IUPAC MACRO 2026

28th – 31st July

51ST WORLD POLYMER CONGRESS

28th - 31st July 2026

Borneo Convention Centre Kuching, Sarawak, Malaysia

S05 POLYMER-BASED MATERIALS FOR NEXT-GENERATION ENERGY STORAGE

Solid-State Tech
Solid polymer electrolytes for leak-proof, safer batteries.

Advanced Components
Conductive polymers and binders that extend device lifespan.

Sustainability
Bio-based materials and circular recycling strategies for green energy.

Smart Design
Using AI and Nanotechnology to optimize charge speed and performance

Symposium Chair
Assoc Prof Dr Siti Aminah Mohd Noor, Malaysia

Submit your Abstracts Today!

Scan Here for more information

macro2026.org/symposium

secretariat@macro2026.org

Under the Auspices of: IUPAC International Union of Pure and Applied Chemistry

Organised by: Institut Kimia Malaysia

Supported by: Business Events Sarawak; Malaysia Convention & Exhibition Bureau; Meet in Malaysia BE Greater, Together.; Visit Malaysia 2026 Truly Asia

IUPAC MACRO 2026
28th – 31st July
51ST WORLD POLYMER CONGRESS

28th - 31st July 2026

Borneo Convention Centre Kuching, Sarawak, Malaysia

INTRODUCTION

The symposium Polymer-Based Materials for Next-Generation Energy Storage at MACRO 2026 focuses on recent advances in polymer science enabling efficient, safe, and sustainable energy storage technologies. With the rapid growth of renewable energy systems and electric mobility, demand for high-performance storage devices has intensified. Polymer-based materials are emerging as key enablers due to their tunable properties and versatility across batteries, supercapacitors, and hybrid energy storage platforms.

IUPAC MACRO 2026
28th – 31st July
51ST WORLD POLYMER CONGRESS

28th - 31st July 2026

Borneo Convention Centre Kuching, Sarawak, Malaysia

OBJECTIVES

- To provide a platform for researchers and industry practitioners to exchange knowledge on polymer-based materials for energy storage applications.
- To promote advances in the design, synthesis, and functionalization of polymers for batteries, supercapacitors, and hybrid devices.
- To encourage interdisciplinary collaboration among chemists, materials scientists, and engineers.
- To address key challenges such as ionic/electronic transport, electrochemical stability, scalability, and sustainability.
- To accelerate the translation of laboratory innovations into practical and commercial energy storage solutions.

IUPAC MACRO 2026
28th – 31st July
51ST WORLD POLYMER CONGRESS

28th - 31st July 2026

Borneo Convention Centre Kuching, Sarawak, Malaysia

HIGHLIGHTS

- Solid polymer electrolytes for next-generation solid-state batteries with improved safety and performance.
- Conductive polymers as high-performance electrode materials.
- Functional polymer binders and separators enhancing device stability and cycle life.
- Development of redox-active and bio-based polymers for sustainable energy storage systems.
- Interface engineering and nanostructured polymer architectures for improved charge transport.
- Emerging trends including AI/ML-assisted polymer design and recyclability for circular energy materials.