PAUL PERNICI HOLDS THE HIGHEST SCORE BY AN ASHLAND UNIVERSITY STUDENT FOR THE WILLIAM LOWELL PUTNAM COMPETITION

Paul Pernici ('15) received the highest score by an Ashland University Student for the William Lowell Putnam Competition with a score of 18. The previous AU highest student score was Cara Smith with a score of 12 in 2010. There were 3,340 students participating in the 2014 William Lowell Putnam Competition. These students represented 577 different colleges and universities in Canada and the United States. Of these 3,340 participants, 1,487 received a score of 0, 343 received scores of 1, 1,145 received scores between 3 and 17 and 51 received scores of 18. Thus Paul Pernici did better than 76.1% of students taking the exam and at least as well as 77.3% of students taking the exam while Grace McCourt did better than 42.4% of students taking the exam and at least as well as 49.6% of students taking the exam. Andrew Rowe (2006) still holds the record for the highest percentile rank, doing better than 76.2% of students taking the exam and at least as well as 82.7% of students taking the exam. Congratulations, Paul and Grace for receiving nonzero scores. Congratulations, Paul for receiving the highest student score by any Ashland University student to date.

PAUL PERNICI PRESENTED AT THE ANNUAL POSTERS ON THE HILL


DR. PAUL CAO AWARDED THE SENIOR FACULTY STUDY LEAVE GRANT

Dr. Paul Cao was awarded the Senior Faculty Study Leave Grant for the 2015-16 academic year. During this sabbatical leave, he will focus on the development of cyber security courses such as information security and network security. He will visit the computer Science Department at Ohio State University and collaborate with Professor Dong Xuan. Professor Xuan is an expert on security and networks. Also during his study leave, Dr. Paul Cao, will collaborate with the Xuan Group on several data analysis projects using machine learning and data mining techniques.
COMPETITIONS AND CONFERENCES

William Lowell Putnam Competition

The seventy-fifth annual William Lowell Putnam Mathematical Competition was held on Saturday, December 6, 2014. Ashland University participants for 2014 competition were Scott Glorioso, Alexander Lillich, Grace McCourt and Paul Pernici. The results are in: Ashland University had two students receive non-zero scores. They were Paul Pernici and Grace McCourt. Pernici received a score of 18 and McCourt received a score of 2. Pernici holds the record for the highest score by an Ashland University student. Cara Smith, a 2010 graduate, previously held the highest score with a score of 12.

The William Lowell Putnam Mathematical Competition began in 1938 and is designed to stimulate a healthy rivalry in mathematical studies in the colleges and universities of the United States and Canada. Mr. William Lowell Putnam, a member of the Harvard class of 1882, believed in the “merits of an intellectual intercollegiate competition.” Elizabeth Lowell Putnam created a fund in 1927 in honor of her late husband known as the William Lowell Putnam Intercollegiate Memorial fund. The first competition was in the field “of English and then a few years later another competition was held in mathematics between two institutions.” It was not until after her death in 1935 that “the examination assumed its present form and was placed under the administration of the Mathematical Association of America” (The Mathematical Association of America, Exam Brochure).

This year a total of 3,340 students from 577 colleges and universities in Canada and the United States participated in the competition. Pernici did better than 76.1% of students taking the exam and McCourt did better than 42.4% of students taking the exam. Andrew Rowe, a 2006 graduate, still holds the record for the highest percentile rank, doing better than 76.2% of students taking the exam.

This year’s top 5 teams were: 1.) MIT, 2.) Harvard, 3.) Rensselaer Polytechnic, 4.) Waterloo, and 5.) Carnegie Mellon. Thank you to all of the AU students who participated in this year’s exam.

Association of Computing Machinery Regional Programming Contest

The 2014 Association of computing Machinery (ACM) ICPC East Central North America Regional Programming Contest was held on November 8. The challenging 5 hour competition tests logic and problem-solving skills. It is a great opportunity to apply classroom knowledge to real industry problems.

There were 150 teams at the competition. The problems were really tough this year. Only 30 or so teams were able to solve at least one problem. Ashland University took Three Teams. The AU faculty coach for 2014 was computer science professor, Dr. Paul Cao.

AU Tuffy Team: Joe Hemerly, Cameron Goodson and Ben Bushong

AU Purple Team: Zack Brown, Alex Gregory and Nazumul Rabbi

AU Gold Team: Rupesh Marharjan, Chris Yocum and Brady Douglas
**PRESENTATIONS:**

**URCA Presentations**

Ashland University's College of Arts and Sciences hosted its sixth annual Undergraduate Research and Creative Activity Symposium. This is an opportunity for students to present their scholarly and creative work. Approximately 63 students' works were featured.

The April 8 symposium, was free and open to the public. It was held from 9:15 a.m. to 4:15 p.m. in the John C. Myers Convocation Center. The students presented original research, performed theatrical and musical selections, read original creative writing, and exhibited their artwork. This gives the College of Arts and Science undergraduate students the opportunity to “make original intellectual and creative contributions to their disciplines early in their careers” (2015 CAS Symposium Catalog).

The following Math and Computer Science students participated this year: Scott Glorioso, Paul Pernici and Garrett Tresch,

**Scott Glorioso** presented “Constant Speed or Constant Effort: Which is More Efficient Way to Run?” The faculty sponsor was Dr. Gordon Swain, Mathematics.

**Paul Pernici** presented “Comparing Feature Extraction and Feature Selection Algorithms in Pattern Recognition.” The faculty sponsor was Dr. Paul Cao, Computer Science.

**Garrett Tresch** presented “Sieve Bootstrap-Based Prediction Intervals for GARCH Processes.” The faculty sponsor was Dr. Maduka Rupasinghe, Mathematics.

**STUDENT NEWS:**

**Congratulations to our December 2014 and May 2015 Graduates**

Thomas Burford
Joshua Davis
John Garrison
Scott Glorioso
Adam Ganselma
Clay Harris
Junjun Huang
Marisa Hlas
Joshua Hunter
Aaron LeMaster
Ryan Lynch
Joel Moseman
Michael Obermiller
Paige Trein
Garrett Tresch
Audrey Wagner
Christopher Yocum

**Math Club News**

The Math Club (Mathematical Association of America Student Chapter, MAA) meets bi-weekly during the school year with 10-15 students. At most meetings they play math-related games, but also have themed meetings such as mathematical pumpkin carving, mathematical puzzles, the mathematics of voting and Pi-day.”

Math Club officers for the 2014-2015 year were: President: Emily Bosley; Vice-President: Michael Byndas; Secretary: Alyssa Predota; Treasurer: Becca Stettin. Faculty Advisors were Dr. Maduka Rupasinghe and Dr. Chris Swanson.

**The Problem Solving Group**

The PSG group was formed in the fall of 2011 by Dr. Gordon Swain. The group meets bi-weekly throughout the academic year to discuss and attempt to solve mathematical problems posed in scholarly journals.

The Problem Solving Group (PSG) at Ashland University submitted 4 problems last year. They received acknowledgement for 3 correct solutions and their solution to Problem 5332 from School Science and Mathematics website (April 2015) was selected to be published. Faculty advisor was Chris Swanson.

**AU Mathematical Problem of the Month Participant**

Garrett Tresch was the 2014-2015 Contest Participant of the Ashland University Mathematical Problem of the Month.

**Association of Computing Machinery (ACM) News**

The Ashland chapter of ACM is the active organization for students interested in the field of computer science. The club meets bi-weekly and attends the regional ACM competition every year. The meetings revolve around the collective interest in computers, gaming and programming. The chapter has entertained the campus with various events, including the annual Ester Egg Hunt, where they collaborate with Ashland’s Mathematical Association of America Club.

ACM officers for 2014-2015 were: President: Ben Bushong, Vice-President: Rupesh Maharjan. The faculty advisor was Dr. Paul Cao.

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**Actuary News**

What is an actuary?

According to CareerCast.com it is one of the best jobs for 2014. CareerCast.com ranks careers on the basis of work environment, income, job growth outlook, and on-the-job stress. Actuary has been consistently in the top 10 for the past several years.

Actuaries are trained in risk management. They solve a variety of problems related to risk, such as determining premiums for insurance companies, helping companies establish their retirement plans, developing life insurance products and assisting banks in managing their assets and liabilities and developing ways to manage their financial risk. Actuary Science takes a combination of strong analytical skills, business knowledge and understanding of human behavior.

Actuaries increase their skills and professional status by taking a series of tests over various materials. These tests may be taken while still in college and/or while on the job.

**Joel Moseman ’15** has passed the Exam P. The Exam P is the Society of Actuaries’ Probability Exam. It tests the candidate’s knowledge of fundamental probability tools for quantitatively assessing risk.
Upsilon Pi Epsilon Honorary Society Inductees (UPE)

Paul Pernici, senior, and Rupesh Maharjan, sophomore, were inducted into the Ashland University chapter of Upsilon Pi Epsilon honor society. Upsilon Pi Epsilon (UPE), is an international honor society for the computing and information disciplines, first organized at Texas A&M University in 1967. Today, this international organization consists of chapters at colleges and universities throughout North America and overseas. The mission of UPE is to recognize academic excellence at both the undergraduate and graduate levels in the computing and information disciplines.

Ashland University’s UPE Chapter was formed in January 2002. Sophomore, junior and senior computer science majors who meet the eligibility requirements are invited to join this prestigious honorary. Eligibility is based on progress in computer science coursework, grades earned from computer science courses, and a student’s cumulative grade point average.

Pi Mu Epsilon Honorary Society (PME)

Pi Mu Epsilon is the national mathematics honorary society. Founded on May 25, 1914 at Syracuse University. The purpose of the society is to promote scholarly activity in mathematics among the students in academic institutions.

Ashland University’s Rho Chapter was formed in April 2002. Sophomore, junior and senior mathematics majors and minors who meet the eligibility requirements are invited to join this prestigious honorary.

ALUMNI NEWS

RECENT GRADUATES

Joel Moseman (May 2015, Actuarial Science) accepted a position with Motorists Insurance Group as an actuarial analyst. He will assist in pricing their personal and commercial Property Casualty lines.

Clay Harris (May 2015, Actuarial Science) accepted a position with Key Bank as a credit risk analyst. His job will involve a lot of risk management and incorporate significant financial statement analysis.

Caitlin Music ’13 completed the two year Master of Statistics program at Miami University. She started her career at AcuSport in Bellefontaine, OH. She is a Supply Planning Analyst. In this position, she is responsible for analyzing POS data and providing insight into inventory, fill rate, etc.

Alumni, We’d Love to Hear from YOU!

Keep in touch! It’s encouraging to our faculty and current students to see where your AU degree takes you! Notes, news or updated contact information may be sent via e-mail to vralph@ashland.edu or mailed to Ashland University Department of Mathematics and Computer Science, 401 College Ave. Ashland, Ohio 44805.

Name __________________________________________________________ (Maiden)______________________________

Major __________________________________________________________ Year of Graduation ______________________

Address _______________________________________________________

E-mail Address ________________________________ Occupation/Title ______________________________

What you are up to: _____________________________________________

___________________________________________________________________________

___________________________________________________________________________

If you are interested in making a gift to support endowed scholarships, or department programs, please contact the AU Development office at 419.289.5620, or you can give on-line http://secure.qgiv.com/for/ashuni/. Your continuing support is important to the success of our program and our students!
**Faculty News**

**Dr. Iyad Ajwa** has been at Ashland University since 1997. He was named chair of the department starting the 2014-2015 academic year. During his tenure at AU, Dr. Ajwa has taught numerous courses in mathematics and in computer science.

**Dr. Paul Cao** is on sabbatical leave for the 2015-2016 academic year. During his leave, he will focus on the development of cybersecurity courses such as information security and network security. He will visit the computer science department at the Ohio State University and collaborate with Professor Dong Xuan, who is an expert on security and networks. Another focus of Dr. Cao's study leave will be to collaborate with the Xuan group on several data analysis projects using machine learning and data mining techniques. He will return to Ashland University main campus for the 2016-2017 academic year where he will continue his duties as professor.

**Dr. Boris Kerkez** was elected and served as the Faculty Senate Secretary during the 2013-2014 academic year. He also served on the Executive Committee of the Faculty Senate. He is the co-advisor for the ACM Student Chapter at Ashland University, and has traveled with the ACM teams to Youngstown University for the ACM ECNA Regional Programming Contest in November 2013.

**Dr. Gordon Swain** is pleased to be back in the classroom full time in 2015-2016 academic year, after serving as Vice-president for two years and President of the Faculty Senate for one year. His student, Scott Glorioso, a senior math and chemistry major, completed an Honors Capstone Project entitled, “Constant Speed or Constant Effort: Which is the More Efficient Way to Run?”

**Dr. Chris Swanson** is currently the President-Elect of the Ohio Section of the Mathematical Association of America. His recent research has been on Costas arrays in collaboration with Bill Correll, Jr. of MDA Information Systems and Randy Ho of Garmin International, with their paper “Costas Arrays and the Lovász Local Lemma” appearing in the Proceedings of the 2015 IEEE International Radar Conference. In October, he gave an invited address entitled “Active Learning in the Non-Calculus Classroom: My Favorite Activities” at the Fall Meeting of the Ohio Section of the MAA. In addition to teaching mathematics, he is also the director of the university Honors Program and he traveled to Italy last summer with 15 Honors students and his wife. In 2014, Dr. Swanson was awarded the Award for Distinguished College or University Teaching of Mathematics of the Ohio Section of the MAA. In 2006, the MAA also honored Dr. Swanson with a Henry L. Alder Award for Distinguished Teaching by a Beginning College or University Mathematics Faculty Member. Dr. Chris Swanson has served as the advisor for the Ashland University Problem Solving Group (PSG) for the last two academic years.
Dr. Darren Wick was pleased to return to the classroom full time in 2014-2015 after his seven year term as chair of the department ended in the fall of 2014. He continues to serve as webmaster for the Ohio Section of the Mathematical Association of America. He completed the development of a 5-week online Math 208 course for the online Criminal Justice program, and delivered the first offering of this course in the spring of 2015. He collaborated on an undergraduate research project with Dr. Rupesh Maharjan during the summer of 2015. He will serve as faculty advisor for both the MAA (Math club) and ACM (CS club) starting the 2015-2016 academic year.

**Staff Member**

Mrs. V. Sue Ralph returned to Ashland University in August 2014. She is the administrative assistant to the Math and Computer Science Department. She has an accounting and finance degree, as well as a teaching certificate k-8, from Ashland University.

**Faculty Retirement**

Dr. Vickie Van Dresar, Professor of Mathematics, retires. She completed her 26th year as a member of the Mathematical Association of America (MAA). She was the Coordinator for Basic Skills for Math 217: Theory of Arithmetic and Geometry course and was the supervisor of the Basic Skills tutors/administrators. She was the Faculty Advisor for AU Chapter of Alpha Lambda Delta. The AU Chapter of Alpha Lambda Delta is the National Honor Society for first year students. She was the AU Site Director for the Ohio Council for Teachers of Mathematics (OCTM) a mathematics contest for high school students. In spring 2014, she was a member of the Taylor Teaching in Excellence selection committee.