

SEMINAR ANNOUNCEMENT

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING
COLLEGE OF DESIGN AND ENGINEERING
Website: <https://cde.nus.edu.sg/ece>

Area: *Microelectronic Technologies & Devices (MTD)*

Host: *Assoc Prof Aaron James Danner*

TOPIC	:	Introduction to Geodesic Lenses
SPEAKER	:	Prof Tomas Tyc Masaryk University, Czech Republic
DATE	:	Tuesday, 8 September 2026
TIME	:	4:00PM-5:00PM
VENUE	:	E5-03-20

ABSTRACT

Unlike usual lenses that focus light via refraction, geodesic lenses employ the curved geometry of a surface for the same purpose. Having been proposed initially as an interesting mathematical concept, geodesic lenses are now becoming increasingly practical, finding applications for instance as antennas in space industry. The seminar will introduce the basic concepts of geodesic lenses, show how they are designed, and discuss their relation to refractive lenses in terms of transformation optics.

BIOGRAPHY

Prof. Tyc is with the Dept. of Theoretical Physics and Astrophysics and is an expert in theoretical optics as well as mathematical methods in theoretical physics. Recent publications include work related to perfect quantum state revivals, the optical Coriolis force, and gradient index lens design methods. He has taught the Interesting Physics course for a number of years in his university and is a TV personality in the Czech Republic, having starred in a 25-episode popular science series for children.



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