

In-house Training Workshop

Event type	In-house Workshop
WP Number	3
WP Leader	NTUA
Event date	8/1/2023
Number of Participants	18
Total number of pages	9

Project Coordinator

Prof Ahmed Al-Salaymeh,

The University of Jordan (UJ)

Queen Rania Street | Amman 11942, Jordan

Tel: +962-6-53 55 000 Ext. 22816 | Fax: +962-6-53 00 237

Email: Eco-car@ju.edu.jo

Project website: <http://sites.ju.edu.jo/en/ECO-CAR/Home.aspx>



1 Event Description

The training workshop focused on the following:

- Give a brief introduction about the energy storage systems and battery principles
- Give an introduction about the battery types such as Li-ion batteries, Nickel Metal Hydride Batteries (NiMH), and Supercapacitors
- Summaries the Safety conditions for battery and health surveillance

The Workshop Objectives:

The main goals of the workshop are:

- Understand the necessity and usage of different energy storage schemes for different purposes
- Have a technological overview of various energy storage schemes
- Understand the operational mechanisms of each energy storage system
- Understand the fundamentals of battery safety
- Understand the required knowledge for safety working place

Dr. Loai Dabbour and Dr. Nabeel Abu Shaban welcomed the participants and gave a short introductory speech about the ECO-CAR project. In addition, they highlighted the aim of the training workshop, which is to introduce the energy storage system which is used in Electric and Hybrid vehicles.

Dr. Nabeel Abu Shaban talked about an introduction to Electrochemical Energy Storage Systems, Electrochemical Storage Systems, Different Primary Battery Technologies, Different Secondary Battery Technologies, and Battery Life and Recycling.

Eng. Eman Abdelhafez talked about Li-ion batteries (Principle of operation; battery components and design; electrode; cell and battery manufacturing; composing a battery from a cell into a module into a pack.), Nickel Metal Hydride Batteries (NiMH) and Supercapacitors (NiMH batteries for transportation; future prospects of NiMH batteries; supercapacitors for transportation; aqueous and organic based supercapacitors; Pseudo and asymmetric supercapacitors).

Dr. Loai Dabbour talked about the Duties of Proprietors and Workers, Safety and Health Hazards, Risk Assessment, Safety Precautions, Information, Instruction and Training, and Emergency Preparedness




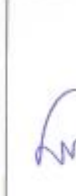
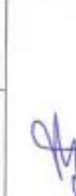



ERASMUS+ PROGRAMME Project Number: 618509-EPP-1-2020-1-JO-EPPKA2-CBHE-JP

DISCLAIMER: *This project has been funded with support from the European Commission. This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.*

2 Agenda

Time	Activity
10:00-10:15	Welcoming speech <i>Dr. Loai Dabbour and Dr. Nabeel Abu Shaban</i>
10:15-11:15	Introduction to Energy Storage System <i>Dr. Nabeel Abu Shaban (ZUJ)</i>
11:15-11:30	Coffee break
11:30-12:30	Li-ion batteries, Nickel Metal Hydride Batteries (NiMH) and Supercapacitors <i>Eng. Eman Abdelhafez (ZUJ)</i>
12:30-13:10	Safety conditions for battery and health surveillance <i>Dr. Loai Dabbour (ZUJ)</i>
13:10-13:30	Free time for Questions and Discussion

3 Attendance sheet









No.	Participants Name	Phone Number/Email	Signature
1.	Hamza murad Abdallah	0791901880	
2.	C PASS an Saïwer aïwid	0798244526	
3.	ALNother Ermat Naddaf	0799079456	
4.	Rashed Khaled Saradi	0789491202	
5.	Mohammed ALhijog	07918 5776725723	
6.	Omar Ahmed Alhiti	0798968229	
7.	Mohammad Salman	0792061368	
8.	Malek iadeh	0795058077	

1

ERASMUS+ Programme – ECO-CAR Project number: 618509-EPP-1-2020-1-JO-EPPKA2-CBHE-JP

ERASMUS+ PROGRAMME Project Number: 618509-EPP-1-2020-1-JO-EPPKA2-CBHE-JP

DISCLAIMER: This project has been funded with support from the European Commission. This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



No.	Participants Name	Phone Number/Email	Signature
9.	يوسف ابراهيم عبا	0781662033	
10.	ياسر محمد عيسى	0799761827	
11.	محمد علي	201820421	
12.	محمد حسن حوران	201910850/0792923003	
13.	علي سليمان علي	201910613/0791057650	
14.	حامد صلاح عيسى	201820138 / 0770168879	
15.	محمد علي عيسى	201910708 / 0795328581	
16.	محمد يوسف عيسى	201910850 0795303034	



Co-funded by the
Erasmus+ Programme
of the European Union

Energy Storage Workshop
Al-Zaytoonah University of Jordan
8/1/2023



No.	Participants Name	Phone Number/Email	Signature
17.	Mohamad Bashari محمد البشاري	0782642455	
18.	Iyad Yaser Abuhani I	0787689330	
19.			
20.			
21.			
22.			
23.			
24.			

3

ERASMUS+ Programme – ECO-CAR Project number: 618509-EPP-1-2020-1-JO-EPPKA2-CBHE-JP

ERASMUS+ PROGRAMME Project Number: 618509-EPP-1-2020-1-JO-EPPKA2-CBHE-JP

DISCLAIMER: This project has been funded with support from the European Commission. This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

4 PPTs for training material

The training materials are available at the following link:

https://www.dropbox.com/sh/tnl2m329x7xr9n1/AAD11jVZ_GyQnXPjrOsVHlca?dl=0

5 Photos



ERASMUS+ PROGRAMME Project Number: 618509-EPP-1-2020-1-JO-EPPKA2-CBHE-JP

DISCLAIMER: This project has been funded with support from the European Commission. This publication [communication] reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.



