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## **S E M I N A R**

on

### **Semiconductor Physics and Nanotechnology**

**Mo, 14.03.2022, 11:15 Uhr, (Seminar via Zoom)**

#### **“Interfaces between organic semiconductors and 2D materials: current status and future prospective”**

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University of Nova Gorica, Slovenia.

Organic semiconductors (OS) exhibit high photoconductivity, photochromic effect, mixed ionic-electronic conductivity and other phenomena. Hence, OS represent an appealing active material for novel electronic devices. However, to interface OS with electrodes, different methods have been used. The most common are metal electrodes, prepared by thermal evaporation. Often, metals, which are used for electrodes, chemically react with OS and change their properties. In addition, the contact between metal electrodes and OS represents a charge transport barrier, which forms due to non-optimal alignment of electronic structure at the interface. Recent research of 2D materials demonstrated that graphene exhibits better alignment of electronic levels with OS in terms of charge transport. This seminar will review and compare different architectures of graphene/OS interfaces: bottom-contacts, top-contacts, quasi side-contacts and side-contacts. The latter architecture has high potential to be used in future electronic devices, but requires a bottom-top approach. To prepare side-contacts, OS molecules are epitaxially grown from the edges of graphene, which is a sensitive process and requires the study of molecular dynamics at the edges of 2D materials. Besides this, the seminar talk will present few future prospects of experimental approaches to tackle the physics of side-contacts between OS and graphene.

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#### **Zoom – Link:**

<https://zoom.us/j/98702512127?pwd=bFRBaUpLT0JJeklDeHBrczZuRnlEQT09>

Meeting-ID: 987 0251 2127

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