

2024 Biology Department Senior Project Symposium

Allegheny College

Student Presentations:

Monday & Tuesday, April 22-23, 1:10-4:30 p.m.

Steffee Hall of Life Sciences
Monday: B208, B306, and B316
Tuesday: B306, B312, and B316
Preparation Room: B302
Cookie Breaks: B201

The Department of Biology is pleased to host its Twenty-Fifth Annual Senior Project Symposium to celebrate the biological research accomplishments of the Class of 2024. All members of the college community are invited and welcome to attend. Juniors, sophomores, and freshmen who are majoring or intending to major in Biology are especially encouraged to attend and participate.

Instructions for speakers

Time limits. Presentations will be limited to a maximum of 20 minutes - 15 minutes for formal presentation and 5 minutes for questions. Moderators at each session will enforce these time limits.

Audiovisual equipment. To ensure smooth transitions between speakers, students should either load their PowerPoint file onto the classroom presentation computer OR open their Google Slides presentation on the classroom computer **by 12:45 pm on the day of their presentation.**

Evaluation of presentations. Biology department faculty will evaluate talks based on nine criteria:

- (1) Adequacy of the introduction for persons unfamiliar with the specific area of research.
- (2) Clarity of the statement of objectives and hypotheses.
- (3) Adequacy of the explanation of methods and results.
- (4) Interpretation and discussion of results within the context of the particular sub-discipline.
- (5) Overall organization and clarity.
- (6) Engaging and enthusiastic delivery.
- (7) Quality and appropriateness of visual aids.
- (8) Adherence to the 15-minute time limit.
- (9) Effectiveness of response to questions.

Students should prepare their presentations with these criteria in mind.

2024 Biology Senior Project Symposium Monday, April 22

Time		Steffee B.208 M=Houtz, T=Nelson, E=Demi	Steffee B.306 M=Whitenack, T=Coenen, E=Lundberg	Steffee B.316 M=Humphreys, T=Kadmiel, E=Dawson
1:10	<i>Speaker</i>	Anastazia Herbst	Emily Herrold	Maya King
	<i>Title</i>	Assessing immune response in <i>Plethodon cinereus</i> using Phytohemagglutinin injections and <i>Batrachochytrium dendrobatidis</i>	Estrogen and Cortisol Fluctuations Throughout the Menstrual Cycle in Athletes in Association with ACL Injuries	The Impact of Wear on Morphology and Draw Force of Shark teeth
	<i>Advisor</i>	Venesky	Dawson	Whitenack
1:30	<i>Speaker</i>	Dawit Kahesay	Jonathan Sharp	Anjolina Hrycko
	<i>Title</i>	Examination of Cytochrome C Oxidase Enzyme Presence in <i>Haemophilus ducreyi</i> through interactions with Kovac and Gaby-Hadley reagents.	JAK2 Inhibition of FLT3 Mutated Acute Myeloid Leukemia Cells to Induce Apoptosis and Differentiation	Analyzing Morphological Changes in <i>Buteo jamaicensis borealis</i> Before and After the Passage of the Endangered Species Act
	<i>Advisor</i>	Humphreys	Kadmiel	Whitenack
1:50	<i>Speaker</i>	Christopher Rubino	Erin T. O'Neill	Sofia Maass
	<i>Title</i>	Can a deadly fungal disease affect the metabolic rate of <i>Plethodon cinereus</i> ?	Glucocorticoid Receptor Mediated DNA Repair Mechanisms in Human Corneal Epithelial Cells	Effects of Secondary Metabolites and Coevolution on Insect Herbivory in the Plant Families Asteraceae and Fabaceae
	<i>Advisor</i>	Venesky	Kadmiel	Venesky
2:10	<i>Speaker</i>	Morgan Leshniowsky	Ashley Amato	Gabe McCollum
	<i>Title</i>	A Comprehensive Analysis of the Psychiatric Use of the Meadville Medical Center Emergency Department	Inhibition of <i>H. Ducreyi</i> by Manuka Honey	Running on Caffeine: Investigating the Effects of Caffeine on Mouse Physical Performance
	<i>Advisor</i>	Dawson	Humphreys	Whitenack
2:30	<i>Speaker</i>	Sydney Watko	Kathryne Reed	Olivia Kost
	<i>Title</i>	Isolating Phages That Infect <i>Haemophilus ducreyi</i>	Unveiling Athletic Asymmetry: Investigating Injury Disparities Between Dominant-Sided and Ambidextrous Athletes	Assessing Extracts of <i>Arctostaphylos uva-ursi</i> as an Inhibitor of Biofilm Formation by <i>Pseudomonas aeruginosa</i> (PAO1) on Urinary Catheters
	<i>Advisor</i>	Humphreys	Dawson	Coenen
2:50		***** COOKIE BREAK! Steffee B201 *****		
3:10	<i>Speaker</i>	Grace Sorger	Apurva Kannu	Abigail Shaffer
	<i>Title</i>	Effects of the Plant Phenolic Genistein on <i>Callosobruchus maculatus</i> Oviposition	Genetic Insights into ACL Tears: Exploring the Association of Type 1 Collagen Polymorphisms and Anterior Cruciate Ligament Tears	Sublethal Effects of <i>Rosmarinus officinalis</i> Extract on <i>Euborellia annulipes</i> Reproduction
	<i>Advisor</i>	Coenen	Dawson	Coenen
3:30	<i>Speaker</i>	Megan Lowenguth	Courtney Kaufman	Savanna Hindman
	<i>Title</i>	Inhibition of <i>Haemophilus ducreyi</i> by Plant Extract Ficuseptine	Factors affecting chronic wound healing: Systematic review and meta-analysis	Characterizing CRISPR-generated <i>col4a1</i> mutations in <i>Drosophila melanogaster</i>
	<i>Advisor</i>	Humphreys	Dawson	Hersh
3:50	<i>Speaker</i>	Angelina Cottril	Matthew Taliani	Eden Brody
	<i>Title</i>	Biofertilization and Biofortification of <i>Allium porrum</i> through Inoculation with Arbuscular Mycorrhizal Fungi over a Compost Gradient	Microbiome Variation in <i>Callosobruchus maculatus</i> Raised on Four Different Types of Legumes	Impacts of Land Use and Sedimentation on Brown Trout (<i>Salmo trutta</i>) Populations in a High Quality (Class A) Fishery
	<i>Advisor</i>	Coenen	Humphreys	Bradshaw-Wilson
4:10	<i>Speaker</i>	Lainee Swanson	Sheyli Wetzel	Zach Altenbaugh
	<i>Title</i>	The Effects of FLT3 Inhibition on FLT3-Mutated Acute Myeloid Leukemia Cells as a Potential Novel Treatment	The Variations of Tick Density Patterns Throughout the Seasons	The Effect of Weather Conditions on the Distribution of <i>Plethodon cinereus</i> in Nature
	<i>Advisor</i>	Kadmiel	Venesky	Venesky

2024 Biology Senior Project Symposium

Tuesday, April 23

Time		Steffee B.306 M=Kadmiel, T=Dawson, E=Humphreys	Steffee B.312 M=Coenen, T=Lundberg, E=Whitenack	Steffee B.316 M=Nelson, T=Demi, E=Houtz
1:10	<i>Speaker</i>	Alexandria Hunt	Tyler Znacko	Brooke Belfiore
	<i>Title</i>	<i>Effects of meteorological conditions on waterfowl population and intake reasons: measured by rehabilitation center data</i>	<i>Exploring Negative Chemotaxis Interactions of Two Attractants in Dictyostelium discoideum</i>	<i>Inhibition of Staphylococcus aureus by Essential Oil Combinations</i>
	<i>Advisor</i>	<i>Whitenack</i>	<i>Nelson</i>	<i>Humphreys</i>
1:30	<i>Speaker</i>	Kaylee Sadowski	Steffi Puthenpurayil	Blake Neiderlander
	<i>Title</i>	<i>Identification of Yeasts in Kefir and The Yeast Supernatant Ability to Regulate Pseudomonas aeruginosa</i>	<i>High Glucose Induced Oxidative Stress in Human Retinal Cells in the Presence and Absence of Glucocorticoid Signaling</i>	<i>Mechanisms of Macrophage Plasticity Mediated By Dexamethasone and Aldosterone</i>
	<i>Advisor</i>	<i>Coenen</i>	<i>Kadmiel</i>	<i>Kadmiel</i>
1:50	<i>Speaker</i>	Genevieve Feltmeyer	Caleb Alters	Elizabeth Teufel
	<i>Title</i>	<i>Effects of a Fungal Pathogen on the Skin Bacteria Abundance of the Eastern Newt</i>	<i>The Effects of Estrogen on LPS Induced Ocular Inflammation in Male and Female Mice</i>	<i>Effects of Downward Shifting vs. Constant Temperatures on the Host-Pathogen Interaction Between the Red-Backed Salamander (Plethodon cinereus) and the Amphibian Chytrid Fungus (Batrachochytrium dendrobatidis)</i>
	<i>Advisor</i>	<i>Venesky</i>	<i>Kadmiel</i>	<i>Venesky</i>
2:10		***** COOKIE BREAK! Steffee B201 *****		