

The **CENTER OF ADVANCED PHOTOVOLTAICS** of the Faculty of Electrical Engineering, Czech Technical University in Prague, invites applications for

**Postdoctoral Research Fellow for experimental work on microscopic studies of transient phenomena in photovoltaic materials, structures, and complete devices.**

Studies of the transient phenomena on microscopic level are expected to uncover and identify functional mechanism as well as aging and degradation processes and possibly suggest ways for their minimization. Characterization and understanding of surfaces and interfaces (including internal interfaces such as grain boundaries, phase boundaries or material junctions) will play important part. The employed materials include organic blends, dye-sensitized heterostructures, perovskites and their combinations with nanomaterials such as graphene- and diamond-based heterostructures. With view to the transient and aging phenomena the project will investigate also influence of structural and chemical modifications of materials and surfaces (in particular by using plasmatic and thermal treatments). Experimental work will be supported by theoretical calculations (covered under another postdoctoral position and PhD student). The key provided equipment includes Atomic Force Microscopy (AFM) with all advanced regimes, Kelvin probe microscopic and macroscopic setup, Scanning Electron Microscopy with various regimes, Raman mapping microspectroscopy, cantilever-based SNOM including electrical regimes, tunable continuum laser, solar simulator, oxygen and water free glovebox, atomic hydrogen source, etc. The work will be supervised by doc. RNDr. Bohuslav Rezek, Ph.D. ([cap.fel.cvut.cz/en/staff/rezek](http://cap.fel.cvut.cz/en/staff/rezek)) and assisted by a PhD student.

**Job requirements:**

Successful candidates must hold Ph.D. degree (or equivalent) in Physics, Chemistry, Materials Science or closely related disciplines. Previous experience with scanning probe methods, optical spectroscopies, or research in photovoltaics is highly welcome. Prior publications as the first author in recognized scientific journals as well as good knowledge of English (both written and oral) are compulsory. Ability to work independently and supervise Ph.D. and Master students is expected.

**Contract details:**

The salary is competitive (range 1600 – 2000 EUR brutto based on quality and experience of the candidate). The position is initially for 2 years and can be prolonged.

**How to apply:**

This call remains open until a suitable candidate is found. Applications must include a brief description of research interests and relevant experience, CV with publications, and at least one Letter of recommendation of an academic referee. Inquiries and applications should be sent to: [rezekboh@fel.cvut.cz](mailto:rezekboh@fel.cvut.cz).



**About the workplace:**

Center of Advanced Photovoltaics (CAP, [cap.fel.cvut.cz](http://cap.fel.cvut.cz)) at the Faculty of Electrical Engineering, Czech Technical University in Prague has been established to face challenges in the area of photovoltaics from atomistic models and novel solar cell designs to urbanistic and architectural concepts. The Center of Advanced Photovoltaics in a close partnership with University of Southampton (U.K.) lays foundation for prime research in theoretical and applied photovoltaics taking advantage of unique multidisciplinary environment. The Center is lead by experienced and recognized senior researchers, including prof. Tomas Markvart as the Center head, and supported by a dedicated administration team. The Center is an inherent part of the Faculty of Electrical Engineering, which is a workplace including 3500 students, 380 academic staff, and annual budget exceeding 840 million CZK. Study programs are taught in Czech as well as in English with a strong accent on international exchange and collaboration.