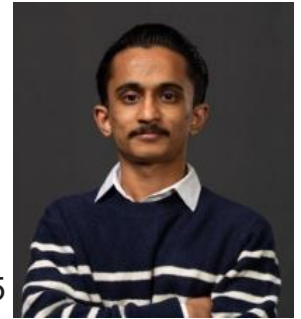


Experimental and numerical study of the interphase properties of bio-fibre/lignin-epoxy composites using a micromechanical approach

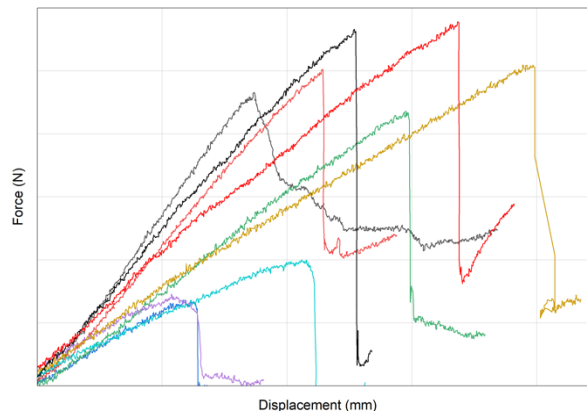
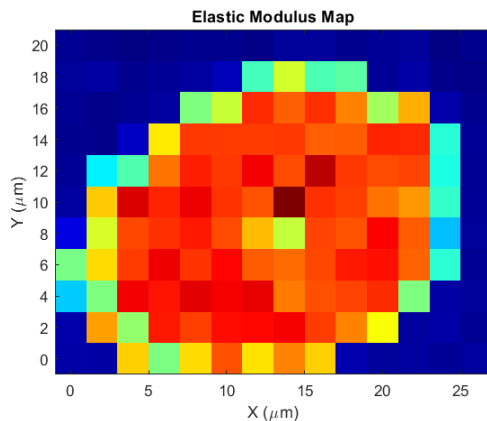
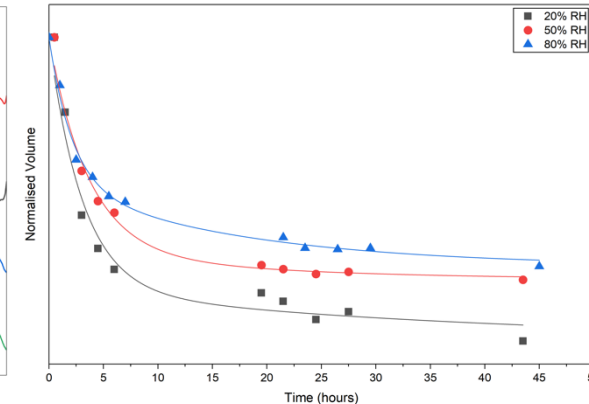
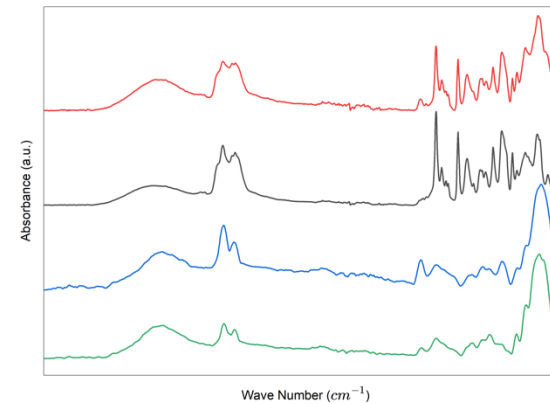
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- Started in Nov. 2025

Objectives

- Characterise the interface region between bio-fibre and lignin based epoxy resin and map the non-uniform mechanical properties and curing induced physiochemical phenomena-
 - Including the influence of moisture content and recyclability;
- Evaluate the interfacial and mechanical properties of plant fibre-reinforced epoxy composites using micromechanical models and numerical simulation.



Methods

- Correlative spectro-mechanical characterisation of fibre-matrix interface;
- Interfacial stress and curing analysis;
- Complete characterisation of elementary fibres to assess impact of recycling;
- Micromechanical FEM modelling.