Annual Belgian–Dutch Electrochemistry Symposium (BD-ElChem 2025)

Theme: Challenges in Upscaling Electrochemical Processes

Date & Venue: 7 November 2025, Hof van Liere, University of Antwerp (Belgium)

Organisers: Prof. Tom Breugelmans (UAntwerp), Prof. Jouke Dykstra (WUR), Dr. Luis F. Leon-Fernandez (UAntwerp)

The Annual Belgian–Dutch Electrochemistry Symposium (BD-ElChem 2025) took place on 7 November 2025 at the Hof van Liere, University of Antwerp. Framed around "Challenges in Upscaling Electrochemical Processes," the program emphasized how to translate laboratory advances into robust, scalable electrochemical technologies and reactor concepts.

Keynote talks were spaced throughout the day and set the tone for each block: Prof. Elias Klemm (University of Stuttgart, Germany) discussed pathways for acidic CO_2 electrolysis to liquid products; Prof. Thomas Turek (Clausthal University of Technology, Germany) reviewed recent developments in alkaline membrane water electrolysis; and Prof. Ruud Kortlever (Delft University of Technology, The Netherlands) addressed process-level hurdles in advancing CO_2 electrolysis toward industrial relevance. Contributed talks—delivered by researchers from universities and institutes across Belgium and the Netherlands—complemented these themes, covering conductivity effects in electrocatalysts for CO_2-to-formate, electrochemical amine regeneration for CO_2 capture, delayed copper restructuring under CO_2-RR operating conditions, carbonaceous electrodes for redox-flow batteries from fundamentals to manufacturing, cathodic corrosion of platinum, and nanostructuring strategies for macroscale performance gains.

Discussions repeatedly focused on durability and degradation, local reaction environments and mass transport, and the need to couple materials discovery with cell and reactor engineering. The coffee breaks and closing reception enabled active networking between Belgian and Dutch research groups, encouraging collaborations.

The meeting was sponsored by the International Society of Electrochemistry and supported by industry partners, with on-site displays alongside the scientific sessions.