



POINTS OF INTEREST

July – September 2022

HONORS AND AWARDS

Graduate Student Fellowship Awards

Samuel Mellentine (Tootle Lab) has received the Ballard & Seashore Dissertation Fellowship for the Spring 2023 semester. This is a non-renewable one semester award.

Samantha Wuebker (Van Otterloo Lab) has received a Graduate College Post-Comprehensive Research Fellowship for the Spring 2023 semester. This is a non-renewable one semester award.

Emily Adelizzi (Interdisciplinary Graduate Student, Genetics, Dunnwald Lab)

Emily successfully passed her Comprehensive exams.

Dr. Darren Hoffmann

Darren was awarded the Teaching in Higher Education Conference Award from the University of Iowa Council on Teaching. This award supports dissemination of innovative teaching practices at the UI by supporting faculty presenting research at national education conferences. Dr. Hoffmann's research team will be presenting research accepted for publication in *To Improve the Academy*, about communities of educational developers.

Colclough T, Howitz W, Mann D, Kearns K, Hoffmann DS. Meanings of "community:" Educational developers experience care, satisfying contributions, and belonging in a collaboration across institutions. To Improve the Academy; 2022 (Accepted, in press)

Mark Li (Graduate Student, Yang Lab)

Mark received the Keystone Symposia Future of Science Fund Scholarship to present his work in September.

Mark was awarded the Pappajohn Biomedical Institute Best Paper Award for his paper entitled "A putative long noncoding RNA-encoded micropeptide maintains cellular homeostasis in pancreatic β -cells. *Molecular Therapy Nucleic Acids*, 2021 26:307-320.

Dr. Marc Pizzimenti

Dr. Pizzimenti has been awarded the Dr. Harold A. Myers Distinguished Professorship. Dr. Myers was a 1934 graduate of the UI College of Medicine with a passion for education in all its disciplines. This three-year, nonrenewable term appointment is used to support a PhD faculty member who exhibits exemplary skill and passion for teaching of medical students and who is a leader in understanding and developing new methods of medical education.

APPOINTMENTS & SPECIAL RECOGNITION

New Faculty Member

Emma Handler, Ph.D., joined the ACB Faculty in August.

Dr. Martine Dunnwald

Dr. Dunnwald has been appointed Chair of the Search Committee for the CEO of the American Association for Anatomy.

Dr. Andy Frank

In July, Dr. Frank co-lead a three-week lab course at Cold Spring Harbor called *Drosophila Neurobiology: from Genes to Circuits & Behavior*. This was his third and final summer as a course leader (2018, 2019, 2022 with COVID breaks in between). Lab members Noah Armstrong (graduate student, Neuroscience) and Bhagaban Mallik (postdoc) joined him as TA's.

Drs. Andy Frank and Sam Young

Drs. Frank and Young were both part of an Iowa Neuroscience Institute committee that organized a Synapse Symposium on September 22-23, 2022. Experts in synapse biology from all over the world converged in Iowa City and shared their latest work.

Dr. Masataka Kawai

Dr. Kawai is on the Advisory Board and Scientific Committee Member of the 49th European Muscle Conference (EMC) <https://www.emc2022prague.eu/committees.htm>,

which took place September 22-26 in Prague, Czech Republic. EMC attracts 200-300 scientists from all parts of Europe, ~30 from USA/Canada, and some from Japan, Australia, China, Africa, South America, etc.

Dr. Sam Young

Dr. Young participated in the Big Ideas Summit Raynor Cerebellum Project held at UT Southwestern O'Donnell Brain Institute. This summit brought together an interdisciplinary group of ~30 outstanding researchers to brainstorm and identify the most critical questions in the field with a strong but not exclusive focus on advancing areas with the greatest potential to improve the lives of individuals suffering from cerebellar diseases.

SPECIAL PRESENTATIONS

Angelo Antiguas (Graduate Student, Dunnwald Lab)

Poster Presentation "Signaling by Adhesion Receptors: A non-canonical role for IRF6 in promoting cellular adhesions," Gordon Conference, July 2022.

Dr. John Engelhardt

"Defining Cellular Targets for Gene Therapy of Cystic Fibrosis Lung Disease Using Genetic Ferret Models," presented at the Oklahoma Center for Respiratory and Infectious Diseases, Oklahoma State University, September 21, 2022.

Mark Li (Graduate Student, Yang Lab)

"GILT-mediated lysosomal function maintains cardiac immuno-metabolic homeostasis in pressure-overload heart failure," The 18th Society of Chinese Bioscientists of America (SCBA) International Symposium, Boston, MA, July 2022.

"The Role of Hepatic Endoplasmic Reticulum Homeostasis in Liver-Heart Crosstalk in Sepsis," 1st Midwest Organelle Function in Diseases Mini Symposium, Iowa City, August 2022.

Dr. Fang Lin

"G α ₁₃ controls convergence and extension of pharyngeal endoderm by regulating the expression of E-cadherin," Gordon Research Conference: Signaling by Adhesion Receptors, July 17-22, 2022.

Rebekah Peplinski (Interdisciplinary Graduate Student in Genetics, Dupuy Lab)

Bekah presented posters at the following conferences:

“Integrated genomic approaches to characterize trametinib resistance in low-grade serous ovarian cancer,” *14th Biennial Virtual Ovarian Cancer Research Seminar Series* presented by the Rivkin Center and the American Association for Cancer Research, Sept 21-22 and 28-29, 2022.

“Integrated genomic approaches to characterize the biology of low-grade serous ovarian cancer,” Heartland Association of Gynecologic Oncology 2022 Meeting, Sept 30-Oct 1, 2022.

Dr. Ling Yang

“Shaping Immuno-Metabolic Homeostasis by the Lysosome,” (Organizer/Presenter) 1st Midwest Organelle Function in Diseases Mini Symposium, Iowa City, August 2022.

“Shaping Immuno-Metabolic Homeostasis by the Lysosome,” Frontiers in Diabetes, Obesity, and Metabolism seminar, August 2022.

“Shaping Immuno-Metabolic Homeostasis by Organelle Stress Response in Obesity-associated Diseases,” Stead Family Scholars Symposium, September 29, 2022.

Dr. Sam Young

“Molecular Mechanisms of Presynaptic Ca_v2 Calcium Channel Regulation of Neurotransmitter Release,” FASEB Ion Channel Regulation, Halifax, Nova Scotia, Canada, August 2022.

NEW GRANT AWARDS

Dr. John Engelhardt

Title: National Ferret Research and Resource Institute (NFRRI) at University of Iowa

Sponsor: NIH

Role: Principal Investigator

Total Award: \$7,975,000, 9/20/2022 – 5/31/2027

Dr. Darren Hoffmann

Title: Expanding Program Evaluation Capacity and Enhancing Training Programs through Alumni Perspectives
Sponsor: NIH/NIGMS
Role: Project Leader
Total Award: \$86,400, 7/1/2022-6/30/2023

Dr. Amy Ryan

Title: RECODE: Defining Environmental Design Criteria for Directed Differentiation of Type 1 from Type 2 Lung Alveolar Epithelial
Sponsor: NSF (Reproducible Cells and Organoids via Directed-Differentiation Encoding – RECODE)
Role: Multiple: Daniel Weiss (Vermont), **Amy Ryan (Iowa)**, Chelsea Magin (Colorado)
Proposed Total: UI - \$477,000 total 10/1/2022-9/30/2025

Dr. Justin Sipla

Title: Beyond Phase 1: Evaluating and Improving Retention of Foundational Science Concepts in Phase 2 for CQI
Sponsor: Educational Innovation and Scholarship (EIS), UI CCOM, Office of Consultation and Research in Medical Education
Role: PI (Co-PI, Amal Shibli-Rahhal)
Proposed Total: \$40,000

Title: Pharmacology “Primers” for Just-in-Time Instruction in Clinical Pharmacotherapeutics
Sponsor: Educational Innovation and Scholarship (EIS), UI CCOM, Office of Consultation and Research in Medical Education
Role: PI (Co-PI, Jason Barker)
Proposed Total: \$12,902

Dr. Ling Yang

Title: Role of ADH5 in the Regulation of Brown Adipose Tissue Metabolic Homeostasis
Sponsor: NIH/NIDDK AHA
Role: Principal Investigator
Total Award: \$1,980,548, 8/19/2022-7/31/2026

Dr. Sam Young

Title: "Recombinant AAV Capsid Library Screening to Identify Clinically Relevant Capsid Variants"
Sponsor: Industry Partnership
Role: Multiple PI – Sam Young (ACB), Marlan Hansen (Otolaryngology), Matthew Howard (Neurosurgery)
Total Award: ~\$2,000,000, July 2022-July 2024

SUBMITTED GRANTS

Dr. Adam Dupuy

Title: "Mechanisms of Trametinib Resistance in Low-Grade Serous Ovarian Cancer"
Sponsor: Department of the Army - USAMRAA
Role: PI
Total Award: \$932,936, 3/1/2023-2/28/2027

Title: "Development of Novel Ovarian Cancer Models to Identify Drivers of Disease Progression"
Sponsor: Department of the Army - USAMRAA
Role: PI
Total Award: \$387,933, 3/1/2023-2/28/2025

Title: "Identification of Genetic Mechanisms Driving Transition of Benign Nevi to Malignant Melanoma"
Sponsor: Department of the Army - USAMRAA
Role: PI
Total Award: \$777,500, 9/1/2023-8/31/2026

Riley Leonard (Graduate Student, Amendt Lab)

Title: "Role of the miR-200 Family in Cardiac Development"
Sponsor: AHA Fellowship
Role: PI
Total Award: \$32,553 Direct and total costs

Jianing Li (Graduate Student, Young Lab)

Title: "Deciphering the Molecular Mechanisms Controlling Cav2 Subtype abundance and Organization in the Presynaptic Terminal"
Sponsor: AHA Fellowship
Role: PI
Total Award: \$32,553 Direct and total costs

NEW PUBLICATIONS

Dr. Adam Dupuy Lab

Vaishnavi A, Juan J, Jacob M, Stehn C, Gardner EE, Scherzer MT, Schumann S, Van Veen JE, Murphy B, Hackett CS, **Dupuy AJ**, Chmura SA, van der Weyden L, Newberg JY, Liu A, Mann K, Rust AG, Weiss WA, Kinsey CG, Adams DJ, Grossmann A, Mann MB, McMahon M. Transposon mutagenesis reveals RBMS3 silencing as a promotor of malignant progression of BRAFV600E-driving lung tumorigenesis. *Cancer Research*, (Accepted, in press 2022) <https://doi.org/10.1158/0008-5472.CAN-21-3214>

Zhu EY, Dupuy AJ. Machine learning approach informs biology of cancer drug response. *BMC Bioinformatics*; 2022, 23:184 doi.org/10.1186/s12859-022-04720-z

Dr. John Engelhardt Lab

Ievlev V, Jensen-Cody CC, Lynch TJ, Pai AC, Park S, Shahin W, Wang K, Parekh KR, **Engelhardt JF**. Sox9 and Lef1 regulate the fate and behavior of airway glandular progenitors in response to injury. *Stem Cells*, 2022, 40(8):778-790, DOI: [10.1093/stmcls/sxac038](https://doi.org/10.1093/stmcls/sxac038)

Yan Z, Vorhies K, **Feng Z, Park S-Y, Choi SH, Zhang Y, Winter M, Sun X, Engelhardt JF**. Recombinant adeno-associated virus-mediated editing of the G551D cystic fibrosis transmembrane conductance regulator mutation in ferret airway basal cells. *Human Gene Therapy*, 2022, 8/4/2022 doi.org/10.1089/hum.2022.036

Dr. C. Andrew Frank Lab

Armstrong NS, Frank CA. The calcineurin regulator Sarah enables acute and chronic forms of homeostatic plasticity at the *Drosophila* neuromuscular junction. *bioRxiv*, 9/1/2022, doi: [10.1101/2022.08.31.506100](https://doi.org/10.1101/2022.08.31.506100)

Dr. Darren Hoffmann

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Dr. Masataka Kawai Lab

Xi J, Ye Y, Mokadem M, Yuan J, **Kawai M**, The effect of gender and obesity in modulating cross-bridge function in cardiac muscle fibers. *J Muscle Res Cell Motil*, 2022, 43: doi: 10.1007/s10974-022-09627-z.

Dr. Xiaoming Liu Lab

Xue J, Hu W, Wu S, Wang J, Chi S, **Liu X**. Development of a risk nomogram model for identifying interstitial lung disease in patients with rheumatoid arthritis. *Frontiers in Immunology*, 2022, 13:6/16/2022. doi:10.1101/2022.08.31.506100

Dr. Amy Ryan Lab

Ikonomou L, Magnusson M, Dries R, Herzog E, Hynds R, Borok Z, Park J-A, Skolasinski S, Burgess J, Turner L, Mojarad S, Mahoney JE, Lynch T, Lehmann M, Thannickal V, Hook J, Vaughan A, Hoffman ET, Weiss DJ, and **Ryan AL**. Stem Cells, Cell Therapies, and Bioengineering in Lung Biology and Disease 2021. 2022, *AJP Lung, Cellular and Molecular Biology*, 323(3):L341-L354. DOI: 10.1152/ajplung.00113.2022

Dr. Sam Young Lab

Keine C, Al-Yaari M, Radulovic T, Thomas CI, Valino Ramos P, Guerrero-Given D, Ranjan M, Taschenberger H, Kamasawa N, **Young SM**. Presynaptic Rac1 controls synaptic strength through the regulation of synaptic vesicle priming. *Elife*, 2022, Under Revision.

Please share news of your activities with Mary Beckler for publication in the quarterly Points of Interest Newsletter. This information is circulated throughout the Department, as well as published on the ACB Department website