

# 3D Printed Core-Sheath Nanofiber Apparatus

Synthetic Nerve Research and Development



Jacob Tarlo, EDD Student at North Penn High School  
Engineering Intern at LCR Embedded Systems, Inc.



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*Synthetic Nerve Research and Development - Assistance from LCR Embedded Systems, Inc.*

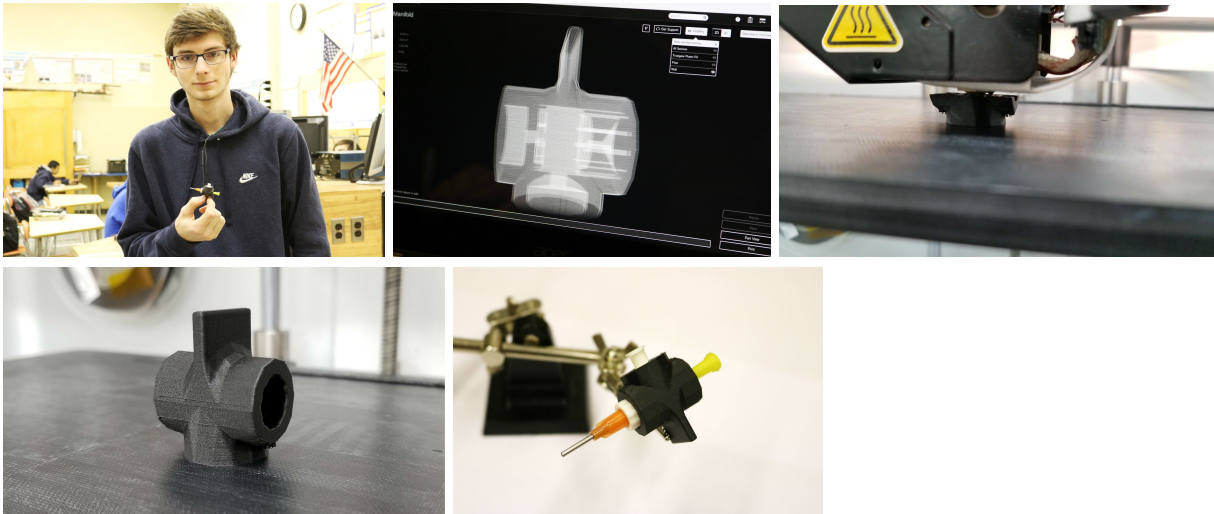
Students in the [North Penn High School Engineering Academy](#) course, [Engineering Design and Development \(EDD\)](#), have begun their research endeavors for the 2017-2018 school year.

One of this year's research teams, SynBionic Inc., has begun researching and developing synthetic nerves to aid individuals who suffer from peripheral neuropathy and severe nerve damage. Since nerves have a protective coating called myelin, the students are utilizing a process known as core-sheath electrospinning to aid their research endeavors.

Core-Sheath electrospinning has been performed in the Nanotechnology and Engineering Research Laboratory at North Penn High School with material and characterization assistance from [ramé-hart](#) and [Drexel University](#) in [2013](#) and [2016](#) ([2](#), [3](#)) with much success.

This year, Jacob Tarlo, an EDD student in the multi-source energy harvesting research team, T.P.S. Energy Systems, and an engineering intern at [LCR Embedded Systems, Inc.](#) offered his assistance to 3D Print a custom, tunable core-sheath apparatus designed at North Penn that can withstand the various solvents that SynBionic Inc. will need for their research.

SynBionic Inc. and Jacob will be testing the device soon! Special thanks to Jacob and LCR Embedded Systems, Inc. for their assistance! Please check back often for research updates with all of the research teams at North Penn.



If you are interested in learning more about LCR Embedded Systems, Inc., the Engineering Academy or the Technology and Engineering Education Department at North Penn High School, please visit their websites:

<http://www.lcrembeddedsystems.com/>  
[www.npteched.org](http://www.npteched.org)  
[www.northpennengineering.org](http://www.northpennengineering.org)  
[www.thefutureisnear.org](http://www.thefutureisnear.org)

Press Contact:  
North Penn High School  
Technology and Engineering Education Department  
Michael Boyer, Department Chair  
[boyerma@npenn.org](mailto:boyerma@npenn.org) | 215.853.1325

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