

# Euro-TMCS II: Theory, Modelling and Computational Methods for Semiconductors

Tyndall National Institute and University College Cork, Ireland

Wednesday 7<sup>th</sup> to Friday 9<sup>th</sup> December 2016

First Announcement

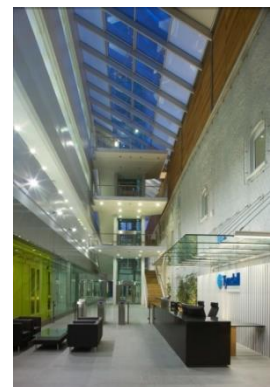
Modelling, theory and the use of sophisticated computational tools can represent a substantial cost and time saving for R&D. The development of high speed computer architectures now allows the widespread use of accurate methods for calculating the structural, thermodynamic, vibrational, electronic and optical properties of semiconductors and their heterostructures. This workshop, sponsored by the Institute of Physics, the EU project [DEEPEN](#) and the COST Action [MultiscaleSolar](#), will run for three days, with the objective of bringing together leading experts in the field of theory of group IV, III-V and wider semiconductors together with postdocs and students in their early stages who will benefit from an introduction to a very vast field at this influential point in their careers. **The introductory day (7<sup>th</sup> December) is a training event intended specifically for PhD students and early career researchers, with high level lectures on the most used methodologies in the field.**

Abstract submission will open via <http://www.nmp-deepen.eu/euro-tmcs-ii> in July, with **an abstract submission deadline of 16<sup>th</sup> September 2016.**



## Topics will include but are not limited to:

- Density Functional Theory Calculations
- Tight Binding, Pseudopotential and Effective Mass Models for Electronic Structure
- Empirical Potential Methods for Calculation of Structural Properties
- Multi-scale Approaches
- Dilute Magnetic Semiconductors
- 2-D systems
- Photonic Structures
- Optical and Transport Properties of Quantum Nanostructures including Colloidals and Nanotubes
- Plasmonics
- Electronic and Photonic Devices
- System demands and applications



A list of **confirmed invited speakers** includes:

- **Thierry Amand** (INSA Toulouse) “Exciton dynamics and spin-orbit effects in atomically thin TMDC and their alloys”
- **Shelly Moram** (Imperial College) “Design and Development of new multifunctional materials”
- **Patrick Rinke** (Aalto University) “Charge transfer at oxide/organic interfaces”
- **Mark van Schilfgaarde** (King’s College London) “Hybrid Perovskites”
- **Yuh-Renn Wu** (National Taiwan University) “Challenges in Optoelectronic Device Simulation”

In addition to the technical programme there will be ample opportunity to see Cork and its surroundings. We look forward to welcoming you to Cork.

Eoin O’Reilly   Stefan Schulz   Stanko Tomic   (Conference Co-Chairs)

For any further information please contact Janine Galvin ([janine.galvin@tyndall.ie](mailto:janine.galvin@tyndall.ie))