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Important Dates and Program Deadlines

Program	Dates
2014-15 Fall Fellowship Performance Period	11/1/14 – 5/1/15
2015 Annual Showcase Abstracts Submission (FIRM Deadline)	2/27/15 at 4:00 PM
2015 Showcase Acceptance Notifications	3/16/15
2015 Summer Fellowship Proposals Submission (Firm Deadline)	3/20/2015 at 4:00 PM
2015 Annual Showcase Event Date	4/14/2015
Summer Fellowship Acceptance Notifications announced at event	Located at Wells Conference Center
2015 Summer Fellowship Performance Period	5/1/2015 – 9/1/2015

6th Annual Undergraduate Research & Creative Activities Academic Showcase

The Center for Undergraduate Research invites the submission of undergraduate research and creative activity projects from ALL disciplines to be presented in a symposium involving poster sessions, oral presentations and performances/exhibits. Submissions must be in the form of an abstract describing the focus, method or process, and outcomes of the project. Entries must be authored by one or more undergraduate students from the University of Maine and be accompanied by the endorsement of a faculty or research mentor. All email correspondences will be sent to the first student author listed in the submission form.

Call for Abstracts Deadline: 2/27/15 at 4:00 PM (EST)
Acceptance notifications will be sent via email on 3/16/2015.
Event Date & Time: Tuesday, 4/14/2015 - 8:00am-5:00pm
Event Location: Wells Conference Center, UMaine, Orono, ME

For further information and questions visit CUGR.UMAINE.EDU contact Alexandria Jesiolowski, CUGR Admin Assistant. CUGR@maine.edu



Perceived Benefits of Undergraduate Research

For Students:

1. Through research and creative opportunities, undergraduates learn to problem-solve using a variety of methods to find answers.
2. They can hone their abilities to communicate and put ideas together, to organize and write, and to investigate and ask questions.
3. Research provides an opportunity for a mentor-mentee relationship different from a teacher-student relationship. In that context, the learning is invaluable.

For Instructors:

1. Undergraduates often have a broader perspective, enthusiasm and energy that are ripe for explorations and learning.
2. One of the most rewarding processes for faculty mentors is witnessing the evolution of student learning when involved in research or the creative experience.
3. For faculty, mentoring student explorations is an investment in tomorrow's scholars.

2015 Undergraduate Research and Creative Activities Summer Fellowships

Call For Proposals

The Center for Undergraduate Research (CUGR) is pleased to announce Research and Creative Activities Summer fellowship program to support undergraduate student involvement in faculty supervised research. Several \$3000 Fellowships will be awarded for the 2015 summer semester on a competitive basis; the competition is open to all UMaine undergraduate students from all majors. Each fellowship provides financial support for one student to conduct faculty-mentored research. The CUGR Advisory Committee will review research and creative activities proposals for clarity of objectives, importance to the field, proposed approach, appropriateness of the budget, and indication of the project feasibility.

DEADLINE – 3/20/2015, 4:00 PM EST

Eligibility Criteria:

1. Any undergraduate student currently enrolled in a degree program at the University of Maine may submit a proposal in consultation with a faculty mentor. Preference will be given to students graduating in or after May 2016.
2. Applicants will describe the research, placing it in the context of scholarly activities, while presenting it in such a way that it is understandable to the reviewers from outside of the applicant's field.
3. Recipients must submit a report including technical and financial data by 9/15/2015 and are expected to present the product of their research at the 7th Annual CUGR Showcase in April 2016.

2014 Summer Fellowship Award Recipient, Marissa Bovie is a junior from Vassalboro, Maine, majoring in Earth Sciences and Anthropology. This past summer, with the help of this scholarship, she completed a trip to Croatia with Dr. Gregory Zaro to begin the planning and development of an archaeological excavation in the area around Zadar. This project looked at the interplay between humans and the landscape from a multidisciplinary perspective.



Marissa Bovie, St. Donat Church, Zadar



IMPORTANT: Undergraduate Students participating in CUGR Fellowship sponsored research are required to be trained in the *Responsible Conduct of Research*.

Training for the winter will occur:

Dates: Thursday, January 29, 2015
OR Monday, February 2, 2015
(Choose either one of the dates to attend)

Time: 5:15 – 8:30pm

RCR Workshop Pre-Registration
Please click above link to pre-register

IMPORTANT! Pre-registration is required and students must be accompanied by a mentor (one per 5 students).

To register, CUGR fellows should contact Alexandria Jesiolowski (cugr@maine.edu), all others please contact sponsored@maine.edu, by 5 p.m. January 23.

If you have questions regarding the federal mandate, please contact Wendy Eckert on First Class or at 581-2657.

GRADUATE SEMINAR – SPRING 2015 PRINCIPLES AND PRACTICES OF MENTORING RESEARCH

(UGR501 – CRN 9498)

Can Be Taken for Credit or Certificate

This seminar course is targeted to graduate students (as well as postdocs or others) who supervise student researchers participating in real research and development projects spanning the STEM fields (including natural and social sciences). Participants draw on their own mentoring experiences, eight group discussions, and modest guided exercises, to develop a more conscientious and purposeful approach to research mentoring that can improve outcomes for themselves, student training, and the quality of research.

Topics Include: Developing a mentoring philosophy, establishing a workable mentoring and research plan, assessing student needs and performance, mentors as guides to careers, mentoring research ethics, managing lab interactions (and problems), and mentoring communication of research.

Instructor: Dr. Michael Kinnison (mkinnison@maine.edu ; 581-2575)

Format: 8 meetings with discussion and guided exercises

Meeting time: A 1.5 hour period to be arranged with participants

Credit Option: 1 credit Pass/Fail (can be substituted for thesis credit)

Certificate: Awarded for participation equivalent to a credit grade of ‘pass’

Prerequisites: Permission of instructor and concurrent (or recent) supervision of actual student research experience.

Responsible and Ethical Conduct of Research

Overview:

The National Institutes of Health (NIH) define ‘Responsible and Ethical Conduct of Research’ (RCR) as, “the practice of scientific investigation with integrity. . . [involving] the awareness and application of established professional norms and ethical principles in the performance of all activities related to scientific research.”

Responsible & Ethical Research Shared values

- ✓ **HONESTY** — conveying information truthfully and honoring commitments,
- ✓ **ACCURACY** — reporting findings precisely and taking care to avoid errors,
- ✓ **EFFICIENCY** — using resources wisely and avoiding waste, and
- ✓ **OBJECTIVITY** — letting the facts speak for themselves; avoiding improper bias.

For more information: <http://umaine.edu/orsp/compliance/responsible-conduct-of-research/>



Contact Us

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CUGR Announces 2014–2015 Research Fellows Assistants

The University of Maine's Center for Undergraduate Research (CUGR) has named the 2014–2015 Research Fellows Assistants. The CUGR Research Fellows Program supports faculty efforts toward improving undergraduate research mentoring skills, expanding curricula to include research and scholarship experiences, and developing proposals for further funding specifically involving undergraduate students.

The 2014–2015 CUGR Faculty Research Fellows:

Laura Artesani
Daniel Bilodeau
Tim Bowden
Nuri Emanetoglu
Nicholas Giudice
Robert Glover
William Gramlich
Hamish Greig
Mark Haggerty
Sarah Harlan-Haughey

Karl Kreutz
Jordan LaBouff
Roberto Lopez-Anido
Shannon McCoy
Reinhard Moratz
Balunkeswar Nayak
Brian Robinson
Mary Shea
Ebru Ulusoy
Faren R. Wolter
Kim Huisman

Each student, selected as a Research Fellow Assistant, is awarded a \$1,000 stipend to assist a CUGR Research Fellow, during the 2014–2015 academic year, on a research topic of their choice. The faculty participants in this program were nominated by their respective deans and participated in a series of professional development workshops last spring.

The 2014–2015 CUGR Research Fellows Student Assistants:

1. Ashlyn Boyle of Belfast, Maine; sociology
2. Abigail Bradford of Westport Island, Maine; Earth and climate sciences
3. Hanjuan Cao of Changsha, China; food science and human nutrition
4. Audrey Cross of Brunswick, Maine; ecology and environmental sciences
5. Megan Dunphy of Pittsfield, Maine; psychology
6. Joseph Goodin of Orono, Maine; anthropology and Earth science
7. Thomas P. Hastings of Bear, Delaware; conservation biology
8. Cameron Huston of Washburn, Maine; political science, legal studies and sociology
9. Katherine Keaton of Caribou, Maine; theatre and dance
10. Amber Makela of Lyndeborough, New Hampshire; psychology, child development and disability studies



CUGR Advisory Committee

Ali Abedi (Director)
 Alex Jesiolowski (Admin Specialist)
 Francois Amar
 Mike Kinnison
 Timothy Cole
 Mimi Killinger
 Sara Lindsay
 Sid Mitchell
 Jeffrey St. John
 Jennifer Moore
 Roberto Lopez-Anido
 Ebru Ulusoy
 Karl Kreutz
 Stuart Marrs
 Patricia Poirier

Contact Us

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The 2014–2015 CUGR Research Fellows Student Assistants (cont.):

11. Aman Maskay of Kathmandu, Nepal; electrical engineering
12. Timothy McGrath of Carmel, Maine; mechanical engineering
13. Thomas McOscar of Bangor, Maine; chemistry
14. Seraphina Orsini of South Berwick, Maine; computer science
15. Kyle Pfau of Westfield, Massachusetts; marine science
16. Christopher Plaisted of Jonesboro, Maine; music education
17. Ethan Stetson of Woodland, Maine; psychology and military science
18. Ashley Thibeault of South Hamilton, Massachusetts; ecology and environmental sciences
19. Alex Lee Tuttle of Old Town, Maine; marketing and legal studies
20. Eric Veitch of Guilford, Connecticut; biology
21. Christopher Vincent of Nashua, New Hampshire; marketing and legal studies
22. Eric Wold of Freeport, Maine; mechanical engineering

Special Thanks to the 2015 Showcase Subcommittee!

Laurie Cartier ~ Jennifer Moore ~ Patricia Poirier ~ Sally Molloy-Dixon ~ Lee Karp-Boss ~ Mike Scott ~ Naja Harvey ~ Mallory Nightingale

If you would like to join the Showcase Planning Committee please contact Alexandria Jesiolowski, cugr@maine.edu

2014-15 Undergraduate Research and Creative Activities Fall Fellowships

The Center for Undergraduate Research is pleased to announce the recipients of the Center for Undergraduate Research Fall Creative and Academic Achievement Fellowships for 2014-2015. The fellowships were developed to enhance and increase undergraduate student involvement in faculty supervised research, and are supported through a PRE-VUE grant awarded by the President's Office. Each fellowship provides a \$1000 award for the student to help cover costs of the project.

2014-15 Fall Creative & Academic Achievement Fellowship Award Recipients

(Project Title, Student Name, Student College, Student Program)

1. Multi-Tag Radio Frequency Indication for Indoor Positional Tracking System enhanced with Accelerometer for Fall Detection, Samuel Gates, CLAS, Computer Science
2. Noninvasive Monitoring Using Radio Frequency Indicator Technology: An Inexpensive Solution for Independent Aging in Place, Meghan Hurlburt, CLAS, Computer Science
3. Characterization of lysogeny regulation in the Cluster E mycobacteriophage Ukulele, Gwendolyn Beacham, College of NSFA,



Biochemistry

4. A Device for Entrapment and Microinjection of Larval Zebrafish, Wilson Adams, COE: Bioengineering
5. Prenatal Exposure to Methadone's Effect on the Oxytocin Receptor Pathway, Margaret Stavros, CLAS, Biochemistry major and Psychology minor
6. Vaccine Awareness Assistance Within the Greater Bangor Area Healthcare System, Jennifer LF Burnham, NSFA., Microbiology major, Professional and Technical Writing minor
7. Assessing the efficacy of scenario building to alter perceptions of climate risk and stimulate climate adaptation planning, Jena Rudolph, CLAS, Human Dimensions of Climate Change
8. How prey selection contributes to Arctic tern breeding success and chick health at fledging, Andrea Santariello, NSFA, Marine Science and Zoology
9. Development of a Combinatorial Deposition Method to Allow for Rapid Synthesis and Testing of Nanolaminate Thin Film Structures, Julia Sell, CLAS, Physics
10. Developing a zebrafish model for *Saprolegnia parasitica* to investigate pathogenesis and alternate treatments, Kathryn Liberman, Natural Sciences/Forestry, Marine Science/Aquaculture
11. An Examination of the Pro-social Impacts of Local Food Purchasing, Ethan Tremblay, NSFA – Economics/ Journalism
12. The Geochemistry and Historical Ecology of a Burnt Mississippian House at the Lawrenz Gun Club Site in the central Illinois River Valley, Eliza Kane, CLAS, Anthropology
13. New approach to the treatment of type II diabetes using inhibitors based on the Acarviostatin family of natural products, Vincent DiGiovanni, NSFA biology/chemistry
14. Promoting and Advancing Climate Education in Maine Middle and High Schools, Chelsea Ogun, CLAS, Anthropology
15. Epitaph: A Humanistic Approach to Mortality and Human-computer Interaction, Leslie Hood, CLAS, New Media Major/Business Administration Minor
16. Neutralization Capacity of Major Rock Types Found in Maine, Jason Lively, NSFA Earth Sciences
17. Investigating the Role of NMDA Receptors in Long-term Ethanol Withdrawal, Samuel Reynolds, CLAS, Psychology/Biology, NSFA. double Major
18. Two-Temperature Model Molecular Dynamics Study of the Coalescence of Metal Nanoparticles, Bryer Sousa, Honors College, Chemistry/Mathematics
19. Cellular and molecular responses of sea urchin embryos to dissolved saxitoxins from the toxic dinoflagellate *Alexandrium fundyense*, Tyler Carrier, NSFA
20. Initialization of composite galaxies in dynamic equilibrium, Robert Fasano, CLAS, Physics/Math minor
21. Tiny Tactics, Scott Forand, CLAS, New Media
22. Identification and Characterization of Mycobacteriophage Ukulele Integration Site attP, Emily Whitaker, NSFA, Molecular/Cellular



Biology

23. Experimental characterization of fatigue response of mechanically fastened joints in 3D woven carbon composites, William London, COE, Engineering/Mechanical Engineering
24. New Age Versatile Furniture, Ryan A. Wahle, CLAS, NewMedia/ Spanish
25. An Enhancement of the P301dx Application Using Advanced Statistics, Nathan Dunn, CLAS, Mathematics/Computer Science, Minor in Statistics
26. A Comparative Study of the Hemocyanins of the Giant Keyhole Limpet (*Megathura crenulata*) and the Red Abalone (*Haliotis rufescens*)”, Isaiah Nathaniel Mansour, NSFA, Marine Science
27. Is the Ubiquitous Antibacterial Agent Triclosan an Uncoupler of Mammalian Mitochondria?, Hina Hashmi, NSFA, Microbiology
28. Rituals in restaurants: Exploring how newcomers learn organizational culture, Joshua Deakin, Maine Business School
29. Characterization of the Integration Morphology of Mycobacteriophage ChipMunk Including de novo Assembly of the Genome, Katrina Harris, CLAS, Maine Business School, Microbiology
30. Commentrain, Thomas Fouchereaux, CLAS, New Media
31. Fluorescence Monitoring of Contaminant Mixtures in Surface Fresh Water, Nina Caputo, CLAS, Chemistry/Mathematics/Environmental Sciences
32. Magnetic Properties of Iron Nanoparticles, Nicklaus Carter, COE, Major: Bioengineering. Minor: Chemistry
33. Adrenergic Modulation of Voluntary Ethanol Intake in C3H/HeJ Mice in a Chronic Intermittent Exposure Protocol, Cody Thies, CLAS, Psychology Major
34. Methylation Patterns in OPRM1 and COMT Variants during Opioid Withdrawal in the Neonate, Zakiah-Lee Meeks, NSFA, Biology, Pre-Medicine, Psychology Minor
35. Transplacental Arsenic Exposure Effects on Mouse Hepatic Protein Expression, Jay Knowlton, NSFA, Biology major/ Chemistry minor
36. Dynamic Motion Control: Generating Physical Phenomena for Examination of Spatial Cognition and Impulse Response in Virtual Environments, Dustin Sleight, COE, Mechanical Engineering
37. Low-Power Device for Indoor Mapping and Navigation, Brenden Peters, CLAS, Computer Science
38. Motors & Power: Generating Physical Phenomena for Examination of Spatial Cognition and Impulse Response in Virtual Environments., Allison Goodridge, COE, Mechanical Engineering
39. Characterizing the Catalytic Domain of Calpain5 , Charm Tharanga Karunasiri, NSFA, Biochemistry
40. JCPyV Internalization: Insight Into Scaffolding Proteins and Associated Intracellular Binding Domains of Serotonin 5-HT₂ Receptors, Adam Simard, NSFA, Microbiology
41. Clean CNG Snowmobile, Alexander William Moser, COE, Mechanical Engineering/ Math- Business Minor

