

**Polymer Institute SAS**  
**Dúbravská cesta 9**  
**845 41 Bratislava 45, Slovakia**  
<http://www.polymer.sav.sk/>

*PhD positions in Department of Composite materials*

*Title: New polymeric composites with MXenes-based fillers*

The aim of Ph.D. thesis will be the preparation of new types of electrically conductive polymer composites. Transparent polymeric matrices will be mixed with a new type of materials, MXenes, as fillers providing electrical conductivity of prepared composites. MXenes are 2D inorganic materials, which were discovered in 2011 at Drexel University in Philadelphia, USA, and have interesting features for many applications. Prepared composites can be potentially used in solar cells, conductive textiles or sensors. The first part of work will be focused on selection suitable polymers and preparation of composites by melt mixing. In the next step, composites with different methods will be prepared for comparison. Prepared materials will be characterized by different techniques, focused on testing of mechanical and electrical properties.

PhD thesis will be a part of international project H2020 – NANO2DAY and part of the Ph.D. students work will be done in cooperation with project partners, institutes and universities abroad, where he/she will stay few months.

**Profile**

We are looking for an enthusiastic, creative and communicative researcher with a degree in Chemistry, Engineering, Materials Engineering, Materials Science, or equivalent. The candidate should have a strong interest in performing scientific research

**Offer**

**Two positions are open.**

The successful candidate will receive:

- a competitive scholarship for a period of 4 years and a PhD degree in Macromolecular chemistry if successful;
- PhD student monthly scholarship is around EUR 700 (free of tax), which after the completion of the dissertation examination is increased by an additional EUR 100 after ca 18 months of study.
- opportunity to participate in research collaborations and international conferences;
- full access to research facilities of testing equipment of the institute
- students have possibility to stay in SAS Hotel with monthly rate 80 Euro per room.

**Applying**

Please submit the following document in English

- CV
- Summary of your skills
- Description of your research interests
- Transcripts of records
- Contact details of possible referees

Submission deadline: **July 31, 2018**

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