Postdoc position available immediately

3D correlative microscopy for hydrogen mapping in solids

We are looking for a post-doc candidate to drive the project MEMPHIS which aims at developing nano-analytical methods for multiscale mapping of hydrogen distribution in solids with case studies in steels, hydrogen-storage materials and semiconductors. The position is available immediately and for a duration until the end of July 2022 with a possibility to extension depending on performance and funding availability. The objective of the project is to understand the mechanisms by which hydrogen dramatically alters materials properties with direct proofs from 3D high-resolution hydrogen mapping combining Transmission Electron Microscopy (TEM) imaging & diffraction analysis, Secondary Ion Mass Spectrometry (SIMS) and in a few selected cases Atom Probe Tomography (APT). The post-doctoral researcher will take a main role in the microstructural, crystallographic and chemical characterization of the group of samples mentioned above. In consultation with the project leader, the post-doctoral researcher will design and perform relevant experiments, analyse and interpret the results, write scientific articles and disseminate the results in international conferences.

Educational background: Ph.D. in Materials Science and Engineering or related disciplines

Technical skills:

- Transmission Electron Microscopy and Diffraction analysis mandatory
- Interest in metallurgical and materials engineering is required
- Familiarity with correlative image treatment methods and algorithms
- Excellent communication, flexibility, organizational and interpersonal skills with team-oriented mind-set
- Fluency in English (scientific exchanges) is mandatory.

Interested candidates shall contact Dr. Santhana Eswara with a CV by email:
santhana.eswara@list.lu

Advanced Instrumentation for Nano-Analytics (AINA)
Materials Research and Technology Department
Luxembourg Institute of Science and Technology
41, rue du Brill, L-4422 Belvaux, Luxembourg