Development of Fused Filament Fabrication (FFF) Equipment for Producing 3D Printing Filaments from Ramie Fibre (Boehmeria Nivea) and Polylactic Acid (PLA) Resin for Environmentally Friendly and Tough Structure Development.

Funded by the Ministry of Higher Education and Research, this three-year 20000 USD project aims to develop a tough and sustainable 3D printing filament made of Ramie fibre encapsulated by PLA.

There are 2 master students and 3 undergraduate students involved in this project.

The research title for the master students:

1. The effect of processing parameters on the mechanical properties of 3D printing filament made of Ramie/PLA.
2. Development of coating extrusion method to manufacture 3D printing filament made of Ramie/PLA.

The research title for the undergraduate students:

1. Variability in the mechanical properties of Ramie yarn with a different gauge length.
2. The effect of Alkaline concentration and temperature on the mechanical properties of Ramie yarn.
3. The effect of Alkaline concentration and temperature on the mechanical properties of Ramie fibre composite.