



CURPA NEWS



Newsletter of the Council on Undergraduate Research Physics and Astronomy Division

Summer 2012

Message from the Chair

Is physics and astronomy education important to you? Seems like a silly question. However, we are all being asked to quantify what it is we do for a living and why it is valuable. At the same time, we are seeing the rise of for-profit educational enterprises along with a boom in online classes. Even virtual laboratory classes are showing up. In this climate, it is more important than ever to educate our colleagues, administrators, and fellow taxpayers that one-on-one faculty-mentored research with students is essential for the preparation of the next generation of STEM professionals and educators. It cannot be done solely online any more than surgery can be learned solely online.

In short, there is no way to replace the apprenticeship model of actually doing physics with a faculty mentor. *This is what we do, and if we don't, where will the next generation of STEM leaders come from?* We all have a stake in this, from 2-year community colleges to R-1 institutions. One immediate action you can take is to become an active member of CUR. As the voice of undergraduate research, CUR can help you build a robust and thriving department through the following:

- **Access to recognized institutes, programs, and publications.** These promote best practices in undergraduate research, from starting a research program to dealing with administrative issues.
- **Access to outstanding program review teams.** An extensive network of experienced CUR members is available for external review of

physics and astronomy programs, as well as larger multi-departmental units. If you are looking to promote, recognize, or initiate undergraduate research in your department, a CUR review team has the broad external experience to open a dialogue with faculty and administrators.

- **The CUR Quarterly.** This is a peer-reviewed journal about all things undergraduate research. Have a question about the appropriate teaching load when supervising undergraduate research students? Want to see examples of institutional summer research programs? Want to start a sponsored programs office? These and many other questions are all answered in the Quarterly. The Quarterly is an invaluable resource for any number of departmental tasks, from conducting a faculty search to writing a strategic plan.
- **Professional resources.** Would you like external letters of reference from professionals that recognize the value and challenges of undergraduate research? Are you searching for a new position, or searching for a new faculty member? CUR can help you in all of these by connecting you with professionals with many years of experience from a broad range of institutions.
- **Funding.** Become a CUR P&A councilor and be eligible to participate in NSF-REU proposals to fund summer research students at your institution.

- **Travel awards.** The CUR Physics and Astronomy division will offer 7 \$200 travel awards for students to attend the National Conference on Undergraduate Research at the University of Wisconsin- LaCrosse in April 2013 (see pages 3-4).
- **Advocacy.** CUR is the organization that advocates for undergraduate research funding. This funding is for faculty and students. Programs such as NSF-RUI are the direct result of CUR advocacy. As a member of CUR, your voice will be heard in Washington as part of our ongoing dialogue with funding agencies.

The cost to join CUR is minimal, and the cost is zero if your institution is an enhanced member. If you are already a member, please take advantage of all CUR has to offer. Indeed, walk down the corridor and encourage your colleagues to join. If you are a department chair, ask your colleagues to join, with particular emphasis on your junior faculty. If you are not a member, ask yourself: is physics and astronomy education important for the next generation of STEM professionals and educators? If the answer is yes, please join us!

Dave McGee
The College of New Jersey
mcgeed@tcnj.edu

Summer 2012 CUR Conference

June 21-26 was a busy time on the campus of The College of New Jersey (TCNJ) in Ewing, NJ, as CUR members from around the country came together for the biennial CUR Conference. June 21-23 was the annual Business Meeting, where your CUR Councilors were busy with a number of new initiatives that you will be hearing more about in the upcoming year. CUR's new website also was unveiled during the meeting—check it out at www.cur.org. CUR PA Division bid farewell to outgoing councilors Alex Small

and David Schaefer and welcomed new councilor Sorinel Oprisan.

The TCNJ campus became much busier on the evening of June 23 when the CUR Conference opened. During the following 2.5 days, attendees learned new ways to improve their undergraduate research opportunities through a wide variety of interactive workshops and plenary sessions. The CUR Physics and Astronomy Division was one of six divisions which held an open house on Sunday evening—in spite of clouds which prevented any telescope observing of the nighttime sky, everyone had a great time with all the indoor demonstrations and activities.

The next CUR Conference will be held in June 2014 in Washington, DC. More details will be provided in forthcoming issues of CURPA News.

Nadine Barlow
Northern Arizona University



Some of the CURPA Councilors who attended the Business Meeting at The College of New Jersey June 21-23. From left: A. Smith, D. McBride, J. Armstrong, H. Yokum, D. Schaefer, N. Barlow, D. McGee, V. Agarwal, M. Jackson, S. Oprisan, J. Mateja.

2013 Posters on the Hill

Do you have an engaging, personable research student who can explain his/her research to a non-technical audience? If so, your student might be a great advocate for

undergraduate research in Washington, DC, and should consider applying to CUR's 2013 Posters on the Hill. This program is aimed at connecting undergraduates with their congressional representatives. Nothing more effectively demonstrates the value of undergraduate research than the words and stories of the student participants themselves.

CUR started accepting applications for the 2013 Posters on the Hill event on September 1, 2012. The submission deadline is the end of the day on November 1, 2012. Selected participants will be notified in late February 2013. Interested in learning more? Please visit the CUR website at:

www.cur.org/conferences_and_events/student_events/posters_on_the_hill/

*Michael Jackson
Central Washington University*

*John Mateja
Murray State University*

Councilor Nomination Deadline

The nomination deadline for CUR Councilors to serve on the Physics and Astronomy Division is November 8, 2012. All current CUR members (including new members at the time of nomination) are eligible and encouraged to apply. Please contact any colleagues you feel would make good candidates for a CUR Council position. You can learn more about the CUR PA division at:

www.cur.org/governance/divisions/physics_astronomy/

Feel free to contact John Armstrong (jcarmstrong@weber.edu) for more information.

2013 National Conference on Undergraduate Research

The National Conference on Undergraduate Research (NCUR) is the largest, most important and most visible undergraduate research conference in the

United States. Bright, motivated, and talented students (in addition to faculty mentors and administrators) from approximately 300 universities (encompassing research universities to small liberal arts colleges) present their research and creative works in most fields of study. NCUR attracts 3,000 to 3,500 students representing 35 to 45 states plus the District of Columbia, Puerto Rico, Canada, and other countries. Typically, most student presenters are seniors, followed in number by juniors. Presentation formats include oral, poster, visual art, and performance. In addition, students have an opportunity to publish their scholarly work in the NCUR Conference Proceedings.

The conference also offers opportunities for participants to attend plenary sessions in which some of the most prominent speakers in the nation in science, the arts, humanities, and the performing arts are featured. The conference also hosts a Graduate and Professional School Fair for participants interested in pursuing graduate studies, providing an opportunity to interact with representatives of more than 100 graduate and professional schools from across the country. Students have ample opportunities to explore local areas of interest by taking part in excursions and tours and the Friday Evening Event.

The University of Wisconsin-La Crosse (UW-L) very successfully hosted the 23rd NCUR on April 16-18, 2009, and has again been selected to host the 27th NCUR on April 11-13, 2013. Abstract submission opens October 1. Preparations are well underway to welcome the participants from across the country. Some of the featured conference events for NCUR 2013 include the following:

- **Plenary Speakers**
 - **Will Steger** is a polar explorer, the recipient of numerous prestigious awards (including the National

Geographic Society's John Oliver La Gorce Medal), a recognized authority on polar environmental issues (including global climate change), and the author of *Crossing Antarctica*, *Saving the Earth*, *Over the Top of the World*, and *North to the Pole*.

- **Hazel Barton** is a renowned microbiologist and a recipient of a National Science Foundation Career Award whose research involves the exploration of caves in countries around the world, including Belize, England, Greece, Greenland, Guatemala, Mexico, New Zealand, the United States, Venezuela, and Wales. Her applied research includes investigation of white-nose disease (WND) in bats—a disease of great national significance. She mentors numerous undergraduate researchers and has been recognized for her novel teaching.
- **Bill Miller** is a Mohican Indian who is a three-time Grammy award winner and recipient of the Native American Music Awards for Best Songwriter, Song, Folk Artist and Artist of the Year. His website notes that “Using three elements, his heritage, life experience and spiritual path, Bill shares his message of transformation through reconciliation.”
- **Friday Evening Event**
Tastes and Cultures of the World:
 The NCUR 2013 featured event on Friday evening, April 12, will have an international focus and is entitled *Tastes and Cultures of the World*. This event will integrate the University of Wisconsin-La Crosse International Program with NCUR. Preliminary plans include Asian, Latin American, European, and African food stations, the

menus for which will have been planned by UW-L's international students and its Office of International Education. The program will begin with a presentation of flags of the world carried by international students from both UW-L and NCUR, and will be led by the La Crosse Fife and Drum Corps. After opening remarks, there will be a talent show consisting of approximately six performances from around the world.

- **Graduate and Professional School Fair**

The Graduate and Professional School Fair (at least 100 schools are anticipated to be in attendance) is scheduled in conjunction with the poster sessions. The venue for these joint activities is Mitchell Hall field house, a facility of approximately 40,000 square feet that will provide a great opportunity for robust interactions among conferees.

More information can be obtained from the NCUR website at:

www.cur.org/conferences_and_events/student_events/ncur/

Ron Rada and Gubbi Sudhakaran
 University of Wisconsin-La Crosse



Opportunities:

During the June Business Meeting, your CURPA Councilors decided that this Newsletter should also list job openings, information about graduate programs, and other opportunities for our CURPA members and their students. If you have an item you would like highlighted in the Opportunities column, please send the information to CURPA News Editor Nadine Barlow (Nadine.Barlow@nau.edu).

Faculty Position in Astronomy/Astrophysics, Florida Institute of Technology, Melbourne, FL. The Department of Physics and Space Sciences at the Florida Institute of Technology invites applications for a permanent faculty position that preferably will begin in January 2013. This position may be at any rank (assistant through full professor). Preference will be given to candidates with observational or theoretical expertise in stellar, exoplanet, and/or planetary astronomy/astrophysics. To apply, please send a cover letter, CV, statement of research and teaching experience and interests, and the names of at least three references to searchpss@fit.edu. Review of applications began on August 1, however applications will be accepted until the position is filled.

Visiting Faculty in Physics and Astronomy, Austin Peay State University, Clarksville, TN. The Department of Physics and Astronomy at Austin Peay State University is looking to fill a 1-year visiting faculty position. Expertise in experimental physics or astrophysics/astronomy is preferred, although any field of physics will be considered. Please contact Dr. Alex King (kinga@apsu.edu) for more information.

MS in Applied Physics Program, Northern Arizona University, Flagstaff, AZ. Northern Arizona University's Department of Physics and Astronomy offers a non-traditional two-year master's degree that provides a strong core of applied physics as well as essential research skills, and prepares students for technical employment in high-technology industries, research institutes, or college teaching as well as for further professional study in various fields of physics and astronomy. There are both thesis and coursework options in general physics and specialized options in planetary science and teaching college physics. For more information, go to:

www.physics.nau.edu/gradprog.shtml

CURPA Communications:

In addition to our quarterly newsletter, the CUR Physics and Astronomy Division has a blog (cur-ph.blogspot.com/), a Facebook group, and a LinkedIn group. We welcome your input!

Your CURPA Councilors:

VJ Agarwal, Minnesota State University Mankato.
 John Armstrong, Weber State University. CUR Nominations Committee.
 Nadine Barlow, Northern Arizona University. CURPA News Editor.
 Mark Biermann, Taylor University.
 Horace Crogman, La Sierra University.
 Beth Cunningham, AAPT.
 Chris Hughes, James Madison University.
 Michael Jackson, Central Washington University. Co-Chair CUR Fellows Review Task Force.
 Bryan Luther, Concordia College Moorhead.
 John Mateja, Murray State University. Co-chair CUR Posters on the Hill Review Task Force, NCUR Oversight Committee, and Co-Chair CUR Program Review Committee.
 Duncan McBride, National Science Foundation. CUR Treasurer and CUR Investments Committee.
 David McGee, The College of New Jersey. CURPA Chair.
 Sorinel Oprisan, College of Charleston.
 Terry Oswald, Florida Institute of Technology.
 Allyn Smith, Austin Peay State University.
 Gubbi Sudhakaran, University of Wisconsin La Crosse.
 Richard Thompson, The College of Saint Rose.
 Hank Yochum, Sweet Briar College. CURPA Secretary and CUR Quarterly Editors Board.
 Jie Zou, Eastern Illinois University.

CURPA News Deadline

CURPA News comes out approximately quarterly and we welcome your contributions! Please send your submissions, comments, achievements, etc. to editor Nadine Barlow at Nadine.Barlow@nau.edu. Deadline for the Fall/Winter issue is **November 30, 2012**.