

Victor S. Batista

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Senior Editor of
The Journal of Physical Chemistry

Professor Batista has pioneered the development of rigorous and practical computational methods that simulate quantum mechanical processes in complex systems, with applied studies of photochemical and electrochemical processes.

Free and Open to the Public

“Converting Water into Fuel: Natural and Artificial Photosynthesis”

Thursday, Nov. 30, 2017

Lecture:

5:00-6:15 pm, Goergen Hall 101

Reception & Poster Session:

6:15-7:30 pm, Munnerlyn Atrium,
Goergen Hall

This talk will summarize recent advances and outstanding challenges in the scientific journey towards understanding natural and artificial photosynthesis at the molecular level. The development of cheap, robust, and efficient photocatalytic cells for solar-driven water splitting would allow the sustainable production of fuel (hydrogen, H₂) from renewable resources. The underlying photocatalytic process generates environmentally benign fuel from water by using solar light to extract cheap electrons and protons from a renewable resource.

The development of such photocatalytic solar cells based on inexpensive materials has been a long-standing challenge in photoelectrochemistry research. However, progress in the field has been hindered by a lack of fundamental understanding of what limits the efficiency of photocatalytic processes, which are analogous to those responsible for photosynthesis in green leaves. By investigating both natural and artificial photosynthetic systems, Prof. Batista has made important contributions to these important fields.



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