

# Congratulations Graduates!



## Engineering Graduates Spring 2019:

Trey Bosfield, John Bryson, Joshua Cordova, Patryk Czajkowski, Zachary Hanna, Mark Kent, Mateusz Kroczyk, Leodan Morales, Jeongjin Park, Davian Ross, William Rupert, and Zach Verhelle, Greg Zdor (Dec. 2018), Pooja Chandreshekar (Aug. 2018)

## Senior Design Project Teams

2019: (Left to right, second row)

Joshua Cordova, Zachary Hanna, JeongJin Park, Zachary Verhelle, Mark Kent, Mateusz Kroczyk, Donovan Greenley, (Left to right, first row) Leodan Morales, Karl Arrogante, Pooja Chandreshekar, John Bryson, William Rupert, Trey Bosfield, Davian Ross



Want to be a part of the next newsletter?  
Need to make an inquiry?

Contact Us At:

Phone: (269)471-3420

Fax: (269)471-6655

Email: [engineering@andrews.edu](mailto:engineering@andrews.edu)

The department has four emphases:

- Chemical Engineering
- Electrical Engineering (newly modified)
- Computer Engineering (newly modified)
- Mechanical Engineering

Department of Engineering  
Andrews University  
8450 E Campus Circle Dr  
Harrigan Hall 229  
Berrien Springs, MI 49104-0370

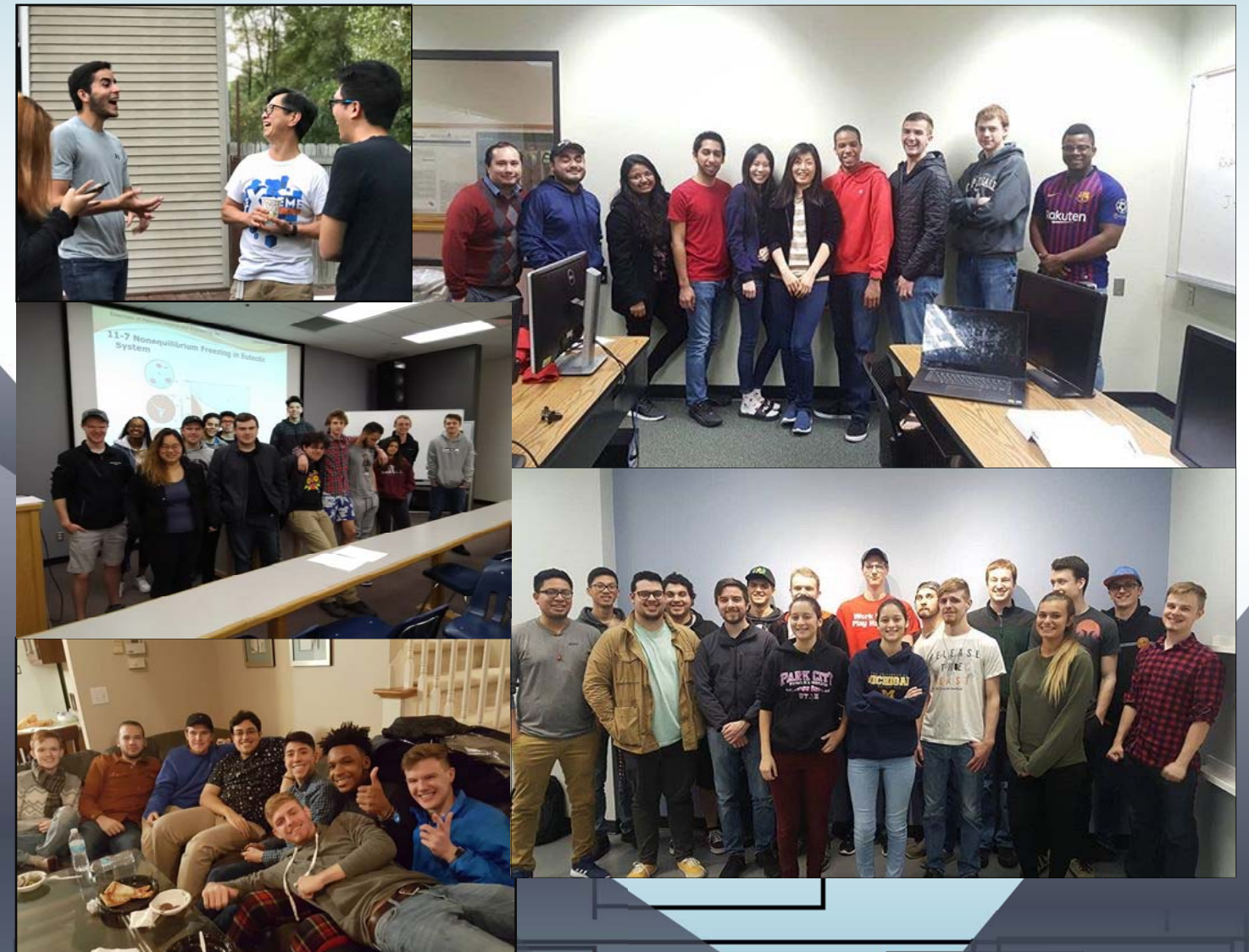
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# THE ENGINEERING Newsletter

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To be a part of the engineering family is to have the drive and desire to discover the solutions to problems the world creates.

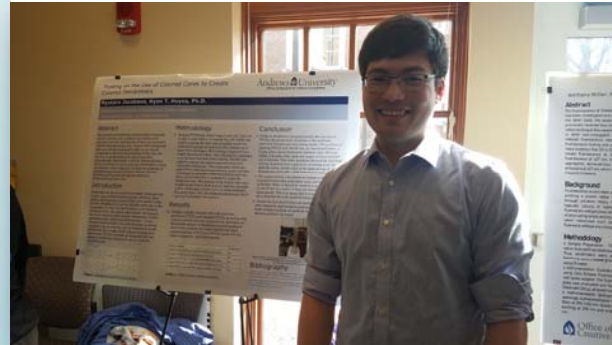


# Research Highlights



Greg Zdor, a graduate of the Andrews University Engineering Program, did his J.N. Andrews Honors Program Senior Honors Thesis Research on Assessing the Mean Neuronal Firing Rate Information Hypothesis via Mutual Information, while being advised by Dr. Jay Johnson .

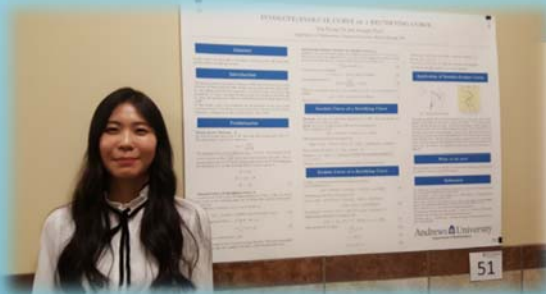
Ryutaro Jacobson, a junior chemical engineering major, presenting his research on the use of colored cores to create colored dendrimers with Dr. Ryan Hayes.



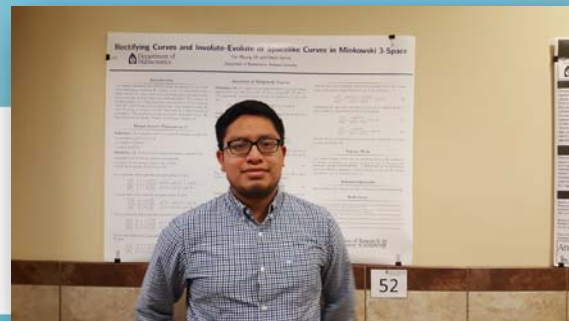
John Bryson has been working with his research advisor, Dr. Jay Johnson, on a project funded by NASA. This project uses MATLAB to analyze the behavior of earth's magnetic field around the time of a sub-storm with the goal of predicting its onset.



Jeongin Park, a dual mechanical engineering and mathematical studies major, presented her research with Dr. Yun Myung Oh on the involute/evolute curve of a rectifying curve.

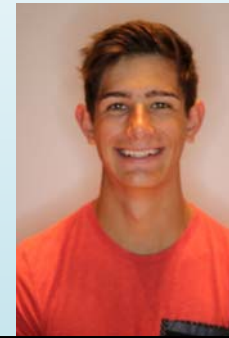


Devin Garcia, a junior chemical engineering and mathematics major, presented his research with Dr. Yun Myung Oh on the rectifying curves and involute/evolute of spacelike curves in Minkowski 3-space.



# Current Student Highlights

Noah Allyn , a freshmen ECE major, helped his local church program and build complex DMX Intelligent Lighting sequences for a concert .



Joseph Taylor is a junior mechanical engineering major who is also a member of the Andrews Gymnastics Team.



Colleen Staniszewski, a double major in chemical engineering and public health with a minor in chemistry, enjoys participating in the Andrews University Theatre Wing on campus and works for the Chemistry Department.

Jaymes Carson, class of 2018, got engaged to Shaina Da Silva. They will be getting married on June 9, 2019.



Greg Zdor got engaged to Rebeckah Wellen. They will be getting married May



Sam Dronen got engaged to Brittany Ronto April 29, 2018 in St. Joseph, Michigan . They will be getting married June 6, 2019.



Zach Verhelle got engaged to Heather Baldwin. They will be getting married July 7, 2019 in Berrien Springs, MI.



Patryk Czajkowski got engaged to Paulina Chojnacka in November.



Mr. and Mrs. Kent were married on June 12, 2018. Congratulations, Mark and Katie!

## Department News



Nestor and department students attended the SWE convention 2018.

Starting in fall 2019, Engineering will offer two new emphases:

- an Electrical Engineering Emphasis
- and a Computer Engineering Emphasis.

## Faculty Research



Dr. Hyun Kwon presented her NSF funded research project on ECL biosensor with mobile technologies at the Annual International Chemical Engineers meeting in October 2018.



Dr. Jay Johnson has several research grants from NASA. One involves global coupling of fast flows in the magnetotail to kinetic scales by alfvénic processes. The other research grant is for cross-scale wave coupling.



Dr. Gunnar Lovhoiden gave a Key Note Address at Andrews 17th Annual Teaching and Learning Conference. He, also, received the Andrews University excellence in teaching award in 2018.



Wayne Buchanan presented at the NAD Teacher's Convention in Chicago on "Applying Experiential Learning in the Classroom." He had previously presented



on this topic and had published an article entitled "Meta-programs in the Classroom" in January 2018.

Dr. Boon-Chai Ng was given a faculty research grant from 2015-2018 for his anodized aluminum project. This research was published in 2019 as an "Analysis of anodized aluminum for surface defects after thermal cycles."

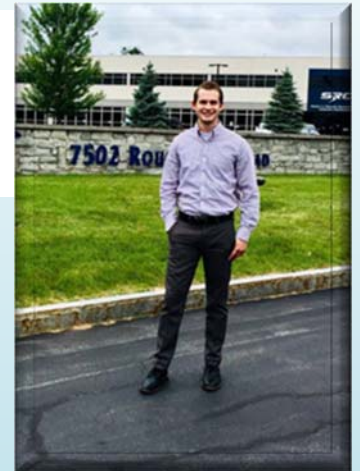


## Intern Highlights



In Summer 2018, Justin Wiley interned with Fiberguide Industries in Caldwell, Idaho. Fiberguide is a fiberoptic solutions company. His work was focused on the production process for their patented RARE Motheye fiber, which utilizes an anti-reflection technology.

Greg Zdor interned with SRC during summer 2018. Afterwards, he got a job offer from them and accepted the position.



During his internship at Colson Group last summer, William Briggs worked on designing a caster testing machine as well as updating many component prints. By the end of the summer, he finished the testing machine design and presented it to the head of the engineering department and the engineering team. He was asked to continue working at Colson throughout the school year. Briggs gained a great experience through these projects and has enjoyed working with the engineering team at Colson!

## Mission Highlights



Hiking



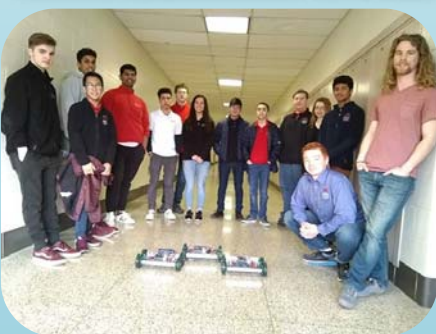
Hard at work



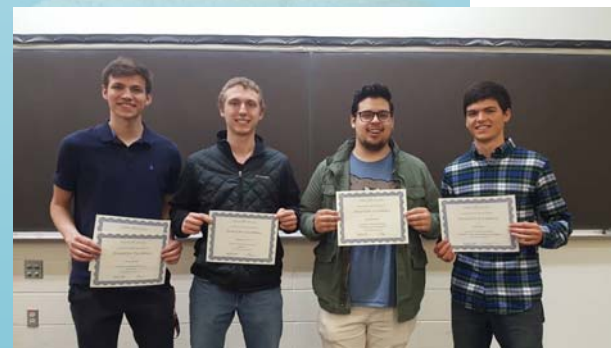
Four students from our Engineers without Borders chapter participated in a mission trip to Madagascar that was sponsored by the Community and International Development Program. During this trip, they helped to set up a framework for solar-powered lighting.

## Mission Highlights and Awards

Patryk Czajkowski went as a math teacher to Pohnpei, the capital of Micronesia, from August 2017 to May 2018. Although he found this experience to be somewhat challenging, he grew in his relationship with God and enjoyed visiting the many beautiful sites in the surrounding area.



Noah Rupert under the supervision of Dr. Boon-Chai Ng taught Andrews Academy students a VEX robotics class



Engineering students who won 2019 math excellence awards: Jeremy Barrett, Ben Dronen, Jared Rawlings, and Justin Wiley.

Left to Right:: Carlos Germosen, Michael Bryson, Patryk Czajkowski, Mateusz Kroczyk, Zach Verhelle, Justin Wiley, William Rupert, Devin Garcia

Excellence award recipients: Carlos, Michael, Patryk, Mateusz, Zach, William

Donald Snyder excellence award recipient:: Justin

Zirkle engineering recipient:: Devin



### Change Day 2018



Martin Ramirez received a citizenship award for administering life-saving CPR to his younger brother, Jorge. Martin says, "I don't know what caused this to happen, but I'm so very grateful to God that He carried me through it to be able to save my brother."



# Stryker

The Michigan Colleges Alliance (MCA) team (consisting of Jeremy Barrett and Devin Garcia from Andrews University, Denise Roorda from Calvin College, and Joshua Cormier from University of Detroit Mercy) won the 2019 Stryker Engineering Challenge. The MCA team competed against teams from other universities. These teams were composed of four sophomore engineering students competing against each other for an opportunity to get a \$1000 scholarship and an interview for a Stryker Internship position for summer 2020.

The main part of the competition was to design a remotely controlled vehicle from a supplied build kit. This vehicle was used in a 30 minute pick-up Lego people competition where all teams work at the same time, and in an obstacle course race where two-three teams raced at a time to see who could complete the course with the fastest time. In addition to the competition, the teams could collect points on technical challenges and homework.

The MCA team was second overall after the homework and technical challenges, trailing Michigan State by 13 points. During the picking-up Lego people, MCA took the lead and was 24 points ahead of Michigan Tech before the race. Western won the race followed by Michigan Tech and MCA, resulting in MCA winning the challenge overall by a single point over Michigan Tech. The MCA team worked really well together and maximized their performance by making good design decisions.

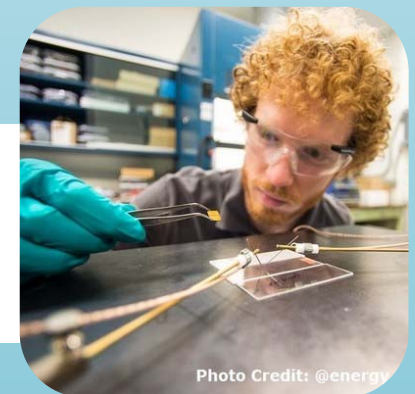


## Alumni Highlights



Jonathan Ford graduated from the Department of Engineering in 2011. He currently lives in New Jersey with his wife and works at Lockheed Martin, a prestigious missile defense company. He is a leader of a team of engineers and a true world changer.

Thomas Zirkle graduated from engineering four years ago and is now pursuing a PhD at Notre Dame. He recently gave a talk about single electron transistors for current engineering students.



Nathan Verrill graduated from the Department of Engineering in 2017. He recently gave a presentation for the Department of Engineering and loves to share about his time as a student missionary on the Pacific island of Pohnpei. He is currently working on a music album that highlights this pivotal life experience.