



Sustainable Composites & Green Manufacturing: from Multiscale MPSP Mechanisms to AI-Empowered Natural Paradigms

ABOUT ME & RESEARCH INTERESTS

- Postdoctoral Fellow, HKUST (Collaborator: Prof. Jinglei YANG)
- PhD, Mechanical Engineering, HKUST (2026) (Supervisor: Prof. Jinglei YANG)
- MPhil, Aerospace Manufacturing Engineering, NUAU (2021) (Supervisor: Prof. Xiaozhong HAO, Prof. Yingguang LI)
- B.S., Industrial Design, NJAU (2018)

Doctoral Thesis (2026)

Towards Green Manufacturing of Thermoplastic Composites: Quantifying Material–Process–Structure–Property Relationships and Data-Driven Design.

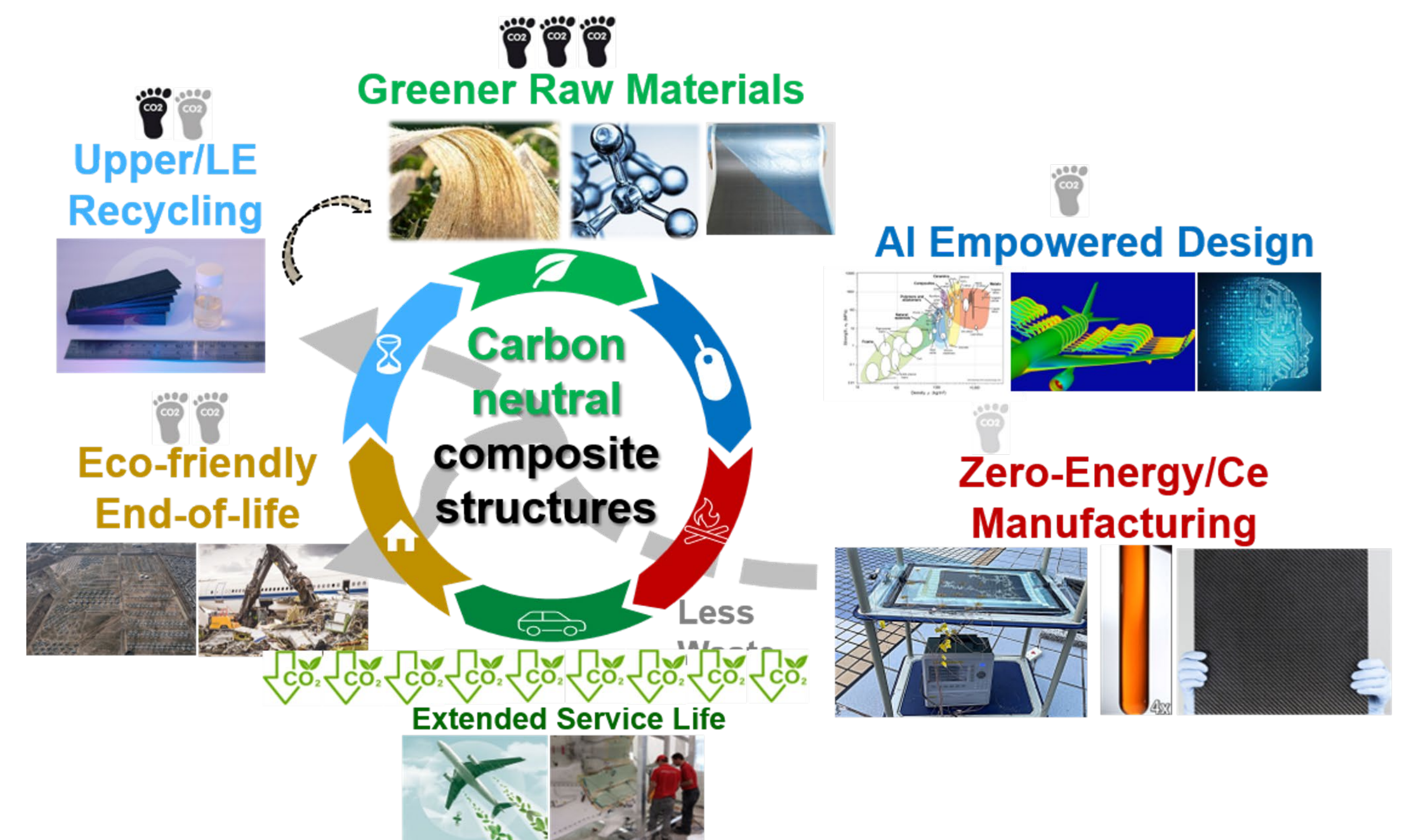
Research Interests

- Sustainable composites
- Green manufacturing
- Size effects
- AI4Comp

Research Focus

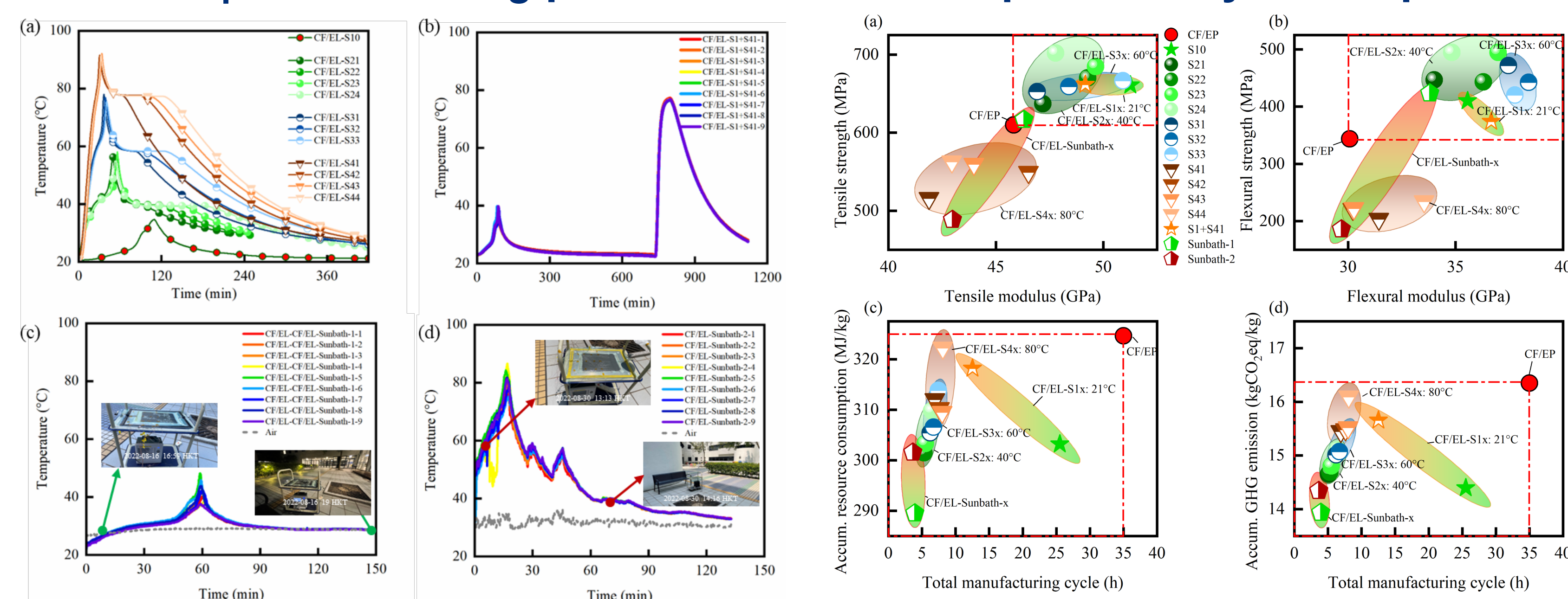
Temporospatial Material-Process-Structure-Property-Sustainability (M2PS) relationships within material lifecycles.

Research Vision

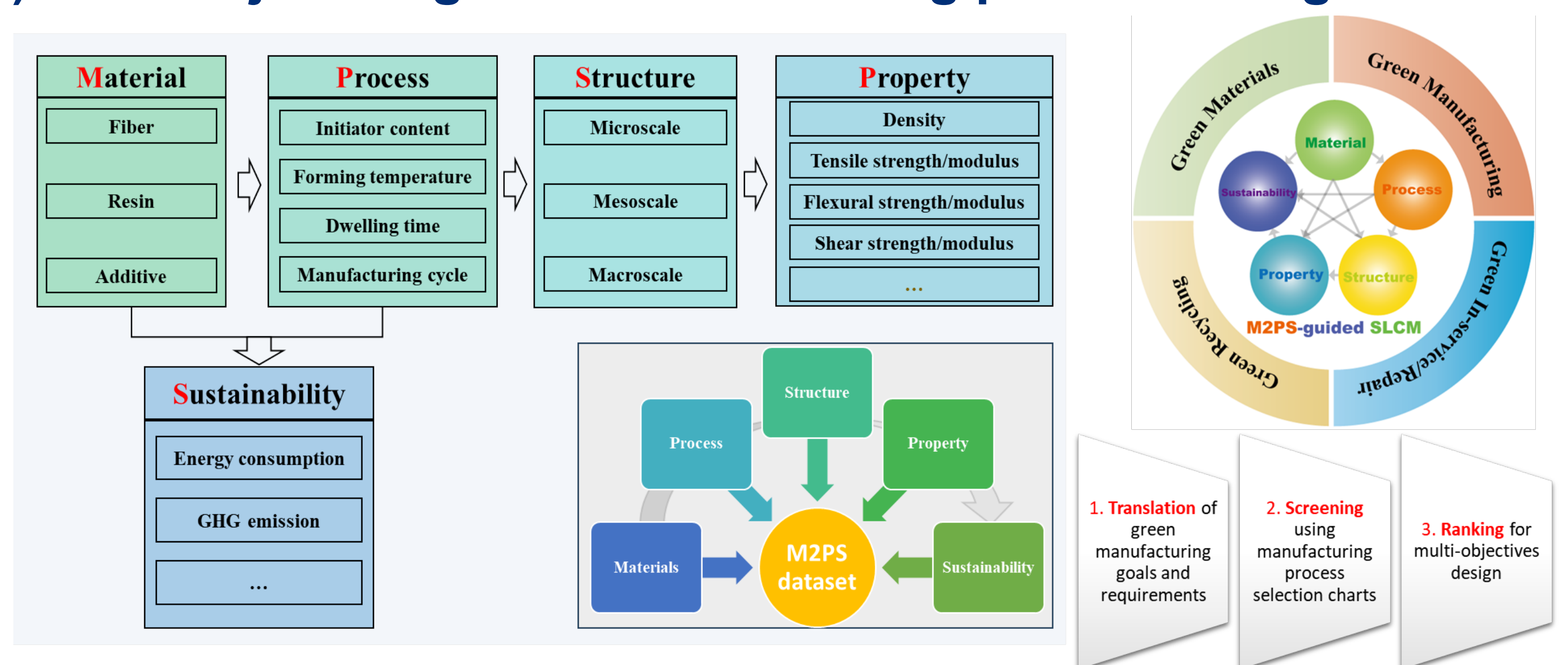


RESEARCH Outputs

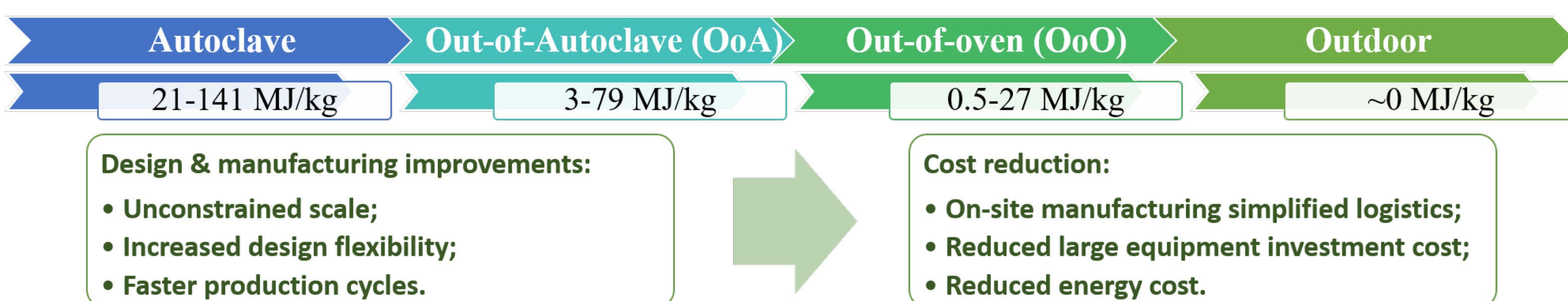
➤ Low-temperature curing processes for thermoplastic acrylic composites



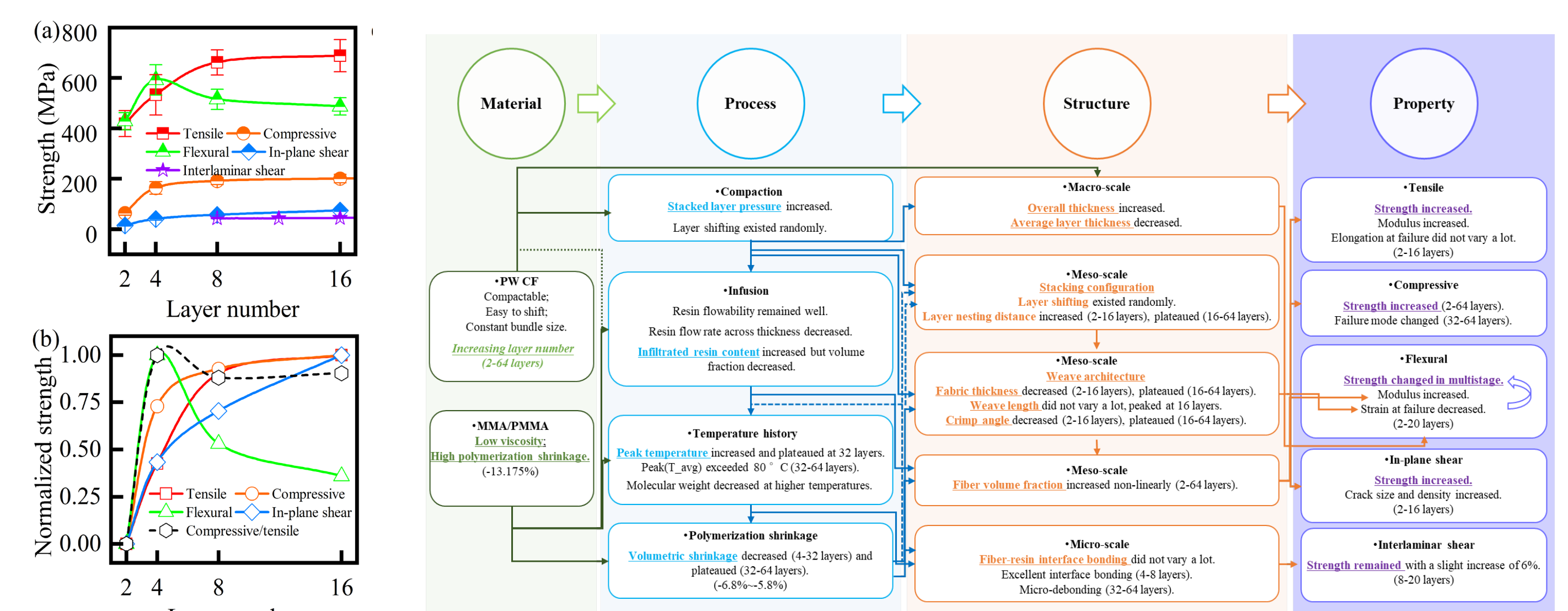
➤ (2) Multi-objective green manufacturing process design methodology.



➤ Pioneering outdoor natural manufacturing process for thermoplastic composites.



➤ (4) Unravelling the non-linear thickness-property relationships and the underlying MPSP-based mechanisms for acrylic resin composites.



SELECTED RESEARCH WORKS

Thickness effect on the mechanical properties of fiber reinforced polymer composites: a review
DOI: 10.1016/j.compositesa.2026.110259
Composites Part A, 2026

Effect of initiator content on polymerization behavior and mechanical performance of reactive thermoplastic acrylic resin and its composites
DOI: 10.1016/j.compositesa.2026.110177
Composites Part A, 2026

Unraveling non-linear thickness–property relationships in plain weave carbon fabric/acrylic resin composites
DOI: 10.1016/j.compositesa.2025.109184
Composites Part A, 2025

Green manufacturing process design for infusible acrylic resin composites: a data-guided life cycle management model incorporating material–process–property–energy–emission relationships
DOI: 10.1016/j.compositesa.2024.108146
Composites Part A, 2024

Temperature distribution analysis of carbon fiber reinforced polymer composites during self-resistance electric heating process
DOI: 10.1177/07316844211073482
Journal of Reinforced Plastics and Composites, 2022

Organizers

