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Western Michigan University
College of Arts and Sciences
Department of Physics

Newsletter

A Newsletter for Friends of the Western Michigan University Department of Physics

Physics major is homecoming queen

This year the Physics Club decided to take part in Homecoming week as a Registered Student Organization (RSO), competing for the most spirit points in order to win the spirit cup. RSOs received extra points for nominating people for homecoming king and queen. Katie Ballman was nominated for Homecoming queen by the Physics Club and was selected to be on Homecoming Court by the Homecoming Committee.

Katie Ballman was selected by the Physics Club because of her extracurricular involvements and her commitment to expand the Physics Club. She has been actively involved in helping the Physics Club grow. In fact, it was her idea for the Physics Club to partake in Homecoming to promote the Physics Club to the rest of the school.

Katie Ballman
Fourth-year, Physics Major, Minors in Mathematics and Russian

Hometown: Ann Arbor, Michigan

Campus Involvement: Physics Club Treasurer (2011), Resident Assistant (2009-Present), Undergraduate Research Assistant-Physics Dept. (2010-Present), Physics 2050 Learning Assistant (2010-Present), Team Leader-ICAMES 2011 International Engineering Competition-Istanbul, Turkey, NSF "Nanotechnology in Brazil" Researcher (2010).

Interesting Fact: "In 5th grade I went to Space Camp, where I decided that I wanted to be an astronaut…until someone informed me that they had to be able to do pushups. So instead I decided I just wanted to build rockets!"

INSIDE THIS ISSUE:

Newsletter Editor:Thomas Gorczyca

Physics Nobel Laureate speaks at WMU

The Japan Society for the Promotion of Science (JSPS) held its second annual Multi-Disciplinary Science Forum on the campus of Western Michigan University in October. Supported by the JSPS Alumni Association and organized locally by Steve Covell (comparative religion) and Michael Famiano (physics) with support from the Michitoshi Soga Japan Center, the forum drew scientists from around the world giving talks in various subject areas in the natural sciences, social sciences, and even the humanities. This is the second of such forums following the last one at the University of Washington.

Notable attendees to this event include Nobel Laureate Sir Anthony Leggett; Dr. Hirotaka Sugawara of the JSPS Washington office; Mr. Kuninori Matsuda, Consul General of Japan in Detroit, and a host of notable scientists from around the world. The forum was open to the public. A lunchtime presentation by the Detroit Consul General was preceded by a Taiko presentation. Overall, this year's forum was a huge success.

Mike Famiano, left, Professor of Physics, moderates the colloquium by Nobel Laureate Sir Anthony Leggett.

Middle schoolers visit physics labs

On Oct. 25, a group of 16 sixth, seventh, and eighth graders from River School in Sodus Township, Berrien County, Mich., led by science teacher Pam Britt and accompanied by two parents, visited the department.

They first visited our algebra-based physics labs and studied elastic and inelastic collisions with graduate teaching assistant Samanthi Wickramarachchi. They then visited a calculus-based physics lab where they explored energy transformation in a projectile, and also experienced sound resonance, with graduate student Gaetan VanGyseghem.

Last, they took a tour of our accelerator lab. This K-8 school in southwest Michigan enrolls 67 students and has no science lab equipment. Classes are comprised of multiple grades.

SPS Visit

On Nov. 7, the Department of Physics was treated to a special colloquium by Dr. Gary White highlighting the opportunities available for physics majors. Dr. White is the director of both SPS— the Society of Physics Students— and Sigma Pi Sigma, the Physics Honor Society in which WMU is in the process of becoming a charter member.

In addition to highlighting several interesting aspects of the careers pursued by "physicists," defined as those holding a bachelor's, master's, or doctoral degree in physics, Dr. White demonstrated the nature of physics research and inquiry by examining the trajectories of marbles on a stretched sheet of spandex.

One interesting finding from his research, conducted with undergraduate students, was that, even though the qualitative behavior of the orbits resembled that of planetary motion, there were important quantitative differences. In particular, the inverse cubed-root nature of the attractive force between two marbles on the spandex led to an "upside-down" type of Kepler's Third Law that the radius squared divided by the period cubed was constant, as opposed to the observed radius cubed divided by the period squared being constant for planetary motion due to the inverse-square nature of three-dimensional gravity.

Colloquium Announcement

Gary White
SPS Director, American Institute of Physics
Department of Physics Colloquium:
"A Great Time To Do Physics" highlights

Has there ever been a more exciting time to do physics? Whether interested in the universal questions of matter and energy or just the next cool wireless gadget; whether wanting to contribute to the big-picture discussion of all things nuclear or simply save a life with positron emission tomography, students should know that physics is a great place to begin the journey. In this talk, White expounded a bit on career trajectories of hidden physicists, and touched on tales from a variety of physics research topics, from spintronics to spallation to spandex.

Yes, it is an unlikely trio, but within each are opportunities for a meaningful undergraduate research experience, the kind advocated by the SPS Council for all undergraduate physics majors. White concluded with pointers about getting science jobs for students, whether it's a summer research internship, an industry position, or in a graduate school.

We advocate that every student majoring in physics and/or astronomy engage in a meaningful undergraduate research experience. For more detail and some background on the origins of this statement, see http://www.spsnational.org/governance/statements/2008undergraduate_research.htm

Kerry Retires

Kerry L. Cochran, our office assistant, retired at the end of 2010. To this writer, it did not seem that long since Kerry started working for us, but she was part of our office staff for close to 10 years. She started in February 2001, replacing Beth Steele when Beth moved over to Geosciences.

Kerry came to us after half a year as a donor relations secretary in the Development Office at WMU. She already had a lot of clerical experience, working in offices at Borgess Medical Center and the Kalamazoo Chamber of Commerce before coming to WMU. She didn't have a lot of experience in an academic setting, but after a period of adjustment and learning she was able to master all the skills necessary to keep our files and communications and student registrations all going smoothly.

She was especially valuable as our front line "customer service" contact person, always pleasant and helpful toward students and anyone else who called or came into the office needing some help.

So we miss her smiling face, but she finally decided to join her husband in retired bliss. Bill retired from WMU in June 2008, after putting in over 30 years with Physical Plant, in Maintenance Services. Maybe he was getting lonely at home without her. We had a very nice reception in her honor before the holidays, which was well attended by friends of both Kerry and Bill. Shortly after that, they took off to spend some time in Arizona, and will probably make a habit of that during the cold Michigan winters to come.

Faculty News

Meet our newest Faculty Specialist

Max D. Wyman
Faculty Specialist II

I grew up in Swartz Creek, Mich., and graduated from Swartz Creek High School in 1997. After high school, I attended Michigan Technological University studying physics, graduating with a B.S. in 2000. For graduate school, I attended University of Wisconsin - Madison. When not rock climbing or mountain biking, I worked on the Madison Symmetric Torus plasma device focusing on the fueling of hot fusion-grade plasmas with cryogenic pellets.

In 2007, I graduated with a Ph.D. in Physics, specializing in experimental plasma physics. For several years, I worked as a scientist at Tri Alpha Energy (TAE) of Foothill Ranch, Calif., a startup focusing on magnetically confining plasmas for nuclear fusion research. In 2010, I moved back to the Midwest and began teaching physics at Moraine Valley Community College in Palos Hills, Ill. I am serving a one-year term appointment at WMU.

Alumni News

Tom Shefler (B.S. '97) is in his twelfth year as a faculty member at Granada High School, in both the science and mathematics departments. Among other courses, he has taught Astronomy, AP Calculus BC and Honors Physics— all courses that were not offered at GHS prior to Tom's teaching them.

He also has been a faculty scholar at the Lawrence Livermore National Laboratory since 2006, where he teaches a two-week workshop each summer called the Fusion/Astrophysics Teacher Research Academy. At this workshop, current and future high school and middle school science teachers learn how to teach fusion physics and astronomy concepts in their classrooms through direct lecture, labs, demos, tours, and guest speakers. As a faculty scholar for the lab, Tom has also given public talks through the "Science on Saturday" lecture series, in which a lab scientist and local educator team up to present a general interest talk about research performed at the lab.

Oleg Nayandin (Ph.D. '01) began his postgraduate work as chief technical officer in an IT firm, where he has been designing and managing various internet software projects for his many international clients. Oleg's Ph.D. training has been beneficial to him in the management, engineering, and data analysis that he applies to numerous technology projects. More recently, Oleg has also been involved in the business aspects of his company. Oleg lives with his wife Tanya and son Dennis in the Washington D.C. area of Fairfax, Va.

Nalaka Kodituwakku (Ph.D. '07) is an Assistant Physicist at Brookhaven National Laboratory where he is working on crystal fabrications for high-resolution x-ray optics.

Shahin Abdel Naby (Ph.D. '10) accepted a postdoctoral research fellow position at Auburn University, beginning in the Fall of 2010. He joined the theoretical atomic physics group of Prof. Michael Pindzola and will be performing atomic research relevant to fusion energy, funded by the Department of Energy.

STUDENT AWARDS & DEGREES

STUDENT AWARDS

George Bradley Graduate Physics Award

Spring 2011
Buddhika Senarath Dassanayake

David Carley Memorial Graduate Award

Spring 2010
Amila Dissanayake
Khalil Hamam

Spring 2011
Jianqing Yang

Haym Kruglak Graduate Student Teaching Excellence Award

Spring 2010
Brenna Giacherio
Subramanian Ganapathy

Spring 2011
Amilla C. Dissanayake
Subramanian Ganapathy
Buddhi M. Rai

Haym Kruglak Undergraduate Student Teaching Excellence Award

Spring 2010
Jennifer Friday

Spring 2011
David W. Dietz
Todd J. Hendricks

Nathan Nichols Physics Scholarships

Spring 2010
Davina Wyman

Fall 2010
Steven Dye
Trevor Slayton

Spring 2011
Steven Dye
Trevor Slayton

Fall 2011
Steven Dye
Brandon Marshall
Steven Nielsen
Trevor Slayton

Leo Parpart Physics Scholarship

Spring 2010
Buddhika Senarath Dassanayake

Spring 2011
Janina Grineviciute
Jonathan C. Lighthall
Samanthi Wickramarachchi

Outstanding Graduate Scholar Award

Spring 2010
Priyanka Chakraborti

Presidential Scholar

2009-2010
John Novak

2010-2011
David Dietz

Paul Rood Physics Scholarship

Spring 2010
John Novak

Fall 2010
Justin Harris
Yadira Reyes

Spring 2011
Justin Harris

Fall 2011
Sarah Hulbert
Garrett Marsh

Charles J. Wilcox Memorial Award

Spring 2010
John Novak
Jennifer Thompson

Summer 2011
Zachary C. Hansen

Degrees Awarded

Bachelor of Science

Spring 2010
John F. Novak
Jennifer K. Thompson
Paul T. Thompson

Spring 2011
David W. Dietz (Sec. Ed.)
Todd J. Hendricks (B.A., Sec. Ed.)
Russell L. Szuminski

Summer I 2011
Jason A. Givhan

Summer II 2011
Zachary C. Hansen

Master of Arts

Summer II 2010
Brenna M. Giacherio

Summer II 2011
George Tecos

Ph.D.

Fall 2010
Shahin A. Abdel Naby
Ileana Dumitriu
Ravin Sathishya Kodikara

Summer I 2011
Jonathan C. Lighthall
Buddhika Senarath Dassanayake

Summer II 2011
Salem A. Al Faify
Janina Grineviciute

Department Roster

Faculty
Manuel Bautista
Nora Berrah
Clement Burns
Sung Chung
Michael Famiano
Thomas Gorczyca
Dean Halderson
Charles Henderson
Emanuel Kamber
Asghar Kayani
Kirk Korista
Arthur McGurn
Paul Pancella
Lisa Paulius
Alvin Rosenthal
David Schuster
John Tanis
Alan Wuosmaa
Max Wyman

Emeriti
Eugene Bernstein
Gerald Hardie
Dean Kaul
Robert Poel
Robert Shamu
Michitoshi Soga

Staff
Benjamin Gaudio
Chris Hoffmann
Cathy Johnson
Allan Kern
Lori Krum
Rick Welch

Post-doctoral Research Associates
Renè Bilodeau
Li Fang
Vanessa Fivet
Jonathan Lighthall
Brendan Murphy
Timur Osipov
Dinesh Shetty

Graduate Students
Betty Adams (Michigan)
Mohammad Al-Amar (Jordan)
Asma Ayyad (Israel)
Amila Bandara (Sri Lanka)
Ramon Barthelemy (Michigan)
Shadi Bedoor (Jordan)
Eiman Bokari (Saudi Arabia)
J. Fiore Carpino (Florida)
Priyanka Chakraborti (India)
Amila Dissanayake (Sri Lanka)
Laurentiu Dumitriu (Romania)
Ehab El Houssieny (Egypt)
Mohamed El Houssieny (Egypt)
Tamer El Kafrawy (Egypt)
Subramanian Ganapathy (India)
Xuan Gao (China)
Elias Garratt (Michigan)
Khalil Hamam (Jordan)
Justin Harris (Michigan)
Darshika Keerthisinghe (Sri Lanka)
Raina Khatri (Maryland)
Soroush Khosravi Dehaghi (Iran)
Nuwan Sisira Kumara (Sri Lanka)
Chengyang Li (China)
Scott Marley (Michigan)
William Mamudi (Indonesia)
Daniel McNeel (New Mexico)
Bryan Moore (Michigan)
Manjula Nandasiri (Sri Lanka)
Buddhi Rai (Nepal)
Trevor Stefanick (Michigan)
Rex Taibu (Malawi)
Sarah Towers (Michigan)
Gaetan VanGyseghem (Michigan)
Samanthi Wickramarachchi (Sri Lanka)
Jianqing Yang (China)

Alumni Information Update

WMU ALUMNI ASSOCIATION

Please use this form to update our mailing list, and/or to let us know what you have been doing, and what you would like to see in future newsletters. Fill out any portion of the form below and return to: Editor, Physics Department, 1903 W. Michigan Avenue, Kalamazoo, MI 49008-5252 or e-mail to: physics-department@wmich.edu.

Name _____

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Home phone _____ Email _____

Employer _____ Job title _____

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City _____ State _____ Zip _____

If alumni, degree and year: _____

Tell us more about yourself, and/or what you would like to see in future newsletters:

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In a time when state funding is increasingly restricted, the support we receive from friends and alumni is vitally important. Such funds are used to take advantage of new or unbudgeted opportunities in order to enhance the teaching or the research of the department, or to assist students in achieving their educational and professional goals. Thank you for considering a gift to the WMU Department of Physics.

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Your gift is important to our campus community. Your gift will benefit new opportunities to enhance the department's teaching or research efforts or will assist students in achieving their educational and professional goals.

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