



Duke Microbiome Center

July 2024 DMC Newsletter

This quarterly newsletter is provided by the Duke Microbiome Center (DMC) to inform the Duke University community about activities, resources, news, funding and educational opportunities, and recent highlights in the microbiome sciences at Duke and beyond. To suggest items for this newsletter or to add someone to our newsletter listserv, please email [Cindy Wicker](#). For further information on the DMC, please visit the DMC [website](#).

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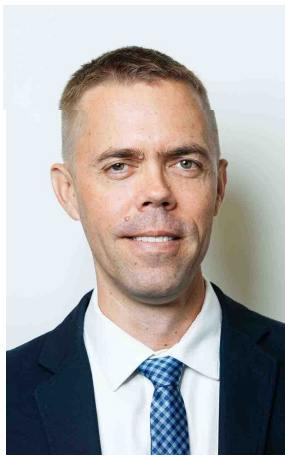
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A Message from the Director

Dear DMC Community:

I hope the summer is off to a good start for all of you. Below you'll find several important announcements about the DMC



leadership team and recently awarded DMC grants and fellowships. The next DMC Faculty Meeting will be Monday, August 26 at 1:00 PM in-person in 4122 MSRB3 with a Zoom option. I want to take this opportunity to remind you about different opportunities and mechanisms for DMC labs to engage with Duke undergraduates and more broadly fulfill Duke's educational mission. The DMC leadership and faculty have been discussing this topic in recent months and we invite all of you to consider how you could engage with these different

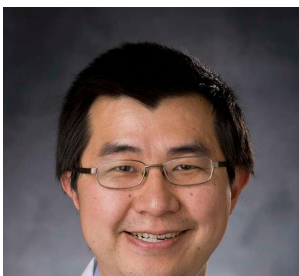
programs:

- [MUSER](#) – Portal for posting and recruiting Duke undergraduate students to research projects in your labs.
- [Data+](#) - Full-time 10-week summer research experience for Duke undergraduate and masters students interested in exploring new data-driven approaches to interdisciplinary challenges.
- [Bass Connections](#) - University-wide academic program that gives Duke undergraduate students a chance to apply classroom lessons to complex societal challenges, working alongside faculty from all of Duke's schools.
- [Duke Immerse](#) - Semester-long program in which Duke undergraduates enroll in a cluster of four courses designed by Duke faculty around a central theme. Themes take a deep dive into a significant global challenge with a multidisciplinary lens.
- [Graduate Instructor of Record \(IOR\) Support](#) - Multiple programs including **Certificate in College Teaching (CCT)** and **Preparing Future Faculty (PFF)**. In particular, Duke is looking for graduate students and postdocs to serve as IOR for a variety of classes at nearby **Durham Technical Community College**. See the link above for more details including contact information for the different teaching opportunities at Durham Tech.

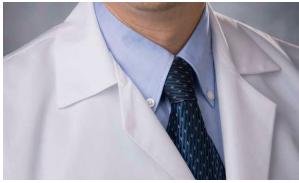
If you have questions or interest on any of the above programs, we encourage you to engage by contacting the program leads, and let us know how you think the DMC could support your efforts. The DMC exists to support you, so as always, please let us know how we can better support your work. Sincerely on behalf of the DMC leadership team,

John Rawls
Director, Duke Microbiome Center

DMC says farewell to Anthony Sung, DMC Associate Director



This summer the DMC says farewell and thanks to Dr. Tony Sung, MD who has served as a DMC Associate Director since 2017. Tony is moving to the University of Kansas Medical Center where he will be the A. Drue Jennings Professor in Medical Oncology, Professor of Medicine in the Division of Hematologic Malignancies and Cellular Therapy, and the Director of the Center for Survivorship and Patient-Oriented Research. Tony has



been a dedicated and creative member of the DMC leadership team, having led several of the DMC's efforts to facilitate microbiome research in the Duke University Health System. We wish Tony well in his new position in Kansas and thank him for his service to the DMC!

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DMC appoints new members to the DMC Leadership Team



This summer, the DMC welcomes several new members of the DMC leadership team.

[Dana Hunt, Ph.D.](#) Associate Professor of Microbial Ecology in the Nicholas School for the Environment will begin service as a DMC Associate Director.



[Nazema Siddiqui, M.D., M.H.S.C.R.](#) Associate Professor of Obstetrics and Gynecology in the School of Medicine will begin service as a DMC Associate Director.



[Pixu Shi, Ph.D.](#) Assistant Professor of Biostatistics and Bioinformatics in the School of Medicine will begin service as a DMC Assistant Director. The DMC thanks these individuals for stepping into these new leadership roles.

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[Congratulations to Aruna Menon and Liza Rassadkina on their new F31 NRSA](#)

[Fellowships!](#)



Congratulations to two DMC graduate students on their receipt of new NIAID F31 NRSA Fellowships!

[Aruna Menon](#), a graduate student in the Tobin lab, will use the zebrafish-*Mycobacterium marinum* model to elucidate how a bacterial factor, SigE, is important for both bacterial survival and modulation of host immunity in mycobacterial granulomas.



[Liza Rassadkina](#), a graduate student in the Rawls Lab, seeks to uncover genes and metabolic pathways used by the human gut bacterium *Phocaeicola vulgatus* to colonize and compete within the gut.

If members of your labs receive new fellowships, please send their information to [Cindy Wicker](#).

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[Congratulations to the Spring 2024 DMC-TriCEM Graduate Student Award recipients](#)

The [Duke Microbiome Center \(DMC\)](#) and the [Triangle Center for Evolutionary Medicine \(TriCEM\)](#) are pleased to announce the recipients of the [Spring 2024 Graduate Student Awards](#). These awards provide one year of funding for Ph.D. students to pursue studies that connect microbiome research to any of the four Research Tracks in TriCEM – pathogenic organisms, cancer, brain sciences, and social & biological determinants of health – or that engage with One Health research at the intersection of humans, animals, and the environment. Congratulations to the awardees!

- **Ammara Aqeel** (laboratory of Dr. Lawrence David, Department of Molecular Genetics & Microbiology) “Impact of Deforestation on Dietary Resilience and Microbiome Health”
- **Angela Jones** (laboratory of Dr. Dennis Ko, Department of Molecular Genetics & Microbiology) “Evolutionary Pressures on Sex-Biased Genes and Disease-Associated Variants”
- **Julian Liber** (laboratory of Dr. Sheng-Yang He, Department of Biology) “Enhancing Pathogen Biocontrol in the Yeast *Aureobasidium pullulans*”
- **Samantha Phelps** (laboratory of Dr. Nishad Jayasundara, Nicholas School of the Environment) “Investigating the Role of the Microbiome in Resistance to PAH Exposure”
- **Julia Slack** (laboratory of Dr. Tara Albrecht, School of Nursing) “The Oral Microbiome and Fatigue in People with Breast Cancer Receiving Chemotherapy”
- **Amanda Wilson** (laboratory of Dr. Francois Lutzoni, Department of Biology) “Elucidating the Cryptic Dispersal Mechanisms of Fungal Endophytes”

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Congratulations to the 2024 DMC Development Grant recipients

We received an unusually large number of applications to the [DMC Development Grant RFA](#) this year, and extend our thanks to all of the applicants. After extensive peer review, we congratulate the following recipients of 2024 DMC Development Grants:

- **Jason Arnold** (Department of Molecular Genetics and Microbiology, School of Medicine) “*Microplastic exposure and accumulation: impacts on microbiota and host development*”
- **Shuo Han** (Departments of Biochemistry, School of Medicine) “*Understanding probiotic gut bacteria-host interactions in aging and longevity*”
- **Kate Hoffman/Jillian Hurst** (Division of Environmental Sciences & Policy, Nicholas School; and Department of Pediatrics, School of Medicine) “*Impact of Menstrual Products on the Cervicovaginal Microbiome*”
- **Sarah Heston/Sweta Patel** (Department of Medicine and Department of Pediatrics, School of Medicine) “*The oral microbiome and pulmonary complications of pediatric HCT*”
- **Neil Surana** (Departments of Pediatrics) “*Regulation of adiposity by *Clostridium immunis**”
- **Jennifer Zhang** (Department of Dermatology and Pathology, School of Medicine) “*Investigation of crosstalk between skin cells and microbiome*”

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[ASM Microbiome Data Prize](#)



The [ASM Microbiome Data Prize](#) recognizes distinguished research achievements supporting open data best practices that have advanced the microbial sciences.

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[Inagural Connecting Microbiome Communities \(CMiC\) meeting](#)

The inaugural Connecting Microbiome Communities (CMiC) meeting will be held on November 3-6, 2024, in San Diego, CA, USA. The goal of this meeting is to bring together microbiome researchers from across the spectrum of ecosystems and sectors, in an open and inclusive environment so we can explore shared challenges and learn tips and tricks from each other to tackle them. Read more [here](#).

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Travel Tips

To make the reimbursement process easier -- and maximize the expenses that can be charged to grants vs. discretionary accounts – be sure to follow these guidelines:

- Always get an itemized receipt for meals. If you are not given one, ask for one!
- Get a separate receipt for alcohol.
- At group meals, get a separate receipt for yourself. **Before you order anything**, let your server know that your group needs separate receipts.
- Ask the hotel to give you a receipt for only your part of a shared room.
- If you have to pay with Venmo, provide a Venmo screenshot plus a copy of the original receipt and claim only the part that matches the amount Venmoed.
- Let the person who prepares expense reports for your lab know ASAP if you have applied for or received any travel awards -- especially a Graduate School Conference Travel Award.

Fly America Act: Rules for Using Federal Funds For Air Travel

- In general this means that the flights must be on a US carrier, although there are some exceptions under Open Skies agreements and code-sharing. In order for your flights to be paid by a Federal grant, they must comply with the [Fly America Act](#)
- Be sure to check before you purchase any international tickets. Failure to comply with the Fly America Act can be very costly, because any non-compliant tickets must be charged to discretionary accounts or other institutional sources rather than to Federal grants.
- Additional information on the Fly America Act is available on the [GSA](#) and [NIH](#) websites.

Note:

- The United Kingdom is no longer a part of the European Union so the use of a U.K. airline (e.g. British Airways), is not allowed unless you are using a Fly America Act exception.
- There is no Open Skies treaty with Canada, so flights on Air Canada, WestJet and Porter Airlines are unallowable on Federal awards unless you are using a Fly America Act exception

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Tri-I MMPTP Mycology Symposium

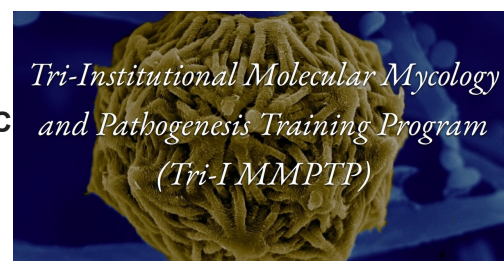
Friday, July 26, 2024 in Love Auditorium, LSRC

The [Tri-Institutional Molecular Mycology & Pathogenesis Training Program](#) fellows are organizing a symposium on July 26, 2024.

Poster and registration information can be found [here](#).

Keynote Speakers:

- [Nicolas Corradi](#), University of Ottawa



- [Kaustuv Sanyal](#), Jawaharlal Nehru Centre for Advanced Scientific Research
- [Teresa O'Meara](#), University of Michigan

Local speakers:

- [Michael Bradshaw](#), NC State
- [Jenny Lodge](#), Duke
- [Kerry Bloom](#), UNC

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Other Funding Opportunities through the DMC

[DMC Rolling Voucher Program:](#)

Duke University has established shared resources that avail diverse technologies to Duke investigators that can be used to advance microbiome science. To facilitate Duke Microbiome Center investigators' access to these shared resources, particularly for microbiome projects that are not yet externally funded, we are pleased to announce the Duke Microbiome Center Rolling Voucher Program. This rolling voucher program offers vouchers in amounts ranging up to \$10,000. Each DMC faculty member cannot receive more than \$10,000 of funds through this mechanism within any two year period. These vouchers are redeemable at any of the [Duke University School of Medicine's many core facilities](#), and applicants are required to contact the directors of these shared resources to develop project budgets. Learn more [here](#).

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Upcoming Conferences and Workshops

For a full list of upcoming microbiome conferences, click [here](#).

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Upcoming DMC Meetings

DMC Faculty Meetings: The next Faculty meeting will be Monday, August 26, 2024 at 1:00 PM in-person in 4122 MSRB3 with a Zoom option.

Please mark your calendars!

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Highlighted Microbiome Funding Opportunities

See more microbiome funding opportunities [here](#)

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Highlights of Recent DMC Publications

Names of primary DMC faculty authors are bolded.

- **Shuo Han** "High-throughput identification of gut microbiome-dependent metabolites" (<https://doi.org/10.1038/s41596-024-00980-6>)
- **Lingchong You** "A generic approach to infer community-level fitness of microbial genes" (<https://doi.org/10.1073/pnas.2318380121>)
- **Amy Schmid** "TbsP and TrmB jointly regulate *gapI* to influence cell development phenotypes in the archaeon *Haloferax volcanii*" (<https://doi.org/10.1111/mmi.15225>)
- **Sarah Heston, Jillian Hurst and Matt Kelly** "Understanding the influence of the microbiome on childhood infections" (<https://doi.org/10.1080/14787210.2024.2340664>)
- **Nazema Siddiqui and Neeraj Surana** "Commensal bacteria inhibit viral infections via a tryptophan metabolite" (<https://doi.org/10.1101/2024.04.21.589969>)
- **Sheng Sun and Joseph Heitman** "Comparative genomics of the closely related fungal genera *Cryptococcus* and *Kwoniella* reveals karyotype dynamics and suggests evolutionary mechanisms of pathogenesis" (<https://doi.org/10.1371/journal.pbio.3002682>)
- **Raphael Valdivia** "Pangenomic analysis identifies correlations between *Akkermansia* species and subspecies and human health outcomes" (<https://doi.org/10.20517/mrr.2024.09>)

See additional DMC publications [here](#).

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