# SERC-URGP RECIPIENTS FALL 2018

## BIOLOGY

<table>
<thead>
<tr>
<th>Student</th>
<th>Faculty Mentor</th>
<th>Project Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rachel Jordan</td>
<td>Dr. Mike Chumley</td>
<td>Acute stress in old age and its impact on Amyloid ?</td>
</tr>
<tr>
<td>Amanda Key</td>
<td>Dr. Mike Chumley</td>
<td>Effects of stress on contextual acquisition and extinction in mouse models of Alzheimer’s disease</td>
</tr>
<tr>
<td>Courtney Koplyay</td>
<td>Dr. Mike Misamore</td>
<td>Effects of elevated temperature and zebra mussel survival</td>
</tr>
<tr>
<td>Quinn Losefsky</td>
<td>Dr. Shauna McGillivray</td>
<td>ClpX mediated in antimicrobial resistance in B. anthracis: independent player or part of a larger complex?</td>
</tr>
<tr>
<td>Hannah Nettleblad</td>
<td>Dr. Marlo Jeffries</td>
<td>Exploring the effects of early life stage nitrate exposure on sexual development and reproduction</td>
</tr>
<tr>
<td>Mai Nguyen</td>
<td>Dr. Mike Misamore</td>
<td>Evaluating reproductive differences and hybridization between zebra and quagga mussels</td>
</tr>
<tr>
<td>Audrey Nolan</td>
<td>Drs. Matt Chumchal &amp; Ray Drenner</td>
<td>Relationship between methylmercury concentration and body size in shoreline spiders in worms</td>
</tr>
<tr>
<td>Courtney Skalley</td>
<td>Dr. Mikaela Stewart</td>
<td>Investigating the conservation of BRCA1 enzymatic activity in worms</td>
</tr>
<tr>
<td>Lexton Trauffler</td>
<td>Drs. Matt Chumchal &amp; Ray Drenner</td>
<td>Mercury contamination of shoreline spiders at the LBJ National Grasslands</td>
</tr>
<tr>
<td>Caitlyn Vilas</td>
<td>Dr. Mike Chumley</td>
<td>Plant-Based Diet and its effect on Inflammation and Amyloid Beta in Alzheimer’s Disease</td>
</tr>
<tr>
<td>Austin Williams</td>
<td>Dr. Mike Chumley</td>
<td>Effects of Octyl Gallate on Amyloid Beta Levels and Inflammation in Alzheimer’s Disease</td>
</tr>
<tr>
<td>Will Zudock</td>
<td>Drs. Matt Chumchal &amp; Ray Drenner</td>
<td>Methylmercury and Stable Isotope Analysis of nestling Red-winged Blackbird diet</td>
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## CHEMISTRY & BIOCHEMISTRY

<table>
<thead>
<tr>
<th>Student</th>
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<tbody>
<tr>
<td>Hannah Carey</td>
<td>Dr. Eric Simanek</td>
<td>The Synthesis of Biotinyated Molecules as a Precursor for Macrocycles</td>
</tr>
<tr>
<td>Christian Chen</td>
<td>Dr. Sergei Dzyuba</td>
<td>Supramolecular light-harvesting systems using designer solvents</td>
</tr>
<tr>
<td>Taylor Ireland Gray</td>
<td>Dr. Eric Simanek</td>
<td>Simplifying the process of heterodimer macrocycle synthesis</td>
</tr>
<tr>
<td>Grace Newell</td>
<td>Dr. Jean-Luc Montchamp</td>
<td>Preparation of clickable monomers compatible with automated PNA synthesis</td>
</tr>
<tr>
<td>Brian Niebuhr</td>
<td>Dr. Kayla Green</td>
<td>Functional modifications and electronic influences on tetra-aza macrocyclic Cu(II) complexes</td>
</tr>
<tr>
<td>Bach Song Pham</td>
<td>Dr. Benjamin Sherman</td>
<td>Optimization of Tin(IV) oxide nanoflowers for improved performance of dye-sensitized solar cell</td>
</tr>
<tr>
<td>Daniel Ta</td>
<td>Dr. Sergei Dzyuba</td>
<td>En route to ionic super-gelators</td>
</tr>
<tr>
<td>Kate Wegener</td>
<td>Dr. Eric Simanek</td>
<td>Whiskey mash analysis through chromatography</td>
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### COMPUTER SCIENCE

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<tr>
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<tbody>
<tr>
<td>Emma Beebe</td>
<td>Dr. Liran Ma</td>
<td>DistinctSound 2: Develop and implement frequency shifting for an iOS based intelligent sound processing system</td>
</tr>
<tr>
<td>Kenzie Clarke</td>
<td>Drs. Liran Ma &amp; Sue Gong</td>
<td>Developing a cloud-based low power environment monitoring and notification platform</td>
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### ENGINEERING

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<tr>
<th>Student</th>
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<tbody>
<tr>
<td>Luke Devooght &amp; Melina Aguero</td>
<td>Dr. Becky Bittle</td>
<td>Characterizing of FDM 3D printing by material testing phase II: Composite material</td>
</tr>
<tr>
<td>Chris Prasai &amp; Mike Tran</td>
<td>Dr. Morgan Kiani</td>
<td>Remote Controlled Robotic Arm Vehicle</td>
</tr>
<tr>
<td>Jack Snodgrass</td>
<td>Dr. Steve Weis</td>
<td>Development of solenoid actuators for a digitally reconfigurable surface prototype</td>
</tr>
<tr>
<td>Caydn White</td>
<td>Dr. Steve Weis</td>
<td>Design of a mechanical clutch system for a digitally reconfigurable surface</td>
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### PHYSICS & ASTRONOMY

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<tr>
<th>Student</th>
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<tbody>
<tr>
<td>Luke Gillespie</td>
<td>Dr. Anton Naumov</td>
<td>Development of thermally-controlled spectroscopy system and investigations of optical properties of nanomaterials with temperature</td>
</tr>
<tr>
<td>Angel Guyton</td>
<td>Dr. Anton Naumov</td>
<td>Cell viability-based statistical analysis of anticancer agent efficacy</td>
</tr>
<tr>
<td>Lindsey Stone</td>
<td>Dr. Anton Naumov</td>
<td>Antibiotic delivery into bacterial cells by nanomaterials</td>
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### PSYCHOLOGY

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<tr>
<th>Student</th>
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<tbody>
<tr>
<td>MacKenzie Jordan</td>
<td>Dr. Ken Leising</td>
<td>Do you hate the object, or the event it predicts? Devaluation of a secondary reinforcer with rats</td>
</tr>
<tr>
<td>Bryn Lohrberg</td>
<td>Dr. Cathy Cox</td>
<td>The relationship between nostalgia proneness and athleticism</td>
</tr>
<tr>
<td>Katherine Neely</td>
<td>Dr. Uma Tauber</td>
<td>Interpretations of student evaluations of teaching</td>
</tr>
<tr>
<td>Cokie Nerz</td>
<td>Dr. Ken Leising</td>
<td>Differential outcomes facilitates learning in a visual discrimination procedure with rats</td>
</tr>
<tr>
<td>Quynh Nguyen</td>
<td>Dr. Mauricio Papini</td>
<td>The role of the pathway from the basolateral amygdala to the nucleus accumbens in the reward loss circuitry</td>
</tr>
<tr>
<td>Madeline Pitcock</td>
<td>Dr. Tracy Centanni</td>
<td>Effect of auricular vagus nerve stimulation on novel letter learning in dyslexia</td>
</tr>
<tr>
<td>Zoe Richardson</td>
<td>Dr. Tracy Centanni</td>
<td>The effect of Adderall on auricular vagus nerve stimulation</td>
</tr>
<tr>
<td>Tori Short</td>
<td>Dr Sarah Hill</td>
<td>Impulsivity and inflammation in children</td>
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</tbody>
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