

Department of Physics and Astronomy

2016 Year in Review



Scholarship Recipients:

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

- Kyle Meidenbauer

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

- Alex Holmes

Kameshwar Razdan Memorial Scholarship (\$1,000)

- Tim Carroll

Monica E. Bainter Scholarship (\$750)

- Jessica Harter
- Matthew Lanke
- Brent Reiersen

Allen Blocher Scholarship (\$500)

- Karsten Hintz

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

- Logan Hess

Graduating Seniors:

- Travis Augustine
- Brandon Czekay
- Isaac Ford
- Thomas Matimiro
- Evan Mason
- Yueyang Meng
- Nicholas Ramcheck
- Erin Sullivan

Notable Selected Activities and Accomplishments

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

External Grants and Partnerships

- Adriana Durbala submitted the proposal for the new NSF grant “Empowering Research by the Undergraduate ALFALFA Team” (approx. \$ 250,000) with the ALFALFA collaboration (PI: Rebecca Koopmann, Union College). The NSF grant (if approved) will allow our students to continue participating in annual workshops at Green Bank Observatory (West Virginia), as well as getting hands-on radio observing experience. The grant may also provide financial support for one or two students to travel to Kitt Peak National Observatory and make observations with the WIYN 0.9m optical telescope. ALFALFA collaboration: <http://egg.astro.cornell.edu/alfalfa/ugradteam/ugradteam.php>
- Our department hosted three one-day workshops for the Wisconsin Space Grant (WSGC). <https://spacegrant.carthage.edu/>
- Student Glenn Porter and Sebastian Zamfir participated in the Great Lakes Planetarium Association Annual Conference in Grand Rapids (MI) – October 2015.

Publications, Presentations and Posters of Faculty and Students

- Vinicius Garcia and Maryam Farzaneh published an article titled “Transient thermal imaging of a vertical cavity surface emitting laser (VCSEL) using thermoreflectance microscopy” in *Journal of Applied Physics: J. Appl. Phys.* **119**, 045105 (2016).
- Maryam Farzaneh established and started a research collaboration with Dr. Luke Mawst at the Dept. of Electrical Engineering, UW-Madison.
- Matthew Lanke worked with Maryam Farzaneh on a PHYS388 research project, attempting to calibrate the thermoreflectance measurements of a Vertical Cavity Surface Emitting Laser (VCSEL), Fall 2015.
- Jacob Olufs worked with Maryam Farzaneh on a PHYS388 research project, working on thermal imaging of Quantum Cascade Lasers (QCLs), Spring 2015.
- Jacob Olufs and Maryam Farzaneh presented a poster titled “Transient Thermal Imaging of Quantum Cascade Lasers (QCLs) using Thermoreflectance Microscopy” at COLS Undergraduate Research Symposium, May 2016.
- Palash Banerjee received a grant of \$15,325 AR-WiTAG Match Grant from UW-System for a project titled “Micromechanical torque magnetometer for characterizing magnetic nanoparticles”. This grant included funds to support the research effort of one student during the academic year 2013-14 as well Summer 2014.
- Sebastian Zamfir co-authored the paper “Balmer line shifts in quasars” – published in *Astrophysics and Space Science*, Volume 361 (2016)
- Working with Chris Verzani, Brandon Czekay (Phys 388) participated in research on saturated absorption spectroscopy in a rubidium vapor, as a diagnostic technique.

Applied Emphasis Major

- Michael Evans successfully completed the Applied Emphasis major internship at the Kohler Company, in Kohler Wisconsin.
- Shayne Smith successfully completed the Applied Emphasis major internship at Donaldson's Company in Stevens Point.
- Brandon Czekay successfully completed the Applied Emphasis major internship at UWSP under the supervision of Palash Banerjee.

Outreach Activities

- Adriana Durbala and Sebastian Zamfir co-presented the workshop titled "Let's Make a Comet" for UWSP STEM Exploration Day for Boys on November 20, 2015 and for UWSP STEM Exploration Day for Girls on February 26, 2016
- Sebastian Zamfir presented (oral presentation) UWSP's LIFE program "Search for New Worlds" in March 2016; LIFE (Learning Is For Ever) program brings learning opportunities to hundreds of retired adults.
- Sebastian Zamfir (with great help from our technician Jim Mortier) coordinated an observing session for the transit of Mercury event on May 9, 2016; three telescopes deployed in the sundial area and two on the roof of the Science Building.
- Our Allan F. Blocher Planetarium hosted a series of 25 laser shows offered to the general public as part of our annual fundraising event March 28-April 6 (474 people attended the shows).
- Sebastian Zamfir – as new director of the Allen F. Blocker planetarium is hosting a series of summer planetarium shows (May 23 – July 29, 2016) – five different titles for the general public (14 scheduled shows). He is also leading the planetarium presentations for various school groups and clubs, scheduled by request.
- Sebastian Zamfir – led on observing session with a portable 8-inch telescope in Plover, WI – as part of the Moon Walk event organized by Portage County – October 2015
- Student Alex Mitchel led an astronomy presentation organized at the public library in Wisconsin Rapids, WI – March 2016
- Sebastian Zamfir coordinated the Allan F. Blocher planetarium events as part of the College Days for Kids – April 2016 (three consecutive Fridays).