

## Open PhD Fellowship at Institute for Neurosciences and Medicine, INM-5 Nuclear Chemistry

### Background

The development of targeted cancer therapies using Auger-Meitner emitters, particularly Pt-193m, offers a groundbreaking approach to treating metastatic tumors. By coupling these emitters to receptor-targeting radioligands, this method harnesses localized Auger-electron irradiation for precise tumor destruction while minimizing harm to healthy tissues. Key efforts include optimizing the production of Pt-193m via  $\alpha$ -induced nuclear reactions on osmium, synthesizing stable peptide-complex conjugates that maintain bioactivity, and creating efficient protocols for radiolabeling these conjugates. The ultimate goal is to validate the safety and efficacy of these therapies through *in vivo* experiments, paving the way for safer and more effective cancer treatments.

### Your Responsibilities

- Production of osmium targets and isolation of platinum isotopes
- Synthesis of tetradentate ligands suitable for bioconjugation
- Radiochemical isolation and synthetic process development
- Characterization of (non)-radioactive complexes
- Work on a scientific qualification project: doctorate, writing and publishing scientific papers in peer-reviewed journals, presenting results at national and international conferences

### Your Profile

- M.Sc. degree in chemistry, ideally with a focus on nuclear and coordination chemistry
- Knowledge about nuclear reactions and analyses (e.g.,  $\gamma$ -spectroscopy)
- A strong background in chromatographic methods (e.g., (radio)-HPLC)
- Skilled in the use of academic software for data analysis (e.g., Origin, MestreNova)
- Excellent English communication skills, both written and spoken are desirable

### We offer

- An interdisciplinary project in a fast-moving field of research, involving cutting-edge methods, instruments, and collaboration with national and international partners
- A comprehensive mentoring program with supervision by a team of advisors
- A family-friendly working environment with a supportive team

The fellowship is provided by the Fonds der chemischen Industrie and is limited to 3 years (1850€ per month, additionally 100€ per child is granted to reconcile family and career in science). The project is supervised by Dr. Alexander Haseloer and Prof. Dr. Bernd Neumaier; the **place of work will be the Forschungszentrum Jülich**.

If you believe you fit in the description then please send a brief letter of motivation, a short CV highlighting your academic and research accomplishments as well as copies of academic certificates and the contacts of two references **as one pdf file** to [A.Haseloer@Fz-Juelich.de](mailto:A.Haseloer@Fz-Juelich.de)

You can find more information about our research at: [www.FZ-Juelich.de/en/inm/inm-5](http://www.FZ-Juelich.de/en/inm/inm-5)