

## Séminaire

Le lundi 11 septembre 2023, 13h

ARC 233 et [MS Teams](#)

\*Le séminaire se déroulera en anglais.\*

## Seminar

Monday, September 11, 2023, 1 p.m.

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### From Mott-Schottky to Mott-Gurney: Challenges in the electrical response of emerging photovoltaic devices

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**Abstract:** Emerging photovoltaic (ePV) technologies, such as organics and metal halide perovskite solar cells have continuously increased their performance development over the last decade with major success not only in terms of high-power conversion efficiency but also towards versatility in flexible and transparent applications. This progress can be monitored, for instance, in the [emerging-pv.org](http://emerging-pv.org) website & database and their annual [ePV reports](#). However, despite significant advancement, the working mechanisms of ePVs are still subject of debate and many efforts are particularly dedicated to understanding their electrical response. In this presentation, the effects of intrinsic electron conductivity and mobile ion migration in the absorber materials are discussed. Particularly, the validity and recommended procedures for capacitive methods and space-charge-limited current experiments are considered in comparison with more traditional photovoltaic technologies for assessing doping densities, trap concentrations and electron mobilities in ePV semiconductor materials.



**Bio:** Osbel Almora graduated in physics from the University of Havana, Cuba (2013), obtained a master's degree in applied physics from the Universitat Jaume I of Castelló, Spain (2016), and received his Dr-Ing. degree from the Friedrich-Alexander Universität Erlangen-Nürnberg, Germany (2020). He is currently a Juan de la Cierva postdoctoral fellow at the Universitat Rovira i Virgili of Tarragona, Spain. His main research interests are the optoelectronic characterization and modeling of semiconductor materials and devices, with particular focus on photovoltaics. He is a starting member of the [emerging-pv.org](http://emerging-pv.org) initiative.

TOP-SET est un programme de formation FONCER du CRSNG en puissance optoélectronique ayant pour but de façonner une cohorte de personnel hautement qualifié détenant des connaissances approfondies en systèmes optoélectroniques pour joindre les rangs d'équipes de recherche et développement.

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