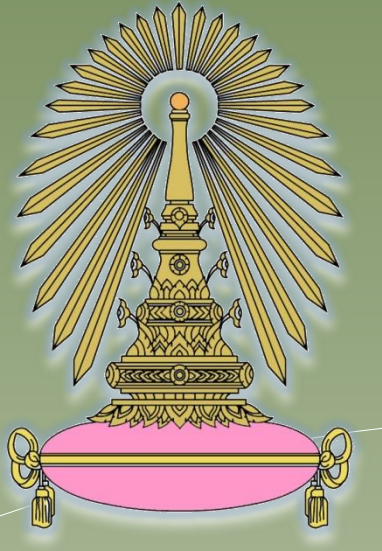


Green Polymer Chemical Technology Chulalongkorn University



Project Goal :

- ❖ To develop research and technology of rubbers and advanced plastics for applications in industrial sector.
- ❖ To be a reference on recent polymer technology for the academic and industrial sectors of the country and transfer knowledge and technology to society.

Objectives :

- ❖ To develop the green composites with improving properties for using in various applications.
- ❖ To develop the new composites with enhanced reinforcement efficiency for new rubber and plastic products.
- ❖ To develop the various techniques for saving energy and providing good properties of polymer products.



Rationale :

Polymer innovation leads to the improving quality of materials used in the plastic and rubber industries, including structural work - construction, automotive parts, resistant clay pipes and joints flexible, rubber coated wires, and so on. Green Polymer Research Group, Department of Chemical Technology is exploring new materials for such applications in an environmental perspective, such as the possibility of bringing back waste polymers (recycle), the use of natural materials and the energy saving for the production process in the rubber industry.

Research Themes :

- ❖ Hydrogenation of natural and synthetic rubbers.
- ❖ Improvement of mechanical and thermal properties of rubber vulcanizates.
- ❖ Nanotechnology for rubber: Nanoparticles and nanocomposites.
- ❖ Reinforcement of natural and synthetic rubber by natural filler.
- ❖ Synthesis of bio-based polymer and its properties.

Equipments :

- ❖ Universal testing machine
- ❖ Charpy impact tester
- ❖ Hardness tester
- ❖ Thermogravimetric analyzer
- ❖ Differential Scanning Calorimeter
- ❖ Size exclusion chromatography
- ❖ Dynamic mechanical analyzer
- ❖ Particle size analyzer

Collaborations :

- ❖ University of Waterloo, Canada
- ❖ Kyoto Institute of Technology, Japan
- ❖ Kyoto University, Japan

Research Members :

- ❖ Prof. Dr. Pattarapan PRASASSARAKICH
- ❖ Asst. Prof. Dr. Napida HINCHIRANAN
- ❖ Asst. Prof. Dr. Sirilux POOMPRADUB

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