

## Programme Japan-EU Workshop

### *The 6<sup>th</sup> Graphene Flagship EU-Japan Workshop on Graphene and related 2D materials*

**25 - 26 May 2023**

**Convention Hall, Institute of Industrial Science, University of Tokyo  
(Komaba Research Campus, University of Tokyo)**

4 Chome-6-1 Komaba, Meguro City, Tokyo 153-8505, Japan

**Workshop chairs:** Prof. Tomoki Machida (Japan), Prof. Mikito Koshino (Japan), Prof. Camilla Coletti (Italy) and Christoph Stampfer (Germany)

**Programme chairs:** Prof. Taiichi Otsuji (Japan) and Jari Kinaret (Sweden)

May 25, 2023		
12:00 - 12:40	Get-together with Lunch	
<b>Session 1:</b> <i>Chair: Tomoki Machida (University of Tokyo, Japan)</i>		
12:40 – 12:45	<i>Taiichi Otsuji</i>	Opening address
12:45 – 13:00	<i>Jari Kinaret</i>	Graphene Flagship: a look at its ten years' voyage and the way ahead
13:00 – 13:15	<i>Hiroki Ago</i>	Current status of 2.5D
13:15 – 13:45	<i>Camilla Coletti</i>	Moving from fundamental studies to industrial applications with CVD-grown 2D materials
13:45 – 14:15	<i>Yasumitsu Miyata</i>	1D nanostructures based on transition metal chalcogenides
14:15 – 14:40	<b>Coffee break</b>	
<b>Session 2:</b> <i>Chair: Susumu Okada (University of Tsukuba)</i>		
14:40 – 15:10	<i>Vladimir Fal'ko</i>	Ferroelectric domain structures in twistrionic TMD bilayers
15:10 – 15:40	<i>Mikito Koshino</i>	Moire phonons in twisted materials
15:40 – 16:10	<i>Mar Garcia Hernandez</i>	Are 2D materials limited to Van der Waals layered materials?
16:10 – 16:30	<b>Coffee break</b>	

<b>Session 3:</b> <i>Chair: Vladimir Fal'ko (University of Manchester)</i>		
16:30 – 17:00	<i>Rai Moriya</i>	Momentum- and twist-controlled resonant tunneling device based on few-layer WSe <sub>2</sub>
17:00 – 17:30	<i>Marco Romagnoli</i>	Graphene based photonics for optical communications
17:30 – 18:00	<i>Jiang Pu</i>	Monolayer in-plane heterostructure light-emitting devices with tunable composition distribution
<b>From 18:00</b>	<b>Banquet at restaurant</b>	

<b>May 26, 2023</b>		
<b>Session 4:</b> <i>Chair: Camilla Coletti (Istituto Italiano di Tecnologia)</i>		
10:30 – 11:00	<i>Kostas Kostarelos</i>	Clinical Translation of Graphene-based Neural Interface Devices
11:00 – 11:30	<i>Yuki Shiomi</i>	Giant nonreciprocal magneto-transport in Weyl-semimetal WTe <sub>2</sub> induced by diverging Berry curvature
11:30 – 12:00	<i>Laura Ballerini</i>	2D materials to modulate brain networks and synapses
12:00 – 12:30	<i>Toshiaki Kato</i>	Fabrication of high quality Janus TMD by in-situ monitoring plasma functionalization
<b>12:30 – 13:30</b>	<b>Lunch</b>	
<b>Session 5:</b> <i>Chair: Yasumitsu Miyata (Tokyo Metropolitan University)</i>		
13:30 – 14:00	<i>Francesco Bonaccorso</i>	The path toward 2D materials industrialization
14:00 – 14:30	<i>Yuya Shimazaki</i>	Electrically controlled homo bilayer moiré semiconductor probed by exciton spectroscopy
14:30 – 15:00	<i>Inge Asselberghs</i>	Enabling 2D-materials process-transfer from lab-to-fab
<b>15:00 – 15:20</b>	<b>Coffee break</b>	
<b>Session 6:</b> <i>Chair: Mikito Koshino (Osaka University, Japan)</i>		
15:20 – 15:50	<i>Lin Yung-Chang</i>	Bilayer graphene intercalation: A study of interlayer coupling and the atomic structure of intercalants
15:50 – 16:20	<i>Andrea Ferrari</i>	Layered Materials for Quantum Technologies
16:20 – 16:50	<i>Susumu Okada</i>	Electronic Properties of heterostructures of 2D Materials
16:50 – 17:05	<b>General discussion: research collaboration and future</b>	

17:05 – 17:10	<b>Closing remarks</b>
	<b>Dinner at restaurant KOMANI (on campus)</b>

## List of participants

Title	Last name	First name	Institution	Country
Prof.	Kinaret	Jari	Chalmers University	Sweden
Dr.	Coletti	Camilla	Istituto Italiano di Tecnologia	Italy
Dr.	Bonaccorso	Francesco	Bedimensional	Italy
Dr.	Asselberghs	Inge	IMEC	Belgium
Prof.	Fal'ko	Vladimir	University of Manchester	United Kingdom
Prof.	Kostarelos	Kostas	University of Manchester	United Kingdom
Prof.	Ballerini	Laura	SISSA	Italy
Prof.	Garcia Hernandez	Mar	CSIC	Spain
Dr.	Romagnoli	Marco	CNIT	Italy
Prof.	Ferrari	Andrea	University of Cambridge	United Kingdom
Prof.	Machida	Tomoki	University of Tokyo	Japan
Prof.	Otsuji	Taiichi	Tohoku University	Japan
Prof.	Ago	Hiroki	Kyushu University	Japan Japan
Prof.	Miyata	Yasumitsu	Tokyo Metropolitan University	Japan
Prof.	Koshino	Mikito	Osaka University	Japan
Prof.	Moriya	Rai	University of Tokyo	Japan
Dr.	Pu	Jiang	Tokyo Tech	Japan
Prof.	Shiomi	Yuki	Univeristy of Tokyo	Japan
Prof.	Kato	Toshiaki	AIMR, Tohoku University	Japan
Dr.	Shimazaki	Yuya	RIKEN	Japan
Dr.	Yung-Chang	Lin	AIST	Japan
Prof.	Okada	Susumu	Univerisy of Tsukuba	Japan