

Clarkson University
Department of Chemical and Biomolecular Engineering
SEMINAR (Student Presentation)

“Synthesis of long Silver Nanowires for Biomedical Applications”

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The use of silver nanowires, with a thickness of tens of nanometers and a length of up to a few hundred microns, for applications in different areas has recently exploded due to their distinct physical, chemical, optical, and mechanical properties compared to the bulk equivalents. Various fabrication techniques have been developed over the past 20 years to adjust the final dimensions and properties of silver nanowires for particular target applications. Modern technologies based on Ag nanowires, such as flexible displays, energy harvesting/storage systems, and biomedical sensors, have been made possible by significant breakthroughs in synthesis technique.

In our project, silver nanowires have been employed as a coating material for polymer-based artificial muscles due to their perfect conductivity and lighter weight compared to using thick metal coating. The procedure we have followed for synthesizing silver nanowires and how we plan to incorporate them into our final product will be explained.

Monday, February 13th, 2023 at 2:30 pm
CAMP 175



Aryan Najjari is a PhD student working on the fabrication of thermoelectrically activated polymer-based artificial muscles under the supervision of Dr. Yuncheng Du. Aryan's research interests lie in incorporation of nanotechnology into mimicking cardiac patches for patients with severe heart failure. Prior to joining Clarkson University, he graduated with a Bachelor's degree in Materials Science and Engineering at University of Tehran – Iran.