FALL FRONTIERS
A RESEARCH POSTER EXHIBITION

THE 2ND ANNUAL FALL CELEBRATION OF UNDERGRADUATE SCHOLARSHIP, INNOVATION, AND CREATIVITY

October 29, 2014
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 seventeen years. In Spring 2014, over 225 students presented posters for 209 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.

The Office of Undergraduate Research is pleased to sponsor the 2nd Annual Fall Frontiers Poster Exhibition. With tremendous growth in the number of undergraduate researchers and increased funding available to students, this annual Fall poster exhibition provides another opportunity for UConn’s top student researchers to share their exciting work.
2nd Annual Fall Frontiers Poster Exhibition

Poster Exhibition

Wednesday, October 29, 2014
5:00 p.m. – 7:00 p.m.

Introduction and Welcome

Caroline McGuire, Director, Office of Undergraduate Research

Keynote Speaker

Andrew Moiseff, Associate Dean, College of Liberal Arts and Sciences, and Professor, Physiology & Neurobiology

Closing Remarks

Jennifer Lease Butts, Assistant Vice Provost, Enrichment Programs, and Director, Honors Program
1. POWER: Providing Optimal Strategies for Patient Retention While Transitioning from Pediatric to Adult Care
   Kiersten Kronschnabel
   Major: Biological Sciences
   Advisor: Lisa Eaton, Assistant Professor, Human Development and Family Studies

2. Social Challenges for Correctional Nurses Delivering Healthcare
   Alyssa Zabin
   Majors: Psychology and Sociology
   Advisor: Denise Panosky, Associate Clinical Professor, Nursing

3. Time From Surgery Influences Dynamic Balance Ability After ACL Reconstruction
   Lauren Sheldon
   Major: Athletic Training
   Advisor: Lindsay DiStefano, Assistant Professor, Kinesiology

4. The Link Between Necrotizing Enterocolitis Incidence and Breast Milk Exposure
   Meaghan Sullivan
   Major: Nursing
   Advisor: Jacqueline McGrath, Professor and Associate Dean, Nursing
   Advisor: Katherine Gregory, Research Faculty, Brigham and Women’s Hospital
5. Environmental Factors Affecting Breastfeeding Within the Neonatal Intensive Care Unit
Sharon Casavant
Major: Nursing
Advisor: Jacqueline McGrath, Professor and Associate Dean, Nursing
Advisor: Georgine Burke, Senior Director of Research, CCMC and Professor of Pediatrics, UConn School of Medicine

6. Association Between Early Intervention and Autism Severity
Samantha Wesoly
Major: Molecular and Cell Biology
Advisor: Deborah Fein, Distinguished Professor, Psychology

7. Understanding of Social Relationships in Children with a History of Autism Who Have Achieved Optimal Outcome
Kaitlyn Porter
Major: Speech, Language, and Hearing Sciences
Advisor: Deborah Fein, Distinguished Professor, Psychology

8. Finding Your Path: Increasing Career Awareness In Urban High School Students
Daniela Sousa
Major: Psychology
Advisor: Stephanie Milan, Associate Professor, Psychology

9. Counting Strategies in Deaf Homesigners in Nicaragua: Can fingers help?
Devika Prasad
Majors: Psychology and Human Development and Family Studies
Advisor: Marie Coppola, Assistant Professor, Psychology and Linguistics
10. Auditory Processing in the Brain and the Link to Reading Ability
Lisa Brody
Major: Speech, Language, and Hearing Sciences
Advisor: Erika Skoe, Assistant Professor, Speech, Language, and Hearing Sciences
Advisor: Rachel Theodore, Assistant Professor, Speech, Language, and Hearing Sciences

11. Perceptual Learning in Adults with Dyslexia
Emily Thompson
Majors: Speech, Language, and Hearing Sciences and Psychology
Advisor: Rachel Theodore, Assistant Professor, Speech, Language, and Hearing Sciences

12. Purposes of Self-talk in Linguistically Diverse Mathematics Classrooms
Bailey Muchin
Major: Special Education
Advisor: Mary Truxaw, Associate Professor, Curriculum and Instruction

13. A Look at Early Literacy Initiatives
Rachael Cerutti
Major: Elementary Education
Advisor: Michael Coyne, Professor, Educational Psychology

14. Gifted Students Achievement Patterns Beyond High School
Jennifer Moore
Majors: Secondary Education and Math
Advisor: Del Siegle, Professor and Department Head, Educational Psychology
15. Empirical Support of Questioning in Gifted Education Literature
Melissa Scarbrough
Majors: Secondary Education and French
Advisor: Catherine Little, Associate Professor, Educational Psychology

16. The Woman Who is Not One: Incorporeal Femininity, Disembodied Cinematic Representation, and the Uneven Movement Toward the Cyborg Identity
Giorgina Paiella
Major: English
Advisor: Sherry Zane, Assistant Professor in Residence, Women’s, Gender, and Sexuality Studies

17. Iterated Two-Sided Matching
Patrick Adams
Majors: Economics and Mathematics-Statistics
Advisor: Vicki Knoblauch, Professor, Economics

18. Emerging Judicial Campaigns in Texas
Molly Rockett
Major: Political Science
Advisor: Virginia Hettinger, Associate Professor, Political Science

19. “What’s the Law? Good Luck With That:” Barriers in Accessing U.S. Sexual Assault Laws by State
Celia Guillard
Majors: IMJR: International Relations and Neuroscience
Advisor: David Richards, Associate Professor, Political Science

Emma Sifre
Major: Economics
Advisor: Kathleen Weldon, Program Specialist, Roper Center for Public Opinion Research
Advisor: Thomas Hayes, Assistant Professor, Political Science
21. Strength of Convictions: The Impact of Religiosity on the Political Engagement of Millennials
Marissa Piccolo
Major: Political Science
Advisor: Paul Herrnson, Professor, Political Science and Director, Roper Center for Public Opinion Research
Advisor: Kathleen Weldon, Program Specialist, Roper Center for Public Opinion Research

22. Candidate Emergence in the 2014 Congressional Election: The Impact of Political Experience on Political Success
Katie Cavanaugh
Major: Political Science
Advisor: Paul Herrnson, Professor, Political Science and Director, Roper Center for Public Opinion Research

23. Impact of Party Identification on Policy Support v Amendment Support
Ian Fignon
Major: Political Science
Advisor: Paul Herrnson, Professor, Political Science and Director, Roper Center for Public Opinion Research

24. Business Development in Biotechnology
Adam Guerrette
Major: Finance
Advisor: Eric Sirois, CEO, Dura Biotech

Kelly Luker
Major: Chemical Engineering
Advisor: Eric Sirois, CEO, Dura Biotech
26. Towards the Molecular Confirmation of Non-Transgenic Status for Precision-Engineered Maize
James McGann
Major: Molecular and Cell Biology
Advisor: Christopher Bonin, Senior Biochemist and Plant Analysis Lead, Agrivida, Inc.

27. Modeling Spondyloepiphyseal Dysplasia Congenita (SEDC) Using Induced Pluripotent Stem Cells
Renee Wasko
Major: Molecular and Cell Biology
Advisor: Caroline Dealy, Associate Professor, Department of Reconstructive Sciences, UConn Health; Director, UConn-TIP Bioscience & STEM Summer Research Intern Program; and Co-Founder, Chondrogenics, Inc.

28. Building Infrastructure for Computational Biomarker Selection and Analysis
Dillon Jones
Major: Computer Science and Engineering
Christopher Larsen
Major: Computer Science and Engineering
Advisor: James Lindsay, Co-Founder and Chief Architect, Smpl Bio

Maschal Mohiuddin
Majors: Biological Sciences and Journalism
Advisor: Neil Shah, CEO, Avitus Orthopaedics
Advisor: Maxim Budyansky, CTO, Avitus Orthopaedics

30. Silica-Induced Uptake and Toxicity in Alveolar Macrophages
Christopher Cheng
Major: Molecular and Cell Biology
Advisor: David Knecht, Professor, Molecular and Cell Biology
31. What’s Hiding Between the Proteins in Your Genome?
ENCODEx 3.0: Identifying Functional RNA Elements in the Human Genome
Brendan Smalec
Majors: Molecular and Cell Biology and Art History
Advisor: Brenton Graveley, Professor, Genetics and Developmental Biology, UConn Health

32. Investigating the Role of Spn4, Nlaz, and Glaz in the Drosophila Female Reproductive Glands for Female Fertility
Jason Torres
Major: Physiology and Neurobiology
Advisor: Jianjun Sun, Assistant Professor, Physiology and Neurobiology

33. Investigating the Reproductive Role of Fat Tissue Secretions in Female Drosophila
Sarah Mosure
Major: Biological Sciences
Advisor: Jianjun Sun, Assistant Professor, Physiology and Neurobiology

34. Circadian Rhythms and Cognitive Function in Rats
Victoria Wickenheisser
Major: Physiology and Neurobiology
Advisor: Etan Markus, Professor and Associate Department Head, Psychology

35. The SSRI Fluoxetine Potentiates Effects of Dopamine Depletion: Clinical Implications for the Treatment of Avolition and Fatigue
Margaret Rowland
Majors: Psychology and Physiology and Neurobiology
Advisor: John Salamone, Distinguished Professor, Psychology
36. Strokes in HHT
Kristopher Masilamani
Major: Physiology and Neurobiology
Advisor: Dilini Vethanayagam, Associate Professor, Department of Medicine, University of Alberta
Advisor: Thomas Jeerakathil, Associate Professor, Department of Medicine, University of Alberta

37. Correlation of Body Parts between Holometabolous and Hemimetabolous Species
Temina Kusi
Major: Biological Sciences
Advisor: Elizabeth Jockusch, Associate Professor, Ecology and Evolutionary Biology

38. The Centipedes of Great Smoky Mountains National Park
Joseph DeSisto
Major: Ecology and Evolutionary Biology
Advisor: Jane O'Donnell, Invertebrate Collections Manager, Ecology and Evolutionary Biology

39. Reconstructing Recent Black Carbon Inputs to the New River Estuary Using Terrestrial Biomarkers
Peter Ruffino
Major: Marine Sciences
Advisor: Craig Tobias, Associate Professor, Marine Sciences

40. Tunicate-Associated Marine Bacterial Compounds as Immunomodulatory Drugs
Ashley West
Major: Pharmacy
Advisor: Marcy Balunas, Assistant Professor, Pharmaceutical Sciences
41. Development of Novel Anti-Cancer Therapeutics
Joseph Rosano
Major: Pharmacy
Advisor: Andrew Wiemer, Assistant Professor, Pharmaceutical Sciences

42. Evaluation of Resistant MRSA to Novel Antifolate Therapeutics
Jacob Ferreira
Major: Pharmacy
Advisor: Amy Anderson, Professor and Acting Department Head, Pharmaceutical Sciences

43. Evaluation of New Inverse Agonists of the Cannabinoid Receptor One
Steven Graf
Major: Healthcare Management
Advisor: Debra Kendall, Distinguished Professor, Pharmaceutical Sciences

44. Synthesis of C8 and N2 Deoxyguanosine Adducts of 6-Nitrochrysene, A Cancer-Causing Agent
Kimberly Rebello
Major: Chemistry
Advisor: Ashis Basu, Professor, Chemistry

45. Palladium-Catalyzed Allylic Amination: Towards the Synthesis of Bestatin
Samuel Milbin
Major: Chemistry
Advisor: Amy Howell, Professor and Department Head, Chemistry

46. Ultracold Trimer Formation Energetics of Rb and K
Michael Cantara
Major: Engineering Physics
Advisor: William Stwalley, Distinguished Professor, Physics
47. Iron Oxide – Organic Matter Coprecipitates and Controls on Cu Availability
Faye Koenigsmark
Major: Environmental Engineering
Advisor: Timothy Vadas, Assistant Professor, Civil and Environmental Engineering

48. Spatiotemporal Oxygen Monitoring for Three-Dimensional Engineered Tissues
Stephanie Knowlton
Major: Biomedical Engineering
Advisor: Pinar Zorlutuna, Assistant Professor, Department of Aerospace and Mechanical Engineering, University of Notre Dame
Advisor: Savas Tasoglu, Assistant Professor, Mechanical Engineering

49. Long Term Drug Releasing Biodegradable Implants: Osteoarthritis Pain Management
Anurag Ojha
Major: Biomedical Engineering
Advisor: Sangamesh Kumbar, Assistant Professor, Orthopaedic Surgery, Institute for Regenerative Engineering, UConn Health

50. Malware Detection on a Software Defined Network
Ricky Jia
Major: Computer Science and Engineering
Advisor: Bing Wang, Associate Professor, Computer Science and Engineering

51. Network Analysis Tools Using perfSONAR
Reynaldo Morillo
Major: Computer Science and Engineering
Advisor: Bing Wang, Associate Professor, Computer Science and Engineering
Advisor: Jeffrey Farese, Network Technician, Network Engineering and Design
52. Autonomous Quadcopter Landing
Rosse Gates
Major: Mechanical Engineering
Advisor: Shalabh Gupta, Assistant Professor, Electrical and Computer Engineering
Alphabetical Listing of Presenters with Poster Numbers

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Special Thanks

The Office of Undergraduate Research wishes to thank the deans of the represented schools and colleges, the Provost's office, and the generous donors to the Honors Program for their support of undergraduate research through contributions to the Summer Undergraduate Research Fund, the UConn IDEA Grant, and OUR grant programs. In addition, we thank the following individuals for their support:

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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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