

Summer
2018

BUGSS

A place for creative biology



BUGGS was thrilled to be the official partner for the American Society of Microbiology's (ASM) Agar Art contest! We held three workshops at which participants created their very own living works of art on agar plates using brightly colored yeast and bacterial cells.

Congratulations to all of the winners!!



Overall Winner: Ana Tsitsishuli
"The Battle of Winter+Spring"

And we're delighted that two entries that were created at Agar Art workshops at our own BUGSS lab were selected as winners!



2nd Place Winner: Daniel Pham
"The Sitting President"



3rd Place Winner: Alice Laun
"Ocean and Windy Breeze"

Check out all of the competition winners at: <https://www.asm.org/index.php/public-outreach/agar-art>

Recent Happenings

Go With Your Guts!

Our thanks to Dr. Franks Burns who taught us how to analyze the microbes living in our bodies. Eleven participants were able to take a sample from their guts (poop) and a comparison sample after changing their diet or from their family member or pet. They learned to purify the DNA, amplify it, and sequence it using next generation sequencing. We then learned how to program in R to clean up our data and identify what microbes were present.

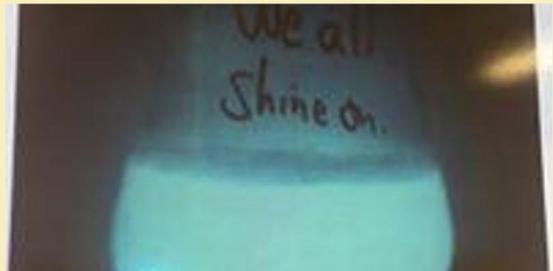


Science Slam

We had an awesome Science SLAM at De Kleine Duivel in Hampden! Topics ranged from "Chicken Sexing and Machine Learning" to "The new science of psychedelics: How Psilocybin "magic mushrooms" could be used to treat addiction and depression" to "Multiple sclerosis + flu = a lethal combination". It's always amazing to see the diversity of cutting-edge science occurring right here in Baltimore. Thanks to all of our speakers! Want to share your work at the next Science SLAM? Email slaun@bugssonline.org

Glow Bugs and Build

Glow time is the best time! We learned about bioluminescence by working with glowing bacteria that glow in response to oxygen or movement. We got a chance to experiment, building and testing gadgets (e.g. a tube that pushes oxygen through the bacterial culture with a push of a button) to investigate this incredible property.



Welcome 2018 Baltimore BioCrew

The Baltimore BioCrew specializes in finding solutions to Baltimore-based problems by using biotechnology. Stay tuned, soon we'll be able to tell you what challenge they've selected for this year's project! Thanks also to our sponsor, BD, and to all our individual donors! Becton Dickinson has provided a grant in support of our iGEM team. that will enable the team's lab work at BUGSS and help the team travel to Boston to present their work at the iGEM Jamboree.



Thanks to our recent speakers:

"Becoming a sook, it's all in her eyes", Dr. J. Sook Chung, Institute for Marine and Environmental Technology

"The gut microbiome in colorectal cancer: friend or foe?", Jawara Allen, Johns Hopkins School of Medicine

"DermaWool and PetriPonics", presented by the students of MICA's Biodesign Challenge

Upcoming Events

**SIGN UP FOR ALL EVENTS
ON EVENTBRITE**

<https://www.eventbrite.com/o/baltimore-under-ground-science-space-4318633291>

BUGSS Open House

Saturday July 7th 1:00-4:00 PM



You've heard about us. You've always wanted to stop by to check us out. You've been meaning to come by and see what's going on. Well now... **THIS IS YOUR CHANCE.** The lab will be open for all to stop by and get a tour! Talk to the Lab and Program Manager, members, and volunteers. Discover what our community science lab has to offer. Try out some hands-on activities because science is for **EVERYONE!**

Sips 'n SIPs

Friday July 13th

23and me, Ancestry DNA, and so many others! You've seen the commercials, have you taken the plunge and analyzed your DNA? Tempted to try? Come learn about what SNPs are, what information they can (and cannot) tell us about our ancestry, traits and health, and discuss the ethical implications of widespread genetic testing. And, we'll have wine and beer to keep the conversation flowing. Bring your friends or make some new ones at the event!



Intro to CRISPR (Build-a-Gene)

Sat August 4th - Aug 25th, 9 AM-1 PM

A course covering cutting-edge topics in gene manipulation. No previous lab experience necessary-while the concepts are extraordinary, this course is appropriate for those with no lab experience. Learn how to change and mutate DNA and work with the revolutionary CRISPR technology that is taking the world by storm!

\$60 members, \$260 non-members

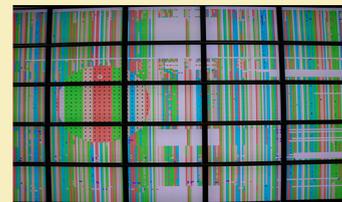
Please contact us if you need a scholarship: info@bugssonline.org



Introduction to Big Data

Saturday July 21st

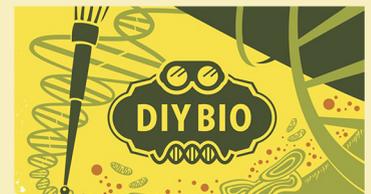
Genomics, transcriptomics, proteomics, metagenomics.....it's an -omics world! How do we deal with these large datasets and how do we extract meaningful data?? Dr. Frank Burns of DuPont will teach us how to perform basic programming in R to analyze this wealth of data. While we'll focus on biological data, these tools can be used for so many other types of Big Data!



Intro to DIY-Bio

Saturday June 16th-30th

Have you seen the recent articles warning about the dangers of DIY-Bio? In this class, we will learn about the history and ethos of DIY-Bio and some of its notable achievements. We will Skype chat with other DIY-Bio labs to learn about the diversity of projects and approaches. We will also learn some of the foundational techniques that drive DIY-Bio. We hope participants start their own DIY-biology project!



Upcoming Events



As a community space that connects people of diverse backgrounds to science, we are excited to participate in Artscape this year! Artscape occurs between July 20th and 22nd and is the largest free arts festival in the country. Spanning 11 city blocks, Artscape introduces people to Baltimore's creative community.

BUGSS will have its own booth where we showcase the best of local bio-art activities. People that come to our booth will be able to interact with artists and scientists, explore hands-on art and science exhibits and demos, and create bio-art themselves.

Some of the activities at BUGSS' booth will enable visitors to:

Play a paramecium "video game" created by one of our members. Control this organism's motion and use its movements to generate sound.

Meet local bio-artists who will showcase their projects and interesting designs



Use colored microbes to help create a communal, Baltimore-centric Agar-art piece.

Explore "Microbes across Artscape" and culture the microbes from your handprint to make beautiful displays.

Thanks to our volunteers!

A special thanks to three of our very active volunteers who are moving out of town to start new positions. Thank you for all of your help and efforts on behalf of BUGSS and our community!

Sarah Bertrand

Kate Gillespie

Sara Clasen

We need LOTS of volunteers to help staff our Artscape booth!

Can you help? Sign up at www.bugssonline.org/volunteers or email slaun@bugssonline.org