

VOL. 2 | APRIL 2021

BIOLOGY (NUCLEO)TIDINGS

News from the Biology Department at Northeastern Illinois University



Northeastern
ILLINOIS UNIVERSITY

Stay in touch! Email us at biology@neu.edu with news, updates, and stories you'd like to share!



Department Happenings

April 5th: Tania Afzal 's Masters Thesis Defense at 12:00.

Email Dr. Voisine for the Zoom link.

April 8th: Les Nagy's Masters Thesis Defense at 12:00.

Email Dr. Geddes for the Zoom link.

April 15th: SCSE Panel "What should I do with my STEM degree?" 3:00 via Zoom.

April 26th: Deadline to apply for the GRE Prep course from the SCSE and McNair (Priority deadline: April 12)

May 3rd: Last day of Spring Classes

- Students tapped maple trees on campus to learn about the transport of sugar and to make maple syrup.
- General Biology students analyzed data from the Federal Aviation Administration to determine local and national patterns in bird strike rates.
- Communicating Science students made graphical abstracts images to summarize a research study.

Letter from the Chair

I'm so proud of our students' dedication to learning both remotely and in person during this past year:

- Cell Biology experiments were conducted safely on campus while socially distanced in the laboratory.
- Students did an analysis of invertebrate specimens with microscopes sent to students' homes.
- We had remote visits by representatives from Aerotek Scientific, the Wisconsin Department of Natural Resources, and the Electric Power Research Institute to talk with students about careers paths.

This summer, we will continue to offer a mix of remote and face-to-face learning experiences. In Local Flora, students will travel to local nature preserves to examine ecological relationships between plants and their environments. Genetics students will conduct experiments by crossing strains of baker's yeast by using at-home kits that allow collection of frequent, real-time data. We look forward to being fully back on campus in the fall!

Thanks for a productive school year,
Dr. Jennifer Slate

Undergraduate Student Spotlight



Kristen Mack is a McNair Scholar and Biology student. **What is your favorite thing about being in science?**

Science is by far one of my favorite subjects because there's always more to discover. It's amazing how far we've come in our understanding of the world and how things are constantly

evolving. It gives me a genuine appreciation for the depths of things.

What do you hope to do after graduation?

After graduation I want to use my degree to help integrate greener technology into the development of sustainable infrastructure/systems. I want to design communities that not only directly serve the people that live there, but that also incorporate ecology into the layout.

Graduate Student Spotlight

Cassie Ceballos is getting her Masters degree in Biology.

Tell us about your research!

I am currently conducting thesis research to identify the algal species in a new wastewater treatment



system that is being tested at the O'Brien Water Reclamation Plant in Skokie, IL. The design of the system is unique, having the ability to grow algal cells on a material that revolves vertically through a tank containing wastewater. The overall goal of the research is to find out the specific types of algae that are able to grow in the system and identify changes

(continued on page 3)

Faculty/Staff Spotlight: Dr. Tom Campbell



Dr. Tom Campbell (center) with two collaborators: Raphael Medina and Matt von Konrat.

What is the most fun project you're working on right now? I've had the good fortune to work on many fun projects. In fact, why work on a research project if it's not fun?

Currently we're working on expanding and branching off from our MicroPlants project. We're starting to get into AI and using computers to identify specimens and labels, but I'm still interested in all the thousands of steps that come before that.

What classes are your favorite to teach? I love all my classes (and students). Seriously, I do. I love learning and doing that around great people is rewarding to me.

How has the science you do influenced who you are as a teacher? I think my research and graduate experiences have really helped to broaden my horizons. No matter what level you are or where you go, no one is an expert at everything. We are all good at some things and worse at others. We can learn from each other. I respect that and carry that into the classroom and life.

over time and see how it relates to the amount of nutrients that are removed from the wastewater. This system is promising because it has the potential to produce valuable bioproducts by using recovered nutrients in the algal cells that would otherwise be discarded in traditional wastewater treatment. This experience has been exciting and challenging, often requiring us to be very creative in our methodology as it is a new system.

Why NEIU?

I chose NEIU because I had completed my undergraduate studies here and appreciated the sense of community on campus. The great thing about NEIU is how much you could learn from the people

around you, whether it is your professor or a peer. There is so much diversity among the people at NEIU and that truly resonated with me. It was so amazing to be able to learn from professors that are interested in different areas of biology research.

Positive Feedback Loops

Vada Becker was accepted to the Molecular Medicine and Mechanisms of Disease Program at the University of Washington.

Cassie Ceballos (spotlit on page 2) won the Best Poster Award at the Wisconsin Wetlands Association Conference.

Sam Garcia was accepted into the Masters program in Environmental Science at both Northwestern and UIUC.

Georgina Jaimes won first place in the Environmental Science category at LSAMP.

Millenia Jimenez, Erica Belloso, and Cassie Ceballos presented a poster at the Climate Change Conference at Loyola.

Kelsey Littrell was admitted to the University College London Masters in Museum Studies Program.

Joseph Macnider received a "Those Who Excel" award from the Illinois State Board of Education.

Erik Maki was admitted to a Masters in EEB at George Mason and a PhD in EEB at Ohio University.

Christian Torres was awarded a summer research opportunity in the Choose Development! program from the Society for Developmental Biology.

Transcriptional Activity

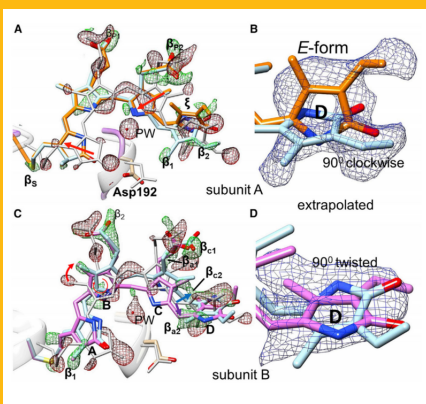


Figure 1 from Carrillo and Pandey et al. 2021

New Publication: Current students and alumni of the Stojković Lab have a new paper out in **Structure**. The study, titled "High resolution crystal structures of transient intermediates in the cytochrome photo cycle", uses an X-ray free

electron laser to document structural changes induced by light in the phytochrome of a bacterium. The NEIU study authors are **Melissa Carrillo** (May 2020), **Juan Sanchez** (May 2019), **Moraima Noda** (May 2020), **Luis Aldama** (May 2021), **Denisse Feliz** (BS. Biology May 2019, MS NEIU Chemistry, August 2021), and Dr. Emina Stojković.

Follow us to learn more about what is happening in Biology!



@NEIUBiology