

June 2024

Newsletter

Summer is here and with the end of the school year come new beginnings!

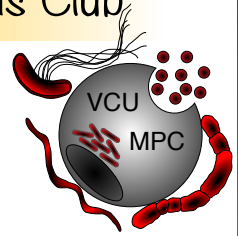
New Beginnings Dr. Huiping Zhou, Interim Chair



Dr. Huiping Zhou has taken on the role as Interim Chair of the Department of Microbiology & Immunology. Dr. Zhou joined the faculty in 2004 and has since run a successful research program focused on the role of bile acids and sphingolipids on hepatic lipid metabolism, modulation of gut microbiomes, and immune dysfunction under different liver diseases including liver cancers. Her success and dedication were recognized recently by WISDM (Woman in Science and Medicine) when she received the honor of Professional achievement award. We look forward to her tenure as Interim Chair!

Microbial Pathogenesis Club

We kicked off the start of the Microbial Pathogenesis Club! The club is composed of students, postdocs, and lab staff and meets once a month in an informal setting to present and discuss research in progress over dinner and drinks.

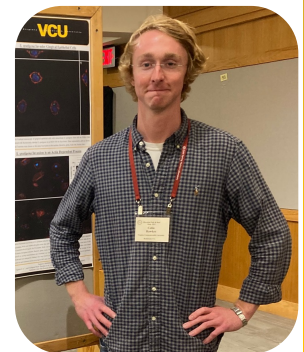


Congratulations!

Dr. Rebecca Martin was promoted to Associate Professor with tenure! Congratulations Becca!



Colin Hawkes (Miller lab), a Ph.D. student in the Oral Health Research program through the School of Dentistry was awarded an F31 from NIDCR to fund his work on *Selenomonas sputigena* invasion of gingival epithelial cells



Congratulations!

Funding

Dr. Daniel Miller was awarded an R01 titled “Two-component signaling systems of *Treponema denticola*” **AND** received a \$125,000 donation from the Carter Craft Foundation to support his lab’s research

Dr. Richard Marconi received a funding award for a project titled “Development of chimeric antigens for lab-based quantitative and point-of-care diagnostic assays for human and veterinary Leptospirosis” from the Virginia Innovative Partnership Corporation

Dr. Eun Lee was awarded a VCU Presidential Quest Grant

Graduating

Kailyn Turcios-Gonzalez successfully defended her Master’s thesis. Her advisor was Dr. Eun Lee

Honors and awards

Kaitlyn Jackson (Zhou lab) received the 2024 School of Medicine Charles C. Clayton Award
She also received the 2024 American Association of Immunologists Abstract Award and the VCU graduate school travel award for the AAI meeting in Chicago, IL

Veronica Wong (Lee lab) won the best abstract and the traveling award for her poster at **The National Conference for Undergraduate Research**

Veronica also won the Best Poster Award at The Virginia Cancer Research Day at UVA



Publications

Manjili Lab:

- Manjili MH and Manjili SH. "The quantum model of T cell activation: revisiting immune response theories". *Scan J Immunol*, 2024. [PMID: 38750629](#)

Zhou Lab:

- Fu X, Mackowiak B, Lin Y, Lehner T, Pan H, Guan Y, Godlewski G, Lu H, Chen C, Maccioni L, Feng D, Paloczi J, Zhou H, Pacher P, Zhang L, Kunos G, and Gao B. "Coordinated action of a gut-liver pathway drives alcohol detoxication and consumption." *Nature Metabolism*, 2024. In Press.

Buck and Jefferson Labs:

- Erin Garcia, Amy Klimowicz, Laahirie Edupuganti, Madeline Topf, Shraddha Bhide, Dawson Slusser, Samantha Leib, Cayden Coddington, Andrey Matveyev, Gregory Buck, Kimberly Jefferson, Caitlin Pepperell, and Joseph Dillard. "Phase variable colony variants are conserved across *Gardnerella* spp. and exhibit different virulence-associated phenotypes.") *mBio*. In Press.

Buck Lab:

- Bin Zhu, David J. Edwards, Katherine M. Spaine, Laahirie Edupuganti, Andrey Matveyev, Myrna G. Serrano, Gregory A. Buck. "The association of maternal factors with the neonatal microbiota and health". *Nature Communications* (In Press)

Presentations

Lee Lab:

- **Loukas Kang**, Emily Clark, Brian Hur, and Dr. Eun Lee Presented “The Role of ERAP2N in Antigen Processing and Immune Clearance of Melanoma and Triple-Negative Breast Cancers” at the VCU Medical Student Summer Research Day
- **Kailyn Turcios-Gonzalez**, Veronica Wong, Keila Najera, Kimberly Jefferson, and Eun Lee presented “Establishing a mouse model to observe the ascending infection of *Sneathia vaginalis*” at the VCU Women's Health Research Day
- **Veronica Wong**, Brian Hur, Kailyn Turcios-Gonzalez, Keila Najera, Arya Revankar, and Eun Lee presented “Creating a Comprehensive Mouse Model to Study the Role of Endoplasmic Reticulum Aminopeptidase 2 in Preeclampsia” at VCU Women's Health Research Day
- **Veronica Wong**, Brian Hur, Kailyn Turcios-Gonzalez, Keila Najera, Arya Revankar, and Eun Lee presented “The Trophoblastic Immune Response of Endoplasmic Reticulum Aminopeptidase 2-Arginine In Vivo as a Future Tumor Clearance Therapy” and The National Conference for Undergraduate Research and Virginia Cancer Research Day at UVA

- **Eun D. Lee** “Humanized-Endoplasmic Reticulum Aminopeptidase 2 mouse: Link to pregnancy disorders” AKIA annual meeting, University of Chicago, Chicago, ILL

Manjili Lab:

- **Koelsch N**, Gupta K, Neely V, Harada H, Manjili MH. “Molecular targeting of Bcl-xL during chemotherapy-induced tumor dormancy can inhibit breast cancer relapse.” IMMUNOLOGY 2024™ AAI Annual Meeting, Chicago, May 3-7, 2024 [received 2024 AAI Laboratory Travel Grant Award]
- **Manjili MH**. “The quantum model of T cell activation. IMMUNOLOGY 2024™ AAI Annual Meeting, Chicago, May 3-7, 2024 [received 2024 AAI Laboratory Travel Grant Award]

Martin Lab:

- **Maria Del Carmen Camarena**, Anuj Tharakan, Rebecca K. Martin. “HIF1 α regulates Tfr induction that restrains Tfh13 polarization in a murine model of allergy” American Association of Immunology Annual Meeting

Buck Lab:

- **Sravani Buddhavarapu**, Mallory Cunningham, Bin Zhu, Myrna Serrano, Gregory Buck. “The Impact of Vaginal Microbiome Composition on Vaginal Epithelium Gene Expression” Medical Student Research Day

Presentations

Zhou Lab:

- **Huizar E**, Wang J, Zeng J, Zhao D, Su L, Tai Y, Ghosh S, Aseem SO, Sanyal AJ, Hylemon PB and Zhou H. Impact of scp2 deficiency on hepatic metabolic profiling in a murine model of metabolic dysfunction-associated fatty liver disease. Poster Presentation at DDW 2024 in Washington DC.
- **Zeng J**, Wang J, Aseem SO, Sanyal AJ, Hylemon PB, Ghosh S, Fan J and Zhou H. Intestinal-Specific Scp2 Deletion Mitigates Hepatic Steatosis and Modulates Lipid Metabolism Homeostasis in Metabolic Dysfunction-Associated Steatotic Liver Disease (MASLD). Poster Presentation at DDW 2024 in Washington DC.
- **Yan Q**, Zhao D, Tai YL, Zeng J, Xu Y, Su L, Wang X, Gurley EC, Hylemon PB, Zhou X and Zhou H. Metformin-Mediated Enhancement of Hepatocellular Carcinoma Prognosis through IL33: Insights from Transcriptome Analysis. Poster Presentation at DDW 2024 in Washington DC.

Zhou Lab:

- **Bai-Kamara N**, Rodriguez-Agudo D, Minowa K, Takei H, Nittono H, Zhou H, Windle J, Sanyal AJ, Pandak WM and Kakiyama Genta. Liver Specific Transgenic Expression of Ocysterol 7 α -Oxysterol Driven Steatotic Liver Disease Progression. Oral Presentation at DDW 2024 in Washington DC.
- **Jackson KG**, Lipp MS, Zhao D, Tai YL, Su L, Wang X, Gurey EC, Hylemon PB, Zhou H. Myeloid cell SphK2 deletion enhances antigen-presenting cell hepatic infiltration in a mouse model of metabolic dysfunction-associated steatohepatitis. Oral Presentation at 2024 AAI in Chicago, IL.

UPCOMING EVENTS

- [Link to faculty development workshops](#)