



# FALL FEST



Friday, October 19, 2012

1 - 5 pm

Goddard Library  
Academic Commons  
&  
2nd Floor

*Sponsored by  
Dean of the College*

## **FALL FEST**

*Please join us as our own Clark students showcase the fruits of their labor.*

*From 1:00 - 5:00 p.m. students will display their research findings through posters and electronic media (PowerPoint) presentations.*

*This event celebrates the research and creative work Clark Undergraduate students produce under the support and mentoring of the University's distinguished faculty.*

*The presentations are found on both the 1st and 2nd floors of the Goddard Library.*

*Please enjoy some light refreshments found upstairs on the 2nd floor and thank you for coming!*



### *LEEP (Liberal Education and Effective Practice)*

At Clark, we are pioneering a new model of liberal education: Liberal Education and Effective Practice (LEEP) that combines a traditional liberal arts experience with authentic engagement in the world and workplace. This innovative model integrates the wealth of intellectual and academic resources already present at the university with the skills and capacities that are becoming increasingly essential in the 21st century. The Clark undergraduate experience in all its dimensions—from the classroom to the research laboratory, from the co-curricular experience to teams and clubs—will educate graduates known not just for academic excellence, but also for resilience, persuasion, creativity, and the ability to demonstrate character when tested.

### *LEEP Pioneers*

This year, the LEEP Project Pioneers—the first class of students conducting LEEP Projects—have proposed and undertaken activities that span the full breadth of academic studies, from arts/humanities, to natural science, to social science. Their projects are taking them to such places as a river in Massachusetts to study parasite-host relationships, and to Haiti to organize a training workshop for dozens of teachers. Products from these projects include computer games, habitat restoration proposals, course syllabi, smart-phone applications, and documentary films and photographs.

### *“Hervey Ross LEEP Talks” Speech Contest Participants*

The top 3 winners of the “LEEP Talks” speech contest and a 4th winner who will be determined by the audience will deliver their speeches on the 1st floor of the Academic Commons/Goddard Library at 1:30 pm today.

*\*Sharon Bort ‘14—What Does it Mean to Waste ZERO? Global Environmental Studies*

*\*Deviyani Dixit ‘14—Transgender Identity in Nepal; sponsor: Jude Fernando, IDSC*

*\*Zack Hariton ‘13—Scaling Distributed Systems Through Cluster Abstraction; sponsor: John Magee IV, Math & Computer Science*

*\*Shaun Holt ‘14—Develop Sustainability Videos for EMC; sponsor: Wendy Linden; Communication & Culture*

*\*Shelby Margolin ‘13—Holocaust Education: Breaking Binaries and Shifting Categories; sponsor: Ken MacLean, IDSC*

*\*Alison Mayer ‘13; Steinbrecher Fellow—Westing; sponsor: Hugh Manon, Screen Studies*

*\*Irene Nakabonge-Lugude ‘13—Evaluation of the Resident Comprehension of the Accreditation Council for Graduate Medical Education (ACGME) Duty Hours Requirements; sponsor: Junfu Zhang, Economics*

*\*Rebecca Rood-Goldman ‘14—The Art of Biology; sponsor: Susan Foster, Biology*

*\*Alisa Zeliger ‘14—Exploring Child Cognitive Development; sponsor: Marianne Wiser, Psychology*

### LEEP Pioneers Posters/Presentations

LEEP-1. *Water Quality and Invasive Species Monitoring for Mt. Grace Land Conservation Trust.* **Cynthia Alonso '14 & Doug Rice '13** (sponsor: Professor John Baker—Biology)

LEEP-2. *Refinancing Communities, Locally.* **Taylor Bearden '14** (sponsor: Professor Amy Whitney—Innovation & Entrepreneurship)

LEEP-3. *Species Delimitation in *Trametes* (Polyporales, Basidiomycota): a Comparison of ITS, TEF1, RPB1 and RPB2 Phylogenies.* **Alexis Carlson '13; Steinbrecher Fellow** (sponsor: Professor David Hibbett—Biology)

LEEP-4. *Mapping Burn Severity using the Composite Burn Index in an Oak Grass Community in Central Massachusetts.* **Joseph Danko III '13; Steinbrecher Fellow** (sponsor: Professor John Rogan—Geography)

LEEP-5. *Justifying Atrocities: Moral Disengagement, Ingroup Glorification and Essentialism in Post-War Sri Lanka.* **Kulani Panapitiya Dias '13; Steinbrecher Fellow** (sponsor: Professor Johanna Ray Vollhardt—Psychology)

LEEP-6. *Clark University Interactive Sustainability Map.* **Ben Gardner '12; 5th year student** (sponsor: Jenny Isler, Sustainability Coordinator—International Development and Social Change)

LEEP-7. *Developing Indicators to Assess Vulnerability and Resilience of Alaskan Communities to Climate Change.* **Christina Geller '13; NOAA Fellow from the Marsh and Mosakowski Institute** (sponsor: Professor Jacqueline Geoghegan—Economics)

LEEP-8. *Worcester Art Museum Renaissance Research Project.* **Casey Harrington** (sponsor: Professor John Garton—Art History)

LEEP-9. *Scheduling Program and Phone Application for Clark Students.* **Zachary Herman '15, Krzysztof Kotarba '15 & Douglas Rourke '15** (sponsor: Professor John Magee IV—Math & Computer Science)

LEEP-10. *Building Designed Granular Structures Using a Dense Suspension.* **Pascal Jundt '13** (sponsor: Professor Arshad Kudrolli—Physics)

LEEP-11. *Biomonitoring of Eelgrasses at Padilla Bay National Estuarine Research Reserve.* **Karissa Lear '13** (sponsor: Professor Deborah Robertson—Biology)

*LEEP Pioneers Posters/Presentations (Continued)*

*LEEP-12. National Hospice and Palliative Care Organization (NHPCO): The Foundation for Hospices in Sub-Saharan Africa. Champo Mapulanga '13* (sponsor: Professor Chih Ming Tan)

*LEEP-13. Helping Students Avoid the Fourth Grade Slump: A School Literacy Intervention With Non-Narrative Text Based Lessons. Olivia McGill '13* (sponsor: Professor Marianne Wisner—Psychology)

*LEEP-14. Organizing a Teacher Training Workshop in Haiti. Alina Michelewicz '14; Steinbrecher Fellow* (sponsor: Professor Eric DeMeulenaere—International Development and Social Change)

*LEEP-15. Worcester Anti-Foreclosure Task Force. Samuel Moody '13* (sponsor: Professor Laurie Ross –Community Development and Planning)

*LEEP-16. Darkwood Forest: A Survival RPG Made With the Creation Kit. Ryan Osbaldeston '14* (sponsor: Professor Frederic Green - Computer Science)

*LEEP-17. Spawning Black Sea Bass in Sandy Hook, New Jersey. Audrey Seiz '14* (sponsor: Professor John Baker - Biology)

*LEEP-18. Explora! Dominicana Ecotourism Operations Investigation Project in the Dominican Republic. Rachel Sorenson '13* (sponsor: Professor Jude Fernando - International Development and Social Change)

*LEEP-19. DC Minigrd Converter and Energy Efficiencies. Gabriela Suriano '14* (sponsor: Professor Charles Agosta - 3/2 Engineering Program)

*LEEP-20. Evaluation of Community Development in Loma Linda, Guatemala. Lila Trowbridge '14* (sponsor: Professor David Bell - International Development and Social Change)

*LEEP-21. Research Fatigue in Worcester. Elora Way '14* (sponsor: Professor Danielle Fontaine - Community Development and Planning)

*LEEP-22. Topic: Green Roofs. Harrison Bass '14* (sponsor: Professor Mark Davidson—Geography)

*LEEP-23. Green2Grow, Emergency Communications. Amy Kapitan '13* (sponsor: Professor Todd Livdahl—Environmental Science)

*LEEP-24. Sexual Assault and Dating Violence Outreach. John Preston '14* (sponsor: Professor Denise Hines - Psychology)

## Summer Research Posters/Presentations

### Art History

1. *The Antiochia ad Cragum Archaeological Research Project*. **Kristin Withers '14**; **Steinbrecher Fellow** (sponsor: Professor Rhys Townsend)

### Biochemistry and Molecular Biology

2. *Expression and Inhibition of Lysyl Oxidase (LOX)*. **Agnes Cheong '13 & Valeria Maldonado '13** (sponsor: Professor Frederick Greenaway)

3. *Growth of *C. tepidum* Under Nitrogen Fixing Conditions*. **Sean Droogan '13** (sponsor: Professor Joseph Tang)

4. *Inhibition of Insulin Fibrillation: Mechanistic Studies*. **Emily Tutino '13** (sponsor: Professor Noel Lazo)

5. *Effects of Metabolisms on Chlorosome Efficiency*. **Farrokh Zare '14** (sponsor: Professor Joseph Tang)

### Biology

6. *Difference in Oviposition Between Young and Old Mosquitoes of the Species *Aedes albopictus*, *Ae. Aegypti*, and *Ochlerotatus triseriatus**. **Thomas Carroll '13** (in collaboration with: John Soghigian; graduate student; sponsor: Professor Todd Livdahl)

7. *Analysis of *Campylobacter* and its Variable Concentrations in Luxembourg's Waterways*. **Caroline Johnson '13** (sponsor: Professor John Baker)

8. *Identifying the Genetic Basis of Schooling Behavior in Threespine Stickleback*. **Magali Lemahieu '13** (sponsor: Professor Deborah Robertson)

9. *Cloning *X. autotrophicus* mer Operon*. **Colin Rutner '13** (in collaboration with Amanda Petrus, graduate student; sponsor: Professor Heather Wiatrowski)

10. *The Effect of Nitrate on Photosynthetic Ability of Salt Marsh Cordgrass, *Spartina alterniflora**. **Hillary Sullivan '13** (in collaboration with Katie Friedman, graduate student; sponsor: Professor Deborah Robertson)

11. *Investigating the Cellular Mechanism Underlying Neural Development in the annelid *Capitella teleta**. **Eric Tillotson '13** (sponsor: Professor Neva Meyer)

12. *Analysis of Microbial Communities for the Potential for Mercury Mobilization from Leach Fields of MASSTC*. **Alexander Vickers '12** (sponsor: Professor Heather Wiatrowski)

### *Biology (Continued)*

13. *Effects of Alcohol Intake on Mitochondrial Function and Expression of Connexin Proteins.* **Maria Paredes '15** (sponsor: Professor Deborah Robertson)

14. *Analyzing Function of Proneural Homologs During Brain Development in the annelid *Capitella teleta*.* **Stephanie Aldrich '13** (sponsor: Professor Neva Meyer)

15. *BMP4 Over-expression Leads to the Development of a Third Eye in the annelid *Capitella teleta*.* **Michele Corbet '14** (sponsor: Professor Neva Meyer)

16. *Roles of SoxB1 and Notch Pathways in the Development of Neural Precursor Cells of the annelid *Capitella teleta*.* **Simona Tolchin '13** (sponsor: Professor Neva Meyer)

17. *Survival of Host-passaged *Vibrio cholerae* Under Various Stress Conditions.* **Lina Sanchez '12** (in collaboration with Faith Wallace-Gadsden, graduate student; sponsor: Professor Andrew Camilli)

### *Carlson School of Chemistry and Biochemistry*

18. *Particle Morphology Variation in the Synthesis of Copper Oxide Nanocubes.* **Yisrael Lattke '15 & Aaron Dewberry '12** (sponsor: Professor Luis Smith)

19. *Metal Binding to Hydroxy Phenols.* **Khaled Ahmed Shennara '13** (sponsor: Professor Frederick Greenaway)

20. *Structure and Magnetism of Copper Halide Complexes using Fluorinated Pyridines as Ligands.* **Ben Solomon '14** (sponsor: Professor Mark Turnbull)

21. *Ionophore II Synthesis and Application to Carbonate Ion-Selective Electrodes.* **Laura Migliaccio '14 & Kelli Stockmal '14** (sponsor: Professor Christina McGraw)

22. *Synthesis of Polarity-Controlled Copolymers for Ion-Selective Transport.* **Kelli Stockmal '14** (sponsor: Professor Sergio Granados-Focil)

23. *Synthesis and Magnetic Analysis of 5-TFMAP Copper Chloride/Bromide Complexes.* **Ruth L. Forman '14** (sponsor: Professor Mark Turnbull)

24. *Micro-sensor Fabrication for Measuring the Changing Carbon Chemistry of the Ocean.* **Bram Smith '13** (sponsor: Professor Christina McGraw)

25. *Use of Tracer Monitored Titration (TMT) for Seawater Alkalinity Measurements.* **Barrett Schwartz '13** (sponsor: Professor Christina McGraw)

26. *Trypsin Digestion of Chlorosomes Under Various Conditions.* **Yadana Khin '15 & Trishna Sadhwani '13** (sponsor: Professor Joseph Tang)

### *Carlson School of Chemistry and Biochemistry (Continued)*

27. *Synthesis and Biocompatibility of High-Aspect-Ratio Gold Nanorods.* **Madeleine DeBrosse '14** (sponsor: Professor Saber Hussain)

28. *Diblock Copolymers as Model Self-Assembled Ion-conducting Membranes and Chemical Nano-Reactors.* **Derek Luong '13** (sponsor: Professor Sergio Granados-Focil)

### *Economics*

29. *Evaluating Micro-savings Group in Nairobi, Kenya and Mapping Project.* **Shane D'Lima '14; Steinbrecher Fellow** (In conjunction with the Geography department; sponsor: Professor John Brown)

### *Geography and Environmental Science*

30. *Application of Open-Source GIS and live GPS tracking for Land Use/Land Cover Field Data Collection in Kilimanjaro, Tanzania.* **Yelena Finegold '13** (in collaboration with: Pekka Hurskainen, graduate student; sponsors: Professor Petri Pelikka and Mika Siljander of University of Helsinki)

31. *Characterizing Soil Respiration Dynamics in a Recent Clearcut Environment of New England.* **Alexander Kappel '13** (in collaboration with: Myroslava Khomik, Melanie Vanderhoof & Marcus Pasay, graduate students; sponsor: Professor Christopher Williams)

### *Graduate School of Geography*

32. *Mapping Beetles, Trees, Neighborhoods, and Policies: A Multi-Scaled, Urban Ecological Assessment of the Asian Longhorned Beetle Invasion in New England - Results of Summer 2012.* **Martha Ziemer '13, Andrew Hostetler '13, Matthew Manley '13, Shannon Palmer '13, Joseph Danko '13, Patrick Sheppard '13, Sean Peters '13, Abigail Nehring '12, Emma McDonell '12, Gabriella Spitzer '13, Michelle Seefeld '14 & Andreas Jozwiak '13** (in collaboration with Alida Cantor, Nick Cuba & Andrew Shatz, graduate students; sponsors: Professor John Rogan & Professor Deborah Martin)

### *Henry J. Leir Luxembourg Program*

33. *Archival Internship at the Musée National d'Histoire et d'Art in Luxembourg.* **Lisa Johnson '12; 5th year student** (sponsor: Professor SunHee Kim Gertz)

### *Holocaust and Genocide Studies*

34. *Holocaust and Genocide Studies Summer Internship.* **Anna Voremberg '13 & Danielle Osterman '14** (sponsor: Professor Shelly Tenenbaum)



### *Innovation and Entrepreneurship*

35. *The Elimu Initiative*. **Rebecca Liebman '15** (sponsor: Professor David Jordan)

### *International Development and Social Change (IDSC)*

36. *A Future After War for People with Disabilities*. **Bridget Healy '13** (sponsors: Professor Anita Fabos & Professor Ken MacLean)

37. *La Experiencia de los Oculitos: Familial Impacts and Sustainable Futures for Guatemalan Migrant Workers*. **Cody Litchfield '14** (sponsor: Professor Ken MacLean)

### *Physics*

38. *Shearing Effect of Granular Bed, Driven by Laminar Flow*. **Fouad Abdulameer '13** (sponsor: Professor Arshad Kudrolli)

39. *Packing of Cubes on a Plane and Simulated Packing of Squares*. **Guilherme de Rosso Mancos '15** (sponsor: Professor Arshad Kudrolli)

40. *Effect of Density of States Energy Broadening on Pseudogap State Detection by STM in Bi-2201*. **Tyler Flanagan '14** (sponsor: Professor Michael Boyer)

41. *Using Integrated Density of States and Masking to Illuminate the Pseudogap State in Bi-2201/2212*. **Unurbat Erdenemunkh '14** (sponsor: Professor Michael Boyer)

42. *Examination of Radiation Sources Using a Small Radio Telescope*. **Eric Gustafson '13** (sponsor: Professor Charles Agosta)

43. *Construction and Improvement of Dewar System Design*. **Christopher Conroy '13** (sponsor: Professor Charles Agosta)

44. *The Design of a High Field Pulsed Magnet*. **Daniel Ellowitz '13** (sponsor: Professor Charles Agosta)

45. *Rebuilding a Dewar System for the Study of Organic Superconductors at Low Temperatures and High Magnetic Fields*. **Will Van Noppen '13** (sponsor: Professor Charles Agosta)

46. *Synthesis of (3,5-diXpyridine)<sub>X</sub>*. **Xinyi Shen '14 & Wilhelmina Zwennes '15** (sponsor: Professor Christopher Landee)

47. *Modeling Shimmering Bees Using Cellular Automata*. **Rory Jones '14** (sponsor: Professor Ranjan Mukhopadhyay)

48. *Cu/pzdo Synthesis and Magnetism*. **Xiaoran Li '14 & Taylor Maak '13** (sponsor: Professor Christopher Landee)

### Political Science

49. *The Arms Trade Treaty Conference: A Safer World*. **Yohan Senarath '14** (sponsor: Professor Michael Butler)

### Studio Art

50. *Created in the Image of Barbie*. **Miriam Ross '13** (sponsor: Professor Elli Crocker)

### Theodore Barth Foundation Internship Award

Thanks to the generosity of the Theodore Barth Foundation, Career Services is able to offer 6-8 undergraduate students up to \$2500 to support unpaid summer internships in the nonprofit sector. This funded internship opportunity is open to Clark undergraduate first years, sophomores and juniors.

51. *Community Supported Film*. **Katherine Bamberg '13** (sponsors: Career Services/Professor David Bell—IDSC and Screen Studies)

52. *Self-Supporting Women: Interning with the Massachusetts Commission on the Status of Women*. **Jane Carper '13** (sponsors: Career Services/Psychology/Race, Class and Gender Studies)

53. *Behind the Scenes: My Summer with the Federal Bureau of Investigations*. **Ellen Davis '13** (sponsors: Career Services/Professor Patty Ewick—Sociology)

54. *7 Years Later*. **Angela Della Porta '13** (sponsors: Career Services/Women and Gender's Studies/Political Science)

55. *Jeans 4 Justice Barth Summer Internship*. **Daniel Deutsch '13** (sponsors: Career Services/Professor Fern Johnson—Communication & Culture)

56. *Rhode Island International Film Festival Summer Internship*. **Shannon Hookanson '15** (sponsors: Career Services/Professor Stephanie Larrieux—Visual and Performing Arts)

57. *Barth Summer Internship at the World Bank*. **Volha Hrytskevich '13** (sponsors: Career Services/Economics)

58. *Worcester: Home*. **Alexandra Katechis '14** (sponsors: Career Services/Professor Louis Bastien—English/Philosophy)

### Urban Development and Social Change

59. *AIDS Project Worcester Summer Internship*. **Emma Craig '13** (sponsor: Professor Laurie Ross)





**Faculty Coordinator:** Professor James Córdova,  
Psychology Department, x7268

**Staff Coordinator:** Karen Wilber, Psychology, x7538