

Distinguished Speaker Series



Advancing Catalysis Science for Sustainable Chemicals and Energy

Prof Javier Pérez-Ramírez

ETH Zurich and NCCR Catalysis, Switzerland

Abstract

Climate change, fossil-resource dependence, and the persistence of a linear carbon economy demand a transformation of chemicals and energy production. My research addresses this challenge by connecting chemistry across scales, from atomically-precise catalysts to technologies for cleaner and more sustainable manufacturing. I will show how catalysis can drive mission-oriented advances through an interdisciplinary approach integrating catalyst design, reaction engineering, data science, and sustainability metrics. I will also discuss what it takes to translate fundamental discoveries into deployable technologies through collaboration across academia, industry, and the broader innovation ecosystem. Ultimately, sustainable chemical transformation requires molecular precision, systems thinking, and a focus on value creation from the atomic to the planetary scale.



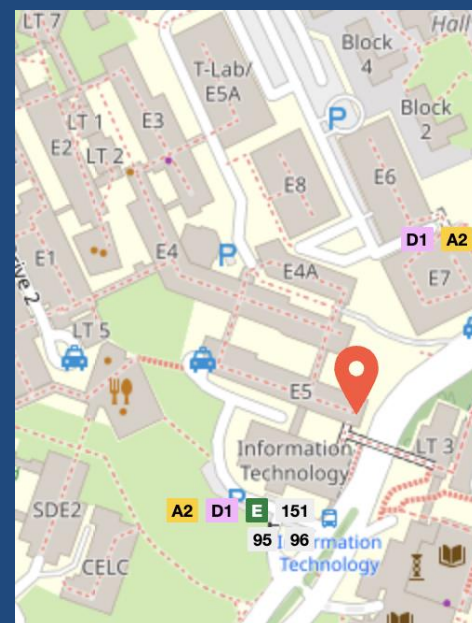
27 AUG 2026 (Thursday)



10:00 am to 11:00 am



Blk E5, Engineering Drive
4, #02-32, S117585



Biography

Javier Pérez-Ramírez FRSC is Professor of Catalysis Engineering at ETH Zurich since 2010. He also holds the ExxonMobil Chair as visiting professor at the National University of Singapore. His research pioneers atom-to-planet design of circular technologies by integrating catalysis engineering with sustainability metrics. He founded and has directed since 2020 NCCR Catalysis, the Swiss Centre of Competence in Research devoted to enabling carbon-neutral chemicals across the value chain through catalytic innovation. Since 2023, he has served as Chair of the Editorial Board of Green Chemistry, the Royal Society of Chemistry's flagship journal in the field.