INTERNATIONAL SOLVAY INSTITUTES BRUSSELS

SOLVAY COLLOQUIUM

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Electrolyte effects on kinetics of water splitting

The electrocatalytic hydrogen and oxygen evolution reactions are the cornerstone reactions of water electrolysis. I will discuss recent advances from my group in how the electrolyte composition determines the rate of these reactions. This complex interplay between electrode and electrolyte is currently still far from being completely understood. For the hydrogen evolution reaction (HER), cations play a key role in alkaline media in promoting or inhibiting the rate-determining step of HER. For the oxygen evolution reaction (OER) on NiFe-oxyhydroxide catalysts, cations have a strong effect on the non-kinetic contribution to the OER rate, suggesting that cations influence the accessibility of the active sites inside the layered oxyhydroxide. Finally, the electrolyte composition can have a major influence on bubble dynamics at high current densities, for both reactions.

TUESDAY 6 OCTOBER 2026 at 4:00 P.M.

COFFEE AND TEA WILL BE SERVED AT 3:45 P.M IN FRONT OF THE VENUE

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5th Floor - Solvay Room

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