

Department of Physics and Astronomy

2012 Year in Review



University of Wisconsin
Stevens Point

Scholarship Recipients:

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

- Edward Lynch

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

- Zac Meadows

Monica E. Bainter Scholarship (\$500)

- Jane Christenson
- Ben Hendrickson
- Skylor Schermer

Allen Blocher Scholarship (\$700)

- Kyle Leaf

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

- Sam Knapp

Culver-Rogers Award (\$500)

- Timothy Twohig

Freshman Scholarship (\$500)

- *Awardees did not enroll at UWSP*

Graduating Seniors:

- Tony Albertin
- Joe Kwiatkoski
- Andrew Weekes
- Logan Besaw
- Micah Broehm
- Adam Buck
- Erik Duhn
- Paulette Epstein
- Joe Hottenstein
- Sean Madderom
- Derek Radtke

Notable Selected Activities and Accomplishments

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

1. Teaching

- Seth Ashman was accepted as a Wisconsin Teaching Fellow for the 2012-2013 academic year.
- Palash Banerjee will attend American Association of Physics Teachers New Faculty Workshop, June 2012 in Maryland.

2. Key External Grants

- Sasha Popov and Chris Verzani are in the second year of a \$277,000 grant from the NSF for a grant titled “Theoretical Investigations and Numerical Simulations of Backward-Wave Photonic Micro-Devices.” The grant provides substantial salary dollars for student summer research.
- Adriana Durbala received a subaward of \$1540 for a grant proposal to Georgia Southern University titled “H α Emission in Groups and Clusters of Galaxies in the Context of the ALFALFA Undergraduate Project.” The funding source is the NSF, and the funds will be used to support the summer research of physics major Jessie Watson.

3. Publications, Presentations and Posters of Faculty and Students

- Seth Ashman coauthored "Experimental studies of the NaCs 5 triplet Pi 0 and 1(a) triplet Sigma + states", published, 21 March 2012, in *The Journal of Chemical Physics* (Vol.136, Issue 11) Authors: S. Ashman, B. McGeehan, C. M. Wolfe, C. Faust, K. Richter, J. Jones, A. P. Hickman, and J. Huennekens
- Edward Lynch presented a poster titled “An Ultrasensitive Laser Interferometer for Detecting Motion with Picometer Resolution” in the COLS undergraduate research symposium 2012 with Palash Banerjee.
- Alex Kent presented a poster titled “Feedback system to control the dynamics of a microscopic mechanical oscillator” in the COLS undergraduate research symposium 2012 with Palash Banerjee.
- Benjamin Hendrickson and Adriana Durbala presented the poster “Reduction of H α MOSAIC Images of Groups and Clusters of Galaxies” at the College of Letters and Science Research Symposium (April 2012) & at ALFALFA Undergraduate Workshop at the Arecibo Observatory, Puerto Rico (January 2012).
- Adriana Durbala co-authored two papers in referred journals (one already accepted by Astronomy and Astrophysics, one pending review).
- Chris Woitula presented a poster titled “Calibration of Instruments to Measure the Surface Tension of Liquid Crystals” at the COLS Research Symposium with Brad Hinaus.
- Sean Madderom presented a poster titled “Simulating the Critical Current of Superconducting Junctions” at the COLS Research Symposium with Brad Hinaus.
- Skylor Schermer presented a poster titled “Exploration of Oxide Semiconductors for Photoelectrochemical Water Splitting” at the COLS Research Symposium with Ken Menningen.

- David Tamres presented “Seeking the Period of a Cepheid Variable: A Lab Exercise for Introductory Astronomy” at the WAPT meeting in Oct. 2011.
 - Logan Besaw and Adam Buck presented a poster titled “Long-Term Perturbations in Earth’s Orbit” at the COLS Research Symposium with David Tamres.
 - Logan Besaw and Tim Twohig presented a poster titled “A novel approach to measuring the tension of freestanding liquid-crystal films” at the COLS Research Symposium with Mick Veum.
 - Chris Verzani coauthored a paper titled “X-ray emissions from collisions of O^{6+} ions with CO”, which was published in The Astrophysical Journal (2011)
 - Kyle Leaf, Edward Lynch, Orry Griffin, and Justin Flasch presented a poster titled “Computer Simulations of "Backward" Optical Electromagnetic Waves in Negative Index Materials” at the COLS Research Symposium with Chris Verzani and Alexander Popov
 - Zac Meadows and Sebastian Zamfir co-authored a paper accepted for publication in The Astrophysical Journal Letters.
 - Zac Meadows and presented a poster titled “No Evidence for a Systematic FeII Emission Line Redshift in Type 1 Active Galactic Nuclei” at the COLS Research Symposium with Sebastian Zamfir.
4. Applied Emphasis Major
- Matt Rucinski and Taylor Richards were admitted to the applied physics program, with an emphasis in applied mechanics. Matt will be participating in a local internship in the summer of 2012.
5. Outreach Activities
- The Department hosted the annual meeting of the Wisconsin Association of Physics Teachers (WAPT) in October 2011. Brad Hinaus and Nancy Stokosa did the majority of the organizational work associated. Brad will serve as the WAPT president in the coming year.
 - The Blocher Planetarium presented programs to over 11,000 visitors, including university classes, school groups, community groups, and public programs.
 - Adriana Durbala and Sebastian Zamfir co-presented the workshop titled “The Search for Earth-like (Exo-)Planets” for UWSP STEM Career Day event (November 4, 2011).
 - Adriana Durbala presented the workshop titled “The Search for Earth-like (Exo-) Planets” for UWSP Women and Science Day event (February 24, 2012).
 - Brad Hinaus presented the workshop titled “The Hard Drive, CD, and Credit Card – Modeling the storage and reading of digital data” at the 2011 WAPT Meeting.
 - Brad Hinaus and Sebastian Zamfir designed and judged events for the Wisconsin Science Olympiad held in Menomonie, WI with the help of students: Paulette Epstein, Zac Meadows, Madelyn Pielow, and Dan Dombrowski.
 - Art Stevenson participated in organizing public night sky observing programs at Sand Hill Wildlife Area Skills Center, Babcock, Wisconsin.
 - David Tamres presented the workshop titled “Create Animated Graphs Using Microsoft Excel!” at the 2011 WAPT Meeting.