

성균관대학교 양자반도체 연구실

Quantum Semiconductors Laboratory

PRINCIPAL INVESTIGATOR

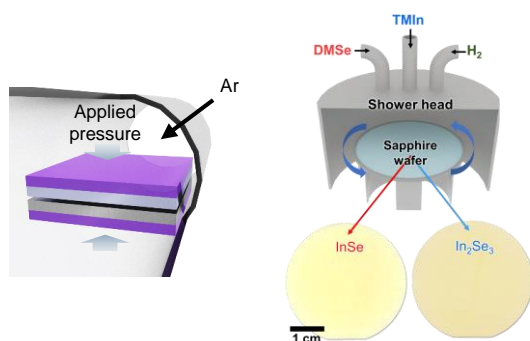


Prof. Seunguk Song

- 2024- now : Assistant Professor, Department of Energy & Energy Science, SKKU
affiliated with the Center for 2D Quantum Heterostructure, Institute for Basic Science
- 2021-2024 : Postdoctoral fellow at University of Pennsylvania,
Electrical and Systems Engineering
- 2021 PhD : Ulsan National Institute of Science and Technology (UNIST),
Materials Science and Engineering

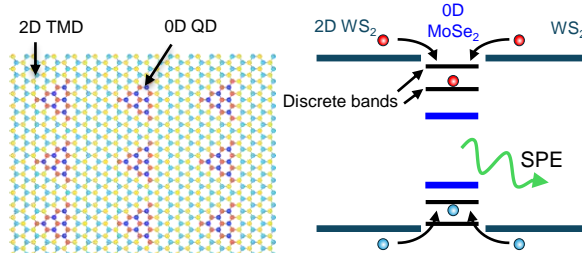
RESEARCH THEMES

01. 2D Semiconductors Deposition and Process



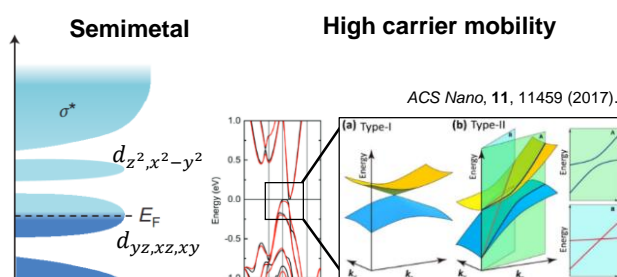
- Chemical synthesis using confined diffusion cell
- Metal-organic chemical vapor deposition (MOCVD)

02. Fabrications of 2D Heterostructures



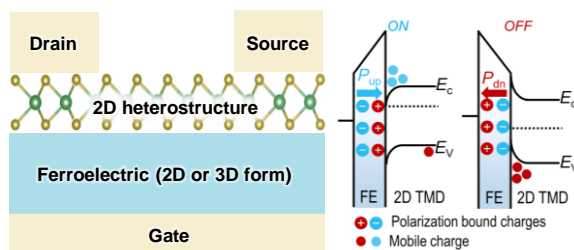
- Quantized excitonic levels due to exciton trapping
- Spatially controlled emissive sites/densities

03. Transport in Low-D Quantum Materials



- Type-II Weyl fermion: linear dispersion
- Electron-hole pockets compensation

04. Ferroelectricity with 2D Electrical Devices



- Energy-efficient, non-volatile 2D quantum-engineered devices
- Fractional quantum hall effects in high-mobility 2D channel

LAB MEMBERS

Postdoctoral Fellow



Nasir Ali

Graduate Students



Wonchan Lee



Yunjung Cho



Inbae Song



Kangpyo Cho



Jihwan Jeon



Chaehui Lim



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