

	25 may	26 may	27 may	28 may	29 may	4 Jun	5 Jun	10 Jun	11 Jun	12 Jun
9 - 13	Off-highway vehicles: description, field uses, and challenges in their development Michele Mattetti Massimiliano Varani Gusztav Ottrubay UNIBO	Undercarriage systems for off-highway vehicles Berco Francesco Grenzi Andrea Bianchi Berco (... to be confirmed) Basics of terramechanics Michele Mattetti UNIBO	Modeling, Control and Testing of Advanced Powertrains: Introduction and Overview of Off-highway Applications Nicolò Cavina, UNIBO Fluid Power Systems overview for modern Off-Highway applications Andrea De Pascale, UNIBO Opportunities and challenges for the Electrification of Off-Highway Vehicles Claudio Rossi, UNIBO	CNH Visit Welcome and Introduction Mario De Amicis, Silvia Tempestilli Performance Simulation and Vehicle Dynamics C. De Marco, G. Nicotra Design Development Process G. Anseloni Precision Farming Technology F. Maccari High Performance Systems F. Grossi Driveline Basics and Architecture Driveline Development Tools Electro-Hydraulics and Future Trends Simone Orlandi Manufacturing E. Ferraris	Independent hackathon activity* * for this sessions all the students must bring their own laptop	Agricultural Vehicles: an overview on the state of the art and the legislative framework Lorenzo Iuliano - FederUnacoma Off-Highway Vehicle Dynamics: From Theory to Prototyping Mattia Battarra, UNIFE	Study of hydraulic actuators for off road-vehicles, focus on the hydrostatic steering system Barbara Zardin UNIMORE Electro-mechanical vs. Electro-hydraulic actuation. Which one is better for vehicle electrification Andrea Vacca Purdue University Visit at fluid power lab	Carraro visit Welcome and introduction of the company Applications of Carraro products Description of axles for off-highway vehicles Virtual Validation of transmissions and axles Control system for transmissions Transmission validation through test rigs	Independent hackathon activity* * for this sessions all the students must bring their own laptop	Pitches of teams in front of an evaluation panel (40 min per team)
13 - 14.00	Social lunch offered by the summer school	Lunch	Lunch	Social lunch offered by the summer school	Lunch	Lunch	Lunch	Social lunch offered by the summer school	Lunch	Social lunch offered by the summer school
14.00 - 18.00	Technical visit at UNIBO Farm Luigi Bianco UNIBO	Description of hackathon challenges with a Q&A session and team definition Gusztav Ottrubay UNIBO Introduction to Python Programming with Hands-On Applications for LEGO Vehicles* Gusztav Ottrubay * for this sessions all the students must bring their own laptop	Introduction to Python Programming with Hands-On Applications for LEGO Vehicles* * for this sessions all the students must bring their own laptop	New hired experience S. Dimas Virtual Reality and Digital Twin G. Scotto di Vetta, M. Bonazza Visit to Dynamic Simulator and Testing Facilities A. Visciano, F. Davide Wrap Up - Q&A	Independent hackathon activity* * for this sessions all the students must bring their own laptop	Independent hackathon activity & Official test on the proving ground* * for this sessions all the students must bring their own laptop	Soft skills for project developments* Alberto Caviglia Motor Valley Accelerator * for this sessions all the students must bring their own laptop	From vehicle to the digital twin Hard and soft skills for off-highway engineer Tour Testing/Proto R&D + Tour Plant Operations	Independent hackathon activity* * for this sessions all the students must bring their own laptop	Hackaton competition followed by the award ceremony* * for this sessions all the students must bring their own laptop
Later	Leaving Padova by bus at 16:30									Social dinner in a typical local restaurant

Locations

UNIBO - DISTAL: aula e-learning (5th floor) viale Giuseppe Fanin 50, fifth floor, Bologna

UNIBO - DISTAL: classrom 8,9, 10 and sala riunioni at viale Giuseppe Fanin 46-50, Bologna

UNIBO - FARM: via Ganfoli 19, Cadrignano

CNH: via delle Nazioni 55, Modena

UNIMORE - DIEF: classroom P2.3 via Pietro Vivarelli, 10, Modena

UNIBO - DIN Sala del Consiglio - Via del Risorgimento 2, Bologna

UNIBO - DISTAL: catering room (5th floor) at viale Giuseppe Fanin 50, Bologna

Carraro plant: via Olmo, 37. 35011 Campodarsego (Padova)