

We would like to thank the faculty, staff, students, and supporters who participated and assisted in making this year's Student Research Celebration a success. We would like to extend a special thanks to our foundation, poster, and table sponsors.

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The College of Natural & Health Sciences'
Twelfth Annual Student Research Celebration
April 6, 2017

Mount Evans Ballroom and Pikes Peak Ballroom
University of Northern Colorado
Greeley, Colorado

The College of Natural and Health Sciences' (NHS) Student Research Celebration is intended to honor noteworthy research by NHS undergraduate and graduate students as well as exemplary research mentoring by NHS Faculty.

Agenda

5:30-7:00pm NHS Student Poster Showcase – Mount Evans Ballroom

7:00-9:00pm Banquet - Pikes Peak Ballroom

- ◆Opening Remarks: Ellen Meyer Gregg,
Dean of the College
- ◆Dinner
- ◆Presentations:
Hortensia Soto, Faculty Mentor Award Recipient
School of Mathematical Sciences

Ian K. Hurt, Undergraduate Student Speaker
School of Human Sciences

Brent Hancock, Graduate Student Speaker
School of Mathematical Sciences

Student Poster Presenters

School of Biological Sciences

- ✧ **Hannah Abelein and Arianna Garcia:** Analysis of Gender Differences in Authentic Science Inquiry Practices
- ✧ **Emily Grabowsky:** The Effect of Habit on Rattlesnake Venom Composition in Two Specialist Species, *Crotalus Pricei Pricei* (Twin Spotted Rattle Snake) and *Sistrurus Catenatus Edwadsii* (Desert Massasauga)
- ✧ **Ash Heim:** Comparing Student, Teacher, and Expert Perceptions of Learner-Centeredness in STEM Classrooms
- ✧ **Aspen King:** Aryl Hydrocarbon Receptor Activation Differentially Alters Cholera Toxin-specific IgA Secretion in Feces and Serum
- ✧ **Randi Lupardus:** Proposed Environmental Impact of Oil and Natural Gas Emissions on a Shortgrass Steppe
- ✧ **Paul McPhail:** Factors Influencing Parasite Communities in Cliff Swallow Nests
- ✧ **Sebastian Ramos:** Does TCDD Exposure Alter Beta-7 Integrin Levels in Mouse B Cells?
- ✧ **Ashley K. Wilson:** Boulders, Bats, and Biodiversity

Department of Chemistry and Biochemistry

- ✧ **Shawn Bydalek:** Synthesis of 2-Arachidonoyl Glycerol: An Endocannabinoid with Potential as an Anti-Cancer Drug
- ✧ **Leonard Farabaugh:** Mercuric Acetate Mediated Cyclization of β,γ -Unsaturated Oximes
- ✧ **Sean Hoskins:** Foundational Organic Chemistry Concepts for Success in Biochemistry

Department of Earth and Atmospheric Sciences

- ✧ **Adam Chumley:** Geochemistry of the Big Thompson Canyon Paleoproterozoic Granitoids, Northern Colorado Front Range: Implications for Tectonic Activity and Crustal Growth at ~ 1.7 Ga
- ✧ **Rebecca Kipf:** Magnetic Minerals in the Poleslide Member of the Brule Formation, Badlands National Park
- ✧ **Kyle Rowinski:** Bulk-rock Geochemistry and Crystallography of Carbonates within the Permian-Triassic Lower Lykins Formation, Northern Colorado: Implications for Depositional and Diagenetic Modeling

School of Human Sciences

- ✧ **Kayla Blosser:** Dine in or Dine Out? An Exploration of Food and Beverage Consumption among University Students
- ✧ **Bailee Coy, Aimee Jo Harris, Tessa Pallan, and Sarah Weaver:** UNCO Army Reserve Officers' Training Corps Nutrition Program
- ✧ **Ian A. Hurt:** Spatiotemporal Analysis of Colorado Parks and Wildlife Area 2 Bear Incursions
- ✧ **Pyper Newton and Kiera Papish:** Actual vs. Perceived Body Composition and

How it Impacts Body Image in College Students

Student Poster Presenters

School of Mathematical Sciences

- ✧ **Amie Bray, Samantha Casya Moore, and Joshua Shoeman:** Minimizing Wait Time and Variance at TSA Checkpoints
- ✧ **Brian Christopher:** The Relationship Between Calibration, Mathematics Anxiety and Mathematics Achievement for Pre-Service Elementary Teachers
- ✧ **Brent Hancock:** Undergraduates' Reasoning about Integration of Complex Functions within Three Worlds of Mathematics
- ✧ **Emilie Hancock:** Characterizing Normative Metacognitive Activity During Problem Solving in Undergraduate Classroom Communities

School of Nursing

- ✧ **Christian Fritch and Rachel McLean:** Reducing the Cost of Code Cart Epinephrine while Maintaining Patient Safety in the Pediatric Clinic Setting
- ✧ **Brittany Wilson:** Cost Savings: The Use of Continuous Capnography in the PACU

Department of Physics and Astronomy

- ✧ **Ryan Angstead, Josh Fender, Justin Morse, and John Ringler:** Investigating the Impact of a Solar Eclipse on Atmospheric Radiation
- ✧ **Patrick Taylor McMillan:** Postural Control: A Sample Entropy Approach to One-Legged Stance
- ✧ **Arick Sweitzer:** Biomimicry: Design and Construction of a Multilegged Robot

School of Sport and Exercise Science

- ✧ **Jacob Augustin, Alex Traugutt, and Nicole Sellars:** Salary Discrepancies between Men's and Women's Head Basketball Coaches: An Investigation of the NCAA Power Five Conferences
- ✧ **Matthew Christensen:** Chronic Inflammation, Cardiorespiratory Fitness and Dietary Inflammatory index in Cancer Survivors
- ✧ **Ann C. Pulling Kuhn:** A Systematic Review of the Whole School, Whole Community, Whole Child (WSCC) Model's Component of Employee Wellness
- ✧ **Jonny Lisano:** Marijuana Use and the Health and Fitness of Physically Active Users and Non-Users
- ✧ **Marshall J. Milbrath:** Multiple Strokes: A Coach's Eclectic Approach to Assessing Swimmers

Roosevelt High School

- ✧ **Nicole Albright and Samantha Ulrich:** A Reinvention of the Waterwheel: A Household Hydro Generator