

PROJECT CATEGORY: NextGen Materials**STARTUP:** Volexion**CONTACT:** Jonathan Pistorino**WEBSITE:** <https://www.volexion-inc.com/>**EMAIL:** jonathan.pistorino@volexion-inc.com**RESEARCH AREA:**

Conformal graphene encapsulation makes Li-ion batteries safer and 30% cheaper by driving transformational stability on cathode materials, enabling next gen materials and advanced battery manufacturing processes

PROJECT TITLE:

Continuous Flow Purification of Graphene Exfoliation for Lithium-ion Battery Cathode Active Material Encapsulation

PROJECT DESCRIPTION

Volexion is developing and onboard a continuous flow purification system to enable high throughput of our graphene precursor product that is used in conformal encapsulation of lithium-ion battery cathode active materials. This project consists of operating our wet-jet milling instrumentation to produce graphene mixtures for trials on a brand new continuous filtration system that will require optimization and troubleshooting to hit peak performance. These efforts will have significant impact on Volexion's business as greater quantities of material will broaden our ability to tackle commercial sampling and validation

JOB EXPECTATIONS:

The project will consist of commissioning, balancing and optimizing the continuous flow filtration set-up including running it in sequence with the milling process and recirculating the various undesirable outputs back into the exfoliation process in order to improve overall yields.

DESIRED EXPERIENCE:

This project is perfectly aligned with the skill set of a chemical engineer. To be successful, the candidate must be hands-on, and experiment focused in order to determine which parameters need to be balanced for system optimization. Pressures, flow rates, pipe fitting, and technical understanding of the underlying process will help drive this project toward completion.

TIME COMMITMENT:

8-10 weeks

TRAINING MENTORING:

As the senior technology representative for the company, the scholar will work with me directly as well as the rest of our PhD and master's level technical staff. As mentioned, this project will directly affect and improve the commercial position of Volexion and we are excited to share this experience with our future scholar.