

# Consortium Connections

*Connecting campuses to promote excellence in science and mathematics*

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## **Mark your calendar for upcoming 2018 events** (see newsletter section for information)

- March 19, 2018 nominations for Janet Andersen Award due
- April 13-14, 2018 Executive Committee Meeting, Aloft Chicago O'Hare
- July 6-8, 2018 Early Career Workshop, Gustavus Adolphus College
- November 2-3, 2018 Biological and Psychological Sciences Symposium in Chicago
- November 9-10, 2018 Physical Sciences, Mathematics and Computer Science Symposium in St. Louis

## **Comments from the Director**

Having completed almost 2 years as Director for the Midstates Consortium I have now participated in each of the disciplinary Undergraduate Research Symposia (Biological and Psychological Sciences; Physical Sciences, Mathematics and Computer Science) at both the University of Chicago and Washington University in St. Louis. Having the opportunity to attend four “different” meetings has highlighted the broad range of exciting scientific research that is being carried out at the Midstates liberal arts PUI colleges and R1 research universities. While the scale of the projects between the PUI and R1 programs is very different, the motivation to understand the world around us through research and the thrill of discovery is the same for both undergraduates and graduate students. The symposia also serve as reminders that research is not done in isolation; it needs to be shared so that we can learn from each other, especially with the ever-increasing need of interdisciplinary approaches to solve complex problems. Effective sharing requires the ability to communicate in a clear, organized and articulate manner, a skill that students can develop through their presentations at the research symposia. It is especially enjoyable to see students explaining their work to family members who are able to attend the symposia. The overall professional demeanor of the students at the meetings is impressive and is a reflection of the mentorship provided by their research advisors. With that in mind, I extend a huge “Thank you” to all research advisors, with special recognition of the faculty who travel to the meetings with the students. Since it is not possible, nor practical, for every research advisor to attend the meetings, those who do make the trip are indicative of the collaborative effort needed to maintain a successful research program in a liberal arts environment.



*Mike Seymour  
MCMS Director*

This newsletter includes a summary of both 2017 research symposia, while an article on the 2017 Early Career Workshop appeared in the September 2017 newsletter (archives of all newsletters are available on the Consortium website <http://mathsciconsortium.org>). Note that requests for Visiting Speakers and Short Term Consultations can be made at any time by completing the short application form on the Consortium website.

Best wishes to all for a productive spring semester with your classes and research. As students continue their research this semester and through the summer, do keep in mind that they can share their work with peers by presenting at the 2018 Undergraduate Research Symposia.

## Undergraduate Research Symposium in the Physical Sciences, Mathematics and Computer Science, University of Chicago, November 3-4, 2017



Midstates Consortium for Math and Science  
Undergraduate Research Symposium  
Physical Sciences, Math and Computer Science  
University of Chicago, Nov. 3 - 4, 2017

*Symposium participants in the atrium of Gordon Center for Integrative Science*

The 2017 Physical Sciences, Math and Computer Sciences meeting at the University of Chicago had an attendance of 114 students and 20 faculty representing all of the member institutions with a program that included 77 poster and 26 podium presentations. To kick-off the science-oriented weekend the

University of Chicago Graduate Dean of Students and Graduate Admissions Offices invited the symposium participants to a Graduate School Exploration and Preparation Seminar beginning with lunch in the Gordon Center for Integrative Sciences. Following lunch, students were invited to participate in a variety of activities and panels including campus and lab tours, application workshops, and faculty and graduate student admissions panels. The afternoon concluded with a networking reception in the Eckhardt Research



*A few of the 15 poster boards on display in the Gordon Center Atrium*



*Sharing results at the poster session*

Center attended by University of Chicago physical science students, faculty, and guests attending the Midstates Consortium. After the reception Professor Yamuna Krishana, Department of Chemistry – University Chicago, presented the keynote lecture “DNA Nanobots probe Inner Space.”

At the Friday evening dinner in the atrium of the Gordon Center for Integrative Sciences participants enjoyed Chicago style pizza, followed by the presentation of Janet Andersen Lecture Award recipient Dr. Thomas Varberg, Macalester College, entitled “Chemical bonding in transition metal free radicals: Tantalizing and golden results from electronic spectroscopy”. After Saturday

morning breakfast at the Hyatt Hotel the participants reconvened at the Gordon Center for the morning program which began with a poster session in the atrium, followed by 3 parallel sessions of oral presentations with talks on different themes, and concluded with a group discussion between faculty, graduate students and post-docs about careers at liberal arts colleges.



*Student presentations at Chicago meeting*

Lunch at the nearby Baker Dining Hall provided a wide variety of salads, entrées and desserts. The afternoon program had 2 poster sessions and another set of 3 parallel oral sessions. The meeting concluded at 5:00 PM as most participants picked up boxed dinners for the trip back to their home institution. Our thanks to Michael Stein and Susan Rueth from the University of Chicago for their help in planning the meeting and taking care of the local arrangements.

## **Undergraduate Research Symposium in the Biological and Psychological Sciences Symposium, Washington University in St. Louis, November 10-11, 2017**

The 2017 Biological and Psychological Sciences meeting held at the Eric P. Newman Center on the Washington University School of Medicine Campus had participants from all the Midstates member institutions. The 117 students and 15 faculty took part in a program that included 86 poster and 21 podium presentations of student research, along with other scientific talks and time for social networking.



*Symposium participants after the Friday evening dinner at the Eric P. Newman Center*

All activities for the meeting were conveniently held at the Eric P. Newman Center, whereas in previous years several different campus facilities were used to host the meeting. The Eric P. Newman Center is also a short walk from both the Parkway Hotel, which is where participants stayed, and the MetroLink light rail, which provided easy transit to and from the airport.



*Activities with the Young Scientist Program*

This year’s workshop opened on Friday evening with a welcome dinner, followed by a hands-on neurology-based activity presented by members of the WUSTL Young Scientist Program. Participants found it interesting to actually detect the blind spot in the retina and experience visual motor adaptation. The evening concluded with Washington University’s Dr. Gautam Dantas presenting the keynote lecture: *“Combating Antibiotic Resistant Superbugs Across Diverse Habitats.”*

The Saturday morning program started with a poster session and was followed by three parallel sessions of student oral presentations. The Janet Andersen Award Lecture *“Research Without Borders: Research as Service”* to be presented by Dr. Julie Legler, St. Olaf College, had to be cancelled on short notice. Midstates Director Michael Seymour did share with students the following key point from Dr. Legler’s presentation: “Student researchers, like you, also have the potential to address pressing problems and arrive at answers that can contribute directly, or indirectly, to improve the world. Research can be a career that will provide you meaningful work for a lifetime.”

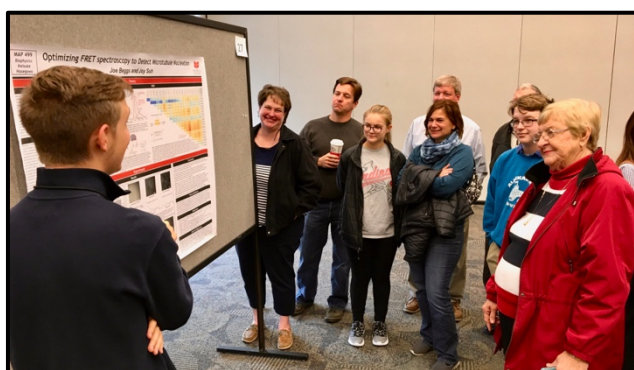
For lunch participants picked up a boxed meal and attended either a panel discussion on graduate school with WUSL graduate students (3 of the grad students were from Midstates colleges) or a discussion on a career in a liberal arts college with faculty panelists from member colleges. The afternoon program consisted of two poster sessions with an intervening oral session and concluded at 5:00 PM. After a full day of presentations and research discussions, participants were ready to get a boxed dinner and return to their campus. Several faculty met with WUSL grad students and post-docs at the International Tap House to continue the discussion of careers at a liberal arts institution. Our thanks to Sara Holmes, Bruce Carlson, Andrew Richards, Anne Robinson and the Future Educators group for their assistance with organizing the meeting.



*Dr. John Russell introducing the graduate school panel*



*Poster session in Great Room B*



*Sharing research with family members*

## The 2017 Janet Andersen Lecture Award recipients

Congratulations to Dr. Julie Legler, Professor of Statistics and Statistics Program Director, Department of Mathematics, Statistics and Computer Science at St. Olaf College and Dr. Thomas Varberg, DeWitt Professor of Chemistry, Department of Chemistry at Macalester College for being selected as the 2017 Janet Andersen Lecture Award recipients. See the September 2017 newsletter (Vol. 10, No. 2) for their biographical information. **Nominations for the 2018 Janet Andersen Lecture Award are due March 19, 2018.** See the link on the Midstates website (<http://mathsciconsortium.org>) for complete information regarding nomination criteria and the information to be submitted.

## Short Term Consultations and Seminar Speakers 2017-18

The following seminar visits have been approved for 2017-18.

- Professor Keisuke Hasegawa, Grinnell College presentation to the Physics Department at St. Olaf College.
- Professor Dipannita Kalyani, St. Olaf College presentation to the Chemistry Department at Hope College.
- Emma Dawson, student of Professor Amy Kolan, St. Olaf College, presentation to Physics Department at the University of Chicago.
- Professor Andrea Henle, Carthage College, presentation to the Molecular Biology Department at Colorado College.
- Professor Britt Scharringhausen, Beloit College, presentation to the Physics Department at Luther College.

## Upcoming Events 2018

- *March 19, 2018:* nominations for Janet Andersen Award due. See the Consortium website for additional information (<http://mathsciconsortium.org>).
- *April 13-14, 2018:* Executive Committee Meeting, Aloft Chicago O'Hare. This one day program is when all the Consortium campus representatives meet in person to review the current activities and programs, propose new ideas, and discuss the financial status. If you would like to provide input on how the Consortium operates or suggest future directions, we look forward to hearing from you. Contact your campus representative or the Director ([midstatesdirector@gmail.com](mailto:midstatesdirector@gmail.com)).
- *July 6-8, 2018:* Workshop for Early Career Success, Gustavus Adolphus College. A description of the program, which is open to early career faculty, post-docs and senior graduate students, is on the MCMS homepage (<http://mathsciconsortium.org>). Registration for the meeting will be open in mid-April.
- *November 2-3, 2018:* The Biological and Psychological Sciences Undergraduate Research Symposium will be held at the University of Chicago. Registration will open on the Consortium web site by September 1.
- *November 9-10, 2018:* The Physical Sciences, Mathematics and Computer Science Undergraduate Research Symposium will be held at Washington University in St. Louis. Registration will open on the Consortium web site by September 1.