

# 2025 Biology Department Senior Project Symposium

## Allegheny College

### Student Presentations:

**Monday & Tuesday, April 21-22, 1:10-4:30 p.m.**

Steffee Hall of Life Sciences

Monday: B108, B212, and B306

Tuesday: B212, B306, and B312

Preparation Room: B302

Cookie Breaks: B201

The Department of Biology is pleased to host its Twenty-Seventh Annual Senior Project Symposium to celebrate the biological research accomplishments of the Class of 2025. 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 share their presentation file with the (T) within their session, as well as 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.

## 2025 Biology Senior Project Symposium

Monday, April 21st

Time		<b>Session I - Steffee B.108</b> <b>M=Kadmiel, T=Humphreys E=Dawson/Nelson</b>	<b>Session II - Steffee B.212</b> <b>M=Coenen, T= Demi, E=Venesky</b>	<b>Session III - Steffee B.306</b> <b>M=Hersh, T=Whitenack E=Houtz</b>
<b>1:10</b>	Speaker	Nelly Stafford	Zach Williams	Mitchell Dugan
	Title	The impact of experimental heat on Tree Swallow investment trade-offs	Targeting <i>Haemophilus ducreyi</i> with Natural Compounds: Comparative Analysis of Essential Oils and <i>Ficus septica</i> Alkaloids	The effects of salinity on amphibian disease outcomes
	Advisor	Houtz	Humphreys	Venesky
<b>1:30</b>	Speaker	Katherine Schott	Kent Cervantes	Natalie Kocherzat
	Title	Effects of the Microbiome and Gut Microbe <i>Lactobacillus plantarum</i> on Courtship Preferences of <i>Drosophila melanogaster</i>	Data in DNA Using SNPs in Intergenic Regions	Impact of forest type on blacklegged tick ( <i>Ixodes scapularis</i> ) abundance
	Advisor	Hersh	Hersh	Venesky
<b>1:50</b>	Speaker	Aleya Belardinelli	Meagan Robare	Michelle McClelland
	Title	Immunological Effects of Testosterone on Male <i>Plethodon cinereus</i> Exposed to <i>Batrachochytrium dendrobatidis</i> (Bd)	The Effects of CTZ1 on Oxidative Stress in Human Retinal Pigmented Epithelial Cells as an Anti-Inflammatory Treatment for Retinal Diseases	The Effects of Sex Differences on Tick Infection Prevalence in White-Footed Mice ( <i>Peromyscus leucopus</i> )
	Advisor	Venesky	Kadmiel	Venesky
<b>2:10</b>	Speaker	Jennifer Anne Hiles	David Babb	CT Graniel
	Title	The Effect of Density on Corticosterone Levels and <i>Batrachochytrium dendrobatidis</i> Infection Intensity Outcomes in <i>Plethodon cinereus</i>	The effect of training intensity on saliva testosterone and cortisol	Do Lower Body Stretching Routines Affect the Hip Mobility and Athletic Performance of Student Athletes
	Advisor	Venesky	Houtz	Dawson
<b>2:30</b>	Speaker	Bradan O'Neill	Emily Lauer	Fadi Alkhafaji
	Title	Enrichment effects on stress behaviors in captive California Sea Lions ( <i>Zalophus californianus</i> ): A case study	Comparing the Potential Health Consequences of Loneliness and Social Isolation in College Athletes and Non-Athletes	Determining the Anti-Angiogenic Properties of CTZ1, a novel drug being investigated for Age-Related Macular Degeneration
	Advisor	Houtz	Dawson	Kadmiel
<b>2:50</b>		***** COOKIE BREAK! Steffee B201 *****		

<b>3:10</b>	Speaker	Olivia Jarzynka	Dhivyanka Raju	Jenna Cassani
	Title	The Role of Biofluorescence in the Sexual Selection of the Eastern Red-Spotted Newt ( <i>Notophthalmus viridescens</i> )	The Effect of CTZ1 in Wound Healing in the Presence of Oxidative Stress in an In Vitro Model of Age Related Macular Degeneration (AMD)	Modeling the Effects of Sublethal Ammonia Exposure on Neurogenesis in Crayfish
	Advisor	Demi	Kadmiel	French
<b>3:30</b>	Speaker	Ana Vader	Cristian Vasquez	Hamilton Kraemer
	Title	Determining the Effects of Bisphenol A and Temperature on the Development of Zebrafish ( <i>Danio rerio</i> )	The effects of exogenous testosterone in adult Eastern Red-Backed Salamanders ( <i>Plethodon cinereus</i> )	Evaluation of the Antimicrobial Efficacy and Release of L-GL13K from Peptide Loaded Gelatin Sponges
	Advisor	Hersh	Houtz	Humphreys
<b>3:50</b>	Speaker	Brady Mosberger	Matthew Degnan	Matthew Luckiewicz
	Title	No Link Between Acute Environmental pH Exposure and Oxidative Stress in <i>Xenopus laevis</i>	Evaluating Loneliness and Gastrointestinal Symptoms Through Survey Data Collection	The Antibacterial Effects of Six Essential Oils on <i>Haemophilus ducreyi</i> and their Cytotoxic Effects on Human ARPE-19 Cells
	Advisor	Houtz	Dawson	Humphreys
<b>4:10</b>	Speaker	Brynn Tefft	Matthew Sigler	Isaiah Davidson
	Title	Investigating the potential teratogenicity of naproxen and ondansetron by monitoring <i>Hsp70</i> expression in <i>Drosophila melanogaster</i>	The Association Between Sepsis Morbidity & Mortality and Sex	Peroxidase Isoenzyme Activity in Tomato Plants Connected to <i>Spodoptera exigua</i> -Attacked Plants Via a Common Mycorrhizal Network
	Advisor	Hersh	Dawson	Coenen

**2025 Biology Senior Project Symposium**  
**Tuesday, April 22nd**

Time		<b>Session IV - Steffee B.212</b> <b>M=Dawson, T=Houtz E=Kadmiel</b>	<b>Session V - Steffee B.306</b> <b>M=Whitenack, T= Venesky, E=Coenen</b>	<b>Session VI - Steffee B.312</b> <b>M=Demi, T=Humphreys, E=Nelson</b>
<b>1:10</b>	Speaker	Tanner Frankenstein	Celia Cocca	Malcolm Denomme
	Title	Microbial Interactions and Insect Fitness: Investigating the Impact of Seed-Associated Bacteria on <i>Callosobruchus maculatus</i>	Testing the Biotic Resistance Hypothesis: The Influence of Native Darter Diversity on Invasive Round Goby ( <i>Neogobius Melanostomus</i> ) Performance in Experimental Stream Systems	The Protective Effects of Beta-Hydroxy-Beta-Methylbutyrate on Skeletal Muscle in Glucocorticoid Treated Mice
	Advisor	Humphreys	Demi	Kadmiel
<b>1:30</b>	Speaker	Christian Bolden	Cameron Kaminski	Halle Book
	Title	Resistance training vs. Motor skill training	Inhibitory effects of six chili pepper powders on oviposition in <i>Callosobruchus maculatus</i>	The Effects of Timed Exogenous Corticosterone Exposure on <i>Batrachochytrium dendrobatidis</i> Infection Load in <i>Plethodon cinereus</i>
	Advisor	French	Humphreys	Venesky
<b>1:50</b>	Speaker	McKenna Knerr	Sara Karns	Jack Malnar
	Title	<i>Dictyostelium discoideum</i> as a Model for the Innate Immune System: Investigating a Potential Role of STAT Proteins in Chemotaxis and Phagocytosis	The Concentrations of Bisphenol-A in Facial Moisturizers and Their Impact on Female Reproductive Health	Overexpression of <i>Numb</i> through PTB:GFP Binding Increases the Regenerative Capabilities of the Imaginal Wing Disc
	Advisor	Nelson	Houtz	Hersh
<b>2:10</b>		***** COOKIE BREAK! Steffee B201 *****		
<b>2:30</b>				