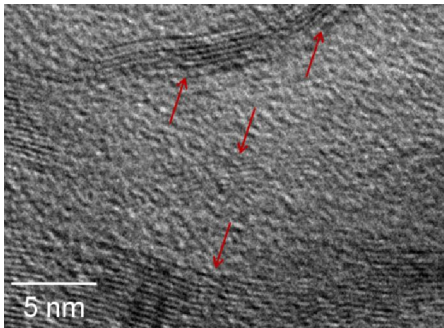


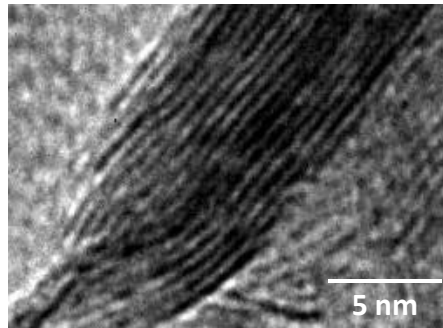
Why two-dimensional nanostructural materials ?

- Remarkable mechanical strength to improve the load bearing capacity
- High specific surface area
- Excellent thermal conductivity to dissipate the heat from the contact area
- Weak van der Waals interaction between their lamellae to reduce the friction

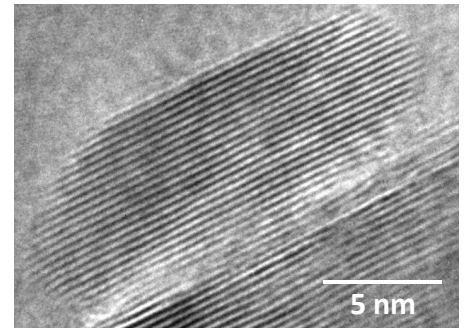
Targeted materials ?



Graphene



MoS₂ Nanosheets



h-BN Nanosheets

How to make them dispersible ?

- Preparation of 2D nanostructural materials: Top-down and Bottom-up approaches
- Grafting of task-specific moieties on 2D nanostructural materials
- Targeted Lubes: Synthetic and mineral lube base oils, fully formulated lubricants



Dispersion of Chemically Functionalized Graphene in engine oil (Dose: 0.04 mg.mL⁻¹) Till 30 days

Tribological Properties

