

UNLV | Office of
UNDERGRADUATE RESEARCH

SUMMER 2017

UNDERGRADUATE RESEARCH SYMPOSIUM



9 AUG 12-3:30 P.M. SU 2017

This event provides a casual setting where undergraduate researchers will meet their research cohort and share their summer work with the campus. This symposium provides an opportunity for students to develop their professional presentation skills by presenting a three minute "quick pitch" of their research. Projects in all academic fields and at all stages of the research process are welcome!

For more information, please visit UNLV.EDU/OUR

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*Find the full symposium
abstract booklet on our
website!*

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& Funding**
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Symposium Schedule

12:00	Lunch & Check-In
12:30	Opening Remarks: Dr. Liam Frink , <i>Executive Director of Undergraduate Research</i> Dr. Mary Croughan , <i>Vice President of Research & Economic Development</i>
12:40	Lightning Talks: <i>SU 207: Presenters 1-12</i> <i>SU 209: Presenters 25-36</i> <i>SU 211: Presenters 49-60</i>
1:40	Break/ Poster Presentations: <i>SU 208: Poster Presenters 1-14</i>
2:05	Lightning Talks: <i>SU 207: Presenters 13-24</i> <i>SU 209: Presenters 37-48</i> <i>SU 211: Presenters 61-73</i>
3:15	Closing Remarks

Lightning Talks

SESSION I: PRESENTERS 1-12

Student Union Room 207

- 1 **“Changes in Glial Cell Morphology Mediate the Antidepressant Effects of Electroconvulsive Therapy”**
Elaine Aquino, *School of Life Sciences*
- 2 **“The Role of Extracellular Matrix Proteins in Protecting *Pseudomonas Aeruginosa* Biofilms From Tobramycin”**
Sophia Araujo-Hernandez, *School of Life Sciences*
- 3 **“Cyanide Content in Smoothies and Juices Commonly Found in Health Food Stores”**
Adriana Baker, James Stordock, & Ryan Taggart, *College of Southern Nevada, Department of Biological Sciences*
- 4 **“Does Elevation Affect the Stomatal Density, and Stomatal Spacing Patterns Found in *P. Tremuloides*?”**
Tristan Bakerink, *School of Life Sciences*
- 5 **“Optogenetic Stimulation of the Thalamic Reticular Nucleus Decreases Arousal”**
Jeffrey Barker, *Department of Psychology*
- 6 **“Starvation Recovery in *Drosophila Melanogaster*”**
Serena Benito, *School of Life Sciences*
- 7 **“Effects of Hydrogen Peroxide on Fungal Growth and Germination in *Saccharum Ravennae* Seeds”**
Kevin Berghel, *School of Life Sciences*
- 8 **“Characterizing the Effect of *Salmonella* Enzymes on ICSP Promoter Activity and the Congo Red Phenotype”**
Scott Billings, *School of Life Sciences*
- 9 **“Chemical Surface Structure of Cu(in,Ga)Se₂ Absorbers for Thin-film Solar Cells”**
Mary Blankenship, *Department of Mathematical Sciences*
- 10 **“A Skip in the Beat?: Comparing Musical Beat Perception in Children with and without Stutters”**
Da Laina Cameron, *University of Denver*
- 11 **“Characterizing a Lysogenic Strain of *Paenibacillus larvae*”**
Hector Aviles, *College of Southern Nevada, Department of Biological Sciences*
- 12 **“Hunting for Holins in the *Paenibacillus Larvae* Phage Willow Genome”**
Erin Cassin, *School of Life Sciences*

SESSION I: PRESENTERS 13-24

Student Union Room 207

- 13 **“Histological Analysis of Lung Tissue Features in Rodents Exposed in Areas with Naturally Occurring Asbestos”**
Camille Catelo, *School of Nursing*
- 14 **“Design and Synthesis of Ionic Liquid Crystals”**
Anthony Chang, *School of Life Sciences*
- 15 **“Design of a Fluidized Bed Photoreactor for the Application of Advanced Oxidation Processes to Water Treatment”**
Kevin Chau, *Department of Chemistry and Biochemistry*
- 16 **“Antidepressant Action of 25I-NBOH”**
Chase Colburn, *School of Life Sciences*
- 17 **“Understanding 5ht₂ Receptor Expression to Develop Novel Antidepressants”**
April Contreras, *Department of Psychology*
- 18 **“The Relationship Between Body Size, Starvation Times and Fecundity in F2 Female Hybrids of Fed Control and Starvation Resistant Lines of *Drosophila Melanogaster*”**
Cassandra Dasmariñas, *Department of Anthropology*
- 19 **“The Effect of Cold Water Immersion on Running Mechanics”**
Lucas DiBenedetto, *Department of Kinesiology and Nutrition Sciences*
- 20 **“Anxiolytics Effects of TSPO Ligands”**
Audrey Donald, *Department of Psychology*
- 21 **“The Effect of Temperature on an Indicator Enzyme in the Protoendothermic Mammal, *Tenrec Ecaudatus*”**
Nathan Ebiya, *School of Life Sciences*
- 22 **“Utilization of Waist Circumference To Determine Type 2 Diabetes Risk Among Normal and Overweight Individuals”**
Hayley Esdaile, *Department of Kinesiology and Nutrition Sciences*
- 23 **“Gut Microbiome Effects on Desiccation Resistance in *Drosophila Melanogaster*”**
Andrea Darby, *School of Life Sciences*
- 24 **“The Art.Is.T Project”**
Melissa Del Rosario, *Department of Architecture*

Lightning Talks

SESSION II: PRESENTERS 25-36

Student Union Room 209

- 25 **“Anthropometry among Hadza Children and Juveniles: Implications for Understanding Human Biology and Biology”**
Elle Ford, *Department of Psychology*
- 26 **“Classroom as Harbor: Roundtable Discussion”**
Taylore Fox & Tyler Howard, *Department of English*
- 27 **“Correlation Between Height and Flexibility of the Medial Longitudinal Arch and Shock Absorption”**
Kumiko Hashida, *Department of Kinesiology & Nutrition Sciences*
- 28 **“The Mexican Oil industry and Underrepresented Communities”**
Alejandra Herrera, *Department of Political Science*
- 29 **“Effects of HPV-16,18 on Normal Breast Tissue Cells”**
Louisa Heske, *School of Life Sciences*
- 30 **“The Role of Social influences on Student Efficacy, Belongingness, Achievement and Retention in Stem”**
Alexis Hilts, *School of Life Sciences*
- 31 **“Assessment of the Production of Hydroxyl Radical Using Nano Zero-valent Iron Embedded in A Meso-porous Silica Matrix”**
Steven Huezo, *Department of Chemistry and Biochemistry*
- 32 **“Reparation and Structure of Lanthanide Complexes Coordinated To FcCOO and DTBbpy Ligands”**
Natalie Johns, *Department of Chemistry and Biochemistry*
- 33 **“Examining Changes in Excitation and Inhibition in a Model of Developmental Epilepsy”**
Christina Joya, *School of Life Sciences*
- 34 **“A Sweet Defeat: Early Detection of Hyperglycemia-linked Memory Deficits”**
Nikki Kaplan, *Department of Psychology*
- 35 **“Influence of Treated Wastewater in Hydroponic Systems on Contaminant Bioaccumulation in Edible Plants”**
Kristen Kujat, *Nevada State College, Department of Physical and Life Sciences*
- 36 **“Many Babies: A Collaborative Approach To Replication in Infant Research”**
Melissa Lacro, *Harvard College*

SESSION II: PRESENTERS 37-48

Student Union Room 209

- 37 **“Evidence for a Two-factor Model of Emotional Awareness”**
Carl Langley, *Department of Psychology*
- 38 **“Improving a 7-point Stencil Algorithm From Intel With Chisel-based Hardware Encoding”**
Armon Latifi, *Department of Electrical and Computer Engineering*
- 39 **“10 Seconds Around the World: A Cross Cultural Study on Tempo Perception”**
Jared W. Leslie, *Department of Psychology*
- 40 **“Design and Synthesis of Polypyridyl Ligands for the Development of Photoluminescent Materials”**
Jessa Li, *School of Life Sciences*
- 41 **“Effects of Larval Starvation on Adult Lipid Storage in *Drosophila*?”**
Victoria Martinez, *School of Life Sciences*
- 42 **“Modeling Combined Radiation and Immunotherapy in Cancer Treatment”**
Tiffany Mata, *Department of Mechanical Engineering*
- 43 **“Movement Analysis in the Discoveries of Novel Neuro-Diagnosis, interventions, and Therapies”**
Kendra McGlothen, *Department of Psychology*
- 44 **“Characterizing the Antibiotic Resistance of Enterococcus Bacteria in Wastewater Treatment Plants”**
Sean Medina, *School of Life Sciences*
- 45 **“Determination of Gender Effects on ADH1”**
Kristie Menjivar, *Nevada State College, Department of Physical and Life Sciences*
- 46 **“Improving the Functionality of a Low-cost Prosthetic Hand”**
Patrick Messimer, *Department of Mechanical Engineering*
- 47 **“A Novel Behavioral Task for Assessing the Nature of Reward Prediction in Rodent ACC Units”**
Ryan Francis, *Department of Psychology*
- 48 **“Synthesis of Thio Azaphosphonates with N-Heterocyclic Phosphine-Thioureas”**
Ngantu Le, *School of Life Sciences*

Lightning Talks

SESSION III: PRESENTERS 49-60

Student Union Room 211

- 49 **“Differentiation Potential of Dental Pulp Stem Cells (DPSC) in Vitro”**
Eric Mullins, *Department of Mathematical Sciences*
- 50 **“Children Synchronize Their Finger Taps To Rhythms Through Iterated Reproduction”**
Jessica Mussio, *Department of Psychology*
- 51 **“Bowel and Bladder injuries Secondary to intrauterine Device Perforation”**
Ian Ogurek, *Department of Kinesiology and Nutrition Sciences*
- 52 **“Keeping the Beat When It Is Not Your Own: Testing Cross-Cultural Beat Perception in Children”**
Liza Patrice Paez, *School of Nursing*
- 53 **“Hotel TVs À La Mode?”**
Sandra Perez, *Department of Sociology*
- 54 **“Caught on Camera: Who Spends More Time Engaging in Cross-race Interactions?”**
Paula Ramirez, *Nevada State College, Department of Psychology*
- 55 **“Are Tenrecs ‘Primitive’ Mammals?”**
Alhan Rezazadeh, *School of Life Sciences*
- 56 **“Biomarkers of Inflammation”**
Tanya Ricasa, *School of Life Sciences*
- 57 **“Modeling Species Interactions With Harvesting Using Nonlinear Differential Equations”**
Delon Roberts, *Department of Mathematical Sciences*
- 58 **“Investigating Music Perception in Diverse Populations Through Online Testing”**
Anthony J. Romero, *Department of Psychology*
- 59 **“Blood Cell Dynamics in a Protoendothermic Mammal”**
Charles Ronkon, *School of Life Sciences*
- 60 **“Longitudinal, Linguistic Analysis of Critical Thinking, inquiry, and Communication Skills Development among Second-year Seminar Students”**
Yana Ryjova, *Department of Psychology*

SESSION III: PRESENTERS 61-72

Student Union Room 211

- 61 **“Invertebrate Utilization of Riparian Plant Communities Restored in a Desert Watershed”**
Nha Trang Vivian Sam, School of Life Sciences
- 62 **“Regrowing a Tail: Does Regeneration Catch up to Normal Size?”**
Alexis Saucedo-Quintero, School of Life Sciences
- 63 **“Interferon-gamma as a Novel Therapeutic for Depression-like Symptoms”**
Ken Schultze, School of Life Sciences
- 64 **“Directly Testing the Nutrient Assimilation Model for the Evolution of Endothermy”**
Daylin Sigler, School of Life Sciences
- 65 **“Oxytocin and Grandmothering Behavior”**
Lexy Silva, Department of Anthropology
- 66 **“Investigation for Evidence of Active Immunity in Torpid Tenrec Ecaudatus”**
Catlene Jeorgia Smith, School of Life Sciences
- 67 **“Ability and Trait Emotional Intelligence Predict Different Aspects of Academic Success”**
Fae Tahimic & Kaela Palmer, Multiple Disciplines
- 68 **“The Effects of Spanish Imperialism on Bison Migration”**
Jenni Tiftt-Ochoa, Department of History
- 69 **“Murine Model of Social Isolation Alters Astrocyte Endfeet Morphology”**
Beatriz Torres, Department of Psychology
- 70 **“Reliability and Validity of the Center of Pressure Measurements for Medilogic Insoles”**
Ashley Trotter, Department of Kinesiology and Nutrition Sciences
- 71 **“Synthesis of Novel Fluorinated Pyronins”**
Brandon Walls, Nevada State College, Department of Physical and Life Sciences
- 72 **“Ethanol Induction of Willow Phage in *Paenibacillus* Larvae”**
Alicia Salisbury, School of Life Sciences

SESSION IV: PRESENTERS 1-14

Student Union Room 208

- | | |
|--|---|
| <p>1 “Content Of Degradtion: Biodegradation”
Amanda Arteaga, <i>Exploring Majors</i></p> | <p>8 “A Flying Dexter:The Challenge Of Live Aerial Performer”
Kalvin Major</p> |
| <p>2 “Effects of Albedo and Spectrum on Photovoltaic Panels”
Allan Bartolome, <i>East Career and Technical Academy</i></p> | <p>9 “A Flying Dexter:The Challenge of Live Aerial Performer”
Silver Mendoza-Matute, <i>Southeast Career Technical Academy</i></p> |
| <p>3 “Hydrologic Watershed Mapping: Returning an Urbanized Watershed to its Pre-urbanized Runoff Parameters”
Kira Champelli, <i>Green Valley High School</i></p> | <p>10 “An Integrated Ecosystem-level Analysis of the Dissimilatory Nitrogen Cycle in Geothermal Systems”
Carl Montemayor, <i>Southwest Career and Technical Academy</i></p> |
| <p>4 “GPS and Heart Rate Monitor Data From Child Foragers among the Hadza of Tanzania: Towards a Better Understanding Food Production among Hunter-Gatherers”
Regina de Castro, <i>College of Southern Nevada, Department of Human Behavior</i></p> | <p>11 “Assessment of Cufeo as a Solar Absorber Coating for High-temperature Concentrated Solar Power Systems”
Idalia Soto, <i>Veterans Tribute Career and Technical Academy</i></p> |
| <p>5 “GPS Foraging Data among the Hadza: Implications for Understanding the Sexual Division of Labor”
Deidra Dilworth, <i>Valley High School</i></p> | <p>12 “Chromium Removal from Waters with Ion-exchange and Granular Activated Carbon”
Alicia Sun, <i>Duke University</i></p> |
| <p>6 “Culvert Construction and Its Effects on the Lower Las Vegas Wash”
Solomon Feinstein, <i>Valley High School</i></p> | <p>13 “Characterization of Anti-candida Activity by Kluveromyces Marxianus B0399”
Caroline Thomas, <i>Green Valley High School</i></p> |
| <p>7 “Perchlorate and Chromium Biodegradation Using Emulsified Oils”
Padmanabhan Krisnaswami, <i>Bannari Amman Institute of Technology</i></p> | <p>14 “PMBENCH: Benchmark for Accessing System Paging Performance With Low-latency SSDS”
David Vega, <i>College of Southern Nevada, Department of Computing and information Technology</i></p> |

*See Index of Presenters on Page 66

SUMMER *Funding*

*PLEASE NOTE: Summer research funding
& opportunity deadlines typically occur
early in the spring semester.*

CSUN Scholar Program: Research and Development Scholarship

The Research and Development Scholarship was created for the purposes of recognizing students who display academic abilities and potential. Under this scholarship, two (2) undergraduates will be admitted into the Scholar Program. Eligible students that complete the application will be considered to receive a scholarship of \$3,000 per academic year. Recipients inducted to the Scholar Program will be invited along with their family to attend an honorary banquet at the start of the fall semester.

CSUN Scholar Program: Undergraduate Research Stipend

The CSUN Undergraduate Research Stipend was created for the purpose of supporting students who display research ability and potential by providing financial support while they actively engage in a research project. A primary function of this scholarship is to reduce financial barriers that students may face while completing undergraduate research activities by decreasing the need for outside employment.

Under the CSUN Undergraduate Research Stipend scholarship, funding will be awarded to six (6) undergraduate students: 3 recipients from the Social Sciences, Fine Arts, and Humanities, and 3 recipients from STEM fields. Eligible students that complete the application will be considered to receive a scholarship of \$5,000 per academic year, to be disbursed in two \$2,500 increments during two semesters of the recipient's choosing (fall and spring, fall and summer, or spring and summer terms).

For information on CSUN opportunities, visit
unlv.edu/csun/scholarships

National Science Foundation's Experimental Program to Stimulate Competitive Research Undergraduate Research Opportunity Program (NSF EPSCoR UROP)

The Undergraduate Research component of the current NSF EPSCoR award provides lab and field research experiences, through summer scholarship programs and annual fellowship opportunities, to full-time NSHE undergraduate students.

These programs fund eligible students either majoring in mathematics, science, or engineering, or majoring in education and specializing in teaching K-12 in the fields of mathematics, science, or technology. Research is conducted under the guidance of NSHE faculty mentors. The hands-on experience gained through these programs has proven to supplement classroom learning and serve as gateways to new and exciting opportunities for all participants.

For more information about this opportunity, visit unlv.edu/sciences/urop/epscor

Nevada IDeA Network of Biomedical Research Excellence Undergraduate Research Opportunity Program (INBRE UROP)

The Undergraduate Research component of the current NSF EPSCoR award provides lab and field research experiences, through summer scholarship programs and annual fellowship opportunities, to full-time NSHE undergraduate students.

These programs fund eligible students either majoring in mathematics, science, or engineering, or majoring in education and specializing in teaching K-12 in the fields of mathematics, science, or technology. Research is conducted under the guidance of NSHE faculty mentors. The hands-on experience gained through these programs has proven to supplement classroom learning and serve as gateways to new and exciting opportunities for all participants.

For more information about this opportunity, visit unlv.edu/sciences/urop/inbre

**University Libraries
Lance & Elena Calvert Undergraduate Research Awards**

The Calvert Award recognizes undergraduate students who demonstrate sophistication and originality in research projects. Up to five prizes will be awarded in three categories: Emerging Scholars with a \$750 prize, Advanced Undergraduate and Creative Works with a \$1000 prize. Project length will be dictated by the course instructor or project advisor who supports the application. Projects by individual or groups in all formats are eligible including: research paper or thesis, design portfolio, theatre designs, visual/fine arts performances accompanied by program notes, creative work (writing, art in any format), film/digital media, & poster presentations.

For more information, visit library.unlv.edu/award#criteria

UNLV McNair Scholars Summer Research Institute

During the UNLV Dr. Ronald E. McNair Summer Research Institute, student scholars work on the research projects that they propose and design under the guidance of faculty research mentors. Scholars come from virtually all academic disciplines, such as the fine arts, social sciences, life sciences, engineering, hotel administration, and business. To be eligible for consideration to participate in the UNLV McNair Scholars Summer Research Institute, applicants must be active participants in the UNLV McNair Scholars Post-Baccalaureate Program, and must be classified as a junior with no less than 60 credit hours.

For more information about the McNair Scholars Program and the Summer Research Institute, visit cao.unlv.edu/mcnair/

UNLV Office of Undergraduate Research Travel Funding

The Office of Undergraduate Research (OUR-UNLV) is accepting applications for OUR-UNLV Travel Funding. This award allocates up to \$500 to assist undergraduate student researchers with travel to an academic conference, symposium, or other venue to present their scholarly work, or travel for research purposes (e.g., data collection, sample analysis, etc.).

2017 -2018 Application Deadlines:

Fall 2017 (travel from 08/29/17 - 12/17/17):
Due by September 1, 2017

Spring 2018 (travel from 12/18/17 - 5/13/17):
Due by November 20, 2017

Summer 2018 (travel from 08/29/17 - 12/17/17):
Due by April 20, 2018

For more information and to apply,
visit unlv.edu/our

UNLV Office of Undergraduate Research Summer Undergraduate Research Funding (OUR SURF)

The Office of Undergraduate Research (OURUNLV) is accepting applications for the newly created Summer Undergraduate Research Funding program (OUR SURF). OUR SURF awards support undergraduate students as they work on their research, scholarship, entrepreneurial, performance or visual art projects in the summer months. Currently enrolled undergraduate students at UNLV, Nevada State College, or College of Southern Nevada working with an NSHE Faculty Research Mentor during summer 2017 are eligible for consideration.

For more information visit,
unlv.edu/news-story/our-funding

Publication Opportunity: Nevada State Undergraduate Research Journal

The mission of NSURJ is dedicated to educating, supporting, and providing a competitive edge for all students in the NSHE system. This is accomplished by providing an accessible, student run, and highly selective peer reviewed research journal specifically for undergraduate students.

As an interdisciplinary journal, NSURJ accepts many forms of submissions. All manuscripts must be thesis driven. A literature based research manuscript is appropriate as it pulls current data and opinion in a thesis driven way that offers something original and unique to the field. The standard of a manuscript is expected to be higher than that of a college research paper. Because new protocols and experiments are often developed, NSURJ includes such development as publishable material.

For more information about how to publish your original work in the Journal, visit **<http://nsurj.com/>**

RESEARCH *Awards*

Each year, the Office of Undergraduate Research (OUR-UNLV) recognizes outstanding students for their accomplishments in research, scholarship, and performance/visual art, and faculty for their dedication to undergraduate researchers.



2017 OUR Director's Research Mentor Award

Winner:

Hines Group

Represented by Dr. Rochelle Hines
& Dr. Dustin Hines, Department of
Psychology



2017 CSUN Scholar Program

Research & Development Award

Winners:

Zoe Wilbur, *Department of Geoscience*

Jessa Li, *School of Life Sciences*



Undergraduate Research Stipend

Non-STEM Winners:

Katie Randolph, *Department of Psychology (Double Major)*

Mary Blankenship, *Department of Economics (Double Major)*

Alexis Hilts, *Department of Political Science (Double Major)*

STEM Winners:

Michelle Quizon, *Department of Mechanical Engineering*

Sophia Araujo-Hernandez,
School of Life Sciences

Cilla Jose, *School of Life Sciences*

2017 OUR-UNLV Outstanding Undergraduate Researcher Award

Winner:

Angela Garcia

Honorable Mention:

Michelle Quizon



THANK
You!

**Dr. Erica Marti and
Johana Iglesias**

Faculty Research Mentors

**Student Union Event
Services**

Student Presenters

Summer REX Participants

**The Division of Research
& Economic Development**

**The Office of the
Executive Vice President
& Provost**

**UNLV Office of
Undergraduate Research
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Volunteers

Notes

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