December 2023 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.

In this newsletter:

- A Message from the Director
- DMC Diversity Matters Award
- Heitman Comments on the Importance of Open Access
- Record Breaking Attendance at NC-ASM2023
- The Breakfast Club
- Food DNA barcoding technique from David lab reveals patterns of human diet consumption
- Valdivia, David and Colleagues Unlock Secrets of Gut Bacteria Linked to Heart Health
- Meeting Space Available at Pickett Road
- News and Awards
- Funding Opportunities through the DMC
- Peggy Cotter Award
- Upcoming Conferences and Workshops
- Upcoming DMC Meetings
- Highlighted Microbiome Funding Opportunities
- Highlighted Recent DMC Publications
- Jobs Listing

A Message from the Director

Dear DMC Community,

As we arrive at the end of the year, I hope that each of you will find time to reflect on the growth and successes that you may have experienced, as well as the challenges and setbacks you might have faced over the last year. All of those experiences make us better prepared to tackle the new year ahead, which is ripe with possibilities. Some of those possibilities you will find in the DMC newsletter below. If you will take a minute to look through the newsletter, I anticipate that you'll find items that will be of interest and benefit to you. In particular, I want to bring your attention to a few important items:
• Please nominate a colleague for the DMC Diversity Matters Award by the deadline January 8, 2024. It’s a great way to recognize your colleagues for their important DEI work, and we are accepting nominations now!
• Please consider joining the DMC Bioinformatics and Biostatistics Working Group to find community and Q&A forums to help meet your microbiome analysis needs.
• Save the date now for the next NC Microbiome Symposium at NCBC on May 22, 2024.
• Please stay tuned for new DMC funding opportunities to be announced in early 2024, including a new DMC Development Grant RFA and a new partnership with TriCEM on a Graduate Student Award RFA!
• Over the last year, several new Duke faculty have joined the DMC including Shahla Bari (Medicine), Ashley Chi (MGM), Akiko Chiba (Surgery), Jeseth Delgado Vela (CEE), Rebecca Knackstedt (Surgery), and Yun Wang (PBS). Welcome!

Please read below for more details on each of these and other topics. 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

---

Nominate a colleague for the DMC Diversity Matters Award

Nominations are now open the annual DMC “Diversity Matters Award”, which is designed to recognize individuals within DMC laboratories that have made significant advances towards the DMC’s goals to advancing diversity, equity, and inclusion within Duke and our broader scientific and geographic communities. Nominees should have contributed to one or more of the ends stated above, and thereby advancing diversity, equity, and/or inclusion.

Application deadline: 5:00PM EST on Monday January 8th, 2024

Eligibility of nominee: Any student, fellow, faculty, or staff employed at Duke University in a DMC laboratory for at least 6 months prior to the nomination deadline.

Eligibility of nominator: Any student, fellow, faculty, or staff at Duke University. The nominator does not necessarily need to be affiliated with the DMC. Self-nominations are not permitted.

Nomination package contents:

• Nomination letter (2 pages max) written by the nominator describing the specific ways the nominee has contributed to the ends above;
• Letter of support (2 pages max) written by someone other than the nominator. This referee does not necessarily need to be employed at Duke University or affiliated with the DMC;
• The nominee’s full CV.

Nomination packages should be emailed to Cindy Wicker <cynthia.wicker@duke.edu> by the January 8 deadline. Please consider nominating a deserving colleague for this important award this year! For more information, go here.

Back to Directory

---

Heitman Comments on the Importance of Open Access
The Duke University Medical Center Library & Archives posted a story about International Open Access (OA) Week, Oct. 23-29, that features the thoughts of DMC's Dr. Joe Heitman and Emergency Medicine's Dr. Catherine Staton.

Dr. Heitman is focused on the good open access has to offer, especially for those who aren’t in an academic setting.

"Many people don’t have the benefit of the subscriptions that an academic library has access to," Heitman said. "They may not even be active scientists, but they still might be very interested in reading a scientific paper that maybe they saw a news article about or heard about on NPR."

Providing access to peer-reviewed science articles allows more people to engage with science and learn more about how the world works. "I think," Heitman said, "the more people reading science, the better."

Click here to read more.

North Carolina American Society for Microbiology 2023 Meeting Breaks Attendance Records!

With over 300 attendees and 130 research presentations, the 2023 North Carolina American Society for Microbiology Annual Meeting broke historic attendance records! The conference took place at the Trent Semans Center for Health Education on November 4th 2023 - organized by Duke Microbiome Center Assistant Director.
Jason W. Arnold, who was elected NC-ASM President at the event.

Attendees included students from Texas A&M interested in pursuing a PhD in NC and even a presenter from Duke-NUS, in addition to members of 20+ North Carolina institutes!

See Full Press Release Here

The Breakfast Club Continues!

We are excited to continue “The Breakfast Club” through 2024 - a weekly community building forum every Wednesday morning with free breakfast and coffee.

WHO: This forum is jointly sponsored by the Department of Integrative Immunobiology (IIB), Department of Molecular Genetics and Microbiology (MGM), Center for Host-Microbial Interactions (CHoMI) and Duke Microbiome Center (DMC). Students, postdocs, staff, and faculty in any laboratory affiliated with DMC, CHoMI, MGM, or IIB are invited.

WHEN: Every Wednesday from 8:00-10:00AM

WHERE: OBGE Lounge in MSRB3 room 1260

WHAT: Free coffee and breakfast catered by NOSH (while supplies last!) in a flexible and informal space for community building.

WHY: We seek to build community across IIB, MGM, CHoMI, and DMC. In addition to informal conversation, attendees are invited to use The Breakfast Club to hold any kind of small group activity (e.g., small group meetings, journal clubs, office hours, practice chalk talks, networking, etc.). Be creative – it’s your forum!

Back to Directory

Food DNA barcoding technique from David lab reveals patterns of human diet consumption

A new technique using DNA barcoding to identify the plant matter in human feces may get at the truth, improving clinical trials, nutrition studies, and more.

Building on earlier studies that attempted to compare DNA found in feces with reported diets, graduate student Briana Petrone and other researchers in the lab of DMC’s Lawrence David have developed a genetic marker for plant-based foods that can be retrieved from poop. The marker is a region of DNA plants use to power chloroplasts,
the organelle that converts sunlight into sugars. Every plant has this genomic region, called trnL-P6, but it varies slightly from species to species. In a series of experiments, they tested the marker on more than 1,000 fecal samples from 324 study participants across five different studies, about twenty of whom had high-quality records of their diet.

In findings in the Proceedings of the National Academy of Sciences, the researchers show that these DNA markers can indicate not only what was consumed, but the relative amounts of certain food species, and that the diversity of plant DNA found in feces varies according to a person’s diet, age, and household income.

Click here to read more.

Back to Directory

Valdivia, David and Colleagues Unlock Secrets of Gut Bacteria Linked to Heart Health

Scientists at Duke University School of Medicine are the first to decode the genetic makeup of Akkermansia, a gut bacterium that could help manage cholesterol levels and be used as a next-generation probiotic.

In a study published in Nature Microbiology, Duke scientists, along with colleagues at the University of California Berkeley, detail a pioneering five-year journey into genetically engineering Akkermansia.

Their work is the first to provide a detailed look at the bacterium’s genetic composition and how it degrades mucins to grow and settle in the gut.

The team, led by senior study author and DMC faculty member Raphael Valdivia, PhD, was able to track how the bacterium consumes mucin, revealing that it binds to the bacterial cell surface and is moved into compartments within the cell in a carefully controlled process.

Click here to read more about the study.

Back to Directory
Meeting Space Available at Pickett Road

The next time you are planning a medium-sized group meeting, consider using the space available at Duke's Research@Pickett facility on Pickett Road. Space is available in the Community Room (up to 65 people) and the Lobby (up to 98 people) with AV equipment available and no rental fees. This space is ideal for events where members of the public or other institutions are invited, with easy on-site parking. Reservation request form and usage policies available at: https://urldefense.com/v3/__https://us19.mailchimp.com/mctx/clicks?url=https*3A*2F*2Fcts.duke.edu*2Fcommunity*2Fresearch-equity-and-diversity-initiative-readi*2Fresearchpickett-road**A&xid=893727ec17&uid=106355658&iid=10441097&pool=template_test&v=2&c=1702492647&h=9d60adf07654730e39b599ac4b64db1d5c711f736fce5d971be5d8fcf0788a__;JSUIJSUlwqA!!OToaGQ!pYIGTuVITIAQbiyvcG98wzHI3Q4OfIIZ_GNFwc7y7n5B7dCwPzbCDNz2cGTzxMfvcJvzedGIPvL64SHXomLcEAJ2KBeKxj8M$  

Back to Directory

News & Awards

- Seven MGM Representatives Among Duke's Newest Faculty
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](#).

Announcing the 2024 Peggy Cotter Travel Award

The North Carolina Branch of the American Society for Microbiology will be providing a travel award for early-stage investigators to attend the 2024 ASM Microbe Conference - taking place in Atlanta GA on June 13 - 17th 2024.

The Peggy Cotter award will provide $1,650 in travel funds to help postdocs or junior faculty with less than 12 years of post-graduate experience attend and present at the 2024 national meeting. A total of 3 awards will be made available throughout the state of North Carolina!

To be considered for the award, please send an updated CV to northcarolinaasm@gmail.com and to jason.arnold@duke.edu.

Additional information about award eligibility and funding criteria will be announced on [Duke Microbiome Center website](#).

Upcoming Conferences and Workshops

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

**DMC Seminar Series:** We are currently in the process of reorganizing DMC Seminars to better accommodate the schedules of DMC members. No seminars are scheduled at this time.

**DMC Faculty Meetings:** The next Faculty meeting will be Monday, February 26, 2024. All faculty meetings are quarterly (every 3 months) on 4th Mondays, at 1:00 PM in-person in 4122 MSRB3 with a Zoom option.

Please mark your calendars!

Highlighted Microbiome Funding Opportunities

- **The Biocodex Microbiota Foundation Research Grant on Trialect** (see [here](https://urldefense.com/v3/__https://us19.mailchimp.com/mctx/clicks?url=https%3A%2F%2Fscholars.duke.edu%2Findividual%2F1591503&xid=893727ec17&uid=106355658&iid=10441097&pool=template_test&v=2&c=1702492647&h=53e38bdca3baef0d53160c7f50df3fa05d14d7e59d6e6b756bcefb6b180594___JSUJSSUIIOToaQGIpYIGTuVIITAQbiyvcG98wHzI3Q4OfVIZ_GNFwc7y7n5B7dCwPzbCDNz2cGTzxMfvcJvzedGfPvL64SHXomLcEAJ2KGcwp5C$))
- **Duke Office of Global Affairs Student Passport Fund** (see [here](https://urldefense.com/v3/__https://us19.mailchimp.com/mctx/clicks?url=https%3A%2F%2Fscholars.duke.edu%2Findividual%2F1593611&xid=893727ec17&uid=106355658&iid=10441097&pool=template_test&v=2&c=1702492647&h=2e40bd36d31c7077df376e80e80731aaa99d37090bb8615849fb0cf555c5fc9___JSUJSSUIIOToaQGIpYIGTuVIITAQbiyvcG98wHzI3Q4OfVIZ_GNFwc7y7n5B7dCwPzbCDNz2cGTzxMfvcJvzedGfPvL64SHXomLcEAJ2KMD3WT2K$))
- **American Psychiatric Association Psychiatric Research Fellowship** (see [here](https://urldefense.com/v3/__https://us19.mailchimp.com/mctx/clicks?url=https%3A%2F%2Fscholars.duke.edu%2Findividual%2F1591503&xid=893727ec17&uid=106355658&iid=10441097&pool=template_test&v=2&c=1702492647&h=53e38bdca3baef0d53160c7f50df3fa05d14d7e59d6e6b756bcefb6b180594___JSUJSSUIIOToaQGIpYIGTuVIITAQbiyvcG98wHzI3Q4OfVIZ_GNFwc7y7n5B7dCwPzbCDNz2cGTzxMfvcJvzedGfPvL64SHXomLcEAJ2KGcwp5C$))
- **Simons Foundation SCGB Transition to Independence Award** (see [here](https://urldefense.com/v3/__https://us19.mailchimp.com/mctx/clicks?url=https%3A%2F%2Fscholars.duke.edu%2Findividual%2F1591503&xid=893727ec17&uid=106355658&iid=10441097&pool=template_test&v=2&c=1702492647&h=53e38bdca3baef0d53160c7f50df3fa05d14d7e59d6e6b756bcefb6b180594___JSUJSSUIIOToaQGIpYIGTuVIITAQbiyvcG98wHzI3Q4OfVIZ_GNFwc7y7n5B7dCwPzbCDNz2cGTzxMfvcJvzedGfPvL64SHXomLcEAJ2KGcwp5C$))
- **Simons Foundation SCPAB Transition to Independence Award** (see [here](https://urldefense.com/v3/__https://us19.mailchimp.com/mctx/clicks?url=https%3A%2F%2Fscholars.duke.edu%2Findividual%2F1591503&xid=893727ec17&uid=106355658&iid=10441097&pool=template_test&v=2&c=1702492647&h=53e38bdca3baef0d53160c7f50df3fa05d14d7e59d6e6b756bcefb6b180594___JSUJSSUIIOToaQGIpYIGTuVIITAQbiyvcG98wHzI3Q4OfVIZ_GNFwc7y7n5B7dCwPzbCDNz2cGTzxMfvcJvzedGfPvL64SHXomLcEAJ2KGcwp5C$))
- **Prevention of Musculoskeletal Youth Sports Injuries Grant** (see [here](https://urldefense.com/v3/__https://us19.mailchimp.com/mctx/clicks?url=https%3A%2F%2Fscholars.duke.edu%2Findividual%2F1591503&xid=893727ec17&uid=106355658&iid=10441097&pool=template_test&v=2&c=1702492647&h=53e38bdca3baef0d53160c7f50df3fa05d14d7e59d6e6b756bcefb6b180594___JSUJSSUIIOToaQGIpYIGTuVIITAQbiyvcG98wHzI3Q4OfVIZ_GNFwc7y7n5B7dCwPzbCDNz2cGTzxMfvcJvzedGfPvL64SHXomLcEAJ2KGcwp5C$))
- **Mentored Clinician Scientist Grant** (see [here](https://urldefense.com/v3/__https://us19.mailchimp.com/mctx/clicks?url=https%3A%2F%2Fscholars.duke.edu%2Findividual%2F1591503&xid=893727ec17&uid=106355658&iid=10441097&pool=template_test&v=2&c=1702492647&h=53e38bdca3baef0d53160c7f50df3fa05d14d7e59d6e6b756bcefb6b180594___JSUJSSUIIOToaQGIpYIGTuVIITAQbiyvcG98wHzI3Q4OfVIZ_GNFwc7y7n5B7dCwPzbCDNz2cGTzxMfvcJvzedGfPvL64SHXomLcEAJ2KGcwp5C$))
- **Resident Research Project Grant** (see [here](https://urldefense.com/v3/__https://us19.mailchimp.com/mctx/clicks?url=https%3A%2F%2Fscholars.duke.edu%2Findividual%2F1591503&xid=893727ec17&uid=106355658&iid=10441097&pool=template_test&v=2&c=1702492647&h=53e38bdca3baef0d53160c7f50df3fa05d14d7e59d6e6b756bcefb6b180594___JSUJSSUIIOToaQGIpYIGTuVIITAQbiyvcG98wHzI3Q4OfVIZ_GNFwc7y7n5B7dCwPzbCDNz2cGTzxMfvcJvzedGfPvL64SHXomLcEAJ2KGcwp5C$))
- **American Academy of Audiology Research Grants** (see [here](https://urldefense.com/v3/__https://us19.mailchimp.com/mctx/clicks?url=https%3A%2F%2Fscholars.duke.edu%2Findividual%2F1591503&xid=893727ec17&uid=106355658&iid=10441097&pool=template_test&v=2&c=1702492647&h=53e38bdca3baef0d53160c7f50df3fa05d14d7e59d6e6b756bcefb6b180594___JSUJSSUIIOToaQGIpYIGTuVIITAQbiyvcG98wHzI3Q4OfVIZ_GNFwc7y7n5B7dCwPzbCDNz2cGTzxMfvcJvzedGfPvL64SHXomLcEAJ2KGcwp5C$))
- **Defense Advanced Research Projects Agency Young Faculty Award** (see [here](https://urldefense.com/v3/__https://us19.mailchimp.com/mctx/clicks?url=https%3A%2F%2Fscholars.duke.edu%2Findividual%2F1591503&xid=893727ec17&uid=106355658&iid=10441097&pool=template_test&v=2&c=1702492647&h=53e38bdca3baef0d53160c7f50df3fa05d14d7e59d6e6b756bcefb6b180594___JSUJSSUIIOToaQGIpYIGTuVIITAQbiyvcG98wHzI3Q4OfVIZ_GNFwc7y7n5B7dCwPzbCDNz2cGTzxMfvcJvzedGfPvL64SHXomLcEAJ2KGcwp5C$))
- Raphael H. Valdivia "A genetic system for Akkermansia muciniphila reveals a role for mucin foraging in gut colonization and host sterol biosynthesis gene expression" (https://urldefense.com/v3/__https://us19.mailchimp.com/mctx/clicks?url=https%3A%2F%2Fscholars.duke.edu%2Findividual%2F1583557&xid=893727ec17&uid=106355658&iid=10441097&pool=template_test&v=2&c=1702492647&h=e4a7f12e6abbcb89457e53578ebbd33844fc38130d6c56ab57dd4e8f932afdcc__;JSUJSUI!OToaGQpYGyTVITIAQbivycG98wzH13Q4oVIZ_GNFwc7y7n5B7dcWpbCDNz2cGTzxMfvcJzvzedGfpvL64SHXomLcEAJ2KLS6VMNd$)
- Noelle Elizabeth Younge "Fecal pH and redox as functional markers in the premature infant gut microbiome" (https://urldefense.com/v3/__https://us19.mailchimp.com/mctx/clicks?url=https%3A%2F%2Fscholars.duke.edu%2Findividual%2F1593383&xid=893727ec17&uid=106355658&iid=10441097&pool=template_test&v=2&c=1702492647&h=d1277fd8c9e29444c7f55f9f8d00e47481be505f2eaddba8f71eb7fa17b43912__;JSUJSUI!OToaGQpYGyTVITIAQbivycG98wzH13Q4oVIZ_GNFwc7y7n5B7dcWpbCDNz2cGTzxMfvcJzvzedGfpvL64SHXomLcEAJ2KEQo8Tfw$)
- Jillian Hurst "Host microbiome-pathogen interactions in pediatric infections" (https://urldefense.com/v3/__https://us19.mailchimp.com/mctx/clicks?url=https%3A%2F%2Fscholars.duke.edu%2Findividual%2F1587948&xid=893727ec17&uid=106355658&iid=10441097&pool=template_test&v=2&c=1702492647&h=80df4e353fa4f3024d11bbaa95e7d3cc0894fd8a47e557d81156cc8470047780__;JSUJSUI!OToaGQpYGyTVITIAQbivycG98wzH13Q4oVIZ_GNFwc7y7n5B7dcWpbCDNz2cGTzxMfvcJzvzedGfpvL64SHXomLcEAJ2KEQo8Tfw$)
- Matthew Kelly "Leveraging the human microbiota to target bacterial respiratory pathogens: new paths toward an expanded antimicrobial armamentarium" (https://urldefense.com/v3/__https://us19.mailchimp.com/mctx/clicks?url=https%3A%2F%2Fscholars.duke.edu%2Findividual%2F1583651&xid=893727ec17&uid=106355658&iid=10441097&pool=template_test&v=2&c=1702492647&h=acad40912bc9ed7db2da06b0304ca815ddc27104c0e28181665d250b786e4a41__;JSUJSUI!OToaGQpYGyTVITIAQbivycG98wzH13Q4oVIZ_GNFwc7y7n5B7dcWpbCDNz2cGTzxMfvcJzvzedGfpvL64SHXomLcEAJ2KGPABQLV$)
- Li Ma "Microbiome subcommunity learning with logistic-tree normal latent Dirichlet allocation" (https://urldefense.com/v3/__https://us19.mailchimp.com/mctx/clicks?url=https%3A%2F%2Fscholars.duke.edu%2Findividual%2F1554382&xid=893727ec17&uid=106355658&iid=10441097&pool=template_test&v=2&c=1702492647&h=0a9a4aaa7a4ad91369cc7f5b8915966fe107529e857d99a0c2108699ca27__;JSUJSUI!OToaGQpYGyTVITIAQbivycG98wzH13Q4oVIZ_GNFwc7y7n5B7dcWpbCDNz2cGTzxMfvcJzvzedGfpvL64SHXomLcEAJ2KGPABQLV$)
- Raphael H. Valdivia "Mutagenesis reveals how Akkermansia muciniphila degrades mucin and colonizes the gut" (https://urldefense.com/v3/__https://us19.mailchimp.com/mctx/clicks?url=https%3A%2F%2Fscholars.duke.edu%2Findividual%2F1586194&xid=893727ec17&uid=106355658&iid=10441097&pool=template_test&v=2&c=1702492647&h=e4a7f12e6abbcb89457e53578ebbd33844fc38130d6c56ab57dd4e8f932afdcc__;JSUJSUI!OToaGQpYGyTVITIAQbivycG98wzH13Q4oVIZ_GNFwc7y7n5B7dcWpbCDNz2cGTzxMfvcJzvzedGfpvL64SHXomLcEAJ2KGPABQLV$)
- Matthew Kelly "Revisiting the intrinsic mycobiome in pancreatic cancer" (https://urldefense.com/v3/__https://us19.mailchimp.com/mctx/clicks?url=https%3A%2F%2Fscholars.duke.edu%2Findividual%2F1591272&xid=893727ec17&uid=106355658&iid=10441097&pool=template_test&v=2&c=1702492647&h=f5477ceb221c536d1270aa029c14ceaae896f08dd9df30c3d702df8158ad5__;JSUJSUI!OToaGQpYGyTVITIAQbivycG98wzH13Q4oVIZ_GNFwc7y7n5B7dcWpbCDNz2cGTzxMfvcJzvzedGfpvL64SHXomLcEAJ2KGPABQLV$)

See additional DMC publications here.

Back to Directory

**Jobs Listing**

**Duke Microbiome Center Job Board** is Live!

If you have open positions in your labs, please feel free to send those postings to jason.arnold@duke.edu to have them listed on the DMC website!
To subscribe or unsubscribe to this mailing list email Cindy Wicker