PhD position in Marie Skłodowska-Curie ITN SYNCHRONICS: “Investigation of supramolecularly engineered materials using resonance Raman (RR) and Inverse Raman Spectroscopy (IRS)”

The Department of Chemistry of the University of Cyprus in Nicosia, Cyprus is offering a fully funded PhD student position within the EU-funded Innovative Training Network (ITN) SYNCHRONICS ("SupramolecularY eNgineered arCHitectures for optoelectRonics and photONICS: a multi-site initial training action"). The project of the successful candidate (Early Stage Researcher, ESR) will be the “Investigation of supramolecularly engineered materials using resonance Raman (RR) and Inverse Raman Spectroscopy (IRS).”

The research project aims:

a) To structurally characterize and evaluate the stability of supramolecularly engineered materials (SEMs) synthesized within the SYNCHRONICS network using RR spectroscopy.

b) To establish the all-optical switching capability of these materials through Inverse Raman scattering for applications in photonic devices.

The goal of SYNCHRONICS is to use a variety of synthesized supramolecularly engineered architectures as model systems for studying the nature of the basic physics of excited states in condensed matter, but also for a range of potential applications, spanning from optical gain to light harvesting, including photonic applications such as organic amplifiers, switches and lasers.

Description

We are looking for a highly motivated candidate with a strong academic record holding a Master degree in Physical Chemistry, Chemical Physics, or Materials Science. Experience in spectroscopy would be an advantage. Candidates will be integrated in an international community of collaborators and will be requested to travel and conduct research for a short period of time in other countries within the network, as well as attend workshops and conferences. Therefore, excellent English skills in speaking, listening, reading and writing are requested.

Women are especially encouraged to apply.

The main place of work will be the Molecular Spectroscopy Laboratory in the Department of Chemistry, but the PhD will conduct three two-month secondments: at the University of Oxford (UOXF), the University College London (UCL) and the University of Montreal (UNI-MO), respectively. During those secondments, she/he will be trained in the preparation of SEMs (UOXF), characterization with SPM (UCL) and ultrafast photophysics (UNI-MO).

Applications should be sent by email to Prof. Sophia Hayes (shayes@ucy.ac.cy). Attachments must include:

• A motivation letter, indicating experience
• Up to date CV, including full contact details (postal address, phone number, email address)
• Two reference letters
• A copy of the master degree

Shortlisted candidates will be invited to an interview either in person or by Skype.

Requirements and Responsibilities

The main responsibilities of the PhD fellow will be:
• To manage and carry out their research projects
• To participate in research and training activities within the SYNCHRONICS network
• To write articles for scientific peer reviews, and their PhD thesis
• To participate in meetings of the different SYNCHRONICS consortium bodies
• To disseminate their research in the scientific community (international conferences) and non-scientific community, by outreach and public engagement

Eligibility criteria of ESR positions:
• Candidates may be of any nationality.
• By the time of recruitment by the host organization, candidates must not have received a doctorate or equivalent.
• By the time of recruitment by the host organization, candidates must be in the first four years (full-time equivalent) of their research career. Full-time research experience is measured from the date when a researcher obtained the degree which formally entitled him or her to embark on a doctorate, either in the country in which the degree was obtained or in the country in which the researcher is recruited or seconded, irrespective of whether or not a doctorate is or was ever envisaged.
• Because the Marie Curie schemes are designed to encourage researcher mobility, there is a mobility criterion for recruitment: By the time of recruitment by the host organization, researchers must not have resided or carried out their main activity (work, studies, etc.) in Cyprus for more than twelve months in the last three years. Short stays, such as holidays, are not included.

Research Fields

Chemistry - Physical chemistry

Career Stage

Early stage researcher or 0-4 yrs (Post graduate)

Research Profiles
First Stage Researcher (R1)

Benefits

The successful candidate will be employed for three years and receives a generous financial package plus an additional mobility and family allowance according to the rules for Early Stage Researchers (ESRs) in an EU Marie Skłodowska-Curie Actions Innovative Training Networks (ITN) (http://ec.europa.eu/research/participants/data/ref/h2020/wp/2014_2015/main/h2020-wp1415-msca_en.pdf). He/She will have access to a set of training activities organized within the SYNCHRONICS consortium as well as to the PhD program of UCY.