

POSTERS *continued*

55. **Kayla Webb, Kelsey McGrath, Paige Gardiner, Elise Ouellette, Kiley Clement, Myles Mercier, & Casey Taber** (Nursing). *Nutrition & Physical Health Awareness for High School Seniors Transitioning to Adult Life*. Mentor: Liz Bicknell.
56. **Sean May** (Physics & Astronomy). *Grain Size Effect on Room Temperature Superconductivity in Doped Graphite Powder*. Mentor: Robert Meulenberg.
57. **Conrad Rier** (Physics & Astronomy). *Habitability of Exomoons*. Mentor: Neil Comins.
58. **Benjamin Algeo, Shannon Brenner, Alexandria Jesiolowksi, Joshua Morse, Victoria Schuyler, & Braden Sinclair** (Political Science, Sociology, & Economics). *Building a Better Orono Together: Cultivating Organic Community Connection with University and Orono Stakeholders*. Mentor: Robert W. Glover.
59. **Alexandria Jesiolowski & Angela Gray** (Political Science and Communication & Journalism). *Measuring Sense of Community (SoC) and Sense of Belonging (SoB) Amongst University of Maine Students and the Town of Orono*. Mentor: Claire Sullivan.
60. **Andrew Bergeron** (Psychology). *The Effects of Different Levels of Co-Rumination on College Students: A Curvilinear Approach*. Mentor: Douglas Nangle.
61. **Meagan Bossie** (Psychology). *The Enhancing and Impairing Effects of Stress on Cognition*. Mentor: Shawn Ell.
62. **Joshua Comins** (Psychology). *The Impact of Describing your Decision Strategy on Explicit and Implicit Category Learning Systems*. Mentor: Shawn Ell.
63. **Marcus Dunham** (Psychology). *Free play, social competence and problems of anxiety and aggression in preschool children*. Mentor: Peter J. Lafreniere.
64. **Kelsey Hickey** (Psychology). *Effects of Induced Social-Evaluative Stress on Category Learning*. Mentor: Shawn Ell.
65. **Morgan Kinney** (Psychology). *Measuring Automatic Emotional Responses to Homosexuals*. Mentor: Jordan LaBouff.
66. **Annie Ledoux** (Psychology). *Perceptions of a Dating Couple Conflict Resolution Interaction and Relationship Quality as Predictors of Depressive Symptoms in a College Student Sample*. Mentor: Doug Nangle.
67. **Paige B. Martin** (Psychology). *The Effect of Cataract Surgery on Depression and Vision-Related Quality of Life*. Mentor: K. Lira Yoon.
68. **Victoria Pendleton** (Psychology). *Ethanol Consumption in Male and Female HAD and P rats over an Alternating Running Wheel Condition*. Mentor: Alan M. Rosenwasser.
69. **Caroline Thibodeau** (Psychology). *When We Talk About Our Problems: An Analysis of Social Anxiety and Co-Rumination in Romantic Relationships and Friendships*. Mentor: Douglas Nangle.
70. **Elizabeth Tull** (Psychology/Honors College). *Inequality and Health: Stress Mediates the Relationship Between Subjective SES and Wellbeing*. Mentor: Shannon McCoy.
71. **Christopher Young** (Psychology). *The Relationship Between High Behavioral Inhibition and Cortisol Reactivity*. Mentor: Lira K. Yoon.
72. **Mary Hunt** (Sociology). *Sexual Orientation and Alcohol Abuse among Young Women*. Mentor: Steven Barkan.
73. **Shannon Jacobson** (Sociology). *Roller Derby: Challenging Gender or Reinforcing Norms?* Mentor: Amy Blackstone.
74. **Linda Fogg & Mazie Pierce** (Sociology). *UMaine Sociology Alumni Survey*. Mentors: Amy Blackstone & Michael Rocque.
75. **Elizabeth Joy** (Sociology). *The Cultural Contradictions of Motherhood Revisited*. Mentor: Kim Huisman.
76. **Christine Gilbert** (Sustainability Solutions Initiative). *Bridging the Gap between Science and Policy*. Mentor: Hollie Smith.
77. **Theodore Koboski** (Sustainability Solutions Initiative). *The Maine Tidal Power Initiative: Lessons Learned Through Collaborative Interdisciplinary Research*. Mentors: Teresa Johnson & Jessica Jansujwicz.

THE UNIVERSITY OF MAINE CENTER FOR UNDERGRADUATE RESEARCH

presents the 4th annual

UNDERGRADUATE RESEARCH & ACADEMIC SHOWCASE



APRIL 16, 2013 • 8 A.M. to 4:30 P.M.
WELLS CONFERENCE CENTER
UNIVERSITY OF MAINE



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2013 CUGR SHOWCASE EXHIBITS (Room 1)

Table Number, Presenter, Department, Project Title, & Mentor

1. **Lauren Reeves, Casey Weed, Holly Stanhope, Clark Shepard, Dominique Scarlett, Joseph Sturzi, & Lauren Fleury** (Communications & Journalism). *The Economic State of Higher Education at Maine's Public Universities*. Mentor: Jennifer Moore.
2. **Bipush Osti** (Electrical & Computer Engineering). *Input Device for Visualization Wall*. Mentor: Bruce Segee.
3. **Carolyn Pugliano** (Electrical & Computer Engineering). *A Lateral Field Excited Gas Sensor*. Mentor: John Vetelino.
4. **Coralie Dapice** (New Media). *Study of Creative Storytelling*. Mentor: Joline Blais.
5. **Lindsay Heald** (New Media). *View From Above*. Mentor: Mike Scott.
6. **Duane Shimmel** (New Media). *MLTI Journey*. Mentor: Owen Smith.
7. **Anna Werner** (New Media). *Sprout: The Social Network for Gardeners*. Mentor: Jon Ippolito.
8. **Jonathan Cole** (Spatial Information Science & Engineering). *Virtual Simulations of Driving Scenarios with Age*

2013 CUGR SHOWCASE POSTERS (Room 1)

Board Number, Presenter, Department, Project Title, & Mentor

1. **Kendra Bird** (Anthropology). *Specialized Activities in the Middle Woodland Period: An Analysis of Feature 8, Holmes Point West*. Mentor: Brian Robinson.
2. **Samantha Dunning** (Anthropology). *Biogeography and History of the Chirikof Island Ground Squirrel*. Mentor: Catherine West.
3. **Christie M. Edwards** (Biology). *The Effects of Ketamine on Alcohol Withdrawal-Induced Depression*. Mentor: Alan Rosenwasser.
4. **Jillian King** (Biology). *Isolation of Salmonella and Staphylococci from Maine Wild Turkeys*. Mentor: Peter Milligan.
5. **Carl Tugend III** (Biology). *Study of Jordan Pond Water Quality Change*. Mentor: Jasmine Saros.
6. **Rafael Garcia** (Biology & Ecology). *Potential for the Production of Mycotoxins by Fungi Isolated from Maple Syrup*. Mentor: Seanna Annis.
7. **Amy Michaud** (Biology & Ecology). *Alteration of Microflora of the Insect Parasitic Nematode Pristionchus entomophagus and its potential application as a biological control agent*. Mentor: Eleanor Groden.

31. **Ena Gajic** (Forest Resources). *Creep Behavior of Oriented Strand Boards*. Mentor: Stephen Shaler.
32. **Tyler Carrier** (Marine Sciences). *Effects of prepared and macroalgal diets on somatic growth of juvenile green sea urchins (Strongylocentrotus droebachiensis)*. Mentor: Steve Eddy.
33. **Keri Feehan** (Marine Sciences). *Reproductive Ecology of Seven Species of Eastern Pacific Cold-Water Corals*. Mentor: Rhian Waller.
34. **Molly Flanagan** (Marine Sciences). *Sediment Choice by Juvenile Razor Clams, Ensis directus*. Mentor: Paul Rawson.
35. **Kimberly Picard** (Marine Sciences). *The Distribution and Abundance of Sturgeon in the Damariscotta River Estuary*. Mentor: Gayle Zydlewski.
36. **Christina Genz** (Marine Sciences). *Study of Micro-plastics in the Estuarine Waters of Maine*. Mentor: Rhian Waller.
37. **Mahadi Osman** (Mathematics). *Composites in Different Bases that Remain Composite After Changing Digits*. Mentor: Andrew Knightly.
38. **Alex Briggs** (Mechanical Engineering). *Affordable and Efficient Wood Furnace*. Mentor: Michael Boyle.
39. **Jefferson Adams, Eric Arnold, Campbell Belisle Haley, Jamika Cookson, Eliot Gagne, Oleg Gross, Andrew Hart, Brent Martin, Elizabeth Pflugrad, Danny Pham, Monique Theriault, Steven Valentino, & Emily Whitaker** (Molecular & Biomedical Sciences). *The Isolation and Characterization of a Novel Mycobacteriophage EvilGenus*. Mentor: Keith W. Hutchison.
40. **Kristyn Daigle** (Molecular & Biomedical Sciences). *Improving Extractability of Allergenic Soy Protein Residues in Processed Foods*. Mentor: Balunkeswar Niayak.
41. **Joshua Jones** (Molecular & Biomedical Sciences). *Morphogenesis Mediates Candida albicans Dissemination*. Mentor: Robert Wheeler.
42. **Raymond Luc** (Molecular & Biomedical Sciences). *Efficacy of Three Newly Synthesized Antibiotics against P. aeruginosa Infection*. Mentor: Carol Kim.
43. **Derek Rothenheber** (Molecular & Biomedical Sciences). *Microbial Nitrification in a Nitrogen Enriched Environment*. Mentor: Jean MacRae.
44. **Derek Rothenheber & Gwendolyn Beacham** (Molecular & Biomedical Sciences). *Water Quality in Dulce Vivir, Honduras Before and After Implementation of a Septic System*. Mentor: Jean MacRae.
45. **Christopher Bryant** (New Media). *3rd Person Perception*. Mentor: Mike Scott.
46. **Andrew Robbins** (New Media). *Boulder Beacon*. Mentor: Jon Ippolito.
47. **Regina Smith** (New Media). *Co-evolving watershed education and Programmable Media Concepts: An implementation of the Creative Thinking Spiral*. Mentor: Shaleen Jain.
48. **Julia Bousquet, Alyssa Maxwell, Kaitlin Harmon, Teri-Lynn Sanborn, & Allison Corrow** (Nursing). *Hand Hygiene Education in the Classroom*. Mentor: Elizabeth Bicknell.
49. **Sara Bowden, Amy Brickel, Brittany Myles, & Sarah Hendry** (Nursing). *Eat This, Not That: Empowering School-Aged Children to Make Healthy Nutritional Choices*. Mentor: Liz Bicknell.
50. **Mallory Curran, Juliet Cobb, Alyssa Hodgdon, Bethany Grant, Emily Fraser, Melissa McGary, & Casey Middlewart** (Nursing). *Teaching Proper Dental Hygiene to Harrington, Maine First Graders*. Mentor: Elizabeth Bicknell.
51. **Katelyn Duff, Hannah Pillsbury, Olivia Perez, Jessica Ayotte, & Brittney Murphy** (Nursing). *Nursing Students Interventions to Promote Healthy Lifestyles on School Age Children*. Mentor: Elizabeth Bicknell.
52. **Carrie Moses, Alexandra Libby, Ashley Bryant, Melissa McGary, Lauren Daigle, & Ryan Rossignol** (Nursing). *Awareness and Prevention of the Dangers of Texting and Driving for Brewer High School Students*. Mentor: Liz Bicknell.
53. **Kasi Parker, Elizabeth Fisher, McKenzie Houpp, Samantha Wark, Katie St. Pierre, & Alicia Sousa** (Nursing). *Expanding Knowledge & Access to Sexual Education at Oceanside East*. Mentor: Elizabeth Bicknell.
54. **Brandon Walus, Miranda Chadbourne, Nathaniel McNeill, Suzanne Chasse-Davis, Jennifer Pittis, Aaron Cyr, & Alexandra Pastore** (Nursing). *Distracted Driving Among First Year UMaine Students: A Scared Straight Intervention*. Mentor: Liz Bicknell.

POSTERS *continued*

8. **Robert Brown** (Business). *Bridging the Gap: Intergenerational Perceptions with Regard to Professional Usage of Social Networking Websites*. Mentor: Christian Graham.
9. **Matthew Chabe** (Business). *Identifying the Market for UMaine's School of Engineering Race Car Kit*. Mentor: Harold Daniel.
10. **Abigail L. Davis** (Business). *Multi-Asset Class Diversification Using ETF's: A Study*. Mentor: Pankaj Agrawal.
11. **Jacob Kane, Casey Hudson, & Scott Johansen** (Business). *Capturing the Student's Spirit: Using Conventional Models to Harness Unconventional Wisdom*. Mentor: Patti C. Miles.
12. **Daniel Sipe** (Business). *Going Cheap Hurts: Triple vs. Single Digit Stocks*. Mentor: Pankaj Agrawal.
13. **Michael Scott Dandy** (Civil & Environmental Engineering). *Infrastructure Design Adaptation to Climate Change*. Mentor: Shaleen Jain.
14. **Katrina Martin** (Civil & Environmental Engineering). *Sustainable Design in Orono*. Mentor: Eric Landis.
15. **James Gibbons, Dana Freshley, & Patrick Pittis** (Communication & Journalism). *Television's Role in the Cultivation of Normative Gender Roles*. Mentor: Claire Sullivan.
16. *Withdrawn*
17. **Lydia Drown, Brett Radosti, & Michelle Landry** (Communication Sciences & Disorders). *Effects of Mild-to-Moderate Traumatic Brain Injury on Speech in Adolescents*. Mentor: Nancy Hall.
18. **Danielle Fossa, Laura Pirruccello, & Carly McCann** (Communication Sciences & Disorders). *Does Peer Implemented Social Skill Intervention Increase Generalization of Pro-Social Behavior and Language in Preschoolers with Autism Spectrum Disorders?* Mentor: Nancy E. Hall.
19. **Amanda Ketch, Tara LaRose, & Jennifer Williams** (Communication Sciences & Disorders). *Noise-Level Exposure in Children's Toys: Probable Causes of Noise Induced Hearing Loss*. Mentor: Nancy Hall.
20. **Bethany Neal, Jenna McGuire, & Joshua Monica** (Communication Sciences & Disorders). *Natural Route: Equine Assisted Activities on the School Age Child with Autism Spectrum*. Mentor: Nancy Hall.
21. **Lauren Peer, Morgan Lincoln, & Kacy Thibodeau-Harvey** (Communication Sciences & Disorders). *Effects of Preschool on Children's Language Ability and Possible Implications for Children with a Specific Language Impairment*. Mentor: Nancy Hall.
22. **Rhiannon Vigue, Jenna Marcellina & Kayla Valliere** (Communication Sciences & Disorders). *Childhood Apraxia of Speech: How do impaired motor and/or phonological representations effect language and literacy acquisition?* Mentor: Nancy E. Hall.
23. **Michelle Beauchemin** (Electrical & Computer Engineering). *Exfoliation and Electrical Characterization of Graphene*. Mentor: Rosemary Smith.
24. **Evan Kus** (Electrical & Computer Engineering). *Tracking Juvenile Amphibians with Harmonic RADAR*. Mentor: Nuri Emanetoglu.
25. **Lonnie Labonte** (Electrical & Computer Engineering). *Wireless Feedback Network for Future Rocket Control*. Mentor: Ali Abedi.
26. **Anin Maskay & Jesse Rodgerson** (Electrical & Computer Engineering and Psychology). *SleepMove Device: A Brain Injury Detection System*. Mentor: Ali Abedi & Marie Hayes.
27. **Anthony Nuzzo** (Electrical & Computer Engineering). *High Power Three Phase Inverter*. Mentor: Nathan Weise.
28. **Jesse Rodgerson & Anin Maskay** (Electrical & Computer Engineering). *Localization of Wireless Sensor Networks using Received Signal Strength and Angle of Arrival*. Mentor: Ali Abedi.
29. **Kathleen Crosby** (Food Science & Human Nutrition). *Omega-3 Fortified Blueberry Fruit Leather*. Mentor: Denise Skonberg.
30. **Xinruo Zhang** (Food Science & Human Nutrition). *Stability of Phytochemicals in Blueberries with respect to Different Blanching Methods and Storage*. Mentor: Balunkeswar Nayak.

PROGRAM

Wells Conference Center

- 8:00 – 9:00 **Registration/Social Hour**
Continental Breakfast
- 9:00 – 9:15 **Welcome:** Dr. Ali Abedi, CUGR Director
Room 2 **Opening Remarks:** Dr. Michael Eckardt, Vice President for Research
- 9:15 – 3:45 **Posters & Exhibits available for viewing**
Room 1
- 9:25 – 12:00 **Oral Presentations or Performances**
Rooms 2 & 3
- 12:00 – 1:00 *Light Lunch*
- 1:10 – 3:45 **Oral Presentations or Performances**
Rooms 2 & 3
- 4:15 **Closing Remarks & Awards Presentation:**
Room 2 Dr. Paul W. Ferguson, President
CUGR Summer Fellowships Presentation:
Dr. Susan J. Hunter, Executive Vice President & Provost

2013 CUGR SHOWCASE ORAL PRESENTATIONS

Room 2 (Morning)

- 9:25-9:40 **Benjamin Segee** (Marine Sciences). *Desiccation Resistance in Antarctic Yeasts*. Mentor: Laurie Connell.
- 9:40-9:55 **Gabriel Vachon** (Molecular & Biomedical Sciences). *Impacts of Arsenic on Zebrafish Innate Immune System*. Mentor: Carol Kim.
- 9:55-10:10 **Ezra Juskewitch** (English, Philosophy, Sociology). *From Mythology to Ideology: The Misappropriation of Norse Culture by Modern Hate Groups*. Mentor: Sarah Harlan-Haughey.
- 10:20-10:35 **Henry Norwood** (Psychology). *Social Ostracism: Effects on Nuclear Weapons Attitudes*. Mentor: Jordan LaBouff.
- 10:35-10:50 **Hawk Cambron** (Psychology). *Protecting Against Chemo Fog*. Faculty Mentor: Thane Fremouw.
- 11:15- 11:30 **Katrina Harris** (Molecular & Biomedical Sciences). *Integration sites of the mycobacteriophages ChipMunk and Ukulele*. Mentor: Keith Hutchison.
- 11:30-11:45 **Barbara Bemis** (Chemical & Biological Engineering). *Red Blood Cell Lysis using Surface Acoustic Waves*. Mentor: Paul Millard.
- 11:45 - Noon **Stuart Lathrop** (Mathematics). *Contributions to the Foundation of the Theory of Transcendental Numbers*. Mentor: Chip Snyder.

Room 2 (Afternoon)

- 1:10-1:25 **Erica Hidu** (Molecular & Biomedical Sciences). *Unmasking Candidiasis: A Mechanistic Model for Innate Immune-Fungal Cell Wall Dynamics*. Mentor: Robert Wheeler.
- 1:25-1:40 **Aaron Waldman** (Music Education). *Methods of Piano Pedagogy: Aural vs. Optic*. Mentor: Ginger Hwalek.
- 1:40-1:55 **Alex Nash** (Civil & Environmental Engineering). *Green Composites: From Under Foot to Under Hood*. Mentor: Douglas Gardner.
- 2:05-2:20 **Joseph Dumont** (Chemistry). *Extraction and Isolation of Shikimic Acid from Maine Conifers*. Mentor: Barbara Cole.
- 2:20-2:35 **Crystal Burns** (Education & Human Development). *Racial and Religious Bias in Maine*. Mentor: John Maddaus.
- 2:35-2:50 **Andrew Tomer** (Psychology). *Attitudes and Beliefs About Modern Native Americans*. Mentor: Jordan Labouff.

Room 3 (Morning)

- 9:25-9:40 **Laura Duran** (Chemical & Biological Engineering). *Fast Micropyrolysis of Muonic and Formic Acid Salts*. Mentor: Adriaan van Heiningen.
- 9:40-9:55 **Rex McKeon** (Political Science). *Prospects of a Renewed US-Russian Relationship: A look at what the past has to say about the future*. Mentor: James W. Warhola.
- 9:55-10:10 **Cody James Oliver** (Art). *Digital Dialogues: Intersection of Fine Art in Technology*. Mentor: Aaron Boothroyd.
- 10:20-10:35 **Minna Mathiasson** (Biology & Ecology). *Impact of Invasive Plant Species on Maine Native Plant-Pollinator Interactions*. Mentor: Frank Drummond.
- 10:35-10:50 **Matthew Dzaugis** (Marine Sciences). *Diet and Prey Availability of Shortnose and Atlantic Sturgeon in the Penobscot River*. Mentor: Gayle Zydlewski.
- 10:50-11:05 **Brian Toner** (Mathematics). *The Use of Artificial Intelligence in Image Analysis*. Mentor: Andre Khalil.
- 11:15- 11:30 **Kyle C. Nolan** (Electrical & Computer Engineering). *Carbon Thin Film Materials Study*. Mentor: Rosemary Smith.
- 11:30-11:45 **Jillian Pelto** (Earth & Climate Sciences). *Crevasse Research in the North Cascades*. Mentor: Gordon Hamilton.
- 11:45-Noon **Alexander J. Jensen** (Marine Sciences). *Assessment of Sea Lice Infestations on Wild Fishes of Cobscook Bay*. Mentor: Gayle Zydlewski.

Room 3 (Afternoon)

- 1:10-1:25 **Valerie Smith** (Chemistry). *Detection of Aqueous Hg(II) with Infrared Spectroscopy*. Mentor: Carl Tripp.
- 1:25-1:40 **Emily Hinkle** (Food Science & Human Nutrition). *Cooking and varietal effects on potato in vitro bile acid binding capability*. Mentor: Mary Ellen Camire.
- 1:40-1:55 **Emily Lovejoy** (Molecular & Biomedical Sciences). *Characterization of Neuromuscular Junctions in Developing SOD1 Mutant Zebrafish*. Mentor: Roger Sher.
- 2:05-2:20 **Justin D. Lewin** (Biology & Ecology). *What are They Talking About: Does Peer Discussion at the Middle School Level Lead to Learning?* Mentor: Michelle Smith.
- 2:20-2:35 **Gwendolyn Beacham** (Molecular & Biomedical Sciences). *Genetic Characterization of Plaque Morphology in the Cluster E Phage Ukulele*. Mentor: Sally Molly.
- 2:35-2:50 **Casey M. Clark** (Electrical & Computer Engineering). *Lunar Module Sensor Monitoring*. Mentor: Ali Abedi.
- 3:00-3:15 **Dylan Wingfield** (Molecular & Biomedical Sciences). *MDA5 Signaling in SHRV Infected Zebrafish*. Mentor: Carol Kim.
- 3:15-3:30 **Christopher Paradis** (Psychology). *Text Engagement in Honors*. Mentor: Jordan LaBouff.
- 3:30-3:45 **Jing "Jacky" Deng** (Molecular & Biomedical Sciences). *Clinical Trial Comparing the Use of Intravenous Tranexamic Acid with Aquamantys Bipolar Sealer for Blood Loss Reduction in Primary Total Knee Arthroplasty*. Mentor: Carol Kim.