

Biology and Biotechnology Department

Odeum A/B

9:00am

Exploring *Microbacterium Foliorum*- Targeting Bacteriophage Host Range Expansion Through EMS Mutagenesis

Katelyn Lombardo, Nicole Miller

Advisor: Michael Buckholt, Jill Rulfs

9:00am

Constructing Molecular Components for CAR T Cell Engineering

Maxwell Clift, Ellie Ungashick

Advisor: Jill Rulfs, Shakti Kumar Amabady

9:00am

Differential Effects of *Artemisia* sp., Artemisinin, and Dihydroartemisinin in Human Dermal Fibroblasts

Eliza Dutson, Trevor Bush, Meghan Urakawa

Advisor: Pamela Weathers

9:00am

Behavioral Investigation of Chronic and Acute Stress Exposure on Freshwater Crayfish, *Faxonius virilis*

Greta Achenbach, Josephine Conlon, Divya Kumar, Madeleine Ruley, Brooke Struble

Advisor: Lauren Mathews

9:00am

Understanding the Effects of Lead Exposure on *Pseudomonas putida* and the Native Soil Microbiome

Lauren McIlhenny

Advisor: Natalie Farny

9:00am

Investigating Potential Markers of Ferroptosis from *A. Annua* in Breast Cancer Cells

Bethany Atwood, Parker Goodrum

Advisor: Michael Buckholt, Jill Rulfs

9:00am

Characterization of *A. annua* Extracts: Investigating the Effects of Extract Composition on Breast Cancer Cells

Lori Ganjian, Emily Azevedo

Advisor: Michael Buckholt, Jill Rulfs

9:00am

The Effects of Artemisinin and its Derivatives on T Cell Lymphocyte Proliferation

Brendan Halloran, Nolan Warner

Advisor: Michael Buckholt, Jill Rulfs

9:00am

Future Implications of Using *Artemisia* species as Anticancer Therapies

Amber Powell, Anna Wix

Advisor: Michael Buckholt, Jill Rulfs, Elizabeth Stoddard

9:00am

Is the LD1171 *C. Elegans* Strain a Model System for Investigating the Effects of CBD on Parkinson's Disease?

Jenna Bushika, Katelyn Bergeron, Matt

LaSata, Lily Eldridge

Advisor: Mike, Jill, Jagan Srinivasan, Carissa Olsen, Denstin Heilman

9:00am

Regulation of Genome Stability

Chiara Smith

Advisor: Amity Mannings

9:00am

The Impact of Rb Tumor Suppressor Status on Sensitivity to Epigenetic Inhibitors

Lilah Delbou

Advisor: Amity Mannings

9:00am

An Investigation into the Size Dependency of the Cdc25 Promoter

Maire Murphy

Advisor: Amity Mannings, Nick Rhind

9:00am

Characterizing the Effects of HIV Accessory Proteins on NK Ligand Expression Across Different HIV Strains

Sheldon Gentling, Tara Bromfield

Advisor: Louis Roberts

9:00am

***In vitro* evaluation of siRNAs targeting ADAM33 as a first step toward asthma treatment**

Nicole Rannikko

Advisor: Louis Roberts

9:00am

Phosphomimetic Mutation Alters the Kinetics of *S. cerevisiae* Malate Dehydrogenase-2

Olivia Santurri

Advisor: Louis Roberts

9:00am

Functional Analysis of the Exocyst and SCD Complexes in Moss

Leah Maciel, Jocelyn Hinchcliffe

Advisor: Luis Vidali

9:00am

RNAi-base Loss-of-Function Suggest Nonessential Roles in Exocytosis of Sec3 and MyTH1 and that Lyk5 Serves as the Chitin Receptor in *Physcomitrium patens*.

Kathryn Pagano, Sarah Mathew

Advisor: Luis Vidali

9:00am

Swapping & QTips: Evolutionary & Functional Analyses of dEGFR/Kek1 Binding

Sophia DiBara

Advisor: Joseph Duffy

9:00am

The Puzzle of Kek1 Binding Pocket

Jillian Crandall

Advisor: Joseph Duffy, Denstin Heilman

9:00am

Structural Studies of EGFR/Kek1 Binding: The Role of Ligand

Isabella Makabali

Advisor: Joseph Duffy

9:00am

Inhibition of HDACs by Treatment with Sodium Butyrate to Mitigate the Development of Huntington's Disease in *C. elegans*

Isabel Sumner, Brigid Hannibal

Advisor: Jagan Srinivasan

9:00am

The Brain-Gut-Microbiome Axis on Behavioral Response in *C. elegans* Model of Alzheimer's Disease

Madison Affsa

Advisor: Jagan Srinivasan

9:00am

Role of microbiome in associative learning in Alzheimer's Disease

Miles Williams, Arden Badhwar

Advisor: Jagan Srinivasan, Elizabeth Ryder

9:00am

Gut Feelings: Unraveling the Microbiome's Influence on Parkinson's Disease

Korinna Muller

Advisor: Jagan Srinivasan

9:00am

Characterizing the Effects of Light Exposure on Neurodegeneration

Aashi Akare

Advisor: Jagan Srinivasan

9:00am

Operation Tick hunt: Design and Refinement of PCR-Based Assays

Gina Millot, Maeve Hess

Advisor: Chris Colins

9:00am

**Regulation of the DNA Repair Protein Xrs2
by Cdk1**

Serene Gerome

Advisor: Reeta Rao, Jennifer Benanti (UMMS)

9:00am

**Phylogeographic history and invasion
patterns of crayfish (*Faxonius virilis*) in
North America.**

Steph Brownell, Gavin Burkhardt, Hannah
Edlund, Norah Giles, Karyn Manning, Olivia
Spielberger

Advisor: Lauren Mathews

9:00am

**Engineering Bacteria for Lead (II)
Remediation**

Erik Breiling

Advisor: Natalie Farny, Jose Arguello

9:00am

**Rare Earth, Rare Solution: Structural
Insights into Synthetic Lanthanide-
Sequestering Aptamers**

Maline Demers

Advisor: Natalie Farny

9:00am

**Identifying novel genes required for
neuronal cilia morphogenesis**

Nina Emens

Advisor: Inna Nechipurenko, Dmitry Korkin

**Bioinformatics and Computational Biology
Department**

Odeum A/B

9:00am

**Computational Analysis of Non-coding DNA
Regions: Understanding the Role of ENCODE
Candidate cis-Regulatory Elements in Cancer
and Gene Regulation**

Evan Dugas

Advisor: Elizabeth Ryder, Weng

9:00am

**Development of a Eutrophication
Simulation for High School Curriculum**

Daniel Feng

Advisor: Elizabeth Ryder

9:00am

**Investigation of Large Language Models in
Generating Accurate identification of
Molecular Machines Across Model
Organisms**

Kashish Gupta, Najum Soofi

Advisor: Dr. Dmitry Korkin

9:00am

**Distributed Computing for Association
Analysis of Whole Genome Sequencing
Data**

Kylie Hoar, Peter Howell

Advisor: Zheyang Wu

9:00am

**RNAi-based Loss-of-Function Suggest
Nonessential Roles in Exocytosis of Sec3
and MyTH1 and that Lyk5 Serves as the
Chitin Receptor in Physcomitrium patens**

Pegah Emdad, Dale Asante, Aiden Johnson,

Rosaline Guo, Dylan Grady

Advisor: Elke Rundensteiner, Shichao Liu,

Oren Mangoubi, Kaitlyn Schneider

9:00am

**Unlocking Yeast's Stress Resilience:
Leveraging AlphaFold AI to Decode
Unknown Genes for Industrial and
Biotechnological Applications**

Thomas O'Sullivan

Advisor: Eric Young