Programme Korea-EU Workshop

The 8th Graphene Flagship EU-Korea Workshop on Graphene and related 2D materials

22 – 23 May 2023
Baekyang-Nuri, Yonsei University, Seoul (Republic of Korea)
50 Yonsei-ro, Seodaemun-gu, Seoul
Room: Kwak Joung-Hwan Challenge Hall

Scope
The 8th EU-Korea Workshop on Graphene and Related Materials will be held on 22 - 23 May 2023 in Seoul (Republic of Korea).

This workshop is aimed at providing a Forum for the exchange of experiences, practices and ideas related to the current and emerging topics associated with the basic chemistry, physics and engineering approaches comprising materials synthesis, study of fundamental properties via multiscale characterization, application development and commercialization for graphene and related 2D materials. In addition, the objective is to explore and promote further collaborative research opportunities between researchers in Europe and Korea.

Workshop chairs: Prof. Jari Kinaret (Sweden) and Prof. Hyeon Suk Shin (Republic of Korea)

Program chairs: Prof. Paolo Samori (France) and Prof. Tae-Woo Lee (Republic of Korea)

May 21, 2023	
19:00 – 21:00	Reception

May 22, 2023		
09:10 – 09:20	Welcome and Opening Remarks	
Session 1 *Chair: Tae-Woo Lee*		
09:20 – 09:40	*Jari Kinaret*	Graphene Flagship: a look at its ten years' voyage and the way ahead
09:40 – 10:10	*Hyeonsik Cheong*	Optical spectroscopy of twisted TMD heterostructures
10:10 – 10:40	*Paolo Samorì*	Advances in 2D semiconductors-based multifunctional high-performance electronics
10:40 – 10:50	***Coffee break***	
10:50 – 11:20	*Sang Ouk Kim*	From Graphene Oxide Liquid Crystal to Artificial Muscle

11:20 – 11:50	*Francesco Bonaccorso*	2D Materials for energy applications
11:50 – 13:15	***Lunch break***	
Session 2 *Chair: Paolo Samori*		
13:15 – 13:45	*Sunmin Ryu*	Interferometric Second-Harmonic Generation in Two-Dimensional Heterocrystals
13:45 – 14:15	*Byung Hee Hong*	Electrothermal Applications of Graphene for Consumer Electronics
14:15 – 14:45	*Laura Ballerini*	2D materials to modulate brain networks and synapses
14:45 – 15:15	*Gwang-Hyoung Lee*	Heterointerface Engineering in van der Waals Heterostructures by Interlayer Interaction
15:15 – 15:30	***Coffee break***	
Session 3 *Chair: Gwan-Hyoung Lee*		
15:30 – 16:00	*Tae-Woo Lee*	MXene and Graphene 2D Electrodes for Flexible and Stretchable Optoelectronics
16:00 – 16:30	*Mar Garcia Hernandez*	Are 2D materials limited to Van der Waals layered materials?
16:30 – 17:00	*Andrea Ferrari*	Pending
17:00 – 17:30	*Chul-Ho Lee*	Interface Band Engineering Toward High-Performance 2D Semiconductor Electronics
17:30 – 18:00	Closing of the first day workshop	
18:00 – 20:00	Dinner	

May 23, 2023		
Session 4 *Chair: Marco Romagnoli*		
09:10 – 09:40	*Young-Woo Son*	Unconventional Phase Transitions in Layered 2D Materials
09:40 – 10:10	*Vladimir Fal'ko*	Ferroelectric domain structures in twistronic TMD bilayers
10:10 – 10:30	***Coffee break***	
10:30 – 11:00	*Xinliang Feng*	Advances in Organic 2D Crystals - From On-Water Surface Chemistry to Functional Applications

11:00 – 11:30	*Jong-Hyun Ahn*	Direct growth of MoS2 on low temperature substrates for emerging electronics
11:30 – 12:00	*Inge Asselberghs*	Enabling 2D-materials process-transfer from lab-to-fab
12:00 – 13:30	***Lunch break***	
Session 5 *Chair: Jong-Hyun Ahn*		
13:30 – 14:00	*Heejun Yang*	Van der Waals Heterostructures for Orbital Gating in Photo-transistors and Electronic Spectroscopy
14:00 – 14:30	*Marco Romagnoli*	Graphene based photonics for optical communications
14:30 – 15:00	*Hyeon Suk Shin*	Current Status and Challenges of hBN Growth by Chemical Vapor Deposition
15:00 – 15:30	*Cheol-Joo Kim*	Engineering Grain Boundaries in 2D Materials for Emergent Properties
15:30 – 16:00	EU-Graphene Workshop Planning Discussion	
16:00	Closing remarks (Hyeon Suk Shin)	

List of participants

Title	Last name	First name	Institution	Country
Prof.	Kinaret	Jari	Chalmers University	Sweden
Prof.	Samorì	Paolo	University of Strasbourg	France
Dr.	Bonaccorso	Francesco	BeDimensional	Italy
Dr.	Asselberghs	Inge	IMEC	Belgium
Prof.	Fal'ko	Vladimir	The University of Manchester	United Kingdom
Prof.	Ballerini	Laura	International School for Advanced Studies (SISSA)	Italy
Prof.	Garcia Hernandez	Mar	The Spanish National Research Council (CSIC)	Spain
Dr.	Romagnoli	Marco	National Inter-University Consortium for Telecommunications (CNIT)	Italy
Prof.	Ferrari	Andrea	University of Cambridge	United Kingdom
Prof.	Feng	Xinliang	Technical University of Dresden	Germany
Prof.	Ahn	Jong-Hyun	Yonsei University	Republic of Korea
Prof.	Cheong	Hyeonsik	Sogang University	Republic of Korea
Prof.	Cho	Kilwon	Pohang University of Science and Technology (POSTECH)	Republic of Korea
Prof.	Choi	Sung-Yool	Korea Advanced Institute of Science & Technology (KAIST)	Republic of Korea
Prof.	Hong	Byunghee	Seoul National University	Republic of Korea
Prof.	Kim	Sang Ouk	Korea Advanced Institute of Science & Technology (KAIST)	Republic of Korea
Prof.	Kim	Cheol-Joo	Pohang University of Science and Technology (POSTECH)	Republic of Korea
Prof.	Kim	Kwanpyo	Yonsei University	Republic of Korea
Prof.	Lee	Gwan-Hyoung	Seoul National University	Republic of Korea
Prof.	Lee	Tae-Woo	Seoul National University	Republic of Korea
Prof.	Lee	Chul-Ho	Seoul National University	Republic of Korea
Prof.	Lee	Seoung-Ki	Pusan National University	Republic of Korea
Prof.	Ryu	Sunmin	Pohang University of Science and Technology (POSTECH)	Republic of Korea

Prof.	Shin	Hyeon Suk	Ulsan National Institute of Science & Technology (UNIST)	Republic of Korea
Prof.	Son	Young-Woo	Korea Institute for Advanced Study (KIAS)	Republic of Korea
Prof.	Yang	Heejun	Korea Advanced Institute of Science & Technology (KAIST)	Republic of Korea