Dr. Brian Bennett was appointed as the Chair of the Physics Department in July of 2014. He was previously a faculty member of the Department of Biophysics at the Medical College of Wisconsin since 2001, where he carried out research on proteins, enzymes and tissue samples with disease relevance using advanced EPR (electron paramagnetic resonance) techniques.

He additionally taught several biophysics and related classes, was involved in education reform and college governance, and was both Associate Director and Service Director of the National Biomedical Electron Paramagnetic Resonance Center. He has co-authored more than 100 scientific papers and two book chapters.

The Physics Department recently acquired a research-grade EPR spectrometer, and Dr. Bennett and colleagues anticipate new and exciting opportunities for undergraduate education and research with this instrumentation.

Dr. Bennett is thrilled to be in the vibrant Physics Department at Marquette! He encourages you to explore our website for more information on news and events in the department, and to contact him directly if you would like to introduce yourself!
Physics at Marquette

The Physics program at Marquette University provides exciting research opportunities alongside faculty, fellowship in student organizations, and a stimulating curriculum to launch your career in science. Our undergraduate-only program offers unique opportunities for majors, including positions as a teaching assistant or research assistant.

The Society of Physics Students present “The Science of Paper Airplanes” at a local school

The Women in Physics Club teaches a Girl Scout troop about the lifecycle of a butterfly with fun crafts

Society of Physics Students

The Society of Physics Students is an active group! They provide a forum for the discussion of pertinent facts and discoveries in all branches of physics, engage in activities related to physics, and generate public interest in the physical sciences.

A highlight from last year was volunteering at a local grade school, where the club demonstrated the physics of paper airplanes and had a contest with the students to see whose airplane could fly the farthest!

Women in Physics Club

Women in Physics works to foster camaraderie among women physics majors and those with interest in physics at Marquette.

Women in Physics also participates in local outreach events. Last year, they educated a girl scout troop about the lifecycle of butterflies with a fun art project.

This active group of women works hard and plays hard, too. They have a blast bowling at The Annex on campus and hosting movie nights!
Mark your calendars!

October 24: Coyne Lecture
Reverend George V. Coyne, S.J. will be giving the 10th Coyne Lecture in Astronomy and Astrophysics at the Weasser Auditorium at 7:00pm. His talk is entitled “Dance of the Fertile Universe: Chance and Destiny Embrace.” Father Coyne gave the very first lecture in 2006, and we look forward to his return next month!

Abigail Searfoss (MU 2013) is attending graduate school in Vanderbilt University’s Quantitative and Chemical Biology program. She was one of only 12 graduate students at Vanderbilt who were awarded a prestigious NSF fellowship in April of 2014! These fellowships are granted to students early in their graduate careers based on their “demonstrated potential for significant achievements in science and engineering.”

David Anaya (MU 2013) will be starting his second term with the nonprofit organization “College Possible” as an AmeriCorps member. College Possible is an after-school program that helps prepare low-income students for college admission and graduation. This year, he will be working with a group of 40 seniors as a High School Senior Coach, helping them apply to colleges, apply for financial aid, and prepare them for the transition to college life.

Alex Selner (MU 2013) entered the workforce shortly after he graduated in December of 2013. He is working in 3M’s Renewable Energies Division, testing materials for their wind energy project. He is studying peel and pull-off strength of their wind adhesives, adhesions promoters, and epoxies.

Jeff Maltas (MU 2012) began his PhD program at the University of Michigan in the Fall of 2014 after completing his Master’s degree at Miami University – Ohio. At Miami, he was named the Outstanding Graduate Student Researcher for the 2013-2014 year, as well as Outstanding Graduate Student Teacher! His current research at Michigan focuses on studying heterogeneity in cancer tumors and its implications for optimal treatment strategies.

Tim Gee (MU 2012) works in the Recording Subsystem Department (RSS) in the Research & Development branch of Seagate Technology in South Korea. RSS specializes in Head (reader/writer) and Media (disk) development of hard disk drives. Tim’s current work involves running tests for optimizing the Write Current running through the head, which is used to flip bits (binary 1s and 0s) on the media using magnetic fields. He greatly enjoys South Korea and is fulfilled by his work!

Oh, the Places MU Physics Graduates Go!

October 24-25: WAPT
Marquette is hosting the Wisconsin Area Physics Teachers conference on October 24 and 25th! The conference abounds with opportunities for learning and social engagement We’re especially excited for the keynote speaker, Destin, from YouTube’s “Smarter Every Day”!

October 24-25: SPS Zone Meeting
The Marquette SPS Chapter is also hosting their Zone meeting October 24 and 25th! Fun-filled events include a scavenger hunt around campus, a trebuchet launch competition, a poster session, and an evening of star-gazing!

Physics Department Newsletter - Fall 2014
MU Physics has Particle Fever!

Marquette Physics is proud to be a community partner with the Milwaukee Film Festival! The film “Particle Fever” (directed by Mark A. Levinson) will be shown at the Landmark Oriental theater on Friday, October 3 at 11:15am, and Wednesday, October 8 at 7:30pm. This film “provides a front-row seat to the largest experiment in scientific history, imbuing us with the enthusiasm of these brilliant minds as they seek answers to questions that have bedeviled us throughout time.” It’s one you won’t want to miss! Milwaukee Film Festival runs September 25 - October 9. For more information, visit http://mkefilm.org/festival/

Dr. Stockdale takes on the ice bucket challenge!

Dr. Chris Stockdale participated in the ice bucket challenge to support ALS research at the department picnic. For every dollar a student or faculty member donated, more water was added to the bucket. Dr. Stockdale matched the final donation amount, and nominated his new boss, Dr. Brian Bennett to do the challenge next! Go to our website to check out the full video.

Focus on Faculty Research

Dr. Brian Bennett was successful in renewing his NSF funding award, CHE-1462201, “Collaborative Research: Mechanistic Studies on Fe-type Nitrile Hydration Catalysts”, in August, 2014, and has published four papers in 2014 in the area of electron paramagnetic resonance (EPR).

Dr. Chris Stockdale was featured in Science Magazine for his work studying the spiral galaxy, M83! His current research involves using the VLA (Very Large Array) to study supernovae.

Dr. Ben Brown is collaborating with ETH Zurich on a precision experiment to measure the Rydberg constant in a positronium atom, consisting of an electron and an anti-electron in a bound state.

Among other things of a philosophical nature, Dr. Joe Collins is still attempting to find a frame independent form of the Work – Energy Theorem.

Dr. Andrew Kunz has received an NSF Grant for his work in nanomagnetism. The grant supports undergraduate students in their research efforts in developing techniques to reliably manipulate domain walls in ferromagnetic arrays with potential applications in sensors and data storage.

Dr. Mike Politano was invited to give a talk on his research at an international conference on binary stars entitled, “Binary Systems: Their Evolution and Environments,” held in Ulaan Baatar, Mongolia in September. He and two former undergraduate physics majors, Justin Provance and Gavin Rank, will be submitting a paper shortly to Astrophysical Journal Letters on this work.

For more information on faculty research, check out their biographies on our faculty webpage at www.marquette.edu/physics/faculty.shtml
We would love to hear from you!

If you would like to be featured on our department website, in a future newsletter, or just want to say “hey!” give us a call, send us an email, or stop in the department office the next time you are in the area.

We’d love to know what you are up to!

Marquette University
Physics Department
540 N. 15th Street Rm 380
Milwaukee, WI 53233

414.288.7247
physics@mu.edu

www.mu.edu/physics