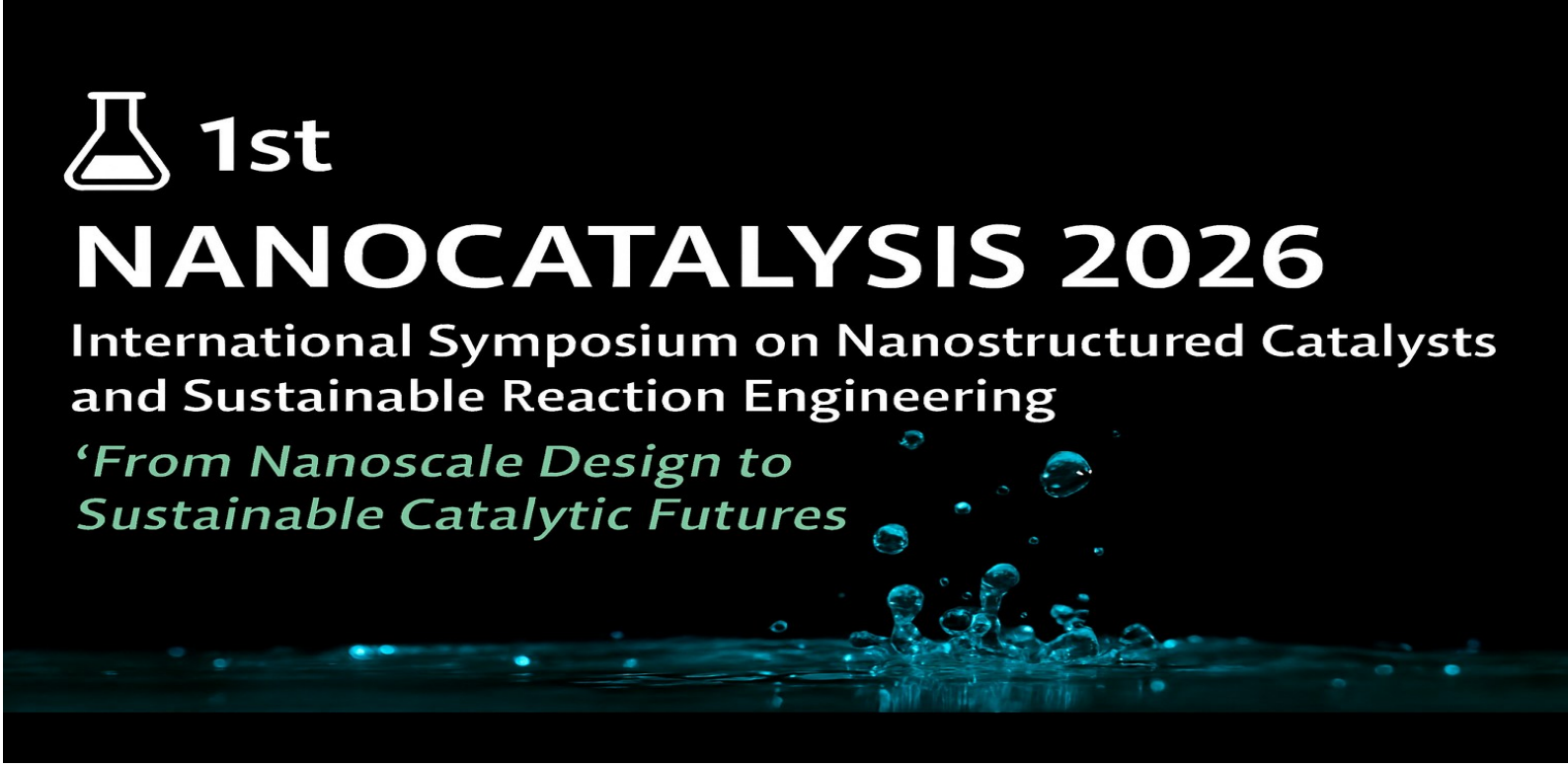

🚀 NanoCatalysis 2026

International Symposium on Nanostructured Catalysts and Sustainable Reaction Engineering

Theme: *"From Nanoscale Design to Sustainable Catalytic Futures"*

April 5-7, 2026

🎯 Symposium Overview

NanoCatalysis 2026 highlights frontier advances in nanostructured catalysts, reaction mechanisms, and catalytic process engineering. The symposium unites researchers in chemistry, materials science, and chemical engineering to explore how nanoscale structure, morphology, and electronic configuration determine catalytic activity, selectivity, and stability.

By integrating fundamental insights into industrial, environmental, and energy applications, the symposium aims to drive innovation toward green, sustainable, and circular catalytic technologies.

🧩 Symposium Tracks

🔬 Track 1 – Fundamentals and Design of Nanocatalysts

- Atomic and electronic structure of active sites
- Structure–property–performance relationships
- Alloy, core–shell, and single-atom catalysts (SACs)
- Heterojunctions and defect engineering in nanocatalysts

- In-situ and operando characterization (TEM, XPS, FTIR, Raman, XRD, EXAFS)

🌞 Track 2 – Photocatalysis and Electrocatalysis

- Nanostructured catalysts for HER & OER
- CO_2 reduction and nitrogen fixation on 2D & metal–oxide catalysts
- Photothermal & plasmonic nanocatalysts
- Electrocatalysts for fuel cells and metal–air batteries
- Photocatalytic degradation of pollutants & dyes

⚗️ Track 3 – Heterogeneous Catalysis and Reaction Mechanisms

- Zeolites, MOFs & hybrid porous nanomaterials
- Supported metal nanoparticles & oxides for fine chemicals synthesis
- Reaction pathways and nanoscale kinetic modeling
- Catalyst–support interactions & sintering control
- Reactor engineering for nanocatalytic systems

♻️ Track 4 – Green and Sustainable Catalysis

- Biomass conversion & waste-to-value nanocatalysts
- CO_2 capture, utilization & storage (CCUS)
- Water splitting, ammonia synthesis & methanol reforming
- Solvent-free & low-temperature catalysis
- Nanocatalysts for environmental remediation

🧠 Track 5 – Computational and Data-Driven Catalysis

- DFT & molecular dynamics for catalyst design
- Machine learning for reaction prediction & descriptor discovery
- Microkinetic & multiscale reaction simulations
- AI-integrated in-situ catalytic experimentation
- Digital twins & data-driven optimization in catalysis