



Smartfan European School on Carbon Fibers reinforced polymers for advanced applications

27th - 30th September 2021

Varano de' Melegari (Italy)



This project has received funding from the European Union's Horizon2020 research and innovation programme under grant agreement n. 760779

DAY 1

PROGRAMME

Monday 27th September

Fundamentals of composite materials

09:00-09:15 ▶ Welcome and Introduction to the SMARTFAN school
Gianmarco Beltrami (DALLARA)
Massimo Rinaldi (Warrant Hub)

09:15-10:00 ▶ Introduction to the project:
Prof. Costas Charitidis/ Tanja Kosanovic (NTUA);
Introduction to Smartfan composite technologies:
Prof. Costas Charitidis/Kate Trompeta (NTUA)

10:00-10:45 ▶ Introduction on carbon fibres and applications:
Luca Vescovi (DALLARA)

h. 10:45-11:15 Coffee break

11:15-12:00 ▶ Review of the mechanical testing methods of composite materials:
Prof. Nicholas Tsouvalis (NTUA | on-line)

12:00-12:45 ▶ High Performance Car Design in the racing ecosystem:
Matteo Piraccini (HAAS)

12:45-13:00 ▶ Closing Day 1

h. 13:00-14:00 Lunch break

In-person

14:00-16:00 ▶ Visit to DALLARA

16:00-19:00 ▶ Free Time

19:00-21:00 ▶ Driving experience: Team building activity
Students will be involved in a kart competition at the Varano racetrack. The group will be divided into teams that will compete in a thrilling speed race.
Are you ready for the challenge?



DAY 2

Tuesday 28th September**Design & Processing of composites**

- 09:00-09:15 ▶ Introduction to Day 2
Sara Attanà (Warrant Hub)
- 09:15-10:00 ▶ Hybrid multi-scale and data-driven models for designing
the smart properties of nanocomposite materials:
Matteo Fasano (POLITO), Agustín Chiminelli (ITAINNOVA | on-line)
- 10:00-10:45 ▶ Processing methods and conditions to achieve smart and
multifunctional composites:
Andreia Araújo (INEGI)

h. 10:45-11:15 Coffee break

- 11:15-12:00 ▶ Advanced and Automated Composites Manufacturing:
Elena Rodríguez Senín (AIMEN)
- 12:00-12:45 ▶ Nanocomposites: Occupational safety considerations & The role
of Personal Protective Equipment:
Panagiotis Karayannis (IRES)
- 12:45-13:00 ▶ Closing Day 2

h. 13:00-14:00 Lunch break

In-person

- 14:00-16:00 ▶ Visit to DALLARA
- 16:00-17:00 ▶ Transfer to Parma
- 17:00-19:00 ▶ Guided tour of Parma old Town
- 19:00-22:00 ▶ Free time in Parma
- 22:00 ▶ Transfer to Varano de' Melegari

DAY 3

Wednesday 29th September**Characterization & Advanced functionalities**

- 09:00-09:15 ▶ Introduction to Day 3
Stefania Melandri (Warrant Hub)
- 09:15-10:00 ▶ Plasma surface functionalisation and characterisation of carbon fibres for high-performance composites:
Prof. Hanshan Dong (University of Birmingham | online)
- 10:00-10:45 ▶ The role of graphene in the world of multifunctional composite materials:
Panagiotis Pappas (FORTH)

h. 10:45-11:15 Coffee break

- 11:15-12:00 ▶ Artificial Intelligence – Internet of Things synergies:
Domenico Romano (TECHEDGE)
- 12:00-12:45 ▶ Design and testing of multifunctional composite structures:
Prof. Robert Böhm (HTWK Leipzig)
- 12:45-13:00 ▶ Closing Day 3

h. 13:00-14:00 Lunch break

In-person

- 14:00-16:00 ▶ Practical session (Interactive session / Problem solving contest)
- 16:00-17:00 ▶ Transfer to ALMA | International School of Italian Cuisine
- 17:00-18:00 ▶ Guided tour of the school
- 18:00-20:00 ▶ Cook your own gala dinner!
Team building activity: ALMA's chef will teach students how to prepare a typical Italian type of pasta. This dish will be the main course of the gala dinner.
- 20:00-22:30 ▶ Gala Dinner
- 22:30 ▶ Transfer to Varano de' Melegari



DAY 4

Thursday 30th September

Case studies & Application

- 09:00-09:15 ▶ Introduction to Day 4
Sara Attanà (Warrant Hub)
- 09:15-10:00 ▶ Carbon-based smart shape memory polymer composites:
Prof. Fabrizio Quadrini (Tor Vergata University)
- 10:00-10:45 ▶ 3D printing of composite structures with dynamically reconfigurable
and reversible shape transformations upon external stimuli:
Panagiotis Zouboulis (BIOG3D)

h. 10:45-11:15 Coffee break

- 11:15-12:00 ▶ 2D and 1D materials based composites for the next generation
of sensors, Energy storage, Harvesting, information storage and
EMS devices:
Paolo Bondavalli (THALES)
- 12:00-12:45 ▶ The use of carbon-fiber for automotive application:
Oliver Streilein (BUGATTI | online)

In-person

- 12:45-13:45 ▶ Closing Day and Cerimony
Isella Vicini (Warrant Hub)
Andrea Pontremoli (Dallara)

h. 13:45-15:00 Lunch

SmartFAN

www.smartfan-project.eu



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