Festival of Honors

Schedule of Division III Honors Thesis Presentations

April 20th-29th 2016

Smith College
Thursday April 21, Ford 022
Engineering

12:10 PM  Karen Chau
  
  McKinley Fellow

Modeling Cytoplasmic Dynein Motor Ensemble Motility with Cargo Designed Using DNA Origami

Ileana Streinu
Nathan Derr

Wednesday April 20, Ford 241
Computer Science

12:10 PM  Karen Chau
  
  McKinley Fellow

Modeling Cytoplasmic Dynein Motor Ensemble Motility with Cargo Designed Using DNA Origami

Ileana Streinu
Nathan Derr

Wednesday April 20, Ford 240
Engineering

4:15 PM  Anna Partridge
  
  McKinley Fellow

Product Characterization in a Pilot Scale Biomass Torrefier with Heater Screw Conveyance

Denise McKahn

4:45 PM  Julieanna Niu

Design and Testing of a Miniature PEM Fuel Cell Stack

Denise McKahn

5:15 PM  Yijin Wei

Electric Power System Design for Miniature PEM Fuel Cells

Denise McKahn

Thursday April 21, Ford 022
Engineering

4:15 PM  Yezhezi (Michelle) Zhang

Wideband Acoustic Impittance Measurements: Effects of Age, Gender, Race, and Equipment

Susan Voss

4:45 PM  Xi Jiang

Measurement of the Maximum Sound Pressure Level Generated by the IPhone 6s

Susan Voss

5:15 PM  Dakota Murray

A Life Cycle Assessment of Packaging for Medtronic’s Veress Needle

Param Pati
Susannah Howe

5:30 PM  Sara Loric

The Prospects of ZnO in Metal Oxide Sensors for Chemical Sensing

Kristen Dorsey
Susannah Howe

Monday April 25, Bass 210
Psychology

4:40 PM  Karina Gruez

Stereotype Activation in Gun Identification: Patterns of Ducking Behavior Indistinguishable from Shooting Behavior in Shooter Bias Paradigm

Fletcher Blanchard

5:20 PM  Ray Silveria

Shooter Bias and Eye Gaze

Fletcher Blanchard

Monday April 25, Burton 307
Mathematics

4:15 PM  Jamie Cyr

An Investigative Study of Cardiovascular Abnormalities Using Mathematical Models of the Cardiovascular System and its Regulatory Mechanisms

Christopher Gole
Nessy Tania
### Monday April 25, McConnell B05
**Biological Sciences**

<table>
<thead>
<tr>
<th>Time</th>
<th>Name</th>
<th>Title</th>
<th>Advisor</th>
</tr>
</thead>
<tbody>
<tr>
<td>4:00 PM</td>
<td>Cynthia Masai</td>
<td>Developing a Molecular Method for Estimating the Effective Population Size of Ciliate Morphospecies <em>Chilodonella Unicinata</em></td>
<td>Laura Katz</td>
</tr>
<tr>
<td>4:30 PM</td>
<td>Elizabeth Tan</td>
<td>The Phylogeography and Cytology of <em>Rhipsalis baccifera</em>: the Cactus that made it to the Old World</td>
<td>Robert Merritt, Laura Katz</td>
</tr>
<tr>
<td>5:00 PM</td>
<td>Natalie Phillips</td>
<td>Assessing the Biodiversity and Discovering Evidence of RNA Editing in Testate (Shelled) Amoebae</td>
<td>Laura Katz</td>
</tr>
<tr>
<td>5:30 PM</td>
<td>Jiaqi Mei</td>
<td>Phylogenomic Investigation of Interdomain Lateral Gene Transfers: Transfers from Fungi and Viruses into Eukaryotic Genomes</td>
<td>Laura Katz</td>
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### Monday April 25, McConnell B15
**Biological Sciences**

<table>
<thead>
<tr>
<th>Time</th>
<th>Name</th>
<th>Title</th>
<th>Supervisor</th>
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<tbody>
<tr>
<td>4:00 PM</td>
<td>Erin Walch</td>
<td>Characterization of Cyclohexanol Modulation of GABAA Receptor Currents</td>
<td>Adam Hall</td>
</tr>
<tr>
<td>4:30 PM</td>
<td>Meghna Purkayastha</td>
<td>Exploring Modifications and Identification of Neurolenin as a Potential Anti-filarial Drug Candidate for Lymphatic Filariasis</td>
<td>Steven Williams</td>
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### Monday April 25, McConnell B15
**Biochemistry**

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<tr>
<th>Time</th>
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<tbody>
<tr>
<td>5:00 PM</td>
<td>Emily Boerger</td>
<td>Nuclear Magnetic Resonance Studies of a Cisplatin-Modified DNA 9-mer</td>
<td>Elizabeth Jamieson</td>
</tr>
<tr>
<td>5:30 PM</td>
<td>Arcadia Kratkiewicz</td>
<td>Analysis of Creatine Kinase Expression and Regulation throughout C2C12 Myogenesis</td>
<td>Stylianos Scordilis</td>
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### Tuesday April 26, Ford 241
**Computer Science**

<table>
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<tr>
<th>Time</th>
<th>Name</th>
<th>Title</th>
<th>Supervisor</th>
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<tbody>
<tr>
<td>2:00 PM</td>
<td>Angela Upreti</td>
<td>Security and Privacy Issues in the Smart Grid: a Decentralized Approach</td>
<td>Judith Cardell</td>
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### Tuesday April 26, McConnell B05
**Biological Sciences**

<table>
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<tr>
<th>Time</th>
<th>Name</th>
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<tbody>
<tr>
<td>4:00 PM</td>
<td>Kathryn Berg</td>
<td>Characterizing PAH-Induced Teratogenesis of the Pharyngeal System During Zebrafish Craniofacial Development</td>
<td>Michael Barresi</td>
</tr>
</tbody>
</table>
Tuesday April 26, McConnell B05
Neurosciences

4:30 PM  Olivia Mallari  The Role of the Orexin System in the Incubation of Alcohol Craving in Rats  David Moorman Mary Harrington

5:00 PM  Elizabeth Halpin  Effects of Withania somnifera on the Human Glycine Receptor  Adam Hall

Tuesday April 26, McConnell B15
Chemistry

4:00 PM  Emilia Arguello  DNA-catalyst Conjugates (DCats) for Site-selective Chemical Transformations in Complex Milieus  David Gorin

4:40 PM  KC Chen  Ethylene Carbonate for Ethoxylation of Aromatic Nitrogen Nucleophiles  David Gorin

5:20 PM  Clare Jacobson  Copper Mediated C-H Methylation with Boronic Acid  David Gorin

Tuesday April 26, UMass Campus Center
Astronomy

4:00 PM  Heather Kurtz  Peas in a Pod: Environment and Ionization in Green Pea Galaxies  Anne Jaskot Suzan Edwards

Wednesday April 27, McConnell B05
Biological Sciences

4:00 PM  Gina Mantica  The Evolution of Androgen Receptor Distribution in the Spinal Cord to Support Specialized Sexual Displays: A Comparative Analysis using Staurois parvus  Lisa Mangiamele

4:30 PM  Elizabeth Besozzi  Bottom-Up and Top-Down Controls on Red-Backed Salamander (Plethodon cinereus) Distribution: A Possible “Landscape of Fear” on the Forest Floor  Jesse Bellemare Lisa Mangiamele

5:00 PM  Elena Karlsen-Ayala  Migration Versus Mutualism: Can the Small-Ranged Endemic Plant Rhododendron Catwabiense form Specialized Ericoid Mycorrhizae with Soil Fungi North of its Native Range?  Jesse Bellemare

5:30 PM  Eirini Tsekitsidou  Investigating the Evolution of Wolbachia spp.-derived Genes in the Genome of Wolbachia-independent Filarial Nematodes  Steven Williams
### Wednesday April 27, Bass 210
#### Psychology

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
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<tbody>
<tr>
<td>4:00 PM</td>
<td>Cara Tomaso</td>
<td>Drinking Motives and Alcohol Expectancies as Predictors of High-Risk Drinking Behaviors Prior to and During the College Transition</td>
<td>Byron Zamboanga</td>
</tr>
<tr>
<td>4:40 PM</td>
<td>Yiwen Zhu</td>
<td>Client Emotional Response and Psychotherapy Progress: A Case-Based Approach</td>
<td>Nnamdi Pole</td>
</tr>
<tr>
<td>5:20 PM</td>
<td>Huafeng (Louise) Yu</td>
<td>Escalation of Commitment in Retrospect: An Integration of Responsibility, Hindsight bias and Counterfactual Thinking</td>
<td>Fletcher Blanchard</td>
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### Wednesday April 27, McConnell B15
#### Chemistry

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<tr>
<td>4:00 PM</td>
<td>Noelia Martinez-Munoz</td>
<td>Methylation of Oxygen Nucleophiles using Dimethyl Carbonate: Mechanistic Studies</td>
<td>David Gorin</td>
</tr>
<tr>
<td>4:40 PM</td>
<td>Isabella McNamara</td>
<td>The Synthesis and Use of Stimuli Responsive Cross-linkers to Prepare PVDMA Hydrogels</td>
<td>Maren Buck</td>
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### Thursday April 28, Bass 203
#### Psychology

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<th>Time</th>
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<tbody>
<tr>
<td>4:00 PM</td>
<td>Maggie Dorin</td>
<td>Hoarding Behavior and Sleep Patterns in a College Sample</td>
<td>Randy Frost</td>
</tr>
<tr>
<td>4:40 PM</td>
<td>Emily Derosier</td>
<td>Cultural Cues and their Effects on Shooter Bias</td>
<td>Fletcher Blanchard</td>
</tr>
<tr>
<td>5:20 PM</td>
<td>Martha Miller</td>
<td>Shooter Bias and Sunk Costs in a Policing Context: Using an Escalation of Commitment Framework to Investigate Shooting Decisions</td>
<td>Fletcher Blanchard</td>
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### Thursday April 28, McConnell B05
#### Biological Sciences

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<th>Time</th>
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<tr>
<td>4:00 PM</td>
<td>Ria Deshpande</td>
<td>Investigating Cytoplasmic Dynein Function using Chimeric Proteins to Isolate Subdomain Mechanisms</td>
<td>Nathan Derr</td>
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<tr>
<td>4:30 PM</td>
<td>Esther Nwaka</td>
<td>Analysis of the Phylogenetic Relationships of Genes along Chromosomes in the Genome of the Malarial Parasite Plasmodium falciparum</td>
<td>Laura Katz</td>
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<tr>
<td>5:00 PM</td>
<td>Zuliat Owoade</td>
<td>Analysis of Two Approaches for Inferring Lateral Gene Transfer in the Malarial Parasite Plasmodium falciparum</td>
<td>Laura Katz</td>
</tr>
<tr>
<td>5:30 PM</td>
<td>Mary Badger</td>
<td>Spatial and Temporal Distributions of Ciliates in New England Tide Pools</td>
<td>Laura Katz</td>
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Thursday April 28, McConnell B15
Chemistry

4:00 PM  Catherine McGeough  Extraction and Functionalization of Neurolenins from Neurolaena lobata  Kevin Shea

4:40 PM  Claire Keller  Investigating Varied Reactivity in Aerosol-Mimicking Solutions  Andrew Berke

Friday April 29, Ford 241
Computer Science

2:00 PM  Hee Jin  Multiple Object Tracking Using Convolutional Neural Network in Wireless Sensor Networks  Judith Cardell

2:30 PM  Victoria Wolf  Towards In Silico Protein Surgery: Handling Errors and Working with the Protein Data Bank  Ileana Streinu

Friday April 29, McConnell B15
Biochemistry

4:00 PM  Natalie Smith  Protein Engineering for Receptor-Mediated Drug Delivery across the Blood-Brain Barrier  Sarah Moore

4:30 PM  Madeleine Sutherland  Size Matters Not: The Importance of sRNAs in Adaptive Thermoregulation in Uropathogenic Escherichia coli  Christine White-Ziegler

5:00 PM  Anna Carroll  Synthesis and Analysis of Multi-Functional Polymer Hydrogel Biomedical Materials  Maren Buck

Monday May 2, Sabin Reed 103
Geosciences

9:00 AM  Hannah Francis  Experiments Investigating Retention of Sodium in Peatlands Affected by Road-Salt Pollution  Amy Rhodes

9:45 AM  Heather Upin  A Study of the Geomorphologic and Geochemical Evidence for Prehistoric Floods from Paulina Lake in Newberry Crater, Central Oregon  Robert Newton

10:30 AM  Teresa McGann  Archaeocyathan reefs and chemostratigraphy of the lower Cambrian Wood Canyon Formation in Titanohere Canyon, Death Valley, California  Sara Pruss

11:15 AM  Emily DiPadova  Origin and Metamorphism of Xenoliths in the Cuillin Center Gabbros, Isle of Skye, Scotland  Mark Brandriss