

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

Student Posters and Presenters

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 Austim 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

20. Human Rights in the US: Who Thinks What?

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

25. Quality Assurance Assessment on Transcatheter Aortic Valves: Standard Operating Procedure, Risk Analysis, and Shelf Life Determination

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

29. Analysis of a Goat Model for Application of a Bone Harvesting Device in a Live Blood Flow Environment

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?
ENCODE 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

- Adams, Patrick – 17
Brody, Lisa – 10
Cantara, Michael – 46
Casavant, Sharon – 5
Cavanaugh, Katie – 22
Cerutti, Rachael – 13
Cheng, Christopher – 30
DeSisto, Joseph – 38
Ferreira, Jacob – 42
Fignon, Ian – 23
Gates, Rosse – 52
Graf, Steven – 43
Guerrette, Adam – 24
Guillard, Celia – 19
Jia, Ricky – 50
Jones, Dillon – 28
Knowlton, Stephanie – 48
Koenigsmark, Faye – 47
Kronschnabel, Kiersten – 1
Kusi, Temina – 37
Larsen, Christopher – 28
Luker, Kelly – 25
Masilamani, Kristopher – 36
McGann, James – 26
Milbin, Samuel – 45
Mohiuddin, Maschal – 29
Moore, Jennifer – 14
Morillo, Reynaldo – 51
Mosure, Sarah – 33
Muchin, Bailey – 12
Ojha, Anurag – 49
Paiella, Giorgina – 16
Piccolo, Marissa – 21
Porter, Kaitlyn – 7
Prasad, Devika – 9
Rosano, Joseph – 41
Rebello, Kimberly – 44
Rockett, Mary “Molly” – 18
Rowland, Margaret – 35
Ruffino, Peter – 39
Scarbrough, Melissa – 15
Sheldon, Lauren – 3
Sifre, Emma – 20
Smalec, Brendan – 31
Sousa, Daniela – 8
Sullivan, Meaghan – 4
Thompson, Emily – 11
Torres, Jason – 32
Wasko, Renee – 27
Wesoly, Samantha – 6
West, Ashley – 40
Wickenheisser, Victoria – 34
Zabin, Alyssa – 2

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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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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