

Job Title	Postdoctoral Research Associate
PVN ID	RC-2103-003925
Category	Research
Location	CUNY-ADVANCED SCIENCE RESEARCH CENTER
Department	Nanoscience Initiative
Status	Full Time
Annual Salary	\$55,000.00 - \$65,000.00
Hour(s) a Week	35
Closing Date	Nov 29, 2021 (Or Until Filled)

General Description

The Ulijn lab (www.ulijnlab.com) and the Chen lab (www.xchenlab.com) in the Nanoscience Initiative at CUNY's Advanced Science Research Center (asrc.gc.cuny.edu) is seeking a highly motivated and independent postdoctoral scholar to research chemo-mechanical peptide-based supramolecular crystals, following from recent research in this area. The proposed materials will display induced-fit actuation, and change their properties and functionalities in response to specific chemical stimuli. The research is cross-disciplinary and combines supramolecular self-assembly, crystallography, molecular dynamics simulations and various imaging techniques. The postdoc will coordinate research with national and international collaborators.

- 1 Piotrowska, R. *et al.* Mechanistic insights of evaporation-induced actuation in supramolecular crystals. *Nature Materials* **20**, 403-409 (2021).
- 2 Lampel, A. *et al.* Polymeric peptide pigments with sequence-encoded properties. *Science* **356**, 1064-1068 (2017).
- 3 Chen, X., Mahadevan, L., Driks, A. & Sahin, O. *Bacillus* spores as building blocks for stimuli-responsive materials and nanogenerators. *Nature Nanotechnology* **9**, 137-141 (2014).

Other Duties

In addition to the General Duties, responsibilities include but are not limited to:

- Conducts experimental research in the area of functional supramolecular materials;
- Prepares papers for publication in peer-reviewed journals and patents and present lectures at conferences;

- Collaborates with internal and external academic colleagues, and participates in knowledge exchange activities to establish research links with industry;
- Assists in laboratory management, laboratory maintenance, and mentorship of undergraduate and graduate students;
- Conducts individual and/or collaborative research, and contributes to the development of new research methods and ideas, giving direction to the project;
- Assists in the development and planning of research objectives for specific projects, and contributes to the development of research objectives as part of the wider research program within the group, with guidance from the academic supervisor, as appropriate;
- Performs other related duties as assigned.

Qualifications

The applicant should have:

- PhD in chemistry, materials science, bionanotechnology, biophysics and related fields.
- Strong hands-on experience in peptide-based functional materials, self-assembly, stimuli-responsive materials, organic chemistries, and material characterization techniques, such as FT-IR, Raman, XRD, AFM, TGA/DSC, SEM, and TEM.
- Previous experience in communicating research results at conferences and through publication in quality peer-reviewed journals.