

BIO SIGMAA Fall 2022 Newsletter

Activities at Mathfest 2022

The BIO SIGMAA sponsored the Invited Paper Session, *Trends in Mathematical and Computational Biology*, on Thursday, August 4, 2022. The session was organized by Tim Comar (Benedictine University) and Anne Yust (University of Pittsburgh). The speakers included **Caitlin Hult** (Gettysburg College), **Cara Sulyok** (Lewis University), **Rebecca Everett** (Haverford College), **Joshua H. Goldwyn** (Swarthmore College), and **Katie Storey** (Lafayette College).

The BIO SIGMAA sponsored the Themed Contributed Paper Session, *Mathematics for the Life Sciences: Initiatives, Programs, and Curricula*, on Thursday, August 4, 2022. The session was organized by Tim Comar (Benedictine University), Carrie Diaz Eaton (Bates College), and Raina Robeva (Randolph-Macon College). Speakers included **Elizabeth Drellich** (Children's Hospital of Philadelphia) and **Tim Comar** (Benedictine University).

The BIO SIGMAA held its annual reception and business meeting on Thursday, August 4, 2022. The invited plenary speaker, **Erica Graham** (Bryn Mawr College) gave an exceptional talk titled, "A Tale of Many Hormones: Mathematical Modeling in Ovulation."

BIOSIGMAA Officer Elections

In October 2022, there will be an election for the next Chair of the BIO SIGMAA. The Chair will serve for one year as Chair-Elect starting January 1, 2023, two years as Chair, and two years as Past Chair. The Nominating Committee will be headed by Hannah Highlander and will be set by the end of August. Please be on the look out for communications from the MAA about participating in the election.

In October 2023, elections for the Secretary and Program Chair will take place.

The current elected officers are Chair, Alex Capaldi (Valparaiso University), Past Chair, Hannah Highlander (University of Portland), Secretary, Anne Yust (University of Pittsburgh), Program Chair, Tim Comar (Benedictine University). Appointed officers include Treasurer, Frank Lynch (Western Washington University), and Electronic Communications Officer, Tim Comar (Benedictine University)

Activities at the 2023 Joint Mathematics Meetings

Even though the MAA no longer officially sponsoring the Joint Mathematics Meetings, SIGMAA-sponsored Special Sessions have been included in the 2023 Joint Mathematics Meetings program.

The BIO SIGMAA-sponsored **Special Session on Undergraduate Research Activities in Mathematical and Computational Biology** will take place on Wednesday, January 4, 2022 at the Sheraton Boston Hotel. The session is organized by Tim Comar (Benedictine University), Anne Yust (University of Pittsburgh), and Hannah Highlander (University of Portland). If you are interested in participating, please contact Tim Comar tcomar@ben.edu. The deadline for abstract submission is September 13, 2022.

Andersen Prize Winners

The 2022 winners of the MAA Janet L. Anderson Prize for Undergraduate Research in Mathematical and Computational Biology are the MAA are **Maximus Lewis** and **Malen De la Fuente Arruabarrena** of Lewis University for their poster presentation “An Agent-Based Model of Environmental Transmission of C. difficile in Healthcare Settings.” They were jointly advised by Dr. Brittany Stephenson and Dr. Cara Sulyok of Lewis University.

Maximus Lewis, born and raised in Lockport, IL, is a senior at Lewis University majoring in computer science with a minor in mathematics. Malen De la Fuente Arruabarrena was born and raised in Irun, Spain. Thanks to a track and academic scholarship, Malen moved to the United States to attend Lewis University and is currently a sophomore majoring in mathematics and minoring in data science. Max and Malen both have a love for mathematics and for writing code, so their skills were a natural fit for contributing to this research. After starting the project in June 2022, Max presented his and Malen’s model during the undergraduate poster session at the Mathematical Association of America’s 2022 MathFest in Philadelphia, PA. Max and Malen’s work was funded by The Doherty Center for Aviation and Health Research at Lewis University. Their project focused on an agent-based model of C. difficile in healthcare settings with an emphasis on touch surfaces within these settings. This model is being created to determine the best control strategies to slow the spread of C. difficile in a hospital ward and identify primary sources of transmission. Max and Malen both want to thank their advisors, Dr. Sulyok and Dr. Stephenson, for their guidance and support throughout the research process. Outside of the classroom, Max is a computer science and mathematics tutor, and Malen is a dedicated athlete who combines and balances her mathematics degree with her track career. After Max graduates, he plans on either attending graduate school or pursuing a career in software engineering, while Malen plans to earn a master's degree in Europe with the aim of pursuing a research career focused on climate change and prevention strategies.



Maximus Lewis



Malen De la Fuente Arruabarrena

MAA Connect

MAA Connect is a new member engagement and communication platform offered as a part of your MAA membership. MAA members and math enthusiasts can use it to discuss engaging topics that are important and relevant to the math community. Members are automatically enrolled in the Section and SIGMAA(s) groups tied to their membership on MAA Connect. The link to MAA Connect is:

<https://connect.maa.org/>.

Other News from Partner Organizations



QUBES hosts the BIO SIGMAA website. See <https://qubeshub.org>.

The International Symposium on Biomathematics Ecology Education and Research (BEER XV) is scheduled for November 11-13, 2022 at Illinois State University. The BIO SIGMAA Speaker will be **Erin Bodine** (Rhodes College). The BIO SIGMAA Speaker at the November 2021 online BEER conference was **Glenn Ledder** (University of Nebraska-Lincoln). Conference details can be found at <https://symposium.beer>.

The [Intercollegiate Biomathematics Alliance](https://about.illinoisstate.edu/iba/pages/default.aspx) is a consortium created to promote research and education in biomathematics. The IBA strives to bring together institutions both academic and non-academic to build a collaborative academic community in the pursuit of advancing biomathematics, ecology, and related areas for the researchers, educators of the mathematical and biological sciences, and active scholars. In doing so, the IBA provides a wide range of expertise, resources, and opportunities that are only available when we work together as a community. For more information, visit: <https://about.illinoisstate.edu/iba/pages/default.aspx>