



GRADUATE &
PROFESSIONAL
STUDENT COUNCIL

FRIDAY / 11 / 08 / 2013

21st Annual

STUDENT SHOWCASE

**ALUMNI
PLAZA**

9AM - 5PM



Sponsors

The Graduate & Professional Student Council (GPSC) created Student Showcase in 1993 to celebrate student research. GPSC would like to acknowledge the support of many dedicated Administrators, Deans, Faculty Members, Department Heads, Directors, and Staff at the University of Arizona. Without their support Student Showcase would not exist.

2013 Student Showcase Sponsors

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Katheryne B. Willock

BIO5 Institute

The Southern Arizona section of the American Chemical Society

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Schedule

Friday, November 9th, 2012

| | |
|---|----------|
| Judging Period | 9:30 am |
| Student Showcase Opens to Public | 9:30 am |
| Fine Arts Lecture-Performance 1 | 10:00 am |
| Lunches Served to Exhibitors at the Check-in Tables | 12:00 pm |
| Judging Period | 1:00 pm |
| Fine Arts Lecture-Performance 2 | 1:30 pm |
| Awards Ceremony | 4:00 pm |
| Student Showcase Closes | 5:00 pm |

Exhibitors

Agriculture and Environmental Sciences

Graduate:

- | | | |
|------------------|----|---|
| Rebecca Lybrand | 1 | Soils of the Santa Catalina Mountains, Arizona |
| Ashwin Naidu | 2 | Landscape Genetics of Mountain lions in the Northern Sonoran Desert |
| Jack Ruggierello | 3 | An Attempt to Spawn Endangered Moapa Dace in Captivity |
| Hsiang Lin Chen | 22 | Barrier Effects of Roads on an Endangered Forest Obligate: Role of Forest Structure |
| Angela Knerl | 23 | Fluctuations of soil moisture and photosynthesis in aridland rain basins |
| Andri Rachmadi | 24 | Pepper Mild Mottle Virus (PMMoV) concentration in Wetland as Secondary Wastewater Treatment in Arizona |
| Ian Shiach | 25 | The potential for hybrid poplar as a biofuel in Southern Arizona |
| Martha Gebhardt* | 26 | Interactions between soil physical, biogeochemical, and biotic properties influences on plant restoration |

Undergraduate:

- | | | |
|----------------------|----|---|
| Reyes David Murrieta | 27 | Effectiveness of plant antimicrobials against hepatitis A virus |
| Yadi Wang | 28 | Greenhouse Mesocosm Study: Strategies for Phytostabilization of Mine Tailings |

*Non-competitive Exhibitor

Exhibitors cont.

Architecture, Planning, and Landscape Architecture

Graduate:

- | | | |
|----------------------|----|--|
| Kang Zhou | 4 | Human assisted thermoregulation for buildings-a holistic approach to Lessons learned from thermoregulation of honey bee colonies |
| Rachel Glass | 29 | A New Approach to Urban Development |
| Adriana Zuniga Teran | 30 | From neighborhoods to wellbeing and conservation: optimizing the usage of natural open spaces through design |

Biological Sciences

Graduate:

- | | | |
|------------------------------|----|---|
| Huimin Leung | 5 | Developing Multi-modality Imaging Tools for Cancer Studies: A Mouse Window Chamber Model |
| M. Ross Alexander | 31 | Where does the carbon go? Using Tree rings to quantify above ground carbon storage |
| Celine Cohn | 32 | Engineering cholesterol-based hybridized fibers for enhanced surface functionalization |
| Chanel Griggs | 33 | Misregulation of Circadian Transcription Factors by the Histone Deacetylase Inhibitor Valproic Acid |
| Courtney Hemphill | 34 | Retaining the Architecture and Compliance of Cryopreserved Lung Bioscaffolds |
| Julio Cesar Ignacio-Espinoza | 35 | Charting the Marine Viral Dark Matter |

Exhibitors cont.

- | | | |
|-----------------------|----|--|
| Dennis Pollow | 36 | T cell-dependent hypertension is attenuated in female mice during angiotensin II infusion |
| Xeeroy Rada | 37 | Synergistic effects of organic combination treatments against multi - drug resistant Salmonella enterica on organic leafy greens |
| Bethany Remeniuk | 38 | Characterization of pain relief in a preclinical model of cancer-induced ongoing bone pain |
| Xuezhen Ge | 39 | Exploring the Role of Sis1 in Prion Propagation |
| Nina Patrick | 40 | The Role of Class I KDACs in Glucocorticoid Receptor Mediated Transactivation |
| Fen Pei | 41 | Investigating the Mechanism of Dominant-Negative Inhibition of Prion Propagation |
| Ezra Smith | 42 | Where it's at: Estimating Sources of Resting-state Frontal Egg Alpha Asymmetry |
| Undergraduate: | | |
| Jorge Alvarez | 43 | Regenerative Potential of Adipose and Cord Tissue Derived Mesenchymal Stem Cells |
| Julie Cheung | 44 | Characterization of Telomerase RNP in Plants |
| Anthony Fabiano | 45 | The role of Lgl in epithelial polarity and breast cancer progression |
| Matthew Groysman | 46 | MYD88 L265P: In vivo and In vitro investigation of a Hematologic Oncogene |

Exhibitors cont.

- | | | |
|-----------------|----|---|
| Nicole O'Connor | 47 | Characterization and Evaluation of Redox-Directed Iron Chelators |
| Karen Rico | 48 | Relationship Between Acyl-CoA Thioesterase 7 and Saturated Fatty Acid-induced JNK Activation |
| Ben Van Maren | 49 | Role of Rho GEFs in regulating the epithelial-mesenchymal transition during gastrulation in chicken embryos |

Business, Public Administration, and Economics

No Entries

Education

Graduate:

- | | | |
|-------------------|----|--|
| Michelle Aguilera | 50 | Using the Community Cultural Wealth Theory to Investigate Middle School Student Aspirational Capital and Social Capital |
| Russel Potter | 51 | Narratives of Status in Research Universities |
| David Ruddle | 52 | Knowledge is Empowering—Utilizing Library Services to Build Bibliographic Databases to Improve Native American Health Literacy |

Undergraduate:

- | | | |
|----------------|----|---|
| Monique Perez | 53 | Parental Involvement and Early Childhood Bilingualism Among Mexican Descent Parents |
| Maryann Shakir | 54 | Rationalizing Racism: Arizona Representatives—Employment of Euphemisms for an Assault on Mexican American Studies |

Exhibitors cont.

Engineering

Graduate:

- | | | |
|----------------------------------|----|---|
| Yissel Diana Contreras Valeriano | 6 | Passivation of III-V Semiconductor Surfaces |
| Jordan Carbary | 55 | Detection of Colorectal Cancer using NIR Quantum Dots as Contrast Agents in a Mouse Model |
| Tzu-Yu Wu | 56 | Development of an achromatized miniature objective for confocal microscopy |

Undergraduate:

- | | | |
|---|----|---|
| Kiet Dao Chi Nguyen | 7 | Effect of Applied Load on the Non-destructive Measurement of Concrete Strength |
| Kate Li | 8 | Characterization of Diffusion from Mesoporous Silica Nanoparticles for Potential Drug-Delivery Applications |
| Alex Warren | 9 | Learning Vehicle Dynamics of the CATVehicle using a Genetic Algorithm |
| Soohee Cho | 57 | Automated all-in-one wire-guided droplet qRT-PCR device provides standardized method for HER2 screening |
| Lance Frazer Ryan Norrix Michael Pearse | 58 | Incorporating microchannels to promote cell migration through stacked electrospun scaffolds |
| Adam Orendain | 59 | Automated electrochemical techniques to evaluate biosensor arrays |

Exhibitors cont.

- | | | |
|----------------|----|--|
| Lauren Peckler | 60 | Synthesis of Phase Pure Pyrite Nanocubes for Thin-Film Solar Cells: Oleylamine as the Solvent, Reductant, and Ligand |
|----------------|----|--|

Health Sciences

Graduate:

- | | | |
|---------------------------------------|----|--|
| Jill Augustine | 61 | Writing Multiple Choice Exam Items for Testing Concept Learning |
| Bach-Truc Chau Ling Yuan Lee Trang Vo | 62 | Effects of pharmacist intervention type and potency on therapeutic outcomes |
| Anika Dzierlenga | 63 | Protein Kinase Regulation of MRP2 Localization in Nonalcoholic Steatohepatitis |
| Ram Kandasamy | 64 | Investigating AMPK activators for the treatment of migraine |
| Amy Kelly | 65 | Receptor Expression and Function in Isolated Porcine Islets for Xenotransplantation |
| Jamie Moy | 66 | Inhibition of eIF4E phosphorylation prevents acute and persistent sensitization in a mouse model of hyperalgesic priming |
| Mira Patel | 67 | Differences in the Impact of Pharmacist Care by Payer Group: Background and Methods for Meta-Analysis |
| Shuxi Qiao | 68 | Modulating the autophagic-lysosomal stress response for anticancer intervention |

Exhibitors cont.

- Michael Valdez 69 Enhanced Drug Delivery to the Brain with Ultrasound, MRI, and SPECT
- Clarissa Sema 10 Impact of implementing a step wise approach to confirm the diagnosis and appropriate use of treatment for malaria

Undergraduate:

- Sandra Gonzalez 70 Evaluation of the Bio-distribution of Lanthanide Ions in Mouse Tissue using NMR Spectroscopy
- Quinea Lassiter 71 Pioneering New Drug Targets for Inhibiting c-Myc Expression
- Brianna Moon 72 Evaluating the Extracellular pH of Tumors In Vivo using acidoCEST MRI
- Uma Raman 73 Ultrasound Promotes Neurite Growth

Humanities, Literature, and Languages

Graduate:

- Diane Daly 11 Que vivan los títeres: How virtual communication is transforming puppetry in Mexico
- Garrett Faulkner 12 Appalachia Far and Near: Novel Research From the Stacks and On the Ground
- Alexander Ganz 13 Student Analytics as Part of the Longitudinal Evaluation of Language Programs
- Christian Ruvalcaba 74 L2 Acquisition of English's Double-Object Construction by native Spanish speakers
- Yasumasa Shigenaga 75 Processing of Japanese two-kanji compounds: A preliminary investigation through lexical decision tasks

Exhibitors cont.

- Heather Smyser* 76 The Influence of French Sentimentalism on the Russian Literary Language: An Analysis of Calques in Karamzin's "Bednaya Liza"

Physical Sciences, Mathematics, Computer Engineering and Computer Science

Graduate:

- Catherine Elder 77 Melt migration through Io's convecting mantle
- Joel Jorolan 78 Electrochemical Investigation of a Ruthenium Nitrosyl Complex
- Jenna Kloosterman 79 A 4.74 THz (63 μ m) heterodyne receiver
- Chen-Ting Liao 80 Attosecond Science: Transient Absorption Studies with Ultrafast Light Bursts on Helium

Undergraduate:

- David Sidi 81 New Views on the Yoneda Lemma
- Wesley Wilkins 82 Geologic Investigation of Fracture Intensity in the Escabrosa Limestone at Kartchner Caverns State Park, AZ

Public Health

Graduate:

- Anastasia Sugeng 83 Assessing Metals Exposure in the Community Surrounding the Iron King Superfund Site
- Kerton Victory 84 Risk perception of drinking water quality in a U.S.-Mexico Border community

*Non-competitive Exhibitor

Exhibitors cont.

Undergraduate:

- Esther Gotlieb 85 Vacancy Rates of Selected Health Professionals in Rural Arizona Hospitals and Their Capacity to Meet Hospital Service Needs

Social Sciences and Law

Graduate:

- Eliza Benites-Gambirazio 14 Exploring Private Suburbia: The Demographics and the Functioning of Gated Communities in the United States
- Christopher Fullerton 15 Participatory Place-making: Creating a Shared History of the Upper Gila River Watershed of Arizona
- Landon Yarrington 16 An Economy on the Move: How 19th-Century Haitian Export Statistics Can Inform More Robust Ethnographic Research Today
- Ryan Davidson
Katie Banister 86 Using Types of Intimate Partner Violence to Predict Divorce Process Outcomes
- Aresta La Russo 87 Second Generation Navajo Relocates: Inheriting Intergenerational Losses Due to P.L. 93-531
- Emily Mackelprang 88 Crime and Punishment: Gender in Teacher Sex Offense Cases
- Alesia Sedziaka 89 Unfair Elections and Support for Electoral Protest: Reactions to the Russian State Duma Election and Protest in 2011

Exhibitors cont.

- Jonna Yarrington 90 Beet Sugar Changed the World: Anthropology, Economics, and Common Ground
- Kaitlyn Zavaleta 91 Does Executive Control Skill Predict Language Learning Success?
- Sharlot Hart 92 Judging a Book by its Cover: Who Designed The New Day?
- April Petillo* 17 Same Issue, Different Box: Intersections Between US Chattel Slavery & the Contemporary Targeted Trafficking of Native Peoples
- Undergraduate:**
- Guadalupe Galarza Pacheco 93 Información en Peligro de Extinción: Environmental Information Policy About Endangered Species of Large Mammals in Mexico
- Darlynn Rojo-Wissar 94 Non-parents recover faster following divorce
- Matthew Schmit 95 Familiarity and the Context Shift Decrement in Young and Older Adults
- Caroline Shanholtz 96 Emotional Distress, Family Conflict and Language Use Differences in Young Adults From Married and Divorced Families

*Non-competitive Exhibitor

Exhibitors cont.

Visual and Performing Arts

Graduate:

| | | |
|---------------------|-----|--|
| Ben Pawlowski | 21 | NOWhere Art |
| Sandahl Masson | 97 | Cymbeline |
| Gabrielle McNeillie | 98* | Riled Up |
| Mary Murdock | 99* | The Many Facets of Shostakovich's Suite for Voice and Piano, Op. 143 |

Undergraduate:

| | | |
|--------------------|------|---|
| Samantha Goldstein | 100* | Dissecting Minimalism: Defining and Organizing the Categories |
|--------------------|------|---|

* denotes that the exhibitor will only be presenting a lecture-performance for their project.

Fine Arts Performance Program

Student Showcase Fine Arts Lecture Performances

10:00am and 1:30pm

10:00am—10:20am
1:30pm-1:50pm

The Many Facets of Shostakovich's Suite for Voice and Piano, Op. 143

Mary Murdock

10:20am—10:40am
1:50pm—2:10pm

Riled Up

Gabrielle McNeillie

10:45am—11:05am
2:15pm—2:35pm

NOWhere Art

Ben Pawlowski

11:05am—11:25am
2:35pm—2:55pm

Dissecting Minimalism: Defining and Organizing the Categories

Samantha Goldstein

Awards

GPSC Category Awards

There are a total of 12 categories in Student Showcase. Judges will examine and evaluate students' research based on four dimensions: quality of presentation; academic merit; value to the community; and overall impression. Prizes will be given for both graduate and undergraduate research. Each first place winner is awarded \$250 and second place winner is awarded \$125.

Katheryn B. Willock Library Research Award

The Katheryn B. Willock Library Research Award recognizes University of Arizona students who have made extensive and innovative use of the UA Libraries' information resources and services in support of their coursework. Up to three undergraduate and three graduate prizes will be awarded each year. For each category, \$1,000 will be awarded per prize.

American Chemical Society Women's Chemist Group Award

The Women's Chemists Group of the Southern Arizona section of the American Chemical Society is promoting the role of chemistry in society. This award will recognize one or more female graduate students, who present outstanding research in chemistry or a related field. First place winner receives \$200 and second place \$100.

BIO5 Innovator Award

The BIO5 Innovator Award recognizes one graduate and one undergraduate student exhibitor whose work best represents the goals of BIO5 in one of the following areas: multidisciplinary bioscience research; innovation in education; or entrepreneurship (technology transfer, new ideas for public/private partnerships, etc.). These awards are provided by the BIO5 Institute at The University of Arizona. Each winner is awarded \$250.

Awards (cont.)

Best Honors Interdisciplinary Research Award

This award is for an Honors student whose research project best embodies the principles of interdisciplinarity: demonstrating the contributions of different disciplines to the question addressed, showing breadth and depth in addressing the question, and highlighting the researcher's ability to think holistically, synthetically, and comparatively.

Award for Best Research Project by an Honors Student (across all disciplines)

This award is for an Honors student whose research project makes the most important contribution in terms of its rigor, depth, and overall quality (including the presentation itself).

President's Award

The President's Award is designed to acknowledge graduate and undergraduate students who exemplify outstanding academic research and community service. The award is sponsored by the UA President's Office and is awarded to one graduate and undergraduate exhibitor who demonstrates the above criteria. Each winner is awarded \$1,000 and a plaque.

Awards Ceremony

| | |
|--|--|
| Introduction | Mr. Kevin Chau Student Showcase Director |
| Welcome | Dr. Ann Weaver Hart President of the University of Arizona |
| Keynote Speaker | Dr. Jennifer Barton Senior Vice President for Research |
| Graduate Awards | Dr. Jennifer Barton |
| Undergraduate Awards | Dr. Jennifer Barton |
| BIO5 Innovator Award | Ms. Lisa Romero Senior Director, Communications & Public Affairs, BIO5 Institute |
| ACS Women's Chemist Group Award | Dr. Anne Padias Representative of the ACS Women's Chemist Group |
| Katheryne B. Willock Library Research Award | Ms. Karen Williams Dean, The University of Arizona Libraries |
| | Ms. Katheryne B. Willock The University of Arizona Libraries |
| Honors College Awards | Mr. J. Kevin Hall Director, Recruitment and Outreach, The Honors College |

Awards Ceremony (cont.)

| | |
|-------------------|--|
| President's Award | Dr. Andrew Comrie Senior Vice President for Academic Affairs and Provost |
| Closing Remarks | Dr. Andrew Comrie |
| | Mr. Iman Daryaei Vice President of the Graduate & Professional Student Council |

Judges & Committees

The Graduate & Professional Student Council and the Exhibitors would like to thank the following judges and committees for participating in Student Showcase 2013. We appreciate your time and commitment to excellence in student research.

Judges

| | |
|---|--|
| Agriculture and Environmental Sciences | Joy Liu Jean McLain Rob root Randy Ryan Samendra Sherchan |
| Architecture, Planning, & Landscape Architecture | Nader Chalfoun Lydia Otero |
| Biological Sciences | Steven Chong Erik Hanschen Christina Henderson Gregory Rogers |

Judges (cont.)

| | |
|---|--|
| Education | Rachel Fisher Cody Nicholls |
| Engineering | Abdullah Alhussein Anita Bell Base Horner Jen Watson |
| Health Sciences | Farah Bughio Dianne Horgan Katrina Miranda Maria Teresa Velez |
| Humanities, Literature & Languages | Damián Baca Albrecht Classen Peter Ecke Alexandra Ritter |
| Physical Sciences, Mathematics, Computer Engineering & Computer Science | Umar Amjad Angus Forbes Yu C Moy |
| Public Health | Monserrat Caballero Miranda Loh |
| Social Sciences & Law | Andrew Huerta Carla Stoffle Kate Gunby Leonard Hammer Yvonne Mery Leslie Sult |
| Visual & Performing Arts | Ashley Bowman Daniel Katzen Morgan Wells |

Judges cont.

| | |
|--|---|
| President's Awards | Abdullah Alhussein Andrew Carnie Joann Macmaster John Milbauer Thomas Miller Cody Nicholls Emre Toker |
| Kathryne B. Willock Library Research Award | Cheryl Cullier India Spartz Maurita Baldock Michael Brewer Ping Situ Veronica Reyes |
| Honors College Awards | Deb Gregerman Kevin Hall Daisy Pitkin Allison Titcomb Tom Wilson |
| BIO5 Innovator Award | Heather Ingram Anita Koshy Amy Randall Ted Trouard |
| ACS Women's Chemist Group Award | Anne Padia |

Application Review Committee

| | |
|------------------------------|---|
| Application Review Committee | Umar Amjad Emily Marie Besich Kevin Chau Lysette Monet Davis Jill Lloyd Emilio Rodriguez-Alvarez |
|------------------------------|---|

Acknowledgements

Thank you to everyone who participated in the planning and implementation of Student Showcase 2013! This event could not have happened without the dedication and hard work of those involved. Your support is greatly appreciated.

Best regards,
Kevin Chau

Special Thanks

President Ann Weaver Hart
 Dr. Jennifer Barton
 Dr. Andrew Comrie
 Dr. Melissa Vito
 Dr. Andrew Carnie
 Dr. Maria Teresa Velez
 Dr. Dianne Horgan
 Dr. Dorian Voorhees
 Kendal Washington White
 Cody Nicholls
 Audrey Mattson
 Cindy Hintze
 Cheryl Plummer
 Charlene James
 Brenda Keagle
 Dean Karen Williams
 Jim Martin
 Ping Situ
 Katheryne B. Willock

Heather Ingram
 Dr. Karna Walter
 Dr. Anne Padias
 Kathi Hart and the UA
 Facilities Management Team
 Lisa Valentine
 Gregg McAnally, Pro-Em
 Donna Papp, US EXPO
 Deyanira Nevárez Martínez
 Cameron Hannum
 GPSC Advisory Council
 GPSC Representatives
 All the judges and student
 volunteers who donated
 their time
 All the exhibitors for their
 hard work and dedication

UA Student Showcase

November 8, 2013
University of Arizona

Student Union

