the Abstract Meaning Representation
- Gabriela Marcu, MLD—Predicting Neural Activity During Story Reading
- Brendan O’Connor, MLD—Statistical Text Analysis for Social Science
- Michael Spece, MLD/Statistics—Nonstationary Macroeconometrics
- Matthew Gardner, LTI—Scalable Logical Inference over Very Large Knowledge Bases
- Darya Kurilova, ISR—Adding Security to Programming Languages
- Manaal Faruqui, LTI—Multilingual Approaches to Natural Language Processing
- Jeremiah Blocki, CSD—Usable Human Authentication: A Quantitative Approach
- Dallas Card, MLD—Computational Models for Discovery and Analysis of Framing

Tuesday, February 4—CFA, HZ, TSB, MCS

- Varvara Toulkeridou, Architecture—End-User Programming Tools for Engaging Designers’ Visual Faculty
- Nathan VanHoudnos, Heinz—On Correcting Significance Tests for Model Misspecification
- Changmi Jung, Heinz—Digital Healthcare Delivery: Three Studies on Online Medical Consultations
- Nazli Turan, Tepper—Your Cost or My Benefit? Effects of Concession Framing in Distributive Negotiation
- Zia Hydari, Tepper—Economics of Healthcare Information Technology
- David Schreindorfer, Tepper—Tails, Fears, and Equilibrium Option Prices
- Amanda Plummer Weirup, Tepper—Favors Feel Different for Females: Gender Differences in Favor Deliberation
- Eunhee Kim, Tepper—Related Party Transaction and Hold-Up Problem
- Michele Dufalla, Tepper—Essays in Service Operations Management
- Emilio Bisetti, Tepper—Do the Elderly Save Too Much?
- Majid Bazarbash, Tepper—The Role of Government Debt in Functioning of Money and Banking
- Jessie Jiaxu Wang, Tepper—Systemic Risk of Distressed Asset Acquisition
- Suchitra Ramachandran, Biology—Visual Statistical Learning in Monkey Inferotemporal Cortex
- Tabitha Voytek, Physics—Probing the Early Universe at z~20 through the SCI-HI 21-cm Experiment
- Ben Carlson, Physics—Searches for New Physics at the LHC

Make-Up Heat—4:30-6 pm, Wright Rm, UC

Monday, February 10—presenters TBA

FINAL COMPETITION

Tuesday, February 18

McConomy Auditorium, UC