

## Programme Singapore-EU Workshop

### *The 1<sup>st</sup> Graphene Flagship EU-Singapore Workshop on Graphene and related 2D materials*

#### *Research innovation in 2D materials and beyond*

**27-28 March 2023, Singapore**

**Venue:**

University Hall Auditorium  
 Level 2, Lee Kong Chian Wing  
 National University of Singapore  
 21 Lower Kent Ridge Rd, Singapore 119077

**Programme chairs:** Prof. Kostya Novoselov (Singapore) and Prof. Stephan Roche (Spain)

<b>March 27<sup>th</sup>, 2023</b>		
<b>Day1</b>		
<b>09:00 – 09:40</b>	<b>Opening remarks</b>	
<b>Plenary session</b>		
<b>Chair: Stephan Roche</b>		
09:15 – 09:45	<i>Jari Kinaret</i>	Graphene Flagship: a look at its ten years' voyage and the way ahead
09:45 – 10:15	<i>Barbaros Ozyilmaz</i>	Monolayer Amorphous Carbon and its Applications
<b>Scientific Session 1: Health &amp; Medicine</b>		
10:15 – 10:35	<i>Liu Bin</i>	Artificial skin for wound healing
10:35 – 10:55	<i>Laura Ballerini</i>	2D materials to modulate brain networks and synapses
<b>11:00 – 11:30</b>	<b>Coffee break</b>	
<b>Scientific Session 2: Industrial Production &amp; Applications of 2DM</b>		
<b>Chair: Maciej Koperski</b>		
11:30 – 11:50	<i>Andrea C. Ferrari</i>	Layered Materials for Optoelectronics and Quantum Technologies
11:50 – 12:10	<i>Sergio Echeverrigaray</i>	Graphene Materials on Next-Generation Battery Technologies
12:10 – 12:30	<i>Ken Teo</i>	Wafer scale deposition of Graphene and 2D materials and their integration into devices
<b>12:30 – 14:00</b>	<b>Lunch</b>	
<b>Scientific Session 3: Fundamental of 2DM</b>		
<b>Chair: Aleksandr Rodin</b>		

14:00 – 14:20	<i>Vladimir Falko</i>	Twistronics of 2D transition metal dichalcogenides
14:20 – 14:40	<i>Kedar Hippalgaonkar</i>	Thermoelectric Physics in 2D Materials – Discrete Density of States and Kondo Resonance
14:40 – 15:00	<i>Stephan Roche</i>	Two-dimensional materials for spintronics
15:00 – 15:20	<i>Maxim Trushin</i>	Two-dimensional water: How does it flow?
15:20 – 15:40	<i>Alexey Berdyugin</i>	Giant Magnetoresistance of Dirac plasma in high-mobility graphene
15:40 – 16:00	<i>Justin Song</i>	Quantum non-reciprocity in moiré materials
<b>16:00 – 18:00</b>	<b>End of Day 1</b>	
<b>19:00</b>	<b>Dinner</b>	

<b>March 28<sup>th</sup>, 2023</b>		
<b>Day 2</b>		
<b>Scientific Session 4: Industrial Applications</b>		
<b>Chair: Kari Hjelt</b>		
09:00 – 09:20	<i>Vincent Bouchiat</i>	Graphene-on-polymer for sensors & healthcare applications
09:20 – 09:40	<i>Juan Alfredo Guevara Carrio</i>	The use of graphene membranes for hydrogen separation
09:40 – 10:00	<i>Francesco Bonaccorso</i>	Industrial production of 2D materials for energy
10:00 – 10:20	<i>Vincenzo Palermo</i>	Laser patterning of 2DM-polymer composites for automotive applications: an example of transnational technology within the Graphene Flagship
10:20 – 10:40	<i>Ricardo Keitel</i>	2D electrolytes and its applications
<b>10:40 – 11:10</b>	<b>Coffee break</b>	
<b>Scientific Session 5: Medical applications and new horizons</b>		
<b>Chair: Johan Ek Weis</b>		
11:10 – 11:30	<i>Guillermo Bazan</i>	Living Bioelectrochemical Composites
11:30 – 11:50	<i>José-Antonio Garrido</i>	Graphene technology for neural interfaces
11:50 – 12:10	<i>Daria Andreeva</i>	2D composites for biointerfaces
12:10 – 12:30	<i>Kostas Kostarelos</i>	Clinical Translation Pathway of Advanced Materials: The Graphene Paradigm
12:30 – 12:50	<i>Liu Zheng</i>	Synthesis of 2D materials via CVD and CVT methods for electronic and optoelectronics
<b>12:50</b>	<b>Concluding Remarks</b>	
<b>12:50 – 14:00</b>	<b>Lunch</b>	
	Lab tour Institute for Functional Intelligent Materials, National University of Singapore	