

## Professor Dr. Patrick Theato

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### *“Non-Conventional Polymers for Energy Generation and Energy Storage”*



Chem&ChemEn



Properties of polymeric materials are inscribed in the chemical structure of the respective polymer. To enrich the pool of synthetically accessible polymers requires new developments in polymer syntheses. Over the years, we have introduced highly efficient post-polymerization modification protocols that allow the incorporation of multiple functional units onto a polymer chain. To address the increasing demands in energy generation and energy storage, we have been focusing on novel functional polymers, their syntheses and their processing. Three examples will be discussed. 1) Post-polymerization modification allows the synthesis of polymers that can be used as organic radical batteries. 2) Non-conventional synthesis of sulfur-containing polymers leads to solution processable cathode materials for lithium-sulfur batteries. 3) Nanopatterning of semi-conductive polymers lays the foundation for the mass-production of organic photovoltaic devices. In summary, “thinking outside the box” in polymer synthesis and processing can lead to new and promising approaches that can contribute to energy generation and energy storage.

**Date/Time: Sept. 25 (Fri.), 2015, 2:00pm – 4:00pm**

**Place: A2-308, Katsura Campus**

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