



UMass Graduate School of Biomedical Sciences

24th Annual Research Retreat

at the

Lincoln Campus Center & Hotel

*UMass Amherst
1 Campus Center Way
Amherst MA 01003*

October 17-18, 2019





UMMS Graduate School of Biomedical Sciences
24th ANNUAL RESEARCH RETREAT

October 17-October 18, 2019

Thursday, October 17, 2019

8:00 AM – 9:00 AM	REGISTRATION AND LIGHT BREAKFAST Registration: Concourse Area 1 st Floor Presentations: Campus Center Auditorium 1 st Floor
9:00 AM – 9:20 AM	<p align="center">~ WELCOME AND OPENING REMARKS ~</p> <p align="center">Terence R. Flotte, MD <i>Celia and Isaac Haidak Professor of Medical Education Dean, Provost and Executive Deputy Chancellor and Chief Research Officer</i></p> <p align="center">Michael F. Malone, PhD <i>Vice Chancellor for Research and Engagement University of Massachusetts Amherst</i></p> <p align="center">Katherine Luzuriaga, MD <i>Professor, Molecular Medicine, Pediatrics, and Medicine Director, UMass Center for Clinical and Translational Science Vice Provost, Clinical and Translational Research</i></p>
9:20 AM – 10:25 AM	SESSION 1: NEW FACULTY (Campus Center Auditorium 1 st floor)
<i>9:20 am – 9:25 am</i>	Moderator: Katherine A. Fitzgerald, PhD <i>Professor of Medicine</i>
<i>9:25 am – 9:45 am</i>	<i>“Cryo-EM Evolution: Higher Resolution, More States, More Cell Biology”</i> Nikolaus Grigorieff, PhD <i>Professor, RNA Therapeutics Institute</i>
<i>9:45 am – 10:05 am</i>	<i>“Molecular Study of the mTORC1 Amino Acid Sensing Pathway”</i> Kuang Shen, PhD <i>Assistant Professor, Program in Molecular Medicine</i>
<i>10:05 am – 10:25 am</i>	<i>“Your Brain is a Mosaic: Single-Cell Analysis of Somatic Mutations in Human Neurons”</i> Michael A. Lodato, PhD <i>Assistant Professor, Molecular, Cell and Cancer Biology</i>
10:25 AM – 10:40 AM	BREAK (Concourse Area 1 st floor)

10:40 AM – 11:25 AM	SESSION 2: NEW FACULTY (Campus Center Auditorium 1 st Floor)
10:40 am – 10:45 am	Moderator: Roger J. Davis, PhD <i>Professor and Chair, Program in Molecular Medicine</i>
10:45 am – 11:05 am	<i>“Antiviral Immunity at Barrier Surfaces”</i> Megan H. Orzalli, PhD Assistant Professor, Department of Medicine
11:05 am – 11:25 am	<i>“Dynamics and Mechanisms of Viral Envelope Glycoproteins”</i> James B. Munro, PhD Associate Professor, Microbiology and Physiological Systems
11:25 AM – 11:45 AM	<i>Special Topic Presentation: Innovative Research Tools</i> <i>Caterina Strambio De Castillia, PhD</i> <i>“Catalyzing the Transformation of Biomedical Imaging into a Modern-Data-Driven Discipline through the Development of Local Open-Source Software Application Delivery Stations”</i>
11:45 AM – 1:00 PM	LUNCH (Campus Center Auditorium 1 st Floor)
1:10 PM – 2:05 PM	SESSION 3: SPECIAL SESSION (Campus Center Auditorium 1 st Floor)
1:10 pm – 1:15 pm	<i>Introduction: Michael F. Collins, MD, FACP</i> <i>Chancellor and Professor, Population and Quantitative Health Sciences and Medicine</i> <i>Senior Vice President for the Health Sciences</i>
1:15 pm – 2:05 pm	Chancellor’s Medal for Distinguished Scholarship: Keynote Address <i>“How Cells Fold, Unfold, and Refold Their Genomes”</i> <i>Job Dekker, PhD</i> <i>Professor and Co-Director, Program in Systems Biology</i>
2:05 PM – 2:55 PM	SESSION 4: STUDENT AND POST-DOC TALKS (Campus Center Auditorium 1 st Floor)
2:05 pm – 2:10 pm	<i>Moderator: Kendall L. Knight, PhD</i> <i>Associate Dean, Graduate School of Biomedical Sciences and</i> <i>Professor, Biochemistry and Molecular Pharmacology</i>
2:10 pm – 2:25 pm	<i>“The Non-Seed Region of a Conserved microRNA Let-7a Determines Its In Vivo Specificity and Functions in C. elegans”</i> Ye Duan (Program in Molecular Medicine) Mentor: Victor R. Ambros, PhD, Professor, Program in Molecular Medicine
2:25 pm – 2:40 pm	<i>“Mechanistic Insights into the SWR1C Dimer Exchange Machine”</i> Jiayi Fan (Program in Molecular Medicine) Mentor: Craig L. Peterson, PhD, Professor, Program in Molecular Medicine
2:40 pm – 2:55 pm	<i>“The Fractalkine Receptor Regulates Microglia-Vasculature Interactions in the Developing Brain”</i> Erica Mondo (Neurobiology) Mentor: Dorothy P. Schafer, PhD, Assistant Professor, Neurobiology

2:55 PM – 3:10 PM	BREAK (Concourse Area 1 st Floor)
3:10 PM – 4:00 PM	SESSION 5: STUDENT AND POST-DOC TALKS (Campus Center Auditorium 1 st Floor)
3:10pm – 3:15 pm	Moderator: Mary Ellen Lane, PhD <i>Dean, Graduate School of Biomedical Sciences</i> <i>Professor, Neurobiology</i>
3:15 pm – 3:30 pm	<i>“YAP1 Oncogene Inhibition Promotes Durable Regression of Murine Hepatoblastoma and Restores Tumor Cells into Functional Hepatocyte-Like Cells”</i> Jordan Smith (RNA Therapeutics Institute) Mentor: Wen Xue, PhD, Assistant Professor, RNA Therapeutics Institute
3:30 pm – 3:45 pm	<i>“Chemical-Genetic Interactions of Essential Mycobacterium tuberculosis Systems”</i> Eun-Ik Koh, PhD (Microbiology and Physiological Systems) Mentor: Christopher M. Sassetti, PhD, Professor, Microbiology and Physiological Systems
3:45 pm – 4:00 pm	<i>“The Role of SERPIN Citrullination in Thrombosis”</i> Ronak Tilvawala, PhD (Biochemistry and Molecular Pharmacology) Mentor: Paul R. Thompson, PhD, Professor, Biochemistry and Molecular Pharmacology
4:30 PM – 7:00 PM	SESSION 6: POSTER SESSION AND RECEPTION (Concourse Area 1 st Floor)
7:00 PM – 8:30 PM	DINNER (Campus Center Auditorium 1 st Floor) Presentation: The Dan Mullen Awards for Best Posters <i>Kendall Knight, PhD</i> <i>Associate Dean, Graduate School of Biomedical Sciences</i> <i>Mary Ellen Lane, PhD</i> <i>Dean, Graduate School of Biomedical Sciences</i>
8:30 PM – 10:30 PM	JAM SESSION   Featuring: Beth McCormick, PhD <i>Professor, Microbiology and Physiological Systems</i>

Friday, October 18, 2019

8:00 AM – 9:00 AM	BREAKFAST (Campus Center Auditorium 1 st Floor)
9:00 AM – 10:10 AM	SESSION 7: NON-CONVENTIONAL ANIMAL MODELS (Campus Center Auditorium 1 st Floor)
9:00 am – 9:10 am	Moderator: Victor R. Ambros, PhD <i>Professor, Program in Molecular Medicine</i>
9:10 am – 9:30 am	<i>“Deciphering the Genomics of Behavior with Thousands of Pet Dogs”</i> Elinor K. Karlsson, PhD Associate Professor, Program in Molecular Medicine
9:30 am – 9:50 am	<i>“Large Animal Preclinical Research for Clinical Translation”</i> Matthew J. Gounis, PhD Professor, Radiology
9:50 am – 10:10 am	<i>“Koalas and Fruit Flies and Mice, Oh My! Cross-Species Analysis of Genome Immunity”</i> William E. Theurkauf, PhD Professor, Program in Molecular Medicine
10:10 am – 10:30 am	<i>“How Myosin Mutations Lead to Cardiac Disease”</i> Rául Padrón, PhD Professor, Radiology
10:30 AM – 10:45 AM	BREAK (Campus Center Auditorium 1 st Floor)
10:45 AM – 11:50 AM	SESSION 8: CRISPR (Campus Center Auditorium 1 st Floor)
10:45 am – 10:50 am	Moderator: Michael R. Green, MD, PhD <i>Professor and Chair</i> <i>Molecular, Cell and Cancer Biology</i>
10:50 am – 11:10 am	<i>“CRISPR Biology, Mechanism and Application”</i> Erik J. Sontheimer, PhD Professor, RNA Therapeutics Institute
11:10 am – 11:30 am	<i>“Precise Gene Correction Via a Simple Nuclease-Induced Double-Strand Break”</i> Scot A. Wolfe, PhD Professor, Molecular, Cell, and Cancer Biology
11:30 am – 11:50 am	<i>“CRISPR-Based Liver Cancer Modeling and Gene Therapy”</i> Wen Xue, PhD Assistant Professor, RNA Therapeutics Institute
11:50 AM – 12:35 PM	SESSION 9: INHERITED GENETIC DISORDERS (Campus Center Auditorium 1 st Floor)
11:50 am – 11:55 pm	Moderator: Thoru Pederson, PhD <i>Professor, Biochemistry and Molecular Pharmacology</i> <i>Associate Vice Provost for Research</i>
11:55 am – 12:15 pm	<i>“Duchenne Muscular Dystrophy: Real World Data – Integrating Clinical Care with Research”</i> Brenda Wong, MD Professor, Pediatrics

12:15 pm - 12:35 pm	<p><i>"Position Effects in Nonsense Suppression: A Role for Poly(A)-Binding Protein in the Regulation of Translation Termination"</i></p> <p>Allan S. Jacobson, PhD Professor and Chair, Microbiology and Physiological Systems</p>
12:35 PM – 12:45 PM	<p>~ CLOSING REMARKS ~</p> <p>Terence R. Flotte, MD <i>Celia and Isaac Haidak Professor of Medical Education Dean, Provost and Executive Deputy Chancellor and Chief Research Officer</i></p>
1:00 PM ADJOURN	<p>LUNCH TO GO (Concourse Area 1st Floor) BUS RETURNING TO THE WORCESTER CAMPUS</p>

UMMS GRADUATE SCHOOL OF BIOMEDICAL SCIENCES
24th Annual Research Retreat Program Committee Members

Victor R. Ambros, PhD

Roger J. Davis, PhD

Katherine A. Fitzgerald, PhD

Michael R. Green, MD, PhD

Nathaniel S. Hafer, PhD

Kendall L. Knight, PhD

Katherine Luzuriaga, MD

C. Robert Matthews, PhD

Beth A. McCormick, PhD

Thoru Pederson, PhD

Ellen M. Rupard, MBA

We hope you enjoyed our program this year. We look forward to seeing you next year!