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.

~ Steven Oxley

“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.”

~ Joel Kitchen

“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.”

~ Eric ‘Siggy’ Scott

“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.”
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 Szynkowski 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 thiolactone analog. He is still considering his options for graduate school in the fall. Regarding his time at Andrews, Josh said, “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!”

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!

Department of Biology
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 Gari-bay, Chris Greenley, Jonathan Wheeler, Samantha Easton, Michael McMearty, William Tricht, 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 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.”

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.”

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.
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 Uloth 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.
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)
Klylynda 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  Kylynda Bauer
Matthew Chacko  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.

Andrews University
College of Arts & Sciences