Wednesday, August 14, 2019

2:00 – 9:30 pm  Registration Desk Hours of Operation
Webster
Franklin Foyer

PEARL Meeting
Program Evaluation and Administration of Research
Leaders – by invitation
Washington
Board Room

5:00 – 6:00 pm  Reception
The
Conservatory &
Veranda

5:00 – 6:00 pm  Poster Session I Set up
Adams &
Madison Rooms

6:00 – 6:15 pm  Welcoming Remarks
Dining Room
William Green, Ph.D.
Geisel School of Medicine at Dartmouth, PI, NH INBRE
Dean Madden, Ph.D.
Dartmouth College, Vice Provost for Research

6:15 – 7:30 pm  Buffet Dinner
Dining Room

7:30 – 9:00 pm  Dessert and Poster Session I
Adams &
Madison Rooms
(Student and Core Posters)
Thursday, August 15, 2019

7:00 – 5:30 pm  Registration Desk Hours of Operation  Webster Franklin Foyer

7:00 – 8:00 am  One-on-One Mentoring  Dining Room
Drop-in or Upon Request

7:30 – 8:30 am  Breakfast Topic Tables  Dining Room
Possible topics include:
Career Choices
Undergrad engagement
Graduate and Medical Schools
IDeA Entrepreneurship
SURF management

8:45 – 9:15 am  Opening Remarks and Introduction:  Grand Ballroom
William Green, Ph.D.
Geisel School of Medicine at Dartmouth, PI, NH INBRE

Ming Lei, Ph.D.
Director of the Division for Research Capacity Building

9:15 – 9:40 am  Ravi Basavappa, Ph.D.  Grand Ballroom
Program Leader, Office of Strategic Coordination
“The High-Risk High-Reward Research Program in the NIH Common Fund: Funding opportunities for exceptionally creative scientists at all career stages.”

9:40 – 9:50 am  Krishan K. Arora, Ph.D.  Grand Ballroom
IDeA Program Director

9:50 – 10:10 am  Jake Reder, Ph.D.  Grand Ballroom
DRIVEN (DE, RI, VT, ME, NH) Accelerator Hub
Accelerating Medical Entrepreneurship in the Northeast

10:10 – 10:30 am  Jane Disney, Ph.D.  Grand Ballroom
MDI Biological Laboratory
SEPA-COBR/INBRE inter-program collaboration

10:30 – 10:40 am  Doug Wright, Ph.D.  Grand Ballroom
University of Kansas Medical Center
National Association of IDeA Principal Investigators

10:40 – 11:00 am  Break with Refreshments  Grand Ballroom
AGENDA

11:00 – 11:25 am  Luis Cubano, Ph.D.
NIGMS, G-RISE Program Director  Grand Ballroom

11:25 – 11:45 am  Darlene Olsen, Ph.D.
Norwich University
Council on Undergraduate Research  Grand Ballroom

Concurrent Session A
11:45 – 1:00 pm  Entrepreneurial Discussion and Workshop
Mercedes Rincon, Ph.D.
University of Vermont
"Innovative Programs to Enhance Research Training" (IPERT)
Fostering Entrepreneurship in Biomedical Research  Grand Ballroom

11:45 – 1:00 pm  Core Resources and Services
Chair, Chris Lytle, Ph.D., Norris Cotton Cancer Center,
Geisel School of Medicine at Dartmouth
Ying Wai Lam Ph.D., Proteomics Facility Director,
Vermont Genetics Network (VGN), University of Vermont
Brewster F. Kingham, M.S., Director of DNA Sequencing & Genotyping Center, Delaware Biotechnology Institute, University of Delaware
Andreia Verissimo, Ph.D., Manager BioMT- Institute for Biomolecular Targeting, Geisel School of Medicine at Dartmouth
Dustin Updike Ph.D., Program Coordinator INBRE, Mount Desert Island Biological Laboratory
Brenton DeBoef Ph.D., Training Core Director, University of Rhode Island  Adams & Madison Rooms

1:00 – 2:30 pm  Lunch and Break  Dining Room

Concurrent Session B
2:30 – 4:30 pm  Session 1: Bioinformatics Rigor and Reproducibility
Chair, Kelley Thomas, Ph.D. Hubbard Center for Genome Studies, University of New Hampshire  Adams & Madison Rooms

Cathy Wu, Ph.D., University of Delaware
“Data-Driven Team Science in Delaware for Biomedical Research and Precision Medicine”
Julie Dragon, Ph.D. University of Vermont
“Bioinformatics core surveys highlight the challenges facing data analysis facilities”

Ashok Ragavendran, Ph.D., Brown University
“Enabling Reproducible Bioinformatics Analysis for a Heterogenous User Base”

Toni Westbrook, University of New Hampshire
“RepeatFS: a file system providing reproducibility through provenance and automation”

Ben King, Ph.D., University of Maine
“Collaborative Formats for Bioinformatics Research, Training and Workforce Development”

Maurice Shen, Ph.D., BenchSci
“The Antibody Crisis: Leveraging machine learning for AI-assisted antibody selection”

2:30 – 4:30 pm  

Session 2: Cancer
Chairs, Patrycja Dubielecka-Szczerba, Ph.D., Brown University
Brock Christensen, Ph.D., Dartmouth College

Michaela Reagan, Ph.D., Maine Medical Center Research Institute
“Targeting the Bone Marrow Niche in Myeloma”

Shuo Wei, Ph.D., University of Delaware
“Differential regulation of cell signaling by the metalloproteinase ADAM9 in the invasion of colon cancer cells with different genetic backgrounds”

Erik Kmiec, Ph.D., University of Delaware
“A clinical approach to non-small cell lung carcinoma using CRISPR-directed gene editing”

Sonali Barwe, Alfred I. duPont Hospital for Children
“Dissecting the mechanism of epigenetic modifier-induced chemosensitization in pediatric leukemia”

Brock Christensen, Ph.D., Dartmouth College
“Accurate immune phenotyping and tumor cytometry using DNA methylation”

Patrycja Dubielecka-Szczerba, Ph.D., Brown University
“Beyond JAK/STAT: new inflammatory disease drivers that contribute to malignant transformation of hematopoietic stem cells and development of myeloproliferative neoplasm”

2:30 – 4:30 pm  

Session 3: Clinical Translational Research
Chair, Kathleen Fairfield, MD, MPH, DrPH, Maine Medical Center Research Institute

Reagan Room
Ashley Buchanan, DrPH, University of Rhode Island
“The Effects of Medication for Opioid Use Disorder on Opioid Overdose among Commercially-Insured Patients within Prescriber Networks”

Erin Crowgey, PhD, Nemours Alfred I. duPont Hospital for Children
“Development and implementation of next generation sequencing genomic assays for precision medicine initiatives”

Timothy Plante, MD, MHS, Larner College of Medicine at the University of Vermont
“Rural/Urban Disparities in Cardiovascular Disease Assessment: The RUDICA pilot project”

Dominique Medaglio, PharmD, Christiana Care Health System
“Primary Nonadherence to Discharge Medications Post Revascularization”

Paul Palumbo, MD, Dartmouth Hitchcock Medical Center
“The IDeA States Pediatric Clinical Trials Network (ISPCTN) – an Interventional Clinical Trials Consortium”

Kathleen Fairfield, MD, MPH, DrPH, Maine Medical Center
“Population Health in Maine, New Hampshire and Vermont: Informing Clinical Research Priorities”

2:30 – 4:30 pm  **Session 4: Cell and Developmental Biology**  
Chairs, Aaron Brown, Ph.D., Maine Medical Center Research Institute;  
Jason Pellettieri, Ph.D., Keene State College

Sam Beck, Ph.D., MDI Biological Laboratory
“Disruption of CpG island-mediated chromatin architecture and transcriptional homeostasis during aging”

Aaron Brown, Ph.D., Maine Medical Center Research Institute
“Novel role for exosome-mediated clearance of microRNAs from thermogenic adipocytes”

James Godwin, Ph.D., MDI Biological Laboratory
“Macrophage control of scar-free repair and regeneration in the salamander limb and heart”

Olin Liang, Ph.D., Brown University
“RUNX1-dependent hematopoietic transformation of endothelial progenitor cells contributes to the pathogenesis of pulmonary arterial hypertension”
Jason Pellettieri, Ph.D., Keene State College
“Posttranscriptional Control of Gene Expression in Planarian Regeneration”
Jaron Rollins, Ph.D., MDI Biological Laboratory
“Phosphorylation state of ribosomal protein 6 governs healthy longevity in C. elegans”
Jessica Schuster, Ph.D., Brown University
“Extracellular Vesicles and Reproductive Health”
Soonmoon Yoo, Ph.D., Alfred I. duPont Hospital for Children
“Micro in size but big in neurophysiological function of axonal small noncoding RNAs”

2:30 – 4:30 pm  Session 5: IDeA Administrative Session  Lafayette Room

Arina V. Kramer, IDeA Grants Management Specialist, Grants Management and Post-Award Management
Laura Bellavia and Kris Monahan (RI-INBRE)
Partnering with PUIs: Best practices in communication and network building across partner institutions
Laura Bellavia and Kris Monahan (RI-INBRE)
A Tale of Research Administration Transformation

4:30 – 5:00 pm  Break with Refreshments  Grand Ballroom Foyer

4:45 – 5:00 pm  Poster Session II Set up  Adams & Madison Rooms

5:00 – 6:00 pm  Keynote Lecture 1  Grand Ballroom
Mike Hoppa, Ph.D., Dartmouth College
“Decoding Potassium Channel Function in Nerve Terminals with Light”

6:00 – 7:00 pm  Poster Session II  Adams & Madison Rooms
Postdoc and Faculty Posters

7:00 pm  Dinner on your own
*A list of options can be found in the conference program
Friday, August 16, 2019

7:00 – 8:00 am  One-on-One Mentoring  
Drop-in or Upon Request  
Dining Room

7:30 – 8:30 am  Breakfast Topic Tables  
Possible topics include:  
Career Choices  
Undergrad engagement  
Graduate and Medical Schools  
IDeA Entrepreneurship  
Dining Room

8:45 – 9:45 am  Keynote Lecture 2  
Shipra Vaishnava, Ph.D., Brown University  
“In situ analysis of mucus-residing bacterial community reveals an ecological niche key for gut microbiome stability”  
Grand Ballroom

9:45 – 10:00 am  Break with Refreshments  
Presidential Foyer

Concurrent Session C  
10:00 – 12:30 pm  Session 1: Bioinformatics  
Chair, Julie Dragon, Ph.D. University of Vermont  
Adams & Madison Rooms

Saeed Hassanpour, Ph.D., Dartmouth College  
“Histopathological Characterization of Whole-Slide Images through Deep Learning”

Chris Hemme, Ph.D., University of Rhode Island  
“A Graph Database Method for tracking RI-INBRE Program Metrics”

Harish Vashisth, Ph.D., University of New Hampshire  
“Probing Biomolecular Dynamics using Modeling, Simulation, and Visualization Tools”

Amanda Jamieson, Ph.D., Brown University  
“Tolerance of Viral/Bacterial Co-infections: Using bioinformatics to discover essential pathways in surviving infection”

Fang Fang Chen, Ph.D., University of Delaware  
“Testing the Associations between Psychological Well-Being and Biomarkers in the U.S. and Japan: A Cultural Bifactor Modeling Approach”
AGENDA

Rob Frost, Ph.D., Dartmouth College
“Gene set analysis of single cell transcriptomics”

10:00 – 12:30 pm Session 2: IDeAs Together: Cross-state evaluation in action
Chair, Sharon O’Connor, MBA, MS, NH and RI INBRE

Tabitha Finch, Ph.D., Vermont Genetics Network
“VGN Faculty Outcomes”

Lynn Foster-Johnson, Ph.D., Dartmouth College (COBRE)
“Program Evaluation: Strategic Planning”

Laura Lessard, Ph.D., Delaware INBRE
“Collective impact of INBRE summer undergraduate research programs across the country”

Sharon O’Connor, MBA, MS, NH and RI INBRE
“Evaluating a research mentoring program for INBRE investigators: development and implementation of a 4-step model”

Chris Smith, Maine INBRE
“Maine INBRE as a Pipeline to Health and Science Careers in IDeA States”

Ashlee Warzin, CIBBR University of New Hampshire
“CIBBR Evaluation: Assessing COBRE Impact”

10:00 – 12:30 pm Session 3: Microbiology and Immunology
Chairs, Sunil K. Shaw, Ph.D., Brown University
Anne Hoen, Ph.D., Dartmouth College

Anne Hoen, Ph.D., Dartmouth College
“Multi-omic analysis of the gut microbiota during normal development: results from the New Hampshire Birth Cohort Study”

Matthew Ramsey, Ph.D., University of Rhode Island
“Mechanisms underlying spatial interaction in the oral microbiota”

Larry Feinstein, Ph.D., University of Maine
“Comparative Functional Genomics of 28 Nosocomial Pathogens”

Ron Peck, Ph.D., Colby College
“Analysis of Genes that Mediate Persistence in Halophilic Microbes Subjected to Osmotic Shock”

Lauren Hinkel, University of Vermont
“The role of putative metabolic cassette sphBCD in Pseudomonas aeruginosa’s response to the host-derived antimicrobial sphingosine”

Sunil Shaw, Ph.D., Brown University
“Fantastic yeasts and where to find them: Virulence mechanisms of Candida parapsilosis”

Huy Tu, University of Vermont
“The tetravalent dengue live attenuated vaccine TV003 elicited a cross-reactive memory B cell repertoire in flavivirus-naïve subjects”

Sukanta Jash, Ph.D., Brown University
“Regulatory T cell-mediated in utero programming of fetal neurodevelopmental defects in mice”

10:00 – 12:30 pm  Session 4: Neurobiology and Behavior
Chairs, Jaeda Coutinho-Budd, Ph.D., University of Vermont
Sergios Charntikov, Ph.D., University of New Hampshire

Sergios Charntikov, Ph.D., University of New Hampshire
“Individual vulnerability to traumatic stress predicts increased demand for heroin and cue-induced reinstatement: a novel preclinical approach to study individual differences underlying traumatic stress and heroin use comorbidity”

Matt Butchbach, Ph.D., Alfred I. duPont Hospital for Children
“Regulation of Survival Motor Neuron 2 (SMN2) Expression in Spinal Muscular Atrophy Cell by Class-selective Histone Deacetylase Inhibitors”

Xuanmao Chen, Ph.D., University of New Hampshire
“In vivo imaging: Induction of Population Synchrony among Primed Hippocampal Neurons Is Key for Trace Memory Formation and Retrieval”

Diana J. Goode, Ph.D., University of New England
“A novel mechanism for regulation of mitochondrial function by Epac2 in acute inflammatory hyperalgesia”

Jaeda Coutinho-Budd, Ph.D., University of Vermont
“Cellular and molecular mechanisms of neuron-glia interactions at neuronal cell bodies”

Ben Harrison, Ph.D., University of New England
“Neuron-Intrinsic Mechanisms of Nervous System Plasticity”  
**Robert Hill, Ph.D., Dartmouth College**  
“Uncovering mechanisms of myelin plasticity in the live brain”  
**Sigrid A. Langhans, Ph.D., University of Delaware**  
“Na,K-ATPase β2-subunit/AMOG as a novel regulator of Merlin/NF2 signaling”

**Session 5: Opioids Epidemic**  
Lafayette Room

10:00 – 12:30 pm  
**Chairs**, Steven Higgins, Ph.D. Director, Vermont Center for Behavior and Health, University of Vermont  
**Richard A. Rawson**, Ph.D. University of Vermont

**Kelly R. Peck, Ph.D., University of Vermont**  
“Interim Buprenorphine: Leveraging Medication and Technology to Bridge the Gap in Treatment Access”  
**Charles MacLean, M.D., University of Vermont**  
“Trends in Prescribing Opioids in Primary Care, Oral Health, and Post Operatively”  
**Tara M. Higgins, M.D., Daisy Goodman, CNM, DNP, MPH, Dartmouth Hitchcock**  
“Treating Perinatal Opioid Use Disorder in Rural Settings: Challenges and Opportunities”  
**Scott Mackey, Ph.D., University of Vermont**  
“Initiating Medication Assisted Therapy in the Emergency Department”  
**Kerry Nolte, Ph.D., University of New Hampshire**  
**Richard A. Rawson, Ph.D., University of Vermont**  
“Evaluating Medication Assisted Treatment for Opioid Use Disorder in Vermont's Hub and Spoke Model”  
**Josiah “Jody” Rich, M.D., MPH, Brown University**  
“Expanding Medication Assisted Treatments into the Criminal Justice Population”

12:30 pm  
**Conference concludes**