



Duke Microbiome Center

Fall 2022 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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[A Message from the Director](#)

Dear DMC Community,

Greetings from the Duke Microbiome Center! We hope you've had a restful and productive summer. We know many of you have been active (see the highlighted papers and grants below). We're particularly thrilled to hear that the new NSF Engineering Research Center for Precision Microbiome Engineering will be coming to Duke and collaborating universities here in NC. A big congratulations to the PI and DMC Associate Director, Claudia Gunsch!

As we look towards the Fall and a return to the academic year, we wanted to turn your attention to ongoing and upcoming activities aimed at stimulating social and research interactions:

- Led by Cindy Wicker, we host tasty breakfasts for DMC member labs from 8.30-10.00AM on the 1st floor of MSRB3 each Wednesday.
- Starting this October, the DMC will be resuming its monthly Diversity Matters Seminar Series. The series highlights the diverse range of investigators and research topics in the field of microbiome science, with an emphasis on junior researchers. Be on the lookout for our first talk by [Kelly Wrighton](#), Associate Professor Microbiome Research group located at Colorado State University on October 17, 2022.

- Later on November 15th, the DMC and Duke BioDesign Center will be co-hosting a symposium on [Quantitative Biology of the Microbiome](#). Speakers from across the country will be present; please look below for the announcement.

Sincerely,
Lawrence David
Interim Director, Duke Microbiome Center

[Heitman Elected to the National Academy of Sciences](#)



Congratulations to [Joseph Heitman](#), James B. Duke Professor and Chair of MGM and Tri-I MMPTP Director, who was one of two Duke Faculty members elected to the U.S. National Academy of Sciences ([NAS](#)).

[Lawrence David, PhD, Profiled in Nature Springer Advertisement](#)



Lawrence David, PhD, Associate Professor and interim director of the Duke Microbiome Center, was recently profiled in a Nature Springer advertisement about the power of plants for the developing infant gut. Read more [here](#):

Summer Scholars Leave Duke with a Once-in-a-Lifetime Research Experience

The [Summer Scholars Program in Genome Sciences & Medicine](#), a collaboration between the [Duke Program in Precision Medicine](#), the [Duke Center for Genomic and Computational Biology](#) (GCB), and [North Carolina Central University](#) (NCCU), concluded the 10-week program last week in Durham, North Carolina.

This summer, eight scholars from across the country were paired with a faculty research mentor to learn laboratory skills, designing a research project, and effectively presenting future research. “This summer program has provided me with the skills I need for the rest of my research career,” said **Paola J.**

Maldonado, a rising sophomore from the University of Puerto Rico. “Working in research is what I want to do, and this experience really solidified that for me.”

Maldonado was mentored by [Jen-Tsan Ashley Chi, PhD](#), associate professor of molecular genetics and microbiology and assistant professor of medicine in the division of rheumatology and immunology. Read more [here](#):

NCBC Microbiome Consortium symposium poster competition results

Congratulations to Josh Simpson, Alan Marsh, [Chin Tan](#), Echo Pan, and Mashaal Aljumaah, winners of this year's NCBC Microbiome Consortium symposium poster competition!

With over 200 attendees, the meeting featured expertise from diverse fields of microbiome research, highlighting the strength of microbiome science in our state of North Carolina.

On behalf of the **NC Microbiome Consortium steering committee**, congratulations to the winners and runner ups of this year's NCBC Microbiome Consortium symposium poster competition!

The quality of research presented at the symposium highlighted the scientific strength of our state. We look forward to seeing you at next year's symposium!

Asiya Gusa, PhD, Named a MOSAIC Scholar



Asiya Gusa, PhD, Postdoctoral Researcher in Dr. Sue Jinks-Robertson's lab has received a Postdoctoral Career Transition Award under the National Institutes of Health's Maximizing Opportunities for

Scientific and Academic Independent Careers ([MOSAIC](#)) program. Asiya studies stress adaptation and transposon mobility in species of pathogenic fungi. Specifically, she is seeking to understand whether stress-induced transposon mutations in species of *Cryptococcus* contribute to pathogenesis, drug resistance or disease persistence during human infection.

[Funding Opportunities through the DMC](#)

In addition to the two Development Grant RFAs mentioned above, the DMC offers the DMC Rolling Voucher Program.

[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](#).

[Tip of the Month](#)

Duke has lots of rules about travel and reimbursement and about what can and cannot be charged to a Duke corporate card (p-card). Here are some of the ground rules:

- In all cases, **itemized** receipts are required. Be sure to save those whenever you travel. If you are traveling with someone else, please

request a separate check for yourself. If you are not offered an itemized receipt, ask for one!

- Send the person who does expense reports for your lab the receipt right away when you place an order using a p-card. (This person will be a [member of the MGM admin team](#)).
- Travel insurance is not allowable, nor are items such as conference t-shirts. If you charge this type of item to the p-card, you'll have to write a check to Duke to pay it back. Click [here](#) to read about Duke's programs that address travel risks and respond to some of the financial consequences resulting from travel incidents.
- If your flights are being paid by a Federal grant, they must comply with the [Fly America Act](#). In general this means that the flights must be on a US carrier, though there are some exceptions under Open Skies agreements and code-sharing. Be sure to check before you purchase any international tickets.
- All Duke travelers - including all faculty, staff, and undergraduate, graduate, or professional students - are required to register any travel outside of the United States related to Duke. Click [here](#) to read more about the Duke Global Administrative and Travel Support and to register your travel.
- We have to get Kris Mathews' approval for any society membership fees. Keep that in mind if you need to be a member to get a lower conference rate or to apply for a society travel grant.

Here is a more comprehensive list of unallowable travel expenses: <https://finance.duke.edu/travel/reimbursement/expenses>. Look it over before you travel so you'll know what you can't be reimbursed for.

[Upcoming Conferences and Workshops](#)

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

Quantitative biology of the microbiome Symposium

To Register click [here](#)

November 15, 2022 8:00 a.m - 5:00 p.m.

Upcoming DMC Meetings

DMC Seminar Series: This monthly seminar series is held on *third* Mondays each month at 4PM in-person in 1125 MSRB3 with a Zoom option. The DMC Seminar Series is organized by graduate students, postdocs, and fellows in DMC labs, and provides DMC trainees opportunities to build their networks and meet leaders in the field. Currently, nominations for speakers are being submitted for the upcoming year.

DMC Microbiome Research-In-Progress Talks: This monthly research-in-progress series is held on *first* Mondays at 4PM. Currently nominations for speakers are being accepted for the upcoming year. If you would like to present your work in a future DMC Microbiome Research-In-Progress meeting, please contact [Cindy Wicker](#).

DMC Faculty Meetings: The next DMC faculty meeting will be 24 October 2022. All faculty meetings are at 1:00PM in-person in 4122 MSRB3 with a Zoom option.

Please mark your calendars!

News

Duke School of Medicine Biomedical PhD Student Research Pilot Grants

The Duke University School of Medicine [Office of Biomedical and Graduate Education \(OBGE\)](#) and [Precision Genomics Collaboratory](#) are pleased to announce pilot grants that are open to all SOM Biomedical PhD students. [here](#).

Recording of the Pinnell lecture at Duke on "Fungi on the skin: Malassezia and beyond"
The Sheldon Pinnell lecture in the fall for Duke dermatology. Please listen to the recording, it is a pretty good lecture about fungi on the skin, or the mycobiome.
The title was Fungi on the skin: Malassezia and beyond. May be a general interest to the Duke Microbiome Center members.
Sending along the link in case you wanted to share it with the DMC community: listen [here](#)

Highlighted Microbiome Funding Opportunities

Understanding the role of Gut Immune dysfunction and Gut Microbiome in pathogenesis of Central Nervous System co-morbidities in people living with HIV (R21 Clinical Trial Not Allowed) ([see here](#))

See more microbiome funding opportunities [here](#)

Highlighted Recent DMC Publications

Highlighted Recent DMC Publications

ACS synthetic biology <https://scholars.duke.edu/individual/pub1520245>
Childhood obesity (Print) <https://scholars.duke.edu/individual/pub1501310>
American journal of obstetrics & gynecology
MFM <https://scholars.duke.edu/individual/pub1520560>

JPEN. Journal of parenteral and enteral
nutrition <https://scholars.duke.edu/individual/pub1515609>

Algal Research <https://scholars.duke.edu/individual/pub1515835>

BMC medical informatics and decision
making <https://scholars.duke.edu/individual/pub1520815>

Current biology : CB <https://scholars.duke.edu/individual/pub1525235>

Pathogens and disease <https://scholars.duke.edu/individual/pub1517740>

Lab on a chip <https://scholars.duke.edu/individual/pub1523809>
See more DMC publications [here](#).

Jobs Listing

1. The David Lab is recruiting a Technician II to help develop genomic techniques for studying human diet. Interested applicants are encouraged to apply [here](#).

**2. Postdoc Gut Microbiology: Theriot lab: website: theriotlab.org
NC State University College of Veterinary Medicine, Raleigh NC
If interested please apply here:**

<https://jobs.ncsu.edu/postings/165595>

3. Associate in Research/bioinformatics technician at Duke University.
To apply: upload cover letter, CV and contact information for at least three references (name, affiliation, and email address) to

<https://academicjobsonline.org/ajo/jobs/21896>.

4. The [Carruthers lab](#) (aka TeamToxo) has an exciting opportunity for Postdoctoral training in host-pathogen interactions focused on the intracellular protozoan pathogen [Toxoplasma gondii](#). The successful candidate will build on our recently published [studies](#) to define how and why *T. gondii* exploits host ESCRT machinery during infection. Please send an e-mail to vcarruth@umich.edu with a cover letter stating interests and career goals, a C.V. including list of publications, and the contact info for three individuals willing to provide reference letters.

5. Several postdoctoral positions are available in my lab at the University of California, Riverside, studying the Biochemistry, Cell Biology, and Physiology of the microbe *Phytophthora infestans*, the potato late blight pathogen. These are funded by multi-year grants from the U.S. National Science Foundation and Department of Agriculture-National Institute of Food and Agriculture.

Project One: This aims to understand the effects of polyploidy on the biology of *Phytophthora*. While diploidy is the normal state, polyploids predominate in nature in many species including *P. infestans*. This suggests that polyploidy provides a short-term advantage to the species. This will be tested by comparing the biology of diploids and polyploids, through studies of growth, development, pathogenicity, cell

biology, metabolomics, and transcriptomics.

Project Two: This will study the effect of reactive oxygen species on transcription factors bearing cysteine residues. The cysteines are hypothesized to act as redox switches that modulate responses against oxidative stress. The research will integrate studies of protein biochemistry (e.g. DNA-protein and protein-protein interactions), cell biology and metabolite analysis (e.g. assessments of oxidative stress during growth and development), and molecular genetics (e.g. gene editing using CRISPR, transcriptomics).

How to apply: Send via email to howard.judelson@ucr.edu a Curriculum vitae (CV), contact information for three references, and a cover letter indicating your research interests and qualifications for the position(s). Please note that to be hired as a Postdoctoral Scholar at UC-Riverside, you may not have worked for more than five years as a postdoctoral in any institution.

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