

Consortium Connections

Connecting campuses to promote excellence in science and mathematics

Mark your calendar for upcoming events (see Upcoming Events section below for further details).

- March 31, 2021 Janet Andersen Award nominations due
- April 24, 2021 Executive Board Meeting
- June 11-13, 2021 (tentative) Mid-Career Faculty Development Workshop
- July 9-11, 2021 (tentative) Workshop for Early Career Success
- November 5-6, 2021 Biological Sciences and Psychology Undergraduate Research Symposium at the University of Chicago
- November 12-13, 2021 Physical Sciences, Mathematics and Computer Science Undergraduate Research Symposium at Washington University, Saint Louis

Comments from the Director

It is a truth universally acknowledged that 2020 was a year unlike any other. * This not only affected our social lives, our teaching, and our learning but also our research. In my case we had planned multiple drone flights over coastal dunes. On a typical autumn we would have also monitored wind and sand transport in the dunes during storms. These activities require cooperation between groups of people in the lab and field and were cancelled as coronavirus numbers began to climb again. Instead most of my research time has been spent alone in front of the computer in my home office using meteorological data from past storms to theoretically model the impact of storm patterns on the distribution of dune growth and migration along the Great Lakes. Adapting a research program to the conditions of the pandemic was a common theme in the student talks and posters during our 2020 virtual undergraduate research symposia. It is worth noting that science and mathematics has had to cope with conditions caused by epidemics in the past. In 1665 a young Isaac Newton fled Cambridge for Woodbridge Farm in order to escape an outbreak of the plague. There he continued his investigations into calculus, optics and mechanics, making tremendous progress in isolation. It is also interesting that the first scientific journals, the Philosophical Transactions of the Royal Society and the Mémoires de l'Académie des Sciences, date from the plague years of 1665 and 1666. Thus, as we carry on our work this year we are following the examples of our predecessors.



The pandemic also affected almost all of the activities of the Midstates Consortium. Our executive committee meeting and both of our undergraduate research symposia went virtual. We suspended the dues paid by our institutional members for this academic year. Two planned faculty development workshops were rescheduled from the summer of 2020 to 2021. No consultations or seminar speakers happened during the autumn of the 2020-2021 academic year and none are planned for the spring. The effect of the pandemic on our programs will be a main theme of this newsletter.

*apologies to Jane Austin

The 2021 Janet Andersen Lecture Award Nominations:

Nominations for the 2021 Janet Andersen Lecture Award are due March 31, 2021. See the link on the Midstates website (<https://mathsciconsortium.org/janet-andersen-award>) for complete information regarding nomination criteria and the information to be submitted. Congratulations to Dr. Leah Chase Professor of Biology and Chemistry at Hope College and Dr. James Doyle, Professor of Physics at Macalester College for being selected as the 2020 Janet Anderson Lecture Award recipients. The September 2020 newsletter (Vol. 13, No. 2) has their biographical information.



Upcoming Events

Executive Board Meeting: The executive committee has decided to hold a virtual meeting this year, rather than risk meeting in person. The meeting will be on Saturday, April 24.

Faculty Workshops: It is still unclear whether it will be safe or possible to hold in-person workshops this summer. We are tentatively planning two workshops. However, a final decision on these will not be made until the end of March.

Mid –Career Faculty Development Workshop (June 11-13) Gustavus Adolphus College
The middle-career stage, the time between earning tenure and verbalizing a retirement timeline, can be the longest and most challenging stage for many faculty. This workshop will provide structured time for faculty to reflect on the middle stages of their career and to identify future professional opportunities related to teaching, scholarship and service. Through discussion, reflection and interaction with each other, participants will set goals, shape strategies and develop an action-oriented agenda for the next 3 to 5 years. **If we are able to hold a live workshop, registration will open up on the MCMS website in early April.**

Workshop for Early Career Success (July 9-11) Gustavus Adolphus College
This workshop is open to early career faculty, post-docs and senior graduate students and will follow the format of our successful early career workshops from previous years. Peer coaching

and deep-listening experiences will help participants to structure an individualized strategic action plan that will be a guide for personal, meaningful and rewarding career development. **If we are able to hold a live workshop, registration will open up on the MCMS website in early April.**

Undergraduate Research Symposia: It is our hope that we will be able to host in-person undergraduate research symposia by November 2021. Should travel restriction or safety issues make it necessary, we can switch to a virtual format. Our tentative schedule is:

Biological Sciences and Psychology Symposium will be at the University of Chicago on November 5 and 6. The on-line application will be available on the Consortium web site (<http://mathsciconsortium.org>) from August 23 – September 27.

Physical Sciences, Mathematics and Computer Science Symposium will be at Washington University Saint Louis on November 12 and 13. The on-line application will be available on the Consortium web site (<http://mathsciconsortium.org>) from August 23 – September 27.

2020 Virtual Undergraduate Research Symposia

The image shows a virtual symposium interface. On the left, there is a video player with a play button and a presenter's name, Rahul Burra. Below the video, there is a list of presenters, subject area (Medical and Health Sciences), coauthors, research advisor (Dezheng Huo), and a link to a live poster session. On the right, there is a research poster titled "Examining Health Disparities in Breast Cancer Patients in the Age of COVID-19" by Rahul Burra, Fanyuan Zhao, Michelle Liu, Brenda Copley, Toni M. Cipriano, Olufunmilayo I. Olopade, and Tara Henderson. The poster includes an abstract, methods, and results sections, along with several charts and graphs.

An example of a poster on our ForagerOne Symposium page for the Biological Sciences and Psychology Undergraduate Research Symposium.

Overview: Our 2020 undergraduate research symposia were held virtually using the ForagerOne Symposium web platform. ForagerOne’s mission “is to create networks and tools that promote and accelerate research globally, at all levels, in every field”. Among their goals is the creation of virtual infrastructure to further undergraduate research. Symposium is ForagerOne’s platform for virtual conferences. Using Symposium we created web pages for each of our two research symposia. Students presenting posters were able to upload their posters, along with an optional

short video, to the conference web page. Anyone registered for the conference could send comments or questions about the poster to the student. In an attempt to replicate the one on one, in-person experience of our previous poster sessions, we modified the regular symposium format to include a link to a google meet session in which the student would be available to run through their poster and answer questions.

Each of the symposia included a series of concurrent sessions in which students delivered talks on their research. Each session ran from 90 to 100 minutes and contained four to five talks. Sessions were moderated by either a faculty member from a Midstates Consortium school or a graduate student from The University of Chicago. Students interested in giving talks were asked to upload their abstracts along with optional supplementary material. Each description contained a link to the session at which the student gave their talk. The talks occurred via Zoom.

The screenshot shows a web page for a student talk. The title is "Characterization of DNA Damage Patterns in Genome-Wide Data from Formalin-Fixed Paraffin-Embedded (FFPE) Human Tissues". The presenter is Jovan Stanisavic, a student from The University of Chicago, Class of 2023. The subject area is Biochemistry and Molecular Biology, and the research advisor is Maanasa Raghavan. The talk is scheduled for Oral Session D (1:00 - 2:30 CT, October 31). The abstract discusses epidemiological and genetic studies on human diseases and their response to environmental changes, focusing on genetic alterations in historical specimens. The page also features a "TABLE OF CONTENTS" with sections for "01 INTRODUCTION" and "02 MATERIALS AND METHODS". The background image shows a hand holding a small blue slide with a DNA microarray pattern.

An example of the information page for a student talk on our ForgaerOne Symposium page for the Physical Sciences, Mathematics, and Computer Science Undergraduate Research Symposium.

Biological and Psychological Sciences Symposium: The web pages for this conference, containing the links to all student posters and descriptions of student talks, can be accessed at <https://symposium.foragerone.com/mcmsbsp>. The symposium began on Friday October 30 with a panel discussion on graduate school titled Graduate Programs and Fellowship Opportunities, organized by Dr. Vicky Prince, the dean and director of Graduate Affairs at the University of Chicago Biosciences Program. In addition to Dr. Prince the panel consisted of Dr. Nichole Fazio, Director of the College Center for Research, and University of Chicago graduate students Keven Dooley, Caleb Sponheim, Nicole Ladd, Brooke Weigel and Abhinav Srinath, all

of whom had attended Midstates schools as undergraduates. The panel began with a discussion of funding opportunities followed by a panel in which the graduate students described their graduate school experiences and answered questions from the audience. Not counting the panelists a total of 53 people attended the graduate school panel discussion.

Symposium < Exit Event Welcome Page Presentations Live Sessions Manage Event

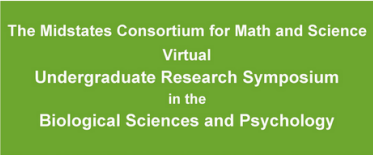
Welcome to MCMS 2020 Undergraduate Research Symposium in the Biological Sciences and Psychology!

Hosted on Symposium by ForagerOne

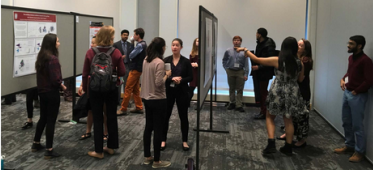
Welcome to the 2020 Midstates Consortium for Mathematics and Science annual symposium for undergraduate research in the biological and psychological sciences. Founded in 1988 the consortium seeks to improve undergraduate science and mathematics education by providing high-quality and flexible professional development opportunities for students and faculty at the member institutions. Our activities include annual symposia on undergraduate research usually held in person at the University of Chicago and Washington University in Saint Louis. Because of the coronavirus pandemic these are virtual conferences this year.

This page is open to the public which means that anyone can peruse the posters and abstracts for student talks. However, in order to leave comments or attend any of the live sessions you must register for the conference. Anyone with an email address from one of our thirteen member institutions is able to register. In the upper right corner of this page click the Sign Up button, complete the sign up form and verify your account using the automated link that will be sent to your email. After verification, you can participate in the event by navigating to the Presentations and Live Sessions tabs in the header.

To participate in one of the oral sessions click on the Live Sessions button, find the session you are interested in, and use the zoom link. Each student giving a poster will be available for an hour through Google Meet. During that hour they can answer questions and guide you through their poster. The Google Meet link will be in the left hand column on their poster page which you can access through the presentations tab. Feel free to join them at anytime during their hour and feel free to drop in on several posters at each session. If problems arise during the meeting you can try contacting Ed Hansen at 422-429-1681 (midstatesdirector@google.com) or Ann Schutt 616-990-3644 (schutt@hope.edu).



The Midstates Consortium for Math and Science
Virtual
Undergraduate Research Symposium
in the
Biological Sciences and Psychology

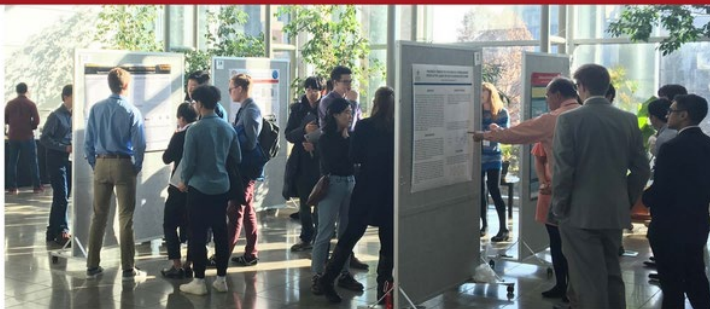


Beloit College - Carthage College - Colorado College - Grinnell College
Gustavus Adolphus College - Hope College - Knox College - Lawrence University
Luther College - Macalester College - St. Olaf College - University of Chicago
Washington University in St. Louis

The Saturday program began at 8:30 central time, October 31 with the Janet Andersen Lecture Award in Biological Sciences and Psychology. The lecture titled “Chance favors the prepared mind: Navigating a life in the sciences” was delivered by Professor Leah Chase of Hope College. In her lecture Dr. Chase reviewed her scientific career using it to illustrate the nature of scientific discovery. The Janet Anderson Lecture was followed by 3 concurrent oral sessions in which 13 students gave a total of 12 talks. The moderators of the sessions were University of Chicago graduate students Jacob Cooper, Mariah Scott, and Robert Gruener. The morning poster session, which followed the oral sessions, had nineteen students presenting a total of 17 posters. Two concurrent afternoon oral sessions, moderated by University Graduate Students Katie Arcena and Jacob Decker, followed a lunch break. In these sessions 8 students gave a total of 8 talks. The symposium finished with the afternoon poster session in which 14 posters were presented by a total of 17 students. Altogether the Biological and Psychological Sciences symposium gave 57 students, representing 12 of our 13 institutions, a chance to present their research. A total of 122 people registered for the conference and a total of 540 people (including registrants) visited the symposium’s web site.

**The Midstates Consortium for Math and Science
Virtual Undergraduate Research Symposium
in the
Physical Sciences, Mathematics and Computer Science**

Beloit College
Carthage College
Colorado College
Grinnell College
Gustavus Adolphus
College
Hope College
Knox College
Lawrence University
Luther College
Macalester College
St. Olaf College
University of Chicago
Washington
University in St. Louis



Welcome to MCMS 2020 Undergraduate Research Symposium in the Physical Sciences, Math, and Computer Science!

Hosted on Symposium by ForagerOne

Physical Sciences, Mathematics and Computer Science: The Physical Sciences, Mathematics and Computer Science Symposium occurred on November 6 and 7 one week after the Biological Sciences and Psychology Symposium. The web pages for this conference, containing links to all student posters and descriptions of student talks, can be accessed at

<https://symposium.foragerone.com/mcmspsmcs>. A Friday afternoon panel discussion on graduate school, organized and moderated by Dr. John Bleeke of Washington University, started things off. The panel was made up of 5 graduate students in chemistry, physics and mathematics: Lara Braverman, Mark Palmquist, Abbie Delawder, Cesiley King and Sanah Suri, and one postdoctoral fellow Arefeh Sherafati. The panel discussed the process of applying for graduate school and answered student questions. A total of 31 people attended the graduate school panel.

The first event on Saturday morning was an address given by Professor James Doyle of Macalester College, the 2020 recipient of the Janet Andersen Lecture Award in Physical Sciences, Mathematics, and Computer Science. Dr. Doyle's lecture "How Can We Get to 100% Carbon Free Energy?" was based on his research in sustainable energy. This was followed by

five concurrent oral sessions during which 24 students gave 24 talks. The session moderators were Professor Stuart Kurtz (University of Chicago), Graduate student Bipul Pandey (University of Chicago), Professor Paul Fisher (Macalester College), Emeritus Professor Ed Hansen (Hope College), and Graduate Student Nanetta Pon (University of Chicago). The oral sessions were followed by the morning poster sessions in which 17 students presented a total of 15 posters. The afternoon oral sessions came after a lunch break. During 4 concurrent sessions 17 students presented 17 talks. The moderators of these sessions were Professor Amanda Nienow (Gustavus Adolphus College), Emeritus Professor Ed Hansen (Hope College), Professor Sara Clifton (St. Olaf College), and Graduate Student Anuj Apte (University of Chicago). This was followed by the first afternoon poster sessions in which 17 students presented a total of 17 posters. The symposium ended with the second afternoon poster sessions in which 16 students presented a total of 15 posters. Altogether a total of 91 undergraduate students representing all 13 of our member institutions presented their research at this symposium.

I attended as a *

Student presenting research

Faculty/staff

Other: _____

Why did you choose to attend this symposium? *

	Of no concern	Of moderate concern	Vary important
My research mentor encouraged me to attend.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My summer research program required me to present my results at an off-campus meeting.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To meet and interact with students and faculty from other consortium campuses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To learn about graduate school.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To support my student(s)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please describe other reasons for attending.

Your answer _____

What were your goals for the symposium? Were they met? If not, what could have been done differently to help you meet your goals?

Your answer _____

What were the most useful and positive aspects of the symposium? Please include your experience with the online environment, either as a presenter or as one viewing presentations.

Your answer _____

What were the least useful and negative aspects of the symposium? Please include your experience with the online environment, either as a presenter or as one viewing presentations.

Your answer _____

If you gave a poster how many people attended your poster session?

Your answer _____

Would you recommend attending this virtual symposium to other undergraduates at your school? Why or why not?

Your answer _____

Evaluation: An evaluation form was sent to presenters, moderators and faculty research mentors involved in the symposium. A total of 243 evaluations were sent out and a total of 34 were returned: a response rate of only 1.4 %. Despite the low response rate the comments on the form are our best indicators of what worked well and what worked less well during the symposia. The most common comment was that the virtual symposia were not as good as in-person conferences. Twenty two people answered the question “Would you recommend attending this virtual symposium to other undergraduates at your school?”. Nineteen of the respondents would recommend the virtual symposium, one would not, and two were unsure. The graduate school workshops on Friday afternoon got a number of positive comments. The fact that they were on-line made them potentially available to a wider number of students. The websites for the conference got mixed reviews: some people found them well organized and easy to navigate while others found them confusing. Low attendance was the main complaint. This was especially true of the poster sessions; several presenters noted that no one visited their poster during their presentation time. Boosting attendance will be our most critical challenge if we need to do virtual symposia in the future.