21 months PostDoctoral Fellow (PDF) Position
Immediate Opening, Grenoble, France

Directed Self-Assembly (DSA) of Functional Block Copolymers: Multiscale structure/property correlations

Context & Research

A PostDoctoral Fellow (PDF) position devoted to *multiscale structure/property correlation within thin film of DSA-processed functional Block CoPolymers (BCPs)* is immediately available as a part of the French National Research Agency (ANR)-supported (ANR-10-LABX-51-01) LANEF and Grenoble Nanosciences Foundation "*Chaire d'excellence*" project "**DiSABIoC**" granted (03/17/2017-12/31/2019) to **Prof. P. F. Nealey** (http://ime.uchicago.edu/nealey_lab/people/paul_nealey/) and coordinated by Dr. R. Borsali (CERMAV), Dr. P. Rannou (SyMMES) and Dr. R. Tiron (CEA-Leti) in Grenoble (France). The research will be performed in collaboration with researchers of the CERMAV Lab. [UPR5301-CERMAV (CNRS/Univ. Grenoble Alpes)], the SyMMES Lab. [UMR5819-SyMMES (CEA/CNRS/Univ. Grenoble Alpes)], and CEA-Leti. *The position is funded for 21 months* (with possible extension) by Labex-Lanef and the Grenoble Nanosciences Foundation. *It can start any time in 2017*.

DiSABIoC is a *high risk high gain* multidisciplinary (chemistry, physics, nano-science/technology) 3 years collaborative research project aiming at originally addressing two societal and technological applied & basic research-oriented grand challenges: i) Ultimate Nanoelectronics and ii) Safer by design & more efficient electrochemical energy storage solutions. This 21 months PDF position deals with **D**irected **S**elf-**A**ssembly (**DSA**) of high χ/low N new class of BCP electrolytes, including carbohydrates-based ones, to address the most fundamental questions concerning ion transport in charged polymer systems and to master the (quasi)defect-free ordering of (soft) matter into a handful of morphologies and functions up to the 300 mm wafer scale with pattern resolution down sub-10 nm range. *He/She will focus his/her work on mastering the processing and advanced (structural and Ion/e$^-$ transport) characterizations of functional BCP thin films*. To do so, the PDF will benefit from *state-of-the-art* processing and characterization platforms available within CERMAV, SyMMES and CEA-Leti labs to develop her/his research on directed self-assembled functional BCPs.

Candidate's profile

The PDF candidate should preferably hold a PhD degree in Materials Science, Polymer Physics, or Polymer Chemistry dealing with functional soft matter, a previous experience in the synthesis and/or multiscale structure (SAXS/WAXD)/property (Ionic or electronic conductivity) correlations of functional (*i.e.* electronically/ionically conducting) BCP being especially appreciated. We will give preference to candidates with less than three years' experience since their PhD degree. A demonstrated ability to perform independent work, to work across borders of chemistry and physics of functional soft maters, and excellent communication and writing (English) skills are equally important criteria with respect to academic qualifications and scientific merit for the selection of the PDF. The PDF position is immediately available. The fellowship consists in a competitive package (CEA salary indexed on previous experience), including a (French) health insurance and medicare included sub-package.

e-Application: Application file, selection process, and timeline

Applicants should provide an e-application file combining a curriculum vitae, a letter of motivation, a summary of their research experience, and a list of publications. A single pdf should be addressed both to **Dr. R. Borsali**: **borsali@cermav.cnrs.fr** & **Dr. P. Rannou**: **patrice.rannou@cea.fr**. The applicants should arrange that at least two reference letters are sent directly to the contact address above. There is no deadline for the application. We encourage candidates to apply as soon as possible. *The search for candidates will continue until the position is filled*.

Chaire d'Excellence LANEF/Fondation Nanosciences **DiSABIoC**
Prof. Paul F. Nealey (UGA/U. Chicago/ANL)
Directed **S**elf-**A**ssembly of **Blo**ck **C**opolymers:
Towards Smart Function Surfaces for Nanoelectronics, Energy and Biology

http://www.grenoble-lanef.fr/ & http://www.fondation-nanosciences.fr/spip.php?rubrique13&lang=en