

Consortium Connections

Connecting campuses to promote excellence in science and mathematics

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

- March 31, 2023: Janet Andersen Award nominations due
- April 28-29, 2023: Executive Board Meeting
- June 15-17, 2023: Mid-Career Faculty Development Workshop
- July 14-16, 2023: Workshop for Early Career Success
- November 3-4, 2023: Physical Sciences, Mathematics and Computer Science Undergraduate Research Symposium at the University of Chicago
- November 10-11, 2023: Biological Sciences and Psychology Undergraduate Research Symposium at Washington University in St. Louis

COMMENTS FROM THE DIRECTOR



Summer research students working with each other and with faculty to collect samples from an interdunal wetland on the coast of Lake Michigan. Image courtesy of Suzanne DeVries-Zimmerman, Hope College

I once gave a talk about my research at a meeting of the Guild of Scholars of the Episcopal Church. This is an interdisciplinary group of scholars who share an affiliation with the episcopal denomination and meet annually to worship together and to read and discuss papers. At the end of my talk, I gave a long list of

collaborators who had worked and published with me. At this point a prominent historian stood up and told me that I was not a real scholar. Real scholars he told me worked alone and the products of their research were the product of a single mind. However, he pointed out that I worked with others and the results of my research were a group effort. This interchange brought home to me how social the practice of doing science is. As an undergraduate student much of my most productive learning occurred in study groups, and most of my laboratory work was done with lab partners. As a graduate student I spent much of my time with faculty, postdocs and other graduate students working on related topics in the same laboratory and consulting with each other frequently. As a professor almost all my research was done along with colleagues including my undergraduate research students. Periodically I would meet colleagues from all over the world at conferences to discuss science and to catch up with each other's lives. All of these social aspects of science are not only an efficient way to work but a major part of the joy of scientific research.

This social aspect of science made the pandemic particularly difficult. We made do with virtual experiences, but they were an inadequate replacement for in person interactions. That is one reason why the return to live meetings this year felt so good. During the undergraduate research symposia, it was especially wonderful watching the excitement of students as they mixed with each other at meals, at poster sessions, during talks, and during the breaks in between.

The return to in-person activities is the major theme of this newsletter. On pages 3 through 7 are descriptions of our 2022 flagship activities: two in-person undergraduate research symposia. Page 8 contains short descriptions of upcoming in-person activities, including two faculty development workshops this summer, one for early career and one for midcareer faculty, and the first announcement of our Undergraduate Research Symposia this coming autumn. The revived in-person Short Term Collaboration and Speakers Series programs are described on page 9.

The update and redesign of the Midstates website is one crucial development not related to our return to in-person meetings. The current website was designed in 2006 during Karen Nordell Pearson's tenure as director of the consortium. In the last few years the company that designed the website transitioned out of web development and stopped offering technical support. This left us with limited ability to edit the website. At the same time, we have received multiple comments to the effect that the website was clunky, out of date on some items, and difficult to use. Many of the suggestions for improving our value to our members require expansion of our website. With this in mind the executive committee approved the hiring of a web developer to redesign and update our website. This development began in the autumn of 2022 and the new website should be online shortly after this newsletter is released. Be sure to check it out toward the end of February.



Ed Hansen
Midstates Director

Biological Sciences and Psychology Undergraduate Research Symposium at the University of Chicago, November 4 and 5, 2022



Group photograph taken after the Janet Andersen lecture on Friday November 4

From Friday evening through Saturday afternoon, 121 students and 16 faculty members gathered at the



Dr. Elizabeth Heckscher

University of Chicago to share their research at the 2022 Midstates Biological Sciences and Psychology Undergraduate Research Symposium. The symposium began with the keynote address “How circuits develop starting from stem cells” by Dr. Elizabeth S. Heckscher, Assistant Professor of Molecular Genetics and Cell Biology at the Committee on Genetics, Genomics and Systems Biology at the University of Chicago. In her address Dr. Heckscher described the work her lab is doing using *Drosophila* embryos and larvae to study how stem cell lineages lead to mature neural circuits. The keynote was followed by a banquet in the Gordon Center for Integrative Science atrium.

The evening concluded with the 2022 Janet Andersen lecture “Broadening our understanding of fat storage in eukaryotic lineages” given by Professor Kim Kandl, professor of biology at St. Olaf College. In her lecture, Dr.



Dr. Kim Kandl

Kandl discussed her research on lipid droplet formation in *Tetrahymena thermophili*, a single-celled freshwater ciliate. This is collaborative work involving other faculty, dozens of independent research students, and hundreds of students in genetics and cell biology courses.

Saturday morning began with a poster session in which a total of 30 students presented 26 research posters. This was followed by the first set of oral presentations in which 19 students gave 15 talks in four concurrent sessions. Two panels followed the oral presentations. “Life in Graduate School” was aimed at undergraduate students. In this panel graduate students at the University of Chicago described their experiences in graduate school and answered student questions. A second panel was aimed at graduate students and post-docs at the University of Chicago. The panelists were faculty members from several of our member institutions, who described careers teaching science in liberal arts colleges. After the panels came a break for lunch. The second poster session involved 29 students presenting 26 posters. The oral



Poster session at the Kersten Family Atrium

meeting this goal, and everyone who responded to the question on whether they would recommend the symposium to others responded with a yes.

sessions that followed had 17 students and 16 talks in 4 concurrent sessions. The afternoon ended with the third poster session in which 29 students presented 25 posters. The entire schedule of the meeting, including the abstracts for the presentations, is posted on the Midstates website at mathsciconsortium.org.

The single most important factor in people’s decision to attend the conference was a desire to meet and interact with students and faculty from other schools: 95% of the respondents to the on-line evaluations ranked this reason as very or moderately important. Judging by both emails sent to the Midstates consortium office and the responses to the online evaluations, the symposium was very successful in

**Physical Sciences, Mathematics and Computer Science Undergraduate
Research Symposium at Washington University in St. Louis, Nov. 11-12, 2022**



Group photo taken after the Janet Andersen lectures Friday Nov. 11

A total of 88 students and 20 faculty took part in this celebration of undergraduate research in the Physical Sciences, Mathematics and Computer Science at Washington University in St. Louis. The



Dr. Shonda Kuiper

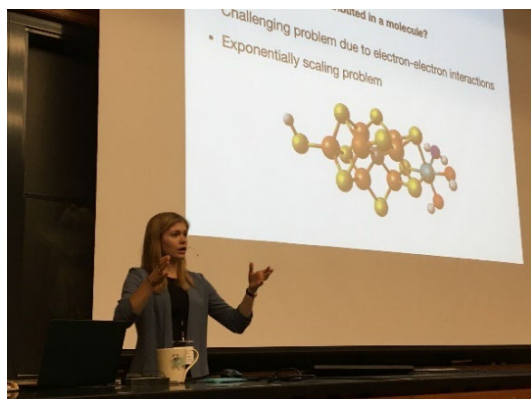
Friday evening activities took place in the Hotel Grand Ballroom of the Clayton Plaza Hotel. The evening began with a talk by the 2022 Janet Andersen Lecture awardee, Dr. Shonda Kuiper, Professor of Mathematics and Statistics at Grinnell College. Her talk titled, “The Challenges of Making Decisions with Data” gave examples of both fruitful and misleading ways in which data can be used to ask and answer questions. Dr. Kuiper’s talk was followed by a buffet banquet.

The evening concluded with a talk by Dr. Dwight Stoll, Professor of Chemistry at Gustavus Adolphus College. Dr. Stoll was a 2021 Janet Andersen Lecture awardee. Since our symposia in 2021 were virtual,

Dr. Stoll elected to postpone his lecture until we returned to in-person meetings. His talk was titled “Research in Multi-Dimensional Separations – A Platform for Undergraduate Discovery in Multiple Dimensions”. Dr. Stoll used his laboratory’s work on developing techniques in two-dimensional liquid chromatography to illustrate the nature of research in general and research with undergraduates in particular.



Dr. Dwight Stoll



Dr. Kade Head-Marsden’s keynote address



Poster session at the Rettner Gallery

All of Saturday’s activities were on Washington University’s campus. The program was kicked off by a keynote address “Chemistry at The Intersection of Quantum Sciences” by Professor Kade Head-Marsden from the department of Chemistry, Washington University. In her address Dr. Head-Marsden reviewed her career working on modelling energy transport in chemical systems with special emphasis on the use of quantum computational resources. Her address was followed by the first set of oral presentations in which 18 students gave 15, 15-minute talks in four concurrent sessions. The next event was the first poster session during which 22 students presented 19 posters. A panel on life in graduate school followed a Mexican-themed lunch at Holmes Hall. The panel consisted of six current graduate students at Washington University, who discussed their experiences in graduate school. The panel was followed by the second poster session in which 28 students presented 20 posters. The second oral session consisted of 12 talks given by 14 students in three concurrent sessions. The symposium concluded with the third poster session, consisting of 16 posters presented by 16 students. The entire schedule of the meeting, including the abstracts for the presentations, is posted on the Midstates website at mathsciconsortium.org. The

response to the Physical Sciences, Mathematics and Computer Science symposium was very similar to the response to the Biological Sciences and Psychology symposium the week before. The most important reasons most people gave for attending the conference was to meet and interact with people from other institutions and to get experience presenting their research. Judging by the responses to the online evaluations this goal was largely satisfied. One student commented that the experience “made a career in academics seem really possible”. All but one of the 38 people who answered the question “would you recommend this symposium to other undergraduates at your institution” answered affirmatively.

THE 2023 JANET ANDERSEN LECTURE AWARD NOMINATIONS

Nominations for the 2023 Janet Andersen Lecture Award are due March 31, 2023. A nomination package should include the nominee’s CV and a nomination letter outlining the nominee’s achievements in mentoring research students and in teaching. This material should be sent by email to Midstates director Ed Hansen (midstatesdirector@gmail.com).

Professor Janet Andersen was a faculty member in the Hope College Mathematics Department and served enthusiastically as the Midstates Consortium Director for five years before her life ended tragically in an automobile accident. To honor Janet Andersen's dedication and commitment to her work with students and faculty in her teaching, research and service to the consortium, the Janet Andersen Lecture Award was established in 2008. The Midstates consortium chooses two faculty members from among our member institutions each year who are exceptional mentors for undergraduate research students and are engaged and skilled teachers. The winners present the Janet Andersen Lecture during a fall Undergraduate Research Symposia on a topic of his or her choice.



UPCOMING EVENTS

Executive Board Meeting (April 28-29, 2023): The Midstates executive committee – one representative from each member school - is scheduled to meet in person this year. We will gather at a hotel close to the Minneapolis-St. Paul Airport. The meeting will begin with a casual dinner Friday, April 28. The business meeting will start with breakfast Saturday, April 29 and will conclude by 3:00 pm. We will include a hybrid option for the business meeting for those who are not able to attend in person.

Faculty Workshops:

Mid-Career Faculty Development Workshop (June 15-17, 2023): 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 members. This full day 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. The workshop will be held at Gustavus Adolphus College and will be facilitated by Professor Pamela Kittelson. **Registration is open now at mathsciconsortium.org.**

Workshop for Early Career Success (July 14-16, 2023): This weekend 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 structure an individualized strategic action plan that will be a guide for personal, meaningful, and rewarding career development. The workshop will be held at Gustavus Adolphus College and will be facilitated by Professors Brandy Russell and Scot Burr. **Registration is open now at mathsciconsortium.org.**

Undergraduate Research Symposia:

Physical Sciences, Mathematics and Computer Science Symposium (November 3-4): The symposium will be hosted by the University of Chicago. The on-line application will be available on the Consortium website (mathsciconsortium.org) from July 1 – September 27. The application form is open two months earlier than in previous years in order to allow summer research students to apply to the symposium before the end of their summer programs.

Biological Sciences and Psychology Symposium (November 10-11): The symposium will be hosted by Washington University in St. Louis. The on-line application will be available on the Consortium website (mathsciconsortium.org) from July 1 – September 27. The application form is open two months earlier than in previous years in order to allow summer research students to apply to the symposium before the end of their summer programs.

SHORT-TERM COLLABORATIONS AND THE SPEAKERS SERIES

As we return to in-person meetings, two of our programs that were dormant during the pandemic have reopened.

Short-Term Collaborations: The purpose of the Short-Term Consultation (STC) program is to encourage and support collaborations involving two or more individuals at different consortium campuses. The STC grants fund faculty and students in a particular area to visit a member campus to share information, instrumentation, facilities or expertise. Funds are available to support numerous activities including, but not limited to, consultation on curriculum, collaboration on research projects, participation as an outside examiner in a senior thesis exam, demonstration of a laboratory technique suitable for an undergraduate laboratory, advising faculty or departments on proposal writing or project assessment, or the use of laboratory equipment.

Speakers Series: The Midstates Speakers Series was established to facilitate the exchange of ideas and connections between members of the consortium. Consortium funds are available to pay for travel, lodging and meals for people visiting other consortium campuses to give a talk. We maintain a database of speakers but will also support colloquia by people at our member institutions who are not on the database.

The applications for both programs are relatively short and simple, and are available at mathsciconsortium.org.

UPDATE ON THE DIVERSITY, EQUITY, AND INCLUSION INITIATIVE

In the autumn newsletter we announced the Midstates Consortium for Math and Science Diversity, Equity, and Inclusion (DEI) Initiative. This initiative is led by Diane Angell of St. Olaf College and Britt Scharringhausen of Beloit College. The ultimate goal is to develop support structures to advance faculty work in increasing diversity, equity, and inclusion in their teaching, research mentoring, and advising. Working groups are being organized around faculty who have projects in process. The plan is to create an environment within these groups where faculty can share ideas around STEM DEI initiatives, move projects forward, and ultimately share with the consortium community. The DEI Initiative is also in the process of creating a website called the Midstates Sharing Inclusive Practices Site (Midstates SIP). Midstates SIP will collect examples of materials, resources, or practices that faculty have used to promote diversity, inclusion, and equity. The goal is to have the site ready to share towards the end of March. Anyone who has inclusive practices they wish to share is urged to go to the Midstates Sharing Inclusive Practices submission form at:

<https://forms.gle/Z6YxdDhHDAC9wRVg6>

Anyone with questions about the DEI initiative should contact Britt Scharringhausen (scharr@beloit.edu) or Diane Angell (angell@stolaf.edu).