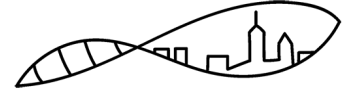


REMNet Newsletter



June 2022| Issue 18

Upcoming Events

ABASM Education Summit: 06/20/22

SABER: 07/07/22 - 07/10/22

ASMCUE: 07/11/22 - 07/15/22

BIOME: 07/18/22 - 07/22/22; 07/25/22 -

07/29/22; 09/05/22 - 11/18/22

AAEEBL: 07/21/22 - 07/22/22

SENCER: 08/05/22 - 08/07/22

ESA: 08/14/22 - 08/19/22

ASM WEBINAR TBA

ABASM: 11/04/22 - 11/05/22

ABRCMS: 11/09/22 - 11/12/22

NABT: 11/10/22 - 11/13/22

If you have other events we can share here

Email us: ugmicronet@gmail.com

News from REMNet

Greetings REMNet

It's been a while since you've heard from us over here. We've had a busy year with moving labs, research, and teaching and we've missed being in contact. We're hoping to have at least 4 newsletters a year now to keep you abreast of our adventures as we bring microbiomes to all. Here's some of the big news from us.

Last year Davida and Carlos were editors of a Special Topics Edition of Frontiers in Microbiology called **Tools, Techniques, and Strategies for Teaching in a Real-World Context with Microbiology** It was successful with 26 submissions. We've included several microbiome-related articles below, some of which come from our REMNet community members! The journal was so excited that this has now become a series with new articles invited. Check it out [here](#).

In Fall 2021, we co-hosted a webinar in collaboration with ASM. With 43 attendees from 31 institutions, it went really well and we hope has enabled folks to get going with their research and classes. The recordings are now freely available and available here on our [YouTube](#) Channel. We've been invited back to do another webinar this Fall so if you want to get involved please reach out.

We've launched a new website. Called [MicrobiomesforAll](#) - we hope that this website will serve our community and beyond and become a resource for all

things from microbiome. It's a work in progress so all suggestions and additions are welcome.

REMNet also attended the [NABT](#) annual meeting in Atlanta, GA for one of our first in-person workshops. We recruited more REMNet members - welcome to the REMNet family.

This Summer REMNet will be attending ASMCUE to talk about doing microbiome work with your students on a budget - whatever that is. We hope to see you there!



Thanks to ASM!

Check out our videos from our ASM Webinar Microbiomes for All. We hosted several faculty to learn about microbiome analysis using Nephele. We also learned about what you all need and want from REMNet. We'll be hosting another series of webinars this Fall and we're planning to host events that support sequencing with the MinION as well. Watch out for emails from us.

News from our members

Sean Coleman presented at Microbe

Sean presented work with his undergraduate team investigating the impact of confinement farming on the microbiome of pigs. He attended our ASM workshop and used Nephele to analyze his data for the poster. His poster was really interesting and he is continuing his study this year!

[Text Link](#)



Microbes and Social Equity

Planetary health goals & microbes

The inclusion of microbial knowledge and research can support planetary health goals. This paper offers guidelines for strengthening a

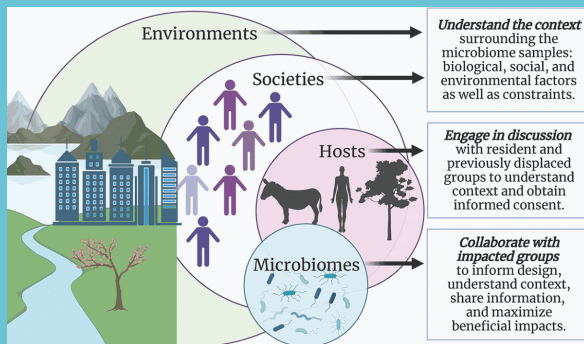
[Link to the article](#)

Reciprocal Inclusion of Microbiomes and Environmental Justice Contributes Solutions to Global Environmental Health Challenges

Mallory J. Choudoir^a, Erin M. Eggleston^b

^aDepartment of Microbiology, University of Massachusetts Amherst, Amherst, Massachusetts, USA
^bDepartment of Biology, Middlebury College, Middlebury, Vermont, USA

ABSTRACT Generations of colonialism, industrialization, intensive agriculture, and anthropogenic climate change have radically altered global ecosystems and by extension, their environmental microbiomes. The environmental consequences of global change disproportionately burden racialized communities, those with lower socioeconomic status, and other systematically underserved populations. Environmental justice seeks to balance the relationships between environmental burden, beneficial ecosystem functions, and local communities. Given their direct links to human and ecosystem health, microbes are embedded within social and environmental justice. Considering scientific and technological advances is becoming an important step in developing actionable solutions to global equity challenges. Here we identify areas where inclusion of microbial knowledge and research can support planetary health goals. We offer guidelines for strengthening a reciprocal integration of environmental justice into environmental microbiology research. Microbes form intimate relationships with the environment and society, thus microbiologists have numerous and unique opportunities to incorporate equity into their research, teaching, and community engagement.

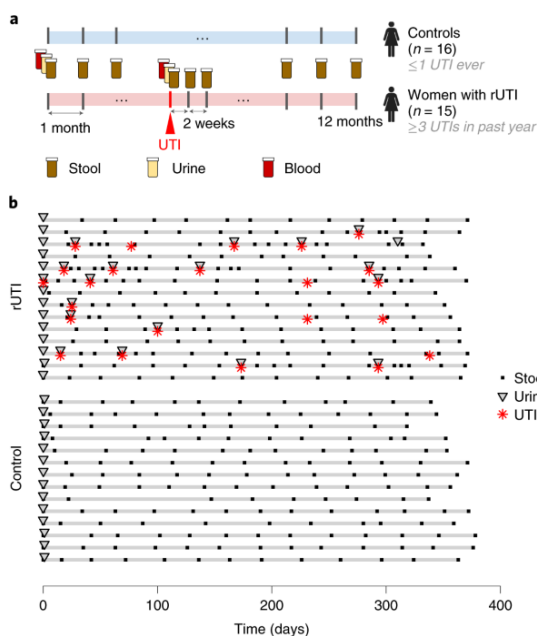


Twenty important research questions

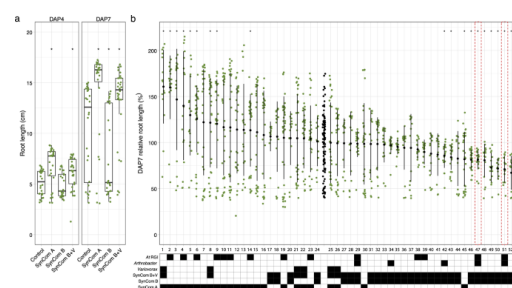
An excellent article has given us a roadmap for including concerns related to microbial exposure and social equity - this is essential reading folks

[Link to the article](#)

Exciting Recent Microbiome Studies and News



Longitudinal multi-omics analyses link



Identification of beneficial and detrimental bacteria...

Drought is a major abiotic stress limiting agricultural productivity. Previous field-level experiments have demonstrated that drought decreases microbiome diversity in the root and rhizosphere. How these

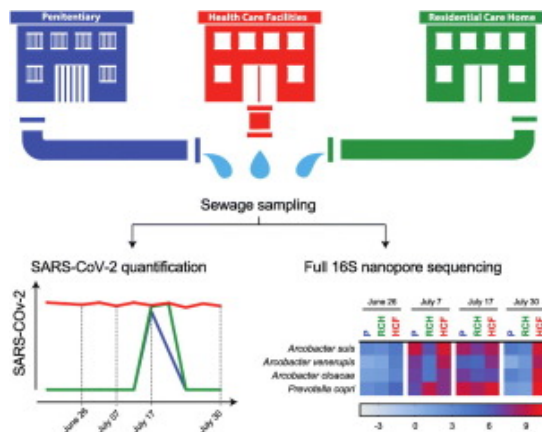
gut microbiome...

Recurrent urinary tract infections (rUTIs) are a major health burden worldwide, with history of infection being a significant risk factor. While the gut is a known reservoir for uropathogenic bacteria, the role of the microbiota in rUTI remains...

[Read more](#)
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changes ultimately affect plant health...

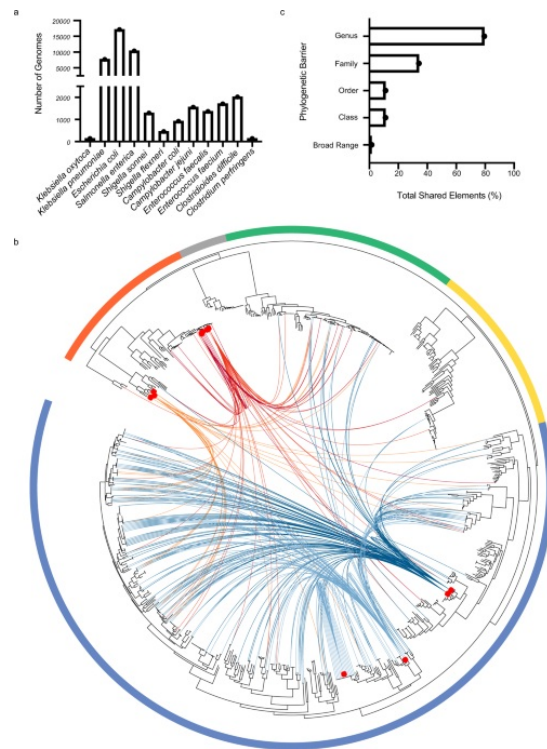
[Read more](#)
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The wastewater microbiome: A novel insight for COVID-19...

Nanopore 16S rRNA sequencing reveals species-specific profiling in wastewater. * Wastewater microbiome signals appears to precede SARS-CoV-2 detection in sewage. * Integrating microbiome analyses into WBE provided an early indicator for COVID-19. ...

[Read more](#)
www.sciencedirect.com

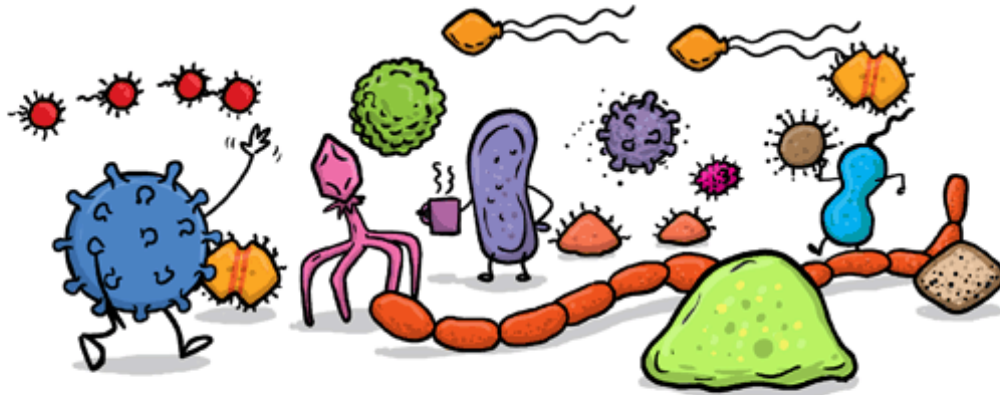


Strain-level characterization of broad host range mobile ...

Here, Forster et al. compare 1354 cultured commensal strains (540 species) to 45,403 pathogen strains (12 species), identifying 64,188 MGE-mediated antibiotic resistance gene transfer events between the two groups, and show that 15 broad host...

[Read more](#)
www.nature.com

The Hidden World Of MICROBIOMES



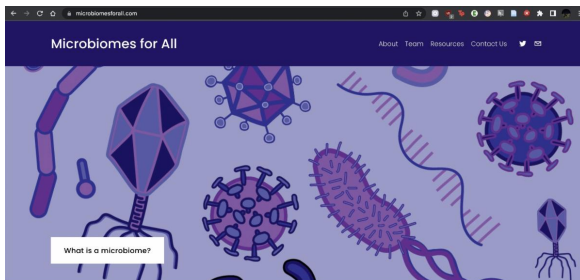
JORGE CHAM © 2016

GO TO THIS LINK TO VIEW THE FULL COMIC:
phdcomics.com/comics.php?f=1874

PHD Comics: Microbiomes Explained

New to PHD? Sign up on Read the 200 Most Popular Comics or read this guide E-mail, Facebook, Twitter or Instagram for new comics!

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Why is it important to study
microbiomes?

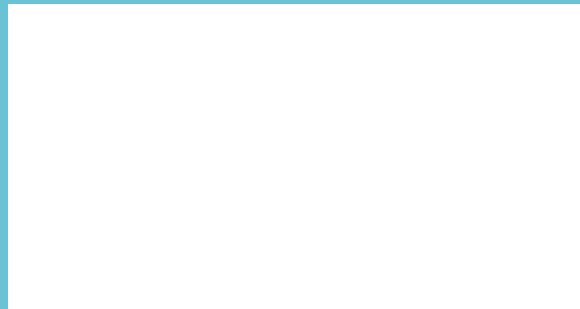
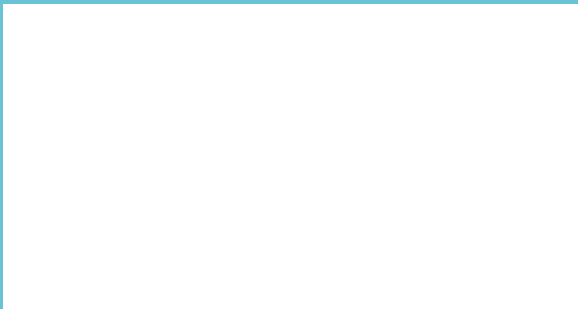


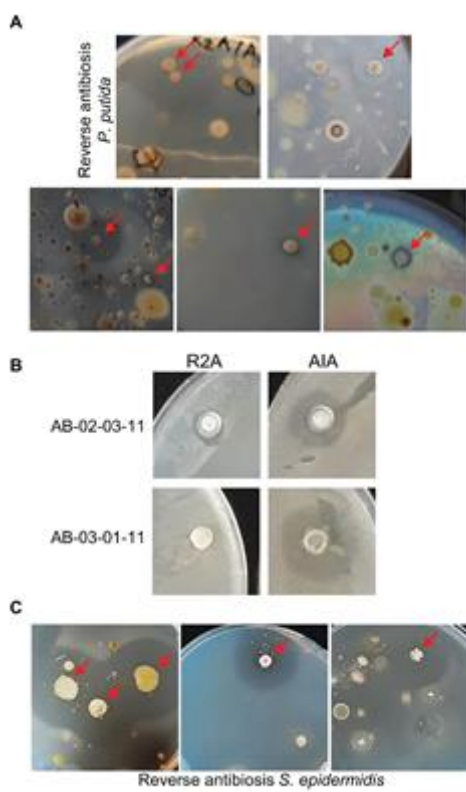
microbiomesforall!

Place article copy here. Be sure to make the articles short and concise as people tend not to read much more than a couple of paragraphs. Place article copy here.

[Text Link](#)

Selected Articles from our Frontiers in Microbiology Special Topics Issue - several of these come from REMNet community members!





MicroMundo Upside Down: Targeted Searching for...

Tiny Earth (TE) is a popular international citizen science program aimed at improving public awareness on the growing antimicrobial resistance problem of which MicroMundo Albacete is a Spanish node. With a protocol that is focused on the...

[Read more](http://www.frontiersin.org)
www.frontiersin.org

Design element	Course structure
Scientific practices	Students collect and analyze data to draw conclusions
Collaboration	Teams of students collaborate and share research data
Iteration	Previous results are incorporated into assignments
Discovery	Novel soil microbiome data are collected by students
Relevance	Research question is of interests to professional scientists

Specific course structure and activities were developed in alignment with the CURE design elements described in the existing literature: scientific practices, collaboration, iteration, discovery, and relevance.

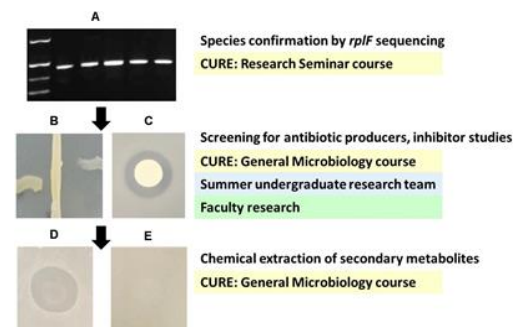
Student Outcomes From a Large-Enrollment



The Bean Beetle Microbiome Project: A Course-Based...

Course-based undergraduate research experiences (CUREs) are an effective means of transforming the learning and teaching of science by involving students in the scientific process. The potential importance of the microbiome in shaping both...

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www.frontiersin.org



The Human Microbiome as a Focus of Antibiotic Discovery: ...

Neisseria gonorrhoeae infections are a serious global health problem. This organism has developed disturbing levels of antibiotic resistance, resulting in the need for new approaches to

Introductory...

In recent years, national reports have called for undergraduate laboratory education that engages students in authentic research experiences. As a result, a number of course-based undergraduate research experiences (CUREs) have been developed in...

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prevent and treat gonorrhea. The genus *Neisseria* also...

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[\[QUBES website\]](#)[\[Microbiomes for all website\]](#)



REMNet is supported by NSF RCN-UBE grant # 1827035