



SEMINÁRIO DIA 17/09/2021

Sala de Web Conferência – 14 horas

"On the electrochemistry driven by plasmonics of nanostructured materials"

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Abstract:

The incorporation of plasmonic properties recently emerged as an advanced strategy for achieving high-performance catalysis. The hot carriers and near-field enhancement induced by localized surface plasmon resonance (LSPR) excitation are the key parameters that are responsible for the enhanced performance. Thus, the logical combination of the plasmonic nanostructures and electrocatalytic materials can be an effective strategy for further widening application of the plasmonic effect. This seminar provides a concise overview of the fundamental principles of LSPR; the mechanism of plasmon enhanced electrocatalysis; alternative design methods of plasmonic nanomaterials for various catalytic systems; and recent progress in plasmon-mediated electrocatalysis for the production of energy, including electrochemical conversion of different feedstocks into fuels and some model electrochemical reactions. This idea is also to shed light on the areas where major advancements are required to further improve the field of plasmon-mediated electrocatalysis to achieve a major paradigm shift toward a sustainable future.