# GRAPHENE WEEK 2016 13 - 17 JUNE 2016 WARSAW, POLAND





**GRAPHENE FLAGSHIP** 



### WELCOME

I wish to welcome you to the 11th edition of Graphene Week and hope you enjoy our beautiful campus here at the University of Warsaw. The Institute of Electronic Materials Technology and the University are extremely pleased to be hosting this prestigious Graphene Flagship event and we have worked hard to deliver what we expect to be a wonderful intellectual and cultural learning experience.

We hope you enjoy networking with the international key experts and professionals in graphene and related two-dimensional materials from all around the world. Past Graphene Week conferences have seen new collaborations and the launch of several exciting new technologies from industry participants and we look forward to similar levels of productivity this year!

Warsaw has all the culture, energy and action one would expect from a metropolitan city, from historic architecture to nature reserves.

Founded in 1816, the University of Warsaw has 49,000 students including 3,170 PhD students. The university is nestled in the heart of the city's historic area and is one of the most beautiful places in Warsaw, near the Old Town.

We look forward to welcoming you and encourage you to explore.

Yours sincerely, Dr Wlodek Strupinski Institute of Electronic Materials Technology Conference Chair 2016











WEEK

### COMMITTEES

### **CONFERENCE CHAIR**

Wlodek Strupinski, Institute of Electronic Materials Technology, PL

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GRAPHENE WEEK





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#### WEEK

#### MONDAY 13 JUNE

07:30-17:00	ON-SITE REGISTRATION. HELPDESK OPENS			
08:30-12:55	PI	ENARY SESSION - A.M	lickiewicz room, main	aula
08:30-09:05	OPENING CEREMONY			
09:05-09:40	Kurt Gaskill, Naval Research Lab.			
09:40-10:15	Thomas Seyller, Tech.Univ.Chemnitz			
10:15-10:35	COFFEE BREAK EXHIBITION – Old library, second floor			
10:35-11:10	Kurt Gaskill, Naval Research Lab.			
11:10-11:45	Euyheon Hwang, SKKU			
11:45-12:20	Max Lemme, Univ. of Siegen			
12:20-12:55	Xinliang Feng, Univ d	of Dresden		
12:55-15:00	LUNCH		EXHIBITION	
14:00-15:00	Graphene Restaurant, outside		OPEN FORUM	
15:00-18:00	PARALELL I A.Mickiewicz room, main aula	PARALELL II Lecture room C, main building	PARALELL III Lecture room D, main building	PARALELL IV Innovation Forum I /Road Map Old Library
15:00-15:20	Y.Nam	I.Gutierrez	A.Rezk	M.Meister
15:20-15:40	C.Melios	M.Dragoman	M.Zarenia	A. Ghosh
15:40-16:00	A.Nikitin	S.Schwarz	S.Li	D. Neumaier
16:00-16:20	I.Levkivskyi	S.Dufferwiel	Y.Kim	G. Ruhl
16:20-16:40	COFFEE BREAK		EXHIBITION	
16:40-17:00	A.Rycerz	T.Wehling	Y.Kabiri	R. Rölver
17:00-17:20	M.Connolly	A.Reserbat	A. Bourrier	C. Marquordt
17:20-17:40	V.Shautsova	T.Szkopek	A.Montagner	Panel-
17:40-18:00	0.Balci	A.Capasso	0.Kazakova	discussion
18:00-19:00	<b>POSTER I</b> – Old Library, 2nd floor		EXHIBITION	FRINGE: Graphene and 2DM EUREKA cluster: Fostering European Competitiveness
19:00-20:00				
20:15-24:00	WELCOME RECEPTION			

WEEK

#### **TUESDAY 14 JUNE**

08:30-18:00		ON-SITE REGISTRATION. HELPDESK OPENS		
08:30-12:55	PLENARY SESSION – A.Mickiewicz room, main aula			
08:30-09:05	Konstantin Novoselov, Manchester Univ.			
09:05-09:40	Taniguchi Takashi, National Int. Mat. Sc			
09:40-10:15	Felice Torris, Cambridge Univ.			
10:15-10:35	COFFEE BREAK		EXHIBITION - Old	library, second floor
10:35-11:10	Hui-Ming Cheng, Shenyang Nat.Lab			
11:10-11:45	Francesco Bonaccorso, IIT Genova			
11:45-12:20	Jong-Beom Baek, UNIST, Korea			
12:20-12:55	Kari Hjelt, Chalmers	Univ.		
12:55-15:00	<b>LUNCH</b> Graphene Restaurant, outside		EXHIBITION	
14:00-15:00			FRINGE: 2D Materials Journal – New horizon and updates from the editorial board	
15:00-18:00	<b>PARALELL I</b> A.Mickiewicz room, main aula	PARALELL II Lecture room C, main building	PARALELL III Lecture room D, main building	PARALELL IV Innovation Forum II /Commercialisation Old Library
15:00-15:20	F.Schopfer	A.Kaverzin	A.Ciesielski	J. Baker
15:20-15:40	A.Kormanyos	S.Dash	B.Weise	S. Lazcano
15:40-16:00	P.Alonso	M.Zhu	M.Christian	T.Ryhänen
16:00-16:20	J.Moon	S.Morikawa	M.Zdrojek	I. Kinloch
16:20-16:40	COFFEE BREAK		EXHIBITION	
16:40-17:00	M.Eich	M.Lundeberg	J.A.M-Gago	L. De Michieli
17:00-17:20	J.Riikonen	J.Jobst	V.Khranovsky	I. Charola
17:20-17:40	Y.Lee	R.Zhang	Z.Zheng	J. Sotor
17:40-18:00	A.Laitinen	M.Man	J.A-Webber	Panel disc.
18:00-19:00	POSTER I – Old Library, 2nd floor		EXHIBITION	
19:00-20:00				
20:15-24:00				



WEEK

### WEDNESDAY 15 JUNE

08:00-18:00	ON-SITE REGISTRATION. HELPDESK OPENS			
08:30-12:55	PI	PLENARY SESSION – A.Mickiewicz room, main aula		
08:30-09:05	Hongwei Zhu, Tsinghua Univ.			
09:05-09:40	Eva Andrei, Rutgers Univ.			
09:40-10:15	David Goldhaber-Gordon, Stanford Univ.			
10:15-10:35	COFFEE BREAK EXHIBITION – Old library, second floor			
10:35-11:10	Hu-Jong Lee, POSTECH Korea			
11:10-11:45	Lin He, Beijing Normal Univ.			
11:45-12:20	Xiaohui Tang, UC de Louvain			
12:20-12:55	Kosuke Nagashio, The Univ. of Tokyo			
12:55-15:00	<b>LUNCH</b> Graphene Restaurant, outside		EXHIBITION	
14:00-15:00			FRINGE: How to launch a start up	
15:00-18:00	PARALELL I A.Mickiewicz room, main aula	PARALELL II Lecture room C, main building	PARALELL III Lecture room D, main building	PARALELL IV Innovation Forum III /Standardisation Old Library
15:00-15:20	T.Machida	M.Willinger	N.Vermeulen	N. Fabricius
15:20-15:40	T.Ciuk	S.Vollebregt	C.Berger	A. Zurutuza
15:40-16:00	Z.Melhem	S.Nakhaie	A.K.Ott	A. Tzalenchuk
16:00-16:20	V.Di Noto	F.Reale	N.Kakenov	M. Paillet
16:20-16:40	COFFEE BREAK		EXHIBITION	
16:40-17:00	K.Schädler	S.Brems	S.Shallcross	B. Dutertre
17:00-17:20	K.Arapov	P.Marques	F.Vialla	A. Redo-Sanchez
17:20-17:40	B.Uzlu	P.Kula	A.Agresti	Panel-
17:40-18:00	J.Binder	A.Talyzin	B.Karasulu	discussion
18:00-19:00	POSTER I – Old Library, 2nd floor		EXHIBITION	
19:00-20:00			FRINGE: Women in Graphene	19.00-20.30
20:15-24:00				

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WEEK

### THURSDAY 16 JUNE

08:00-18:00		ON-SITE REGISTRATION. HELPDESK OPENS		
08:30-12:55	PL	PLENARY SESSION – A.Mickiewicz room, main aula		
08:30-09:05	Tony Heinz, Stanford Univ.			
09:05-09:40	Atac Imamoglu, ETH Zurich.			
09:40-10:15	Alberto Morpurgo, Geneve Univ.			
10:15-10:35	COFFEE BREAK EXHIBITION – Old library, second floor			
10:35-11:10	Frank Koppens, The Inst.of Photonic Sci.			
11:10-11:45	Bart van Wees, Univ.of Groningen			
11:45-12:20	Tony Low, Univ.Minnesota			
12:20-12:55	John Wallbank, Man	chester Univ.		
12:55-15:00			EXHI	BITION
14:00-15:00	<b>LUNCH</b> Graphene Restaurant, outside		FRINGE: Ethics and Safety on Novel Technologies	
15:00-18:00	<b>PARALELL I</b> A.Mickiewicz room, main aula	PARALELL II Lecture room C, main building	PARALELL III Lecture room D, main building	PARALELL IV Nature symposium on Biomedicine applications Old Library
15:00-15:20	M.N.Karim	D.Rodrigo	P.Michalowski	K.Kostarelos
15:20-15:40	C.Grotta	X.Tang	M.Tortello	L.Torsi
15:40-16:00	G.Sobon	D.Ghazaryan	M.Kruczynski	M.Strano
16:00-16:20	I.Baburin	M.Shaygan	P.Tonndorf	O.Guy
16:20-16:40	COFFEE BREAK		EXHI	BITION
16:40-17:00	<b>POSTER IV</b> – Old Library, 2nd floor until 18.40		until 18.40	T.Sekitani
17:00-17:20				J.Garrido
17:20-17:40				D.Chew
17:40-18:00				Conclusion
18:00-19:00				
19:00-20:00				
20:15-24:00		CONFERENCE DIN	INER 19:30-24:00	

WEEK

### FRIDAY 17 JUNE

08:00-12:00	HELPDESK OPENS
08:30-12:55	PLENARY SESSION – A.Mickiewicz room, main aula
08:30-09:05	
09:05-09:40	Alberto Bianco, CNRS
09:40-10:15	Henrik Hillborg, ABB
10:15-10:35	COFFEE BREAK
10:35-11:10	Siva Bohm, TATA Steel
11:10-11:45	Lucia Delogu, Univ.of Sassari
11:45-12:20	CLOSING CEREMONY
12:20-12:55	
12:55-15:00	LUNCH
14:00-15:00	Graphene Restaurant, outside
15:00-18:00	
15:00-15:20	
15:20-15:40	
15:40-16:00	
16:00-16:20	
16:20-16:40	
16:40-17:00	
17:00-17:20	
17:20-17:40	
17:40-18:00	
18:00-19:00	
19:00-20:00	AFTER CONFERENCE PARTY
20:15-24:00	19:00-22:00

WEEK

### CONNECT WITH YOUR COLLEAGUES

### EXPERIENCE GRAPHENE WEEK BEYOND THE SCIENTIFIC PROGRAMME

In parallel with the scientific programme, we have arranged a number of social activities where you can interact with new and old colleagues. On the following pages, you can read more about the activities.

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Share your #GrapheneWeek experience



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## FRINGE SESSION

### OPEN FORUM Jari Kinaret, Graphene Flagship, SE

#### MONDAY 13 JUNE 14:00-15:00, THE OLD LIBRARY

Leaving the two and a half year ramp up phase with many important achievements in its portfolio, the Graphene Flagship has entered Core Project One with a clear aim to push the development towards innovation and industrial applications of graphene. In this session the director of the Graphene Flagship, Professor Jari Kinaret, will give a summary of the achievements so far and present the new divisional structure of the Graphene Flagship. He will also show virtual demonstrations of innovation examples and prototypes.

#### #GrapheneOpenForum







WEEK

### FRINGE SESSION

### "GRAPHENE AND 2D MATERIALS" EUREKA CLUSTER: FOSTERING EUROPEAN COMPETITIVENESS Mar Garcia Hernandez, CSIC, ES

#### MONDAY 13 JUNE 18:00-19:00, THE OLD LIBRARY, Conference room 111+112

The "Graphene & 2D Materials" EUREKA cluster is defined as a complementary enabling and accelerator instrument in the European scene, fully piloted by industries to further take graphene from the mature research developed at academic laboratories into the European society in the space of five years, boosting economic growth, jobs creation and international leadership and investment attractiveness. This cluster will help Europe having a more dominant position in graphene patenting, will deploy the proper winning industrial strategies to gain worldwide competitiveness, and will ensure that for all promising industrial sectors of technology innovation, a fully integrated EU-value chain is established, integrating into consortia the relevant actors from low to high Technology Readiness Levels (TRL).

The cluster will clarify the differentiating potential in all sectors where EU-industries is strong and could further gain in competitiveness, and will develop proper incentives towards the achievement of EU-leadership in the fields of graphene commercialisation and graphene-driven technology improvement. The cluster will elaborate and foster industrially-driven innovation strategies, that will take advantage of the existing excellent science and transnational platforms in Europe (national networks, Graphene-Flagship, etc.), and will focus on solving current challenges which are limiting the time to market and business growth of graphene-related EU companies.







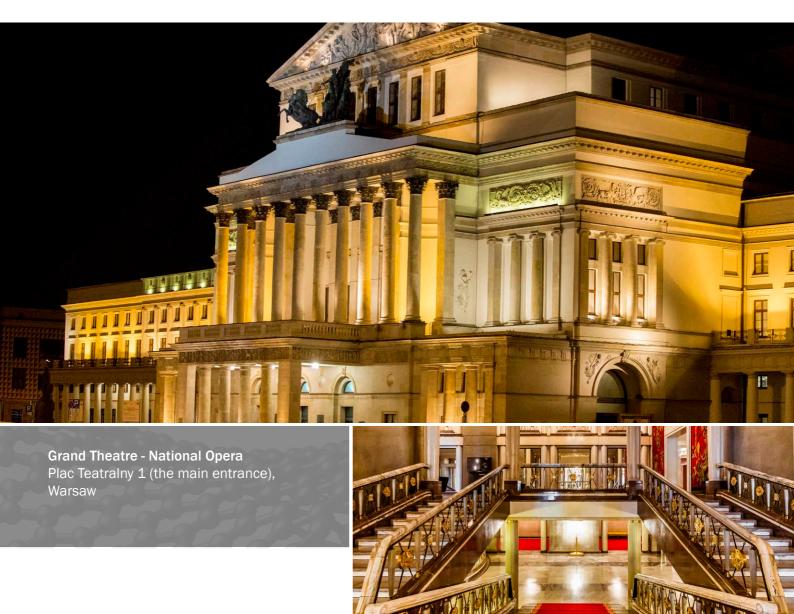


## WELCOME RECEPTION

### MONDAY 13 JUNE, 20:15-24:00, GRAND THEATRE, WARSAW

The Graphene Week 2016 Welcome Reception will take place in the Main Foyer of the historical Grand Theatre in Warsaw. The Main Foyer, opening directly to the terrace, has beautiful marble floors, stucco walls, pillars and impressive chandeliers.

The Welcome Reception is included in the conference participant fee.









## FRINGE SESSION

### THE RISE OF 2D MATERIALS: INSIGHTS FROM THE WORLD OF PUBLISHING Ceri-Wyn Thomas, IOP Publishing, UK

#### TUESDAY 14 June 14:00 - 15:00, THE OLD LIBRARY

The field of 2D materials has undergone an intensive period of proliferation since the isolation of graphene in 2004, with countless papers, new journals and media coverage following in the wake of advancements from the research community. Ceri-Wyn Thomas, Publisher of 2D Materials journal, charts these developments through the perspective of academic publishing. This talk will aim to provide insight on the ways in which a once nascent research area has become a fully-fledged field in materials science, and looks to the future, beyond graphene, for what may come next.









## FRINGE SESSION

### HOW TO START UP A START-UP Kari Hjelt, Head of Innovation, Graphene Flagship, Chalmers Industrial Technology, SE

### WEDNESDAY 15 JUNE 14:00 - 15:00, THE OLD LIBRARY

So, you've done some great research, got a great paper, possibly even filed a great patent but what now?

Establishing a successful start-up is no rocket (or graphene) science, and it actually boils down to three essentials: Have great people onboard, do something customers want and find somebody to fund your starting phase and growth. There is a catch though – none of these steps is easy to achieve and usually takes a lot of time and effort. Starting a new business can be a haunting task for anyone but luckily there are established methods to analyze the potential of the idea, creating a business plan and preparing for the tough questions posed by the investors. This presentation aims to give an overview of the most important challenges that a new entrepreneur faces including a collection on 10 questions a good business plan should answer and some lessons learned. There are a myriad of different business domains and models, but here the focus is on high-technology start-ups and the specific challenges thereof.









## FRINGE SESSION

### WOMEN IN GRAPHENE

**Eva Andrei**, Department of Physics and Astronomy at Rutgers University, US **Claudine Hermann**, Honorary Professor of Physics at Ecole Polytechnique, FR

### WEDNESDAY 15 JUNE 19:00 - 20:30, THE OLD LIBRARY

The Women in Graphene initiative at Graphene Week gives women the chance to talk to other women and male allies about issues specific to women working in graphene and other 2D materials research. By understanding the issues, we can work together to create solutions. For example, mentoring has been found to be very effective in aiding career progression and the Women in Graphene event is a great opportunity to put yourself forward as a mentor or a mentee.

Addressing the needs of women in the scientific community and the barriers to career progression will help to create a more diverse scientific community. The lack of gender diversity, (even at Graphene Week 2016, for example, just 7% of invited speakers are women), needs serious discussion and only with extra support will it be possible for female academics to truly fulfil their potential.





# GALA DINNER

#### THURSDAY 16 JUNE 19:30-24:00, KUBICKI ARCADES, WARSAW

The dinner will be held in the Kubicki Arcades, a beautiful, monumental building constructed in the years 1818 - 1827. This magnificent brick structure supported on massive openwork arcades is located in the Royal Castle's gardens and connected with the main building by a tunnel and escalators.

Please note that the Gala Dinner is an optional choice to the conference registration. Forgot to book the dinner? No problems just go to the Helpdesk area and we will help you.







## FRINGE SESSION

ETHICS AND SAFETY OF NOVEL TECHNOLOGIES Bengt Fadeel, Karolinska Institutet, SE Bernadette Bensaude-Vincent, Université Paris 1 Panthéon Sorbonne, FR Anna A. Shvedova, West Virginia University, Morgantown, US

### THURSDAY 16 JUNE 14:00 - 15:00, THE OLD LIBRARY

The main ethical issue with research on graphene and related hybrids has to do with the concern, particularly among the general public, regarding the general safety of nanotechnology and new materials. Graphene has garnered much interest and has many similarities with other well researched materials. Thus as we learn more, new ethical concerns may arise when, e.g. unknown unknowns become known or public scepticism increase in the face of mounting data. This ties in with increasing public interest in and demand for information on which kind of research is pursued, how it is done, and how the results could impact them, both directly and in future products.

This session will bring together experts on health impacts of nanomaterials, and how different stakeholders view and act upon emerging technologies. We aim to highlight some of the potential for ethical concerns, and how the scientific community can address such concerns. You will gain insights on how ethical concerns can be used to guide research, how ethical implications could be reflected in current research activities on graphene related materials, and what this entails for the progression of interactions between researcher, regulatory communities and the public.







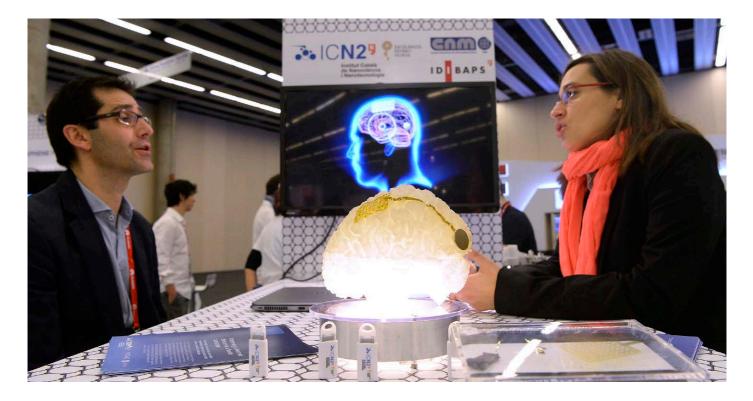
## NATURE SYMPOSIUM:

### EXPLORING GRAPHENE FOR BIOMEDICAL APPLICATIONS

### THURSDAY 16 JUNE 15:00 - 18:00, THE OLD LIBRARY

The main ethical issue with research on graphene and related hybrids has to do with the concern, particularly among the general public, regarding the general safety of nanotechnology and new materials. Graphene has garnered much interest and has many similarities with other well researched materials. Thus as we learn more, new ethical concerns may arise when, e.g. unknown unknowns become known or public scepticism increase in the face of mounting data. This ties in with increasing public interest in and demand for information on which kind of research is pursued, how it is done, and how the results could impact them, both directly and in future products.

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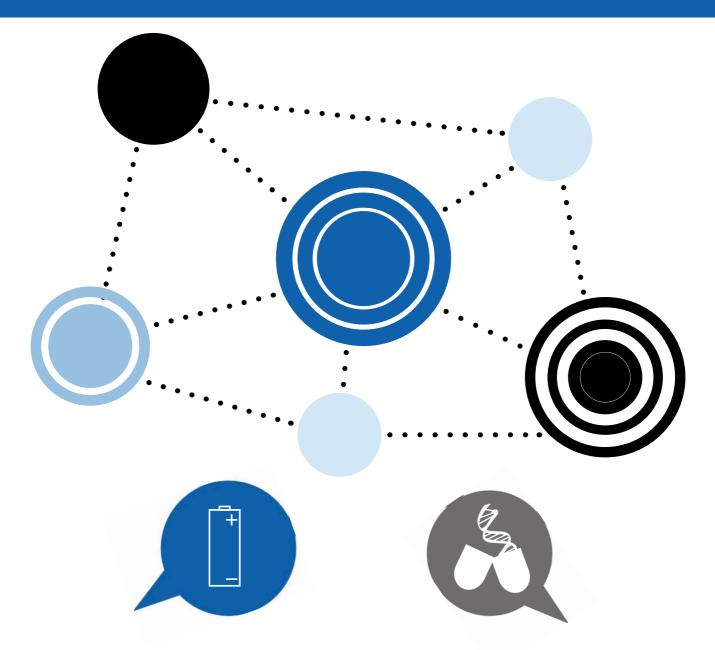




## **GRAPHENE CONNECT**

### INDUSTRIAL WORKSHOP SERIES

Graphene Connect brings together companies and researchers with a common interest in graphene and related two-dimensional materials. The aim is to create an arena for academia and industry to interact, exchange knowledge and identify new innovation projects.



Read more about upcoming workshops on graphene-flagship.eu









