

Job Advertisement

The Leibniz Institute of Photonic Technology ([Leibniz IPHT](http://www.leibniz-ipht.de)) offers the following **full-time position (100%)** in the **Research Department [Spectroscopy and Imaging](#), Work Group [Field-Resolved Optical Precision Metrology](#)**, starting at the next possible time:

Postdoctoral Researcher (f/m/d)

The position is to be filled as soon as possible and is initially **limited to a period of 2 years**.
An extension will be sought if suitable.

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

Job description

Recent progress in broadband, coherent sources of ultrashort mid-infrared (MIR) pulses and electric-field-resolved spectroscopy (FRS) has opened up a vast potential for new applications of vibrational fingerprinting to high-throughput classification of biological systems in their natural, aqueous state¹. At the [Laboratory of Lightwave Metrology](#) the candidate will join a dynamic, multi-disciplinary team, developing MIR-FRS technology toward its application to real-life biomedical settings. The candidate will work at the Leibniz-IPHT on the development of a new generation of ultracompact FRS instrumentation. The affiliation with the Field-Resolved Optical Precision Metrology Group within the Spectroscopy and Imaging Department at the Leibniz-IPHT and the close proximity to the Fiber and Waveguide Lasers Group at the Institute of Applied Physics of the Friedrich Schiller University Jena will provide access to state-of-the-art laser laboratories and cutting-edge infrared vibrational spectroscopy techniques^{1,2}. The position is funded by the recently awarded ERC Consolidator Grant "LIVE – Laser-Based Infrared Vibrational Electric-Field Fingerprinting" and is furthermore affiliated with the DFG Cluster of Excellence "[Balance of the Microverse](#)". Close collaborations with the Department of Anesthesiology and Intensive Care Medicine as well as the Institute for Clinical Chemistry and Laboratory Diagnostics, both at the Jena University Hospital, afford the prospect of immediate real-life applications of the novel technologies.

Your field of activity includes:

- Temporal compression of ultrashort pulses to the few-cycle regime and generation of broadband, waveform-stable MIR radiation by means of nonlinear optics in fibers and bulk
- Development of novel, quantum-efficiency and speed-optimized electric-field sampling techniques

Your qualification:

- Completed doctorate in experimental laser physics

Desired knowledge and skills:

- Experience with nonlinear optics, preferably with fiber lasers
- Experience with the characterization of ultrashort pulses
- Enjoy interdisciplinary work with a focus on laser-based applications
- Strong motivation, commitment and independence
- Very good written and spoken English

We offer:

- **An open welcoming culture** and an inclusive and interdisciplinary working environment: Located on the Beutenberg campus in Jena, Leibniz-IPHT is home to more than 400 employees from around the world working at the interface of physics, biochemistry, technology, data science and medicine to develop the photonic technologies of tomorrow.
- **World-class equipment and facilities:** Leibniz-IPHT has a large number of physics, chemistry and biology laboratories at the highest level. It also has state-of-the-art fiber drawing and clean room facilities (including lithography facilities) as well as microfluidics fabrication and big data computing facilities.
- **Thorough and comprehensive personal training:** Transferring good practices in scientific working and outreach is one of our main focus points. We'll teach everything that is needed for a career inside and outside of academia in a respectful and enjoyable way. Moreover, plenty of workshops and opportunities for scientific exchange are offered by the Leibniz IPHT, as well as the Abbe School of Photonics and the Graduate Academy of the Friedrich-Schiller University Jena.
- **A family-friendly working environment** with support offers for the compatibility of family and work (e.g. parent-child rooms, campus kindergarten places, advice on family care situations from trained care guides and much more).
- **Flexible working time models** as well as 30 days vacation/year, special annual payment and bridge days.
- **Jena - City of Science:** a young city with a vibrant local cultural agenda!

Salary:

Salary is in accordance with the regulations of the TV-L and your qualifications and experience.

About us:

We are a modern, internationally focused research institute. Work-life balance is one of our central concerns. We value diversity and therefore welcome all applications - regardless of gender, disability, nationality or ethnic and social origin. If women are underrepresented in the area of the advertised position, they will be given preferential consideration in the hiring process if they are equally qualified.

Further information:

If you have any questions, please contact [Prof. Dr. Ioachim Pupeza](mailto:ioachim.pupeza@leibniz-ipht.de), mail: ioachim.pupeza@leibniz-ipht.de. See also: lightwavelab.de

Application:

Simply apply via our [job portal](https://www.leibniz-ipht.de/en/institute/career/job-portal/) (<https://www.leibniz-ipht.de/en/institute/career/job-portal/>) or send your application with the usual documents (CV, certificates, reference addresses) **until November 30, 2024** by e-mail, preferably as one pdf file, quoting **reference number 1322** to the:

Leibniz-Institute of Photonic Technology
Human Resources
Albert-Einstein-Straße 9, 07745 Jena
E-Mail: Personal_Abtl@leibniz-ipht.de

Reference Number: 1322

¹I. Pupeza et. al., "Field-resolved infrared spectroscopy of biological systems", Nature 577, 52 (2020).

²S.A. Hussain et. al., "Sub-attosecond-precision optical-waveform stability measurements using electro-optic sampling", Scientific Reports 16, 692 (2024).