

# Job Advertisement

The Leibniz-IPHT is a university independent research institute with close connection to the Friedrich-Schiller-University Jena and member of the Leibniz association.

The Leibniz Institute of Photonics Technology (Leibniz-IPHT) offers within the Innovative Training Network MONPLAS “*The training of early stage researchers for the development of technologies to MONitor concentrations of micro and nanoPLASTics in water for their presence, uptake and threat to animal and human life*” (Marie Skłodowska-Curie Innovative Training Network (MSCA-ITN-EID) of the European Commission) the position (100%) of an

## Early Stage Researcher (PhD candidate) (f/m/d)

in the field of Multimodal Instrumentation

The position should be filled **between 1 March 2020 (the earliest) until 30 June 2020 (at the latest)**.

Funding of the position is available for 3 years.

### Job description:

**In your project** you will develop a high-throughput Raman-based spectroscopy system for a label-free and molecular specific analysis of microplastic particles on a substrate or in continuous flow. You will design, implement and apply the high-throughput system, based on selected or tailored optical components, which will enable detection of colored and non-colored microplastics. The work is very multifaceted and include optical and software design an additionally the application and implementation of image- and spectroscopy-based machine-learning approaches, including automated object localization and sampling.

### Be part of the European Doctorate Network IMAGE-IN MONPLAS:

MONPLAS is a highly multi/inter-disciplinary doctoral-level training network that brings together expertise from different sectors to enhance detection methods for micro and nanoplastics in water (and beyond) and therefore to map their origins and potential public health threat. The breadth of technology coupled with the innovative training package, where ESRs will be exposed to industrial R&D environments, will enable the next generation of scientists to drive research of micro and nanoplastics into the wider environment. Consisting of some of Europe’s greatest experts in their fields MONPLAS will provide tomorrows talent with the skills and knowledge to tackle possibly one of mankind’s greatest threats to its existence whilst they jointly develop the technologies for the industrial instrument in collaboration with end-users and equipment manufacturers. The positions are for 36 months and expected to begin in July 2020. MONPLAS ESRs will have access to state of art equipment and expertise of the academic and industrial beneficiaries and partners. The network consists of Aston University (Birmingham, UK); KTH (Stockholm, Sweden); Bruker Optik GmbH (Ettlingen, Germany); Stichting Wageningen Research (Wagenigen, Netherlands), Vrije Universiteit Brussel (Brussels, Belgium); Leibniz-Institut für Photonische Technologien e.v (Jena, Germany); Aalborg Universitet (Aalborg, Denmark); The Queen’s University of Belfast (Belfast, UK), Renishaw, Wessling and others.

### Required qualifications:

The successful candidate should hold a master’s degree (or comparable degree) in optical design and instrumentation, physics, spectroscopy, mechanical engineering, biomedical engineering, photonics or similar.

### Desired skills and abilities:

We seek an excellent, open-minded and team-spirited PhD candidate with a background in optical design and instrumentation, spectroscopy, programming and data processing, and imaging. The ideal candidate should have good knowledge and interest in both experimental and theoretical work and interest in interdisciplinary research. Programming is key and you should be proficient at least one programming language, e.g. LabView, Python, Matlab, C++, R, or others. Fluent communication skills in English, both spoken and written are required.

### Remarks:

Candidates will be required to meet the Marie Skłodowska-Curie Early-Stage Researcher eligibility criteria:

(<http://ec.europa.eu/research/mariecurieactions/>). In particular, at the time of appointment candidates must have had less than

four years full-time equivalent research experience and must not have already obtained a PhD. Additionally, they must not have resided in Germany for more than 12 months in the three years immediately before the appointment.

**We offer:**

The successful candidate will be part of an excellent international research team and benefit from the scientific and complementary training programme of the EU-funded Innovative Training Network (ITN) MONPLAS. We offer highly competitive and attractive salaries according to regulations of Marie Skłodowska-Curie Actions, plus mobility and family allowances as applicable. Further information can be found: <https://www.research-in-germany.org/en/research-funding/funding-programmes/eu-marie-sk-odowska-curie-innovative-training-networks.html>

Your employment will include a 3 months secondment to industry (Renishaw in UK) for access to commercial high throughput Raman systems and implementation of Raman based particle analysis on substrates and in microfluidic systems in commercial Raman spectrometers and in Denmark, Aalborg University.

As an equal opportunity employer Leibniz-IPHT is committed to increase the percentage of female scientists and therefore especially encourages them to apply.

Informal enquiries may be addressed to Prof. Iwan Schie at [iwan.schie@leibniz-ipht.de](mailto:iwan.schie@leibniz-ipht.de).

The application must be accompanied with the following documents in PDF format:

- letter of motivation,
- curriculum vitae of at most 3 pages,
- transcripts of records from University/University College and copy of your degree
- list of publications (if available),
- two written recommendation letters (e.g. one by your Master thesis supervisor) and the referees contact details

The positions will be filled as soon as a perfect candidate has been found. Please send your application electronically as pdf file via mail **until 31<sup>st</sup> May 2020** to:

**Leibniz-Institute of Photonic Technology Jena**  
**Human Resources**  
**Albert-Einstein-Straße 9, 07745 Jena, Germany**  
**e-mail: [Personal\\_Abtl@leibniz-ipht.de](mailto:Personal_Abtl@leibniz-ipht.de)**  
**Code: 2019\_39**

**Note on Dataprotection:**

By submitting your application and the accompanying documents, you consent to the processing of your personal data in connection with the application process. You may revoke this consent in writing or electronically at any time without giving reasons. Please note, however, that a revocation of consent means that any application in progress can no longer be considered.