

MQ Photonics Research Webinars



MACQUARIE
University
SYDNEY · AUSTRALIA

PROF ARTUR DAVOYAN

SAMUELI SCHOOL OF ENGINEERING UNIVERSITY OF CALIFORNIA, LOS ANGELES

Nanophotonics as a pathway for space exploration

I will discuss how light harnessing and radiation management at the nanoscale can address key challenges facing space engineering and exploration. I will describe the use of nm-thick films for efficient control of radiation emission and absorption, and I will demonstrate atomically thin ultralight photovoltaic cells for spacecraft to minimize power and thermal constraints.

Nanophotonics offers disruptive solutions for spacecraft design and laser propulsion to near-speed-of-light velocities for space exploration. I will survey recent advances in a Breakthrough Starshot project, an ambitious mission to send a spacecraft to Alpha Centauri. Lastly, I will discuss our work on solar sailing for fast transit missions towards the outer solar system.



When: Wednesday 19 May 2021 12 noon Sydney time

Join by Zoom join: <https://macquarie.zoom.us/j/85829287435>

