

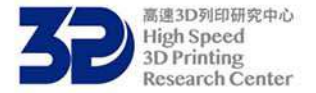


2022「中技社科技獎學金」

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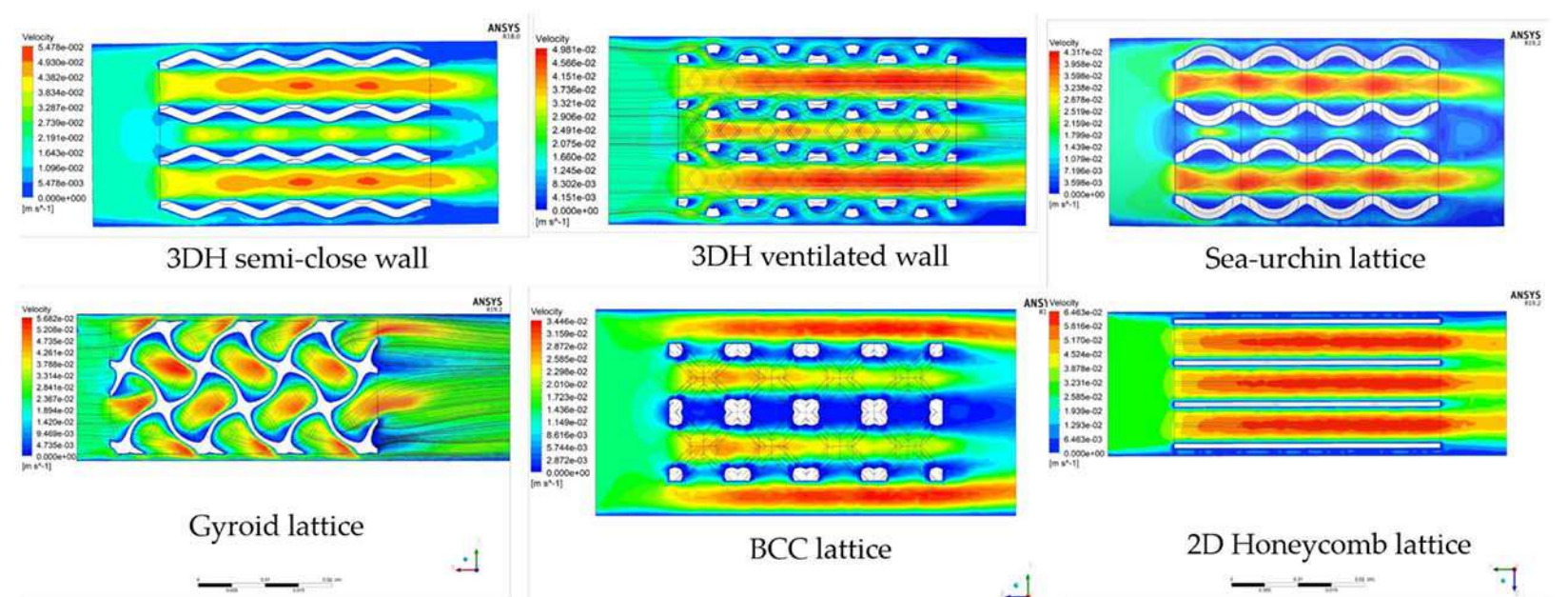
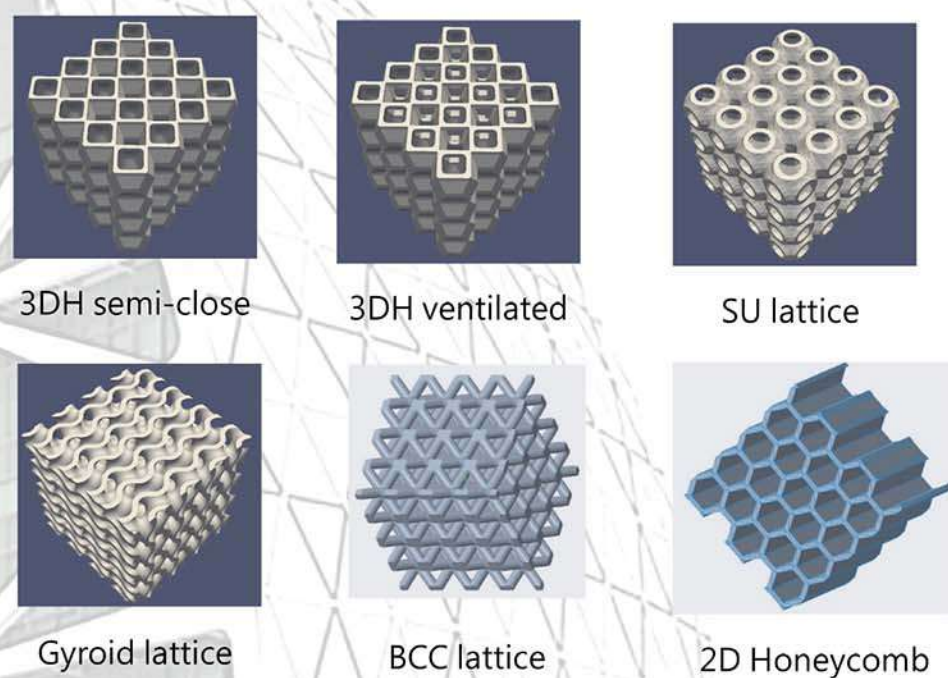
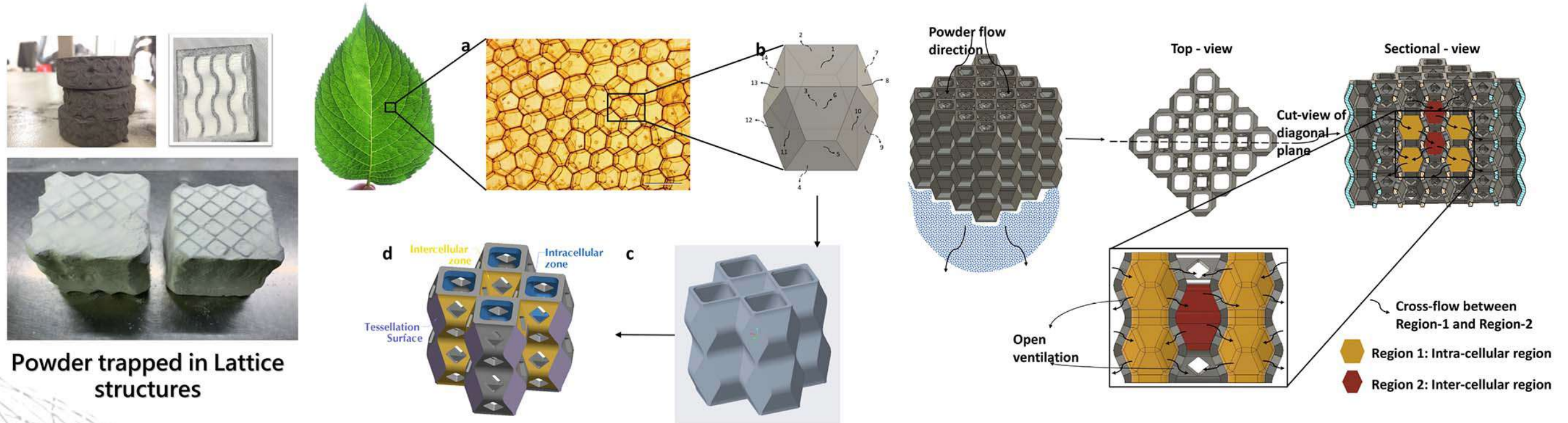
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Flow, Strength and Heat-transfer Analysis of Bio-inspired Lattice Structure Designed for Additive Manufacturing and Post-processing

- During the layer-wise selective fusion/curing of the powder material in PBF processes, the unfused/uncured powder gets "caked" and trapped inside the formed 3D parts.
- The removal of trapped powder can be more difficult for polymer powder based techniques (like SLS and MJF).



Future Applications:

1. Automation of post-processing powder removal in powder-bed AM technologies.
2. Cooling channels with ventilated lattice structure (Electronic devices, EV thermal management, Mold Design).
3. Insole design (Footwear industry).
4. Lattice structures in bio-reactors (Food Industry).
5. Vascularised lattice structures for scaffold designs (Bio-medical industry)

