

We are a young, innovative university in the middle of the Metropole Ruhr. Excellent in research and teaching, we think in terms of possibilities instead of limits and develop ideas with a future. We live diversity, promote potential and are committed to educational equity.

The University of Duisburg-Essen is seeking in the Faculty of Chemistry, Department of Physical Chemistry within the framework of the **Cluster of Excellence RESOLV** a

Ph.D. Candidate (f/m/d)
(Pay group 13 TV-L, 50 %)

The **Faculty of Chemistry at UDE** is one of the largest chemistry faculties in Germany with 27 professors and 244 researchers and offers 3 study programs under one roof: Chemistry, Water Science and Chemistry Teachers College.

RESOLV is a world-leading interdisciplinary research project in Solvation Science awarded as a Cluster of Excellence by the German Excellence Strategy. Within RESOLV, more than 200 scientists at six institutions in the Ruhr area covering experimental chemistry, theory and chemical engineering investigate how solvents are involved in the control, mediation and regulation of chemical reactions and processes. RESOLV's mission stretches from fundamental research to the translation into applications such as green technologies or smart sensors.

PhD project description:

The project aims at gaining fundamental insights into the **birth of metal-organic frameworks** with help of **electrochemical tip-enhanced Raman spectroscopy (EC-TERS)**. The solvent-potential-controlled molecular adsorption geometry and reactivity at electrode surfaces that underly the nucleation and early growth steps of metal-organic functional frameworks will be explored. Additionally, assistance in the preparation and delivery of courses and with administrative duties is expected.

Your profile:

- You hold an **A-grade (“very good”) qualifying degree** at either the level of Master or Diploma to enter the School's Track I or an A-Grade (3 yr. or, preferably, 4 yr.) Bachelor to enter the School's Track II; degrees in physical chemistry or physics will be accepted.
- You are fascinated by the interdisciplinary research field Solvation Science. Specifically, you have a strong background or interest in **laser optics, spectroscopy (Raman, IR), scanning probe microscopy (AFM, STM) and/or surface science** and enjoy hands-on technological development.
- You have **very good English language skills** (equal to B2, oral and writing).

We offer:

- You will be integrated in the International Faculty Solvation Science as well as the **integrated Graduate School Solvation Science (iGSS)** and will gain **international work experience** during a 2 to 3 months internship abroad.
- You will benefit from **personal development** possibilities, the **entrepreneurial attitude** within RESOLV and a **broad spectrum of lectures** as well as **transferable skills courses**.
- You will develop your science communication skills by **presenting your research to the public**.
- You are provided with funding for **visiting international conferences**.
- You will experience family friendliness through **flexible and individual care for your children**.
- You can enjoy **sports and health offers** (university sports).

Starting date: 1st March 2023

Approximate project duration: expected 36 months

Places of work: Mainz/Germany (Max Planck Institute for Polymer Research),
Essen/Germany (Faculty of Chemistry, University of Duisburg-Essen),
Bochum/Germany (iGSS), Alicante/Spain (Department of Electrochemistry)

Application deadline: within 4-6 weeks of publication (*specific date will be added by the HR Department upon publication*).

The University of Duisburg- Essen pursues the goal of promoting diversity of its members (see <https://www.uni-due.de/diversity>).

It aims to increase the proportion of women among scientific staff and therefore strongly encourages relevantly qualified women to apply.
In accordance with the NRW Equal Opportunity Act, women are given preferential consideration if they have the same qualifications.

Applications from suitable severely disabled persons and persons of equal status within the meaning of Section 2 (3) SGB IX are welcome.

If these topics and tasks catch your attention and you want to join our new team, please use the reference number (will be assigned by the HR department) and send a letter of motivation (max 1 page), diplomas with grades and a CV (incl. publications and references if available) to Professor Katrin F. Domke (katrin.domke@uni-due.de or domke@mpip-mainz.mpg.de), University of Duisburg-Essen, Faculty of Chemistry, 45117 Essen.

Additional information about the group and our research and about the Cluster of Excellence RESOLV can be found on <https://www.mpip-mainz.mpg.de/en/domke> and <https://www.solvation.de/>

www.uni-due.de

