FALL NEWSLETTER 2023

 CMP
Cellular & Molecular Pathology
**FUNDS, GRANTS & AWARDS**

**Madison researchers join ranks of AAAS fellows - WISC News**

*January 31, 2023*
*Nihal Ahmad, PhD and Wei Xu, PhD*

**New funding to protect bats from fungal epidemic hinges on UW-Madison discoveries**

*March 22, 2023*
*Bruce Klein, MD*

**Congratulations to three CMP Trainers/SMPH faculty members who were announced as 2023-24 Vilas Associates Competition awardees: The competition recognizes “new and ongoing research of the highest quality and significance” and is funded by the William F. Vilas Estate Trust**

*March 2023*
*Feyza Engin, PhD, Mrinalini Hoon, PhD, Ahmed Mahmoud, PhD*

**32 faculty honored with Vilas professorships and awards**

*April 11, 2023*
*Anita Bhattacharyya, PhD, Ying Ge, PhD, Pamela Kreeger, PhD*

**Transformational Project Award sponsored by the American Heart Association**

*Wei Guo, PhD*

Program: Transformational Project Award  
Project Title: Targeting titin for the treatment of Heart Failure with Preserved Ejection Fraction (HFpEF)  
Dollar amount: $300,000  
Major goal: the major goal of this project is to develop a new gene therapeutic option to treat human patients with HFpEF.

**Biomolecular chemistry professor awarded inaugural Hanns Kuttner Professorship - US News**

*May 4, 2023*
*Peter Lewis, PhD*

**UW carbone cancer center receives spore designation, federal grant to support prostate cancer research - UW SMPH News and Events**

*June 1, 2023*
*Josh Lang, MD, David Beebe, PhD, Douglas McNeel, MD, PhD*

**Faculty receive 2023-24 WARF Named Professorships, Kellett Fellowships, and Romnes Awards**

*UW News*

*June 13, 2023*
*Xinyu Zhao, PhD, Peter Lewis, PhD, and Krishanu Saha, PhD*

**UW DOM Research Pilot Award (UW-AAL5953)**

“Identifying Biomarkers of Response and Resistance to Sacituzumab Govitecan in mCRPC” (Role: PI), NIH 4UH3CA260389  
“Validation of predictive liquid biomarkers for patients with metastatic prostate cancer” (Role: PI), NIH R01CA276269  
“Molecular Regulation and Expression of Trop-2 in Advanced Prostate Cancer: Identifying Optimal Therapeutic Niches” (Role: PI)  
*Josh Lang, MD*
NINDS 2023 R35 Distinguished Research Program Award

July 2023
Ragu Vemuganti, PhD

This 8 year research grant allows investigators to work in the chosen field without many restrictions.

RESEARCH NEWS

UW research in 2022: From restored prairie to scorpion venom to the sewer
UW News

December 15, 2022
Aaron LeBeau, PhD, David O'Connor, PhD, and Shelby O'Connor, PhD

Lab-grown retinal eye cells make successful connections, open door for clinical trials to treat blindness - UW News

January 4, 2023
David Gamm, MD, PhD

A blood test for cancer shows promise thanks to machine learning - UW News

January 13, 2023
Muhammed Murtaza, MBBS, PhD

UW researchers identify cell type that could be key to preventing marrow transplant complication - UW News

March 24, 2023
Christian Capitini, MD and Peiman Hematti, MD

Five health tech startups you should know - UW News

April 4, 2023
Su-Chun Zhang, MD, PhD

Pathways to Immunity: In the search for better ways to fight disease, Jing Fan is pushing the boundaries of immunometabolism - CALS News

May 1, 2023
Jing Fan, PhD

UW researchers will develop gene editing therapy to treat blindness - UW News

June 6, 2023
David Gamm, MD, PhD and Krishanu Saha, PhD

Clinical trial for severe dry mouth treatment launching soon at uw - UW SMPH News and Events

June 15, 2023
Jacques Galipeau, MD

Paper published in JCI Insight received Editor's Pick highlight

Wei Guo, PhD


In a first, researchers image adaptive immune systems at work in fish - UW News

June 15, 2023
Anna Huttenlocher, MD

Cancer diagnosis and treatment could get a boost from machine learning - UW News

August 2, 2023
Shuang George Zhao, MD, MSE and Josh Lang, MD
CMP WELCOMES NEW TRAINERS:

Becky Richards, MD, PhD
Research Focus: Engineering next-generation CAR-T cells for blood cancers. Developing novel immunotherapies to treat AML.

Dan Matson, MD, PhD
Research Focus: Disorders of the blood and bone marrow of great public health significance. During development and in the adult bone marrow, a relatively small number of critical transcription factors promote complex and diverse cellular processes to bring about faithful and timely hematopoiesis. The mechanisms by which these factors interface with chromatin to modulate gene expression, and the partner factors that are critical for this function, are the primary research focus of the Matson Laboratory.

Emma Mohr, MD, PhD
Research Focus: The mission of our research is to improve the prevention, diagnosis and management of birth defects and deficits associated with congenital infections. Our research focuses on defining immune correlates of protection in congenital Zika virus infection and the identification of early neural predictors of neurodevelopmental deficits. We utilize a nonhuman primate model of Zika virus question and assessments translated from the human clinical setting to answer these questions.

Jacques Galipeau, MD
Research Focus: My laboratory research is focused on cell and biological therapy of cancer and immune ailments. We are also exploring the utility of mesenchymal stromal cells for regenerative medicine, immune modulation and for delivery of therapeutic proteins for treatment of acquired and hereditary diseases.

Alexander Birbrair, PhD
Research Focus: 1) Cancer biology, 2) Tumor microenvironment, 3) Nervous system influences on cancer progression.

Jane Churpek, MD
Research Focus: Discovery of rare inherited variants causative of cancer and blood disorders. Use of genomics and model systems to determine mechanism as well as gene by exposure/environment effects. Translation of research findings to improve early detection, screening, and prevention.

Wei Guo, PhD
Research Focus: Research Summary: Posttranscriptional process and RNA metabolism in muscle structure and function.

Giulio Tononi, MD, PhD
Research Focus: Research Summary: My scientific work has focused on two main themes: 1) the functions and mechanisms of sleep; and 2) the neural substrate of consciousness.

Ismail Zaitoun, PhD
Research Focus: Research Summary: Neurovascular biology, retinopathy of prematurity, hypoxic-ischemic encephalopathy, ocular fibrosis, and Age-related macular degeneration.

Maria Virumbrales-Munoz, PhD
Research Focus: Biomimetic modeling of ovarian cancer initiation and factors promoting metastasis. Biomimetic modeling of cell-cell interactions and cues in the primary breast tumor. Biomimetic modeling of tumor angiogenesis (e.g., renal, ovarian).

Matt Reynolds, PhD
Research Focus: Research Summary: SIV/HIV reservoirs; Antiviral immunity; Monoclonal antibody isolation.

Pam Kreeger, PhD
Research Focus: The Kreeger lab develops in vitro systems to study biological questions in a controlled environment, using high-throughput, quantitative experimental methods to gather information about cellular responses and signaling networks, and employing computational models to interpret the data. While this approach is amenable to a variety of disease settings, we are currently focused on the metastatic cascade in ovarian cancer and the process of collective migration in dermal wound healing.

Xin Gao, PhD
Research Focus: The overarching goal of the Gao lab’s research is to understand the functional roles of bone marrow microenvironment in regulating hematopoietic stem cells (HSCs) during normal, pre-malignant and malignant hematopoiesis.
CMP STUDENT AWARDS

Jennifer Anderson
CMP T32GM135119 Training Grant Award Winner, 2023-24

Beniah Brumbaugh
Wisc-e-Sota – La Crosse, WI (September 28th-29th 2023) “best poster award”

Sasha Celada
Heidi Dvinge & Patti Keely Travel/Enrichment Award from the UW Carbone Cancer Center Trainee Network (UWCC CTN)

Siobhan Dietz
CMP T32GM135119 Training Grant Award Winner, 2023-24

Kim Edwards
Ophthalmology and Visual Sciences T32 training grant June 2023-June 2024
Spring 2023 David G. Walsh Research Travel Award

Billy Erazo
Parasitology & Vector Biology T32

Lauryn Flannagan
SciMed Graduate Research Scholars (GRS) Fellowship

Julia Gambardella
First-author paper in the Journal of Comparative Neurology
Chosen for the August 2023 issue cover image
CMP Travel award, 2022-23

Katie (Zarbock) Hereford
Awarded a T90 postdoctoral fellowship on the University of Iowa’s Institutional Training Program in Oral Health Research

Margo Heston
Student Research Grants Competition Travel Award, UW-Madison, $1,500
AAIC Travel Fellowship. Alzheimer’s Association, $550
Cellular and Molecular Pathology Travel Award, UW-Madison
NIH Blueprint and BRAIN Initiative K00 D-SPAN Fellowship, National Institute on Aging Estimated $72,000 for 2023-2024
CMP Student Awards

**Sara Maloney**  
CMP T32GM135119 Training Grant Award Winner, 2023-24  
American Society for Virology 2023 Travel Award

**Margot Miranda-Katz**  
Underrepresented minority trainee scholarship award, American Thoracic Society Annual Meeting; Meet ID travel and mentorship award, IDSA Infectious Disease Week; Boston, MA, October 11-15, 2023

**Mallorie Mitchem**  
CMP T32GM135119 Training Grant Award Winner, 2023-24

**Nat Murren**  
CMP T32GM135119 Training Grant Award Winner, 2023-24

**Jenna Nagy**  
Ophthalmology and Visual Sciences T32 training grant June 2023-June 2024

**Mireya Pimentel**  
SciMed Graduate Research Scholars (GRS) Fellowship

**Jenna Port**  
CMP T32GM135119 Training Grant Award Winner, 2023-24

**Hunter Ries**  
Parasitology and Vector Biology T32 (T32AI007414)

**Katie Ryan**  
Parasite and Vector Biology T32 Recipient (2023-2024)  
UW-Madison Student Research Grants Competition Recipient  
Young Investigator Travel Grant (American Association of Veterinary Parasitology)

**Amanda Schussman**  
Selected for TL1 Predoctoral Training Program through the Institute of Clinical and Translational Research at UW

**Caelan Wright**  
SciMed Graduate Research Scholars (GRS) Fellowship
CMP STUDENTS’ CONFERENCE ATTENDANCE & PARTICIPATION:

Mayra Betancourt Ponce
- Poster Presentation, “Atovaquone promotes release of Damage-Associated Molecular Patterns from epithelial ovarian cancer cells,” American Association for Cancer Research Annual Meeting. Orlando, FL, April 2023
- Poster Presentation, “Atovaquone promotes release of Damage-Associated Molecular Patterns from epithelial ovarian cancer cells,” University of Wisconsin Carbone Cancer Center Annual Research Retreat. Madison, WI, April 2023
- Poster Presentation, “Characterizing T cell exhaustion profiles in ovarian cancer ascites,” Society for the Advancement of Chicanos/Hispanics and Native Americans in Science (SACNAS) Conference. San Juan, PR, October 2022. Travel Awardee

Beniah Brumbaugh
- Poster Presentation, International Herpesvirus Workshop - Missoula, MT (July 15th-19th 2023
- Poster Presentation, Wisc-e-Sota – La Crosse, WI (September 28th-29th 2023)

Sam Dettle
- Poster Presentation, NHLBI “Progenitor Cell Research and Translation Meeting”, March 27-28th 2023, Bethesda, MD, Poster scRNAseq analysis of DLL4i3’s (arterial fate specific enhancer) role in hematopoietic differentiation

Kim Edwards
- Poster Presentation, ARVO 2023- New Orleans, LA April 22-27th,2023: poster titled In-depth molecular characterization of retinal organoids from pig pluripotent stem cells

Billy Erazo
- Attended, Midwest Neglected Infectious Diseases Meeting. Urbana-Champaign, Illinois, August 2023

Abby Evered
- Attended, the Autumn Immunology Conference in Chicago from November 18th-21st 2022

Julia Gambardella
- Poster Presentation, Society for Neuroscience annual conference in San Diego, CA, November 2022. Poster Presentation
- Attended Wisconsin Stem Cell Symposium in Fitchburg, WI in April 2023

Marienela Heredia
- Poster Presentation, Midwest Neglected Infectious Diseases Meeting. Urbana-Champaign, Illinois, August 2023
Kyle Jancola
• Poster Presentation, CHGPM Symposium, Tuesday October 10th, UW-Madison

Sara Maloney
• Poster Presentation, American Society for Virology (Athens, GA: June 24-28 2023)
• “Myeloid cell model for the study of EBOV-induced coagulopathy using a trans-complementation system”
• ASV Travel Award 2023

Margot Miranda-Katz
• Poster Presentation, American Thoracic Society Annual Meeting, Washington DC; May 19-24, 2023;
• Poster Presentation, NIH AADCRC annual Meeting; Bethesda, MD, October 16-17, 2023; Poster Presentation

Hunter Ries
• Poster Presentation, American Society for Tropical Medicine and Hygiene 2023 Annual Meeting; Chicago, Illinois, October 18-22, 2023
• Oral Presentation, Pandengue 2023 Conference; in Lima, Peru, November 13-16, 2023
• Seminar Talk, Parasitology & Vector Biology, date TBD

Katie Ryan
• Poster Presentation, SIMB Natural Product Discovery and Development in the Genomic Era. San Diego, CA. January 7th-12th, 2023
• Talk, American Association of Veterinary Parasitologists (AAVP). Lexington, KY. June 9th-13th, 2023
• Poster Presentation, Molecular Helminthology. Madison, WI. June 26th-29th, 2023

Amanda Schussman
• Poster Presentation, Advancing Precision Medicine Symposium on October 10, 2023, poster titled “Personalized minimal residual disease detection using tumor-derived structural variants in cell-free DNA”

Soniya Tanhankar
• Poster presentation Wisconsin Stem Cell Symposium, April 2023, Madison, WI
• Title, “Generation of brain microvascular endothelial cells through transcription factor-based cell fate engineering.”
Congratulations to CMP Graduates!

Congratulations to our 2023 Graduates as their predoctoral careers come to a successful conclusion. You will be missed!

Andrew Lynch: 2023 — CPRIT TRIUMPH Postdoctoral Fellowship at M.D. Anderson Cancer Center, Houston, TX (RP210028)

Anna Hoefges: Postdoctoral, Joint (Sondel and Irene Ong labs), focusing on bioinformatics

Caleb Dillingham: R&D Scientist at FUJIFILM Cellular Dynamics, Inc. (FCDI)

Michelle Koenig: Postdoctoral position at Duke University

Olivia Sayer: Postdoctoral position, S. O’Connor Lab, UW Madison

Anna Marie Hughes: currently completing doula certification after which, will be looking for a position in industry as a Medical Science Liaison or Clinical Research Administrator

Morgan Mann: joint Stanford/UCSF Clinical Chemistry Postdoctoral Fellowship, under the joint supervision of Dr. Ruben Luo (Stanford) and Dr. Kara Lynch (UCSF)

Katie Zarbock: Postdoctoral position, Iowa University in the Mangalam Lab

Margo Heston: Postdoctoral position at UW-Madison, with Amy Kind at the Center for Health Disparities Research and Tobey Betthauser in the Department of Medicine. Postdoctoral award: NIH Blueprint and BRAIN Initiative D-SPAN K00, the second part of an F99/K00 award

Qijun Zhang: Graduation Pending December 2023

Welcome to Our New 2023 Students!

• Siobhan Dietz, BS, Biochemistry, Smith College
• Lauryn Flannagan, BS, Biological Sciences, Marquette University
• Adam Glawe, BS, Molecular and Cellular Biology, University of Illinois, Urbana-Champaign MS, Biomedical Sciences, Midwestern University
• Alena Hanson, BS, Neuroscience, Lawrence University
• Regan Harmon, BS, Biological Sciences, Duquesne University
• Octavia Larrain, BS, Biotechnology, Universidad Mayor, Chile
• Gabriella Mamlouk, UW MSTP/CMP Student, BS, Integrative Physiology & Neurobiology, North Carolina State University
• Mallorie Mitchem, BS, Biology, Anthropology, Case Western Reserve University
• Mireya Pimentel, BS, Biochemistry, University of Arizona
• Jenna Port, BS, Cellular and Molecular Biology, University of Wisconsin-Madison
• Michael Sande, BS, Microbiology, University of Kansas
• Erin Schaeffer, UW MSTP/CMP Student, BS, Neuroscience, Brown University
• Dawson Stroik, BS, Biochemistry, UW Madison
• Caelan Wright, BS, Molecular, Cellular and Developmental Biology, University of Colorado at Boulder
CMP WELCOME WEEK

After a full day of CMP Orientation, new CMP students gathered with their current CMP student buddies on the Terrace for refreshments and conversation.

CMP WELCOME EVENT

The CMP Welcome Event on Thursday August 24 began with a Data talk by Sarah Stevens, PhD followed by a DEI workshop led by Pearl Leonard-Rock, MA. The day’s event concluded with our annual CMP Poster session.

CMP welcome was extended into the second week of September when CMP hosted “Dinner and a Show” our annual American Players Theatre visit on the evening of Friday, September 15th.
GAME NIGHT!

Last spring our students organized CMP Game Night which was held at Union South with pizza provided by the CMP Program!

ANNUAL HOLIDAY BOWLING EVENT

An annual CMP event that has been held at Union South for over a decade now and never seems to get old!