



GRAPHENE FLAGSHIP



European Commission

Graphene Synthesis and Characterisation for Applications

15-18 November, 2011
Lakeside hotel, lake Windermere, UK

Organisers

Vladimir Falko (Lancaster), Mikito Koshino (Tohoku)
Thomas Lofwander (Chalmers), Edward McCann (Lancaster)



Program

15th November, Tuesday		
14.00-19.00 registration & check-in	14.00-16.00	ConceptGraphene Project Meeting
	15.40-16.00	Tea/Coffee Break
	16.00-18.00	ConceptGraphene Project Meeting
18.00-19.30	Reception and Dinner	
19.30-21.00 Session I Chair: V. Falko	19.30-19.50	<i>Opening</i>
	19.50-20.20	M. Potemski: <i>Magneto-Raman scattering of graphene and graphite (inv)</i>
	20.20-20.40	M. Mucha-Kruczyński: <i>Electronic excitations in graphene Raman</i>
	20.40-21.00	K. Kechedzhi: <i>Magnetophonon resonance in graphene Raman</i>

16th November, Wednesday		
7.30-9.00	Breakfast	
9.00-10.40 Session II Chair: A. Plaut	9.00-9.30	M. Lemme: <i>Microelectronics Applications of graphene (inv)</i>
	9.30-10.00	V. Raineri: <i>Electronic transport mechanism in graphene (inv)</i>
	10.00-10.20	A. Tzalenchuk: <i>Progress in graphene metrology (inv)</i>
	10.20-10.40	R. Pearce: <i>Gas sensing with epitaxial graphene</i>
10.40-11.00	Tea/Coffee Break	
11.00-13.00 Session III Chair: E. McCann	11.00-11.30	T. Seyller: <i>tba (inv)</i>
	11.30-12.00	R. Yakimova: <i>Synthesis of graphene by high temperature sublimation of SiC (inv)</i>
	12.00-12.20	A. Plaut: <i>Molecular beam growth of graphene nanocrystals on dielectric substrates</i>
	12.20-12.40	W. Strupiński: <i>Graphene epitaxy by CVD on SiC substrates</i>
	12.40-13.00	J. Osterwalder: <i>Wafer-scale epitaxial h-BN as a substrate for graphene growth</i>
13.00-14.00	Lunch	
14.00-15.40 Session IV Chair: J.T. Janssen	14.00-14.30	K. Sasaki: <i>Pseudospin for Raman D band in armchair graphene nanoribbons (inv)</i>
	14.30-15.00	S. Masubuchi: <i>Atomic force microscopy based local anodic oxidation of graphene (inv)</i>
	15.00-15.20	T. Burnett: <i>Mapping the electrical properties of graphene as a function of temperature</i>
	15.20-15.40	X. Waintal: <i>tba</i>
15.40-16.00	Tea/Coffee Break	
16.00-18.00 Session V Chair: X. Waintal	16.00-16.30	L. Ponomarenko: <i>Coulomb drag and metal-insulator transition in double-layer graphene structures (inv)</i>
	16.30-17.00	M. Yamamoto: <i>Carrier transport and band structure of trilayer graphene (inv)</i>
	17.00-17.30	G. Le Lay: <i>Silicene: Dirac fermions in atom-thin epitaxial honeycomb silicon sheets (inv)</i>
	17.30-18.00	N. Drummond: <i>Silicene - DFT theory</i>
18.00-19.30	Dinner	
19.30-21.00	Poster Session	

17th November, Thursday		
7.30-9.00	Breakfast	
9.00-10.40 Session VI Chair: M. Koshino	9.00-9.30	B. Ozyilmaz: <i>Charge, spin and phonon transport in CVD graphene (inv)</i>
	9.30-10.00	M. Shiraishi: <i>Spin transport and manipulation in graphene (inv)</i>
	10.00-10.20	T. Maassen: <i>Long spin relaxation times in epitaxial graphene on SiC(0001)</i>
	10.20-10.40	E. McCann: <i>z/z symmetry of spin-orbit coupling and weak localisation in graphene</i>
10.40-11.00	Tea/Coffee Break	
11.00-13.00 Session VII Chair: T. Lofwander	11.00-11.30	T. Morimoto: <i>Theory of optical responses in graphene quantum Hall systems (inv)</i>
	11.30-12.00	M. Koshino: <i>Chiral orbital current and anomalous magnetic moment in graphenes (inv)</i>
	12.00-12.30	K. Wakabayashi: <i>Electron transport and magnetism in nanographene and ribbons (inv)</i>
	12.30-13.00	S. Kubatkin: <i>Quantum transport measurements in epitaxial graphene (inv)</i>
13.00-14.20	Lunch	
14.20-15.40 Session VIII Chair: A. Tzalenchuk	14.20-14.50	M. Hasegawa: <i>Low-temperature and large-area graphene synthesis by using microwave plasma CVD (inv)</i>
	14.50-15.10	V. Darakchieva: <i>Application of spectroscopic ellipsometry techniques to the studies of epitaxial graphene grown by high-temperature sublimation</i>
	15.10-15.40	V. Bouchiat: <i>CVD Graphene on copper for quantum device fabrication (inv)</i>
15.40-16.00	Tea/Coffee Break	
16.00-17.00 Session IX Chair: F. Kusmartsev	16.00-16.30	J.-H. Ahn: <i>Graphene for flexible electronic applications (inv)</i>
	16.30-17.00	A. Ferrari: <i>Graphene optics and applications (inv)</i>
17.00-18.00	<i>Graphene Roadmap consultations – growth issues.</i> Chairs: V. Falko, A. Ferrari	
18.00-20.00	Conference Dinner	
20.00-21.00	<i>Graphene Roadmap consultations.</i> Chairs: V. Falko, A. Ferrari, K. Novoselov	

18 th November, Friday		
7.30-9.00	Breakfast	
9.00-11.10 Session X Chair: E. McCann	9:00-9.30	S. Ganichev: <i>Terahertz radiation driven chiral edge currents in graphene (inv)</i>
	9.30-9.50	F. Kusmartsev: <i>Graphene devices with gigantic magnetoresistance</i>
	9.50-10.10	O. Kolosov: <i>Surface and sub-surface nanoscale defects in graphene via ultrasonic force microscopy</i>
	10.10-10.40	F. Hauke: <i>Covalent and non-covalent chemistry of graphene (inv)</i>
	10.40-11.10	T. Enoki: <i>Magnetism of nanographene; edge state of topological origin and sigma dangling bond state of defect origin (inv)</i>
12.00	Check-out / Lunch / Departure	

This workshop focuses on the methods of growth/synthesis of graphene and its characterisation techniques, addressing the pressing need to develop processes for sustainable mass production of this material for applications. The growth techniques include CVD growth on metals and dielectrics, sublimation on SiC, or any new methods to make graphene. Characterisation of the growth product include all types of spectroscopic studies, surface imaging, studies of defects and charge and spin transport. The search for the new methods of manufacturing automatically thin films is not confined to only graphene, but also extends into BN and silicene layers. The programme of the workshop also includes consultation sessions discussing the roadmap of graphene science and technology.