



**Ben-Gurion University of the Negev  
Blaustein Institutes for Desert Research**

The Swiss Institute for Dryland Environmental and Energy Research  
Alexandre Yersin Department of Solar Energy and Environmental Physics

## **The Hidden Electrical information in XPS Compositional Analyses: Why, How and What?**

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Abstract:

XPS is a technique used extensively for >4 decades in compositional analyses of surfaces. Yet, an important aspect of the XPS capabilities was poorly exploited: Under ionizing radiation, electrons emitted from the surface carry rich information, including a term of the local potentials at sites of emission. Thus, with no top contact, it is possible to extract diverse electrical information, which in many cases turns out to propose sensitivity that is not just competitive with standard electrical measurements, but sometimes even exceeds them. These capabilities were developed at Weizmann into a systematic methodology termed Chemically Resolved Electrical Measurements (CREM), proven to open new dimensions in the field of photoelectron spectroscopy.

In this talk I will describe principles of the CREM technique, using examples from the hard core of microelectronics, as well as nanoparticles in the field of photovoltaics and, also, the unique information revealed in studies of bio-related organic molecules.

**Date & Location:**

**Tuesday, November 10, 2020, 11:00**

*Zoom meeting*