

EEDA



**EXPLORE ENERGY
DIGITAL ACADEMY**



JULY 2024

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NEWSLETTER

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UNLOCKING THE GREEN RECOVERY: INTERNATIONAL CONFERENCE ON CIRCULAR ECONOMY AND SUSTAINABLE ECOSYSTEMS (IC2ESE 2024)

Author: Ruchira Abeyweera EUSL-Energy Project Manager
Programme Manager - MSc in Energy for Circular Economy (MECE)
The Open University of Sri Lanka (OUSL)



The Open University of Sri Lanka, in collaboration with the German Academic Exchange Service (DAAD) and EEDA, is proud to announce an upcoming international conference titled “**Circular Economy and Sustainable Ecosystems: Unlocking the Green Recovery (IC2ESE 2024)**.” This prestigious event is scheduled to be held on November 21 and 22, 2024, in Colombo. The conference aims to bring together experts, policymakers, industry leaders, academics, and innovators to explore circular economy for a resilient and sustainable future.

This hybrid conference, accommodating both physical and online participation, will feature an array of activities designed to foster collaboration and knowledge sharing. The event will kick off on Thursday, November 21, with an inauguration ceremony followed by parallel sessions. On Friday, November 22, “physical” attendees will have the opportunity to participate in a workshop and a factory visit to Eco Spindles (Private) Limited, a leader in sustainable manufacturing (www.ecospindles.com).

Topics such as Material Circularity & Resource Recovery, Emerging Energy Technologies and Innovations, Energy Management, Green Construction Practices, Sustainable Transport Systems, Education & Empowerment for Sustainability and Corporate Insights & Policies will be thoroughly explored, providing attendees with comprehensive insights into the pathways towards a sustainable and inclusive economy.

All accepted papers will be published in the Conference Proceedings, ensuring wide dissemination of the knowledge and innovations shared during the event.

The organizing panel warmly invites all our EEDA members and other interested parties to submit their papers and contribute to this significant conference. The Paper Submission Deadline is 19th August 2024. For more information and to stay updated on conference details, please visit our conference website: www.eusl.edu.lk/ic2ese

Join us this coming November to unlock the potential of the circular economy and drive the green recovery forward.

CREATION OF EDITORIAL BOARD WITHIN THE EEDA LEARNIFY PLATFORM

To ensure an effective collaboration between educators and coherent structure of the modules in Learnify, EEDA will aim to install a set of topic-related Educational Boards. The overall goals of these will be as regards to the following key functions:

Organizing Content: The Editorial Board decides which contribution will figure on which place in the Learnify Platform depending on Subject Area, Topic, Lesson and Module Content. It may also commission specific content or solicit contributions from authors. (This is fully in line with what has been done so far, but with a higher degree, if wanted, of collaboration between educators.)

Strategic Planning: The Editorial Board may engage in strategic planning to define the Learnify Platform's long-term goals, identify areas for growth or improvement, and adapt to changing trends or audience needs.

Promoting the Publication: Editorial Board members will play a role in promoting the Learnify Platform within their respective fields or communities.

Conflict Resolution: In cases of disputes or conflicts related to editorial decisions or content, the Editorial Board may serve as a mediator to address concerns and uphold the platform's integrity.

Quality Control and **Peer Review Oversight** are managed by a specific quality control tool and are not managed by the Editorial Board.

The first such Editorial Board is within the Solar PV area, SA010-T14. Thomas Zimmer, Mahinsana Narayna, Licide Vaillant, Petros Axaopoulos have constituted this Board and made suggestions regarding the structure of the area. Anyone who would like to contribute are very welcome to contact Prof. Zimmer and Prof. Narayna as the main contact persons.

The intended structure will be discussed with the teachers in the area and will then be described in a forthcoming Newsletter.



Author

Prof. Thomas Zimmer
Université de Bordeaux

Main Contact Person (MCP)
from the University of
Bordeaux within the EU-
BEGP Project.

Full Professor, University of
Bordeaux, Laboratoire de
l'Intégration du Matériau au
Système, IMS. Analogue
Electronics, Applied
Mathematics – Analysis,
Laplace Transform,
Computer Science – Python
Programming, Photovoltaics.

Editorial Board Member for
"Scientific Reports".
Scientific Reports is one of
the Nature Portfolio journals.

Expert reviewer for
Research grant proposals:
ANR France, DFG
Germany, FNRS Belgium,
HRZZ Croatia.

Referee for: IEEE TED,
IEEE JEDS, IEEE MTT,
IEEE EDL, IEEE TCAD,
IEEE Access, Solid State
Electronics, Microelectronic
Engineering, and numerous
others journals.

Guest Lecturer under
Global Initiative on
Academic Network as one of
the internationally renowned
academic experts,
Government of India.

SELF-ASSESSMENT OF THE REMOTE PV LABORATORY AT THE UNIVERSITY OF WEST ATTICA-GREECE



Author
Prof.

PETROS AXAROPOULOS PhD.

On the roof of the renewable energy laboratory of the University of West Attica-Greece, a photovoltaic system consisting of four small photovoltaic panels facing south and fixed on a single axis tracker has been installed, with which experiments can be carried out remotely in real time, via the internet. A set of six advanced laboratory exercises, in the photovoltaic field, compose a corresponding lesson.

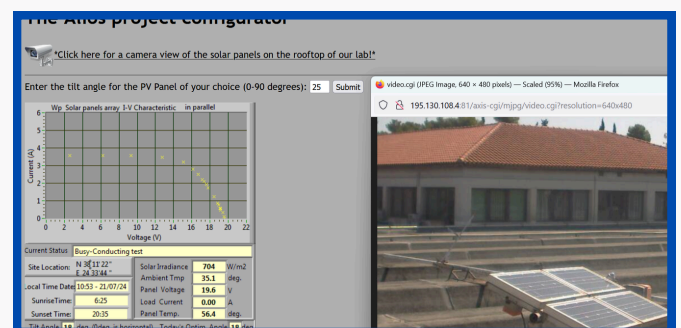
The expected learning hours (ELH) for the lesson are 4, while for each of the experimental exercises they are 2.5, except for the last one which requires 3 hours. Combined, they provide to the learner a very good overview of the electrical behavior of a real-life photovoltaic module, studying its characteristic curve in different connection arrangements, and under real weather conditions, while, at the same time, the learner can have a live view of the panels through a web camera.

By the end of the lesson, the learners will be able to analyze the operation and comprehend the phenomena that affect the energy performance of the

photovoltaic panel, based on the experimental results and its electrical characteristics, making them more competitive when they enter the labor market.

The number of users, of the Remote PV Laboratory, amounts to 583 per year and comes from 68 countries, with Greece, USA, France and UK leading the way. The remote PV Lab can be reached on the educational platform Learnify, under SA301-T01L01: UniWA Alios Star Remote PV Lab - Learnify

All learning resources related to the Remote photovoltaic Laboratory were successfully self-assessed, passing the initial quality checks, thus satisfying the compliance requirements for digital learning resources, and earning the Standard Quality Label.



University of West Attica - Greece

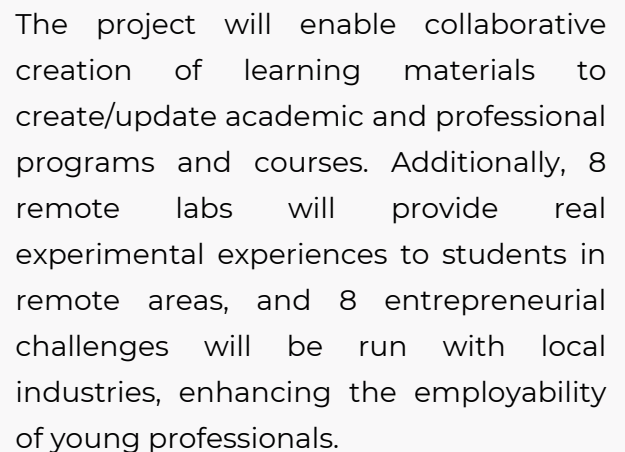
The remote PV Lab can be reached on the educational platform Learnify, under SA301-T01L01: UniWA Alios Star Remote PV Lab - Learnify

The EU-AGM project is extremely pleased to be able to join the EEDA family. Our application, coordinated by Cristina Efremov at the Universitatea Tehnica A Moldovei, Republic of Moldova, was accepted by the EU on July 10, 2024.



Author
Cristina Efremov PhD.
UTM

It will furthermore introduce an advanced system of peer review of the educational resources and a progression system based upon a numerical level system of Intended Learning Outcomes descriptors of “Knowledge”, “Skills” and “Responsibility & Autonomy” as per the European Qualification Framework 2017. The project will contribute towards a paradigm shift within global-but-local student-centred education in a digital and online learning environment.



It is expected that more than 500 students will have been involved in some of these activities by the end of the project period. A specific, earlier developed, Quality Improvement Process will be enhanced with the progression ILO system and used towards all the learning material developed, with transnational and global peer review. This will be implemented throughout all the learning resources, ranging from individual modules through courses and full programs.

This collaboration aims to significantly increase the project's impact and contribute to the development of the EEDA concept and global educational materials.

The consortium eagerly anticipates contributing to these advancements and the creation of high-quality educational content, and we welcome EU-AGM to this collaborative journey.



Through this unique opportunity, learners engaged in hands-on experience with the digitalization of experimentation and gained valuable new insights into the field of solar photovoltaics. Our remote laboratory platform allows users to access and manipulate real-world solar PV systems from the comfort of their own learning environment.

Among the key components are:

- 1.Sensors.
- 2.Solar panel holding structure.
- 3.Connectivity and data access.

Weather station (Temperature, Humidity, Wind speed etc.)

IP Camera

Irradiance meter

Communication gateway

Communication Switch IP

RGB LED driver

RGB LED Panel

Linear & Rotary Actuator/s

Bearingless Absolute Encoder

P-Pitch angle

T-Tilt angle

Y-Yaw angle

144 Cell PV Panel

DC Motor Driver

Oscilloscope

Variable LRC load

IPv4-IPv6 Protocol

DC 0-100V/ 60A

Local database With HMI

IoT device

Firewire

Cloud

PLC device With HMI

Current sensor

Voltage sensor

Voltmeter (V) Ammeter (A)

Client-1

Client-2

Client-N

Visit: SA301-T01L02: Solar photovoltaic remote laboratory experiments in Learnify