

# Consortium Connections

Connecting campuses to promote excellence in science and mathematics

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I'm not sure what it looks like on your campuses, but here at Hope we've still got big piles of snow on the ground! However, puddles, robins and small patches of grass do signal that Spring is on its way and we can't wait! We just finished a wonderful weekend workshop at Macalester College in St. Paul and we've got a very busy few months ahead. Please take a few minutes to read through this longer than usual newsletter and discuss these opportunities with your colleagues.

## Re-energize, Re-imagine and Re-invest: MidCareer Faculty Development Workshop

Macalester College, St. Paul, MN, February 22-24, 2008



Fifteen faculty from six campuses gathered at Macalester College for a weekend of refreshment, reflection, planning and fun. Paul Fischer, a chemist at Macalester, was our host and arranged for us to use the Alumni House for most of the weekend's meetings. Jeanne Narum and Karen Nordell Pearson facilitated the weekend's discussions amid lots of good food, good conversation and good humor. Jan Serie, the Director of Macalester's Center for Scholarship and Teaching shared her wisdom with the group on Friday evening after dinner. Thanks Jan for your insights about learning from our failures and recognizing and appreciating the supportive communities we're part of on our campuses!

Leslie Cameron, Temple Burling and Matt Zorn from Carthage, Leslie Gregg-Jolly, Elaine Marzulff and Sam Rebelsky Grinnell, Mike Seymour from Hope, Mary Crawford and Jennifer Templeton from Knox, Beth Lynch and Jim Howatt from Luther and Paul Fischer, Keith Kuwata, James Heyman and Libby Schoop from Macalester all participated in the meeting. If some people in this group picture look a bit unusual - see Mike with his pants rolled up in the lower right - that's because we took this picture right after we'd finished an exercise in pairs about change.

Over the course of the weekend participants spent time alone and in 3-4 person clusters sharing ideas, formulating goals, strategies and actions, and critiquing each other's ideas as plans took shape. Leslie and Jeanne are shown at the right talking about Leslie's goals while Paul and Beth work on their posters. We also met for several large group conversations about issues such as scholarship, time management, and leadership. On Sunday morning, each participant shared a poster of their 3-5 year plan with the group. Mike is holding Paul's poster as he presents his plan to the group. If you see Paul in the next year or so...ask him about his sabbatical experiences in California!



Thanks to Jeanne Narum and Allison Harvey of the PKAL office and the Consortium's Program Assistant Marlene Field and Paul Fischer for their superb planning, weekend organization and meeting facilitation.

For more pictures from the meeting, visit the archives on [www.mathsciconsortium.org](http://www.mathsciconsortium.org).



## Upcoming Workshops: Spring and Summer 2008



**Sharing best practices for serving students and faculty at Science and Math Teaching and Learning Centers, Colorado College, April 18-20**

Have you been to see Pikes Peak in April? Well...here's your chance! Staff members, administrators and faculty involved with Teaching and Learning Centers are all invited to attend a meeting at Colorado College on April 18-20, 2008. Minna Mahlab, the Director of the Grinnell's Science Learning Center, Julie Haurykiewicz, the Director for the Center for Teaching and Learning at Lawrence University and Dr. Mark Morgenstern, the Director of the Quantitative Reasoning Center at Colorado College are conceiving this meeting as an opportunity to discuss common issues on all (or most) of the Consortium's campuses and share best practices, including both 'big-picture' and 'nuts-and-bolts' issues.

The topics for the weekend meeting will likely include:

- practical 'what works' ideas for hiring, training and evaluating student tutors
- communicating with faculty about the services available to them and to their students
- publicity for the services available to students and faculty
- responsiveness to requests from students and faculty about offering new programs or services
- the use of technology in T&L centers
- faculty and institutional support for the programs offered i.e. staff, space, \$, visibility
- assessing the impact of T&L centers on student performance in math and science
- helping students with learning disorders such as text anxiety and math or science phobia

Minna, Julie and Mark have invited Irene M. Duranczyk an Assistant Professor in Postsecondary Teaching and Learning in the College of Education and Human Development at the University of Minnesota to present to the group on Sunday morning about learning disorders, especially math and science anxiety.

Online registration is open (until March 18th) on our website, [www.mathsciconsortium.org](http://www.mathsciconsortium.org). A tentative schedule and other details are on the website too. Participants will be hosted in their own rooms at the Antlers Hilton in Colorado Springs within walking distance of CC's campus. The costs for attending this meeting including meals,

lodging and travel will be covered by the Consortium. Contact your [campus representative](#) or [Karen Nordell Pearson](#) with questions.



## **The Impact of Changes in the American Chemical Society (ACS) Guidelines, Colorado College, June 27-29**

The department of Chemistry and Biochemistry at Colorado College will be hosting a two-day conference on the impact of recent changes in the American Chemical Society guidelines on the chemistry curricula on our campuses. The meeting is being organized and hosted at Colorado College by Dr. Neena Grover, Dr. Harold Jones, & Dr. Murphy Brasuel. We invite teams of two or more faculty from each campus chemistry department to attend this meeting.

Discussions will involve the changes in courses and conceptions of the chemistry major at various liberal arts colleges and universities that are a part of the MCMS. Drs. Will Polick (Hope) and Jeanne Pemberton (University of Arizona), two members of the ACS-CPT committee, have been invited to participate in discussions on interpretations of the proposed guidelines. The meeting will involve review of current requirements for students graduating in Chemistry and how these will change under the new rubric that will be published in the Spring 2008.

**Online registration will open in late April on our website, [www.mathsciconsortium.org](http://www.mathsciconsortium.org).** A tentative schedule and other details will be on the website too. Participants will be hosted in nice dorm rooms on Colorado College's campus and as always, the costs for attending this meeting including meals, lodging and travel will be covered by the Consortium. Contact your [campus representative](#) or [Karen Nordell Pearson](#) with questions.



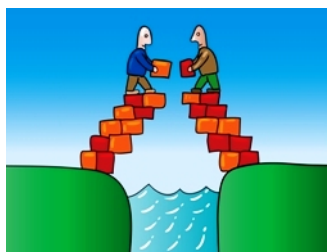
## **Teaching Weather and Climate Using Laboratory Experiments, The University of Chicago, June 18-20**

Weather and climate are topics we can't avoid and with a growing concern over a human-induced climate change, they are subjects that attract students, both science majors and non-majors. Teaching weather and climate can be challenging, because it is an applied science, and many students do not have formal training in the physics, math, and chemistry that underlie the subject. To cover the fundamental principles with sufficient depth often leaves little time for discussing the observed facts; focusing only on observation and pretty pictures can undermine the reasoning behind predictions.

Many faculty facing this dilemma seem to agree, however, that the students respond very positively to artfully designed laboratory demonstrations, regardless of their skill levels in math and physics. Students so used to computer-generated simulations often find it refreshing to observe phenomena (or their analogs) in the "real" environment. Noboru Nakamura, an Associate Professor in the Department of Geophysical Sciences at The University of Chicago is one of the conference coordinators for this meeting at the University of Chicago. The aim of the meeting is to share pedagogical tools for anyone interested in using the laboratory approach to teaching weather and climate. This meeting will also be an excellent opportunity to interact with internationally acclaimed atmospheric and oceanic scientists and to learn about current research in the field.

For more information, visit [the workshop's webpage \(http://geosci.uchicago.edu/~nnn/workshop/\)](http://geosci.uchicago.edu/~nnn/workshop/).

[Online registrations](#) are being accepted now. This meeting is being co-sponsored by the MCMS and there are some travel funds set aside for the participants from MCMS member institutions. If you would like to apply for the travel assistance, please indicate your MCMS membership in the registration and in communication with Noboru Nakamura ([nmn@uchicago.edu](mailto:nmn@uchicago.edu)).



## **Bridging Research & Teaching - Innovation at the Crossroads of Chemistry, Physics and Biology, Washington University, June 18-21**

Consortium faculty are invited to apply for the teaching and research workshop for undergraduate faculty, to be held June 18-21, 2008 at Washington University in St. Louis entitled "Innovation at the Crossroads of Chemistry, Physics and Biology". This workshop offers participants networking opportunities with WU faculty and other workshop participants, new ideas to teach research in an undergraduate classroom setting and hands-on experiences in WU core facilities. Submit your application early; spots are limited for this year's workshop! All the transportation, housing and meal expenses are shared by the Consortium and Washington University.

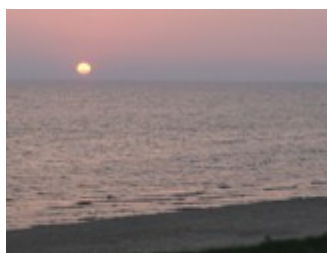
This year's program will include presentations devoted to:

- Imaging human metabolic systems in real time
- Gene regulation by RNAs: a new paradigm
- Ion channels and cardiac disease
- Molecular origins of DNA damage and repair
- The molecular basis of amyloid disease

Mark your calendars for the 2008 Workshop. Attendees should plan to arrive the afternoon of Wednesday, June 18th. There will be a welcoming dinner that evening. Day-long workshops will take place on June 19 and 20 with interactions with WU faculty, students and postdocs. Departures should be scheduled for Saturday, June 21.

Additional information about the workshop and workshop applications may be obtained by contacting:

Jennifer Lawler Brown, Recruitment Coordinator-DBBS [lawlerj@dbbs.wustl.edu](mailto:lawlerj@dbbs.wustl.edu)  
(314) 747-0947  
(314) 362-3369 (fax)



## **New Faculty Workshop: Hope College and Marigold Lodge, Holland, MI, July 11-13, 2008**

Each summer the Consortium hosts a new faculty workshop for early career colleagues including new hires, faculty who have completed their first or second years of a new appointment (term or tenure track) postdocs and senior graduate students interested in teaching at a liberal arts college or university. This summer's New Faculty Workshop will be held on Hope's Campus and at Marigold Lodge in Holland on July 11-13th. More details and registration information will be posted later this spring. **Please inform and encourage new hires in your departments to save this weekend in their calendars.** Contact [Karen Nordell Pearson](#) with questions about the meeting.

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## More Items of Interest...

### Janet Anderson Lecture

At last spring's meeting in Chicago, members of the Executive Committee approved the idea of honoring Janet Anderson and her service to the Consortium by creating the Janet Anderson Lecture. Janet Anderson, was a beloved faculty member in Hope's Math Department and served enthusiastically as the Consortium's Director for five years, ending tragically, when she was killed in a car accident in November 2005. Janet was part of several interdisciplinary research projects involving math and biology students and taught an interdisciplinary math-biology course. Janet was devoted to providing creative, high-quality learning experiences for her students, she herself was always learning as she was teaching, and she looked for ways to connect with and support natural science faculty, both new and experienced.

We'd like to honor Janet by choosing one faculty member each year to present the Janet Anderson Lecture at one of the fall Undergraduate Research Symposia. The awardee will present at the meeting that most closely aligns with their topic and expertise. We will be accepting nominations for this award until April 24th since we will select the first award recipient at this Spring's Executive Committee Meeting on Saturday April 25th. Please watch for an email with more details about the criteria for this Award Lectureship. You'll be encouraged to submit your nominations on our website.

### Strategic Planning for Career Success: Workshop for Graduate Students and Postdocs at The University of Chicago, April 4-5, 2008

After several postdocs and research scientists attended the New Faculty Workshop in July, 2007, they approached the Consortium and asked if Karen N. Pearson would come facilitate a career planning workshop for graduate students and postdocs on the U of C campus. Isaac Skromne and several of his colleagues who are part of the U of C's Postdoctoral Association are helping with the planning and coordination of the workshop that will begin Friday evening, April 4th and run through Saturday lunch, April 5th. If you'd like more information about the workshop, please contact [Isaac Skromne](#) or [Karen Nordell Pearson](#).

### Annual Executive Committee Meeting: Chicago, April 25-26, 2008

This spring's Executive Committee Meeting will be held in Chicago at the O'Hare Marriott on Saturday morning April 26th. I will be sending each of the campus representatives an agenda sometime in April and we'll also be posting the agenda on our website before the meeting. If you have questions, comments, complaints or other feedback you'd like your campus rep to bring to the meeting, stop by his or her office or drop them an email. For a list of the campus reps visit this [link](#) on our website.

### Opportunities for Collaboration

#### The Genomics Education Partnership

An invitation to participate from **Sarah Elgin**, HHMI Professor and Viktor Hamburger Professor of Arts & Sciences

Department of Biology, Washington University in St. Louis  
[selgin@biology.wustl.edu](mailto:selgin@biology.wustl.edu); Tel. 314-935-5348

The Genomics Education Partnership (GEP) is looking for faculty at primarily undergraduate institutions who teach genetics, molecular biology, etc and are interested in strengthening the work in genomics in these and other courses. The advent of genomic and other high-throughput technologies has changed the way we do research in biology, and hence is changing the way we teach. At Washington University, a new upper level lab course, Bio 4342, "Research Explorations in Genomics" allows students to participate in a collaborative genome sequencing project, each student taking responsibility for sequencing and annotating a segment of DNA. The purpose of the Genomics Education Partnership (GEP) is to make this opportunity available to students on other campuses.

The GEP at present is a consortium of over 30 colleges and universities. You can view the membership list and learn more about the GEP at our website, <http://gep.wustl.edu>. The GEP is funded by the Howard Hughes Medical Institute through a grant to Washington University. The grant supports an annual workshop for faculty who wish to join the GEP, workshops for TA's to work with these faculty, materials support for sequence improvement (with the wet bench work being carried out at the WU Genome Sequencing Center) and computer staff to help manage data and communications. We are now seeking additional faculty interested in joining the GEP through attendance at our workshop June 8-13, 2008, at Washington University. Please visit the [website](#), see [this file](#), or contact [Prof. Elgin](#) for additional information.

## Collaborative Ecological Research Projects

### An invitation to participate from Karen Nordell Pearson and Laurie Anderson (Ohio Wesleyan University)

In 2005, Stuart Allison from Knox's Biology Department coordinated a Consortium-sponsored workshop entitled *Effective use of a field station for undergraduate education* at Knox College. At that conference, there was significant interest in pursuing collaborative projects in areas such as ecology, botany, biochemistry and other biology and environmental science that would allow faculty and students to collect and upload data from various campus field stations or nature preserves on, or near our campuses. In October 2007, Karen Nordell Pearson attended a Great Lakes Colleges Association (GLCA) meeting and met a biologist, Laurie Anderson, from Ohio Wesleyan. Laurie is a plant biologist who studies invasive plants and is forming a network of teacher/researchers at liberal arts colleges who work on various environmentally-related projects. She and I immediately thought of connecting the Midstates Consortium with the GLCA and a few other colleges.

In February we hosted a series of conference calls with about 20 faculty from liberal arts colleges whose purpose was to brainstorm ideas for collaborative projects. Some of you participated in those calls. The initial list of scientific questions/topics the group is considering includes:

- Questions relating to fragmentation, with land parcels associated with each college as study sites. Example: how does habitat fragmentation affect carbon sequestration?
- Focus on disease ecology, such as Lyme disease
- Focus on nutrient cycling, such as effects of nitrogen deposition on terrestrial and aquatic systems
- Issues with headwater streams, such as carbon and nitrogen levels, or species diversity
- Focus on pollutants, preferably ones that link terrestrial and aquatic environments
- Effects of deer on forest regeneration
- Monitoring species populations – invasives, rare species, keystone species
- Decomposition studies with litter bags, similar to the experiments done by the Collaboration through Appalachian Watersheds Project ([CAWS](#))
- Phenology studies
- Environmental changes as land undergoes restoration – e.g., soil changes
- Relationships between biofuels production and biodiversity
- Shifts of populations (e.g., small mammals) with climate change

Our goal is to identify several projects that members of this new group would like to pursue over the next 5-10 years. We're looking for funding sources and we're probably going to host an initial meeting to coincide with this summer's Ecological Society of America (ESA) meeting in Milwaukee in August. If you're interested in knowing more about this new collaborative effort, please contact [Karen Nordell Pearson](#) (616-395-7217).

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**Visits supported by the MCMS Speaker Series, Speaker Consultant Exchange or Short Term Consultation Programs**

**Fall 2007 and Winter 2008**



Reminder: you can still apply for these funds for this spring and summer!

visit: [www.mathsciconsortium.org](http://www.mathsciconsortium.org)

## Speaker Series

David Bunde of the Computer Science Program at Knox College hosted Janet Davis of Grinnell's Computer Science Program for the seminar *Engaging and Informing Citizens with Household Indicators* on February 18, 2008.

Eric Baack of Luther's Biology Department invited Briana Gross from the Biology Department at Washington University to present the seminar *The Origin and Evolution of the Homoploid Hybrid Species Helianthus Deserticola* on March 4, 2008.

## Speaker-Consultant Exchange

David Thompson of Lawrence's Chemistry Department visited Hope College on Nov 9, 2007 to present *Exploring Surface Enhanced Raman Signals at Three Dimensional Regularly Arrayed Gold Nanoparticle Surfaces* and meet with students and faculty at Hope. This April, Wally Fu from Hope's Chemistry Department will be visiting Lawrence to present a seminar and meet with students and faculty about his previous career as a research scientist at Pfizer.

## Short Term Consultations

Ian Steele in the Geophysical Sciences at the University of Chicago hosted Ed Hansen in Geology at Hope College and several of Ed's students to use the Scanning Electron Microscope for sample analysis. July 16-21, 2007

Mary Walczak in St. Olaf's Chemistry Department hosted David Lopatto from Grinnell's Psychology Department to plan assessment strategies for a course that will integrate introductory chemistry and biology courses as well as provide a foundation for the ongoing interdisciplinary work supported by St. Olaf's HHMI program. August 22, 2007

Ian Steele in the Geophysical Sciences at the University of Chicago hosted Andrew Knudsen in the Geology Department at Lawrence University to use the Electron Microprobe to investigate the chemical relationships of heavy metals in contaminated soils from the banks of the Milwaukee River in Riverside Park, Milwaukee, WI. August 23, 2007

Mary Walczak in St. Olaf's Chemistry Department hosted Michael Grayson whose specialty is Biomedical & Bioorganic Mass Spectrometry at Washington University to develop a MALDI\_MS characterization regime for copper (II) carboxylates. Fall 2007

Ben Newton in the Math/CS Department at Beloit College hosted Pedro Texeira from Mathematics at Knox College to discuss a new seminar series for calculus students. November 28-29, 2007

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## Comments from the Director

Friends and Colleagues,



As you can see by the many items above, we've had a busy year so far and we've got a busy spring and summer ahead! We'd love to see many faculty, staff and administrators participate in these meetings as those who plan them put a great deal of effort into organizing meetings with plenty of time for conversations and presentations with substance as well as time for more informal conversations with colleagues and friends. Even if these meetings aren't of interest to you, please encourage your colleagues to attend.

If you've got ideas for how we can strengthen the MCMS, please give me a call at 616-395-7217 or send an email to [nordellpearson@hope.edu](mailto:nordellpearson@hope.edu).

Enjoy the appearance of all the hopeful signs of Spring!

Karen Nordell Pearson

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Lawrence University • Luther College • Macalester College • St. Olaf College • University of Chicago • Washington University