EURIZON Fellowship Programme: Remote Research Grants for Ukrainian Researchers

3 1 квітня 2023 р. до 8 травня 2023 р.
tbd
Часовий пояс Europe/Berlin

Введіть термін для пошуку

EURIZON Fellowship: Remote Research Grants for Ukrainian Researchers

EURIZON WP9 Secretariat (Before contacting the EURIZON Secretariat, please check if your questions are not already answered in the FAQ section). For further questions:
applications@eurizon-pr...

Реєстрація

Online Application Form

Реєстрацію відкрито
Кінцева дата 8 трав. 2023 р.

Контактна інформація
Before contacting the EURIZON Secretariat, please check if your questions are not already answered in the FAQ section. For further questions:
applications@eurizon-project.eu

Applicants are requested to read carefully the terms of reference (ToR) before applying. Applications must be submitted by the Principal Investigators (PIs), in English, on behalf of their research teams from Ukraine before the deadline May 8th, 2023 at 12.00 PM (noon) CET.

The Online Application Form MUST be completed in all its parts and needs to include the following compulsory templates:
• Research Project Description template: template to be downloaded, filled, signed by all team members and uploaded as PDF file;
• Self-declaration template: template to be downloaded, filled, signed by the PI on behalf of the whole team and uploaded as PDF file;
• Resume (CV) of the team members: max 3 pages for the PI, max 2 pages for other team members, uploaded as one single PDF file;
• Publication list (only for PI and researchers): most recent and/or most relevant publications list (max 2 pages for PI, max 1 page for other team members) uploaded as one single PDF file;

Privacy Notice: Please, be aware that by applying to the Remote Research Grant Fellowship programme, you agree that the personal data and documents that you provide to the EURIZON Secretariat and Evaluation Committees will be stored and processed for the purpose of participating in the Fellowship Programme application procedure. The personal data and documents will be stored and processed according to DESY Data Privacy Policy : https://www.desy.de/data_privacy_policy/index_eng.htm

Ви зареєструвались Змінити Видалити

Огляд

Посилання: *#117* **Дата:** *3 трав. 2023 р.*

1.Research Project overview

1.1 Title of the research project	Machine learning-based defect engineering in silicon structures for thermal management and photovoltaics
1.2 Subtitle (optional)	
1.3 Research Project duration	12 Months duration
1.4 Keywords	Silicon structure, machine learning, thermal management, defect engineering
1.5 Research thematic area	5-PHYSICAL SCIENCES & ENGINEERING;
1.6 Ethical issues	Hi

2. Research project description

2.1 Brief outline of the research project (abstract)	Materials informatics is a scientific paradigm that combines material property calculations and measurements with the computational power of informatics algorithms. In particular, machine learning (ML) techniques have proven to be highly effective in predicting the properties of solids and designing materials. The first project aims to develop a molecular dynamics-based ML approach for the thermal management of silicon systems. The other project aims to develop an ML-

	based method to extract defect concentration from the current-voltage characteristics of solar cells. The projects involve data collection and preparation, machine learning model development, and experimental investigations. Data will be collected from simulations. The simulation of thermal transport in silicon structures will be performed using the molecular dynamics method in the LAMMPS package and/or kALDo software. The current-voltage characteristics of silicon solar cells will be calculated using SCAPS software. Machine learning models will be developed using various algorithms, including dense neural networks, random forest, and convolutional neural networks, implemented using the TensorFlow platform. Photoacoustic experiments will be used to evaluate the thermal transport properties of the fabricated porous silicon. The developed method for defect evaluation will be tested on actual silicon solar cells. The expected outcomes of the proposed research project are the development of ML models for thermal management and defect evaluation, the creation of open-access data collection, and an approach to enhance thermoelectric performance in silicon structures. These results are significant for the development of efficient and reliable solar photovoltaic modules and thermal management systems.
2.2 RESEARCH PROJECT DESCRIPTION TEMPLATE: research project full description, impact, dissemination and collaboration with the European partners	EURIZON Fellowship_Research Project Description _Final.pdf

3. European Partner(s)

3.1 European partner(s) first name and last name	Prof. David LACROIX
3.2 European partner(s) e-mail address	david.laxroix@univ-lorraine.fr
3.3 Name, address and/or website of the European RIs/Institute(s) of affiliation of the European Partner	LEMTA, Université de Lorraine, CNRS, 2 avenue de la Forêt de Haye, 54505 Vandœuvre-lès-Nancy, France https://lemta.univ-lorraine.fr/en/home/
3.4 Have you already contacted the suggested partners?	Yes, I have already contacted them
3.5 (optional) Supporting document from European partners	SupportingDocument.pdf

4. Principal Investigator (PI)

Title	Prof.
4.1 First Name (English alphabet)	Oleh
4.2 Family Name (English alphabet)	Olikh
4.3 Gender	M
4.4 Date of birth	05/06/1974
4.5 Citizenship	Ukraine
4.6 Email Address	olegolikh@knu.ua
4.7 Current personal address	Mayakovskogo Prospect 32, ap.280, Kyiv, 02222, Ukraine
4.8 Country of current residence	Україна
4.8 (ii)	
4.9 Phone Number	+380673169020
4.10 Affiliation Institute	Taras Shevchenko National University of Kyiv, I am still affiliated to the institute.
4.11 Affiliation Institute address	Volodymyrska Street 64/13, Kyiv, 01601, Ukraine
4.12 Affiliation institute website	https://knu.ua
4.13 Position	Professor at Department of General Physics, I am in the same position.
4.14 Knowledge of English	• Good
4.15 Details of the doctoral degree	Dr. Hab., Physics and Mathematics, solid-state physics specialty, thesis «Acoustically and radiation induced phenomena in surface barrier silicon and gallium arsenide structures», 2018

4.16 Institute of graduation	Taras Shevchenko National University of Kyiv, Volodymyrska Street 64/13, Kyiv, 01601, Ukraine
4.17 Possible experience in managing international collaborations (optional)	

5. Research team overview

5.1 Does your team include women researchers?	Так
5.2 Does your team include young researchers (<35 years old)?	Так
5.3 Number of team members (including the PI)	More than 5 Members

6. Self-declaration statement

Self-declaration statement	Self-declaration of vulnerability.pdf

7. Resumes (CV) of the team members

CV of the research team members	CVs.pdf

8. Publication Lists

Publication list (applicable only for the researchers of the team)	Publications.pdf

9. Recommendations letter (OPTIONAL)

Recommendation letters (optional)	

Privacy options

Видимість	Your participation will only be visible to organizers of this event.

Використайте посилання, аби повернутися назад до цієї сторінки.
Зберігайте його у таємниці, так як вам не потрібно заходити у свій профіль, аби використовувати його.

https://indico.desy.de/event/38700/registrations/5404/?token=8430f7ea-ec47-4dcd-b69c-d748b5d01177