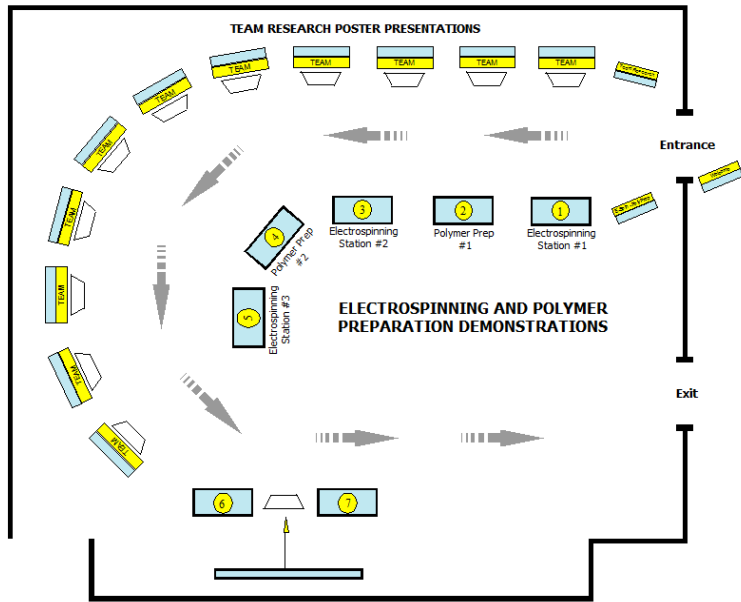


Nanotechnology Demonstration Layout



Please join us in the auxiliary gymnasium following the audion presentation for light refreshments and live demonstrations of the electrospinning and polymer preparation processes.

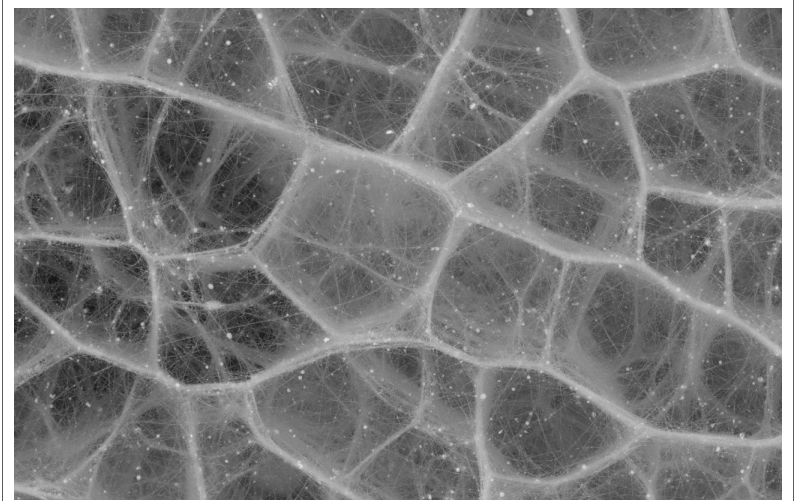
Team members will also be displaying their posters and discussing their research.

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

North Penn High School
Engineering Academy
www.northpennengineering.org
www.thefutureisnear.org

Phone: 215.368.9800.1325
E-mail: boyerma@npenn.org

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, their research has offered the senior students many opportunities to research and develop solutions to global issues by capitalizing from the benefits of nanotechnology.

WEDNESDAY, JUNE 5TH , 2013
NORTH PENN HIGH SCHOOL AUDION
SEVEN O'CLOCK P.M.

PRESENTERS FOR THE EVENING

Below are the presenters this evening who will share with you the research they performed throughout the year.

Introduction to the Evening	Mr. Michael Boyer
Introduction to Nanotechnology	Mahidi Hassan
Polymer Preparation	Nishidh Patidar
Electrospinning	Ryan Schulze Brian O'Donnell
Characterization - SEM TEM	Anthony DiBerardino Mike Spencer
2nd Period Research Summaries	Matt McDonald
6th period Research Summaries	Zachary Gery
Conclusion	Anna Nguyen

Cover Image: Nanosense, Inc.
Antibacterial Nanofibers

Please join us in the auxiliary gymnasium following the audion presentation for light refreshments and live demonstrations of the electrospinning and polymer preparation processes.

Team members will also be displaying their posters and discussing their research.

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



Ryan Erik Schulze *Schulmer-Aid*

In the fall, Ryan will be attending Penn State Main Campus to major in chemical engineering. In addition to a love of chemistry and math, Ryan also enjoys skiing, watching Philly sports, and playing multiple sports. Ryan hopes to come out of college with a job at a firm that specializes in chemical engineering.



Michael Adam Spencer *Aero-McNetics*

In the fall, Michael will be attending Penn State Altoona. With his superfluous enthusiasm for engineering and research, he will major in Material Science and Engineering. He is an Eagle Scout, plays on the North Penn rugby team and also enjoys hunting, fishing and backpacking. He works at the Nor-Gwyn baseball fields.



Patrick Michael Thornton *Solarganics*

In the fall, Patrick will be attending Penn State main campus as a Schreyer scholar. He plans to major in Engineering but is currently undecided in his discipline. Patrick is an Eagle Scout; he also enjoys backpacking, soccer, guitar, snowboarding and other sports. At North Penn, Patrick is a member of the National Honor Society, EPICS Club, and the Ski and Board Club.



Mher Michael Vartanian *Hydro-Lex*

In the fall, Mher will be attending Montgomery Community College to major in finance. The North Penn Engineering Academy has played an important role in Mher's high school years. In the future, he plans pursue a career in the business side of engineering.

ACKNOWLEDGEMENTS

North Penn High School

Keith Seifert, Brian Dahl, Gene Serianni
Chris Doerr, Craig D'Aquanno
Mark Keagy, Chris King
NPHS Art Department
NPHS Technology & Engineering Department

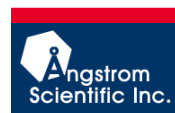
North Montco Technical Career

Dr. Lori Dodson
Dual Credit Biotechnology program

Parents and Students

HITACHI
Inspire the Next

Robert Gordon,
Hitachi High Technologies



Evan Slow,
Angstrom Scientific

Drexel University

Dr. Antonios Zaviliangos
Joanne Ferroni
Dorilona Rose
Dr. Edward Basgall
Holly Burnside
Dr. Zhorro Nikolov
Dr. Kapil Dandekar

University of British Columbia

Dr. Frank Ko

Grants / Donations

Dominion
ING Financial
National Science Teachers Association
North Penn Educational Foundation
Toshiba
Toyota

STUDENT BIOGRAPHIES
FUTURE PLANS AND GOALS



Nishidh V Patidar Hydro-Lex

In fall, Nishidh will be attending Drexel University to pursue an accelerated BS/MS degree in Management Information Systems (MIS) Business aspect. Nishidh has been part of the Indian Culture Association, SGA Volleyball Tournament, North Penn Bowling, and North Penn Football. Nishidh has been a part of the Engineering Academy since his sophomore year.



Sahad Bin Rafuzzaman Insulex, Inc.

Sahad will be attending Montgomery Community College looking to major in electrical engineering at Drexel University after transferring. In addition, Sahad has a passion for electronics; he spends his time repairing mobile devices. At North Penn, Sahad is the treasurer for Technology Student Association, The president for Bengali Cultural Club and a member in the Indian Cultural Club.



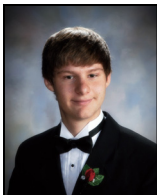
Nicholas I Ramocsai Nanosense, Inc.

In the fall, Nick will be attending Penn State Abington to major in materials science and engineering. While there he also hopes to continue his love of rugby. At North Penn Nick, was involved with men's rugby team and plans to continue at Penn State.



Gregory Richard Schirmer Schulmer-Aid

Greg Schirmer plans on attending Ohio University this fall to major in engineering. He is an avid fan of the Philadelphia flyers and enjoys playing sports and snowboarding. Greg was a member of the ultimate Frisbee team and the soccer team. His future in the engineering world has yet to be determined.



Alexander Thomas Schlesinger A.B.C. Industries

In the fall, Alex will be attending Penn State University to major in Aerospace Engineering. In addition, Alex loves playing and watching hockey, especially the Philadelphia Flyers. After college, he hopes to get a job at NASA. At North Penn, Alex plays for the North Penn ice hockey team and is a member of the Engineering Projects In Community Service (EPICS) club.



Ryan Michael Schoell Solarganics

Continuing his studies at Ohio State, Ryan will be majoring in chemical engineering. Ryan's passion in chemical engineering began with his interest in chemistry and teamwork. Ryan is also a member of the National Honors Society, and a member of the men's soccer team.

STUDENT BIOGRAPHIES
FUTURE PLANS AND GOALS



Christian Thomas Day A.B.C. Industries

In the fall, Christian will be attending Penn State University to major in mechanical engineering. He currently plays baseball and basketball, and he plans to pursue a career in engineering.



Anthony Michael DiBerardino Aero-McNetics

Anthony grew up in an engineering family, where both of his parents graduated from Virginia Tech with Chemical Engineering degrees. In the fall, Anthony will be attending Virginia Tech to major in Aerospace and Ocean engineering. This is a very fitting major for him; he is a certified SCUBA diver and he flies model airplanes. He is also on the Iron Lions Rugby Team and an Eagle Scout.



Timothy Joseph Dolan Nanosense, Inc.

In the fall, Timothy will be attending Montgomery County Community College to major in Engineering-Nanotechnology. In addition to Tim's passion for nanotechnology, he has an interest in Aeronautical and Biochemical engineering. He hopes to have a career that enables him to use nanotechnology in combination with either type of engineering.



Derek Anthony Ellstrom Thermo-Harvest, Inc.

In the fall, Derek will be attending Harrisburg University of Science and Technology to major in computer software engineering. Though Derek enjoys computers, he also has a love of engineering that has brought him through the Engineering Academy. At North Penn Derek is involved in Engineering Projects In Community Service, or E.P.I.C.S.



Matthew Joseph England Thermo-Harvest, Inc.

In the fall, Matthew will be attending Penn State University to major in mechanical engineering. In addition to Matthew's passion for engineering, he has an interest in cars; everywhere from fixing them to modifying them. He hopes to have a career that enables him to work with automobiles. At North Penn, Matthew is involved in the Auto Club and the Engineering Academy.



Jacqueline Rachel Gartner Aero-McNetics

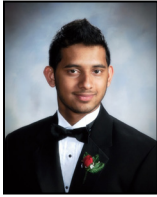
Jackie has been active in the North Penn Engineering Academy for 3 years. She will be attending Shippensburg University in the fall to major in Biology and hopes to study optometry in the future. At North Penn, she was president of the Green Room theatre club and has an interest in music and longboarding.

STUDENT BIOGRAPHIES
FUTURE PLANS AND GOALS



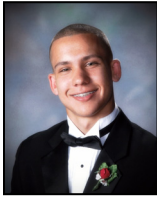
Zachary Robert Gery *Hear-O, Inc.*

This fall, Zack will attend National Technology Institute for the Deaf at Rochester Institute of Technology. He plans to continue his education by majoring in Mechanical Engineering. Zack's goal is to work in a major engineering firm. He wants others to know that his deafness will not keep him from obtaining his goals.



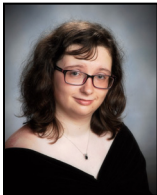
Mohammad Mahidi Hassan *Solarganics*

In the fall, Mahidi Hassan will be attending Drexel University to major in material science and engineering. Mahidi enjoys playing sports such as football, basketball, and soccer. He has a passion for electronics and wishes to work with them in the future.



Alexander David Houpt *Aero-McNetics*

This fall, Alex will be attending Pennsylvania State University to major in mechanical engineering. His ultimate dream job would be designing and constructing new and modern sports equipment. Alex was a member of both the North Penn Golf and Track and Field teams.



Patricia Lee Luciany *P-ZO Tech*

Next year, Patricia will be attending Drexel University and will major in electrical engineering. She got interested in engineering when she learned of the field of robotics. It sparked her interest and she hopes to get a job in that field. At North Penn, she is involved in JACC, EPICS, GSA, and Improv.



Matthew John McDonald *Aero-McNetics*

In the fall Matt will be attending Penn State, Main Campus to study civil engineering. He hopes to find a job as a general contractor after college. Matt played soccer and lacrosse for all three years at North Penn. He is the vice president of his senior class.



Mohammed Abdul Moonim Mondal *P-ZO Tech*

In the fall, Moonim will be attending Drexel University to major in Mechanical Engineering. He enjoys fishing, football, reading, flying and the company of his friends. In the near future he hopes to be creating and building planes and mechanical systems. At North Penn High School he is involved with the Model Aviation Club, Technology Student Association, and Political Activism.

STUDENT BIOGRAPHIES
FUTURE PLANS AND GOALS



Mohammed Sahinur Islam Mondal *Insulex, Inc.*

At North Penn High School, Mohammed S. Mondal is involved in Key Club and the Technology Student Association. In the fall, Mohammed will be attending Penn State to major in Mechanical Engineering. After college, he hopes to land a job at PDC Machines or other firms that suit the nature of his interests.



Benjamin Jackson Moses *Nanosense, Inc.*

In the fall, Jackson will be attending Lehigh University for Engineering. At Lehigh, he is considering Industrial Engineering but will leave his options open. Jackson's passion is engineering and he plans to work as an engineer after college. At North Penn, Jackson is on the North Penn golf team.



Kathryn Elizabeth Murphy *P-ZO Tech*

In the fall, Kathryn will be attending Worcester Polytechnic Institute to major in electrical engineering. While there, she also hopes to minor in Tech Theater (stage crew) in hopes to combine her two interests. At North Penn, Kate is involved in the girls Rugby team, green room, Thespians, and North Penn theater.



Anna Xuan Huyen Nguyen *Insulex, Inc.*

In the fall, Anna will be attending Temple University to major in biomedical engineering. At North Penn High School, she is involved in Engineering Projects In Community Service (E.P.I.C.S). Anna started her passion for biomedical engineering when she started to take the Engineering Design and Development class.



Patrick Blair Nicodemus *Hydro-Lex*

After enrolling in Digital Electronics in 11th grade, Patrick discovered a latent passion for digital logic and the design and creation of microprocessors. His favorite engineering subject is energy-the creation, distribution and efficient use of stored energy to improve the quality of life for millions of people. On June 23rd, Patrick will leave for Penn State's summer session, in the College of Engineering.



Brian T O'Donnell *Thermo-Harvest*

Upon entering high school, Brian enrolled in the engineering academy because of his strong passion for designing, building, and developing things. After graduation, he will most likely be attending Montgomery County Community College to extend his education further than a high school diploma. He hopes to travel the world and explore the possibilities.