

# Post-Doc position in Material Sciences

## Subject: Luminescent Nanomaterials

### Requirements:

1. Ph.D. degree in chemistry or related obtained between 2021 – 2023.
2. Experience in the synthesis of nanomaterials or inorganic materials.
3. Experience in the spectroscopic characterization of luminescent materials.
4. Previous experience with persistent luminescence is welcome.
5. At least four publications in journals from JCR.

### Description of tasks:

The planned research concerns nanoparticles showing luminescence under irradiation with infrared light. What is unusual, these nanoparticles will show a persistent (long-lasting) luminescence, i.e., one that can last up to several hours after exposure. Available materials with long-lasting luminescence must be irradiated with ultraviolet or visible light. The nanoparticles resulting from the project are essential for developing imaging techniques for cancer diagnosis and treatment. The modified nanoparticles can be irradiated before being placed in the living organism, which eliminates the need for irradiation during the investigation and analysis. An important feature of the studied nanoparticles is the possibility of "recharging" in the organism, as infrared radiation is transmitted through the tissue.

Post-doc tasks include:

1. Synthesis of luminescent nanoparticles.
2. Functionalization of nanoparticles and colloids production.
3. Equipment development and measurements of physicochemical properties of nanomaterials.
4. Measurements of temperature-dependent luminescence of materials
5. Elaboration of research results and preparation of scientific publications.

### Conditions of employment:

Post-doc will join prof. Tomasz Grzyb group at Faculty of Chemistry, Adam Mickiewicz University in Poznań, Poland. Our laboratory is well-equipped and uses modern techniques to analyze and prepare nanoparticles.

The researcher will be involved in the project full-time and receive a salary for 24 months (13 salaries per year in the amount of 7,700 PLN gross / 6,200 PLN net).

### Additional information:

1. Adam Mickiewicz University in Poznań is one of the best academic centers in Poland and a research university.
2. The post-doc will be trained in synthesizing and working with the apparatus.
3. The researcher will become a young, dynamic team member, open to ideas and initiatives.
4. Employment in the AMU allows applying for the financing of internships and workshops abroad and participation in international conferences beyond those provided by the project. Co-authorship of the best publications may be additionally rewarded (please contact us for more information).
5. The project is ongoing in cooperation with three partners: the Institute of Low Temperature and Structural Research, Polish Academy of Sciences in Wrocław, Universidad de La Laguna in Spain, and Université Paris-Saclay in France. For this reason, short visits to these institutions are planned.
6. Please send a CV, a copy of your Ph.D. thesis, the names of two references, and a motivation letter stating your research interests to [tgrzyb@amu.edu.pl](mailto:tgrzyb@amu.edu.pl), subject: "Post-doc application – pers\_lumi."