



THE FUTURE IS ...

N.E.A.R.

NANOTECHNOLOGY EDUCATION AND RESEARCH

www.thefutureisnear.org



The Future is N.E.A.R. program offers the students of the North Penn High School Engineering Academy an opportunity to gain 21st century Science, Technology, Engineering and Mathematics skills that will help prepare them to become successful leaders in an ever-advancing technological society. The program introduces the fundamentals of nanotechnology, engineering research, and the application of knowledge to high school students while cultivating their interest in engineering, problem solving, and life-long learning.

This year, many of the research endeavors have given the students opportunities to research, design and develop solutions to global issues by capitalizing from the fundamentals of nanotechnology.

TUESDAY, MAY 30TH, 2017

NORTH PENN HIGH SCHOOL AUDION

SEVEN O'CLOCK P.M.

2016 - 2017 Engineering Design and Development Nanotechnology & Engineering Research Teams

Welcome to the 12th annual North Penn High School Engineering Academy Nanotechnology and Engineering Symposium!

The evening will begin at 7:00pm in the auditorium with introductions from each of the teams listed below. The students will bring you up to date with the research endeavors they have been performing throughout this school year.

Following their presentations, the evening will continue in the auxiliary gymnasium. The students will offer poster presentations, interactive demonstrations of their research, live electrospinning demonstrations, a live demonstration of a Hitachi TM3030 Scanning Electron Microscope, characterization equipment that was acquired from extremely generous grants from the Dow Chemical Company and the North Penn Educational Foundation and demonstrations from the North Penn NASA Research Team and the Engineering Projects in Community Service Club.



A.R.D. Industries

Darren Deeck, Beau Meingossner, Alexander Vuong



eVRt Educational Virtual Reality Technologies

Harris Levine, Bryan Moed, Julia Santos



InnoVO

Nick Crisler, James Drinkwater, Jake Yoder



MagTech

Brian Pilat, Matthew Shaw, Tyler Uhler



Moneta Polymer Systems

Zandon Grant, Justin Hrusovsky, Evin Karatas, Sam Rouni



N.E.T. NanoEnergy Technologies

Anthony Brigidi, Jason Ellstrom, TJ Schmidt



NAS Tek

Engy Khoshit, Scott Schrum, Noah Wendt



Sandstorm Technologies

Jason Sands, Jonathan Storms



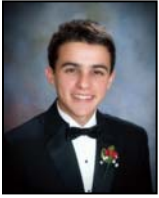
Thermotec

Jonathon Deddy, Nicholas Hendrzak



North Penn NASA Research Team

Bryce Furek, Jake Holmberg, Satyam Patel, Camryn Russell
Daniel Trumpp, Tyler Uhler



Anthony Nicholas Brigidi N.E.T. NanoEnergy Technologies

After completing all 5 Engineering courses, Anthony will be attending Penn State Main Campus for chemical engineering. He has been a part of the North Penn FIRST Robotics Team for 3 years and loves to design and build things as a team. He enjoys soccer, piano, video-games, and, most of all, spending time with his family and friends.



Nicholas Fariss Crisler Innovo

Nick Crisler has completed all five engineering courses that the Engineering Academy has to offer at North Penn. The participation in these courses has lead him to realize that he wishes to pursue a career in Engineering. Nick will be attending Rochester Institute of Technology in the fall of 2017 where he will be majoring in Software Engineering.



Jonathon David Deddy Thermotec

Jonathon has had a keen interest with engineering ever since he participated in the Lego Robotics camp, here at North Penn, almost a decade ago. He has completed all 5 engineering academy courses. Jonathon will be attending Penn State, earning a Bachelor's degree in Engineering with plans to pursue a career in the field of Aerospace.



Darren Scott Deeck A.R.D. Industries

Darren Deeck has been interested in engineering from an early age. In tenth grade, he joined the Engineering Academy. After completing all 5 courses, He will be going to Penn State Abington to pursue a dual degree in Mechanical and Nuclear Engineering. He enjoys hanging out with friends and camping. Darren hopes to earn a PHD one day.



James Edwin Drinkwater Innovo

James Drinkwater will be attending Penn State University pursuing materials science and engineering. He became interested in engineering because of his love for taking things apart, seeing how they work and then trying to put it back together. James is a member of the E.P.I.C.S. club and was one of the EDD students to venture to London with his team studying battery separators.



Jason Thomas Ellstrom N.E.T. NanoEnergy Technologies

In fall 2017, Jason will be attending Drexel University in Philadelphia. He is aiming to get an accelerated BS/MS degree in electrical engineering. He has completed all five courses in North Penn High School's Engineering Academy. During his free time, he enjoys playing video games and watching YouTube videos.



Zandon Christian Grant Moneta Polymer Systems

Zandon Grant has been interested in engineering and technology ever since he attended middle school. He attended North Montco Career Center for two years and took the Drafting & Design course during his time there. Zandon has participated in four Engineering Academy courses and plans on attending Penn State Abington in the fall and eventually start his own business.



Nicholas Robert Hendrzak Thermotec

Nick Hendrzak will be continuing his education in engineering at Millersville University. He plans to study nanotechnology and continue his research. Nick has enjoyed his time in the five Engineering Academy classes, while making new friends along the way. In his free time, Nick enjoys fishing with his dad and spending time with friends and family.



Justin Sachuk Hrusovsky Moneta Polymer Systems

Justin has always had an interest in creating that which previously did not exist or to improve what has already has been created. Justin has participated in all five Engineering Academy courses at North Penn. Justin will be attending Penn State University in the fall.



Evin Michael Karatas Moneta Polymer Systems

Evin has been involved with the Engineering Academy at North Penn High School since his sophomore year. He was a Cadet Officer in the Junior ROTC, earned the rank of Eagle Scout, the highest rank in the Boy Scouts of America, and also joined Scout's honor society, Order of the Arrow. In the fall, Evin plans to attend Temple University for a degree in Mechanical Engineering.



Engy Tharwat Khoshit NAS Tek

Engy has been actively involved in the Engineering Department at North Penn since her sophomore year. She has been President of the E.P.I.C.S. club for two years, a member of the NASA Research Team and National Honor Society. Engy, along with her teammates were voted best presentation at the International Science Conference in London. Engy will pursue a career in Materials Science and Engineering and Mathematics at Drexel University.



Harris Shane Levine eVRt—Educational Virtual Reality Technologies

Harris will be attending Montgomery County Community College with plans to transfer to a four-year university. The Engineering Academy has taught him essential skills that will assist him in whichever endeavors lie in his future. He hopes to continue experimental research in his college career. Additionally, he plans to continue improving the educational system as he moves throughout his academic career. He has completed all courses in the Engineering Academy.



Robert Paul Meingossner A.R.D. Industries

Robert Meingossner, or Beau, has always been interested making things since he was little. Beau was first introduced to the Engineering Academy, by Mrs. Cummiskey at Penndale, when he was choosing his courses for his sophomore year. After high school, Beau will be attend the Vaughn College of Aeronautics and Technology to earn a bachelor's degree in mechatronics.



Bryan Matthew Moed eVRt—Educational Virtual Reality Technologies

In the fall, Bryan will be attending the University of Pittsburgh to pursue a degree in Electrical Engineering. Bryan has participated on the FIRST Robotics Team 5404, The Gearaffes, since he was a sophomore and hopes to continue with FIRST Robotics in some capacity at college. Bryan has completed all five engineering courses in the Engineering Academy at North Penn High School.



Brian Charles Pilat MagTech

Ever since the eighth grade, Brian has been interested in Engineering. Along with all of the Engineering Academy courses, Brian has been a member of the E.P.I.C.S. club since his junior year. In the fall, Brian will be attending Maine Maritime Academy to Major in Marine Engineering Technology.



Isam Belhadj-Rouni Moneta Polymer Systems

Sam began his venture in the Engineering Academy in tenth grade and has completed four of the courses. Sam enjoys activities involving creativity and DIY projects including electronics. Sam will pursue a four year Aerospace Engineering degree at Penn State University at University Park hoping to get closer to his goal of working in Cape Canaveral, Florida.



Jason T Sands Sandstorm Technologies

After completing all 5 courses in the NPHS Engineering Academy, Jason is going to attend Montgomery County Community College (MC3) to pursue the field of materials engineering. After completing his time in MC3 he plans to transfer to Drexel University in order to complete his engineering education.



Julia Veronica Santos eVRt—Educational Virtual Reality Technologies

Julia Santos has been interested in technology since she was a young girl, but found her passion in engineering during her sophomore year of high school. She has been investing her time in discovering the benefits of rapid prototyping with 3D printing, as well as discovering the properties and medical benefits of shape memory polymers and/or alloys. She will be attending Drexel University in the fall pursuing a degree in Biomedical Engineering.



Theodore John Schmidt IV N.E.T. NanoEnergy Technologies

After completing all 5 Engineering Courses, TJ will be attending Penn State Abington for Mechanical Engineering. TJ has been an EPICS club member and a Model Aviation Club Member over the time he has spent at the high school. He enjoys model airplanes, video games and hanging out with family and friends.



Scott Harrison Schrum NAS Tek

Scott Schrum began his pursuit of engineering during his sophomore year and has completed all five Engineering Academy courses and an independent study with Dr. Voicheck. In March of 2017, Scott and his teammates were voted best talk at the International Science Conference at St. Paul's School in London England. Scott will be attending Drexel University to study mechanical engineering.



Matthew Thomas Shaw MagTech

Since 9th grade, Matthew has actively pursued engineering as a career and in 10th grade enrolled in the Engineering Academy. In 11th grade he joined the EPICS club and continued his work into this year. After graduation, Matthew will be attending Penn State Abington in the fall to most likely major in Materials Science and Engineering.



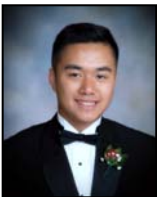
Jonathan Storms Sandstorm Technologies

Jonathan has been in the Engineering Academy throughout his studies at North Penn High School. Next year, he will attend Montgomery County Community College to study engineering and accounting. Upon completion of his studies at Montco, Jonathan plans to transfer to a four-year university to continue his education.



Tyler John Uhler MagTech

Tyler will be attending the Pennsylvania State University for the next four years and will be majoring in Civil Engineering. He has completed all five North Penn Engineering Academy courses and is looking forward to earning a degree in Civil Engineering. Tyler has participated in the E.P.I.C.S Club and the E.P.I.C.S. N.A.S.A Research Team during his Senior year at North Penn.



Alexander Vuong A.R.D. Industries

Alex will be attending Drexel University to earn a degree in civil engineering. He has been interested in pursuing engineering as a career ever since he started taking courses in the Engineering Academy. Alex plans to continue to follow his interests through the 5-year co-op program at Drexel University.



Noah Arthur Wendt - NAS Tek

Noah has been involved in the engineering program since the very beginning of his high school career. He has completed all five of the engineering courses. Next year, Noah will be attending Penn State, Altoona to pursue a degree in engineering. Noah along with Engy Kohshit and Scott Schrum were voted best presentation at the International Science Conference in London.



Jake Albert Yoder - Innovo

Jake found his love for engineering through his high school education; it was in at this institution where he took fun and intriguing class that pushed his creativity and peaked his interest. When he learned about the North Penn Engineering Academy in high school, he immediately enrolled. After all five courses, his love was set. This love helped him make the challenging decision to attend Temple University.

ACKNOWLEDGEMENTS

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Dr. Michele Marcolongo
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Montgomery County Community College

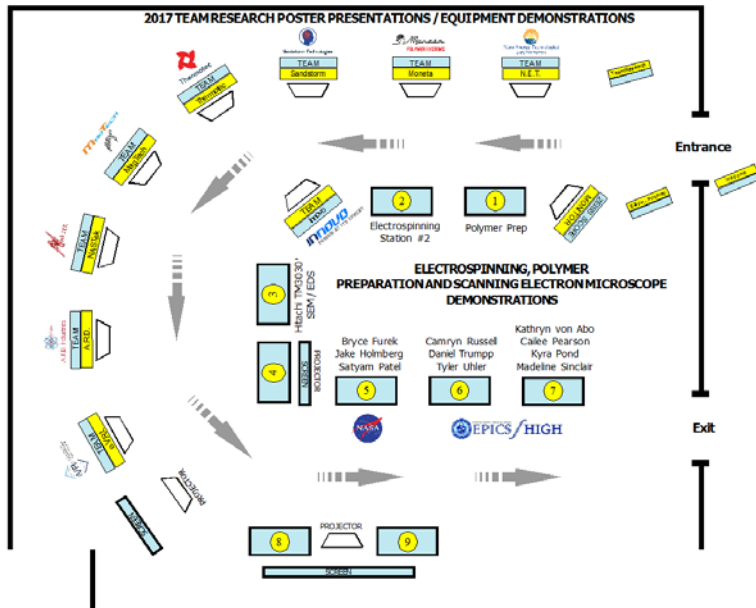
Jean-Jacques Reymond
Nicholas Seiberlich



St. Paul's School London, England

Dr. James Perkins
Dr. Ken Zetie





Please join us in the auxiliary gymnasium following the audion presentations for light refreshments, poster presentations, interactive demonstrations of the students' research, demonstrations of the electrospinning and polymer preparation processes, experimental characterization equipment that was acquired from an extremely generous STEM grant from the Dow Chemical Company and research performed by members of the Engineering Projects in Community Service Club.

Be sure to also check out the Hitachi TM3030 Scanning Electron Microscope that Angstrom Scientific has set up in the gymnasium!

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