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Denver

# Congratulations the 2018 RaCAS Award Winners

## Posters:

### *Arts/Humanities/Social Sciences*

Angelique Dueñas Mapping the Body: Poetry and Anatomical Art New Student Exhibit Merges Humanities and Sciences in Higher Education Collaboration

Mentor: Dr. Danielle Royer

Lea Ziegler Inclusionary Practices in the Classroom

Mentor: Dr. Amy Boele

Brandan Rader Model Behavior: The Investigation Into Behaving How You Want

Mentor: Dr. Katherine Goodman; Dr. Lindsey Hamilton

### *Biomedical Science*

Damon Pool Optimization of a human induced pluripotent stem cell derived cardiomyocyte differentiation method to increase reliability and efficiency for downstream applications

Mentor: Dr. Jeffery Jacot

Alexander Morales Pornography: How Chronic Exposure Alters the Brain Chemistry and Neuronal Networks of Males

Mentor: Jessica Luna



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Kim Cowie (UROP 2017-2018 recipient) Oxytocin Neurons in the Paraventricular Nucleus of the Hypothalamus of Male Rats exposed to Post-weaning Social Isolation and Conditioned Social Fear

Mentor: Dr. Sondra Bland

## *Engineering and Math*

Zeinab Mohammadi Real time spike clustering for electrophysiology recording

Mentor: Tim Lei

Jacqueline Chavez, Anne Lyons, Ean Peterson, Jonathan Platt, Ian Garvin, Michel Manzanares, Mikala Mueller, Sarah Lamb Craniotomy Training Devices with Reusable Thermoplastics to Help Train Emergency Room and Trauma Surgeons

Mentor: Craig Lanning

Kyle McGrath (UROP 2017-2018 recipient) Exploring Recurrent Neural Networks (RNNs) to Recognize Human Gestures in Edge Computing Environments

Mentor: Dr. Dan Connors



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## *Natural and Integrated Sciences*

Lindsay Adams (UROP 2017-2018 recipient) Exploring a Food Environment and Food Related Behavior in Skagway, Alaska

Mentor: Dr. Jean Scandlyn

McCall Calvert Adaptive coupling of diapause phenotypes in the apple maggot fly, *Rhagoletis pomonella*

Mentor: Dr. Gregory Ragland

Chloe Pitsch (UROP 2017-2018 recipient) Computational Study of Olefin Metathesis Reactions with New Ruthenium Catalysts

Mentor: Dr. Xiaotai Wang

## **Orals:**

## *Science, Technology, Engineering, and Mathematics*

Katherine Kissler Opening the Black Box: A novel Classification of Prolonged Labor Phenotypes

Mentor: Dr. Nancy Lowe

Baris Aydintug\*, Mikias Negussie, Adam Duster, Christina Garza (\*UROP 2018-2019 recipient) Proton Transport in E. coli CLC Transport Protein by Combined QM/MM Calculations

Mentor: Dr. Hai Lin



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Nicolette Moya\*, Margaret Tanner, Jennifer Jaime\*, Estaban Loetz, JKP Davis, Holly Hake (\*UROP 2018-2019 recipient) The role of mTOR signaling in enhanced fear extinction produced by acute, voluntary exercise  
Mentor: Dr. Ben Greenwood

## *Arts, Humanities, and Social Sciences*

Ji Yoon Social Consciousness in Youth: Civic Engagement in Community and Career  
Mentor: Dr. Donna Martinez

Gracie Finnigan-Fox Two Roads, Converged: Health and the Intersection of Work and Family for Mothers  
Mentor: Dr. Adam Lippert

Jessie Hawk A Panel on LGBT-centric Fiction Writing  
Mentor: Dr. Joanna Luloff

## **Emerging Scholars:**

Beatriz Bermudez Osteogenic Response to Exercise with Obesity (OREO)  
Mentor: Dr. Vanessa Sherk

Rebekah Boyd (UROP 2017-2018 recipient) Effect of Socioeconomic Status on Emergency Department Length of Stay and Crowding  
Mentor: Dr. Meng Li



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Magdalena Carr (UROP 2018-2019 recipient) Modifying nucleosides using bromobenzothiophene as a photo active probe

Mentor: Dr. Marino Resendiz

Chelsea Charley-Suarez Phylogenetic delineation and geographic distribution of *Laccaria nobilis* and phenotypic relatives.

Mentor: Dr. Lindsey Hamilton; Dr. Andrew Wilson

Jazmyne Davis\*, Nicolette Moya\*, Margaret Tanner, Jennifer Jaime\* (\*UROP 2018-2019 recipient) The Importance of mTOR Signaling in Fear Extinction Augmented by Acute Voluntary Exercise.

Mentor: Dr. Ben Greenwood

Mitchell Deans, Sarah Vanderpool, John Bonet, Derek Chavez, Alena Uchaykin International Design-Build Community Center in Nicaragua

Mentor: Dr. Joan Vanderburg and Dr. Maria Delgado De Leon

Julia Deyanova, Adam Duster Ion Solvation and Transport in EC and EMC Electrolyte Batteries

Mentor: Dr. Hai Lin



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Hassan El-Batal\*, Isha Kanu, Hend Elzarad, Zachary Johnson, Christian Padgett, Luis Rodriguez, Yapheth Wolday (\*UROP 2018-2019 recipient) EL Mano: A Method for Designing a Realistic and Practical Intravenous (IV) Training Arm  
Mentor: Craig Lanning

Adam Goldstein (UROP 2018-2019 recipient) Attention Through Learning: An electrophysiological investigation of intertrial priming in visual search  
Mentor: Dr. Carly Leonard

Daniel Hernandez Altamirano\*, Joseph McNabb, Paige Barrette (\*UROP 2018-2019 recipient) Variations in Migraine Treatment Methods Used by Socioeconomic Status  
Mentor: Dr. Amy Wachholtz

Ven Higginbottom Queer Influences in Horror  
Mentor: Dr. Joanna Luloff

Dominic Isaacs Dopamine signaling modulation following administration of heroin and opioid agonist treatment  
Mentor: Dr. Erik Oleson



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Tanja Kovacevic\*, Danielle Miller\* (\*UROP 2018-2019 recipient) A  
Computational Study of the Villin Headpiece Subdomain HP-36  
Mentor: Dr. Hai Lin

Julianna Oviedo, Ami Alnaas, Abena Watson-Siriboe (UROP 2017-2018  
recipient) Determining Granuphilin's Docking Mechanisms Through Mutation of  
a Membrane Binding Domain  
Mentor: Dr. Jeff Knight

Lewis Sammons, Jordan Stein, Christopher Renden Shared Rapid Prototyping  
Space using Hand Tracking and Virtual Reality  
Mentor: Dr. Min Choi

Timothy Spotts (UROP 2017-2018 recipient) An Investigation of the Mechanism  
behind Calcium-Inhibited Membrane Binding by the C2A Domain of  
Synaptotagmin-Like Protein 2  
Mentor: Dr. Jeff Knight

Sahitya Talachutla, Jordan Reichers Titration of Acidic Juices for Citric Acid and  
Ascorbic Acid  
Mentor: Rebecca Cherry



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# Congratulations the 2018 RaCAS Award Winners

Nick Zawadzki, Robert Jenkins, Shreemathi Harikrishnan, Ruba Sus, Vrajen Patel, Jasmine Gomez Corona, Andrew Barron Improving Blind Hockey Players Ability to Locate the Puck  
Mentor: Dr. Cathy Bodine

Anastasia Zhivotov, Elizabeth Pansing Age-Height Regression Models for Regenerating Conifers in the Greater Yellowstone Area  
Mentor: Dr. Diana Tomback

## **Diversity and Inclusion Award:**

Grace Wagner Subtle and Overt Representation of LGBTQ+ Issues in Fiction and Poetry  
Mentor: Dr. Joanna Luloff

## **Interdisciplinary Award:**

Adnan Syed (UROP 2017-2018 recipient) Equity in the Pre-health Application Cycle: an Analysis of Two Financial Assistance Programs  
Mentor: Dr. Charles Ferguson





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# Congratulations the 2018 RaCAS Award Winners

## **People's Choice Undergraduate:**

Kathleen Nguyen Targeted Fluorescent Detection and Thermal Ablation of Bladder Cancer with Functionalized Gold Nanorods

Mentor: Dr. Jared Brown

## **People's Choice Graduate:**

Ian Stewart Development and Incorporation of Virtual Pathology Slides with Instructor Simulation Tools in Pathology Residency Training and Histology Education

Mentor: Dr. Lisa Lee

## **Best Organized Mini-Symposium:**

Michael Pilosov Cutting the Equations

Mentor: Dr. Troy Butler