Job Title	Postdoctoral Research Associate (two positions)
PVN ID	RC-2105-004039
Category	Research
Location	CUNY-ADVANCED SCIENCE RESEARCH CENTER
Department	Nanoscience Initiative
Status	Full Time
Salary	Depends on qualifications
Hour(s) a Week	35
Closing Date	Jul 26, 2021 (Or Until Filled)

General Description

The Ulijn lab (www.ulijnlab.com) in the Nanoscience Initiative at CUNY's Advanced Science Research Center (asrc.gc.cuny.edu) is seeking to recruit two highly motivated and independent postdoctoral scholars to research systems-based design of biomolecular modalities and materials, following from recent research in this area[1-3]. The overall objective of this project is to understand how complex mixtures of molecules acquire functionality, and to repurpose this understanding to create new nanotechnology that is inspired by living systems with features such as chemical recognition and catalysis, energy conversion and motility. The combination of complexity science, systems chemistry, biophysical chemistry and nanoscience could ultimately produce breakthrough materials and modalities with diverse applications in biomedicine, green technology and more. The research is cross-disciplinary and combines supramolecular self-assembly, systems chemistry, molecular dynamics simulations, analytical chemistry (with a focus on LC-MS quantification of complex mixtures), and various imaging techniques. The postdocs are expected to be experts in their own fields, and collaborate with researchers with complementary research skills at the ASRC and elsewhere.

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. Kumar, M. *et al*., Amino Acid-Encoded Biocatalytic Self-Assembly Enables the Formation of Transient Conducting Nanostructures, *Nat. Chem.*, **10**, 696-703 (2018).

Other Duties

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

- Conducts experimental research in the area of systems chemistry, peptide nanotechnology, 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 experimental or theoretical chemistry, materials science, bionanotechnology, biophyscis or related fields.

- Strong hands-on experience in computational or experimental research in peptide-based functional materials, systems chemistry, self-assembly, stimuli-responsive materials.

- Previous experience in communicating research results at conferences and through publication in quality peer-reviewed journals.