

August 26, 2009

Dear Physics Alumnae and Alumni,

The Physics faculty and staff would like to invite you to our **Homecoming reception on Saturday, October 10**. We would love to have a chance to see you again. You are also invited to our annual **homecoming seminar on Friday afternoon at 4:00** in Olin 101. The speakers will be Dr. Andrew Frey and his wife Rebecca Danos. The title of their talk is *Could Dark Matter Come from Extra Dimensions?* Dr. Frey got his B. S. degree at W.F.U. in 1998. The homecoming reception will be in the foyer of Olin Physical Laboratory, and will be held three hours before the homecoming football game against Maryland. The time is still uncertain because game time will not be set until a week or so before the game; dictated by TV scheduling. As soon as we know, we will post the time on our web page at <http://www.wfu.edu/physics>. If you do not have web access, let me know and I will be happy to give you a call when the time is set.

Let me update you on what has happened in the Physics Department since I last wrote to you. We have had three significant personnel changes, three faculty members and two graduate students have won prestigious awards, and a few other things of note have occurred. I'll begin with our personnel changes.

Jacquelyn Fetrow became Dean of the College on January 1 of this year. She will remain a Reynolds Professor and plans to continue with her research program in computational biophysics. We wish her the best in this new and very important position.

Oana Jurchescu has been hired as Rick Matthew's replacement. You may recall that in April 2008 Rick became the Associate Provost for Information Systems. Oana's research is in the general area of condensed matter physics. Her research interests include organic electronics, flexible electronics (organic and organic/inorganic hybrids) and organic spintronics. She received her Ph.D. in 2006, from the University of Groningen, the Netherlands. From 2007 she was a postdoctoral researcher at Penn State University, and a guest researcher in the Semiconductor Electronics Division at the National Institute of Standards and Technology.

Our faculty members have been so successful in obtaining grants that we have been able to hire a business manager for the Physics Department. Gloria Stickney, who was

previously in the Office of Research and Sponsored Programs at Wake Forest, began working for us on Oct. 1 of last year.

Martin Guthold was one of two recipients of the 2009 Excellence in Research Award from Wake Forest University. His research includes investigating the properties of individual fibrin fibers, which are the key components in forming blood clots in humans. This research aims to elucidate the important role such fibers may play in stroke and other diseases. Martin is one of the few people at Wake Forest to win both the Excellence in Research Award and the Reid-Doyle Prize for Excellence in Teaching. He won the latter in 2005.

Jed Macosko was awarded the first Hobbs Award for Faculty Entrepreneurial Achievement for founding BioBotz LLC with six Wake Forest students. BioBotz has spun off two funded projects: the first is supported by a Young Innovator MacArthur grant administered by Jed and awarded to Anthony Pecorella ('04)(MA '06) who is directing a brand new SimCity-like videogame called "CellCraft", and the second is supported by an Educational Enhancement Grant from the North Carolina Biotechnology Center. For this second project, Jed is partnering with high school students at Atkins Academic Technology High School in Winston-Salem, NC to produce a 3-minute, animated short that features characters based on the molecular machines that perform essential functions inside living cells. The overarching goal of BioBotz is to teach young people about the amazing world of nanoscopic machinery found within every living cell.

Timo Thonhauser received the Ralph E. Powe Junior Faculty Enhancement Award in May 2009 from the Oak Ridge Associated Universities. This award program is prestigious and highly competitive. Young faculty in a wide variety of fields from over 120 member universities located across the USA are eligible to apply. Timo's research project involves a promising new approach for conducting quantum-mechanical simulations of water—one of the most important substances on earth and crucial to life. His approach makes it possible to effectively study a difficult-to-describe interaction, which is essential in understanding the many mysterious properties of water.

Graduating senior Patrick Nelli was named to be a member of the USA Today's 2009 All-USA College Academic First Team. The team of 20 students was selected by a panel of judges from almost 500 students nominated by colleges and universities across the United States. According to the USA Today web site the team members are "selected based on their intellectual endeavors, community service and campus leadership".

Eric Peterson, a graduate student working with David Carroll in the Nanotechnology and Molecular Materials Center, has been awarded a National Science Foundation Graduate Research Fellowship. The award carries a \$90,000 stipend, distributed over three years. In addition, the university receives \$30,000 to pay for tuition.

David Carroll appeared on a program called "Eternal Life," on the History Channel in July 2009. It was part of a series of programs called *That's Impossible*.

An account of some research done by graduate student Xuangfang (Leo) Ding was posted on the American Institute of Physics web site. The site says that “Using multi-walled carbon nanotubes ... Ding and his collaborators hope to make guided laser cancer removal safer and more effective.” If you are interested in reading more about his research the url is <http://blogs.physicstoday.org/industry09/2009/07/carbon-nanotubes-help-cook-cancer.html>.

On the educational front, we are continuing to offer our majors and grad students a series of “Career Events”. We supply pizza, our speakers give the advice, and our students provide the questions. Last year we had Tom Clarkson, head of the Demon Deacon Incubator on November 13. The Demon Deacon Incubator helps start-up companies in the Piedmont Triad. We also had Tim Persons, Chief Scientific Officer of the General Accounting Office on April 2. If you would be willing to join our students for lunch and talk about your career, please let me know. Our students need to know the rewards and joys of all the careers our alumni have chosen. You can help them broaden their horizons.

Our tradition of broad involvement in undergraduate research continues. When you visit, if you look around the building, you will see posters and publications in our halls bearing the names of our undergraduates. Last year we had close to 40 students engage in research in our Department. You can also read about some of students and their research projects at <http://www.wfu.edu/physics/profiles/profiles.html>.

I want to give special thanks to all of you who designated the Physics Endowment Fund as part of your alumni giving. This fund enables us to send students doing research to conferences and allows us to provide lunches at the career advising events. This fund lets us do things for our students that we would not otherwise be able to do. Your generous contributions to the department create opportunities for our students that greatly enhance their educational experiences.

Please come by Olin Physical Laboratory and join the fun. We are looking forward to seeing you.

If you can't make it to Homecoming, please drop me a note or give me a call and tell me what you're up to. If this letter was forwarded to you, please let us know your current address.

Best Regards,

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