

Exploring quantum coherence and correlations in Flatlands 2D crystals

Dong-Keun Ki (奇東權)

PhD from POSTECH, Physics (Prof. Hu-Jong Lee) 2010

Postdoc in University of Geneva (Prof. Alberto Morpurgo) 2010-2014

Senior Research Associate in UniGe 2014-2018



Department of Physics
The University of Hong Kong



Research activities in **Quantum Device Lab**

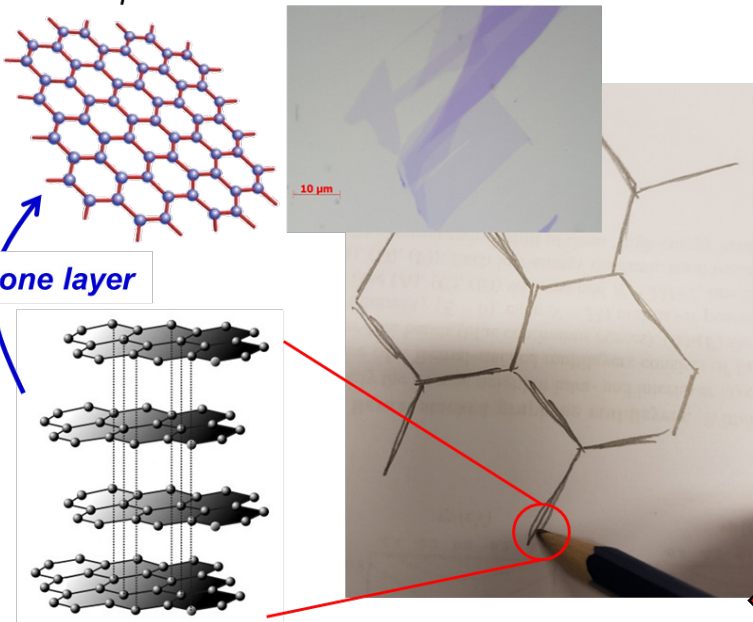
We study fundamental **electronic properties** of the **atomically thin layered materials**, such as **graphene**

DongKeun Ki
dkki@hku.hk

Main goal: discover and engineer new phases of matter

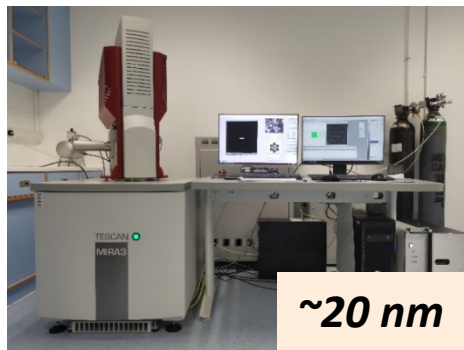
Graphene and 2D materials

Graphene

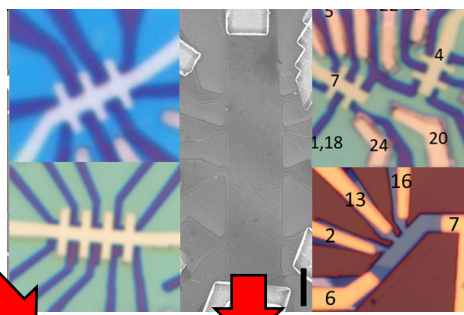


Only one layer

Nanofabrication



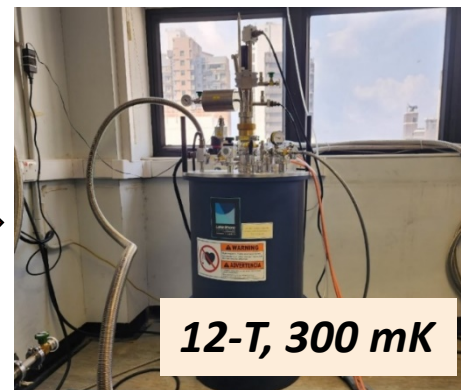
~20 nm



Low-temperature measurement systems



14-T, 100 mK



12-T, 300 mK

Three key features

- 1) Ultimate 2D limit
- 2) Strong electronic interaction
- 3) Large experimental flexibility

New physics
New discoveries
New applications