

Open post-doctoral position within the National Science Centre project Sheng II at the Institute of Electronics and Academic Center for Materials and Nanotechnology of **AGH University** in Kraków, Poland. Partner of the project is **Tsinghua University** in Beijing, China.

"Quantum materials for control of spin-orbit torques"

"The project seeks to develop extremely low-power spintronic based nonvolatile memory and logic technologies with infinite endurance, through experimental studies of new quantum materials and devices that can greatly increase the efficiency of magnetization switching. With these materials, we will realize physical phenomena and device functionalities that are not possible in traditional polycrystalline metal-based spintronic. Range of hybrid materials will be designed, synthesized, dynamically tuned structurally and electronically, and integrated into the state-of-the-art MRAM devices."

As part a post-doctoral researcher, you will conduct experimental research on new quantum materials for applications in spin electronics. The tasks will include:

- Deposition of oxide-based multilayer structures using pulse laser deposition (PLD) and magnetron sputtering methods
- Experimental work in cleanrooms on the preparation of prototype spintronic elements in the micro- and nano-meter scale
- Investigation of the materials and devices parameters using range of available experimental methods: vibrating sample magnetometry (VSM), X-ray reflectivity and diffraction, magneto-transport measurements
- analysis of results, preparation of manuscripts for publication

We expect from candidates:

- PhD in the field of Electronics, Physics, Materials Engineering or related
- passion for the implementation of an ambitious scientific project
- expertise in a thin film growth using various vacuum techniques (PLD, sputtering)
- experience in thin film measurement techniques (XRR, XRD, VSM etc)
- previous experience in the fabrication of micro devices in the cleanroom
- full-time involvement in the project

What we offer:

- salary of 11,660 PLN monthly (gross), flexible working hours, '13th salary'
- work in ambitious research team using the state-of-the-art technologies
- the possibility of attending international workshops, conferences, short scientific secondments

Position is available for up to 2.5 years from 202. Submissions containing:

- curriculum vitae, including information on completed PhD thesis
- cover letter containing a description of completed projects
- contact to a person who can certify skills and acquired experience

Please send to the email address:

Prof. Witold Skowroński, e-mail: skowron@agh.edu.pl, home.agh.edu.pl/skowron