

COST Action CA19118 - High-performance Carbon-based composites with Smart properties for Advanced Sensing Applications (EsSENce)

## **3<sup>rd</sup> Training School: Smart sensing applications**

Empa, Swiss Federal Laboratories for Materials Science and Technology,  
Überlandstrasse 129, 8600 Dübendorf, Switzerland, & online streaming,  
June 05–08, 2023

### **Monday, June 5<sup>th</sup>, 2022 | Registration**

- Venue: NEST, Empa, Überlandstrasse 129, 8600 Dübendorf, Switzerland
- Link to the live streaming (*registration required*):

<i>Time</i>	<i>Type</i>	<i>Title and Trainer</i>
15:00 – 16:00		<i>Check in and registration Empa: Nest Building ground floor.</i>
16:00 – 17:30		<b>Lab visit</b> Frank Clemens (Empa, Switzerland)
17:30 - 22:00		<b>Social event (own cost contribution ca. 50 CHF)</b> Visit of Zurich Dinner

### **Tuesday, June 6<sup>th</sup>, 2022 | Soft sensors based on carbon nanomaterials**

- Venue: Akademie, Empa, Überlandstrasse 129, 8600 Dübendorf, Switzerland
- Link to the live streaming (*registration required*):

<i>Time</i>	<i>Type</i>	<i>Title and Trainer</i>
09:00 – 09:30		<i>Welcome coffee</i>
09:30 – 09:45		<b>Welcome and Introduction to EsSENce COST Action</b> Costas Charitidis (NTUA, Greece)
09:45 – 10:00	L	<b>Introduction to the 3rd Training School</b> Frank Clemens (Empa, Switzerland) Ludwig Cardon (UGent, Belgium)
10:00 – 11:00	L	<b>Thermoplastic composites for vapor, liquid and strain sensing</b> Petra Pötschke (IPF Dresden, Germany)
11:00 - 12:00	L	<b>Thermoplastic elastomer sensors for mechano-, thermos and chemoreceptive sensor development</b> Frank Clemens (Empa, Dübendorf)

12:00 – 13:30		<i>Lunch break and networking</i>
13:30 – 14:30		<b>Integrated optic fibre sensors for structural health monitoring</b> Jan Vcelak (Czech Technical University in Prague – UCEEB, Czech Republic, InnoRenew CoE - Slovenia)
14:30 – 15:30	L	<b>Textile-based optic sensors for healthcare applications</b> Sara Fateixa (CICECO, University of Aveiro, Portugal)
15:30 – 16:00		<i>Coffee break</i>
16:00 – 17:00	L	<b>Synthesis of nanocomposites for wearable devices and soft robotics</b> Vitor Sencadas (CICECO, University of Aveiro, Portugal)
17:00 – 18:00	L	<b>Incorporating CNTs in polymer surfaces in the context of smart sensing</b> Wolfgang Bacsa (CEMES-CNRS, Univ. of Toulouse, France)

### Wednesday, June 7<sup>th</sup>, 2022 | Soft sensors based on carbon nanomaterials

- Venue: Akademie, Empa, Überlandstrasse 129, 8600 Dübendorf, Switzerland
- Link to the live streaming (*registration required*):

<i>Time</i>	<i>Type</i>	<i>Title and Trainer</i>
09:00 – 10:00	L	<b>Sensor characterization</b> Antonia Georgopoulou (Empa, Switzerland)
10:00 – 11:00	P	<b>Group exercises: 3D printing and sensor characterization</b> Antonia Georgopoulou (Empa, Switzerland) Somashree Mondal (Empa, Switzerland) Louisa Eckey (Empa, Switzerland)
11:00 - 12:00	P	<b>Group exercises: 3D printing and sensor characterization</b> Antonia Georgopoulou (Empa, Switzerland) Somashree Mondal (Empa, Switzerland) Louisa Eckey (Empa, Switzerland)
12:00 – 13:30		<i>Lunch break and networking</i>
13:30 – 14:30	L	<b>Functionalized fiber reinforced composites via thermally drawn multifunctional fiber sensors</b> Michaud Véronique (EPFL, Switzerland)
14:30 – 15:30	L	<b>Development of functional bionanocomposite materials for application as sensors, actuators and energy harvesters</b> Paula Ferreira (Universidade de Aveiro, CICECO-Aveiro Institute of Materials, Portugal)
15:30 – 16:00		<i>Coffee break</i>
16:00 – 17:00	L	<b>Carbonic based polymeric nanocomposites for Structural Health Monitoring and Body Motion Detection</b> Olalla Sánchez-Sobrado (AIMEN, Spain)
17:00 – 18:00	L	<b>Self-sensing applications in civil engineering with</b>

		<b>different composites</b> Oğuzhan Öztürk (KTÜN, Türkiye)
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### Thursday, June 8<sup>th</sup>, 2022 | Application

- Venue: Akademie, Empa, Überlandstrasse 129, 8600 Dübendorf, Switzerland
- Link to the live streaming (*registration required*):

<i>Time</i>	<i>Type</i>	<i>Title and Trainer</i>
09:30 – 10:00		<i>Welcome coffee</i>
10:00 – 11:00	L	<b>Electrochemical surfactant sensors for environmental and industrial applications</b> Nikola Sakač (University of Zagreb, Croatia)
11:00 - 12:00	L	<b>Multifunctional graphene-based polymer nanocomposites for 3D printing and sensors application</b> Rumiana Kotsilkova (IMech-BAS, OLEM, Bulgaria)
12:00 – 13:30		<i>Lunch break and networking</i>
13:30 – 14:30		<b>Nanobiosensors platforms for diagnostics applications</b> Arben Merkoçi (ICREA, ICN2, BIST, Barcelona, Spain)
14:30 – 14:45		<b>Closing remarks</b> Costas Charitidis (NTUA, Greece)
15:00 – 16:00		<i>Visiting of NEST at Empa</i>

### Event types legenda

L: Lecture (trainer in presence + live streaming)

LR: Lecture (trainer from remote + live streaming)

P: Project work in presence (+ live streaming)

### How to reach Empa

<https://www.empa.ch/web/empa/>

(At the bottom of the homepage use the **link directions PDF**)