

The stimuli-responsive functional materials and devices (SFD) group at the Eindhoven University of Technology has vacancies for a

**PhD student and post-doctoral researcher
“4D printing of liquid crystal elastomers”**

Project description

Microfluidic devices manipulate tiny amounts of fluid enabling cost-effective, fast, accurate and high throughput analytical assays for, for instance, medical diagnostics. Despite its huge potential, microfluidics market growth is heavily constrained by the complexity and high prices of the required large-scale off-chip equipment and its operational cost. In the multidisciplinary Horizon 2020 project “Advanced and versatile PReinting platform for the next generation of active Microfluidic dEVICES” (PRIME) 4D printing of liquid crystal elastomers will be used to address these issues. Inkjet printing will be applied to embed light-actuated valves and pumps in the microfluidic chip and to produce new ultra-sensitive and selective sensors, readable with light. The final device will be remotely addressed and read using simple photonic elements that can be integrated in compact, portable and cheap operation & read devices. The PRIME team is formed by 5 academic partners and 1 SME, from 4 different EU countries (Spain, The Netherlands, Germany and Austria). The SFD group at the Eindhoven University of Technology will be involved in the development of stimuli-responsive materials and in the fabrication of the 4D printable liquid crystal based valves, pumps and sensors.

Eligibility

We seek highly talented, motivated, and enthusiastic candidates with an MSc or PhD degree in polymer sciences. The successful candidate has a solid background in polymer materials, as well as good communication skills, is fluent in English, and should have a strong motivation to do scientific research in an interdisciplinary team. Experience with the synthesis and characterization of stimuli-responsive polymers is desirable. An interview and a scientific presentation are part of the selection process.

Employment conditions

We offer challenging jobs in a dynamic and ambitious, multidisciplinary research team in the stimuli-responsive functional materials and devices group of the Institute for Complex Molecular Systems (ICMS) and Department of Chemical Engineering and Chemistry at Eindhoven University of Technology. Gross monthly salaries are in line with the Collective Labor Agreement of the Dutch Universities (CAO NU). Moreover, an 8% bonus share (holiday supplement) is provided annually. We also offer an attractive package of fringe benefits (including excellent work facilities, child care and sport facilities) and we can help you to find accommodation. The candidate is expected to finish the project with a PhD thesis, in case of the PhD vacancy, and disseminate the results through publications in peer-reviewed journals and presentations at international conferences.

Additional information

For more information please contact prof. dr. Albert P.H.J. Schenning +31 (0)40 247 3264 / a.p.h.j.schenning@tue.nl. Information about terms of employment can be obtained from Ms Sandra van de Weijer, HR advisor, email: p.j.v.d.weijer@tue.nl. Further information about Eindhoven University of Technology and the department of Chemical Engineering & Chemistry can be found at www.chem.tue.nl.

Application Procedure

Please send your application via email to a.p.h.j.schenning@tue.nl. To ensure consideration, your application should include the following documents (in PDF format):

- An application letter that outlines your qualification, interest and motivation for this position
- A CV with details on education, employment, publications, and research experience, as well as contact information for two referees.

Consideration of the candidates will begin immediately, until the positions are filled.