JOB OFFER

Position in the project:	Post-doc
Scientific discipline:	Chemical Physics/Materials Science
Job type (employment contract/stipend):	Employment contract
Position starts on:	01 September 2023
Institution:	Foundation of Saule Research Institute
Project leader:	Dr Konrad Wojciechowski
Project title:	*Perovskite solar cells on flexible substrates with a new architecture of bulk heterojunction*
Project description:	Perovskite solar cells with a carbon back contact electrode show significantly improved long-term stability (doi: 10.1039/d0ee02175j). Due to the ambipolar nature of the perovskite material, and high work function of the carbon electrodes, the device architecture without hole transporting material (HTM) has become a popular cell configuration, attractive for industrial production (doi: 10.1039/C9EE02115A). In HTM-free, carbon-based perovskite cells, the performance is strongly dependent on the nature of the perovskite/carbon interface. The loss of efficiency is greatly influenced by the energy level alignment at the interface, as well as the continuity of the mechanical contact between perovskite's surface and large graphite particles, which are usually the main component of carbon pastes. The following project will develop a new perovskite solar cell architecture by infiltrating porous carbon electrodes with a modifying formulation. In this process, only scalable deposition techniques will be employed, which will enable easy implementation to the industrial manufacturing scheme.
Key responsibilities include:	1. Synthesis of the new materials constituting the next generation photovoltaics 2. Assembling thin-film photovoltaic devices 3. Optoelectronic, electrical and structural characterisation of the materials and devices 4. Use of different deposition methods, including high vacuum and printing techniques 5. Design and development of the scientific projects with limited supervision 6. Attendance at the scientific conferences and possible research stays at the collaborator's institution 7. Compliance with the quality and health standards
Profile of candidates/requirements:	1. PhD degree in chemistry, materials science, physics or related discipline 2. 5+ years of research experience in the relevant area 3. Profound knowledge and understanding of solid-state chemistry, semiconductor physics and solar cell operation 4. Substantial experience in working with a range of electrical and spectroscopic characterisation methods 5. Experience with various thin-film deposition techniques 6. Excellent proficiency in English (written and oral)

	7. Good communication skills, initiative, independent thinking
Required documents:	1. Detailed CV - including list of achievements, scientific degrees, publications, technical skills, research stays and other relevant experience 2. Cover letter - motivation and description of the most important scientific achievements 3. Details of two referees
We offer:	• 3-year long post-doc fellowship within the scheme of NCBR programme, on a project titled *Perovskite solar cells on flexible substrates with a new architecture of bulk heterojunction*. • Writing scientific publications and presentation of research results at conferences. • Successful candidate will be employed by the Foundation of Saule Research Institute.
Please submit the following documents to:	konrad.wojciechowski@sauleresearch.com
Application deadline:	31.08.2023

Please include in your offer: