

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

15-16 May 2023, Abu Dhabi, United Arab Emirates



## **Workshop Report**

### **Workshop Chairs:**

Dr. Hassan Arafat, Khalifa University and RIC-2D (United Arab Emirates)

Dr. Kari Hjelt, Chalmers Industriteknik (Sweden)

## Overview

This first United Arab Emirates - EU Graphene Flagship workshop, aims at presenting the ongoing research activities on both sides and discuss possible international collaborations. The workshop was organised jointly by the EU Graphene Flagship and the Khalifa University. The latter hosts the Research & Innovation Center for Graphene and 2D Materials (RIC-2D), a major UAE innovation hub which aims at the advance the scientific development and commercial deployment of technologies derived from graphene and other 2D materials.

This two-day workshop provided the opportunity for researchers and industry stakeholders in Europe and United Arab Emirates to discuss topics of common interest, in particular to share research results with promising application potential and explore possible new collaborations and incubation of joint ventures. The Graphene Flagship delegation comprises key leaders of fundamental research, materials production, and applications, including representations from industries. Ten EU startup companies were selected to join the tour (BeDimensional, Cambridge Raman Imaging, Camgraphic, Grapheal, Graphenergytech, GraphmaTech, InBrain Neuroelectronics, Nanografen, Sixonia Tech and Versarien).

The first day of the workshop was dedicated to scientific presentations (16 in total), held by EU and UAE representatives, where key research and applications outcome were shared and discussed by the participants. During the symposium, great interactions and networking opportunities were provided at coffee and lunch breaks, as well as at a dinner with selected delegates from the RIC-2D and all GF delegates. The dinner was also attended by the president of Khalifa University, Sir John O'Reilly.

The activities of the second day of the workshop were held at Hub71, Abu Dhabi's global tech ecosystem that enables founders and start-ups to build globally enduring tech companies in any sector by providing access to global markets, a capital ecosystem, a global network of partners, and a community filled with skilled talent. After a tour of the facilities, the Graphene Flagship industrial delegates were invited to give individual pitches to an audience of interested representatives of Hub71. Great interest was shown for the R&D activities involving graphene and 2D materials and their potential to address major technological challenges.

## Common challenges and opportunities for collaborations

Research and technology areas such as clean water (desalination and recycling), energy production and storage, food production, aerospace and transportation emerged as major common interest for both EU and UAE representatives. Both parts consider graphene and 2D

materials as promising enabler to progress in these key areas and address relevant technological, environmental and societal challenges.

The networking and interactions opportunities that this 2-days workshop provided have created the foundation for future collaborations between Europe and United Arab Emirates. There was a great interest from the UAE delegates to take part in Graphene Week 2023, and on this occasion there might be the chance to organise a half-day EU-UAE workshop to further progress the discussion of collaboration opportunities.

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 on Graphene and related 2D materials**

Programme - 15th May 2023

**Location: The Agreement Room, 4<sup>th</sup> Floor, E Building, Khalifa University Main Campus**

09:30-10:00	<i>Arrival of the Guests/Coffee</i>	
10:00-10:20	Hassan Arafat	<i>Khalifa University</i>
10:20-10:40	Kari Hjelt	<i>Graphene Flagship</i>
10:40-11:00	Andrea Ferrari	<i>Graphene Flagship</i>
11:00-11:10	Sofia Öiseth	<i>Graphene Flagship</i>
11:10-11:30	Alessio Pirastu	<i>Camgraphic</i>
11:30-11:45	<i>Coffee</i>	
11:45-12:05	Carolina Aguilar	<i>InBrain</i>
12:05-12:25	Mamoun Taher	<i>Graphmatec</i>
12:25-12:45	Ronny Timmreck	<i>Sixonia Tech</i>
12:45-14:00	<i>Lunch and networking</i>	
14:00-14:20	Matteo Negro	<i>Cambridge Raman Imaging</i>
14:20-14:40	Jang Yo Kim	<i>Khalifa University</i>
14:40-15:00	Stephen Hodge	<i>Versarien</i>
15:00-15:20	Thomas Baumeler	<i>Graphenergytech</i>
15:20-15:40	<i>Coffee</i>	
15:40-16:00	Vincent Bouchiat	<i>Grapheal</i>
16:00-16:20	Vittorio Pellegrini	<i>BeDimensional</i>
16:20-16:40	Burcu Saner Okan	<i>Nanografen</i>
16:40-17:00	Rashid Abu Al Rub	<i>Khalifa University</i>

17:00-17:10	Closing remarks
17:10-18:00	<i>Networking</i>
19:00-21:00	<i>Dinner</i>

## Programme - 16th May 2023

**Location: Hub71, 15<sup>th</sup> floor, Al Khatem Tower, Maryah Island**

09:00	<i>Arrival to Al Khatem Tower, Delegation will be escorted to the 15th floor</i>	
09:20-09:40	<i>Hub71 Overview</i>	
09:40-10:00	<i>Tour &amp; Coffee Break</i>	
10:00-12:30	<i>Startup Pitches (30 minutes each)-20 minutes presentation/ 10 min Q&amp;A</i>	
10:00-10:30	Alessio Pirastu	Camgraphic
10:30-11:00	Carolina Aguilar	InBrain
11:00-11:30	Mamoun Taher	Graphmatec
11:30- 12:00	Ronny Timmreck	Sixonia Tech
12:00-12:30	Matteo Negro	Cambridge Raman Imaging
12:30-13:00	<i>Break</i>	
13:00- 13:30	Thomas Baumeler	Graphenergytech
13:30-14:00	Vincent Bouchiat	Graphael
14:00-14:30	Vittorio Pellegrini	BeDimensional
14:30-15:00	Burcu Saner Okan	Nanografen
15:00-16:00	<i>Lunch and networking</i>	
16:00	<i>End of the event</i>	

## List of speakers and participants

Title	Last name	First name	Institution	Country
Dr.	Arafat	Hassan	Khalifa University	United Arab Emirates
Dr.	Hjelt	Kari	Chalmers Industriteknik	Sweden
Prof.	Ferrari	Andrea	University of Cambridge	United Kingdom
Dr.	Öiseth	Sofia	Chalmers Industriteknik	Sweden
Dr.	Pirastu	Alessio	Camgraphic	United Kingdom
Dr.	Aguilar	Carolina	InBrain	Spain
Dr.	Taher	Mamoun	Graphmatec	Sweden
Dr.	Timmreck	Ronny	Sixonia Tech	Germany
Dr.	Negro	Matteo	Cambridge Raman Imaging	United Kingdom
Prof.	Kim	Jang Yo	Khalifa University	United Arab Emirates
Dr.	Hodge	Stephen	Versarien	United Kingdom
Dr.	Baumeler	Thomas	Graphenergytech	United Kingdom
Prof.	Bouchiat	Vincent	Grapheal	France
Dr.	Bonaccorso	Francesco	BeDimensional	Italy
Dr.	Saner Okan	Burcu	Nanografen	Turkey
Prof.	Abu Al Rub	Rashid	Khalifa University	United Arab Emirates