



Šola za znanosti o okolju vabi

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Nano-Scale Materials for Conversion and Storage of Sustainable Energy

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The introduction of non-polluting energy concepts heavily relies on the efficient utilization of, amongst others, solar, wind, and geothermal energy. Solar energy can be converted into electrical energy using photovoltaic (PV) solar cells. PV electrical energy can be used directly, or can be stored in a rechargeable battery system. Rechargeable lithium-ion batteries are generally acknowledged for their superior energy density and it is anticipated that they will become one of the most important electrochemical energy storage systems within the next decades. PV electrical energy can be stored also in the form of hydrogen via electrolysis of water. This sustainable hydrogen can be stored in hydride forming metal or alloys, and on demand electrochemically converted into electricity in a fuel cell.

In this lecture selected nano-scale materials for 3D solar cells, rechargeable lithium-ion batteries, and nano-scale composites and gas hydrates for hydrogen storage will be presented.

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Vljudno vabljeni!