



Postdoctoral Researcher – Transmission electron microscopy

PostDoc Position

Posted on 01 April 2016

Ural Federal University

Russia, Ekaterinburg

This job posting expired on July 01, 2016.

JOB DESCRIPTION

Postdoctoral Researcher in transmission electron microscopy at the Electron Microscopy Laboratory of Institute of Natural Sciences.

Deadline for applications: June 01, 2016.

Project description

Studies of structure-functional and smart low-dimensional materials: gradient and nanoscale structures, microcrystals and structures (synthesis, transformations and specific features).

- 1) Transrotational. Gradient and aperiodic nano-, microcrystals and structures.
- 2) Functional structure dependent and protective films, layers, particles; nanostructure engineering and diagnostics of thin-films objects.
- 3) Amorphous and nanocrystalline structures primarily with specific features (i.e. phase change materials – PCMs for memory devices), Low-dimensional crystalline structures 1D-2+D, self-organisation based micro/nanostructures.
- 4) Development of new methods and procedures for nanostructure studies primarily based on modern microscopy methods and diffraction with transmission electron microscopy in the first hand.

The research project is in the frame of 3d Priority research area of the Ural Federal University - Flexible Technologies and New Materials.

We are seeking a postdoctoral appointee to perform advanced synthesis and transmission electron microscopy of thin films with involvement in team efforts on the subject. Synthesis and transmission electron microscopy of thin (0-100nm) films, crystals and microstructures primarily on the base of 15/16 groups elements (Sb/Bi/O/S/Se/Te and phase-change materials): vacuum evaporation, local crystallization/recrystallization. Characterization by diffraction electron microscopy (JEM-2100, Titan 60-300, LVEM-5) and correlation microscopy.

Terms of employment

The position involves a full-time employment for 12 months, with the possibility of further extension up to 24 months. The position is full-time (nominally 40 hours a week). Remuneration for this position will be about 1 million Russian rubles in year.

The place of employment for this position is the Electron Microscopy Laboratory of Institute of Natural Sciences.

Accommodation

The postdoctoral researcher will be offered a 1-bed room apartment at a brand new apartment building near the main UrFU campus (about 5 min walk to the place of employment and 15 to 20 min walk to the city centre).

DESIRED SKILLS AND EXPERIENCE

Qualification requirements

The Competition may involve the academic staff (scientists) under the age of 35 who have received the degree of Candidate of Sciences or PhD not more than seven years before the announcement of the Competition and involved in research activities, English-speaking, with publications in internationally reviewed journals included in the 'Web of Science' and 'Scopus' databases.

Ph.D. in materials science, physics, chemistry, materials engineering, nanostructures and nanotechnology or closely related field within the past 7 years. A record of publication in peer-reviewed scientific journals (Web of Science, Scopus) where the applicant contributed to the writing and revision process. A record of presentation of applicant's research at well-known regular scientific conferences (oral and/or poster). Experience performing material characterization experiments including electron microscopy.

Special requirements to the participant of postdoc tender:

- Strong understanding of electron microscopy, diffraction and optics.
- Strong understanding of the structure of condensed matter and crystal defects, low-dimensional structures, crystal and thin film growth.
- Some experience with a transmission electron microscope (TEM) and vacuum evaporation.
- Good understanding of vacuum safety and instrumentation.
- A recommendation letter describing an above-average depth of thought regarding lab safety, skills and careful manipulation with complicated instruments like TEM and scientific ethics.

Application

The application must include:

- a questionnaire of a participant of the competition of Postdocs (Appendix 2);
- a contest of the Competition participant for placement of information contained in the application (except for contact information) on the UrFU website;
- a copy of a PhD or a Candidate certificate;
- 5 most significant publications in refereed journals (copies);

- a certificate in English proficiency not below the B2 level (CEFR) or a comparable document issued by a specialised centre of UrFU;
- performance indicators (Appendix 3).

Please send your application no later than 01 June 2016 by e-mail as a single PDF file, by using the **APPLY** button.

ABOUT THE EMPLOYER

Information

Further information on the Ural Federal University can be found at <http://urfu.ru/en/>.

For inquiries, please contact Head of Electron Microscopy Laboratory Kolosov Vladimir Yu. Kolosov@urfu.ru

Union representatives

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URAL FEDERAL UNIVERSITY (UrFU) is one of the largest higher educational institutions in Russia bringing together fundamental education and innovative approach towards the challenges of modern times. The university is committed to contribute to global society by promoting a world-class research and learning environment and attracting people with the greatest potential to make a difference.

Looking towards 2020, the 100th anniversary of our founding, the primary component of our strategy is to develop our University as a place where research, teaching and learning take place in ways that are inspirational and innovative.