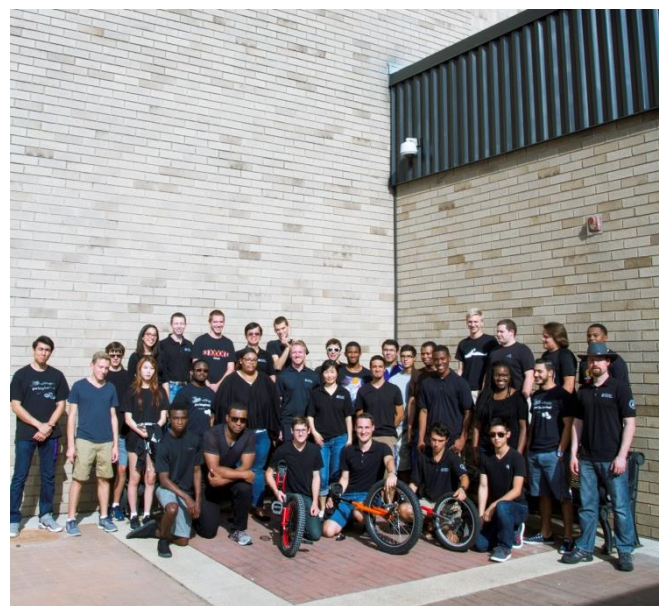


ECS NEWSLETTER

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Vespers

Sept, 25, 2015

"As it has come to my third and final year as one of the two Engineering and Computer Science event coordinators, I have been able to look back upon the times when I was a freshman in 2012, and see how much the department has changed since then. I have seen that the students have enjoyed and appreciated engaging in a non-academic environment. I have realized that the professors have more to share with us than just their intelligence. The opportunity to plan social gatherings for this department truly has been a blessing; the sights, sounds and memories will never be forgotten and will always be recalled when I think of my experience here at Andrews University."

-Brandon Injeti | Mechanical Engineering; May '16



Coding Club

Steve Wozniak

Throughout this year the coding club has been supporting the department by providing a pool of alumni as potential speakers, helping set up and tear down all the computing events of the year. At the end of October, we had the privilege to listen to Steve Wozniak founding father of personal computers and Apple Inc.



We are grateful towards University Advancement for providing the tickets and the ECS department for giving priority to coding club members. As spring approaches we are currently seeking new speakers that can provide different views on the impact of certain technologies in their work place. We are also planning to include at least one game night.

-Bernardo Martinez | *President of the Coding Club*; Computing: Computer Science; Class of '16

Senior Profile

Taylor Halle

Major:

Mechanical Engineering

Why did you choose this major?

I chose engineering because I liked doing math in high school so I thought I would like doing all this math in college

What do you love about your major?

I love my major it's challenging for me and I feel accomplished when I understand things

What are you going to miss about college and your department?

I will miss seeing my friends every day

Looking into grad school or a job? Where?

I am currently applying for jobs, but I am not really thinking about grad school yet

If you could go back in time, what would you do differently?

If I could go back in time, I would go back to my freshman year and try and learn good study tactics and apply myself better

Tips for current/new students:

Find someone or a group to study with, because studying with others can help a lot



Freshman Profile

Andrew Gagiu

Academy:

I attended Puget Sound Adventist Academy in Kirkland, Washington.

Why AU?

Andrews University attracted me because of its great STEM and Music reputation. I was also eager on exploring outside the Pacific Northwest and being away from home and my comfort zone. Even though I miss my family and friends on the west coast, I have been blessed by some pretty amazing friends and faculty here already. I also love the diversity that Andrews University brings to its environment.

The Dare to Dream Scholarship:

The Dare to Dream scholarship covers my tuition during my undergraduate years at Andrews. I was offered to apply for it after performing for the Music department, and I am so blessed and thankful to the University for having chosen me as one of their scholarship recipients.

Major(s):

I am currently focused on completing a BSE in Electrical & Computer Engineering and a BS in Music.

Why Engineering and Music?

Music has been a huge part of my life since as long as I can remember, so majoring in it seemed like a fun option for me. My career is focused, though, on being an engineer. I grew interested in engineering a few years ago while looking through STEM programs and decided to do more research on the field. The intensive studies in math, science, and the amazing projects I had seen students create convinced me that this was the field I wanted to study towards and tailor my future around.

Any instruments?

I have played the cello since the fourth grade. I am also a pianist and a singer. I was in the Northwest Choirs for about 12 years.



Singapore

Study Tour | Summer 2015



"My experience in Singapore was fantastic! I was able to learn about lean manufacturing and entrepreneurship firsthand from some of the most successful companies and individuals, including Energizer, Mr. Ron Sim of OSIM, and an experienced lean manufacturing consultant. While our textbooks explained the basic subjects, I would not have understood them half as well if I hadn't attended the study tour. Despite the many hours spent doing classwork or visiting companies, we still had time to explore the rich culture around us. Singapore runs on such a different mindset than America, and I felt that seeing issues from a new perspective has given me a more freedom in my thinking. It's also incredibly important to be able to competently interact with others outside of our culture, which we already get a taste of as such a diverse university.

My favorite part of our trip was being able to celebrate Singapore's 50th birthday. We got to see everyone from the crowds in the subways to whole businesses and buildings showing pride in their young and extremely successful country. I don't know how the timing worked out the way it did, but I was honored to be a part of their celebration.

All in all, I would definitely go on the study tour again if I had the chance. It was an amazing experience and I wouldn't trade it for the world."

- **Christa Spieth** | Mechanical Engineering & Math Studies; Class of '17



Society of Women Engineers

Convention: October 20-24, 2015

Going to the SWE conference in Nashville is a decision which I am very glad to have taken. When we first got there on Thursday it was very intimidating, but after a little advice from Yaddel, I started feeling a lot more comfortable talking to the representatives from the various companies. I mostly just went to the smaller companies, most of which I had never heard of. I only gave out maybe five resumes that night. The next day, however, I began going to the bigger companies and gave out closer to 15 resumes. I received a phone call from a representative from Northrop Grumman informing me that I had been chosen for an interview. I quickly prepared for it by researching a bit about the company and went in for the interview. This was my first ever professional interview and I was quite nervous. I did well, my interviewer informed me, though she felt that there were some more classes that I needed to take, because they were looking for juniors and I am only a sophomore. [I was] contacted by various other companies for interviews as well. American Express, being the most impressive, since they flew me all the way out to Phoenix, Arizona last Thursday for an on-site interview where I was the only sophomore, among juniors and seniors. I have also heard from an Intel representative about a skype interview and from Verizon as well. This is all due to the conference, so I'm really happy to have gone. -Daphne Vivier

The 2015 SWE convention was held in Nashville, TN this year. We arrived Thursday afternoon. Thursday night the career fair opened, so we went to check out all the companies that were represented there. The first booth I stopped at, Lincoln Electric, set me up an interview for Friday morning. I walked around a little bit after that until the hospitality suites opened up. Hospitality suites are nice because we could go around learning more about certain companies. Friday morning I had my interview, which went well. After that I talked to several other companies and I was able to get an idea of what I wanted to do and where I wanted to go. Career fairs are very helpful tools for finding a job or at least helping me to know what to look for. -Taylor Halle

My experience at the SWE15 national convention was great, I had the opportunity of speaking to representatives of companies like Toyota, IBM, Intel, Whirlpool, Northrop Grumman and so many others which could lead to a job choice in the near future. I also had the chance to network with fellow engineers and reconnected with some I met [at] previous SWE conventions. Attending this convention gave me another opportunity to understand how the corporate world operates, what employers seek in potential employees especially as a foreign student and how to navigate to succeed in my career. Given the opportunity, I would do it again and I would recommend every student to attend at least once. -Yaddel Ezeribe



Aspire / Advance / Achieve

(Left to right): Rufaro Musvosvi, Daphne Vivier, Taylor Halle, & Yaddel Ezeribe

Faculty Research



Rodney Summerscales

As patients we would like our doctors to make informed treatment decisions based on a careful analysis of the latest medical research. Unfortunately, physicians have little time to spend reading even a small fraction of the rapidly growing body of medical research literature. Dr. Rodney Summerscales is using artificial intelligence to help doctors sift through the literature to find studies with the most effective treatments for their patients.

He has developed ACRES (Automatic Clinical Result Extraction and Summarization), a software system that learns to read reports from clinical trials. More specifically, it learns to recognize the names of treatment groups, outcomes and results from the abstracts from articles reporting on clinical trials. ACRES then computes summary statistics such as the absolute risk reduction (ARR) for treatments in the study. This information helps doctors quickly assess the effectiveness of treatments in a trial. Finally, ACRES compiles the information that it finds into brief summaries that allow doctors to quickly absorb the results of the trial.

Student Research

American Society of Mechanical Engineers

The ASME IMECE was a very rewarding experience. There were plenty of opportunities to interact with fellow undergraduate researchers at the poster presentations. There were many interested professionals who wanted to know more about the research we were doing and many had very positive feedback. The talks/presentations done by professionals in the field covered a variety of interesting topics. I mostly attended talks covering Biomedical Engineering research, but there were talks covering everything from Aerospace to Nanotechnology.

- Rufaro Musvosvi | Mechanical Engineering & Math Studies; Class of '16



(Left to right): Dr., Hyun Kwon, Rufaro Musvosvi, & Michael Hess

Internships

Phillip Taylor Coleman |  NATIONAL ACADEMY OF ENGINEERING



On December 1st, the ECS department had an internship assembly which allowed students to talk to their peers about their experiences at their most recent internships. One of the students was Phillip Coleman, a sophomore engineering major and math minor. He interned at NAE (National Academy of Engineering) this summer. NAE is a part of The National Academies of Sciences, Engineering and Medicine (NASEM), which are nonprofit institutions that provide expert advice and research on some of the most pressing challenges facing the nation and the world. Coleman was contacted in December of 2014 by NAE and obtained the 10-week internship through another internship he did over two years ago with the Commonweal Foundation. Throughout the course of his NAE internship, Coleman primarily conducted research to facilitate engineers by providing relevant research and resources. "I did a lot of meta-research," he explains. Coleman read abstracts written by others who have done research on engineering education and the effect professional societies have on them. "It was a different side of engineering—specifically a research and reading oriented side," says Coleman. "Research can be really difficult to sift through. I had to adjust the way I thought; sometimes it was finding needles in what seemed like a stack of needles. Over time, though, I got a lot better at wading through research." During his internship Coleman worked on three different projects: Making Value for America, Pt. 2; The Education for Professional Engineering Societies; and Frontiers of Engineering Education. "I learned a lot from this experience," Coleman says. "Not only was I exposed to an office environment, but I developed as a person and professional throughout the internship because of the responsibilities I had and the people I worked with." In his future career, Coleman sees himself striking a balance between researching and solving mathematical problems. He is interested in engineering policy and wants to use engineering for humanitarian projects.

Chemical Engineering



Andrews University introduced the very first class of Chemical Engineering this year. Engineering builds on a strong traditional mathematics, science, and engineering core. The Chemical Engineering emphasis focuses on design and operation of chemical processes and optimization of production. "Chemical Engineering is a broad range discipline that encompasses chemical, physical sciences and life sciences with engineering practice. Engineers who are trained under this discipline use their knowledge to develop and design processes for the production for variety of products including, petrochemicals, fuels, advanced materials, biochemical and pharmaceuticals etc. This curriculum serves as partial fulfillment of Premed/pre-dent programs as well." – Dr. Kwon | Chair & Professor of Engineering and Computer Science

Message from the Chair

Dr. Hyun Kwon

We had another magnificent semester! In my first journey as a chair, I learned that God's grace is always abundant to His people. I am excited to see that we are growing in student numbers and excelling in undergraduate education. We achieved many wonderful things again, launching a new Chemical Engineering emphasis, students and faculty presenting at prestigious conferences, students receiving internship opportunities and competing in national engineering challenges. All these are possible through your support and belief in our programs. We do not only accumulate knowledge and skill, but we also quest for a purpose in all that lies behind us. This is what makes our programs unique and outstanding. Blessings to all our faculty, staff, students, parents, and alumni.



Hyun J. Kwon, Ph. D

Professor & Chair of

Engineering and Computer Science

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