SEMINAR ANNOUNCEMENT

DEPARTMENT OF ELECTRICAL AND COMPUTER ENGINEERING
Faculty of Engineering
Website: https://www.eng.nus.edu.sg/ece/

Area: Microwave & Radio Frequency

Host: Prof Chen Zhi Ning

TOPIC	**:**	**Strongly non-local sparse metasurfaces for dynamic beam-forming and subdiffraction focusing**
SPEAKER	**:**	**Vladislav Popov** **(PhD student, SONDRA, CentraleSupélec, Gif-sur-Yvette, France)**
DATE	**:**	**8 January 2020, Wednesday**
TIME	**:**	**10.30am to 12pm**
VENUE	**:**	**E4-05-39, Engineering Block E4, Faculty of Engineering, NUS**

ABSTRACT

Sparse metasurfaces are assembled from fewer meta-atoms while being able to outperform conventional metasurfaces. Sparse metasurfaces allow one to manipulate electromagnetic fields by accurately adjusting the response of each individual meta-atom according to a rigorous engineering procedure. The procedure involves solving inverse scattering problem and does not rely on heuristic generalized Snell's law. We will start from fundamental theoretical aspects of sparse metasurfaces and arrive at a design procedure. We validate the concept by demonstrating performances of several experimental samples including conformal and reconfigurable designs.

BIOGRAPHY

Vladislav Popov received a Master Degree (with distinction) from the Department of Theoretical Physics and Astrophysics, Belarusian State University, Belarus. Currently he is pursuing his Ph.D. degree in Electrical Engineering at CentraleSupélec (University Paris-Saclay, France) on developing electrically reconfigurable metasurface-based conformal antennas. His current research interests include advanced concepts in metamaterials and metasurfaces, design and homogenization techniques of metamaterials, reconfigurable and conformal sparse metasurfaces.

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