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: Prof Qiu Chengwei

TOPIC	:	**Inverse Design Assisted Photonic Crystal Design**
SPEAKER	:	**Mr Wang Jingwei** **Graduate Student, ECE Dept, NUS**
DATE	:	**Wednesday, 17 June 2026**
TIME	:	**2:30PM-3:00PM**
VENUE	:	**Join Zoom Meeting** **https://nus-sg.zoom.us/j/88296576018?pwd=6Jl9dgPD95Yq2GbPAUNBkmwb6BiOcd.1**

ABSTRACT

Topological photonic crystals provide a promising platform for robust light manipulation by supporting edge states that are less sensitive to defects, sharp bends, and structural disorder. However, conventional design methods usually rely on manual parameter tuning and repeated numerical simulations. Inverse design offers an effective solution by starting from the desired optical response and automatically searching for suitable structural parameters or geometries. By combining electromagnetic simulations with optimization algorithms or machine-learning-assisted models, inverse design can explore a larger design space and identify topological photonic crystal structures with enhanced performance. This seminar will focus on the application of inverse design to topological photonic crystals. The discussion will also highlight how inverse design can improve design efficiency and provide new opportunities for compact, broadband, and fabrication-tolerant integrated photonic devices.

BIOGRAPHY

Mr. Wang Jingwei is currently pursuing a Ph.D. degree in the Department of Electrical and Computer Engineering at NUS under the supervision of Prof. Cheng-Wei Qiu. His research focuses on valley photonic crystal, topologies in photonic crystal, and inverse design.

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