

University of Deusto (UD) online workshop-Report

Event type	Workshop
WP Number	WP3, WP7
WP Leader	NTUA, HTU
Event date	02-12-2021
Number of Participants	128
Total number of pages	9

Project Coordinator

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



1 Event Description

University of Deusto (UD) from Spain conducted the workshop on 2nd of December 2021. The 2-hours workshop was conducted via ZOOM and titled “Vibroacoustic Comfort in Road Vehicles”.

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.

- “Vibroacoustic Comfort in Road Vehicles”.
- “Vibroacoustic Comfort in Road Vehicles using CarMaker-Simulink”.

By: Jon García-Barruetaña, Director of the Master's Degree in Automotive Design and Manufacturing.

A discussion panel was opened for participants.

2 PPTs

- ECO-CAR in brief:

https://fisjo-my.sharepoint.com/:p:/g/personal/eco-car_ju_edu_jo/Ed9tMiejP59BmgHt7h7HVfAB1NmLobyptSmaRzEi67lvSA?e=ORFuez

- Vibroacoustic Comfort in Road Vehicles:

https://fisjo-my.sharepoint.com/:b:/g/personal/eco-car_ju_edu_jo/EQYRfAm264hEslSXQJpnETYBWhG9GXwLZdhT2mb5PLTJWQ?e=nEdVjM

3 Poster



ECO-CAR Workshop

Vibroacoustic Comfort in Road Vehicles

Presented by: University of Deusto (UD) - Spain



Thursday, December 02, at 17:00 (Amman time)

16:45-17:00 : Registration

17:00-17:15: Welcoming Speech, by:
Prof. Ahmed Al-Salaymeh, General Project
Coordinator at The University of Jordan

17:15-18:00 : Vibroacoustic Comfort in Road Vehicles

18:00-18:05 : Break

18:05-18:45 : Vibroacoustic Comfort in Road Vehicles
using CarMaker-Simulink

18:45-19:00: Discussion and Closing



Presenter: Jon García-Barruetaña, Director of the Master's Degree in Automotive Design
and Manufacturing - University of Deusto



4 ZOOM participants list

First Name	Last Name	Email	Registration Time
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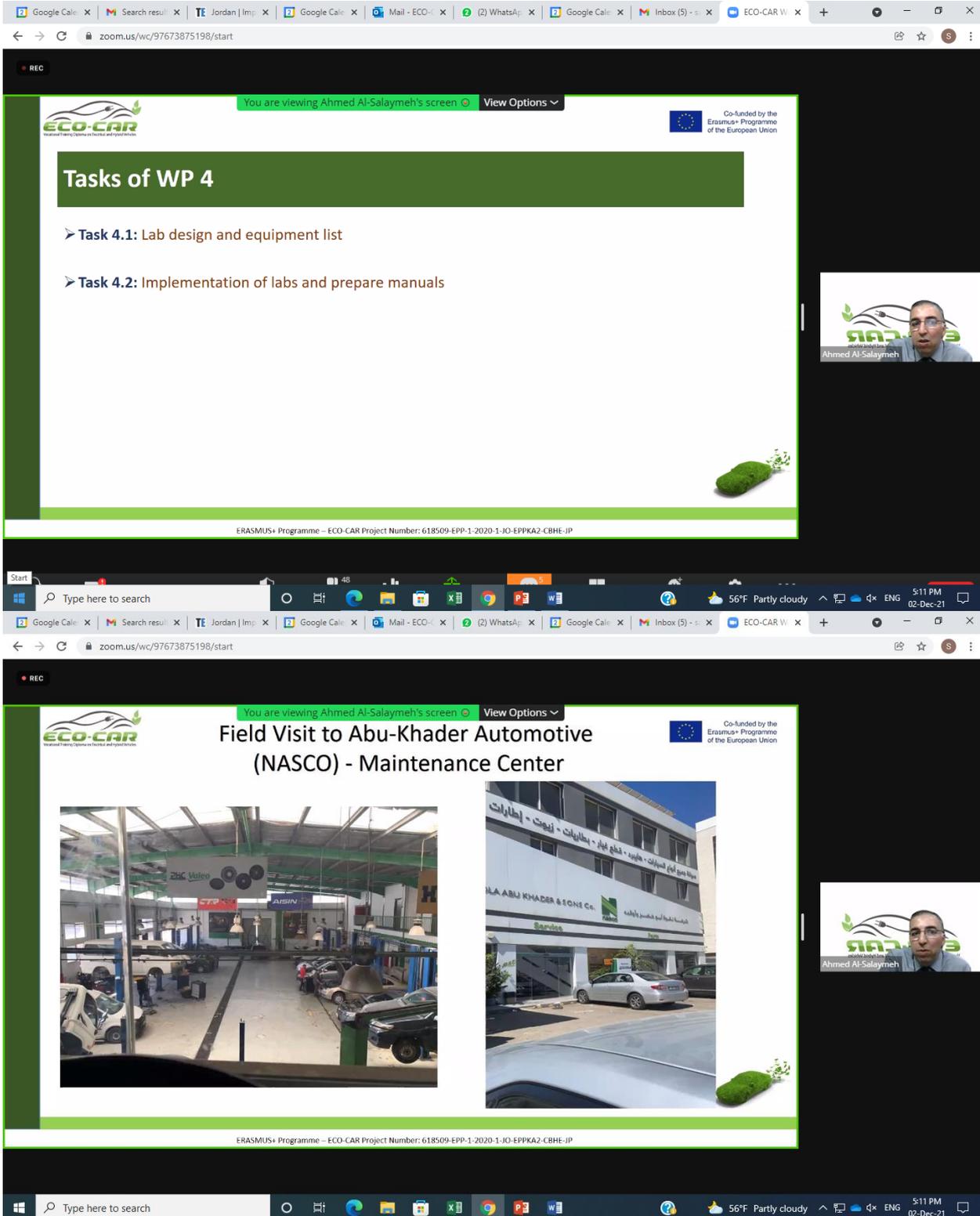
ERASMUS+ PROGRAMME Project Number: 618509-EPP-1-2020-1-JO-EPPKA2-CBHE-JP

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5 Photos



The image shows a Zoom meeting interface. The top part of the screen displays a presentation slide titled "Tasks of WP 4" with two bullet points: "Task 4.1: Lab design and equipment list" and "Task 4.2: Implementation of labs and prepare manuals". The slide includes the ECO-CAR logo and the Erasmus+ logo. A small video window on the right shows a man, Ahmed Al-Salaymeh, speaking. The bottom part of the screen shows another slide titled "Field Visit to Abu-Khader Automotive (NASCO) - Maintenance Center". This slide features two photographs: one of the interior of a car maintenance center with several cars on lifts, and another of the exterior of the building, which has Arabic signage and the name "ABU KHADER & SONS CO". The Zoom interface includes a taskbar at the bottom with various application icons and system information like the date and time (5:11 PM, 02-Dec-21).

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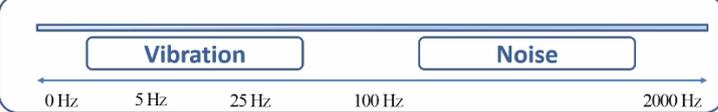
zoom.us/jc/97673875198/start

REC View

You are viewing Jon García Barruetaña's screen View Options

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Universidad de Deusto

NVH



0 Hz 5 Hz 25 Hz 100 Hz 2000 Hz

VEHICLE

- Ride** (0 - 5 Hz) low frequency oscillations. Rigid body oscillations of the car on the suspensions.
- Shake** (5 - 25 Hz) resonances of engine, suspensions and unsprung masses.
- Harshness** (25-100 Hz) resonances (non-rigid) of car body
- Noise** (Over 100 Hz) vibration is perceived as noise

HUMAN

- Motion sickness** (< 0.5 Hz) Low frequency oscillations. Rigid body oscillations of the car on the suspensions.
- Body resonances** (2 - 80 Hz) resonances of body parts and organs

6

Join Audio Video Security Participants Polls Share Screen Chat Breakout Rooms Reactions Settings More Leave

Type here to search

zoom.us/jc/97673875198/start

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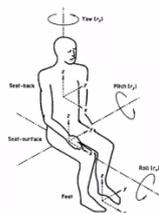
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NVH

HUMAN COMFORT



BS 6841
ISO 2381-8

Direction	Weighting
Frequency	Weighting
Duration	Weighting

15

Join Audio Video Security Participants Polls Share Screen Chat Breakout Rooms Reactions Settings More Leave

Type here to search

zoom.us/jc/97673875198/start

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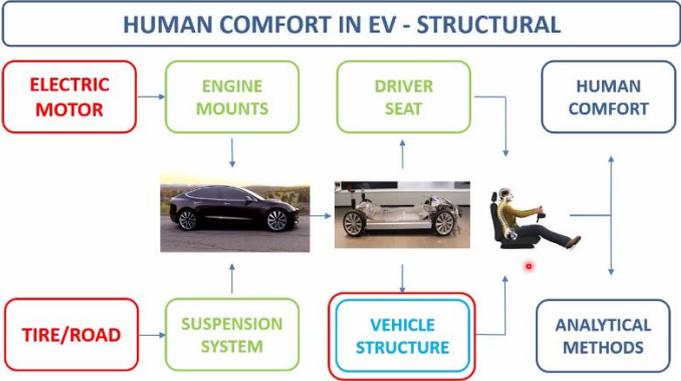
REC View

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NVH

HUMAN COMFORT IN EV - STRUCTURAL



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graph TD
    EM[ELECTRIC MOTOR] --> EMOUNTS[ENGINE MOUNTS]
    TR[TIRE/ROAD] --> SS[SUSPENSION SYSTEM]
    EMOUNTS --> DS[DRIVER SEAT]
    SS --> DS
    DS --> HC[HUMAN COMFORT]
    DS --> VM[VEHICLE STRUCTURE]
    SS --> VM
    VM --> AM[ANALYTICAL METHODS]
    HC --> AM
    
```

29

Join Audio Video Security Participants 55 Polls Share Screen Chat Breakout Rooms Reactions Settings More Leave

Type here to search 55°F Haze 5:48 PM 02-Dec-21

6 Video

<https://www.youtube.com/watch?v=hx8jfT0C15U>

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