



SCHOOL OF SUSTAINABLE
ENERGY ENGINEERING

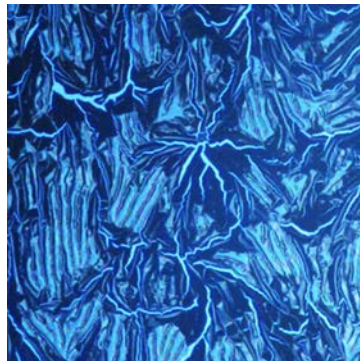


Engineered Interfaces for Sustainable Energy EISEn

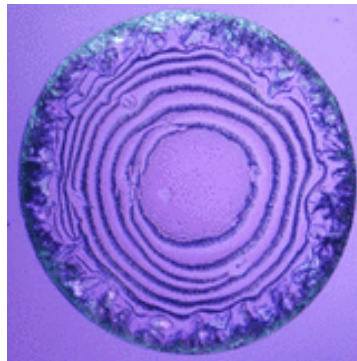
Research Overview: Alternative clean energy technologies face fundamental challenges, including bottlenecks in *performance* and *longevity* towards continuous, sustained operations. These challenges often arise from *interactions at interfaces*, including both (electro) chemical reactions (such as: evolution of hydrogen bubbles in water-splitting electrolyzers) and physical interactions (such as: sticking of bubbles to the electrode surface post-evolution which can compromise activity). The Engineered Interfaces for Sustainable Energy (EISEn) Group at Simon Fraser University in Vancouver, directed by Dr. Sami Khan systematically studies these fundamental physico-chemical interactions using state-of-the-art *in situ* characterization techniques, and addresses bottlenecks using creative interfacial engineering approaches, including micro-and-nano surface texturing. We draw fundamental knowledge from many disciplines, including surface and interfacial science, fluid mechanics, heat transfer, electrochemistry, reaction engineering and catalysis. Since interfacial interactions are ubiquitous, we endeavour to have a far-ranging impact in many industries. Specific topics we are interested in include (images taken from our various research projects):



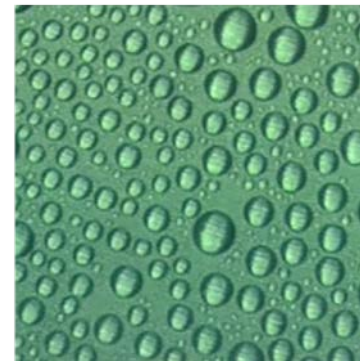
CO₂ Capture + Conversion



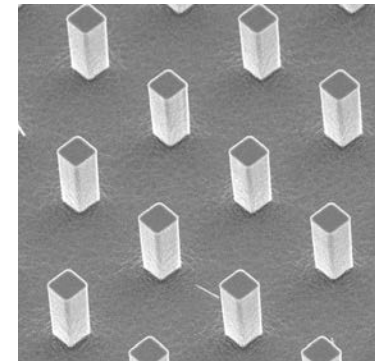
Corrosion Protection



Scale-resistant Surfaces



Drop-wise Condensation



Micro/nano Engineering

Opportunities: Our interdisciplinary group is rapidly growing! We are actively seeking students for **funded M.A.Sc. and Ph.D. opportunities** with a start date in **January 2021 or May 2021**. We are also actively recruiting for **co-op/internship positions** for 4-12 months. Please email Prof. Sami Khan at s_khan@sfu.ca with your CV and unofficial transcripts in a single attachment and briefly express your interest. The deadline for most opportunities is **early December** so emailing as soon as possible is encouraged. The EISEn group is committed to enhancing diversity in science and engineering.

Visit our website: <http://www.khanresearchlab.com> for details on our research and publications. For more information about the School of Sustainable Energy Engineering @ SFU, visit <http://www.sfu.ca/see>.