

# University of L'Aquila (UNIVAQ) online workshop- Report

<b>Event type</b>	<b>Workshop</b>
<b>WP Number</b>	<b>WP3, WP7</b>
<b>WP Leader</b>	<b>NTUA, HTU</b>
<b>Event date</b>	<b>13-09-2021</b>
<b>Number of Participants</b>	<b>163</b>
<b>Total number of pages</b>	<b>13</b>

## Project Coordinator

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## 1 Event Description

University of L'Aquila (UNIVAQ) from Italy conducted the workshop on 13th of September 2021. The 2-hours workshop was conducted via ZOOM and titled "Introduction on Internal Combustion Engines in Hybrid Vehicles and Well to Wheel LCA Calculation".

The workshop started with a welcoming speech and an overview of the nature of the project, its objectives and the partners working on it by the project coordinator, Prof. Ahmed Al-Salaymeh from The University of Jordan.

"Internal Combustion Engines in Hybrid Vehicles" By: Prof. Michele Anatone, UNIVAQ.

"Well to Wheel LCA Assessment" By: Prof. Carlo Villante, UNIVAQ.

A discussion panel was opened for participants to ask the lecturers.

## 2 Invitation letter



السادة المحترمين

تحية طيبة و بعد،،،

يتشرف فريق مشروع الايكو كار (ECO-CAR) و المدعوم من الإتحاد الأوروبي ضمن مشاريع إيراسموس بلس (ERASMUS+) بدعوتكم لحضور ورشة عمل بعنوان:

“Introduction on Internal Combustion Engines in Hybrid Vehicles and Well to Wheel LCA Calculation”

المنوي عقدها يوم الاثنين بتاريخ 2021-9-13 في تمام الساعة 10:00 صباحاً ولغاية الساعة 12:30 مساءً، و ذلك على المنصة الافتراضية (ZOOM)، من خلال الرابط ادناه:

<https://zoom.us/meeting/register/tJUoduGurD8iE9w1k6YwLAEWdZtK7DG5kclx>

يرجى الضغط على الرابط اعلاه و التسجيل مسبقاً .

حيث يهدف المشروع إلى إنشاء دبلوم تدريبي و فني في صيانة السيارات الكهربائية و الهجينة . و تتضمن ورشة العمل إعطاء نبذة عن طبيعة المشروع و اهدافه و الشركاء العاملون فيه الى جانب مواضيع اخرى متعلقة في البطاريات يمكن ايجادها في الملف المرفق في هذا البريد الإلكتروني و الذي يتضمن جدول عمل الورشة.

لأي استفسارات يرجى التواصل على:

البريد الإلكتروني: [eco-car@ju.edu.jo](mailto:eco-car@ju.edu.jo)

مع الشكر الموصول لكم

فريق ECO-CAR

ERASMUS+ PROGRAMME

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

### 3 Agenda

**ERASMUS+ PROGRAMME**

**ECO-CAR Project**

**Project Number: 618509-EPP-1-2020-1-JO-EPPKA2-CBHE-JP**

**“Vocational Training Diploma on Electrical and Hybrid Vehicles”**

**ECO-CAR Workshop:**

**“Introduction on Internal Combustion Engines in Hybrid  
Vehicles and Well to Wheel LCA Calculation”**

**-Workshop Agenda-**

**Presented by:**

**The University of L’Aquila (UNIVAQ) – Italy**

**Coordinated by: The University of Jordan**

**Workshop Link:**

[https://zoom.us/meeting/register/tJUoduGurD8iE9w1k6YwLAEWdZtK7DG5kclx](https://zoom.us/join/zoom/register/tJUoduGurD8iE9w1k6YwLAEWdZtK7DG5kclx)

**Monday, September 13<sup>th</sup>, 2021**

**10:00 – 12:30 (Amman time)**

**Monday, September 13<sup>th</sup>, 2021**

**10:00 – 12:30**

<b>09:45 - 10:00</b>	<b>Registration</b>
<b>10:00 - 10:10</b>	<b>Welcoming Speech and Overview of the ECO-CAR Project by:</b> Prof. Ahmed Al-Salaymeh, General Project Coordinator at the University of Jordan

***ECO-CAR Workshop***

***Moderators of the Sessions: Eng. Rasha Albaik & Eng. Sara Al Twassi***

<b>10:10 - 11:10</b>	<b>"Internal Combustion Engines in Hybrid Vehicles"</b>  By: Prof. Michele Anatone, UNIVAQ
<b>11:10 – 12:10</b>	<b>"Well to Wheel LCA Assessment"</b> By: Prof. Carlo Villante, UNIVAQ
<b>12:10 – 12:30</b>	<b>Discussion</b>
<b>12:30</b>	<b>End of the Workshop</b>

## 4 Poster



**ECO-CAR WORKSHOP**  
"Introduction on Internal Combustion Engines in Hybrid Vehicles and Well to Wheel LCA Calculation"  
Presented by UNIVAQ - Italy

**Monday**  
13/09/2021  
10:00  
-  
12:30

9:45-10:00 : Registration  
10:00-10:10 : Welcoming Speech, by:  
Prof. Ahmed Al-Salaymeh, General Project Coordinator  
at The University of Jordan  
10:10-11:10 : "Internal Combustion Engines in Hybrid Vehicles"  
by: Prof. Michele Anatone, UNIVAQ  
11:10-12:10 : "Well to Wheel LCA Assessment"  
by: Prof. Carlo Villante, UNIVAQ  
12:10-12:30 : Discussion and Closing

Join us & Register here:  
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E-mail: [Eco-car@ju.edu.jo](mailto:Eco-car@ju.edu.jo)



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of the European Union

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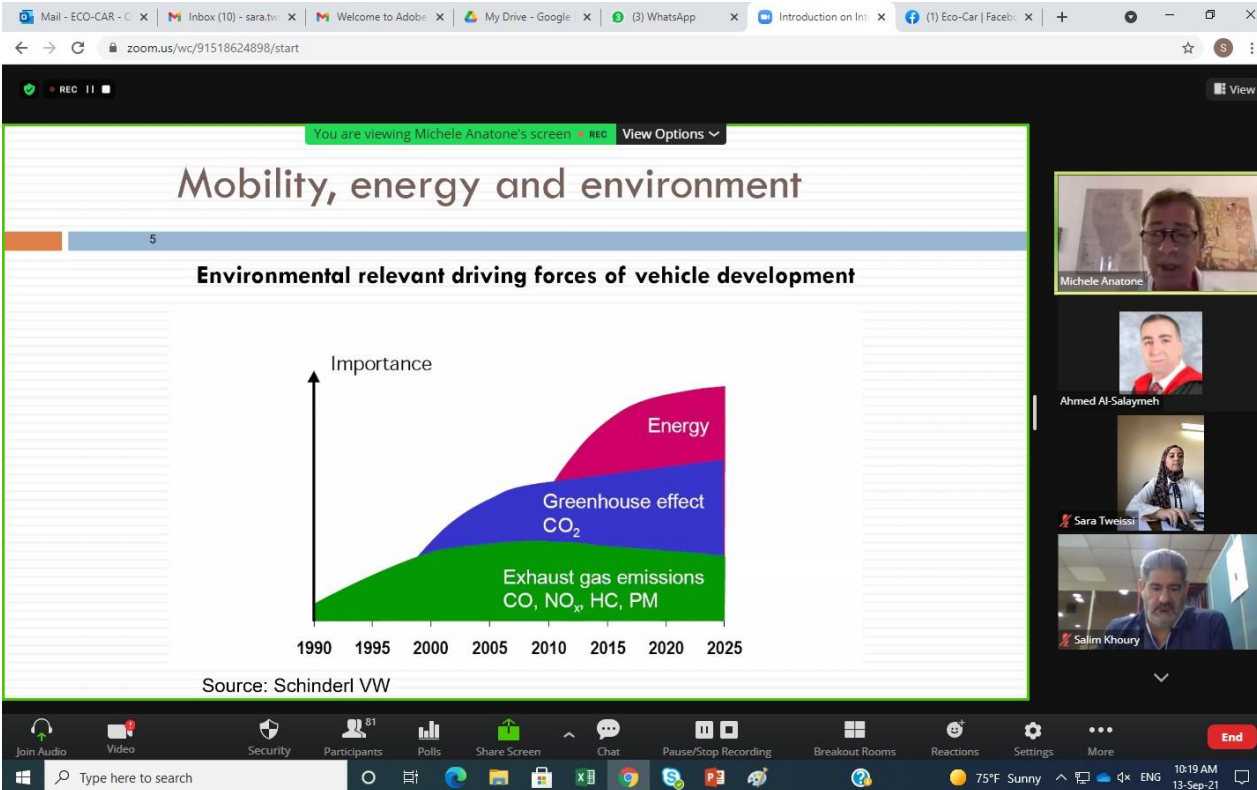
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Dr. Akram	Musa	<a href="mailto:akramusa@nuct.edu.jo">akramusa@nuct.edu.jo</a>
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Tasneem	Abuqwaider	<a href="mailto:Trabuqwider19@eng.just.edu.jo">Trabuqwider19@eng.just.edu.jo</a>

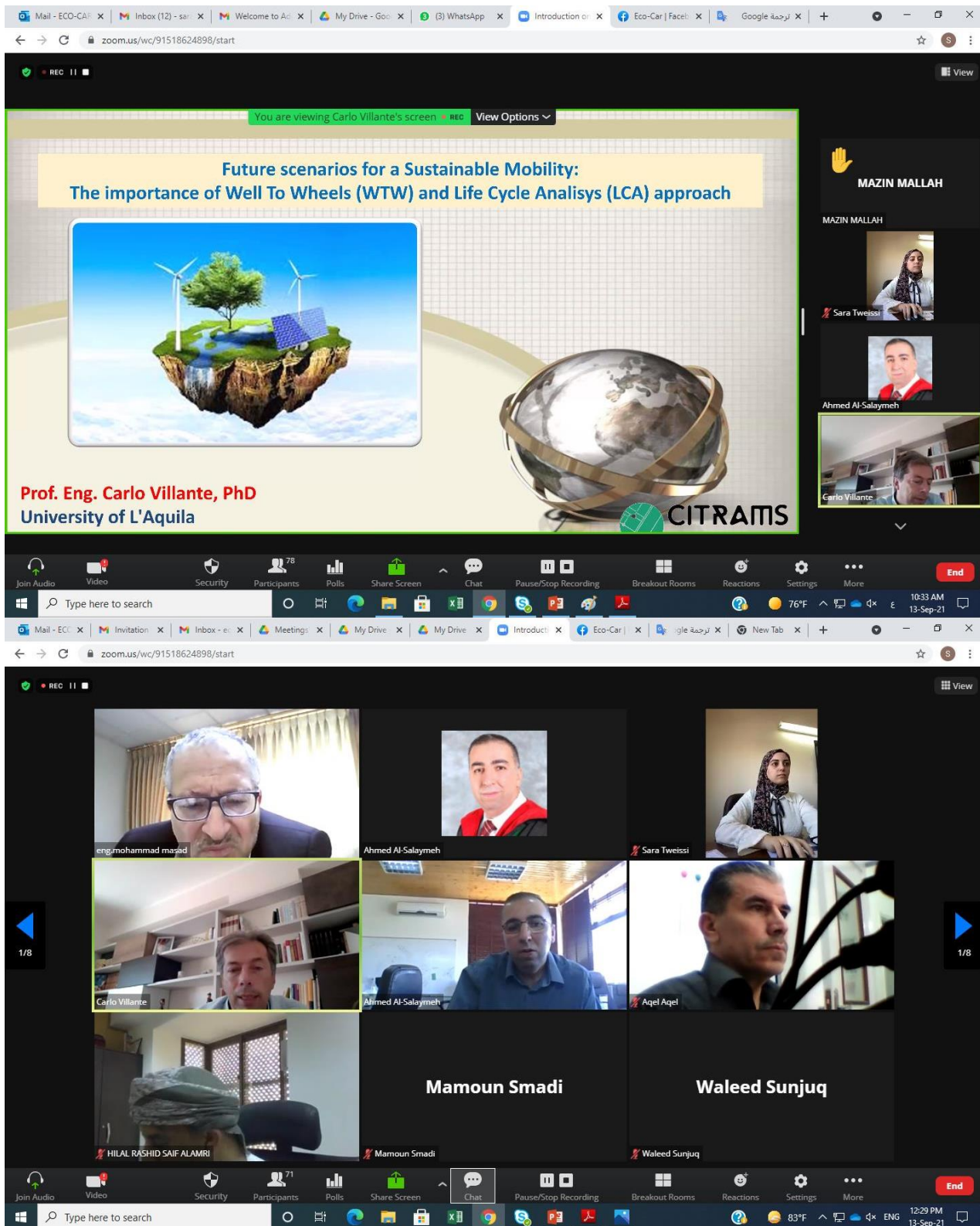
## 6 Photos



The screenshot shows a Zoom meeting interface. The main content is a presentation slide titled "Mobility, energy and environment" with a sub-heading "Environmental relevant driving forces of vehicle development". The slide features a stacked area chart showing the increasing importance of three factors from 1990 to 2025: Exhaust gas emissions (CO, NO<sub>x</sub>, HC, PM) in green, Greenhouse effect CO<sub>2</sub> in blue, and Energy in pink. The y-axis is labeled "Importance" and the x-axis shows years from 1990 to 2025. The source is cited as "Schindlerl VW". The Zoom interface includes a top bar with browser tabs, a bottom toolbar with controls like "Join Audio", "Video", "Security", "Participants", "Polls", "Share Screen", "Chat", "Pause/Stop Recording", "Breakout Rooms", "Reactions", "Settings", and "More", and a red "End" button. A vertical sidebar on the right shows video thumbnails for participants: Michele Anatore, Ahmed Al-Salaymeh, Sara Tweisssi, and Salim Khoury.

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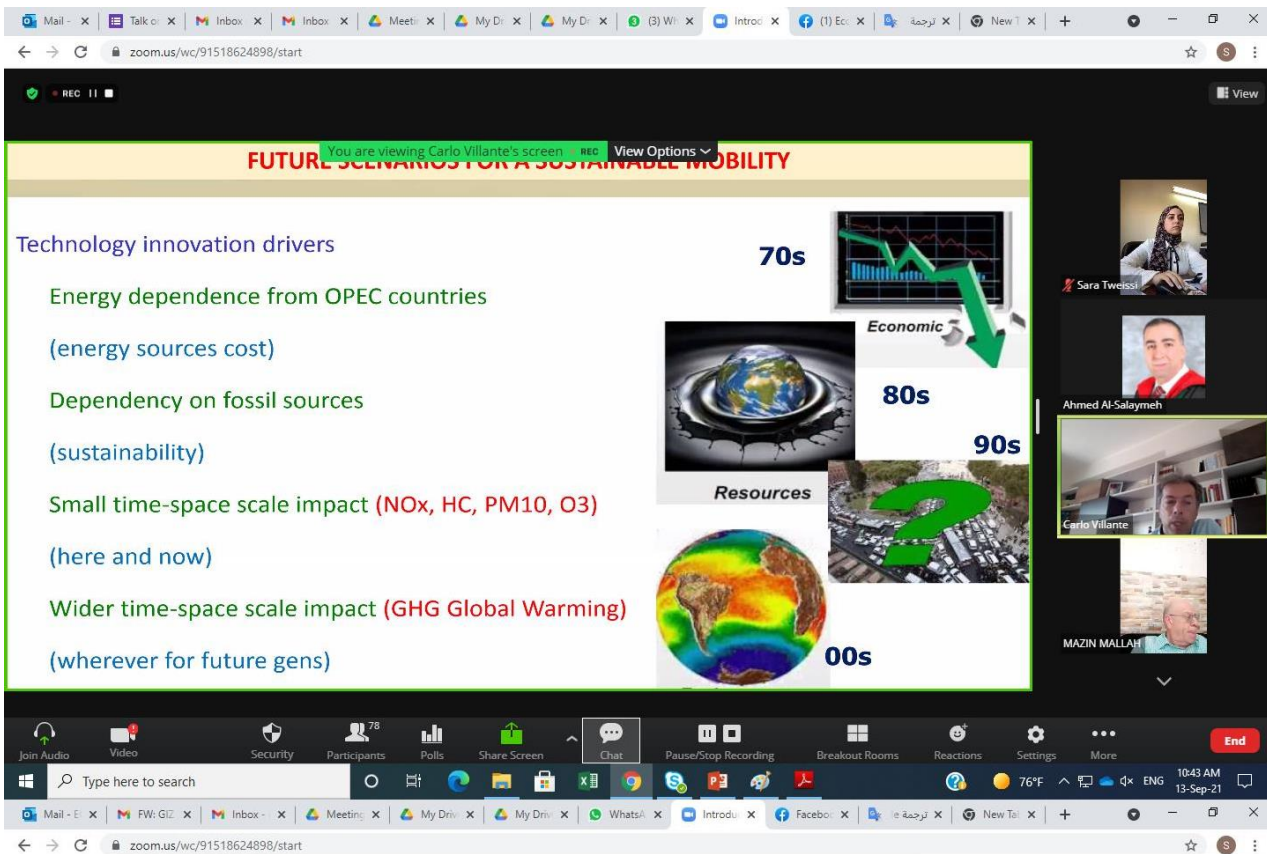
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The image shows two screenshots from a Zoom meeting. The top screenshot displays a presentation slide titled "Future scenarios for a Sustainable Mobility: The importance of Well To Wheels (WTW) and Life Cycle Analys (LCA) approach". The slide features an illustration of a floating island with wind turbines, a tree, and solar panels, alongside a globe. The presenter is identified as Prof. Eng. Carlo Villante, PhD, from the University of L'Aquila. The Zoom interface shows a gallery view with participants including Mazin Mallah, Sara Tweisai, Ahmed Al-Salaymeh, and Carlo Villante. The bottom screenshot shows a different gallery view with participants including eng.mohammad.masad, Ahmed Al-Salaymeh, Sara Tweisai, Carlo Villante, Ahmed Al-Salaymeh, Aqel Aqel, Mamoun Smadi, and Waleed Sunjuq. The Zoom control bar at the bottom of both screenshots includes options for audio, video, security, participants, polls, screen sharing, chat, and recording.

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**FUTURE SCENARIOS FOR A SUSTAINABLE MOBILITY**

You are viewing Carlo Villante's screen

Technology innovation drivers

- Energy dependence from OPEC countries (energy sources cost)
- Dependency on fossil sources (sustainability)
- Small time-space scale impact (NO<sub>x</sub>, HC, PM<sub>10</sub>, O<sub>3</sub>) (here and now)
- Wider time-space scale impact (GHG Global Warming) (wherever for future gens)

70s Economic

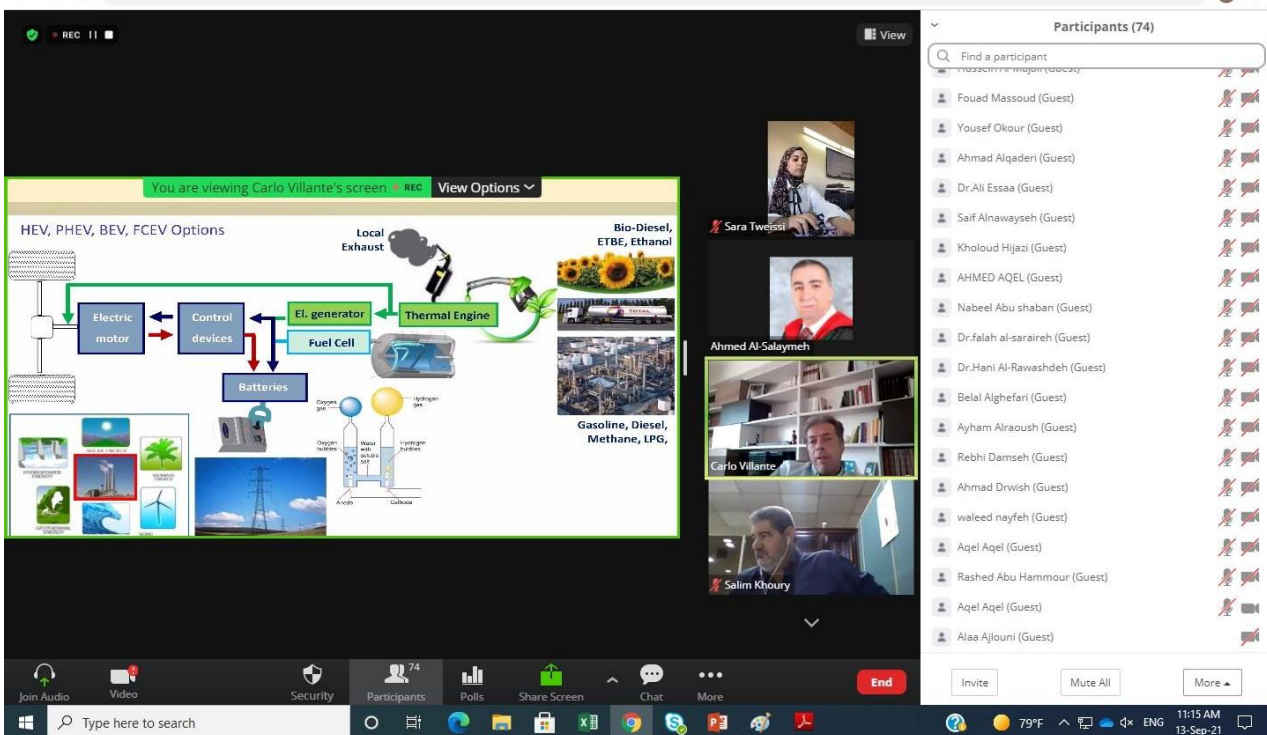
80s Resources

90s

00s

Zoom Meeting Controls: Join Audio, Video, Security, Participants (78), Polls, Share Screen, Chat, Pause/Stop Recording, Breakout Rooms, Reactions, Settings, More, End

Participants: Sara Tweisli, Ahmed Al-Salaymeh, Carlo Villante, MAZIN MALLAH



**HEV, PHEV, BEV, FCEV Options**

You are viewing Carlo Villante's screen

Local Exhaust

Bio-Diesel, ETBE, Ethanol

Gasoline, Diesel, Methane, LPG

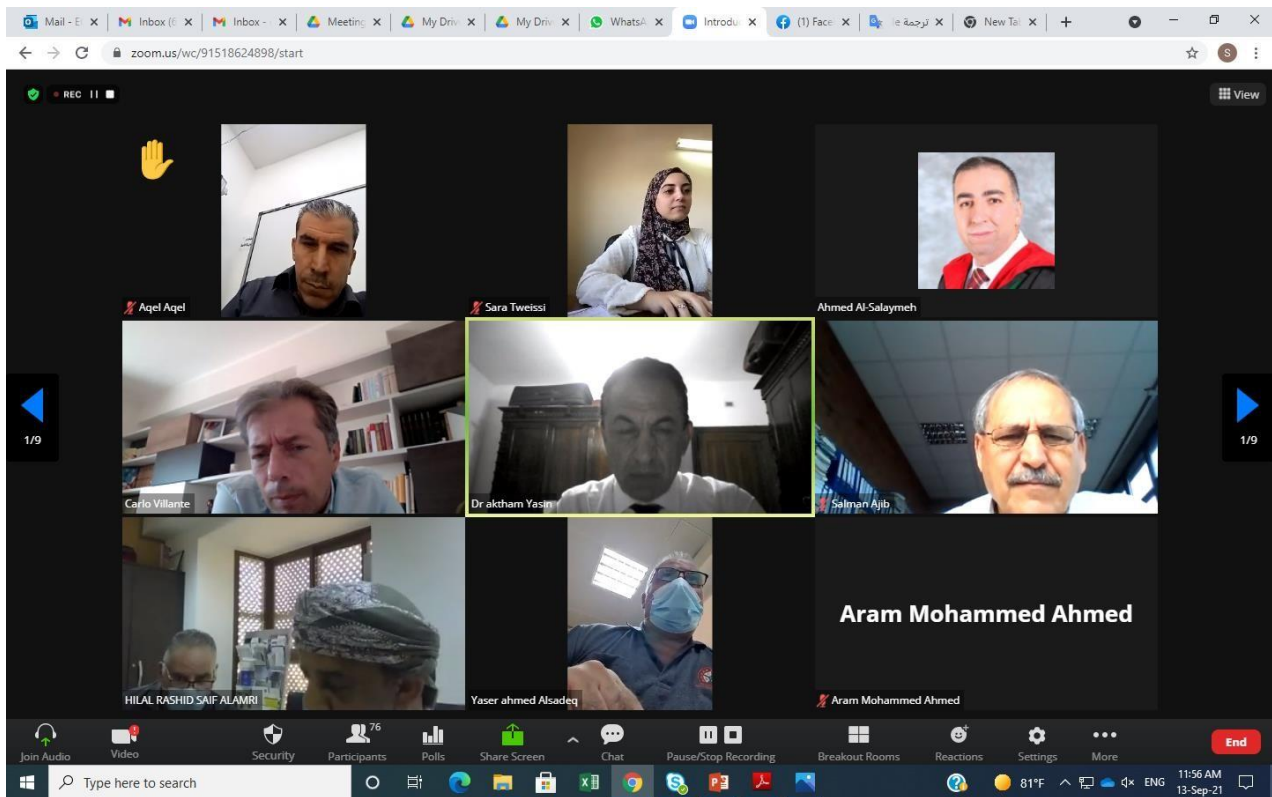
Electric motor, Control devices, El. generator, Thermal Engine, Fuel Cell, Batteries

Zoom Meeting Controls: Join Audio, Video, Security, Participants (74), Polls, Share Screen, Chat, More, End

Participants (74): Fouad Massoud (Guest), Yousef Okour (Guest), Ahmad Algaderi (Guest), Dr.Ali Essaa (Guest), Saif Alinawayseh (Guest), Kholoud Hijazi (Guest), AHMED AQEL (Guest), Nabeel Abu shaban (Guest), Dr.falah al-sarairah (Guest), Dr.Hani Al-Rawashdeh (Guest), Belal Alghafari (Guest), Ayham Alraoush (Guest), Rebhi Damseh (Guest), Ahmad Drwish (Guest), waleed nayfeh (Guest), Aqel Aqel (Guest), Rashed Abu Hammour (Guest), Aqel Aqel (Guest), Alaa Ajlouni (Guest)

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## 7. Video

<https://www.youtube.com/watch?v=q-g9Y8XLjfE>

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