



2021「中技社科技獎學金」

2021 CTCI Foundation Science and Technology Scholarship

境外生研究獎學金

Research Scholarship for International Graduate Students



Two-Dimensional Material Based Flexible Optoelectronics

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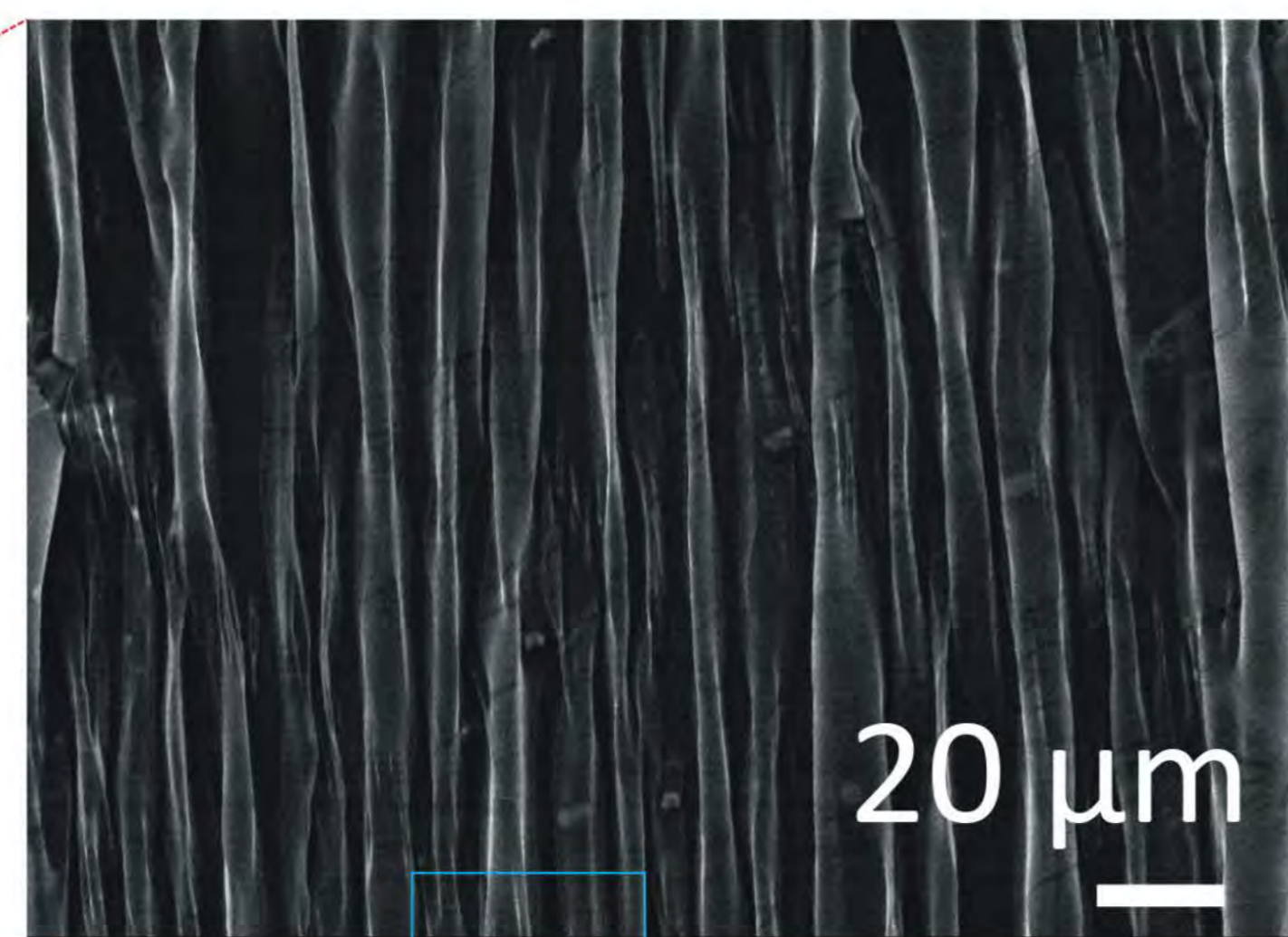
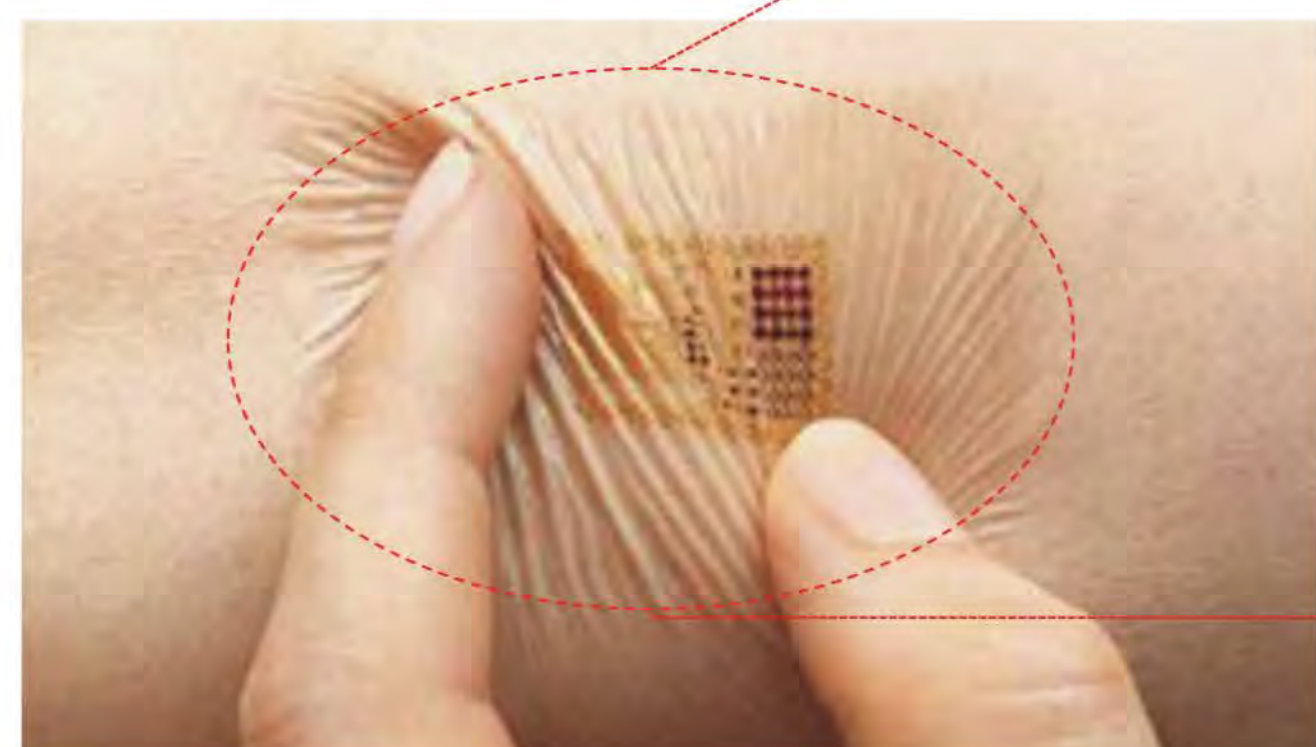
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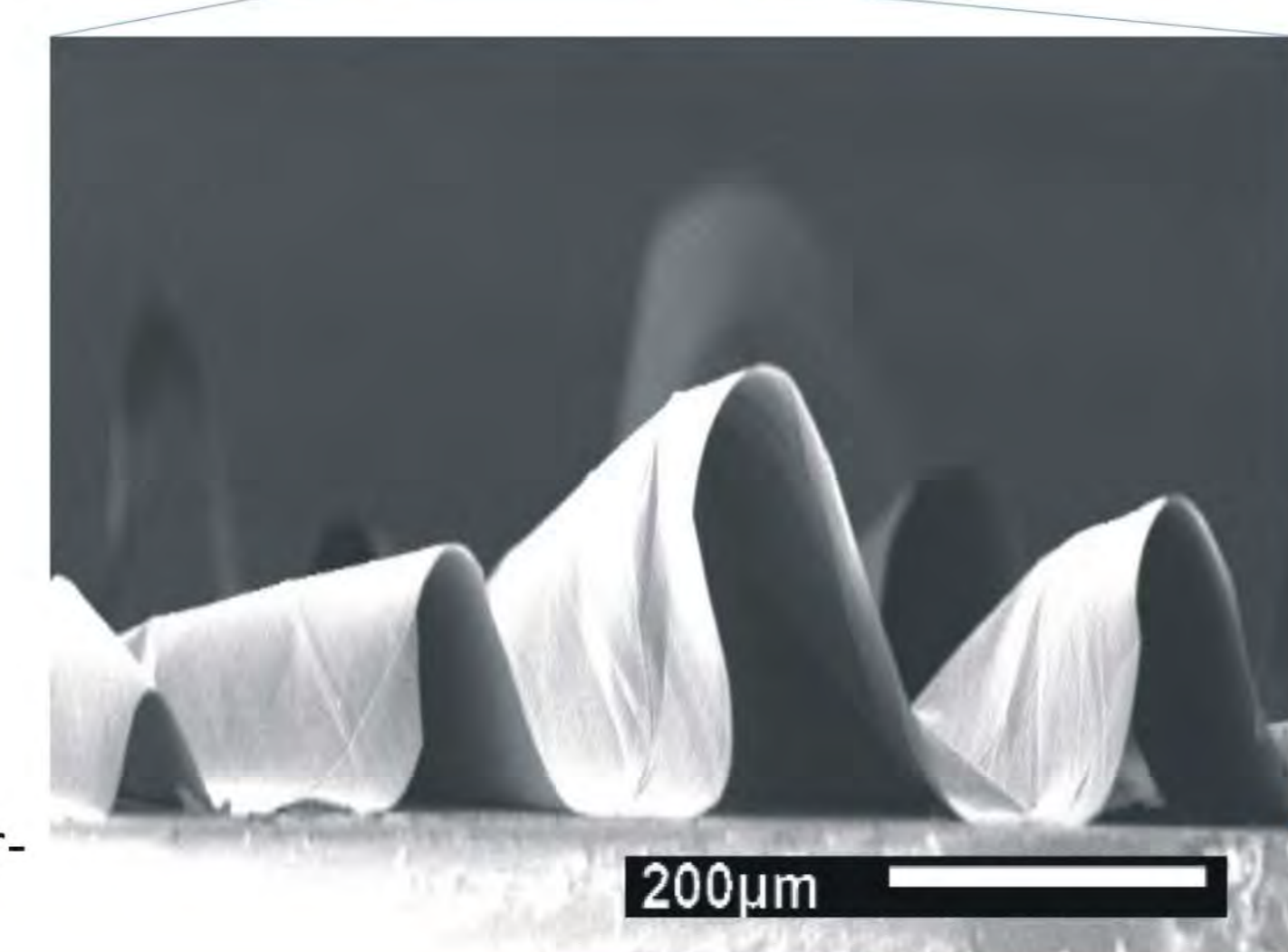
Abstract

The key aspect of my research is flexible electronics which are nowadays the emerging field of modern technology because of its inherent property of being bend or twist or get stretched giving major goals to the flexible electronics field. Graphene, 2D TMDs being able to persist mechanical bending with excellent photoconfinement capability are preferably used in flexible optoelectronics.

Wrinkled Structure

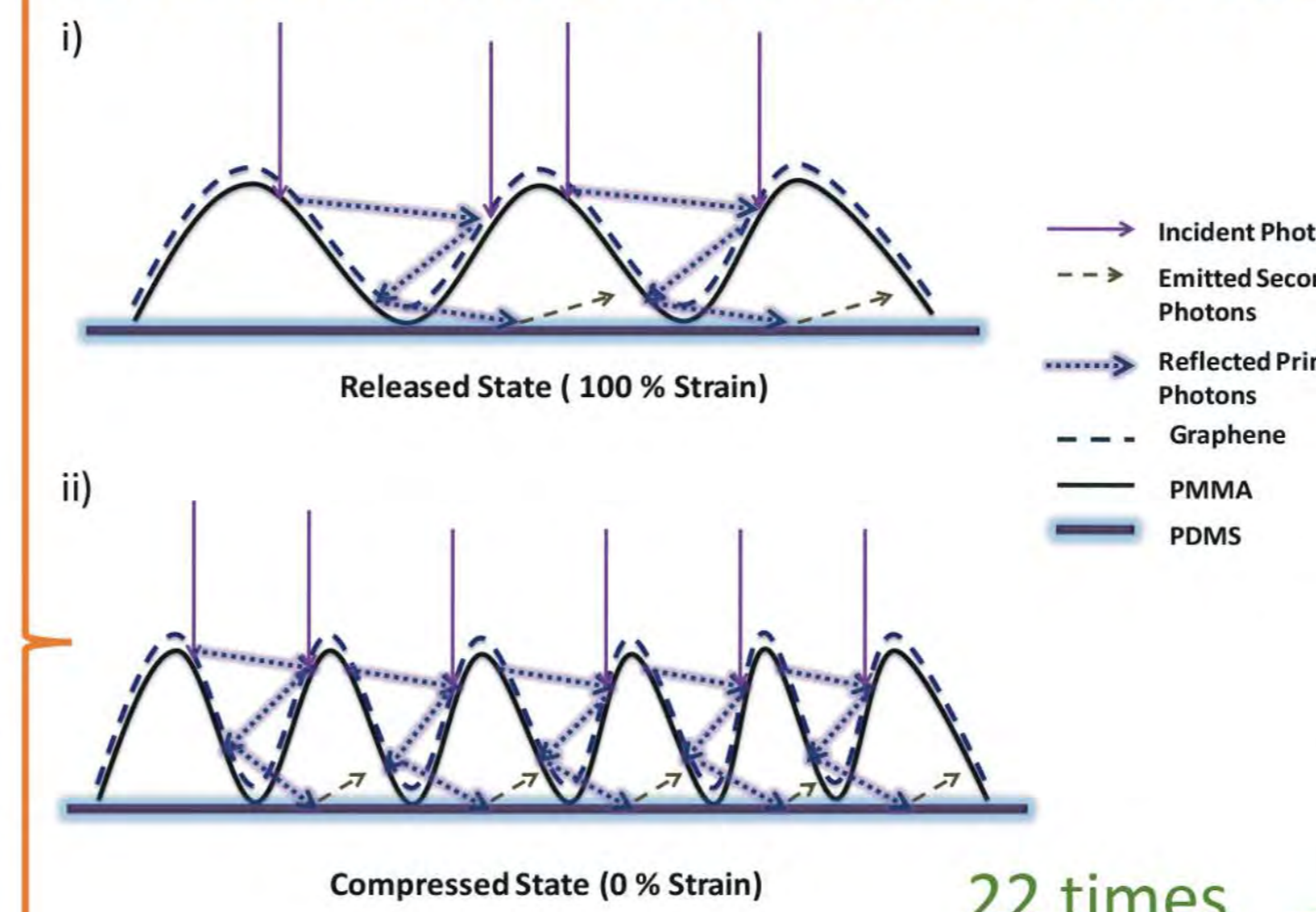


Wearable Electronics using 2D materials

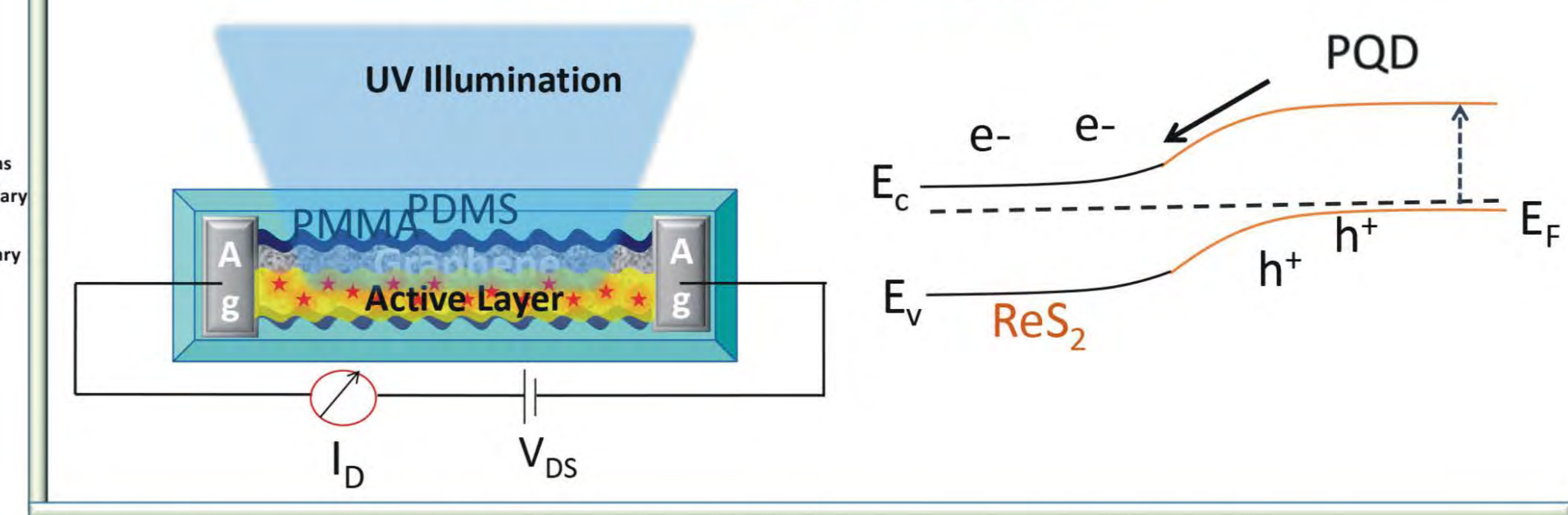


<https://www.dicardiology.com/article/cardiovascular-advances-watch-next-decade>

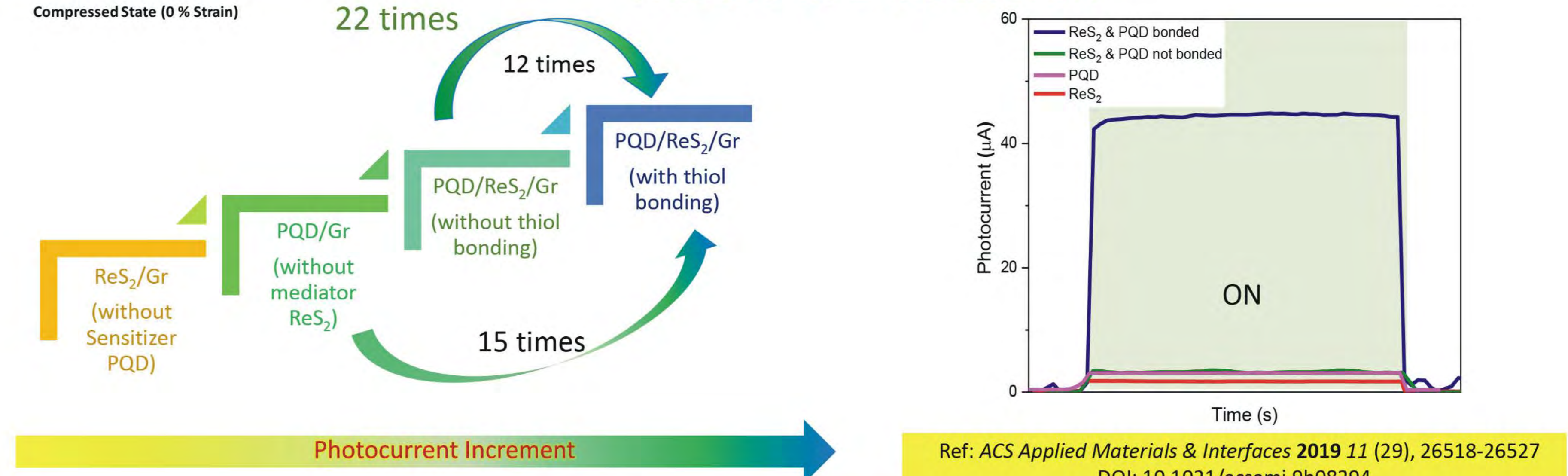
Photoconfinement Effect



Device Structure

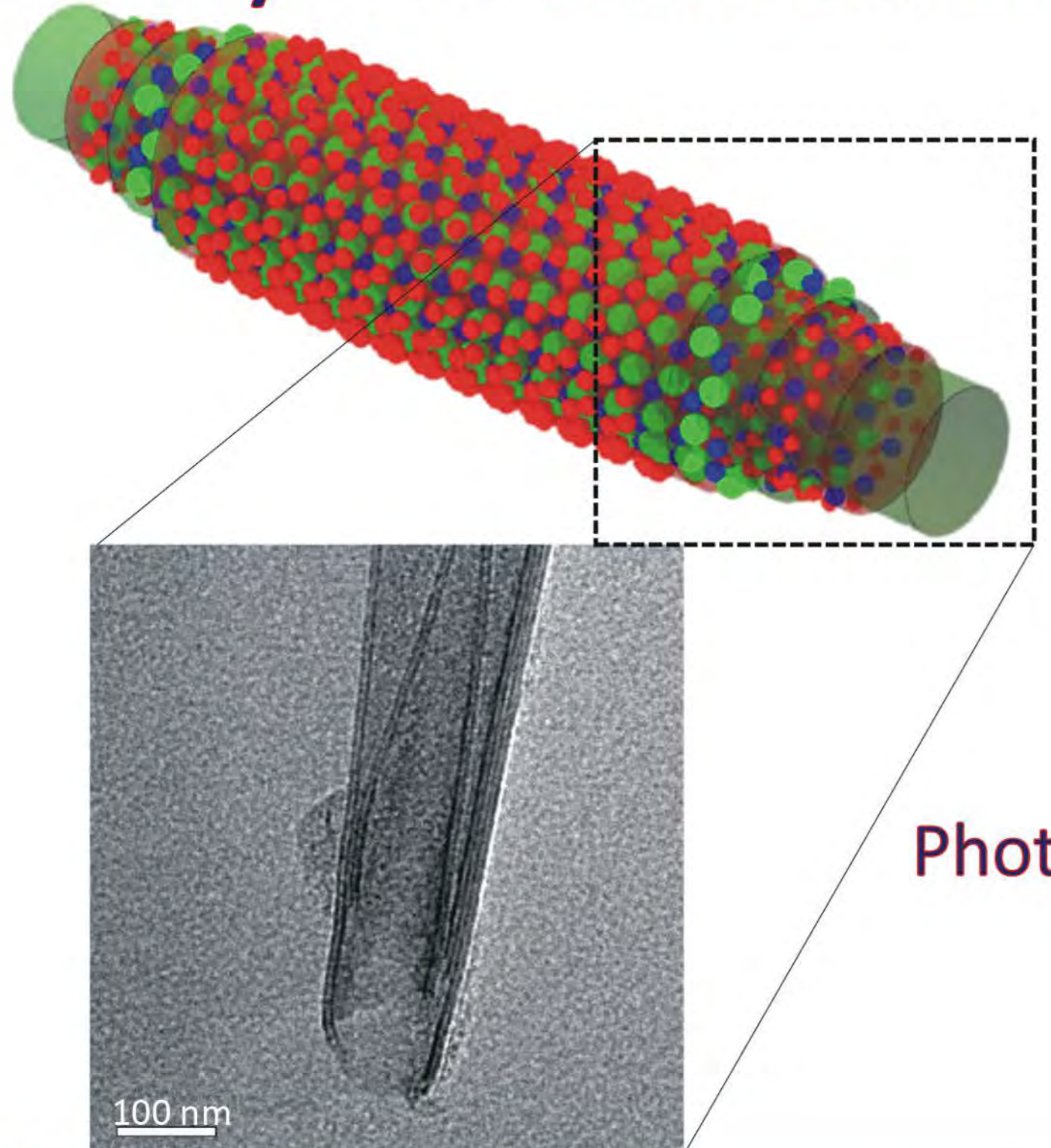


Result & Discussion

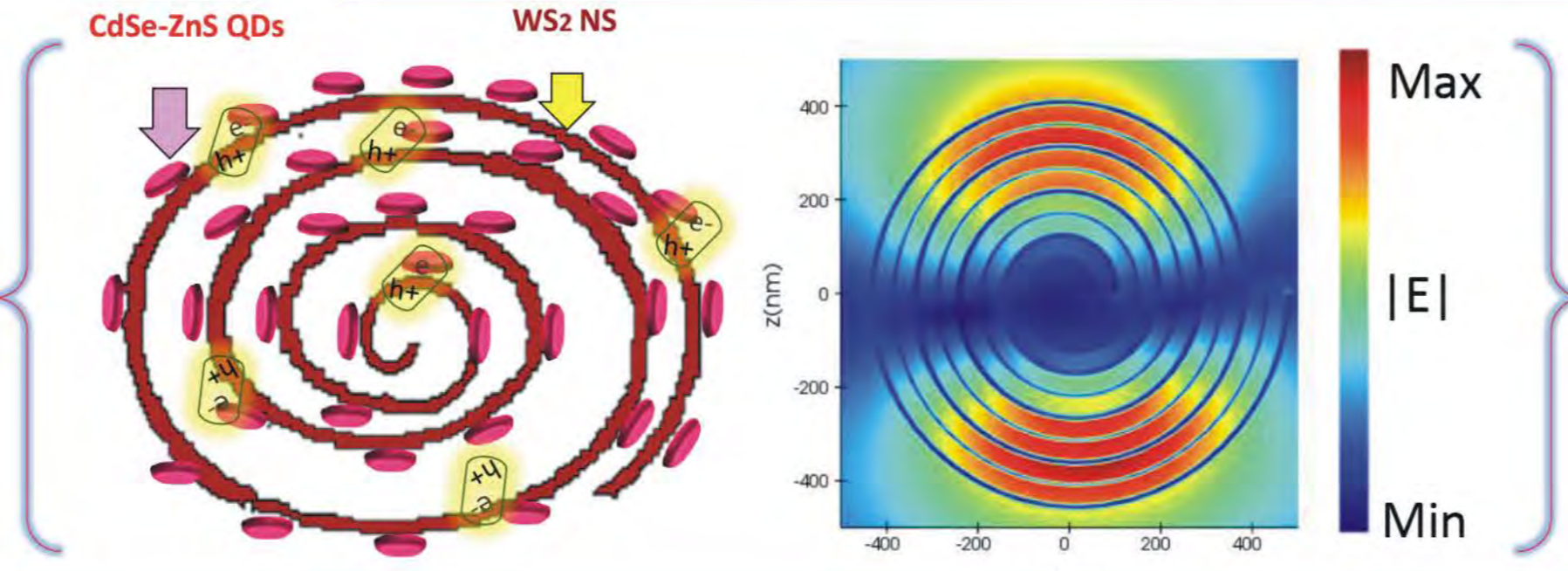


Ref: ACS Applied Materials & Interfaces 2019 11 (29), 26518-26527
DOI: 10.1021/acsami.9b08294

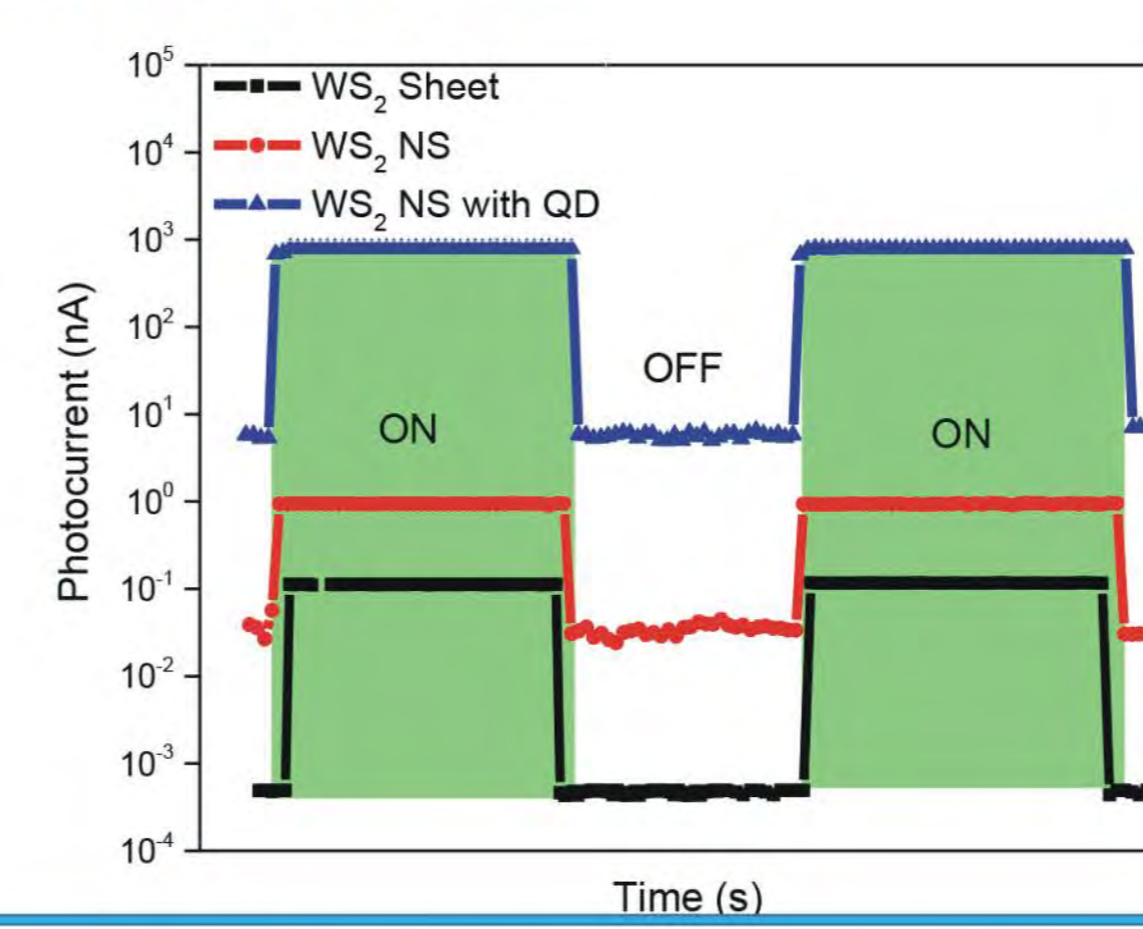
Hybrid Nanoscroll



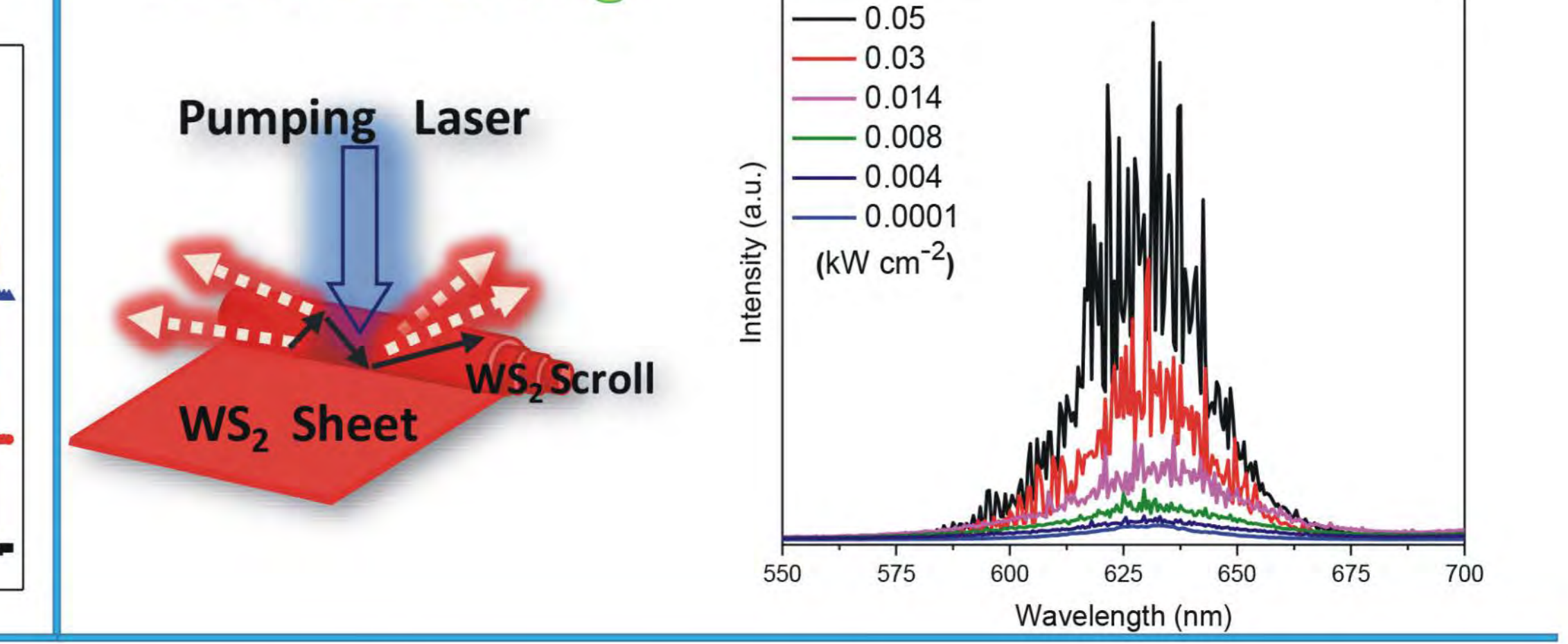
Photoconfinement Effect in Nanoscroll



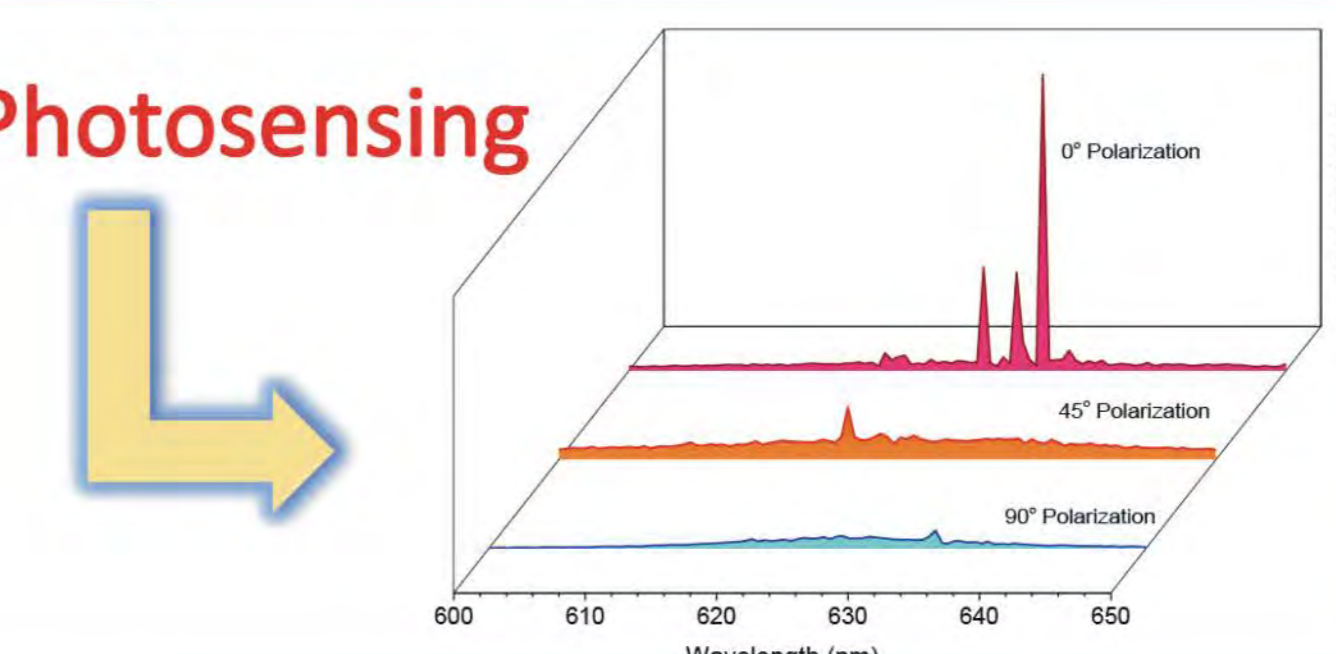
Photodetection



Random Lasing



Polarized Photosensing



Ref: Small 2020, 16, 2003944. DOI:10.1002/sml.202003944



Awards and Recognition:

- 2021, Elected as Secretary-General and Chairperson of First student chapter of Physical Society of Taiwan (TPS)
- 2021, AS-TIGP Research Progress Fellowship
- 2021, IAMS-NTNU-YCU Online Workshop Presentation Award
- 2021, 2020, IAMS Young Fellow Researcher Awards
- 2020, APS-DLS student travel grant, APS March Meeting 2020
- 2020, Academia Sinica Grants for Young Scholars Attending International Academic Conferences Abroad

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