

Consortium Connections

Connecting campuses to promote excellence in science and mathematics

September 2020

Founded by the Pew Charitable Trusts in 1988

Vol. 13, No. 2

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

- October 5, 2020 Application deadline for Research Symposia (<http://mathsciconsortium.org>)
- October 31, 2020 Biological & Psychological Sciences Virtual Symposium
- Nov. 7, 2020 Physical Sciences, Mathematics & Computer Science Virtual Symposium

Comments from the Director

As the new director of the Midstates Consortium I want to take this opportunity to introduce myself. I am a geologist with degrees from two UC's: an undergraduate degree from the University of Cincinnati and a doctorate from the University of Chicago. I spent my entire teaching career at Hope College starting in 1984 and retiring in 2020. While at Hope I taught courses in both geology and environmental science. I was also deeply involved in undergraduate research, mentoring 64 research students during the summer and many others during the academic year. My research career has taken two main tracks. I originally focused on chemical changes during metamorphism, i.e. changes in rocks deep within the earth driven by changes in temperature, pressure or chemical environment. My original field area was in Southern India but I have also worked, along with my students, in the Coast Ranges of California, The Keweenaw Peninsula of Michigan and the Sveconorwegian Orogen of Southwestern Sweden (photo to the right). Because of where I live, I became fascinated by the coastal dunes that line the eastern shore of Lake Michigan. I began to work unraveling their geological history in 1999. For the last twenty years coastal dunes have been my major research interest with my focus changing from their geological history to a study of the contemporary process by which they grow and migrate. I am continuing with this research even after my retirement. This research includes active collaborations with some of my former undergraduate research students. I believe that early involvement in research is a particularly effective way of training future scientists. This is a model somewhat similar to the hands-on apprenticeship model used to train artists and craftspeople in the Middle Ages. As a result, I have been active in promoting undergraduate research and served for 12 years as a counselor for the Council on Undergraduate Research with two of those years as chair of the Geoscience Division and a member of the Executive committee. I am excited about being able to continue working to promote scientific research by undergraduate students as I serve as director of the Midstates Consortium for Math and Science. I was hoping to start my tenure as director by visiting each of the Midstates colleges and universities. Unfortunately, the coronavirus pandemic has made that impossible. However, I hope that I will get to visit and know you better this spring.



Ed Hansen discussing the local geology with one of the natives of the Steningekusten Nature Preserve, Southwest Sweden.

The Effect of the Coronavirus on Our Program

Like every other institution in the United States, including all of our colleges and universities, the coronavirus pandemic has had a large effect on our program. We have had to cancel several programs including the “Mid-career Faculty Development Workshop” which had been scheduled at St. Olaf College for June 5-7, 2020 and the “Workshop for Early Career Success” which had been scheduled at Gustavus Adolphus College for July 31-August 2. The 2019-2020 annual executive committee meeting that had been scheduled as an in-person meeting was converted to a virtual meeting held on April 25. The two undergraduate research symposia which had been scheduled as in-person meetings at the University of Chicago and Washington University have been converted into virtual symposia. As recognition of the extra financial burden placed on our member institutions during the pandemic, we have decided to suspend the \$10,000 annual dues for membership to the consortium for the 2020-2021 academic year. Some of these changes are highlighted in the sections that follow.

2020 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 2019-2020 annual report that will be sent to the committee in late 2020.

The annual executive committee meeting was originally scheduled as an in-person meeting to be held in Minneapolis St. Paul, Minnesota. Because of the coronavirus pandemic, the meeting was rescheduled as a virtual meeting held on April 25. In addition to the campus representatives from the member institutions, the Director (Mike Seymour), the future Director (Ed Hansen) and Administrative Assistant (Ann Schutt) attended. New committee members attending were Kimberly Dickson from Lawrence University, Steven Henle from Carthage College and Swanne Gordon from Washington University.

Reports were given on the activities of the consortium since the last executive committee meeting.

- The 2019 Early Career Workshop was held on July 26-28 at Gustavus Adolphus College. It had 10 participants from 7 different member schools and was facilitated by Scott Bur and Brandy Russell from Gustavus Adolphus.
- The 2019 Undergraduate Research Symposia for the Biological and Psychological Sciences was held at Washington University on November 1 and 2 and had 14 faculty and 89 student attendees.
- The Physical Sciences, Math and Computer Science Symposia at The University of Chicago on November 15 and 16 had a total of 19 faculty and 135 student attendees.
- The Midstates Consortium Seminar Speaker series supported four seminars by visiting speakers to four member schools.
- A mid-career faculty development workshop was scheduled for June 5-7, 2020 at St. Olaf College while a workshop for early career success was scheduled for July 31-August 2, 2020 at Gustavus Adolphus College. Both workshops were cancelled because of the coronavirus pandemic.

The nominations for the Janet Andersen Award were discussed. Dr. Leah Chase (Hope College) was selected as the 2020 recipient in the Biological and Psychological Sciences while Dr. James Doyle (Macalester College) was selected as the recipient in the Physical Sciences, Math and Computer Science. Additional information is given in the announcement on page 5.

Much of the discussion focused on the 2020-2021 academic year budget. The coronavirus pandemic led to the cancellation of faculty development workshops and the two in-person undergraduate research symposia. These typically represent the largest share of the consortium’s expenditures. The executive committee also realized

that the coronavirus placed an extra financial burden on our member institutions. Thus we discussed a budget in which:

1. We suspended the \$10,000 membership fee charged our member institutions for the 2020-2021 academic year.
2. No funds were allotted for the undergraduate research symposia or the early career success workshop. Funds were allocated for administrative costs, for the speaker and consultation programs to be resumed once travel between campuses becomes safe again, for the executive committee meeting in the Spring of 2021, and for a mid-career workshop scheduled for June of 2021.
3. This budget resulted in projected expenses of \$65,040.00 against an anticipated income of \$1,000.00 for a deficit of \$64,040.00. This compares to expenses of \$169,640.00 in the 2019-2020 academic year budget. The deficit would be funded through our carry-over funds currently at approximately \$300,000.00. Discussion of the budget continued by email after the meeting and was approved by an email vote which ended on May 13.

As part of the budget proposal the executive committee voted to change the due date for the membership fee from the middle to the beginning of the program year. This change will begin in July, 2021 at the start of the 2021-2022 program year.

The executive committee appointed a subcommittee to investigate the possibility of virtual undergraduate research symposia for 2020. The subcommittee consisted of Stuart Kurtz, Paul Pearson, Todd Pedlar, Jeff Ford, Steven Henle, Ed Hansen and Ann Schutt. In August they presented a plan to the executive committee for two on-line symposia organized through the ForagerOne Symposium platform. This required adding an additional expense of \$6,700.00 to the 2020-2021 budget. This plan was approved by the executive committee in an email vote. More details on the upcoming symposia are given in the next section of this report.

Virtual Undergraduate Research Symposium in the Biological and Psychological Sciences, October 31, 2020

This year the symposium has been moved online and will be organized using the ForagerOne Symposium platform. Friday afternoon, October 30, the University of Chicago will host an online workshop for students interested in exploring graduate school. Saturday morning, October 31, will begin with the Janet Anderson lecture in Biological and Psychological Sciences to be given by Dr. Leah Chase from the Neuroscience Program at Hope College. This will be followed by oral and poster presentations that will continue throughout the day. Oral presentations will be scheduled at 15-minute intervals, allowing 12 minutes for the presentation and 3 minutes for questions. Posters will be posted on a symposium website and will be available for students and faculty from Midstates institutions to peruse several days before the symposium. Each presenter will have an opportunity to present his or her poster and to answer questions during a live session on October 31. The specific schedule for the time and locations of presentations will be made available after all abstracts have been reviewed and organized into the appropriate sessions.

Key dates for this symposium are:

- October 5, 2020: Abstract Submission & Application Deadline for Presenters
- October 8, 2020: Notification of decision on abstracts will be sent to Midstates campus representatives and participants.

- October 23, 2020: Deadline for uploading posters and presentations for the Biological and Psychological Sciences Symposium
- October 26, 2020: Biological and Psychological Sciences Symposium webpage available to faculty and students from colleges and universities in the Midstates Consortium
- October 31, 2020: Biological and Psychological Sciences Online Symposium

Students interested in participating can submit an abstract at <https://bit.ly/35kDAmp>

Virtual Undergraduate Research Symposium in the Physical Sciences, Mathematics and Computer Science, November 7, 2020

This year the symposium has been moved online and will be organized using ForagerOne symposium platform. Friday afternoon, November 6, Washington University will host an online workshop for students interested in exploring graduate school. Saturday morning, October 31, will begin with the Janet Anderson lecture in Physical Sciences, Math and Computer Science to be given by Dr. James Doyle from the Physics Department at Macalester College. The lecture will be followed by poster presentations and oral sessions that will continue throughout the day. Oral presentations will be scheduled at 15-minute intervals, allowing 12 minutes for the presentation and 3 minutes for questions. Posters will be posted on a symposium website and will be available for students and faculty from Midstates Institutions to peruse several days before the symposium. Each presenter will have an opportunity to present his or her poster and to answer questions during a live session on November 7. The specific schedule for the time and locations of presentations will be available after all abstracts have been reviewed and organized into the appropriate sessions.

Key dates for this symposium are:

- October 5, 2020: Abstract Submission & Application Deadline for Presenters
- October 12, 2020: Notification of decision on abstracts will be sent to Midstates campus representatives and participants
- October 30, 2020: Deadline for uploading posters and presentations for the Physical Sciences, Math and Computer Science Symposium
- November 3, 2020: Physical Science, Math and Computer Science Symposium webpage available to faculty and students from colleges and universities in the Midstates Consortium
- November 7, 2020: Physical Sciences, Math and Computer Science Online Symposium

Students interested in participating can submit an abstract at <https://bit.ly/3idsqDK>

The 2019 Janet Andersen Lecture Award Recipients



Biological and Psychological Sciences

Dr. Leah Chase

Professor of Biology and Chemistry

Hope College, Holland, Michigan

The nomination letter for Dr. Chase describes her vigorous program of interdisciplinary research involving undergraduates, and her engaging and skillful approach to teaching a wide range courses in chemistry, biology and neuroscience. She has advised 114 research students. Seventy six percent of her research students have pursued post-graduate education. She uses a wide variety of pedagogical approaches in her teaching which highlight fundamental concepts, essential lab skills, an appreciation of scientific literature and development of writing abilities. The anecdotes found in teaching evaluations show that her students have great affection and respect for her as a teacher. Beyond her research and teaching accomplishments, she

is recognized as the guiding force behind the establishment of the interdisciplinary Neuroscience Program at Hope College. In addition to being the founding faculty member of the program, she served as the Neuroscience Program Director for 11 years. She is also noted for extraordinary service activities that support students at the departmental, divisional, and college levels. Among these is the development of K-12 outreach programs to promote interest in neuroscience and to encourage young students to study science and mathematics. Dr. Chase will be recognized for her contributions to undergraduate research and education by presenting the Janet Andersen Lecture at the 2020 Midstates Consortium Undergraduate Research Symposium in the Biological and Psychological Sciences.



Physical Sciences, Math, and Computer Science

Dr. James Doyle

Professor of Physics

Macalester College, Saint Paul, Minnesota

The nomination letter describes Dr. James Doyle's broad interdisciplinary interests in research and education and the large impact this has had in both undergraduate research and curriculum at Macalester College. Dr. Doyle's primary research focus is in materials and plasma physics, and he has published papers with faculty and undergraduate student collaborators in chemistry, geology and environmental studies. He has mentored over 50 students, 16 of whom appear as coauthors on scientific papers. Recently he has shifted his research efforts into sustainable energy and electrical grid modelling and within a few years of entering the field has already published in some of its more prestigious journals. He has been a successful teacher in a wide range of courses, large and small, introductory and advanced, for science majors and non-science majors. He is the only physics professor at Macalester to teach every one of the eight core curriculum courses required for the physics major. In addition, he has taught topics courses in Renewable Energy, Digital Electronics, Biophysics, Semiconductor Device Physics, Chemical Physics, and other areas including courses cross-listed in the Environmental Studies, Computer Science, and Chemistry programs. Dr. Doyle will be recognized for his contributions to undergraduate research and education by presenting the Janet Andersen Lecture at the 2020 Midstates Consortium Undergraduate Research Symposium in the Physical Sciences, Math and Computer Science.

Nominations for the 2020 Janet Andersen Lecture Award are due March 31, 2021. Contact your campus representative or Consortium Director for information (midstatesdirector@gmail.com).

Mid-career Faculty Development Workshop to be offered in 2021

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. 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.