



VIRTUAL SEMINAR

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Anodic oxidation: a synthesis process with vast potential for materials processing and applications

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New materials in the form of immobilized nanostructured films are gaining in importance for catalytic applications in energy conversion, water and air purification and sensory applications. All these applications require firmly immobilized catalyst film with electrically conductive substrate. This is why anodic oxidation is the process of choice since it enables firm structural ingrowth of oxide heterostructures with metallic conductive substrate. Furthermore, anodic oxidation can be used to anodize a wide range of metals/alloys in different forms thus yielding many different oxide films. The seminar will present the basics of anodic oxidation process and various fields of catalytic application which we have already demonstrated using thus obtained oxide films. Furthermore, a new idea for the preparation of porous immobilized heterostructure films by means of anodic oxidation of high entropy alloys (HEA) will also be explored. Since the process of anodic oxidation requires exceptional control of anodic oxidation conditions and real-time measurements of a large number of parameters, we intend to implement fully automated and robotized anodic oxidation process.

Kindly invited.