

Project Title:

Development of Environmentally Benign Nanocomposite with Excellent Thermal Stability

Project Description:

The widespread applications of polymeric materials require the use of additives in order to satisfy safety regulatory standards regarding thermal stability. However, in recent years conventional additives are raising environmental and human health concerns, therefore require alternative materials that offer same level of performance. The goal of this project is to address this challenge by developing a new generation of environmentally benign additives with outstanding thermal stability properties. Objectives include: (i) to secure short-term and long-term stability of nanocomposite including homogeneous dispersion of additives into various polymer matrices, (ii) to characterize various new additives for their respective performance, (iii) to study combined synergic effect between multiple additives for improved overall performance. This project will involve various processing strategies, material science knowledge and characterization techniques to develop nanocomposites with desired properties.