

## Postdoctoral Research Fellow

### High resolution imaging of conjugated polymers: a powerful tool for polymer analytics

We are seeking to recruit a Postdoctoral Research Fellow to join a multidisciplinary team working on an exciting and highly innovative research project. The Fellowship will be part of the Warwick Interdisciplinary Research Leadership programme (WIRL-COFUND), partly funded by the European Union through the Marie Skłodowska Curie COFUND scheme. The Fellowships will provide the opportunity for outstanding early career researchers from around the world to spend two years at Warwick, developing their independent research and undertaking training which will help them develop into the next generation of research leaders.

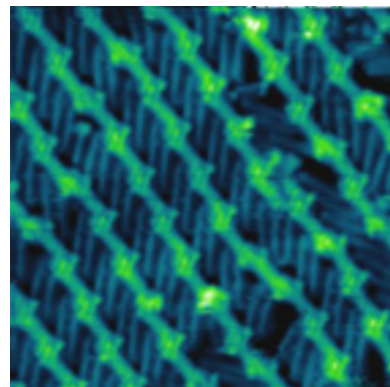
#### Project Description

A major and still unresolved problem in polymer science, is how to precisely and reliably characterise the monomeric sequence in a polymer and the role and frequency of defects. This lack of information prevents the direct comparison between materials and therefore the construction of accurate structure-property relationships.

In this project a transformative and highly innovative approach to this challenge will be pursued, based on the ultimate sub-molecular scale resolution of scanning probe microscopy. By exploiting recent advances in the Costantini lab, where electrospray vacuum deposition was combined with high-resolution scanning tunnelling microscopy, this project aims at achieving the ambitious goal to sequence a polymer structure with our own eyes and to characterise its structural and electronic properties with sub-monomeric precision.

The successful Fellow will have the opportunity to work with the best groups worldwide in conjugated polymer synthesis and with the major industrial players in the field.

These studies are of high interest for a wide area of nanoscience and technology and the results are expected to lead to a number of high impact scientific publications.



#### Eligibility

Applicants of all nationalities are eligible to apply but must not have resided or carried out their main activity in the United Kingdom for more than 12 months in the 3 years immediately prior to 2nd May 2018.

Applicants should also be in possession of a PhD or 4 years equivalent research experience.

The ideal candidate should be highly motivated and have a strong work ethic. S/he should have the ability to think creatively and to work both independently and as part of a team on interdisciplinary research programmes. Moreover, s/he should have proven experience in scanning probe microscopy and in vacuum technology and surface science.

#### How to apply

Any informal enquiries relating to the project, suitability and application procedure should be emailed to: [g.costantini@warwick.ac.uk](mailto:g.costantini@warwick.ac.uk).

#### Deadlines

The deadline for the WIRL-COFUND applications is **30<sup>th</sup> November 2017** but enough time should be planned for discussing and preparing the application in collaboration with Professor Costantini. Candidates may be called for interview at the **beginning of May 2018**. The Fellowship will start in **September 2018**.