

Department of Physics and Astronomy

2013 Year in Review



Scholarship Recipients:

Arthur J. Pejsa Aerospace Award (\$1,000)

- Sam Knapp

Monica E. Bainter Memorial Award (\$1,500)

- Kyle Leaf

Monica E. Bainter Scholarship (\$500)

- Jeremy Falk
- Erin Sullivan
- Jacob Doney

Allen Blocher Scholarship (\$1000)

- Timothy McAuliffe
- Dan Dombrowski

William C. and Esther Hansen Memorial Scholarship (\$1000)

- Jane Christenson

Graduating Seniors:

- Ben Hendrickson
- Jeff Kokke
- Ed Lynch
- Zac Meadows
- Maddie Pielow
- Matt Rucinski
- Skylor Schermer
- Jesse Watson

Notable Selected Activities and Accomplishments

Single-underline indicates a faculty/staff member, and double-underline indicates a student.

External Grants

- Adriana Durbala received a grant of \$1550 obtained within the ALFALFA collaboration through Georgia Southern University. The grant included a summer stipend for student Jesse Watson for reduction of H α observations obtained with the 0.9m telescope at Kitt Peak in April 2011 and April 2012.
- Adriana Durbala received an ALFALFA collaboration grant of approx. \$3,000 for a Linux workstation.
- UWSP participated in part of a three-year collaborative grant (P.I.: Dr. Rebecca Koopmann from Union College, New York) for \$437,883 that has just been recently funded (renewed) by NSF to support the Undergraduate ALFLAFA Team (UAT) project. The UAT is a consortium of 19 undergraduate-focused institutions across US, of which UWSP is a member. The grant enables our students to participate every January at the Arecibo Workshop.
- Jane Christenson was awarded both a scholarship and a research grant from Wisconsin Space Grant Consortium (\$4000+ in total) for the 2013-14 academic year: *Exploring "Nature versus Nurture in a Photometric Study of Bulges in Early-type Spiral Galaxies."* Faculty Advisor: Adriana Durbala.
- In January of 2013, the Department became a member of the Wisconsin Space Grant Consortium (WSGC). This has and will provide grant and opportunities for students and faculty.

Publications, Presentations and Posters of Faculty and Students

- Edward Lynch and Palash Banerjee presented a poster titled "An Ultrasensitive Laser Interferometer for Detecting Motion with Picometer Resolution" at the 10th Annual Posters in the Rotunda on April 17, 2013.
- Edward Lynch presented a poster titled "Characterizing the dynamics of a microscopic mechanical oscillator in an ultra-high vacuum environment" at the COLS undergraduate research symposium with Palash Banerjee.
- Sean Minster and Edward Lynch presented a poster titled "Designing and calibrating a custom electromagnet coil for a force magnetometer" at the COLS undergraduate research symposium with Palash Banerjee.
- Adriana Durbala coauthored "HI Asymmetry in the Isolated Galaxy CIG85 (UGC 1547)"012, for *Astronomy & Astrophysics*, 546, 95 (in print in September 2012).
- January 13-17, 2013 – Jesse Watson attended the Sixth Arecibo Undergraduate ALFALFA Team workshop at Arecibo, presenting a poster titled "Reduction of H α MOSAIC Images of Groups and Clusters of Galaxies"
- Jesse Watson presented a poster titled "Reduction of H α Images of Groups and Clusters of Galaxies in the Context of the ALFALFA Undergraduate Project" at the COLS undergraduate research symposium with Adriana Durbala.
- Ben Hendrickson presented a poster titled "The critical current across superconducting tunnel junctions in the presence of magnetic vortices" at the COLS undergraduate research symposium with Brad Hinaus.
- Chris Voitula and Sammy Chaaara presented a poster titled "Measuring the Film Tension of Liquid Crystal Thin Films" at the COLS undergraduate research symposium with Brad Hinaus.

- Jeremy Falk and Skylor Schermer presented a poster titled “Exploration of Thin Film Electrodes for Photoelectrochemical Water Splitting” at the COLS undergraduate research symposium with Ken Menningen.
- Chris Verzani coauthored Materials Research Society’s conference proceedings titles, Electrochemical Deposition of Bismuth Micro- and Nanowires Using Electroplate and Lift Lithography.”
- Tim Twohig presented a poster titled “A novel approach to measuring the tension of freestanding liquid-crystal films” at the COLS undergraduate research symposium with Mick Veum.
- Sebastian Zamfir and Zachary Meadows coauthored “No Evidence for a Systematic FeII Emission Line Redshift in Type 1 AGN” for Astrophysical Journal Letters, 752, 7 (in press in June 2012)
- Zachary Meadows presented a poster titled “Modeling the H β Emission Lines in Radio-Loud Quasar Spectra” at the COLS undergraduate research symposium with Sebastian Zamfir.
- Jane Christenson was awarded both a scholarship and a research grant from Wisconsin Space Grant Consortium (\$4000+ in total) for the next academic year: *Exploring “Nature versus Nurture” in a Photometric Study of Bulges in Early-type Spiral Galaxies*. Faculty Advisor: Adriana Durbala.

Applied Emphasis Major

- Alex Kent and Chris Voitula were newly admitted into the applied physics program with an emphasis in mechanics.
- Matt Rucinski has successfully participated in an internship at Donaldson Company, Inc. during summer of 2012, and he continued work with them through the fall and spring semesters.
- Chris Voitula is set to begin his internship at Donaldson for summer of 2013.
- Taylor Richards will be interning at two local companies this summer, Marten Machining, Inc., and T. I P. Inc.

Outreach Activities

- Adriana Durbala and Sebastian Zamfir presented the workshop titled “Let’s Make a Comet!” at UWSP STEM Career Day event, November 2, 2012 and at UWSP Women and Science Day, February 22, 2013.
- Brad Hinaus and Chris Verzani presented a workshop on magnetism titled “Swiper no Swiping” at College Day for Kids.
- Brad Hinaus served as an event supervisor for the Wisconsin Science Olympiad at UW Milwaukee for the maglev event. Student assistants were Chris Voitula, Sammy Chaara, and Jeremy Falk.
- Brad Hinaus presented “Magnets and Maglevs” for 3rd grade at St. Stephens Elementary.
- Ken Menningen presented a workshop titled, “Renewable Energy and the Curse of the Second Law” STEM Career Day (November), Women & Science Day (February), SPASH Science Extravaganza (March), and College Days for Kids (April).
- Sebastian Zamfir served as an event supervisor for the Wisconsin Science Olympiad at UW Milwaukee. Student assistant was Zachary Meadows.
- The Blocher Planetarium presented programs to over 11,000 visitors, including university classes, school groups, community groups, and public programs.