FALL FRONTIERS
A RESEARCH POSTER EXHIBITION

THE INAUGURAL FALL CELEBRATION OF UNDERGRADUATE SCHOLARSHIP, INNOVATION, AND CREATIVITY

October 23, 2013
5:00 p.m. – 7:00 p.m.
Wilbur Cross South Reading Room

UCONN ENRICHMENT PROGRAMS
OFFICE OF UNDERGRADUATE RESEARCH
Sponsored by

The University of Connecticut

Office of Undergraduate Research
Enrichment Programs
Honors Program
About Frontiers in Undergraduate Research

The Office of Undergraduate Research has sponsored the Frontiers in Undergraduate Research Poster Exhibition each spring for the past sixteen years. In Spring 2013, over 215 students presented posters for 175 research projects. The projects spanned the disciplines and included both independent research and work done in collaboration with other undergraduates as well as graduate student and faculty mentors.

This year, the Office of Undergraduate Research is pleased to sponsor the inaugural Fall Frontiers Poster Exhibition. With tremendous growth in the number of undergraduate researchers and increased funding available to students, this Fall poster exhibition provides another opportunity for UConn’s top student researchers to share their exciting work.
1st Annual Fall Frontiers Poster Exhibition

Poster Exhibition

Wednesday, October 23, 2013
5:00 p.m. – 7:00 p.m.

Introduction and Welcome

Caroline McGuire, Interim Director, Office of Undergraduate Research

Keynote Speaker

Michelle Williams, Associate Vice President for Research

Closing Remarks

Jennifer Lease Butts, Assistant Vice Provost, Enrichment Programs, and Director, Honors Program
Student Posters and Presenters

1. Photo-Initiated Chemical Deposition
   Marta Chlus
   Major: Chemical Engineering
   Zachary Rom
   Major: Chemical Engineering
   Daniel Gifford
   Major: Chemical Engineering
   Advisor: Aravind Suresh, Assistant Professor in Residence, Chemical and Biomolecular Engineering

2. Adaptive Immune Response to Neo-Antigens Generated In Vivo by Spontaneous Mutations
   Rory Geyer
   Major: Molecular and Cell Biology
   Advisor: Pramod Srivastava, Professor, Department of Immunology, School of Medicine; Director, Center for Immunotherapy of Cancer and Infectious Disease; and Director, Neag Cancer Center, University of Connecticut Health Center
   Additional Advisor: Siu-Pok Yee, Assistant Professor, Genetics and Developmental Biology, University of Connecticut Health Center

3. The Effects of Temperature Frequency and Magnitude on Hyla Versicolor
   D. Cristina Macklem
   Major: Biological Sciences
   Jason O'Connor, Graduate Student, Natural Resources
   Advisor: Tracy Rittenhouse, Assistant Professor, Natural Resources and the Environment

4. The Role of Estrogen in the Early Male Gonad
   Robert Stickels
   Major: Molecular and Cell Biology
   Advisor: Rachel O’Neill, Professor, Molecular and Cell Biology
   Additional Advisor: Andrew Pask, Associate Professor, Zoology, University of Melbourne, Australia
5. Teaching Rats a Temporal Sequence in a Radial Water Maze
Shang Lin (Tommy) Lee
Majors: Biological Sciences and Psychology
Brian Timmerman
Major: Psychology
Advisor: Etan Markus, Professor and Associate Department Head, Psychology

6. Gene Copy Number in Transgenic Maize
Sarah Gilbert
Major: Molecular and Cell Biology
Advisor: Christopher Bonin, Senior Biochemist and Plant Analysis Lead, Agrivida

7. Light Activated Squaraine Dye Protein Scissors
Divya Iyer
Major: Structural Biology and Biophysics
Advisor: Challa Kumar, Professor, Chemistry
Additional Advisor: Bobbi Stromer, Graduate Student, Chemistry

8. Design and Characterization of a Pulsed Valve for Deflection/Cooling of CaF via Bichromatic Forces
Tony Le
Majors: Physics and Mathematics
Advisor: Edward Eyler, Professor, Physics

9. Post-Translational Modifications of the XLR3 Protein
Emily Clancy
Major: Diagnostic Genetic Sciences
Advisor: Michael O’Neill, Associate Professor, Molecular and Cell Biology
Additional Advisor: Robert Foley, Graduate Student, Molecular and Cell Biology
10. A Resource for Analyzing Neuropeptide Function in *Caenorhabditis elegans*
Dominika Bajguz
Major: Molecular and Cell Biology
Advisor: Amy Vashlishan Murray, Assistant in Molecular Biology, Massachusetts General Hospital
Additional Advisor: Joshua Kaplan, Professor, Neurobiology, Massachusetts General Hospital

11. Characterizing the Role of the U12-type Spliceosome in the Developing Retina
Jesse Wang
Major: Physiology and Neurobiology
Advisor: Rahul Kanadia, Assistant Professor, Physiology and Neurobiology
Additional Advisor: Ashley Kilcollins, Graduate Student, Physiology and Neurobiology

12. Cell Non-autonomous Neuronal Regulation of Polyglutamine Protein Aggregation in *C. elegans*
Anthony Viola
Major: Exercise Science
Walker Morison
Major: Exercise Science
Advisor: Elaine Lee, Assistant Professor, Kinesiology

13. Assessment of Neurite Growth in Methacrylated Collagen Gels with Patterned Stiffness
Stephanie Knowlton
Major: Biomedical Engineering
Advisor: David Shreiber, Professor, Biomedical Engineering, Rutgers University
Additional Advisor: Kathryn Drzegiecki, Graduate Student, Biomedical Engineering, Rutgers University
14. Fabrication and Testing of Transcatheter Aortic Valves Using Different Leaflet Materials
Michele Dalena
Major: Biomedical Engineering
Advisor: Wei Sun, Associate Professor, Mechanical Engineering
Additional Advisor: Eric Sirois, Graduate Student, Mechanical Engineering

15. Development of a Tissue Treatment and Sorting Protocol in the Fabrication of Transcatheter Aortic Valves
Rachel Adams
Major: Biomedical Engineering
Advisor: Wei Sun, Associate Professor, Mechanical Engineering
Additional Advisor: Eric Sirois, Graduate Student, Mechanical Engineering

16. Blowoff Detection in Turbulent Jet Flames
Victoria Kallsen
Major: Mechanical Engineering
Advisor: Michael Renfro, Associate Professor and Associate Department Head, Mechanical Engineering
Additional Advisor: Kathryn Gosselin, Graduate Student, Mechanical Engineering

17. Lansoprazole Induced Occlusions of Nasogastric Feeding Tubes are Dependent on Dosage Form and Suspending Vehicle
Claudia Napiorkowska
Major: Pharmacy
Ilona Salamucha
Major: Pharmacy
Advisor: Robin Bogner, Associate Professor, Pharmaceutical Sciences
18. **Formation of Nano-Amorphous Solid Dispersions**  
Kenechi Unachukwu  
Major: Pharmacy  
Advisor: Diane Burgess, Distinguished Professor, Pharmaceutical Sciences  
Additional Advisor: Sumit Kumar, Graduate Student, Pharmaceutical Sciences

19. **Accounting Factors Affecting the Adoption of IFRS in Brazil, India, and China**  
Catrina Shea  
Majors: Accounting and Political Science  
Advisor: Mohamed Hussein, Professor and Department Head, Accounting

20. **Speech and Language Processing Differences Among Impaired and Unimpaired Populations**  
Julia Drouin  
Major: Speech, Language, and Hearing Sciences  
Advisor: Emily Myers, Assistant Professor, Speech, Language, and Hearing Sciences  
Additional Advisor: Rachel Theodore, Assistant Professor, Speech, Language, and Hearing Sciences

21. **Latino/Latin American Transnational Narratives of War and Violence**  
Krisela Karaja  
Majors: English and Spanish  
Advisor: Guillermo Irizarry, Associate Professor, Literature, Culture and Languages
22. Indigenous Environmental Justice through Human Rights: Extractive Industries, the Navajo Nation, and UNDRIP
Mary Mackie
Majors: Political Science and Human Rights
Advisor: Barbara Gurr, Assistant Professor in Residence, Women's, Gender, and Sexuality Studies
Additional Advisor: Prakash Kashwan, Assistant Professor, Political Science

23. On the Semantics of Natural Language Conjunction
Michael Jacques
Major: Linguistics and Philosophy
Advisor: Jon Gajewski, Associate Professor, Linguistics

24. Empire of Slavery: The 1926 Slavery Convention
Robert (RJ) Anderson
Majors: Individualized Major-International Development and Human Rights
Advisor: Cathy Schlund-Vials, Associate Professor, English, and Director, Asian American Studies Institute

25. Transitioning to UConn: The New Husky Study
Angelina Hernandez
Majors: Psychology and Human Development & Family Studies
Advisor: Crystal Park, Professor, Psychology
Alphabetical Listing of Presenters with Poster Numbers

Adams, Rachel – 15
Anderson, Robert (RJ) – 24
Bajguz, Dominika – 10
Chlus, Marta – 1
Clancy, Emily – 9
Dalena, Michele – 14
Drouin, Julia – 20
Geyer, Rory – 2
Gifford, Daniel – 1
Gilbert, Sarah – 6
Hernandez, Angelina – 25
Iyer, Divya – 7
Jacques, Michael – 23
Kallsen, Victoria – 16
Karaja, Krisela – 21
Knowlton, Stephanie – 13
Le, Tony – 8
Lee, Shang Lin (Tommy) – 5
Mackie, Mary – 22
Macklem, D. Cristina – 3
Morison, Walker – 12
Napiorkowska, Claudia – 17
Rom, Zachary – 1
Salamucha, Ilona – 17
Shea, Catrina – 19
Stickels, Robert – 4
Timmerman, Brian – 5
Unachukwu, Kenechi – 18
Viola, Anthony – 12
Wang, Jesse – 11
Special Thanks

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Mun Choi, Provost and Executive Vice President for Academic Affairs

Jennifer Lease Butts, Assistant Vice Provost for Enrichment Programs and Director of the Honors Program

Cheryl Cranick, Communications, Honors Program

Student Volunteers for the Fall Frontiers Poster Exhibition

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