



THE FUTURE IS ...
N.E.A.R.
NANOTECHNOLOGY EDUCATION AND RESEARCH
www.thefutureisnear.org



Technology & Engineering
Discover your Future



PLTW



The Future is N.E.A.R. program (Nanotechnology Education and Research) at North Penn is a custom designed STEM education endeavor engaging senior Engineering Academy students in the exciting world of nanotechnology, experimental design, and engineering research.

Students work in design teams to research and develop solutions to global challenges by capitalizing from the fundamentals of materials science, engineering, and nanotechnology utilizing a combination of their own creativity coupled with some of the latest published research available.

The N.E.A.R. program is woven into the Engineering Design and Development course of the Project Lead the Way program here at North Penn. It offers our students an opportunity to gain essential 21st century skills that prepare them to become successful leaders in a global technological society.

THURSDAY, MAY 30TH, 2019
NORTH PENN HIGH SCHOOL AUDITORIUM
SEVEN O'CLOCK P.M.

2018 - 2019 Engineering Design and Development Nanotechnology & Engineering Research Teams

Welcome to the 14th annual North Penn High School Engineering Academy Nanotechnology and Engineering Symposium!

The evening will begin at 7:00pm in the auditorium with introductions to research from each of the teams. 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 where the students will offer poster presentations, interactive demonstrations of their research, and much more...



ARK Energy

Alexander Scheffler-Murry
Ryan Heintz
Kuldeep Patel



LANtech

Lucas Yannul
Anthony Hayes
Nicole Owoc



CO2 Capture Development

Jason Beideman
Hunter Fidik
Benjamin Jimenez
Darsh Patel



MAP Electrical Solutions

Michael Ammendola
Logan Macosko
Ankit Patel



ChromaLight Barrier Technologies

Brandon Spencer
Andrew Zaroni
Dev Zaveri



NanoFilter

Samuel A. Aleide
John J. Bloomer



DermaCure

Matthew Cooney
David Czekaj



NASA Research Team

John Holmberg
Satyam Patel



Dynamic Energy

Andrew Farid
Andrew La
Nathan Tagert
Frank Sadiq



NeuroTouch

Vito Bianco
Nick Pohwat
Ustyna Danylovyh



Sole Energy

Greg Lostaunau
Brandon Marques
Mark Young



Dynamic Purification Solutions

Zachary Blanchard
Ryan Naulty
Satyam Patel



Stimul-Aids

Ryan Hoffman
Sean LeConey
Kyle O'Connor



Energy Finders

Mahedi Hasan
MD. Safaet



TiGrowth

Linzee Lohan
Kyra Pond
Steven Seymour



FiberCare

Nicolas Forte
Madeline Sinclair
Victor Than



ZBC Chrome

Jacob Zoll
Daniel Borenstein
Ryan Choi



Hybrid Electrics

Devon Barclay
Jimmy Neild
Camryn Russell

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Samuel Anthony Aleide NanoFilter

Samuel Aleide will be attending The University of Tampa where he will major in marine biology. He has enjoyed all of his engineering teachers throughout the years. He hopes that his engineering background will help him in his future career in marine biology to help him change the world.



Michael Ammendola MAP Electrical Solutions

Michael Ammendola will attend Pennsylvania State University, where he will major in Materials Science and Engineering. Engineering has always been one of Michael's core passions and interests, leading him to the Engineering Academy, International Research Team, and the North Penn Robotics team, on which he defined much of his High School career as its Vice President.



Devon Delano Barclay Hybrid Electrics

Devon Barclay will be attending Rowan University to major in Computer Science. Through taking all five courses of the North Penn Engineering Academy, Devon found her love for engineering and science. She is one of the co-founders of the Women in Engineering club here at North Penn and hopes to encourage younger female students to pursue a STEM career.



Jason Henry Beideman Carbon Capture Development

Jason Beideman is continuing his education at Widener University, where he is pursuing a degree in Mechanical Engineering and playing baseball. Becoming an engineer has been a goal of Jason's since middle school where he grew interest from his math, science and technology classes. Jason took 4 engineering courses and was a member of the International Research Team studying the electrospinning of cellulose.



Vito Joseph Bianco, III NeuroTouch

Vito is a senior at North Penn High School and completed all five courses within the Engineering Academy. He plans to attend Montgomery County Community College and then transfer to a larger school to pursue a career in fashion design while continuing extracurricular activities such as singing, art, and the resale business.



Zachary Ryan Blanchard Dynamic Purification Systems

Zach is a senior at North Penn High School and has completed five courses in the Engineering Academy. He is currently a member of the International Research Team, the E.P.I.C.S Club, and is in his third year on the robotics team, currently serving as the treasurer. Zach plans to continue his education at Florida Institute of Technology where he plans to major in Aerospace Engineering.

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John Joseph Bloomer NanoFilter

John Bloomer will be attending West Virginia University, majoring in civil engineering. John has taken classes through the engineering academy at North Penn, where he has been inspired by those teachers to do great things in and outside of the classroom. John also is involved with lacrosse and special olympics at North Penn.



Daniel Jacob Borenstein ZBC Chrome

Daniel will continue his education at The Pennsylvania State University. He has completed five courses in the North Penn Engineering Academy, where he discovered his affinity for Engineering. In the future, he plans to receive a degree in Materials Science Engineering.



Ryan Christopher Choi ZBC Chrome

Ryan Choi plans to attend the Pennsylvania State University to study materials science engineering. While at North Penn, he has completed five courses in the Engineering Academy. Ryan is a part of the National Honor Society and the Track and Field team.



Matthew Dennis Cooney DermaCure

Matthew will be attending Temple University majoring in engineering. Matthew has completed five engineering courses at which helped him pursue his passion for creating. This passion has been present ever since he was a child playing with legos. He will decide which specific type of engineering to pursue after spending time in Temple's engineering program.



David Stanley Czekaj DermaCure

David has completed four courses in the North Penn Engineering Academy and will be continuing his education at The Pennsylvania State University. David's interest in engineering grew from projects in middle school courses and from his father's career as a technology teacher. David participated in Mini-Thon, Ski & Board club, Link Crew, and the National Honor Society.



Ustyna Danylovyh NeuroTouch

Ustyna Danylovyh will be pursuing a Mechanical Engineering degree at Florida Institute of Technology in the fall. This program at North Penn High School has given her the opportunity to further explore her love of STEM and she hopes to pursue a military oriented career in the future.

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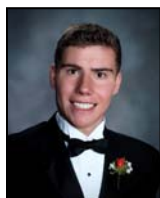
Andrew Farid *Dynamic Energy*

Andrew Farid will be continuing his education at the University of Pittsburgh. In the North Penn Engineering Academy, he acquired many different skills and experiences from the five engineering classes he has taken. Andrew was also active in the International Research Team and developing a bocce ball court transporter in the EPICS club.



Hunter Shawn Fidik *Carbon Capture Development*

Hunter Fidik has completed 4 PLTW engineering courses in the Engineering Academy at North Penn High School. He will be attending the University of Colorado at Boulder to major in Chemical Engineering. He is also a member the International Research Team.



Nicolas Danilo Forte *FiberCare Bandages*

Nicolas Forte will be attending Millersville University to study Technology and Engineering education. Nicolas always enjoyed the idea of becoming a teacher but never knew what kind, until teachers in the Engineering Academy helped turn his goal into reality. Nicolas has completed 5 of the courses in the Engineering Academy. Nicolas was a team member of the North Penn High School Water Polo and swim team.



Mahedi Hasan *Energy Finders*

Mahedi Hasan completed 5 courses in the North Penn High School Engineering Academy. He will be attending Montgomery County Community College in the fall of 2019 where he plans to transfer to Temple University to obtain a degree in Computer science.



Anthony Michael Hayes *LANtech*

Anthony will be attending Montgomery County Community College with the intent to transfer to a four-year university to earn a bachelor's degree in electrical/electronics engineering. Having completed five PLTW courses, Anthony hopes for a future career in the field of engineering. He also finds enjoyment in running, working out at the gym, and playing piano.



Ryan David Heintz *ARK Energy*

Ryan will be attending Widener University this fall where he will pursue a career as a Mechanical Engineer hoping to specialize in the Automotive Industry. He has completed all five courses in the North Penn Engineering Academy and has been involved with Robotics Club as well as EPICS Club. His love for technology and design was sparked by his interest in cars and the encouragement of friends and family.

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Ryan David Hoffman Stimul-Aids

Ryan will be attending The Pennsylvania State University for a degree in Aerospace Engineering. He found his love for engineering as he completed five of the courses in the Engineering Academy.



John William Holmberg III North Penn NASA Research Team

Jake plans on attending Binghamton University to further his education in Electrical Engineering. Through his time at North Penn, he has participated in the North Penn NASA Research team for the past three years, as well as serving as Treasurer and then Vice President of EPICS club in his Junior and Senior years respectively.



Benjamin Philip Jimenez Carbon Capture Development

Benjamin Jimenez will be continuing his education at Drexel University. Completing five courses from North Penn's Engineering Academy, he has learned many skills and had great experiences. Ben was an integral member of the bocce team at the North Penn High School.



Andrew La Dynamic Energy

Andrew La is currently a senior at North Penn High School and will be continuing his education at Drexel University to major in Materials Science and Engineering. He has completed five courses in the Engineering Academy, and currently a member of the E.P.I.C.S. Club and the International Research Team, in which he is a part of the high speed camera



Sean Patrick LeConey Stimul-Aids

Sean will attend The Pennsylvania State University to pursue a career in Aerospace Engineering. He has completed all five of the courses in the Engineering Academy. Sean is a part of the Senior Class Cabinet, National Honor Society, Key Club International and participates on the track and field team.



Linzee Ariane Lohan TiGrowth

Linzee will be attending Temple University to pursue a bachelor's degree in Engineering Technology. She completed three of the six Engineering Academy courses where the courses have helped to develop her interest in engineering and how things work. Outside of school, Linzee enjoys working and playing music.

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Gregory Thomas Lostaunau *Sole Energy*

Gregory will be attending Pennsylvania State University at the Abington campus for two years and then transfer to Pennsylvania State main campus. He is going to study computer engineering with hopes of obtaining his bachelors and masters degrees. He took 4 of the main Engineering courses at North Penn High School, including AP Computer Science Principles and the Engineering Design and Development for his senior year.



Logan Jeffrey Macosko *MAP Electrical Solutions*

Logan will be attending Pennsylvania College of Technology this fall in their Plastics and Polymer Engineering Program. Logan completed five Engineering Academy courses. He enjoys running Cross Country and Track and Field. Logan was the Captain of the North Penn Cross Country team, and has a very large interest in computers and technology.



Brandon Dias Marques *Sole Energy*

Brandon Marques will be attending The Pennsylvania State University at the Abington campus for two years before transferring to State University main campus to study engineering. Through the four classes he took in North Penn's Engineering Academy, he found his love and passion for engineering.



Ryan Matthew Naulty *Dynamic Purification Systems*

Ryan will be attending Stevens Institute of Technology as part of the accelerated masters program to pursue a degree in civil engineering. The program at North Penn sparked his love of engineering and allowed him to use his love of mathematics and science in an applied setting. In the future, he hopes to work for the government in improving infrastructure.



James Michael Neild *Hybrid Electrics*

Jimmy is planning to attend Montgomery County Community College before transferring to a four year school for a degree in engineering. He enjoyed participating in all five courses of the North Penn Engineering Academy. Technology and Engineering has always been Jimmy's passion and he can not wait to help change the world.



Victor Toan Nguyen-Tham *FiberCare bandages*

Victor will be attending Pennsylvania State University in order to pursue a career in Material Sciences and Engineering. His love for engineering first began to take shape his last year of middle school, and he plans to complete five of the six engineering courses in the North Penn High School Engineering Academy in order to expand his range of skills and further indulge himself in the world of engineering.

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Kyle Francis O'Connor Stimulaids

Kyle O'Connor plans to attend The Pennsylvania State University to study biomedical engineering. He plans to earn a degree in Biochemical or Biomaterial Engineering. Kyle has completed four courses in the North Penn Engineering Academy, where he found his love for engineering.



Nicole Marie Owoc LANtech

Nicole plans to attend Penn State and pursue a five-year degree in engineering. During her second year in college, she would like to participate in a Disney engineering internship. Her long term goal is to earn an engineering degree of her choice, and then work at Disney as an Imagineer. Outside of school, Nicole enjoys running, playing the piano, and singing.



Ankit S Patel MAP Electrical Solutions

Ankit will be attending Drexel University as part of the accelerated master's program in biomedical engineering. He was involved in the Columbia Jazz Band and the Comprehensive Music Technology Ensemble, playing drum set for both groups. He was also a member of the Indian Cultural Association for three years, serving as treasurer this past year.



Darsh R. Patel Carbon Capture Development

Darsh will be attending Drexel University for 5 years seeking a degree in Mechanical Engineering. He has completed a total of 5 engineering classes. He is involved in the International Research Team in the Engineering Academy. He also likes to hang out with his friends and loves breaking things apart and building things.



Kuldeep B Patel ARK Energy

Kuldeep Patel intends to attend Drexel University pursuing a Five year Bachelors and Masters Degree in Electrical Engineering. At North Penn High School he is currently involved in Model Aviation and EPICS Clubs. Outside of school, he likes to volunteer at his temple and build electronics.



Satyam Patel Dynamic Purification Systems | NASA Research Team

Heavily involved in the North Penn Engineering Department, Satyam has been a member of the NASA Research Team, and EPICS club for three years, while also acting as the president of the EPICS club in his final year. Upon Graduation, he will be attending The Pennsylvania State University to study both Electrical and Nuclear Engineering.

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Nicholas John Pohwat *NeuroTouch*

Nick will be attending Drexel University for their five year co-op program to study computer science. He has completed four courses of the engineering academy to pursue his passion in the STEM field. Nick has also taken both computer science major classes offered at North Penn High School to develop a foundation on the subject before venturing off to college in the fall of 2019.



Kyra Ann Pond *TiGrowth*

During her three years at North Penn High school, Kyra has completed all 6 Engineering Academy courses and has been involved in the EPICS club, International Research team, women in engineering club, and participated in the robotics team her sophomore year. However, it wasn't until her senior year when she discovered an interest in Research and decided to attend Pennsylvania State majoring in Material Science and Engineering.



Camryn Jean Russell *Hybrid Electrics*

Camryn will be attending the University of Pittsburg in the Swanson School of Engineering to major in industrial engineering. She has completed five courses in the North Penn Engineering Academy. She was the Vice President of the E.P.I.C.S club in her Junior year and a member of the NASA Research Team for three years. Camryn is also one of the co-founders of the new Women In Engineering club.



Frank M Sadiq *Dynamic Energy*

Frank Sadiq has completed five courses in the Engineering Academy. He is a member of the E.P.I.C.S club in which he made a Bocce Ball court transporter and a member of the International Research Team studying the electrospinning of cellulose. Frank plans to go to Montgomery County Community College for two years and transfer to Temple University to pursue Software Engineering.



MD Safaet *Energy Finders*

MD. Safaet has completed all five courses in the Engineering Academy. His long term goal is to get in Drexel University after two years in Montgomery County Community College. He plans to continue his education to become an electrical engineer.



Alexander Scheffler-Murry *ARK Energy*

Alexander Scheffler-Murry intends to attend Penn State pursuing a four-year degree in Aerospace Engineering, while continuing nanofiber research as a part of the Capital Honors College at PSU Harrisburg campus. In addition to Aerospace, he hopes to obtain some education in materials science and world history. Alex's activities outside of school include wrestling, building homemade watercraft, and working as a Vet's Assistant.

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Steven James Seymour *TiGrowth*

Steven has completed five courses in North Penn's engineering academy. He is a part of North Penn's International Research Team, Orchestra, and enjoys working on cars and computers. He will be attending York College to pursuing a mechanical engineering degree with Kinsley School of Engineering in the next four years.



Madeline Alissa Sinclair *FiberCare Bandages*

Madeline completed five courses offered in the Engineering Academy. Following after her parents, she plans to enter Greensburg, a Pittsburgh University satellite campus to become a Chemical Engineer. She has volunteered her time in the library, created a speech communications device in the EPICS club, and practiced acting in the Improv club. She also worked as a part-time Dietary aide at the nearby Dock Woods.



Brandon Matthew Spencer *ChromaLight Barrier Technologies*

Brandon plans to attend Penn State University to further his education in Mechanical Engineering. During his years at North Penn, Brandon participated in the robotics team for three years and the EPICS club in his last year. With his love for Engineering, Brandon hopes to continue his efforts and make a difference in the world.



Nathan Robert Tagert *Dynamic Energy*

Nathan will be attending Millersville University where he will be majoring in Engineering Manufacturing Technology. He has completed all five courses in the North Penn Engineering Academy. He has been involved with North Penn's Lacrosse team for four years and the bowling team for three years. He will continue playing at the college level.



Lucas Michael Yannul *LANTech*

Lucas Yannul will be attending Villanova University to earn a degree in computer science. He is a member of Key Club, Special Olympics, ski and board club, and plays on the boys varsity lacrosse team. Lucas plans to continue his passion for engineering and volunteering as well as playing on the club lacrosse team during his four years at Villanova.



Mark Christopher Young *SoulEnergy*

Mark Young plans on attending Penn State University to obtain his degree in Computer Engineering. He has completed four courses in the Engineering Academy to pursue his passion for Engineering. Outside of school he plays sports such as basketball and hockey.

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Andrew Marco Zanoni ChromaLight Barrier Technologies

Andrew Zanoni plans on attending York College of Pennsylvania to earn a bachelor's degree in Chemical Engineering. He part took in EPICS club for two years and became the treasurer of the club his finale year. Outside of school, he plays ice hockey at Hatfield Ice and Deck Hockey at Skate 309.



Dev Sunil Zaveri ChromaLight Barrier Technologies

Dev plans to attend Penn State University to further his education in Computer Engineering. Throughout his years at North Penn, He completed four engineering academy courses where he found his passion for engineering,. Dev participated in the EPICS and Key Clubs his senior year and enjoys working with computers and videography.



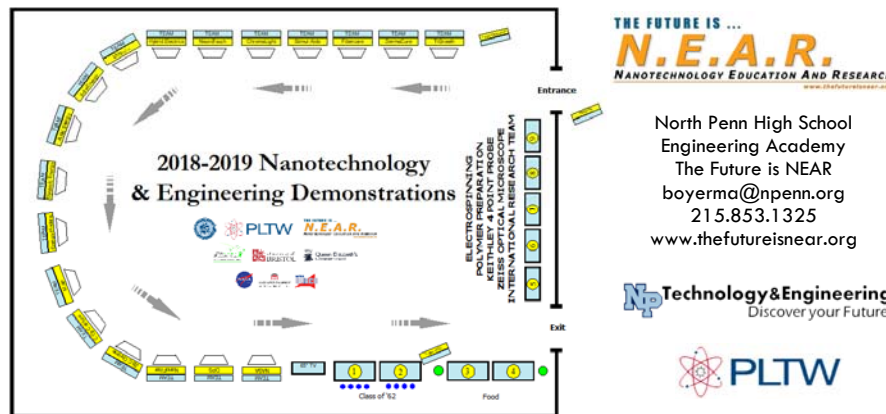
Jacob Adam Zoll ZBC Chrome

Jacob will be continuing his education at Penn State University pursuing a degree in automotive engineering or computer science and join their Formula student racing team. Throughout his three years at the high school, he has completed five engineering academy courses and participated in the auto club. Outside of school, Jacob enjoys cars, mechanics, computers, and working.

Poster Sessions and Demonstrations

Auxiliary Gymnasium

Please join us in the auxiliary gymnasium following the auditorium 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 much more!



“A vision without resources is just a hallucination...”

Dr. Joseph DeSimone, 2008 Lemelson –MIT Prize Recipient

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North Penn High School Class of '62 Scholarship Committee

Joe Geiser, Thomas Strickland, Ray Moats, John Cairns, Dick Clemens, Aaron Rosenzweig, Lorna Pollock-Deiter, Maureen Bush Costello

A special thank you to the North Penn High School Class of '62 scholarship committee for their support of two senior scholarship awards and their assistance in establishing a community partnership for the students of the North Penn Technology and Engineering Education Department! Thank you!!!

