

April 2024

Newsletter

We are approaching the end of the Spring semester and looking forward to celebrating with our students who are nearing their final defense dates. Our department has much to be proud of. With this inaugural issue, we will start shouting out kudos through a bi-monthly departmental newsletter.

IN MEMORIAM

Dr. Dennis E. Ohman, Chair



Our colleague and friend, Dr. Dennis E. Ohman, passed away on April 4, 2024. In 1998, Dennis became Chair of the Department of Microbiology and Immunology and remained steadfast in his service to the department for nearly three decades. He was an internationally known leader in the field of *Pseudomonas* research. His dedication to improving human health through the basic health sciences was an example to us all. Dennis was a kind and gentle leader and will be greatly missed.

Congratulations!

Funding

- Dr. Paige Allen was awarded an F32 to study how *Orientia tsutsugamushi* modulates immune signaling.
- Dr. Travis Chiarelli was awarded an F32 to examine how the *Anaplasma phagocytophilum* exploits regulated exocytosis to disseminate infection.
- Paige and Travis are postdoctoral fellows in Dr. Jason Carlyon's laboratory.



- Dr. Huiping Zhou received an R01 to study the role of circular RNAs in liver disease.
- Dr. Jason Carlyon received an R61 to develop tools for genetically manipulating the rickettsial pathogen, *Orientia tsutsugamushi*.

UPCOMING EVENTS

Student Defenses

- Kailyn Turcios-Gonzalez, April 30
Advisor: Dr. Eun Lee

Departmental Seminars

- Jason Burchett, April 18
Advisor: Dr. John Ryan
- Tania Maldonado, April 25
Advisor: Dr. John Ryan
- Lauren Dain, May 2
Advisor: Dr. Tomas Kordula
- Kaitlyn Jackson, May 9
Advisor: Dr. Huiping Zhou

Symposia & Workshops

- [18th Annual VCU Women's Health Research Day](#), April 16, 2024. 1-4:30
Larrick Student Center
- [Link to faculty development workshops](#)

Congratulations!

Honors and Awards

- Dr. Richard Marconi was inducted as a Senior Member of the National Academy of Inventors.
- Dr. Massoud Manjili received an American Association of Immunologists Laboratory Travel Grant.

Alumni

- Dr. Nicole Jimenez was featured as an [ASM Spotlight](#). Dr. Jimenez completed the [PREP program](#) at VCU and later joined the [BSDP](#) and received her Ph.D. from our department in 2021 under the mentorship of Dr. Jennifer Fettweis. Her research topic was the human vaginal microbiome. Dr. Jimenez is now a Postdoctoral fellow at the University of Arizona.





Publications

- C. B. Read, A. N. Ali, D. J. Stephenson, H. P. Macknight, K. D. Maus, C. L. Cockburn, M. Kim, X. Xie, J. A. Carlyon, C. E. Chalfant. Ceramide-1-phosphate is a regulator of Golgi structure and is co-opted by the obligate intracellular bacterial pathogen *Anaplasma phagocytophilum*. 2024. mBio. 15:e0029924. doi: 10.1128/mbio.00299-24. [PMC11005342](#).
- Moylan AD, Patel DT, O'Brien C, Schuler EJA, Hinson AN, Marconi RT, Miller DP. Characterization of c-di-AMP signaling in the periodontal pathobiont, *Treponema denticola*. Mol Oral Microbiol. 2024 Mar 4. doi: 10.1111/omi.12458. Epub ahead of print. [PMID: 38436552](#).
- Cramer NA, Socarras KM, Earl J, Ehrlich GD, Marconi RT. *Borrelia burgdorferi* factor H-binding proteins are not required for serum resistance and infection in mammals. Infect Immun. 2024 Jan 30:e0052923. doi: 10.1128/iai.00529-23. Online ahead of print. [PMID: 38289123](#).
- Wang Y, Zhao D, Su L, Tai YL, Way GW, Zeng J, Yan Q, Xu Y, Wang X, Gurley EC, Zhou XQ, Liu J, Liu J, Chen W, Hylemon PB, Zhou H. Therapeutic potential of berberine in attenuating cholestatic liver injury: insights from a PSC mouse model. Cell Biosci. 2024;14(1):14. Epub 20240125. doi: 10.1186/s13578-024-01195-8. [PMC10809567](#).
- Liu R, Li Y, Zheng Q, Ding M, Zhou H*, Li X. Epigenetic modification in liver fibrosis: Promising therapeutic direction with significant challenges ahead. Acta Pharm Sin B. 2024;14(3):1009-29. Epub 20231104. doi: 10.1016/j.apsb.2023.10.023. [PMC10935124](#).
- Jiang X, Xu Y, Fagan A, Patel B, Zhou H*, Bajaj JS. Single nuclear RNA sequencing of terminal ileum in patients with cirrhosis demonstrates multi-faceted alterations in the intestinal barrier. Cell Biosci. 2024;14(1):25. Epub 20240219. doi: 10.1186/s13578-024-01209-5. [PMC10875857](#).
- Bajaj JS, Fagan A, Gavis EA, Mousel T, Gallagher ML, Puri P, Fuchs M, Davis BC, Hylemon PB, Zhou H, Ahluwalia V, Cadrain R, Sikaroodi M, Gillevet PM. The RIVET RCT: Rifamycin SV MMX improves muscle mass, physical function, and ammonia in cirrhosis and minimal encephalopathy. Hepatol Commun. 2024;8(2). Epub 20240203. doi: 10.1097/hc9.0000000000000384. [PMC10843468](#).
- Wang Y, Pandak WM, Hylemon PB, Min HK, Min J, Fuchs M, Sanyal AJ, Ren S. Cholestenic acid as endogenous epigenetic regulator decreases hepatocyte lipid accumulation in vitro and in vivo Am J Physiol Gastrointest Liver Physiol. 2024 Feb 1;326(2):G147-G162. doi: 10.1152/ajpgi.00184.2023. Epub 2023 Nov 14. [PMID: 37961761](#).



Presentations

- Katie Flinn, Gavin Chambers, Nicholas Cramer, and Dr. Edward Schuler each presented at the Gordon Research Conference on the Biology of Spirochetes. Ventura, CA. Jan 2024.
- J. A. Carlyon. Invited seminar. Intracellular pathogen as cell biologist: *Anaplasma phagocytophilum* exploits multivesicular body biogenesis and sphingolipid signaling. University of Louisville. Louisville, KY. Mar 2024.
- H. Zhou. Invited Speaker. Bile acids and sphingolipids in cholestatic liver injury. Marion Bessin Liver Research Center, Albert Einstein College of Medicine. New York, NY. Feb 2024.
- R. T. Marconi. Lyme scene investigation: Are your clients safe? (Three separate presentations) North American Veterinary Conference and Veterinary Medicine Expo. Orlando, FL. Jan 2024.
- R. T. Marconi. The growing problem of Lyme Disease. Zoetis Webinar. Apr 2024.
- M. Manjili. Invited speaker. Immunobiological mechanisms underlying the progression and inhibition of hepatocellular carcinoma. Stravitz-Sanyal Institute for Liver Disease & Metabolic Health Seminar Series, VCU. Mar 2024.
- G. A. Buck. Speaker. The Vaginal Microbiome, Women's Health and the Host Response. Microbes in Women's Health Congress. Copenhagen, Denmark. Apr 2024.
- D. P. Miller. Invited Speaker. Signaling systems of *Treponema denticola* that regulate central metabolism and polymicrobial interactions. Gordon Research Conference on the Biology of Spirochetes. Ventura, CA. Jan 2024.