
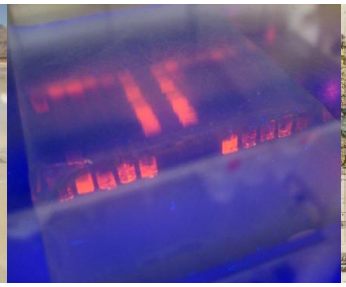

# Amherst College Student Summer Research Poster Session

Friday, September 11, 2015, 3:00 PM – 5:00 PM
The Power House

Every summer dozens of Amherst College students engage in research in the natural sciences, social sciences, and humanities. From laboratories to archives to the field, students can spend six or eight weeks extending their classroom research, working on their senior thesis, or assisting in faculty experiments. Today you will see and hear about the fruits of their efforts!

Sponsored by the Office of the Dean of Faculty, SURF, Information Technology, the Library, and the Writing Center.

**Vote for the Best Posters!**
Check one box in each column on one side or the other.

| American Studies | Best Visual Design | Best Oral Presentation | Most Promising Research |
|---|---|---|---|
| *The Queen's Right and the Printer's Revolt: Mapping King Philip's War* — Lauren Tuiskula '17 and Cassandra Hradil '17; Advisor: Lisa Brooks and Andy Anderson | ☐ | ☐ | ☐ |
| **Medicine** | | | |
| *Prevalence of Arthritis Amongst Native Hawaiians, Caucasians, and Asians Living in Hawai'i Based on Age, Sex, and Severity* — Kyle Obana '18, James Davis, Ph.D., and Amy Wassman, Psy.D. (Department of Native Hawaiian Health) | ☐ |  | ☐ |
| *Association Between Pharmaceutical Funding and Physician Prescribing Patterns* — Brendan Seto '18, Deborah A. Taira '87 ScD, James W. Davis PhD, and David Singh MD (University of Hawaii) | ☐ | ☐ | ☐ |
| **Biology** | | | |
| *Investigating the Pathways that Control Acetate Uptake in* Vibrio cholerae *via a Complementation Analysis* — Stephany Flores-Ramos '17 and Alexandra Purdy | ☐ | ☐ | ☐ |
| *Optical Control of Zebrafish Using Halorhodopsin and Channelrhodopsin* — Joyce Wamala '17; Advisor: Josef Trapani | ☐ | ☐ | ☐ |
| *Effects of Blowfly Parasitism on Tree Swallow Nestlings Hemoglobin and Growth* — Natalie Sun '18 and Victoria Luizzi '17; Advisor: Ethan Clotfelter | ☐ | ☐ | ☐ |
| *Effects of Blowfly Parasitism on Parental Investment and Body Condition in Tree Swallows* — Victoria Luizzi '17 and Natalie Sun '18; Advisor: Ethan Clotfelter | ☐ | ☐ | ☐ |
| *Microsatellites Reveal the Population Structure of* Lycium californicum — Veronica Voronina '17; Advisor: Jill Miller | ☐ | ☐ | ☐ |
| *The Roles of Presenilin in Male* C. elegans *Gonads* — Joshua Jiang '17, Valerie Hale, and Caroline Goutte | ☐ | ☐ | ☐ |
| *Finding Sites of Interaction between P4 ATPases and their Subunits, A Biochemical and Statistical Approach* — Rakin Muhtadi '17, David Chang '16, Patrick Williamson, and Susan Wang | ☐ | ☐ | ☐ |
| *Procedure Development for Separation and Reattachment of Cortical Granules to Plasma Membrane* — Alexandra Farthing '17; Advisor: Dominic Poccia | ☐ | ☐ | ☐ |
| *Understanding the Role of Endothelial IP3R1 in Regulating Blood Pressure* — Mindy Kim '17; Advisor: Dr. Andrew Marks (Columbia University) |  | ☐ | ☐ |

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Check one box in each column on one side or the other.

| Psychology and Neuroscience | Best Visual Design | Best Oral Presentation | Most Promising Research |
|---|---|---|---|
| *AgRP-Regulated Food Intake and the Parabrachial Nucleus* — Ruben Valera '17 and J.P. Baird | ☐ | ☐ | ☐ |
| *Using a Novel Visually-Based Behavioral Paradigm to Study Female Mate Choice in Hybrid Cichlid Fish* — Carlos Johnson-Cruz '17, Gaby Godines, Allie Byrne, Ryan York, and Russell D. Fernald (Stanford University) | ☐ | ☐ | ☐ |
| *Parabrachial Nucleus Contributions to L-838,417-induced Hyperphagia* — Benaias Esayeas '17; Advisor: J.P. Baird | ☐ | ☐ | ☐ |
| **Chemistry** | | | |
| *Hydrogen Exchange Mass Spectrometry as a Probe of Protein Stability in aLP* — Max Paul '18 and Sheila Jaswal | ☐ | ☐ | ☐ |
| *Using Microwave Spectroscopy to Determine the Molecular Structure of Cis-1,2-Dichloroethylene* — Craig Nelson '18, Leonard Yoon '18, Mark Boyer '16, and Nazir Khan '14; Advisors: Mark Marshall and Helen Leung | ☐ | ☐ | ☐ |
| *Exploring Various Catalysts for Low-Dispersity E-caprolactone Polymerization* — Eugene Lee '17; Advisor: Sandy Burkett | ☐ | ☐ | ☐ |
| *Electrochemical and Spectroelectrochemical Characterization of a BODIPY Dyad Series* — Aditi Krishnamurthy '18, Samuel Hendel '15, and Elizabeth Young | ☐ | ☐ |  |
| *Activating Engineered PTPs with a Cell-Permeable Small Molecule* — Adrian Chan '17, Anthony Bishop, and Gregory Knowlton '15 | ☐ | ☐ | ☐ |
| **Geology** | | | |
| *The Sulfur Isotope Record (δ34SCAS) of Ordovician-Silurian Dolomites from the Great Basin of Nevada and Utah* — Brian Beaty '17 and David Jones | ☐ | ☐ | ☐ |
| *Deep Springs Lake, CA: A Dolomite-Precipitating Lake* — Cara Lembo '17; Advisor: David Jones | ☐ | ☐ | ☐ |
| *Fractures in a Gas-Producing Shale* — Henry Frentzel '17; Advisor: Anna Martini | ☐ | ☐ | ☐ |
| **Physics and Astronomy** | | | |
| *XBONGs: X-Ray Bright, Optically Normal Galaxies; Inclusive Astronomy* — Frank Tavares '18 and Allison Watson '18; Advisor: Daryl Haggard | ☐ | ☐ | ☐ |
| *Self-Improving Measurements: Using Probe Light to Increase an Atom's Spin Coherence Time* — Nathanael Lane '18; Advisor: Larry Hunter | ☐ | ☐ | ☐ |
| *Using EasySpin to Simulate Spectrum of $Ni_4$ at High Magnetic Fields* — Hui Xu '18; Advisor: Jonathan Friedman | ☐ | ☐ | ☐ |
| *Stabilizing Frequency Sources in Atomic Physics* — Alexander Frenett '18; Advisor: David Hanneke | ☐ | ☐ | ☐ |
| *Unraveling the Mechanism of DNA Condensation in Sperm Cells* — Obinna Ukogu '18, Adam Smith '17, Robert Schwab '13, and Ashley Carter | ☐ | ☐ | ☐ |
| *The Final Frontier: Illuminating Pluto's Atmosphere* — Carolina Carriazo '18; Advisor: Nick Cowan | ☐ | ☐ | ☐ |
| *Simplifying Hamiltonian Equations with Symmetries by Differential Geometry* — Uyen Thieu '18; Advisor: Will Loinaz | ☐ | ☐ | ☐ |
| *Evaluating Uncertainty Estimators of Occultation Models* — Mashiyat Zaman '18, Daniel Law '16, and Nick Cowan |  |  |  |
| **Mathematics and Statistics** | | | |
| *Exploring New York City 311 Non-Emergency Call Data* — Muling Si '17 and Eunice Kim | ☐ | ☐ | ☐ |
| *Combinatorial Quantum Modular Forms* — Bowen Yang '18, Amanda Folsom, Caleb Ki '17, and Yen Nhi Truong Vu '17 | ☐ | ☐ | ☐ |
| *Modeling the Clock Neuron Network of Drosophila Circadian Rhythms* — Jennifer Cain '18, Jia Liang '17, and Tanya Leise | ☐ | ☐ | ☐ |
| *Mathematical Model of Intercellular Communication between Clock Neurons in Drosophila* — Jia Liang '17, Jennifer Cain '18, and Tanya Leise | ☐ | ☐ | ☐ |
| *Mathematical Modeling of Decision-Making* — Sarah Teichman '18; Advisor: Tanya Leise | ☐ | ☐ | ☐ |