Assistant Professor

In Plasma-surface interaction for application in catalysis (0,8 - 1,0 fte)

EINDHOVEN UNIVERSITY OF TECHNOLOGY

Short Description

Do you want your research to contribute to the challenge of the energy transition? Make plasma technology play a key role in circular chemical industry? Be a high-profile and valued member of a team investigating plasma science and technology? All in the heart of Europe's premier high-tech region? Looking to further strengthen the ambitious and diverse group of researchers, we have opened a position in the field of Plasma-surface interaction for applications in catalysis.

The Plasma & Materials Processing (PMP) research group at the Department of Applied Physics and Science Education of the TU/e accelerates innovation and presently addresses several research lines such as the experimental investigation of the plasma medium, *in situ* and operando studies of interaction of reactive species with surfaces, (plasma-based) synthesis at the atomic scale of materials of interest in many fields in science and technology, including next-generation energy conversion and storage devices, and much more.

You will be embedded in the Eindhoven Institute of Renewable Energy Systems (EIRES). We offer state-of-the-art cleanroom facilities in the aforementioned areas. These include many experimental systems for (plasma-based) atomic-scale processing such as atomic layer deposition and etching reactors, advanced *in situ* optical and laser spectroscopy, extensive material analysis equipment, etcetera. You will have the opportunity to collaborate with the DIFFER institute and the departments of Chemical Engineering and Chemistry, Electrical Engineering, and Mechanical Engineering at TU/e.

The following research topics are highly appealing (but not exhaustive): low-temperature plasma physics and chemistry, plasma and surface diagnostics, (electro-)catalysis, rational design of plasma-activated catalytic systems. You will contribute to the broader research theme of "*Metrology for plasma-materials interaction*", by focusing on the development of diagnostics to study in situ the interaction of plasma with surfaces. Because of the state-of-the art infrastructure available in the PMP group, you will be able to start off your research program.

We are looking for an experimentalist with a strong knowledge in plasma physics and chemistry and eager to investigate how plasma energetically excites gas molecules, thereby affecting the activation energy barrier to specific reactions at the catalyst surface. Someone who is passionate to unravel the mechanisms of plasma-activated catalysis by in situ and operando diagnostics in the plasma phase as well as at the (sub-)surface of the catalyst. We hope and expect the successful applicant to connect with our (inter)national academic and industrial research network, and to contribute to extending these for others.

Job Requirements

- Motivated researcher, with a PhD in (applied) Physics, chemistry, material science, chemical or electrical engineering, or similar domain, and preferably at least 2 years of experience as researcher.
- Background in low-temperature plasma physics and chemistry, experience with in situ plasma and surface diagnostics and (electro-)catalysis is a plus.
- Ability to conduct high quality academic research, reflected in demonstratable output.
- Ability to teach, shown by experience or assistance in teaching.
- Informed vision on teaching and learning within your own discipline.
- Strong cooperation skills and ability to work in an interdisciplinary team.
- Experience in acquiring external research funding from (inter-)national funding bodies, or industry is an asset.
- Effective communication and leadership skills, including coaching and mentoring of students and staff or leading a project.
- Excellent proficiency in English (written and verbal).

Conditions of Employment

A meaningful job in a dynamic and ambitious university, in an interdisciplinary setting and within an international network. You will work on a beautiful, green campus within walking distance of the central train station and city center. In addition, we offer you:

- A permanent contract in a development track with the prospect of becoming Associate Professor.
- A tailor-made start-up package to kickstart your career.
- Free access to high-quality training programs for academic leadership, the university teaching qualification program, research and valorization competences, and a dedicated mentoring program to help you get to know the university and the Dutch (research) environment.
- Family-friendly initiatives are in place, such as the partner career support program to support accompanying partners, an international spouse program and sports facilities.
- The opportunity to focus your career on education, research or impact. You can develop your personal ambitions and objections within the strategic objectives of the university.
- Salary and benefits in accordance with the *Collective Labour Agreement* for Dutch Universities.
- Additionally, an annual holiday allowance of 8% of the yearly salary, plus a year-end allowance of 8.3% of the annual salary.
- Partially paid parental leave and an allowance for commuting, working from home and internet costs.
- A Staff Immigration Team is available for international candidates, as is - depending on your personal situation - a tax compensation scheme (the 30% facility).

Information and application

About us

Eindhoven University of Technology is an internationally top-ranking university in the Netherlands that combines scientific curiosity with a hands-on attitude. Our spirit of collaboration translates into an open culture and a top-five position in collaborating with advanced industries. Fundamental knowledge enables us to design solutions for the highly complex problems of today and tomorrow.

Curious to hear more about what it is like as a professor at TU/e? Please view the video:
https://www.youtube.com/watch?v=85ApbAfeCcM

Information

Do you recognize yourself in this profile and would you like to know more? Please contact prof.dr. M. Creatore (m.creatore@tue.nl) or prof.dr.ir. W.M.M. Kessels (w.m.m.kessels@tue.nl).

For applying, visit the vacancy online at https://jobs.tue.nl/en/vacancy/assistant-professor-in-plasmasurface-interaction-for-application-in-catalysis-1029504.html. You can also contact Josje van Oudenaarden, Senior Recruiter, j.e.v.oudenaarden@]tue.nl or +31 643559575.

Are you inspired and would like to know more about working at TU/e? Please visit our career page.

Application

We invite you to submit a complete application. The application should include a:

- Cover letter in which you describe your motivation and qualifications for the position.
- Curriculum vitae, including a list of your publications and the contact information of three references.
- Description of your scientific interests and plans (approx. 2 pages).
- Statement of your teaching goals and experience (approx. 2 pages).

We look forward to your application. The timeline for recruitment is as follows:

- November 20: Application deadline.
- December 4-8: Invitations for the online interviews.
- December 11-20: Online interviews with the selection committee.
- January 22 - February 3: Candidates' Day on campus (interview program).