

Consortium Connections

Connecting campuses to promote excellence in science and mathematics

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Mark your calendar for upcoming events (see sections in newsletter for more information)

- Sept. 27, 2019 Application deadline for Research Symposia (<http://mathsciconsortium.org>)
- Nov. 1-2, 2019 Biological & Psychological Sciences Symposium in St. Louis
- Nov. 15-16, 2019 Physical Sciences, Mathematics & Computer Science Symposium in Chicago



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Comments from the Director

Collaboration can be defined as the action of working together to produce something, as demonstrated by the Catalan castellers in the photo on the left. While the “something” produced from a laboratory research project is certainly different from creating a human tower, both endeavors require cooperation, teamwork and a plan. Collaboration is a natural outcome of the primary Consortium goal of “*Connecting campuses to promote excellence in science and mathematics*” and is evident throughout the Consortium programs. This is immediately apparent when viewing a student’s research poster or listening to a podium presentation, since almost every research project will include the names of multiple contributors that include other students and faculty mentors. Each member of the research team brings a particular strength or area of expertise to the project and applies their skill in accordance with a plan to achieve the desired outcome. In many cases the collaboration will be built on the work of previous students, similar to the way the human tower is built on the sturdy folks who started at the bottom. A successful collaboration also requires good communication skills beyond the digital nature of social media. Effective verbal and writing skills are essential when working on the most challenging

research problems. One Consortium program that enables collaboration and communication is the Short Term Consultation. This resource provides funds for faculty to travel to another campus where they can work together to develop or complete a project. Recent examples of successful projects include two faculty who had several meetings to complete a manuscript that has been submitted for publication, a visit to a colleague’s laboratory for hands-on training with a new instrument, and a collaborative grant writing effort that led to a successful NSF award of \$400,000. As Consortium Director I am well aware of the extensive collaboration among the campus representatives in their role as members of the Consortium Executive Committee, since that committee approves the Consortium programs and the operating budget. The campus representatives also work together with faculty to promote excellence in science and math at their home institutions. The work of building the Consortium over the past 30 years is the result of collaborative efforts by many individuals at the 13 different institutions and shows the importance of working together not only in science, but in all of our endeavors.



Mike Seymour
MCMS Director

The following pages of the newsletter have a brief description of activities that have already taken place during the spring and summer of 2019 and information on upcoming 2019-20 events. Best wishes to all for a great start of the 2019-20 academic year.

2019 Early Career Workshop



2019 Early Career Workshop participants enjoy a dinner meeting

The 2019 Early Career Workshop that was held July 26-28 at Gustavus Adolphus College had 10 participants from 7 different member schools and was facilitated by Scott Bur and Brandy Russell from Gustavus Adolphus. During the first session the participants were asked to envision a challenge that they did not know how to solve, since these challenges would be used later during the peer coaching activity. By understanding and practicing the process of peer coaching one can more effectively identify the way to best move forward with many of the significant challenges that are encountered not only in

an early career, but at any point throughout one's life. The participants also engaged in a deep-listening exercise as a way to explore their sense of purpose and what is at the heart of their professional and personal life, as well as how their personal and professional goals relate to each other. The peer coaching and deep-listening experiences helped the participants to structure an individualized strategic action plan that will be a guide for personal, meaningful and rewarding career development.

The action plans were summarized on poster size stickie notes and everyone was able to receive feedback when each participant presented their plans to the group. Upon returning home the participants were encouraged to put the poster in a location where they would be reminded of their core values, their goals and the proposed strategies to achieve them. They also left with a network of new colleagues who can help each other remain accountable when moving ahead with their action plans.

2018-2019 Annual Executive Committee Meeting

The following is a brief summary of the Executive Committee meeting. Full minutes for the meeting will be included in the 2018-19 annual report that will be sent to the committee in late 2019.

The annual executive committee meeting was held on April 13, 2019 at the Aloft Hotel in Rosemont, IL. Campus representatives from 12 of the 13 member institutions were in attendance, as well as the Director (Mike Seymour) and Administrative Assistant (Ann Schutt). New committee members attending were Britt Scharringhausen (Beloit), Stuart Kurtz (Chicago Physical Sciences), and Jeff Ford (Gustavus Adolphus alternate) for Pamela Connors.

The report on the 2018 Undergraduate Research Symposia (URS) listed a combined student and faculty attendance of 219 students, consistent with 2016 and 2014 participation, as even years are when the Physical Sciences meeting is in St. Louis and the Biology/Psychology meeting is in Chicago. The Chicago meeting was able to accommodate an additional 18 Chicago students at the Saturday poster sessions since there was available space in the atrium after all the registered students from other schools had been scheduled to present their posters. To make travel easier several schools shared charter bus travel to the St. Louis meeting, Hope College with University of Chicago and Grinnell College with Knox College. A general observation is that the meetings provide a very accessible and comfortable

setting for students to gain experience in presenting their research, as well as an opportunity for faculty to interact with their peers. The dates for the 2019 URS meetings were approved by the committee (see information page 3) and will continue using a Friday evening/Saturday format with a keynote speaker from the host school, Janet Andersen Award Lecture, a graduate school information presentation and several sessions for student poster and podium presentations.

The 2018 Early Career Workshop held at Gustavus Adolphus had 17 participants from 10 different schools, which is the average participation over the past 5 years. The committee approved a proposal to offer a Mid-Career Faculty Development workshop during the 2019-20 program year (see page 4), as this had been under consideration over the past few years. During 2018-19 the consortium funded 2 short term consultations and 4 speaker exchanges.

The nominations for the Janet Andersen Award were discussed with the selection of Dr. Jill Dietz (St. Olaf College) as the 2019 recipient. Additional information is given in the announcement on page 4.

The proposed budget for continuation of the above programs for the 2019-20 program year was approved, keeping the annual institutional support from each member school at \$10,000. The committee will entertain requests to support additional programs that would be of interest to the Midstates members. Contact the Midstates Director if you like to explore options in this area.

Undergraduate Research Symposium in the Biological and Psychological Sciences Symposium, Washington University in St. Louis, November 1-2, 2019

The 2019 Biological and Psychological Sciences meeting will be held on the Medical Campus at Washington University in St. Louis with accommodations at the Parkway Hotel. All events for the meeting will be held at the Eric P. Newman Educational Center. After the Friday dinner there will be a hands-on science demonstration by the Young Scientist Program, followed by a keynote presentation given by Dr. Jason Weber, Professor of Internal Medicine – Molecular Oncology and Cell Biology & Physiology, Washington University in St. Louis. The primary goal of his research is to understand the basic mechanisms behind tumor cell growth and proliferation. The Saturday program will feature multiple sessions of student podium and poster presentations throughout the day, including a panel discussion with graduate students (many who are from Midstates schools) about Life in Graduate School. *Application Deadline September 27, see <http://mathsciconsortium.org>.*

Undergraduate Research Symposium in the Physical Sciences, Mathematics, and Computer Science, University of Chicago, November 15-16, 2019

The 2019 Physical Sciences, Mathematics and Computer Science meeting will be held at the University of Chicago with accommodations at the Hyatt Place Chicago - South, conveniently located near the University of Chicago campus. All events for the meeting will be held in the Gordon Center for Integrative Sciences and the adjacent Kersten Physics Teaching Center. The Friday evening program will include dinner and a keynote address by Dr. David Cash, Department of Computer Science, University of Chicago, whose research straddles cryptography and its applications in cybersecurity. The Janet Andersen Award Lecture will be given by Dr. Jill Dietz, the Grace A. Whittier Endowed Chair in Science, Department of Mathematics, Statistics and Computer Science at St. Olaf College. The Saturday program will feature poster sessions in the atrium of the GCIS and oral presentations in classrooms of the Kersten Physics Teaching Center, as well as a graduate school panel and lunch buffet at the very popular Baker Dining Hall. *Application Deadline September 27, see <http://mathsciconsortium.org>.*

Short Term Consultations (STC) and Seminar Speakers for 2019-20

These programs provide funds to facilitate connections among faculty at Consortium institutions. The STC grants fund faculty and students to visit a member campus for variety of reasons including 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 or advising faculty or departments on proposal writing or project assessment. The proposal and appropriate budget are easily submitted from the Consortium web site.

The Consortium has a searchable database of speakers available to visit other consortium campuses to give a seminar. Consortium funds are available for speaker travel, lodging, and meals and the online application process is simple. See <http://mathsciconsortium.org> for more information on these programs.

The 2019 Janet Andersen Lecture Award Recipient



*Dr. Jill Dietz
Grace A. Whittier Endowed Chair in Science
Department of Mathematics, Statistics and Computer Science
St. Olaf College, Northfield, MN*

The nomination letter for Dr. Dietz describes how her active support for undergraduate research (UGR) over the past 23 years has been key in transforming a nascent UGR program into a top priority for the Mathematics, Statistics and Computer Science department at St. Olaf. By expanding her personal research interests to include topics that are accessible at the undergraduate level she is a role model and a catalyst for a culture of research among both faculty and students. The nearly 100 undergraduates mentored by Dr. Dietz are evidence of her impact in this area. Through her development of the Directed Undergraduate Research (DUR) course, mathematics research has become more than a summer or academic year project. The DUR course is now a regular offering in many other disciplines, with academic credit for students and teaching credit for faculty. Dr. Dietz is acknowledged by students to be among the most popular and effective teachers in a department of creative and dedicated educators. Younger faculty benefit from her insights regarding teaching, research and the general challenges of balancing an academic career with life beyond the campus environment. When not on campus, Dr. Dietz loves to be in nature, especially camping and hiking in the mountains, or boating and swimming at “the cabin” up in central Minnesota. Dr. Dietz will be recognized for her contributions to undergraduate research and education by presenting the Janet Andersen Lecture at the 2019 Midstates Consortium Undergraduate Research Symposium in the Physical Sciences, Math and Computer Science.

Nominations for the 2020 Janet Andersen Lecture Award are due March 16, 2020. Contact your campus representative or Consortium Director for information (midstatesdirector@gmail.com).

Mid-career Faculty Development Workshop to be offered in 2020

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. Professional satisfaction and growth result from attention and deliberation, but the time or energy to nurture one’s midcareer goals can be scant. 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. While the planning for this workshop is underway, the dates were not available when this Newsletter was prepared. Look for updates from your campus representative later this semester.

Midwest Undergraduate Computational Chemistry Consortium (MU3C) program

With support from a Midstates Short Term Consultation grant, Dr. Brent Krueger (Hope College) and Dr. Keith Kuwata (Macalester College) had several meetings to prepare an NSF-MRI proposal for a high performance computer cluster to benefit the work of 22 research groups, who are collectively the MU3C, at primarily undergraduate institutions. The successful funding (\$400,000) will enable the member groups to pursue a wide range of computational chemistry topics including environmental chemistry, reaction mechanisms and catalysis, new material design, excited state dynamics, etc. Membership in MU3C requires faculty to do research with undergraduates in computational chemistry and commit their students to regularly present their research at MU3C meetings. Any Midstates Consortium faculty who would like to join MU3C is encouraged to contact Dr. Krueger (kruegerb@hope.edu) or Dr. Kuwata (kuwata@macalester.edu) for more information.

Search for Director of the Midstates Consortium

Dr. Michael Seymour, the current Midstates Director, has informed the Executive Committee of his plans to step down from that position at the end of June, 2020. A description of the position and application information can be obtained from the campus representative at each school. Review of applications will begin November 1, 2019.