

# Seminar Announcement

Functional High-Performance Polymers – Combining Engineering, Materials Science and Chemistry

## Abstract

The ever-developing variety of new advanced polymer-based materials, and processing techniques, enrich their constantly expanding array of applications, including lightweight materials for the aeronautics and aerospace fields, packaging materials and their recycling, batteries and fuel cells, membranes, and biomaterials, to name a few. When developing such materials, there is great benefit in bringing together the complementary expertises of chemists, materials scientists and engineers. We will demonstrate these benefits by analyzing a recent project in which we were asked to develop 3D printable, high performance thermoplastic systems based on polyether ether ketone (PEEK), destined to a new generation of lunar rovers. This initial project has now expanded in a variety of new directions, both in terms of fundamental understanding, and potential applications.

## Speaker Biography

Prof. Nick Virgilio is Full Professor of Chemical Engineering at Polytechnique Montréal. He earned his PhD in Chemical Engineering, where he investigated how interfacial properties influence the morphology of multiphase melt-processed polymer systems. Following his doctorate, he completed a postdoctoral fellowship at ESPCI Paris, studying the nonlinear rheological behavior of concentrated soft colloidal suspensions. His research group develops multiphase polymer-based materials and focuses on understanding the relationships between processing, morphology, interfaces, and resulting properties.

Outside the laboratory, Prof. Virgilio enjoys experimenting in both his garden and his kitchen.



**Guest Speaker:** Prof. Nick Virgilio

**Institution:** Department of Chemical Engineering, Polytechnique Montréal, CA

**Date & Time:** Tuesday, May 19, 2026 (16:00 – 18:00)

**Venue:** Room A222, Röntgenring 11, 97070 Würzburg

**Host:** Prof. Miriam Unterlass | Chair of Chemical Technology of Materials Synthesis

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