Another Successful Physics and Chemistry Demo Show

On Thursday, December 4, Currens Hall was frozen, Despicably Frozen. It wasn’t due to wind or snow, rather science took over the building much to the delight of many area children.

The Physics and Chemistry Departments teamed up once again for the annual Physics and Chemistry Demonstration Show, this year featuring two popular movie franchises, Despicable Me and Frozen. The Despicably Frozen Show applied science principles to animated magic and replicated many of the antics in both movies.

This year’s show featured demonstrations on light, electricity, sound, and gravity. Of course there were also demonstrations using dry ice and liquid nitrogen. It wouldn’t be a frozen show without it! The demonstration show finale was again flash-frozen ice cream, which is always a hit.

The Physics and Chemistry Demonstration Show is our biggest outreach event of the year. This show is free and open to the entire community. Most importantly, the demonstration show teaches young children that science is anything but boring and inspires them to take a closer look at the world around them.

Thank you to Dr. P. K. Babu, Dr. Ryan Gordon, and the Physics and Engineering Club for organizing and presenting this year’s event.
From the Desk of Dr. Mark S. Boley

It may be cold outside right now but here at the WIU Physics Department things are "heating up" as we prepare for an exciting new spring semester. We look forward to welcoming new graduate students from Nepal, Malaysia, and Saudi Arabia, and we look forward to launching an exciting new undergraduate research program in the Physics Department known as RISE (Research Inspiring Student Excellence) that had its kickoff at the end of finals week last semester. Two of our M.S. graduates successfully defended their student theses this past December 2014, and we have four or five more preparing to do so this coming May 2015. At least one of our undergraduate physics majors will be supported for a summer undergraduate research experience here within the WIU Physics Department in the upcoming Summer 2015.

We are thankful that our upper-level undergraduate and graduate students have been successfully using some new optics and spectroscopy equipment this academic year in their faculty-mentored research projects as well as in their laboratory coursework, thanks to the generous support of one of our alumni, Frank Rodeffer. Due to the support of many of our generous alumni, we have been able to extend scholarship support in increasing amounts to a larger number of students this academic year, which becomes even more important with the rising costs of higher education.

Our enrollments continue to thrive and grow at all levels, and in our physics courses that serve other majors as well, on both the WIU-Macomb and the WIU-Quad Cities campuses. We have also had a new graduate-level course, PHYS 537, Superconductivity and Magnetism, make it through all of the university channels of approval in time for its offering next academic year. We thank our hard-working faculty for their willingness to offer specialized courses in their fields of expertise for the benefit of our graduate students and advanced upper-level undergraduates.

We are again nominating one of our outstanding Physics Sophomore honors students, Nicholas Breslin, for a national Barry Goldwater Scholarship this month. We wish him the best in the national competition, and also take pleasure in the fact that just having him nominated for this award is an honor. Several of our undergraduates are also applying for summer internships at national laboratories and other REU locations, and we wish them the best in their efforts. Please stop by the Physics Office for more information on these opportunities.

We wish everyone the best for an upcoming productive semester in your academic coursework and successful results in your research projects.

Sincerely, Mark
Fall 2014 Scholarships

This fall, the Physics Department awarded monetary scholarships to seventeen undergraduate students and seven graduate students. While some of these scholarships were endowed by generous donors years ago, some of them are given with funds donated annually by our alumni and friends during the annual campaign drive.

Physics alumnus, Frank Rodeffer (BS 1961) visited for our scholarship reception in October. Mr. Rodeffer has been a loyal donor to the department, having given two endowed scholarships in recent years.

All scholarships are given on a competitive basis. Interested students fill out the scholarship application early in the fall semester and a committee selects applicants based on the application, financial need, and scholarship criteria.

In addition to the monetary scholarships, the department awarded four bookstore scholarships to students with financial need. The bookstore scholarship was earned by the faculty, who submitted 100% of spring book adoptions on time. These scholarships are used for textbooks for undergraduate and graduate students.

Thank you to all of our generous donors. Our students are very grateful for the support!

Congratulations Graduates

Unlike last winter, graduation went off without a hitch this past December. Two students graduated with an MS degree, while three students graduated with a BS degree.

Hyung Kwan Kim and Natalia Andreev both graduated after successfully defending their masters theses last semester. Kim was an undergraduate at WIU as well, so while we will miss him, we also wish him the best in the future. Andreev will be continuing at WIU as an instructor in the Physics Department.

Two of our undergraduates, Igor Bielopolskyi and Jerold Young, will be continuing in our graduate program this spring. It is always a vote of confidence in the department when an undergraduate student continues at WIU for their graduate degree. Dan Olsen graduated with the Teacher Education Certification and plans to begin his teaching career in Chicago.

Congratulations to all of our graduates!
WIU Physics Continues Work with Local High Schools

The Physics Department hosted three high schools during Fall 2014. Students from Galesburg, Keokuk, and Lewistown visited the department for a day to work on experiments and gain some experience at the university level.

Our most popular experiments for visiting high schools are the Ballistic Pendulum and Projectile Motion experiments. Both of these involve the use of equipment that is often too expensive for school districts to buy, but are excellent instructional labs, which cover a variety of physics principles. In recent years, the department has updated our own equipment so WIU students and visiting students have a better experience.

In addition to lab experiments, students also engage in solar viewings, when weather permits. Students often comment that these viewings are their favorite part of the visit.

High school visits are an important recruiting tool for the Physics Department. Some of our most promising students visited while in high school and choose WIU for their college education. The Physics Department looks forward to more visits and outreach events next semester.

Pizza and Physics Collide During Astrolunch

Every Thursday at noon you can find a group of students discussing the latest research in the field of astrophysics and enjoying some lunch at the same time. Astrolunch is a weekly meeting of students and faculty with a passion for astrophysics.

Led by Dr. Esteban Araya, Astrolunch has grown in recent semesters to include watching taped conference presentations, discussing scholarly papers, and even hearing about student research being conducted here at WIU. This group is open to all members of the Physics Department, not just those who specialize in Astrophysics. Some students have even been inspired to take on a new research area, or enroll in an astronomy class after attending.

Astrolunch provides an important function within the department. Not only does it give students a venue to learn more about scholarly research, but it gives them another opportunity to present their own research, preparing them for conference presentations and even scholarly publication.

Watch your email and our Facebook page for more information on Astrolunch this semester.
R.I.S.E.@Physics

The Physics Department is proud to be part of a new academic initiative in the College of Arts and Sciences. The R.I.S.E. program is a new way for faculty to encourage research and leadership among top students.

In addition to faculty mentoring, greater opportunities for conference presentation, and social events, participants in the R.I.S.E. program will be eligible to compete for a Summer Research Experience. This summer scholarship will allow one student to continue their faculty-guided research over the summer, giving them more time to complete a complex project.

The purpose of the R.I.S.E. program is to identify students who have the potential to become leaders in their future field. By giving students more opportunities for research and presentation, the Physics Department is preparing them for further educational and career success.

The R.I.S.E. program is currently being conducted in the departments of Chemistry and Biology as well, but will hopefully be adopted by more departments in the future.

Physics Alumnus Receives APS Award

Dr. Jerry Forbes, (BS 1963) has been awarded the George E. Duvall Shock Compression Science Award by the American Physical Society. This award is given to an individual in recognition for their contribution to the field of condensed matter physics through shock compression.

Since his time at WIU, Dr. Forbes has been quite active in the field of shock compression. He actually wrote his dissertation under George Duvall at Washington State University, so this award has special meaning for him.

Dr. Forbes has passed along his knowledge as well, teaching at the University of Maryland-College Park, American University and at the University of California-Davis as part of the Instructor for Shock Wave Science at LLNL.

Dr. Forbes is currently a senior scientist at The Energetics Technology Center, Inc. in St. Charles, Maryland. He has remained a close friend to the WIU Physics Department during his professional career by coming back to deliver presentations, giving to the foundation fund, and even assisting in job placement for recent graduates.

The Physics Department congratulates Dr. Forbes on his achievements and we are proud to count him as one of our alumni.
News in Brief

- Like us on Facebook! Search WIU Department of Physics.
- Congratulations to Dr. Babu, Dr. Gordon, and Dr. Wang for bringing in a combined $2700 in College of Arts and Sciences Undergraduate Research Grants during the Fall 2014 semester.

Above left, the hills were alive with the sound of the accordion at the Fall Picnic as Dr. Boley and Manoj Jamarkattel performed a duet. Above right, students love visiting the Physics Department. Left, our scholarship reception was held on Halloween and two students dressed for the occasion.