

POINTS OF INTEREST

July-Sep 2024

HONORS AND AWARDS

Emily Adelizzi

Emily was awarded the best poster presentation at the Society for Developmental Biology Regional Meeting and at the Society of Craniofacial Genetics and Developmental Biology Annual Meeting.

Emily was awarded 1st place honors at the Interdisciplinary Graduate Program in Genetics Annual Student Retreat for her poster titled "Arhgap29 Regulates Epithelial Morphology, Contractility, and Stiffness"

Dr. Ben Calvert (Ryan Lab)

Ben has successfully completed his postdoctoral training and accepted a position at a Biotech company in California.

Salma Hassan (Drank Lab)

Salma was awarded a Post-Comprehensive Research Fellowship for the Spring 2025 semester.

Amelia Hurley-Novatny (Li Lab)

Amelia successfully passed her Comprehensive Exams.

Trevor Jones (Frank Lab)

Trevor successfully passed his Comprehensive Exams.

Jie Li (Tootle Lab)

Jie successfully passed her Comprehensive Exams.

Jie was awarded a Post-Comprehensive Research Fellowship for the Spring 2025 semester.

Emily Liu (Ryan Lab)

Em successfully passed her Comprehensive Exams.

Tim Nguyen (Van Otterloo Lab)

Tim was awarded the Graduate Student Presentation Award at the Society for Developmental Biology Midwest Regional Meeting.

Time received 3rd place honors at the Interdisciplinary Graduate Program in Genetics Annual Student Retreat for his poster titled “Mechanisms Reinforcing the Midfacial Neural Crest Positional Identity”

Stepan Orlovskiy (Dupuy Lab)

Stepan was awarded the “Excellence in Anatomy and Cell Biology Research Award” at the Medical Student Research Conference for his presentation titled “Exploring Drivers of Progression of Cutaneous Melanoma.”

Dr. Erik Quiroz (Ryan Lab)

Erik graduated from the Ryan Lab earning his PhD.

Nicole Recka (Van Otterloo Lab)

Nikki received 1st place honors at the Interdisciplinary Graduate Program in Genetics Annual Student Retreat for her poster titled “Epidermal Loss of PRMT5 Leads to the Emergence of an Atypical Keratinocyte-like Cell Population and Defective Stratification”

Nikki was awarded the Ballard and Seashore Dissertation Fellowship for the Spring Semester.

Israel Wipf (Tootle Lab)

Israel was awarded the Best Poster at the Holden Comprehensive Cancer Center Scientific Retreat.

Dr. Ling Yang

Dr. Yang was recognized for 10 years of service to the ACB Department.

APPOINTMENTS & SPECIAL RECOGNITION

Dr. Darren Hoffmann

Dr. Hoffmann was appointed at the Associate Director for the Medical Scientist Training Program.

Dr. Amy Ryan

- Appointed to the Cellular and Molecular Technologies Study Section (CMT)
- Appointed to the Interdisciplinary Molecular Sciences and Training Integrated Review Group (IMST)
- Appointed to the Grants Working Group for the California Institute of Regenerative Medicine

- Selected to participate in the 2024 Executive Leadership Academy for Higher Education

CEC Committee

Fall Potluck – November 1st 11:30-2:00 PM

You are all invited to participate in the Fall Potluck. Watch for upcoming information, sign-up sheets, etc.

This is Us

We are looking for volunteers to participate in our ACB “This is Us “ in December (date TBD) and in the Spring. If you are interested, email Martine Dunnwald (martine-dunnwald@uiowa.edu) or Madison O’Leary.

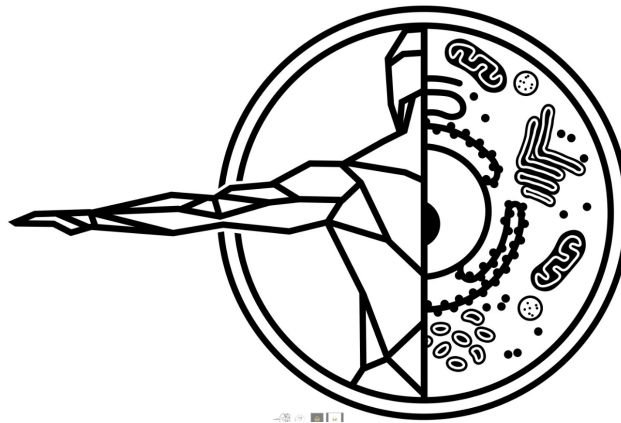
ACB Activity Tool Kit

Are you interested in developing scientific activities that could be executed in local community events to promote anatomy and cell biology? If so, contact Martine Dunnwald or any member of the CEC.

Other

Danielle Zwiefelhofer

Danielle’s Logo was the winner of the ACB Logo contest.



SPECIAL PRESENTATIONS

Dr. Ben Calvert (Ryan Lab)

“Differential Regulation of Immune Functions by Highly Effective CFTR Modulators in THP-1 Derived Macrophages,” presented at the North American Cystic Fibrosis Conference, Boston, MA, September 2024.

Dr. Martine Dunnwald

Dr. Dunnwald was invited to give a seminar at the Catholic University of Seoul entitled “My Journey Through Anatomical Sciences: Lessons from Iowa,” presented at the Catholic University of Seoul, South Korea, August 2024.

Dr. John Engelhardt

“Functions of the Pulmonary Ionocyte in the Proximal Ferret Airways,” presented at The Environmental Health Sciences Research Center and The Human Toxicology Program Seminar Series, University of Iowa, Iowa City, IA, September 2024.

“Spontaneous, Chronic Pseudomonas Infection of the CF Ferret,” presented at the Cystic Fibrosis Foundation Workshop entitled “Bacterial Persistence and Eradication,” Boston MA, September 2024

“Pulmonary Ionocytes Regulate Chloride Secretion and Absorption Via CFTR,” presented at the North American Cystic Fibrosis Conference, Boston, MA, September 2024.

Dr. Masataka Kawai

In September, Dr. Kawai travelled to Ljubljana, Slovenia, to serve as a scientific board member and present two posters at the European Muscle Conference.

Tim Nguyen

“TFAP2 Transcription Factors Reinforce the Midfacial Neural Crest Positional Identity,” presented at Society for Developmental Biology Midwest Regional Meeting, Madison, WI, August 2024.

Dr. Amy Ryan

“Lung-on-Chip Models to Understand Stem Cell Dynamics in Cystic Fibrosis,” presented at the North American Cystic Fibrosis Conference, Boston, MA, September 2024.

“Investigating Immune Cell Interactions in Airway Regeneration” Integrating Human Models to Understand Cellular and Tissue-Level Implications.” Presented at the National Cystic Fibrosis Education Conference, San Francisco, CA, July 2024.

Session Co-Chair for “S27: PTAC/CFTR: Airway Stem Cells: Tools, Targets, & Therapies,” North American Cystic Fibrosis Conference, Boston, MA, September 2024.

Israel Wipf

“The Role of Lipid Droplets and ATGL During In Vivo Collective Cell Migration,” presented at the Holden Comprehensive Cancer Research Seminar Series, University of Iowa, Iowa City, IA, September 2024.

Wipf, I.J., Gomez, S., Peregrine, K., Giedt, M., Tootle, T.L. “Lipid Droplet Proteins ATGL and Jabba Promote In Vivo Collective Cell Migration in Drosophila.” FASEB

Science Research Conference, Lipid Droplets: From Mechanisms to Disease, St Paul, Minnesota, July 2024.

Sam Wuebker (Van Otterloo Lab)

“MEMO1 is required for ameloblast maturation and functional enamel development,” presented at the Society for Developmental Biology Midwest Regional Meeting, Madison, WI, August 2024.

Dr. Feng Yuan

“Characterization of Ionocyte Subtypes in Cystic Fibrosis Ferret,” presented at the North American Cystic Fibrosis Conference, Boston, MA, September 2024.

NEW GRANT AWARDS

Dr. Hongshuai Li

Title: Role of FGF21 in Duchenne Muscular Dystrophy
Sponsor: NNIH:NIAMS
Role: PI
Total Award: \$1,962,456 direct costs, \$916,450 indirect costs

Dr. Amy Ryan

Title: ENG-BIOTECH: Engineering Biomedical Systems to Investigate Extracellular Matrix Regulation of Airway Basal Cell Stemness and Differentiation
Sponsor: NSF
Role: PI
Total Award: \$254,701 direct costs, \$119,074 indirect costs

Sam Wuebker (Van Otterloo Lab)

Title: Deciphering the Role of MEMO1 During Amelogenesis
Sponsor: NSF
Role: PI
Total Award: \$37,973

Dr. Ziyang Yan

Title: Development of Novel Approaches for Gene Editing Therapies of Cystic Fibrosis
Sponsor: NIH
Role: PI
Total Award: \$180,000 direct costs, \$99,901 indirect costs

Dr. Feng Yan

Title: Environmental Signals Induce Ionocyte Specification in Cystic Fibrosis
Sponsor: CFF
Role: PI
Total Award: \$450,000 direct costs, \$54,000 indirect costs

SUBMITTED GRANTS

Brendan Creemer (Ryan Lab)

Title: NSF Fellowship
Sponsor: NSF
Role: PI
Total Award: \$159,000 direct costs

John Engelhardt

Title: 007760G224 Dissecting CFTR Functions and Liquid Transport in the Distal Lung Epithelium
Sponsor: CFF
Role: PI
Total Award: 3,000,000 direct costs, \$126,000 indirect costs

Title: Cross-species Analysis of Repair and regeneration of the Distal Lung (CARDIL)
Sponsor: University of Pennsylvania
Role: PI
Total Award: 2,525,000 direct costs, \$1,401,374 indirect costs

Dr. Amy Ryan

Title: Spatial Regulation of IGFBP3 in Airway Basal Cell Stemness and Attrition
Sponsor: NIH
Role: PI
Total Award: \$2,408,750 direct costs, \$1,116,547 indirect costs

Title: Role of PI3K-Akt Signaling in Regulating Multiciliated Cell Fate Decisions in Health and Disease
Sponsor: NIH
Role: PI
Total Award: \$2,161,230 direct costs, \$1,179,770 indirect costs

Title: Precision Medicine Center for Cystic Fibrosis
Sponsor: NIH
Role: PI
Total Award: \$3,750,000 direct costs, \$2,081,250 indirect costs

Title: 1347665 TGF Signaling in the Pathogenesis of Lymphangiomyomatosis
Sponsor: LAM Foundation
Role: PI
Total Award: \$150,000 direct costs

Dr. Ziyang Yan

Title: Molecular Mechanisms Underlying AAV Vector Transduction in Airway Epithelium

Sponsor: NIH

Role: PI

Total Award: \$860,000 direct costs, \$477,300 indirect costs

Sahebgowda Patil (Yang Lab)

Title: 1378863 Role of Lysosomal Enzyme GILT in Maintenance of Adipose Tissue Under Obesity

Sponsor: AHA

Role: PI

Total Award: 69,548 direct costs

NEW PUBLICATIONS

Dr. Martine Dunnwald

Wang, Q., **Dunnwald, M.**, Kacmarynski, D. S. F., & Worthington, K. S. (2024). Development and Characterization of a Novel Composite Hydrogel Biomaterial for Improved Mucoperiosteal Wound Repair. *Journal of biomedical materials research. Part B, Applied biomaterials*, 112(9), e35476. <https://doi.org/10.1002/jbm.b.35476>

Dr. John Engelhardt

Rotti PG, Yi Y, Gasser G, **Yuan F, Sun X**, Apak-Evans I, Wu P, Liu G, Choi S, Reeves R, Scioneaux AE, **Zhang Y**, Winter M, Liang B, Cunicelli N, Uc A, Norris AW, Sussel L, Wells KL, **Engelhardt JF**. CFTR represses a PDX1 axis to govern pancreatic ductal cell fate. *iScience*, 2024, in press.

Dr. Fang Lin

Hu, B., Pinzour, J., Patel, A., Rooney, F., Zerwic, A., Gao, Y., Nguyen, N. T., Xie, H., Ye, D., & **Lin, F.** (2024). Gα13 controls pharyngeal endoderm convergence by regulating E-cadherin expression and RhoA activation. *Development (Cambridge, England)*, 151(19), dev202597. <https://doi.org/10.1242/dev.202597>

Dr. Amy Ryan

Koc-Gunel, S, **Liu, E.C., Gautam, L.K., Calvert, B.A., Murthy, S.**, Harriott, N.C., Nawroth, J.C., Zhou, B., Krymskaya, V.P., **Ryan, A.L.** (2024). Targeting Fibroblast-Endothelial Interactions in LAM Pathogenesis: 3D Spheroid and Spatial Transcriptomic Insights for Therapeutic Innovation. *bioRxiv : the preprint server for biology* 2024:2023.06.12.544372. doi: 10.1101/2023.06.12.544372. In review at JCI Insight.

Murthy, S., Seibold, D. A., Gautam, L. K., Caceres, A. M., Sease, R., **Calvert, B. A.,** Busch, S., Neely, A., Marconett, C. N., & **Ryan, A. L.** (2024). Culture Conditions Differentially Regulate the Inflammatory Niche and Cellular Phenotype of Tracheo-Bronchial Basal Stem Cells. *bioRxiv : the preprint server for biology*, 2024.09.04.611264. <https://doi.org/10.1101/2024.09.04.611264>. In revision at AJP: Lung Cellular Molecular Physiology.

Roth D, **Şahin AT**, Ling F, Senger CN, **Quiroz EJ**, **Calvert BA**, van der Does AM, Güney TG, Tepho N, Glasl S, van Schadewijk A, von Schledorn L, Olmer R, Kanso E, Nawroth JC, Ryan **AL**. (2024). Structure-function relationships of mucociliary clearance in human airways. *bioRxiv : the preprint server for biology*, 2024:2023.12.24.572054. doi: 10.1101/2023.12.24.572054. In revision at Nature Communications.

Accepted Book Chapter - **Emily C. Liu, Amy L. Ryan** and Sinem Koc-Gunel. *Protocol for the Generation and 3D Culture of Fluorescently Labeled Multicellular Spheroids*. ORGANOIDs - 2nd Edition: Methods and Protocols 2nd EDITION [SpringerNature]

Please share news of your activities with Madison O'Leary 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