

ORAL PROGRAMME

Sunday, 3 September 2017

14:00-17:30	Registration Room: G3 Foyer
Room	R14
	<i>Session Chair: K. Haenen, Hasselt University & IMEC vzw, Belgium</i>
15:00-16:30	DCM Tutorial: Advanced diamond nanofabrication techniques for quantum sensing and nanophotonics Igor Aharonovich, University of Technology Sydney, Australia
16:45-17:45	Materials Today Publishing Seminar
17:45-19:00	Opening Welcome Reception Room: G3 Foyer and G4

Monday, 4 September 2017

Room	G3
08:45-08:55	Conference Welcome Ken Haenen, Hasselt University & IMEC vzw, Belgium
08:55-10:15	Session 1: Plenary Keynotes <i>Session Chair: K. Haenen, Hasselt University & IMEC vzw, Belgium</i>
08:55-09:35	[PLN01] Investigation on the “uncontrollable” factors for graphene synthesis Xuesong Li, University of Electronic Science and Technology of China, China
09:35-10:15	[PLN02] Can we develop commercially viable diamond electrode technology for chemical sensing? Julie V. Macpherson, University of Warwick, UK
10:15-10:45	Refreshment Break Room: G3 Foyer and G4
10:45-12:45	Session 2: Quantum Effects <i>Session Chair: J.M. Smith, University of Oxford, UK</i>
10:45-11:15	[INV01] Light matter quantum interface based on diamond spin qubits Fedor Jelezko, Ulm University, Germany
11:15-11:30	[O2.1] Selective optical detection of diamond nanoparticles within complex matrices using optically detected magnetic resonance full-frame imaging M.E. Robinson ¹ , J.D. Ng ¹ , H. Zhang ¹ , J.T. Buchman ² , O.A. Shenderova ³ , C.L. Haynes ² , Z. Ma ¹ , R.H. Goldsmith ¹ , R.J. Hamers* ¹ ¹ University of Wisconsin-Madison, USA, ² University of Minnesota, USA, ³ Adamas Nanotechnologies, USA
11:30-11:45	[O2.2] Nanodiamond nitrogen vacancy centres for quantum sensing applications M. Fujiwara* ^{1,2} , R. Tsukahara ¹ , Y. Sera ¹ , S. Shikata ¹ , H. Hashimoto ¹ ¹ Kwansei Gakuin University, Japan, ² Osaka City University, Japan
11:45-12:00	[O2.3] Electrical spin readout of NV⁻ centres in diamond F.M. Hrubesch, F. Hartz, G. Braunbeck, M. Stutzmann, F. Reinhard, M.S. Brandt* Technische Universität München, Germany
12:00-12:15	[O2.4] Photo-electric transitions under NV electron spin resonance conditions: Modeling and experiments J. Soucek ^{1,2} , E. Bourgeois ^{1,3} , M. Nesladek* ^{1,3} ¹ Hasselt University, Belgium, ² Czech Technical University, Czech Republic, ³ IMOMECE, IMEC vzw, Belgium
12:15-12:30	[O2.5] Quantitative sensing of the electric-field in diamond power devices using NV centres T. Iwasaki* ¹ , W. Naruki ¹ , K. Tahara ¹ , R. Amici ¹ , T. Makino ² , H. Kato ² , M. Ogura ² , D. Takeuchi ² , S. Yamasaki ² , M. Hatano ¹ ¹ Tokyo Institute of Technology, Japan, ² AIST, Japan
12:30-12:45	[O2.6] DC noise reduction of the magnetometer system with NV- centres in diamond for IoT applications Y. Hatano* ¹ , T. Sekiguchi ¹ , K. Tahara ² , T. Iwasaki ² , S. Yasuda ³ , S. Yamasaki ⁴ , Y. Harada ¹ , M. Hatano ² ¹ Osaka University, Japan, ² Tokyo Institute of Technology, Japan, ³ Renesas Electronics Corporation, Japan, ⁴ AIST, Japan
12:45-14:15	Lunch Room: J Lounge
14:15-15:45	Focused Session 3: Wide Band Gap Power Electronics I <i>Chair: S. Koizumi, National Institute for Materials Science (NIMS), Japan</i>
14:15-14:45	[INV02] Recent advances in high voltage SiC and GaN power devices and ICs T. Paul Chow, Rensselaer Polytechnic Institute, USA

14:45-15:00	[O3.1] Operating temperature as a trade-off parameter for designing drift region of diamond power devices G. Chicot* ^{1,2} , D. Eon ^{1,2} , N. Rouger ³ ¹ Université Grenoble Alpes, France, ² CNRS, Institut NÉEL, France, ³ Université de Toulouse, France
15:00-15:15	[O3.2] High temperature characteristics of diamond PIN diodes and BJTs using phosphorus doping F.A. Koeck ¹ , M. Dutta ² , R. Hathwar ³ , M. Serami ³ , S. Chowdhury ^{2,3} , S.M. Goodnick ³ , R.J. Nemanich* ¹ ¹ Arizona State University, USA, ² University of California-Davis, USA, ³ Arizona State University, USA
15:15-15:30	[O3.3] Electrical properties of diamond p⁺in⁺ junction at forward bias region D. Kuwabara ^{1,2} , T. Makino* ² , T. Aboulaye ¹ , H. Kato ¹ , M. Ogura ¹ , H. Okushi ¹ , S. Yamasaki ^{1,2} ¹ University of Tsukuba, Japan, ² AIST, Japan
15:30-15:45	[O3.4] Charge collection properties of drift layer in diamond vertical pin diode T. Shimaoka* ^{1,2} , D. Kuwabara ^{2,3} , A. Hara ^{4,5} , T. Makino ² , M. Tanaka ⁴ , S. Koizumi ¹ ¹ NIMS, Japan, ² AIST, Japan, ³ University of Tsukuba, Japan, ⁴ Institute of Particle and Nuclear Studies, Japan, ⁵ SOKENDAI (The Graduate University for Advanced Studies), Japan
15:45-16:15	Refreshment Break Room: G3 Foyer and G4
16:15-18:00	Session 4: Carbon Bioapplications Session Chair: N. Yang, University of Siegen, Germany
16:15-16:45	[INV03] Diamond and carbon materials in medical bionics David J. Garrett, The University of Melbourne, Australia
16:45-17:00	[O4.1] Diamond-based detector for a multi-sensing approach in neuronal cells investigation F. Picollo* ^{1,2} , A. Battiato ² , E. Carbone ¹ , A. Marcantoni ¹ , A. Pasquarelli ³ , G. Tomagra ¹ , V. Carabelli ¹ , P. Olivero ¹ ¹ University of Torino, Italy, ² National Institute of Nuclear Physics, Italy, ³ Ulm University, Germany
17:00-17:15	[O4.2] Black diamond as a bactericidal surface P.W. May* ¹ , P. Taylor ¹ , M. Clegg ¹ , C.C. Welch ² , G. Hazell ^{1,3} , B. Su ^{1,3} ¹ University of Bristol, School of Chemistry, UK, ² Oxford Instruments Plasma Technology, UK, ³ University of Bristol, School of Dental and Oral Hygiene, UK
17:15-17:30	[O4.3] Direct fabrication of the graphene-based composite for cancer phototherapy through graphite exfoliation with a photosensitiser N. Komatsu* ¹ , G. Liu ¹ , T. Amano ² ¹ Kyoto University, Japan, ² Shiga University of Medical Science, Japan
17:30-17:45	[O4.4] Carbon quantum dot - photosensitiser conjugates in photodynamic therapy J.R. Aguilar Cosme*, M.A. Alsharif, F. Claeysens The University of Sheffield, UK
17:45-18:00	YOUNG SCHOLAR AWARD: [O4.5] Fluorescent nanodiamonds as multi-purpose labels for (electron) microscopy S.R. Hemelaar* ¹ , P. de Boer ¹ , M. Chipaux ¹ , W. Zuidema ² , T. Hamoh ¹ , F. Perona Martinez ¹ , A. Nagl ¹ , J.P. Hoogenboom ¹ , B.N.G. Giepmans ¹ , R. Schirhagl ¹ ¹ University Medical Center Groningen, The Netherlands, ² Delft University of Technology, The Netherlands
18:00-19:30	Session 5: Posters I & Drinks Reception Room: G3 Foyer and G4 Sponsored by City of Gothenburg Session Chairs: I. Aharonovich, University of Technology Sydney, Australia; J. Barjon, Université de Versailles Saint-Quentin-en-Yvelines, France; J.V. Macpherson, University of Warwick, UK; P. Olivero, University of Torino, Italy



**City of
Gothenburg**

Tuesday, 5 September 2017		
Room	G3	G2
08:45-10:15	Session 6A: Optical Spectroscopy <i>Session Chair: M. Nesládek, Hasselt University & IMEC vzw, Belgium</i>	Session 6B: Nanodiamond Particles <i>Session Chair: N. Komatsu, Kyoto University, Japan</i>
08:45-09:00	[INV04] Optical properties of hexagonal boron nitride: From bulk to a few atomic layers J. Barjon ^{*1} , L. Schué ^{1,2} , I. Stenger ¹ , A. Plaud ^{1,2} , F. Fossard ² , F. Ducastelle ² , A. Loiseau ² ¹ GEMaC, Université Versailles St Quentin en Yvelines, CNRS, France, ² LEM, ONERA, CNRS, France	[O6B.1] Doped nanodiamonds produced from organic compounds E.A. Ekimov ¹ , O.S. Kudryavtsev ² , T.A. Dolenko ³ , I.I. Vlasov ^{*2} ¹ Institute for High Pressure Physics, Russia, ² General Physics Institute RAS, Russia, ³ Moscow State University, Russia
09:00-09:15		[O6B.2] Salt-assisted ultrasonic deaggregation of nanodiamond V.N. Mochalin [*] , K. Turcheniuk, C. Trecuzzi, C. Deeleepojananan <i>Missouri University of Science & Technology, USA</i>
09:15-09:30	[O6A.1] XAS spectra of functionalised carbonaceous materials simulated from first principles A.K. Aarva [*] , M.A. Caro, T. Laurila <i>Aalto University, Finland</i>	[O6B.3] Thermal phase transition on facets of detonation nanodiamond particles for formation of diamond hydrosols A.Y. Vul ^{*1} , A.E. Aleksenskiy ¹ , A.T. Dideikin ¹ , V.Y. Davydov ¹ , M.V. Baidakova ¹ , P.N. Brunkov ¹ , M. Brzhezinskaya ² , V.V. Shnitov ¹ , A.V. Shvidchenko ¹ ¹ Ioffe Institute, Russia, ² Helmholtz-Zentrum Berlin fuer Materialien und Energie, Germany
09:30-09:45	[O6A.2] High resolution absorption spectroscopy of isotopically enriched boron acceptor centres in high quality IIb-type HPHT diamond D.D. Prikhodko ^{*1,2} , S.G. Pavlov ³ , V.S. Bormashov ¹ , S.A. Tarelkin ^{1,2} , M.S. Kuznetsov ¹ , S.A. Terentiev ¹ , A.S. Galkin ¹ , H-W. Hubers ^{3,4} , V.D. Blank ^{1,2} ¹ Technological Institute for Superhard and Novel Carbon Materials, Russia, ² Moscow Institute of Physics and Technology, Russia, ³ Institute of Optical Sensor Systems, Germany, ⁴ Humboldt-Universität zu Berlin, Germany	 DAICEL CORPORATION [O6B.4] Introducing DAICEL's activities related to detonation nanodiamonds, unique surface modification and application development Hisayoshi Ito, DAICEL Corporation, Japan
09:45-10:00	[O6A.3] Refined analysis of Raman spectra from boron doped diamond V. Mortet ^{*1,2} , Z. Vlckova Zivcova ³ , A. Taylor ¹ , O. Frank ³ , P. Hubik ¹ , M. Davydova ¹ , D. Tremouilles ⁴ , F. Jomard ⁵ , J. Barjon ¹ , L. Kavan ³ ¹ Institute of Physics of CAS, Czech Republic, ² Czech Technical University in Prague, Czech Republic, ³ J. Heyrovsky Institute of Physical Chemistry of CAS, Czech Republic, ⁴ Université de Toulouse, France, ⁵ Université Versailles St Quentin-en-Yvelines, France	[O6B.5] Positive zeta potential of nanodiamonds L. Gines ¹ , S. Mandal ¹ , A.I. Ahmed ² , C.L. Cheng ² , C. Magen ³ , O.A. Williams ^{*1} ¹ Cardiff University, UK, ² National Dong Hwa University, Taiwan, ³ Universidad de Zaragoza, Spain
10:00-10:15	[O6A.4] Determination of nanocrystalline diamond thin film thermal conductivity by combining spectroscopic ellipsometry and thermoreflectance microscopy B. Baudrillart ^{*1} , D. Fournier ² , B. Gallas ² , F. Bénédic ¹ , J. Achar ¹ ¹ Université Paris 13, France, ² Institut des NanoSciences de Paris, France	[O6B.6] Understanding the surface of hydrogenated detonation nanodiamond using isotopic labelling E. Nehlig ^{*1} , S. Garcia-Argote ¹ , S. Feuillastre ¹ , H.A. Girard ² , J.C. Arnault ² , G. Pieters ¹ ¹ Tritium Labelling Laboratory, France, ² Diamond Sensors Laboratory, France
10:15-10:45	Refreshment Break Room: G3 Foyer and G4	

10:45-12:15	Focused Session 7A: Wide Band Gap Power Electronics II <i>Session Chair: T. Paul Chow, Rensselaer Polytechnic Institute, USA</i>	Session 7B: CNTs <i>Session Chair: S. Reich, Freie Universität Berlin, Germany</i>
10:45-11:00	[O7A.1] Electric field distribution using floating metal guard rings edge-termination for diamond Schottky diodes K. Driche ^{*2,3} , H. Umezawa ^{2,4} , S. Rugen ⁵ , N. Kaminski ⁵ , E. Gheeraert ^{1,3} ¹ Université Grenoble Alpes, France, ² CNRS, Institut NÉEL, France, ³ University of Tsukuba, Japan, ⁴ AIST, Japan, ⁵ University of Bremen, Germany	[INV05] Nanotube thin films for transparent, flexible and stretchable electronics applications Esko I. Kauppinen, Aalto University, Finland
11:00-11:15	[O7A.2] Transport mechanism of diamond Schottky-pn diode N. Ozawa ^{*1} , T. Makino ² , H. Kato ² , M. Ogura ² , H. Okushi ² , S. Yamasaki ^{1,2} ¹ University of Tsukuba, Japan, ² AIST, Japan	
11:15-11:30	[O7A.3] Electrical properties of Schottky barrier diodes fabricated on diamond substrate D. Zhao*, Z.C. Liu, Y.F. Wang, M.H. Zhang, G.Q. Shao, W. Wang, F. Wen, H.X. Wang <i>Xi'an JiaoTong University, China</i>	[O7B.1] Scaled-up process for producing longer carbon nanotubes and carbon cotton by macrospools V.Z. Mordkovich ^{*1,2} , A.R. Karaeva ^{1,2} , E.A. Zhukova ¹ , N.V. Kazennov ^{1,2} ¹ Technological Institute for Superhard and Novel Carbon Materials, Russia, ² INFRA Technology, Russia
11:30-11:45	[O7A.4] Ohmic metal-graphite contacts on lightly boron-doped diamonds M. De Feudis ^{*1,2} , V. Mille ¹ , A. Valentin ¹ , A. Tardieu ¹ , R. Issaoui ¹ , O. Brinza ¹ , J. Achard ¹ ¹ Université Paris 13, France, ² University of Salento, Italy	[O7B.2] Atomic-scale simulations of hydrocarbon effects in the nucleation of carbon nanotubes U. Khalilov*, E.C. Neyts <i>University of Antwerp, Belgium</i>
11:45-12:00	[INV06] Diamond power devices: current status, challenges and future prospects Hitoshi Umezawa, National Institute of Advanced Industrial Science and Technology (AIST), Japan	[O7B.3] Mechanical properties of high temperature treated carbon nanotube fibers Y. Hayashi ^{*1,2} , H. Inoue ¹ , T. Hayashi ¹ , D. Suzuki ¹ , H. Kinoshita ¹ , T. Tokunaga ³ , K. Paneer Selvam ¹ , M. Hada ¹ , T. Nishikawa ¹ ¹ Okayama University, Japan, ² Tokyo Institute of Technology, Japan, ³ Nagoya University, Japan
12:00-12:15		[O7B.4] Carbon nanotubes for CubeSat radiometric sensors C. Yung ^{*1} , K. Heuerman ² , M. Stephens ¹ , N. Tomlin ¹ , M. White ¹ , D. Harber ² , G. Drake ² , E. Richard ² , G. Kopp ² , J. Lehman ¹ ¹ National Institute of Standards and Technology, USA, ² Laboratory for Atomic and Space Physics, University of Colorado, USA
12:15-13:45	Lunch <i>Room: J Lounge</i>	
Room	G3	
13:45-14:30	Early Career Research Award Session <i>Session Chair: K. Haenen, Hasselt University & IMEC vzw, Belgium</i>	
	How to put diamonds in cells and why you would want to do that Romana Schirhagl, Groningen University, The Netherlands	

Room	G3	G2
14:30-16:15	Session 8A: Structuring & Nanofabrication <i>Session Chair: T. Schülke, Michigan State University & Fraunhofer USA Inc., USA</i>	Session 8B: DLC <i>Session Chair: Y. Lifshitz, Technion-Israel Institute of Technology, Israel</i>
14:30-14:45	[INV07] Modification and microfabrication of diamond with ion beams	15-minute break to move to G2
14:45-15:00	Paolo Olivero, <i>University of Torino, Italy</i>	[O8B.1] Analysis of microstructure and surface morphology of a-C:H films deposited on a trench target Y. Hirata* ¹ , J. Choi ² , S. Sasaki ¹ ¹ Tokyo University of Science, Japan, ² The University of Tokyo, Japan
15:00-15:15	YOUNG SCHOLAR AWARD: [O8A.1] Internal structure and electrical properties of laser-induced wires in diamond bulk K.K. Ashikkalieva* ^{1,2} , T.V. Kononenko ^{1,2} , E.A. Obraztsova ^{1,2} , E.V. Zavedeev ^{1,2} , E.E. Ashkinazi ^{1,2} , V.I. Konov ^{1,2} , ¹ General Physics Institute RAS, Russia, ² National Research Nuclear University "MEPhI", Russia	[O8B.2] High-speed preparation of DLC films using high-repetition nano-second pulsed glow discharge plasmas under sub-atmospheric pressure Y. Kikuchi* ¹ , T. Maegawa ¹ , A. Otsubo ² , Y. Nishimura ² , M. Nagata ¹ , M. Yatsuzuka ¹ ¹ University of Hyogo, Japan, ² Kurita Seisakusho Co. Ltd., Japan
15:15-15:30	[O8A.2] Radiation hardness of three-dimensional sensors fabricated on different CVD diamond materials S. Sciortino* ^{1,2} , S. Lagomarsino ^{1,2} , M. Bellini ³ , V. Cindro ⁴ , C. Corsi ⁵ , K. Kanxheri ^{6,7} , A. Morozzi ^{6,7} , D. Passeri ^{6,7} , L. Servoli ⁷ , E. Berdermann ⁸ <i>et al.</i> ¹ INFN, Italy, ² University of Florence, Italy, ³ INO-CNR, Italy, ⁴ Jozef Stefan Institut, Slovenia, ⁵ LENS, Italy, ⁶ University of Perugia, Italy, ⁷ INFN, Perugia, Italy, ⁸ GSI, Darmstadt, Germany, ⁹ University of Augsburg, Germany	[O8B.3] Towards realistic lifetime estimation of carbon coated articulating implants A. Pardo*, I. Ilic, P. Schmutz, R. Hauert <i>Empa, Switzerland</i>
15:30-15:45	YOUNG SCHOLAR AWARD: [O8A.3] Demonstration of V-groove diffraction gratings in single crystal diamond M. Kiss*, T. Graziosi, N. Quack <i>EPFL, Switzerland</i>	[O8B.4] Friction force microscopy of micro and nano-patterned diamond-like nanocomposite films E.V. Zavedeev* ¹ , M.S. Komlenok ¹ , P.A. Pivovarov ¹ , V.D. Frolov ¹ , O.S. Zilova ² , M.L. Shupegin ² , S.M. Pimenov ¹ ¹ General Physics Institute RAS, Russia, ² National Research University "Moscow Power Engineering Institute", Russia
15:45-16:00	[O8A.4] Fabrication of high quality thin single-crystal CVD diamond membranes with back support SiO₂ frame windows K. Ansari ^{1,2} , D.S. Misra ^{1,2} , A.A. Bettiol ¹ , X. Siwei ^{1,2} , M. Zhaohong ¹ , Y.C. Ming ^{1,2} , R.N. Chukka* ¹ ¹ National University of Singapore, Singapore, ² @a Technologies, Singapore	[O8B.5] From mechanical properties to evaluation of biological effect - comparison of doped diamond-like carbon coatings synthesised by multitarget DC-RF magnetron sputtering on metallic substrates K. Jastrzebski*, D. Bociaga, A. Sobczyk-Guzenda, W. Szymanski, A. Jedrzejczak, A. Jastrzebska, A. Olejnik <i>Lodz University of Technology, Poland</i>
16:00-16:15	[O8A.5] Diamond etching mechanism by solid-solution reaction of carbon into nickel T. Tabakoya* ^{1,2} , K. Nakanishi ¹ , M. Nagai ¹ , Y. Katagiri ¹ , C. Schreyvogel ² , C. Giese ² , T. Matsumoto ¹ , N. Tokuda ¹ , T. Inokuma ¹ , C.E. Nebel ² <i>et al.</i> ¹ Kanazawa University, Japan, ² Fraunhofer Institute for Applied Solid State Physics IAF, Germany	[O8B.6] Synthesis of amorphous diamond under high pressure and temperature Z. Zeng* ^{1,2} , L. Yang ^{1,2} , Q. Zeng ^{1,2} , H. Lou ¹ , H. Sheng ¹ , J. Wen ³ , Y. Meng ² , W. Yang ¹ , W. Mao ⁴ , H. Mao ^{1,2} ¹ Center for High Pressure Science and Technology Advanced Research (HPSTAR), China, ² Carnegie Institution of Washington, USA, ³ Argonne National Laboratory, USA, ⁴ Stanford University, USA
16:15-16:45	Refreshment Break Room: G3 Foyer and G4	

16:45-18:15	Session 9A: Nucleation & Heteroepitaxial Diamond Growth <i>Session Chair: M. Schreck, Universität Augsburg, Germany</i>	Focused Session 9B: (Photo)catalysis on Carbon Surfaces <i>Session Chair: R.J. Hamers, University of Wisconsin-Madison, USA</i>
16:45-17:00	[O9A.1] Diamond on GaN: Extraction of 2DEG and thermal properties of HEMT layers after diamond growth R. Ramaneti* ^{1,2} , Y. Zhou ⁴ , S. Korneychuk ³ , J. Anaya Calvo ⁴ , P. Pobedinskas ^{1,2} , M. K Van Bael ^{1,2} , J. Derluyn ⁵ , J. Verbeeck ³ , M. Kuball ⁴ , K. Haenen ^{1,2} ¹ Hasselt University, Belgium, ² IMOMECEC, Belgium, ³ University of Antwerp, Belgium, ⁴ University of Bristol, UK, ⁵ EpiGaN b.v, Belgium	[INV09] Photo/electrocatalytic CO2 reduction on carbon surfaces Nianjun Yang, <i>University of Siegen, Germany</i>
17:00-17:15	[O9A.2] Diamond growth on GaN for thermal management in high power devices S. Mandal* ¹ , E. Thomas ¹ , C. Middleton ² , L. Gines ¹ , D. Wallis ³ , S. Novikov ⁴ , S. Lynch ¹ , M. Kuball ² , O. Williams ¹ ¹ Cardiff University, UK, ² University of Bristol, UK, ³ University of Cambridge, UK, ⁴ The University of Nottingham, UK	
17:15-17:30	[O9A.3] Large scale coated and patterned diamond layers by coating and printing of diamond seeds for "heater" applications J. Drijkoningen* ^{1,3} , S. Drijkoningen ^{1,2} , G. Vandevenne ^{1,2} , I. Basak ^{1,2} , P. Pobedinskas ^{1,2} , K. Haenen ^{1,2} , W. Deferme ^{1,3} ¹ Institute for Materials Research (IMO), Belgium, ² IMOMECEC, Belgium, ³ Flanders Make vzw, Belgium	[O9B.1] Plasmonic diamond films: synthesis, electron emission, and photocatalytic activity S. Li, J.A. Bandy, R.J. Hamers* <i>University of Wisconsin-Madison, USA</i>
17:30-17:45	[INV08] Heteroepitaxy of diamond on 3C-SiC/Si (111) substrate Takayuki Iwasaki, <i>Tokyo Institute of Technology, Japan</i>	[O9B.2] Multiwalled carbon nanotubes as full catalyst for oxidative dehydrogenation reaction of ethylbenzene J. Schönherr*, P. Scholz, P. Adelhelm <i>Friedrich Schiller University, Germany</i>
17:45-18:00		[O9B.3] Graphene-based TiO2 nanocomposites for enhanced degradation of organic dye in the visible light A.H. Hamdany* ¹ , L. Wei ² , Y. Ding ¹ , S. Qian ¹ ¹ Nanyang Technological University, Singapore, ² The University of Sydney, Australia
18:00-18:15	[O9A.4] Diamond heteroepitaxy on Ir / SrTiO3 / Si (001) substrates: from nucleation to thick films characterisations K.H. Lee ¹ , S. Saada ¹ , N. Tranchant ¹ , J.C. Arnault* ¹ , R. Moalla ² , G. Saint-Girons ² , R. Bachelet ² , A. Tallaire ³ , O. Brinza ³ , J. Achard ³ , H. Bensalah ⁴ , I. Stenger ⁴ , J. Barjon ⁴ , C. Ricolleau ⁵ <i>et al.</i> ¹ Diamond Sensors Laboratory, France, ² Ecole Centrale de Lyon, France, ³ Université Paris 13, France, ⁴ Université Versailles St Quentin-en-Yvelines, France, ⁵ Université Paris 7, France	[O9B.4] Enhanced photoelectrochemical water splitting with tailored TiO2/SrTiO3@g-C3N4 heterostructure nanorod in glycerol-based photo fuel cell N. Muti Mohamed*, R. Bashiri, K. Chong Fai, N. Amirah Suhaimi, M. Khatani, M. Umair Shahid <i>Universiti Teknologi PETRONAS, Malaysia</i>

Wednesday, 6 September 2017	
Room	G3
08:45-10:15	Session 10: Surface Chemistry Session Chair: A. Krüger, Julius-Maximilians-Universität Würzburg, Germany
08:45-09:15	[INV10] Preserving π conjugation in the covalent functionalisation of carbon nanotubes S.Reich*, A. Setaro, M. Adeli, M. Gläske, D. Przyrembel, T. Bisswanger, G. Gordeev, F. Maschietto, A. Faghani, B. Paulus, M. Weinelt, R. Arenal, R. Haag Freie Universität Berlin, Germany
09:15-09:30	YOUNG SCHOLAR AWARD: [O10.1] Expanding the scope of diamond surface chemistry: Stille & Sonogashira cross-coupling reactions J. Raymakers* ¹ , A. Artemenko ² , S. Nicley ¹ , P. Štenclová ² , A. Kromka ² , K. Haenen ¹ , W. Maes ¹ , B. Rezek ^{2,3} ¹ Hasselt University, Belgium, ² Institute of Physics CAS, Czech Republic, ³ Czech Technical University in Prague, Czech Republic
09:30-09:45	[O10.2] Surface modification of detonation nanodiamonds L.P. Afonina ¹ , A.E. Alexenko ¹ , T.B. Galushko ¹ , O.A. Kraevaya ² , B.V. Spitsyn* ¹ ¹ A.N. Frumkin Institute of Physical Chemistry and Electrochemistry of RAS, Russia, ² Institute for Problems of Chemical Physics of RAS, Russia
09:45-10:00	[O10.3] Surface modifications of detonation nanodiamond particles towards radiation-induced hydrated electrons and hydroxyl radicals production M. Kurzyp* ¹ , E. Brun ² , C. Sicard-Roselli ² , E. Nehlig ³ , H.A. Girard ¹ , S. Saada ¹ , J.C. Arnault ¹ ¹ Diamond Sensors Laboratory, France, ² University Paris-Sud, France, ³ Tritium Labelling Laboratory, France
10:00-10:15	[O10.4] Boehm titration for the quantification of oxygen containing surface groups: A critical case study for different carbon materials J. Schönherr*, P. Scholz, P. Adelhelm Friedrich Schiller University, Germany
10:15-10:45	Refreshment Break Room: G3 Foyer and G4
Room	G3
10:45-12:45	Session 11A: Homoepitaxial Diamond Growth Session Chair: O.A. Williams, Cardiff University, UK
10:45-11:00	[INV11] Fabrication and properties of ultra-large (<100 carat) type IIa colourless synthetic diamonds Andrey Katrusha, New Diamond Technology, Russia
11:00-11:15	[O11B.2] Hexamethyldisilazane precursor modified onto SiO₂/Si wafer for transferless graphene growth C. Liao* ^{1,2} , T. Georgiou ^{1,2} ¹ BGT Materials, UK, ² University of Manchester, UK
11:15-11:30	[O11A.1] High purity homoepitaxial diamond (111) film growth T. Teraji National Institute for Materials Science, Japan
11:30-11:45	[O11A.2] Mechanism of formation of twins and non-epitaxial inclusions in microwave plasma CVD growth of (001) single-crystalline diamond V.S. Sedov* ¹ , R.A. Khmel'nitsky ^{2,3} , E.E. Ashkinazi ¹ , A.A. Khomich ^{1,3} , A.V. Khomich ³ , V.G. Ralchenko ^{4,1} ¹ General Physics Institute RAS, Russia, ² Lebedev Physical Institute RAS, Russia, ³ Institute of Radio Engineering and Electronics RAS, Russia, ⁴ Harbin Institute of Technology, China
	G2
	Session 11B: Graphene Session Chair: X. Li, University of Electronic Science and Technology of China, China
	[O11B.1] Continuous graphene growth by open roll to roll chemical vapour deposition system J. Robertson* ¹ , G. Zhong ¹ , X. Wu ¹ , S. Zheng ¹ , L. D'Arsie ¹ , K. Teo ² , N. Rupersinghe ² , A. Jouvray ² ¹ Cambridge University, UK, ² Aixtron Ltd, UK
	[O11B.3] Mechanism of delaminating CVD graphene from its native metal substrate by electrochemical bubbling J. Sun* ^{1,2} , X. Fan ¹ , L. Liu ^{2,3} , Z. Zhan ² , X. Liu ¹ , W. Guo ¹ ¹ Beijing University of Technology, China, ² Chalmers University of Technology, Sweden, ³ Nanjing University of Posts and Telecommunications, China
	[O11B.4] Characteristics of graphene grown on various metal sputtered on single crystal substrates Y. Nakamura*, S. Tanaka, S. Nanasaki, K. Nakamura, T. Kamada, N. Matsushashi National Institute of Technology, Hachinohe College, Japan

11:45-12:00	[O11A.3] Effect of Ar addition into H₂/CH₄ source gas mixture on microwave plasma for diamond growth H. Yamada*, A. Chayahara, Y. Mokuno <i>AIST, Japan</i>	[O11B.5] Deposition of 300mm wafer scale amorphous carbon via microwave plasma CVD as a solid phase source for graphene growth at low temperatures T. Matsumoto* ¹ , R. Ifuku ¹ , T. Sakai ² , A. Kajita ² ¹ <i>Tokyo Electron Limited, Japan</i> , ² <i>Toshiba Corporation, Japan</i>
12:00-12:15	[O11A.4] Spectral-resolved video recording of pulsed microwave plasma assisted chemical vapour deposition discharges M. Muehle* ^{1,2} , M. Becker ¹ , T. Stuecken ² , T. Schuelke ^{1,2} ¹ <i>Fraunhofer USA, USA</i> , ² <i>Michigan State University, USA</i>	[O11B.6] Formation conditions for epitaxial graphene on diamond substrates K. Larsson*, Y. Song <i>Chemistry-Angstrom Laboratory, Sweden</i>
12:15-12:30	YOUNG SCHOLAR AWARD: [O11A.5] Effect of solvents on boron-doped diamond synthesis by in-liquid microwave plasma CVD process Y. Harada* ^{1,2} , Y. Sakurai ² , K. Miyasaka ² , C. Terashima ² , H. Uetsuka ^{1,2} , N. Suzuki ² , K. Nakata ² , K. Katsumata ² , T. Kondo ² , M. Yuasa ² <i>et al.</i> ¹ <i>Asahi Diamond Industrial Co., Ltd., Japan</i> , ² <i>Tokyo University of Science, Japan</i>	[INV12] Exciton dynamics in atomically thin 2D materials Ermin Malic, <i>Chalmers University of Technology, Sweden</i>
12:30-12:45	[O11A.6] Low resistivity phosphorus doped diamond thin films grown on {111} substrates with low off angles S. Koizumi*, T. Shimaoka <i>NIMS, Japan</i>	
12:45-14:15	Lunch Room: J Lounge	
Room	G3	
14:15-14:45	Materials Today 'Materials in Society' Lecture Session Chair: K. Haenen, <i>Hasselt University & IMEC vzw, Belgium</i>	
14:15-14:45	[INV13] Carbon and carbon hybrid materials for electrochemical desalination Volker Presser, <i>Saarland University, Germany</i>	
14:45-16:30	Focused Session 12: Quantum Photonics Session Chair: W. Pernice, <i>Westfälische Wilhelms-Universität Münster, Germany</i>	
14:45-15:15	[INV14] Laser writing of colour centres in diamond for quantum technologies Jason M. Smith, <i>University of Oxford, UK</i>	
15:15-15:30	[O12.1] How bright can be electrically driven single-photon sources on diamond? D.Y. Fedyanin* ¹ , M. Agio ^{2,3} ¹ <i>Moscow Institute of Physics and Technology, Russia</i> , ² <i>University of Siegen, Germany</i> , ³ <i>National Institute of Optics, Italy</i>	
15:30-15:45	[O12.2] Cooperatively-enhanced atomic dipole forces in optically trapped nanodiamonds containing NV centres, in liquid C. Bradac* ^{1,2} , M.L. Juan ² , B. Besga ² , M. Johnsson ² , M. van Breugel ² , R. Martin ² , B. Baragiola ² , G. Brennen ² , G. Molina-Terriza ² , T. Volz ² ¹ <i>University of Technology Sydney, Australia</i> , ² <i>Macquarie University, Australia</i>	
15:45-16:00	[O12.3] Doping diamond with Ge and Eu: Understanding the electronic structure D.E.P. Vanpoucke*, K. Haenen <i>Hasselt University, Belgium</i>	
16:00-16:30	[INV15] Non-hermitian topological photonics Alexander Szameit, <i>University of Rostock, Germany</i>	
16:30-18:00	Session 13: Posters II Room: G3 Foyer and G4 Session Chairs: I. Aharonovich, <i>University of Technology Sydney, Australia</i> ; J. Barjon, <i>Université de Versailles Saint-Quentin-en-Yvelines, France</i> ; J.V Macpherson, <i>University of Warwick, UK</i> ; P. Olivero, <i>University of Torino, Italy</i>	
18:30-22:00	Conference Dinner, Universeum	

Thursday, 7 September 2017	
Room	G3
08:45-10:15	Session 14: Diamond Electronic Devices <i>Session Chair: H. Umezawa, National Institute of Advanced Industrial Science and Technology (AIST), Japan</i>
08:45-09:00	[O14.1] Electrical and optical characterisation of diamond 2-D hole-gas with different chemical treatments M.W. Geis* ¹ , T. Fedynyshyn ¹ , M.E. Plaut ¹ , T.C. Wade ¹ , J. Varghese ¹ , S.A. Vitale ¹ , R.J. Nemanich ² , T.A. Grotjohn ³ , M. Marchant ¹ , M.A. Hollis ¹ <i>et al.</i> ¹ MIT Lincoln Laboratory, USA, ² Arizona State University, USA, ³ Michigan State University, USA
09:00-09:15	[O14.2] Superior 2D Electronic properties of surface transfer doped H-terminated diamond with Transitional Metal Oxides M. Tordjman*, K. Cohen-Weinfeld, R. Kalish <i>Solid State Inst. and Physics Dept. Technion Haifa, Israel</i>
09:15-09:30	[O14.3] Improvement on electrical properties of H-terminated diamond FETs using sputter deposition AlN/ atomic layer deposition Al₂O₃ stack gate structure M. Imura*, R.G. Ryan, J. Liu, M. Liao, Y. Koide <i>NIMS, Japan</i>
09:30-09:45	[O14.4] Dual-gate diamond field-effect transistors for electrostatic control of valley polarisation J. Isberg* ¹ , S. Majdi ¹ , N. Suntornwipat ¹ , M. Gabrysch ¹ , D.J. Twitchen ² ¹ Uppsala University, Sweden, ² Element Six, Sweden
09:45-10:00	[O14.5] Leakspots in diamond power device stack of layers: a TEM investigation J.C. Piñero ¹ , D. Araujo* ¹ , M. Gutierrez ¹ , F. Lloret ^{1,2} , T. Toan ^{2,3} , J. Pernot ^{3,4} ¹ Universidad de Cádiz, Spain, ² Université Grenoble, France, ³ CNRS, Institut NÉEL, France, ⁴ Institut Universitaire de France, France
10:00-10:15	YOUNG SCHOLAR AWARD: [O14.6] The progress on the investigations of transferred-electron oscillations in diamond N. Suntornwipat*, S. Majdi, M. Gabrysch, J. Isberg <i>Uppsala University, Sweden</i>
10:15-10:45	Refreshment Break Room: G3 Foyer and G4
10:45-12:15	Session 15: Defect Characterisation <i>Session Chair: T. Teraji, National Institute for Materials Science (NIMS), Japan</i>
10:45-11:15	[INV16] TEM analysis of diamond interfaces in electronic devices: Schottky and MOSFET issues D.Arájuo* ¹ , J.C. Piñero ¹ , M.P. Villar ¹ , M. Gutiérrez ¹ , J. Navas ¹ , A. Coronilla ³ , T.T. Pham ² , G. Chicot ² , A. Traoré ² , J. Pernos ² ¹ Universidad de Cádiz, Spain, ² CNRS-Grenoble Alpes, France, ³ Universidad de Sevilla, Spain
11:15-11:30	[O15.1] Defect analysis of freestanding diamond substrates and homoepitaxial diamond films L. Kirste*, V. Zuerbig, C. Schreyvolel, B. Tegelmeyer, M. Prescher, V. Cimmalla, C.E. Nebel <i>Fraunhofer Institute for Applied Solid State Physics, Germany</i>
11:30-11:45	[O15.2] Confocal μ-Raman tomography for the analysis of the interaction between topographic features on diamond surfaces and threading dislocations M. Mayr*, M. Fischer, M. Schreck <i>University of Augsburg, Germany</i>
11:45-12:00	[O15.3] Annealing and lateral migration of intrinsic defects in IIa diamond K.Y. Wang* ^{1,3} , J.W. Steeds ² , Z.L. Li ⁴ , H.X. Wang ¹ , Y-F. Wang ¹ ¹ Xi'an Jiaotong University, China, ² University of Bristol, UK, ³ Taiyuan University of Science and Technology, China, ⁴ Tianjin University, China
12:00-12:15	[O15.4] FUV photoluminescence of defects in diamond B-M. Cheng <i>National Synchrotron Radiation Research Center, Taiwan</i>
12:15-14:15	Lunch Room: J Lounge
14:15-15:45	Session 16: Nanocarbons <i>Session Chair: V. Presser, Saarland University, Germany</i>
14:15-14:30	[O16.1] Synthesis of nanodiamond based energetic composites by means of Spray Flash Evaporation M. Guillevic*, V. Pichot, F. Schnell, D. Spitzer <i>Institut franco-allemand de Saint-Louis (ISL), France</i>

14:30-14:45	[O16.2] Composites based on nanodiamond, carbon onions and carbon xerogels for energy storage applications I. Lederer ² , A. Muzha ¹ , G. Reichenauer ² , A. Krueger* ¹ ¹ Wuerzburg University, Germany, ² ZAE Bayern e.V., Germany
14:45-15:00	[O16.3] Application of boron-doped diamond powder to aqueous supercapacitor K. Miyashita* ^{1,2} , T. Kato ¹ , T. Kondo ^{1,2} , T. Aikawa ¹ , M. Yuasa ^{1,2} ¹ Tokyo University of Science, Japan, ² ACT-C/JST, Japan
15:00-15:15	[O16.4] Highly fluorescent carbon nanodots from olive mill wastewater J.V Prata* ^{1,2} , M.R Alexandre ¹ , A.I. Costa ^{1,2} , D.A. Sousa ¹ ¹ Instituto Superior de Engenharia de Lisboa/Instituto Politécnico de Lisboa, Portugal, ² Centro de Química-Vila Real/Universidade de Trás-os-Montes e Alto Douro, Portugal
15:15-15:30	[O16.5] Towards hierarchical pore structure in Lignin-derived carbons J.L. Rowlandson* ¹ , K.J. Edler ² , T.J. Woodman ² , V.P. Ting ¹ ¹ University of Bristol, UK, ² University of Bath, UK
15:30-15:45	[O16.6] Investigation of synthetic route for the new carbon allotrope T. Yanase* ¹ , K. Hasegawa ¹ , T. Taniguchi ^{1,2} , F. Kawaguchi ^{1,2} , T. Shimada ¹ ¹ Hokkaido University, Japan, ² Institute for Material Science, Japan
15:45-16:15	Refreshment Break Room: G3 Foyer and G4
16:15-17:45	Session 17: Carbon-based Devices Session Chair: R.J. Nemanich, Arizona State University, USA
16:15-16:30	[O17.1] Progress in black diamond technology for solar energy conversion A. Bellucci ¹ , M. Girolami* ¹ , M. Mastellone ¹ , S. Orlando ¹ , R. Polini ² , D.M. Trucchi ¹ ¹ CNR-ISM, Italy, ² TorVergata University, Italy
16:30-16:45	[O17.2] Vertically aligned diamond-graphite hybrid nanorods for thermionic and field electron emission applications K.J. Sankaran* ^{1,2} , S. Korneychuk ³ , R. Ramaneti ^{1,2} , S. Drijkoningen ^{1,2} , K. Srinivasu ⁴ , P. Pobedinskas ^{1,2} , J. Verbeeck ³ , M.K. Van Bael ^{1,2} , I.N. Lin ⁵ , K. Haenen ^{1,2} ¹ Hasselt University, Belgium, ² IMOMECE, Belgium, ³ University of Antwerp, Belgium, ⁴ National Tsing Hua University, Taiwan, ⁵ Tamkang University, Taiwan
16:45-17:00	[O17.3] Elucidating degradation mechanism of field electron emission from carbon nanotubes in fully vacuum-sealed x-ray tubes Y-H. Song* ^{1,2} , J-W. Jeong ¹ , J-W. Kim ¹ , S. Park ¹ , J-T. Kang ¹ , Y.C. Choi ¹ , J-H. Yeon ¹ , S. Kim ¹ , H. Jeon ^{1,2} , E. Go ^{1,2} et al. ¹ Electronics and Telecommunications Research Institute, Republic of Korea, ² University of Science and Technology, Republic of Korea
17:00-17:15	[O17.4] Compact field emission device using directly grown carbon nanotube for x-ray imaging J.H. Ryu* ^{1,3} , S.J. Yeo ^{1,3} , J.I. Jeong ^{1,3} , S.J. Park ¹ , A.P. Gupta ^{1,3} , H.K. Park ¹ , C.G. Cho ³ , S.H. Kim ^{2,3} , J.S. Ahn ¹ ¹ Kyung Hee University, Republic of Korea, ² Asan Medical Center, Republic of Korea, ³ CAT Beam Tech. Co. Ltd., Republic of Korea
17:15-17:30	[O17.5] Surface effect and improvement of the quality factor of single crystal diamond NEMS resonators M.Y. Liao*, H.H. Wu, L.W. Sang, T. Teraji, M. Imura, Y. Koide NIMS, Japan
17:30-17:45	[O17.6] On an industrially feasible pressure sensor with diamond diaphragm and resistors M. Bähr ^{1*} , M. Mohr ² , M. Blech ¹ , N. Wiora ² , R. Täschner ¹ , K. Brühne ² , H.-J. Fecht ² , T. Ortlepp ¹ ¹ CIS Forschungsinstitut für Mikrosensorik GmbH, Germany, ² Ulm University, Germany
17:45-18:00	Closing Ceremony Ken Haenen, Hasselt University & IMEC vzw, Belgium