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Nanostructured Electrochemical Devices

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Message from the Guest Editor

Nanomaterials are very promising for enhancing device performances for sensing, sustainable energy production, and energy conversion and storage, as extensively reported in the literature. In this field, one of the most severe challenges is to find suitable methods for fabricating nanomaterials. Over the years, numerous preparation methods have been proposed in the literature, but not all of them are easily scalable and economically advantageous for industrial application. In this context, electrochemical deposition in a template is a facile method for fabricating either two- or one-dimensional nanostructured materials because it allows easily adjusting the fundamental parameters controlling their final features. In addition, electrochemical processes are usually cheap and environmentally friendly, and they can be easily scaled up from lab to industrial level. For these reasons, different electrodeposition methods were studied for the synthesis of different types of nanomaterials for application in electrochemical sensing, in batteries (lead–acid, lithium–ion, and so on), in solar cells, and in electrochemical water splitting.

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Message from the Editor-in-Chief

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