



Applications are invited for the following a PhD studentship for the following project:

Sustainable Polymer Thin Films

Position

- The PhD research project will investigate the development and application of nano- and micro-patterned biopolymer thin-films.
- The PhD student will work under the direct supervision of Prof. Justin Holmes, Dr. Eoin Flynn (both School of Chemistry and the Environmental Research Institute, University College Cork (UCC)) and Dr. Paul Young (School of Biochemistry, UCC)
- The position will be based primarily in the Environmental Research Institute at UCC.

Concept

- Sustainable materials and processes are those which can be produced without depleting precious non-renewable resources and without disrupting the established steady-state equilibrium of the environment. The replacement of unsustainable petrochemicals with 'green' alternatives is crucial for mitigating ongoing problems associated with anthropogenic climate change.
- This project will focus on developing sustainable polymer thin films from biological sources and bioinspired processes for potential applications in the fields of nanoelectronics, medical devices and smart textiles.
- The project will involve the controlled phase separation of polysaccharide and protein mixtures to produce patterned structures as thin films. The biocompatibility, bactericidal and fungicidal properties, hydrophobicity and pattern transfer properties of the thin films will be tested and optimised for specific applications.

Key Duties and Responsibilities

- The PhD candidate will conduct a specified programme of research under the supervision and direction of Prof. Holmes, Dr. Flynn and Dr. Young.
- The research will involve lab experiments and the advanced characterisation of biopolymer films to understand their fundamentals properties, e.g. biocompatibility, hydrophobicity *etc.*

Criteria

- Candidates should possess, or be expected to obtain shortly, a first class or upper second class BSc(Hons) degree in Chemistry, Biology, Materials Science or Physics. Candidates with basic chemistry and biological laboratory skills are sought, but applications will be considered favourably from any enthusiastic candidates with an undergraduate degree in any science.
- The researcher will work closely with other members of a multidisciplinary project team. Excellent written and oral communication skills are essential.
- Applicants whose first language is not English must show evidence of English proficiency, please check the minimum requirements at <https://www.ucc.ie/en/study/comparison/english/>.

For informal enquiries on the post candidates should contact:

- Name: Dr Eoin Flynn
- Email: eoin.flynn@ucc.ie
- Phone: (00-353)-21-490-1961
- To Apply: Please send (1) your C.V. (including the names and addresses of three referees) and (2) a one-page letter outlining any relevant experience and your reasons for wanting to participate in the project, by email. Please quote "AMBER Sustainable Thin Films" on the subject line of your application. The position will remain open until filled, but the preferred start date is 1 September 2019. Only short-listed applications will be acknowledged.

This position is funded by the SFI-Research Centre AMBER. The AMBER research centre, as a community of researchers, welcomes its responsibility to provide equal opportunities for all. We are actively seeking diversity in our research teams and particularly encourage applications from underrepresented groups.