

POSTDOCTORAL ASSOCIATE POSITION IN MICROWAVE PHOTONICS

DESCRIPTION

The international research team at the Department of Physics and Engineering of ITMO University in St. Petersburg (Russia) is seeking a brilliant and highly motivated Postdoctoral Associate to join our team for innovative studies on microwave photonics and wireless power transfer. The research collaboration aims to invent novel approaches to efficient wireless power transfer by getting inspiration from recent advances in photonics and metamaterials.

The Post Doctoral Associate is expected to conduct high-quality research tasks, which entails:

- Design, simulate, and evaluate microwave metasurfaces, metamaterials, resonators, and antennas.
- Development of new ideas for highly efficient WPT systems.
- Participate in other cutting-edge research projects on photonics and metasurfaces.

The position will be initially filled for 3 years, renewable yearly with a possible extension. The contract includes fringe benefits such as health insurance. The postdoc will work under the supervision of Prof. Polina Kapitanova.

REQUIREMENTS

We expect the candidate to fulfill the following requirements:

- successfully completed Ph.D. (electrical engineering, applied physics, optics) within past 5 years or be close to its accomplishment;
- strong qualification and skills in analytical/numerical modeling of electromagnetic systems;
- hands-on experience in microwave engineering;
- excellent publication record demonstrating the ability of independent research;
- fluency in spoken and written English.

We also expect that the candidate will share our values of academic freedom, collaborative research environment, and respect of colleagues, disregard their formal position, age, gender, race, ethnic or religious background.

ABOUT OUR TEAM

The Department of Physics and Engineering and is actively developing an international research center in optics and photonics, condensed matter physics, and microwave physics. Launched in 2000 under the Russian Federation program of excellence, today, it hosts more than 300 researchers working in 5 international laboratories keeping the leading positions among Russian research institutions.

To conduct experiments in the radio-frequency and microwave ranges, the team has the following major equipment:

- anechoic chamber (dimensions: 9m x 5m x 4m);

- 3-coordinate precision near-field scanner;
- Agilent Technologies PNA E8362C Vector Network Analyzer (10 MHz-20 GHz);
- Agilent Technologies PNA E8362C Vector Network Analyzer Calibration Kit (10 MHz - 20 GHz);
- Agilent HP 83020A signal amplifier (2 GHz - 26 GHz);
- ultra-wideband antennas TMA 1.0-18.0 KV (750 MHz - 18 GHz);
- azimuthal rotary device.

For prototyping of antennas and resonators of the radio-frequency range of wavelengths, the team has auxiliary equipment:

- CNC engraving-milling machine HIGH-Z S-1400;
- 3-axis CNC Milling and drilling machine;
- guillotine shears;
- soldering robot EVERPRECISION EP-SR;
- 3D printer.

APPLICATION

The position will be open until a suitable candidate is found. Candidates may apply before obtaining their Ph.D. degrees.

The application should contain:

- cover letter stating your research experience and current research interest and motivation;
- CV;
- list of publications;
- names of two referees.

The applications should be submitted via hr@metalab.ifmo.ru in a single PDF file. Any informal inquiries regarding the details of the positions can be addressed to Prof. Polina Kapitanova (p.kapitanova@metalab.ifmo.ru).