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Alumni Gather to Celebrate UW-RF Physics

More than twenty physics alumni gathered on campus this past spring to celebrate the physics department and commemorate the 2005 World Year of Physics. The event ran from April 28-30 and provided an opportunity to hear about current physics research as well as get updates from UW-RF alumni.

The event began on Thursday with afternoon and evening talks by Anthony Moffat, a professor at the University of Montreal who studies the stellar winds of large stars and dust creation in binary star systems.

Activities on Friday included a third talk by Prof. Moffat, an informal lunch, an open house dinner at Jim Madsen's house, and career tips from other UW-RF alumni. Attendees were pleased to hear that many of the previous graduates were happy and successful, but also that the things they learned at River Falls were useful later on.

Saturday brought the biggest event of the weekend, a three-hour session where attendees heard about current research topics and discussed their own experiences with the physics department.

Earl Blodgett Elected to SPSPresidency

Just a year after being named the national Outstanding Society of Physics Students (SPS) Chapter Advisor, Earl Blodgett has won a nationwide election to become the President of SPS.

The SPS is an organization representing physics students at all levels. There are approximately 700 SPS chapters throughout the country with approximately 4500 active members. The society has chapters in every state, plus Puerto Rico.

Earl was elected to a two-year term, during which time he will preside over the executive committee that oversees the SPS. One of his first duties was to help choose the 2005 Outstanding Chapter Advisor, the award he received just last year.

For the previous six years, Earl has served as a Zone Councillor for SPS, so he is familiar with the inner workings of the organization, as well as the challenges it faces.

Earl Blodgett

Observatory Viewing Sessions and Astronomy Talks

The UW-RF Observatory will be open for public viewing sessions one night each in September, October and November. We choose one week during which the viewing should be good (weather permitting), and open the Observatory on only the first clear night of that week. This schedule makes it much more likely that a clear night will occur at a time when the observatory will be open.

Preceding each session, Eileen Korenic will give a public lecture (in the warmth of the science building) on an astronomy topic either related to the objects to be viewed that night, or some other timely astronomical event.

For further information, and to check to see if the sky is clear enough for observing, check: www.uwrf.edu/physics/obsviewtime.html

Objects that should be visible in the sky this fall include: Mars, Uranus, Neptune, and Pluto. Other galaxies, nebulae, and clusters will also be seen.

Sept. 26 - 29: Talk: "A Tilted Earth - Equinoxes and Solstices"


Nov. 28 - Dec. 1: Talk: "The Star of Bethlehem"

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Heather Lunn is creating a scale model of a Tilt-A-Whirl carnival ride to use as a working demonstration of chaotic motion. Once finished, it will be displayed at Madison East High School (where she teaches) to discuss science. Her work on this project was supported by the Ronald E. McNair Postbaccalaureate program.

This past summer, Heather has been creating a digital signal processor for the University of Wisconsin. The processor will be used to analyze data from a tunneling microscope. The device allows a single camera to take an image of a scene from two different angles, so that a three-dimensional image can be created. This is expected to occur in the spring of 2006. In the meantime, the computers will need to connect through temporary network cables.

In addition to the new computers, the campus has joined with several other UW campuses to obtain a site license for Origin data analysis software. This program can handle the large data sets that Advanced Lab students are working with. The program can also be used seamlessly with Microsoft Excel, so students who like to manipulate data with Excel will still be able to do so easily.

The scholarship recognizes Heather's access for students on campus. The Student Technology Fee is a separate fee that students pay each semester to maintain and improve technology on campus. The department has been able to purchase new computers with a grant from the Student Technology Fee fund. The new computers will be used in all of the physics labs. For years, the department has been using "cast off" computers from the campus computer labs. With these new computers, students will be able to perform experiments that require computer-aided data collection in locations where a desktop computer is not located.

Twelve students completed their senior projects this past spring semester, as usual the range of topics was large.

Physics Labs Get New Laptops, Will Go Wireless

The Physics department has been able to purchase new computers with a grant from the Student Technology Fee fund. The new computers will be used in all of the physics labs. For years, the department has been using "cast off" computers from the campus computer labs. With these new computers, students will be able to perform experiments that require computer-aided data collection in locations where a desktop computer is not located.

Spring Senior Projects

The MHD 'motor' (on left) produces visible water flow in salt water. The MHD 'motor' (on right) produces visible water flow in salt water.

Robert Wicklund built a 'box of mirrors' for taking and projecting stereo microscopic images. The device allows a single camera to take an image of a scene from two different angles, so that a three-dimensional image can be created. This is expected to occur in the spring of 2006. In the meantime, the computers will need to connect through temporary network cables.

Jeremy Tilsen laid out plans for constructing a control system for a scanning tunneling microscope using a digital signal processor. The device allows a single camera to take an image of a scene from two different angles, so that a three-dimensional image can be created. This is expected to occur in the spring of 2006. In the meantime, the computers will need to connect through temporary network cables.

Nick Olsen built and examined the behavior of Rijke tubes. A Rijke tube is a vertical tube that has a heating element near the bottom. When it is heated, the movement of the air sets up standing waves. The wave pattern moves up and down the tube. Ryan's experiment used a mirror on a small pin to magnify the motions of the blocks. The range of topics was large.

Jeff Herfindal investigated the diffraction of light by acoustic waves in water. The index of isotropic and birefringent Polyethylene Terephthalate using several different optical techniques. The range of topics was large.

Kyle Hoegh measured the mechanical properties of different types of plastics. With a grant from the Student Technology Fee fund, the physics department has been able to purchase new computers with a grant from the Student Technology Fee fund. The new computers will be used in all of the physics labs. For years, the department has been using "cast off" computers from the campus computer labs. With these new computers, students will be able to perform experiments that require computer-aided data collection in locations where a desktop computer is not located.

Ayanna Adeyemi investigated the performance of LED's. Knowing the wavelength of the light emitted and measuring the bandgap of the semiconductor, he showed how the value of the constant could be determined. The range of topics was large.

Jeff Kruizenga examined the refractive index of isotropic and birefringent Polyethylene Terephthalate using several different optical techniques. The range of topics was large.

In a project performed mostly at 3M, Alan Kruizenga examined the refractive index of isotropic and birefringent Polyethylene Terephthalate using several different optical techniques. The range of topics was large.

Todd Coleman and Rellen Hardtke with their daughter Anika.

Ashton Flinders used a magnetic pendulum and a torque balance to study the motion of the pendulum. The torque balance is a device that can measure the torque on an object. The range of topics was large.

Joe Exner used analytical and numerical techniques to study the motion of a boat. The boat uses electric and magnetic fields to accelerate ions in a fluid (saltwater) backward to propel the boat forward. The range of topics was large.

Laura Anderegg built a 'box of mirrors' for taking and projecting stereo microscopic images. The device allows a single camera to take an image of a scene from two different angles, so that a three-dimensional image can be created. This is expected to occur in the spring of 2006. In the meantime, the computers will need to connect through temporary network cables.

Prior to arriving at UW-RF, Mike Majer obtained his B.S. in Physics and Math from Wittenberg University in Ohio, and his Ph.D. from UW-Madison specializing in theoretical meson physics and how quarks become confined to make hadrons in high energy events.

Rellen obtained her B.S. in Physics and Math from Wittenberg University in Ohio, and her Ph.D. from UW-Madison. Her specialty is in the study of high energy neutrinos that may be created by Gamma Ray Bursts (GRBs). Rellen taught for two years at Caltech before returning to school and obtaining her Ph.D. from UW-Madison. Her specialty is in the study of high energy neutrinos that may be created by Gamma Ray Bursts (GRBs). Rellen taught for two years at Caltech before returning to school and obtaining her Ph.D. from UW-Madison. Her specialty is in the study of high energy neutrinos that may be created by Gamma Ray Bursts (GRBs). Rellen taught for two years at Caltech before returning to school and obtaining her Ph.D. from UW-Madison. Her specialty is in the study of high energy neutrinos that may be created by Gamma Ray Bursts (GRBs).
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The day started with tours of the brand new dorm that opens this fall, and with tours of the research labs in the physics departments. Some people noticed a few changes since the days when the Physics department was located in North Hall.

The local chapter of the Society of Physics Students then gave presentations of some of the demonstrations that they do for high school, middle school, and elementary students. These included a ping pong ball vacuum bazooka, lighting lightbulbs in a microwave (safely), and Trebuchet launches outside.

After lunch, the current faculty in the department gave brief descriptions of their research interests and what they've been working on recently. Everyone then went over to the planetarium, where we all laughed at the same jokes she tells the elementary school children who come to the shows.

The afternoon ended with brief talks by alumni and retired faculty about what they've been up to since they left River Falls. The variety of careers (both in and out of physics) was impressive, and showed that there is more than one thing that can be done by a physics graduate.

The evening events included a poster session and social hour during which students presented posters of the projects they worked on during the past year. The banquet was held in the physics department's new conference room, and was attended by alumni and retired faculty.

Six students were awarded scholarships for the 2005-06 school year this past spring. They are:

- Ann Deml: Earl G. Albert Scholarship
- Heather Lunn: Curt and Dee Larson, and Earl G. Albert Scholarships
- Allen Riley: Dr. Henry Tranmal Scholarship
- John Schroeder: Physics Department Scholarship
- Kevin Dawson, Chemistry
- Scott De Wolf, Physics
- Casey Murray, Physics
- John O'Brien Schroeder, Physics
- Joshua Potts, Physics
- Lisa Watkins, Broad Field Science
- Boyd Weiger, Broad Field Science
- Robert Wicklund, Physics and Math

The final member inducted this year is Radu Rasidescu who teaches science and engineering at the Wisconsin Indianhead Technical College in New Richmond. Although he was educated at UW-RF, he received a degree in Mechanical Engineering from Columbia University.

Some of the 2005 UW-RF Inductees into Sigma Pi Sigma

- Tyler Cramer, Physics
- Kevin Dawson, Chemistry
- Scott De Wolf, Physics
- Casey Murray, Physics
- John O'Brien Schroeder, Physics
- Joshua Potts, Physics
- Lisa Watkins, Broad Field Science
- Boyd Weiger, Broad Field Science
- Robert Wicklund, Physics and Math

Radu Rasidescu teaches science and engineering at the Wisconsin Indianhead Technical College in New Richmond, and was inducted as a full member of Sigma Pi Sigma.
This timeline of the department was produced for the Alumni event. Every alumnus who attended received a larger (more readable and in color) personalized version with their name and the year of their graduation shown. The timeline shows who taught physics at the university over the years, and includes a bar chart showing the number of students who graduated each year with a physics degree. The numbers are not certain for some years. The chart also includes the dates of some significant events in physics since the school was founded.