

Post-doctoral scientist & Senior researcher in the field of “Environmental chemistry / Nanotechnology”

The group of Environmental nanotechnologies at the Czech Advanced Technology and Research Institute (<https://www.catrin.com>) of Palacký University Olomouc, Czech Republic, is seeking highly motivated, ambitious, and interdisciplinary Post-doctoral scientists & Senior researcher in the fields of (nano)materials and environmental chemistry. The ideal candidates should have a strong background in the field, as evidenced by their publication records.

Position Overview:

The research focuses on interdisciplinary approaches to understanding challenges and identifying innovative solutions by designing and leveraging the properties of advanced (nano)materials and methodologies. Synthesized materials will be thoroughly characterized and tested for targeted applications and beyond, including water treatment (redox processes, sorption, catalysis, photocatalysis) and related fields. Successful applicants will join a highly motivated international team equipped with exceptional infrastructure, such as HRTEM, EPR, XRD, XPS, GC-QTOF (and many others), alongside simulation techniques to gain mechanistic insights. A part of this dynamic project, you will: design and fabricate advanced nanomaterials/2D structures to suppress unwanted water contamination and promote target products.

Qualifications:

We are looking for a driven and open-minded individual who thrives in a collaborative environment. The ideal candidate will have:

- A PhD in Chemistry, Environmental Chemistry, Chemical Engineering, Material Science, or a related field.
- Hands-on experience in synthesis and complex characterization of nano- and 2D-materials.
- Familiarity with experimental designing and analytical tools for elimination of contamination from water using nanomaterials.
- Knowledge of interactions between solids and dissolved species, namely redox processes of water treatment (oxidation/reduction, but also sorption, surface complexation, catalysis etc.).
- Excellent English, independent manuscript writing.

Responsibilities:

- Independently solve complex scientific research tasks in their field.
- Actively publish high-quality scientific articles.
- Conduct independent research and collaborate with other team members.
- Collect data for specific project outputs and ensure their completion.
- Contribute to the implementation of collaborations within the research program.
- Manage interactions with practitioners, theoreticians and materials characterization experts, contribute to project meetings, administration, and reporting.
- Collaborate with leading global universities and research institutes in the field of environmental nanotechnologies.

Benefits:

CATRIN employees are enrolled in Social Insurance (Health Insurance, Employee's Pension Insurance, and Employment Insurance). The starting salary depends on qualifications, and a performance-based bonus applies.

Application Process:

Submit an application/motivation letter and curriculum vitae, including a list of publications, to the provided email address. Letters of recommendation are not required at this stage. Selected applicants will be invited for an oral interview.

Contact:

For more details, contact the leader of the group of Environmental nanotechnologies:

Dr. Jan Filip

Head of the group of Environmental nanotechnologies

Czech Advanced Technology and Research Institute

Palacký University Olomouc

Šlechtitelů 27, 783 71 Olomouc

Czech Republic

Website: <https://www.rcptm.com/groups/environmental-nanotechnologies>

e-mail: jan.filip@upol.cz

Relevant References in the Field:

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- Brumovský, M., Micić, V., Oborná, J., Filip, J., Hofmann, T. & Tunega, D. (2023): Iron nitride nanoparticles for rapid dechlorination of mixed chlorinated ethene contamination. – Journal of Hazardous Materials, 442, 129988.
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- Kolařík, J., Bakandritsos, A., Baďura, Z., Lo, R., Zoppellaro, G., Kment, Š., Naldoni, A., Petr, M., Tomanec, O., Filip, J., Otyepka, M., Hobza, P. & Zbořil, R. (2021): Carboxylated Graphene for Radical-Assisted Ultra-Trace Level Water Treatment and Noble Metal Recovery. – ACS Nano, 15, 3349-3358.