

Science | Technology | Engineering | Mathematics

STEMconnect



Community >>>

Advice from Engineering & Computer Science Alumni:

“Take on as many projects as you can. Make friends with the best students in your classes. Apply your learning as much as possible. You’ll get out of it what you put into it.” ~ **Steven Oxley**

“Look for internships or summer jobs at a company that does the kind of engineering that captivates you. Intensely explore the areas that fascinate you, and you’ll end up in a job that you enjoy.” ~ **Joel Kitchen**

“Don’t just study. *Do*. Self-directed projects are the best way to become a competent engineer or programmer. The difference between mediocre and great engineers is that the latter take ownership of their own learning, and never stop playing with new tools.” ~ **Eric ‘Siggy’ Scott**

STEM: A Growing Initiative

The Sciences in a Thriving Community

The STEM Division in the College of Arts & Sciences is comprised of the Department of Biology, Department of Chemistry & Biochemistry, Department of Engineering & Computer Science, Department of Mathematics, and Department of Physics. STEM, which stands for science, technology, engineering and mathematics, is a growing initiative at Andrews.

In 2006, the College of Arts & Sciences established four divisions: Humanities, Social Sciences, STEM, and Health Professions. In 2013, the Health Professions division became the School of Health Professions.

STEM enables students not only to thrive in the professional STEM community but to contribute to their church community as well. STEM majors reflect the diversity present at Andrews University, breaking stereotypes about women and minorities in STEM fields. STEM also offers a unique experience for students, integrating the scholastic resources and practices of larger state universities with an environment that fosters spiritual development.

In order to serve students further, the STEM Division looks to societal and church trends to project the needs of STEM fields. An increase in STEM enrollment and retention will work towards the goal set by the 2012 President’s Council of Advisors on Science & Technology, which states that American universities need to produce an extra one million college graduates in STEM fields.

The Andrews University Department of Engineering & Computer Science is a key focus area in the STEM division for growth, according to both Keith Mattingly, Dean of the College of Arts & Sciences, and Shandelle Henson, professor of mathematics and chair of both the Department of Mathematics and STEM Division.

“Engineering and computer science majors take many other STEM courses as cognates and often take second majors in other STEM fields. If one STEM department becomes stronger, we all do,” says Henson.

As STEM looks forward to growth and improvement, the experience of the student is paramount. Increasing numbers, upgrading lab equipment, and improving learning space are all steps to the ultimate goal of providing a holistic learning environment that activates an excitement for discovery.

A unique experience integrating the practices of larger universities within a spiritual environment



Chemistry & Biochemistry >>>

"Nothing is too wonderful to be true, if it be consistent with the laws of nature." ~Michael Faraday

During spring semester, the Department of Chemistry was active with many research projects and presentations. Some students went to the Michigan Academy of Science, Arts, & Letters that was held this year at Hope College in Holland, MI. At the conference, students presented research to groups representing many different universities in Michigan. On another research note, the BEST Early Research Symposium, founded by Dr. Desmond Murray and held in the Chemistry department on April 26, showcased high school students and their college-level research projects.



Renovations

Ongoing renovations will occur this summer in the Chemistry department laboratories, and new air-handling system will be installed

on the first floor. The amphitheater will get new chairs as well as two new projectors and a new demo lecture deck.

ChemClub Demos

Chemistry students have shared amazing chemistry principles with area schools and churches. The purpose of the chemistry demonstrations is to reach out to the kids and to serve the community, using science to illustrate spiritual truths.

Graduate Highlight

Joshua Szykowski is a proud Andrews graduate with a BS in

Biochemistry. He is doing research over the summer with Dr. Lisa Ahlberg on a 1, 3-dipolar addition reduction to form a thio-lactone analog. He is still considering his options for graduate school in the fall. Regarding his time at Andrews, Josh said,



"The Chemistry department has faculty that are intent on seeing you succeed. My professors were always readily available for questions and support of any kind. This led to opportunities,



such as research and employment in the department, that might not have been available in another setting."



Department of Chemistry & Biochemistry



Celebrating

Margo Coleman

Thank you for your dedication and hard work in the Dept. of Biology!

You are the queen bee of this hive, and we will definitely feel your absence. We appreciated your diligence and ALL CAPS emails. Thank you for bringing some sanity to this place. We'll miss you!

Biology >>>

"When you have seen one ant, one bird, one tree, you have not seen them all." ~Edward O. Wilson

The spring semester was eventful for the Department of Biology. The Foundations of Biology class took their annual overnight trip to the Chicago Field Museum, Mud Lake Bog, and the Indiana Dunes in April. Throughout this trip, students made many memories while spending time, bonding with one another.

The Annual Pizza Party was a smashing success with many awards and scholarships given to students. Per tradition, attendees happily devoured the many treats and the famous pizza made by Dr. Chobotar. The students also gave a touching tribute to Margo in appreciation for her work in the department.

The graduation weekend was full of friends, family, memories, and celebration. Graduation dinner on Sabbath afternoon was the largest that the department had ever entertained, with over 200 graduates and family members for a sit-down meal!



Graduate Highlight:

Ariana Cunningham is now a proud graduate from Andrews University, BS Biology. She is accepted to Loma Linda University in California, where she will begin her study after

a year as a student missionary in Peru. At present, Ariana is mostly drawn towards pediatrics and may pursue a specialty. Regarding how the department has aided in preparation for her career, she says, "The intimacy of smaller class sizes has really facilitated the student-teacher relationship, and I truly think that it is the professors here who make the biology department so strong!"



Department of Biology

Physics >>>

"The opposite of a correct statement is a false statement. But the opposite of a profound truth may well be another profound truth." ~ Niels Bohr

American Physical Society Meeting

On March 18-22, 6 physics students attended the worlds' largest physics meeting in Baltimore, Maryland. With over 9,240 people in attendance, the event consisted of many exhibits, discussions, and presentations of the activities and service surrounding APS.

eigen*

One of the newer additions to the eigen* talks has been the journal reviews. Periodically students read and summarize a journal article for the others, giving the students the opportunity to present, to be exposed to a variety of journal articles they'd otherwise not have time to read, and to become more intellectually curious. Students who have given journal talks this year are Luis Garibay, Chris Greenley, Jonathan Wheeler,



Samantha Easton, Michael McMearty, William Tritch, Belinda Cheeseboro, and Joelle Acre. In all, eigen* members gave 29 talks, poster presentations, and journal reviews during the 2012-13 school year.

Summer Physics

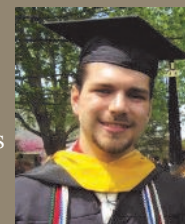
"As a student teacher, I am really excited about the direction that Summer Physics is moving. [It] is more than a 5-credit class. It is an experiment for everyone: the students, professors, and the TA's, LA's, and tutors. It is an opportunity to work together to discover grander and more exciting ways both to instruct and to learn." ~ Archie Wheeler

Graduate Highlight

Christopher Greenley has graduated with a BS in Physics and second major in Mathematical Studies. This summer he is working in Japan at J-PARC as a member



(Photo above: One of the three students inducted into Sigma Pi Sigma this spring) of the T2K collaboration (a long baseline neutrino experiment). In the fall, he will be starting a Physics PhD program at Louisiana State University in Baton Rouge. From his time at Andrews, Chris said, "The fact that I seem to be succeeding at life is largely the fault of our wonderful physics faculty. I can think of several low moments when they cared far more about my grade than I did and their insistence was the only reason I kept working."



Congratulations

Andrew Roderick & Brian Booth

For winning the 9th Annual Extreme Redesign 3D Printing Challenge in the College Engineering Category.

This international contest encouraged students to submit an innovative redesign of an existing product. Says Andrew, "We were ecstatic and honored to win and be able to represent Andrews University on an international level." Andrew & Brian's design, which they called the Crawler Seat 2.0, is currently under review for commercial product development and licensing.



Engineering & Computer Science >>>

"High achievement always takes place in the framework of high expectation." ~Charles F. Kettering

Engineering Week:

During Engineering Week, the department enjoyed a panel discussion with engineers from Eagle Technology (Joel Kitchen), Pilkington (Jason Sysak), Dane Systems (Korney Manning), and Whirlpool (Greg Smith). Students and faculty also enjoyed the opportunity to ask questions and interact with these professionals during the presentation and reception.

NSBE Convention:

On March 27, fourteen students within the Andrews University chapter of the National Society of Black Engineers set out for the National Convention in Indianapolis, Indiana. At the convention, students enjoyed different showcases, lectures, tours, and networking opportunities.

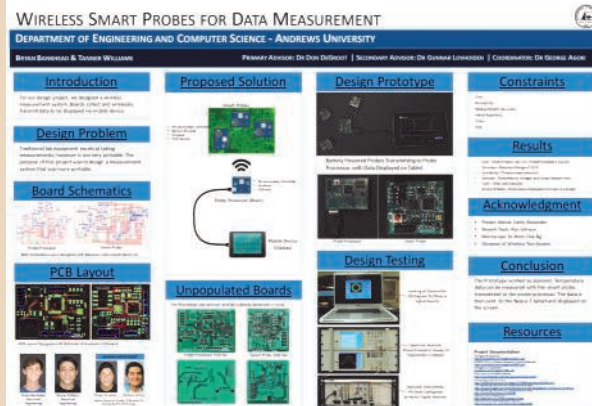
7th Annual Senior Design Presentations:

Bryan Bankhead and Tanner Williams showcased their wireless smart probes for data measurement (poster below). Micah Mayne, Roberto Fuentes, and Atiel Quetz explained their Music Flex, which used DEAP film to create a speaker. Martin Gayor, David Logan, Mark Sheppard, and Andrei Breja presented their iOS app for the Andrews University Arboretum Tree Walk.



Graduate Highlight:

As an Andrews BSE Engineering Graduate, Bryan Bankhead will begin working at Whirlpool Corporation in June as a control system designer for the refrigeration department. He is glad he chose Andrews for his undergrad "because of the one-on-one time with professors, and the close-knit group within the department."



"Pure mathematics is, in its way, the poetry of logical ideas." ~ Albert Einstein

Annual Pi Day

This spring Pi Mu Epsilon held its traditional Pi Day celebration two days early because PME president, Luis Garibay, was heading out to UC Davis to check out the program in Chemistry (to which he was accepted). For the Pi (-2) Day, PME members

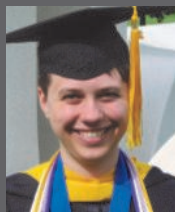
and adviser, Dr. Joon Hyuk Kang, served about 180 pieces of pie and about 11 ½ quarts of ice cream as well as other toppings.



Mathematics Awards Ceremony

The yearly Mathematics Award ceremony took place on April 26, with Andrew Kutzner (Biology/Math Studies) receiving the Harold T. Jones Scholarship, Jonathan (Archie) Wheeler (Physics/Math Studies) receiving the Edward J. Specht Scholarship, and Brandon Baptist (Math Ed) receiving the Louis Ulloth Scholarship. The student earning the

most awards was Ye Lim Seo (Math/pre-dentistry), who transferred to Andrews this year from Toronto and received three awards for excellence in Calculus II, Introduction to Linear Algebra, and Differential Equations. A total of 41 students received awards, 8 of whom received more than one award. Dr. Andreasen opened the ceremony with a humorous tale of his short stint as a mathematics teacher, and Dr. Meredith Jones-Gray (professor of English) presented the award in honor of her father, Harold T. Jones.



Graduate Highlight

Danielle Burton is now a graduate of the MS in Mathematics and Science, the last person to finish that degree. She will be attending the U of TN in Knoxville this fall after spending the summer working, as she has in past years, for the Seabird Ecology Team



(Photo above: 17 students were inducted into Pi Mu Epsilon this spring)

headed by Dr. James Hayward (Biology) and Dr. Shandelle Henson (Mathematics). Danielle's PhD studies in Mathematics at UT will be funded by a PEER (Program for Equity and Excellence in Research) fellowship, which is funded by the NIH. Of her time at AU, Danielle says, "The faculty that mentored me are highly respected in their fields and dedicated to helping me succeed. The departments I've worked with—Math, English, and Biology—generate a positive, nurturing environment. I will miss my friends at AU."



Department of
Mathematics

CONGRATULATIONS Spring 2013 STEM Graduates!

Alves, Guilherme—BS Biochemistry
Bankhead, Bryan—BSE Engineering, PME
Benjamin, Justine—BS Biology
Bovee, Kristie—BS Biology
Brailsford, Jonathan—BS Biology
Brown, Craig—BSE Engineering
Brummett, Andrew—BS Biochemistry
Burt, Kayla—BS Biology
Burton, Danielle—MS Mathematics and Science
Campbell, Ranita—BS Biology
Cho, SungMin—BS Biochemistry
Coy, Ryan—BS Biology
Cunningham, Ariana—BS Biology, TB
Danci, Ioana—BS Biology, TB
Dockery, Donnel—BS Biology
Evans, Erica—BS Biology, TB
Fleurantin, Marcelle—BS Biology, TB
Fuentes, Roberto—BSE Engineering
Garibay, Luis—BS Chemistry (Amer. Chem. Soc.), BS—Mathematics, PME



Grant, Jeremy—BS Biology
Greenley, Christopher—BS Physics, Mathematical Studies, SPS, PME, SX
Horton, Isaiah—BS Biology, TB
Hwang, Ji-Yeong—BS Biology
Hyung, Sam—BS Biology
Jordan, Zachary—BS Biology
Kang, Samuel—BS Biochemistry
Kim, Justin—BS Biology
Kutzner, Emily—BS Biology
Lee, Eun Soo—BS Biochemistry
Lee, Steven—BS Biology, TB
Leonor, Kevin—BS Mathematics
Lewis, Clarissa—BS Biochemistry
Logan, David—BS Computing
Martin, Jerome—BS Biology, TB
Mayne, Micah—BSE Engineering
McAuliffe, Scott—BS Biology
McLarty, Shelley—BS Biology, TB
Moll, Andrew—BBA Finance, BS Accounting, Mathematical Studies, PME
Musselman, Greg—BS Biology
Musselman, John—BS Mathematics Education, Secondary Certificate, PME
O'Reggio, Rachel—BS Biology, TB
Park, Soon Ho—BS Biochemistry
Pender, Tyler—BS Biology, TB
Price, Sharmila—BS Biology
Quetz, Atniel—BSE Engineering
Revolus, Jamal—BS Biology
Richardson, Kenneth—BS Biochemistry
Romain, Styves—BS Mathematics Education, Secondary Certificate



Sandler, Amanda—MS Biology
Schmidt, Roger—MS Software Engineering
Shepherd, Mark—BS Computing, Mathematical studies
Smith, Jereme—BSE Engineering, Mathematical studies
Sprianu, Caesarinne—BS Biology
Steely, Tori—MS Biology
Swim, Peter—BSE Engineering
Szykowski, Joshua—BS Biochemistry
Tanner, Erika—BS Biochemistry
Tchamba, Christian—BS Biology, TB
Telemaque, Kemuel—BS Biology, TB
Thomas, Marvin—BSE Engineering

STEM Honor Societies:

Pi Mu Epsilon—PME
Sigma Xi—SX
Sigma Pi Sigma—SPS
TriBeta (Beta, Beta, Beta)—TB

2013 STEM Awards & Internships >>>

Internships:

Andrew Roderick & Brian Booth—Dane Systems, LLC
Bernardo Martinez—Auto Owners Insurance (Computer Science Intern)
Carrielle Simmons—University of Virginia School of Medicine
(Summer pre-med/pre-dent internship)
Haniel Olivera—Milara Inc.
(Drawing assembly procedures for a robot and parts for a laser)
Nina Lassonnier—Cummins Inc. (Product Validation Engineering Intern)

Research:

Andre Moncrieff—Tambopata Research Center in Peru
(Census of Birds in the rainforest)
Camille Martin—MeadWestvaco (Summer research internship)
Kylynda Bauer—Harvard University's Center for Systems Biology
(Turnbaugh Lab)
Satoshi Thiele—Loma Linda University
(Biochemical problems with Dr. Neidigh)
Thomas Zirkle—National Institute of Standards and Technology
(Summer Fellowship)
Timothy Iuliano—Research Assistant for Dr. Kwon
William Tritch—Lincoln Univ. of Nebraska
(Partial Differential Equations)

DeHaan Work Excellence Award:

Robert McDonald Tyler Pender
David Thomas Rosanne Thornhill
Janna Dewind

Intramural Award: Emily Kutzner

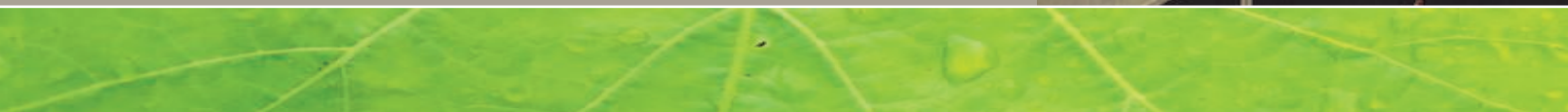
Behavioral Neuroscience Research: Jerome Martin

Who's Who in American Colleges & Universities:

Bryan Bankhead Sharmila Price
Kylynda Bauer Tyler Pender
Matthew Chacko William Tritch
Bethany Conrad
Ariana Cunningham
Iona Danci
Erica Evans
Steven Lee
Jerome Martin
Shelley McLarty
John Musselman

Physics Excellence Awards:

Jonathan Wheeler Erik Vyhmeister
William Tritch Samantha Easton
John Ahn Robert Polski



Contact >>>

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Call to Alumni:

The purpose of this newsletter is to connect with STEM alumni as well as form a community with those currently studying in the STEM departments (Biology, Chemistry/Biochemistry, Physics, Engineering/Computer Science, and Mathematics).

Cover Article:

For the Fall 2013 Newsletter, we would like the cover article to feature a STEM alum. The topic is up to the alum, though would include interesting information to share with this community. Topic suggestions include research, breakthroughs, or inventions in a particular STEM field;

the ways that STEM skills matter; or the alum's career path and ways that experience at Andrews helped shape what he or she is doing now.

Alumni Capsules:

Also included will be a section dedicated to STEM grads from 2008, 2003, 1998, 1993, and 1988. This section will contain short "Where are they now?" capsules, sharing what these grads have done since leaving Andrews (family announcements are also welcome).

If you are a grad from one of these years and are willing to be included, please email me your capsule as well as a photo.