

Oral programme

Sunday, 04 September 2016	
15:30-18:30	Registration
Room	Foyer Pasteur
16:00-17:30	DCM Tutorial Chair: K. Haenen, <i>Hasselt University and IMEC vzw, Belgium</i> [DCM Tut.] It's all in the surface - the chemistry of diamond A. Krüger, <i>Julius-Maximilians-Universität Würzburg, Germany</i>
Room	Louisville
17:30-18:30	Welcome reception
Room	Foyer Pasteur
Monday, 05 September 2016	
Session 1: Plenary Chair: K. Haenen, <i>Hasselt University and IMEC vzw, Belgium</i>	
Room	Auditorium Einstein
09:00-09:10	Opening address- Welcome: K. Haenen, <i>Hasselt University and IMEC vzw, Belgium</i>
09:10-09:50	[Keynote1] Several decades of single crystal diamond growth by microwave plasma assisted CVD: Breakthroughs and remaining challenges J. Achard, <i>CNRS-Université Paris 13, France</i>
09:50-10:30	[Keynote2] Nanoporous carbons for electrochemical energy storage solutions in supercapacitors F. Béguin, <i>Poznan University of Technology, Poland</i>
10:30-11:00	Refreshment break Room: Foyer Pasteur
Session 2: Diamond power devices Chair: R.J. Nemanich, <i>Arizona State University, USA</i>	
Room	Auditorium Einstein
11:00-11:30	[Inv.01] Diamond electronics realization and substrate issue S. Yamasaki*, T. Makino, D. Takeuchi, M. Ogura, H. Kato, <i>Advanced Power Electronics Research Center, AIST, Japan</i>
11:30-11:45	[O2.1] Unusual frequency dependence of capacitance in oxygen terminated diamond MOS capacitor: The role of the gate leakage current T.T. Pham ^{1,2} , A. Maréchal ^{1,2} , N. Rouger ^{1,2} , D. Eon ^{1,2} , P. Muret ^{1,2} , E. Gheeraert ^{1,2} , J. Pernot ^{*1,2} , ¹ Université Grenoble Alpes, France, ² CNRS, Institut NÉEL, France, ³ Institut Universitaire de France, France
11:45-12:00	[O2.2] High endurance transparent polycrystalline diamond FET for power electronics application M. Syamsul*, Y. Kitabayashi, D. Matsumura, H. Kawarada, <i>Waseda University, Japan</i>
12:00-12:15	[O2.3] Trade-off for optimizing drift region of diamond power devices G. Chicot ^{*1,2} , D. Eon ^{1,2} , N. Rouger ^{1,2} , ¹ Université Grenoble Alpes, France, ² CNRS, France
12:15-12:30	[O2.4] Sputter deposition AlN and atomic layer deposition Al₂O₃ as bilayer gate materials for H-terminated diamond field effect transistors R.G. Banal*, M. Imura, J. Liu, M. Liao, Y. Koide, <i>NIMS, Japan</i>
12:30-14:00	Lunch
Session 3: Diamond deposition & doping Chair: J. Pernot, <i>CNRS-Université Grenoble Alpes, France</i>	
Room	Auditorium Einstein
14:00-14:30	[Inv.02] New concept toward freestanding diamond substrate: Overgrowth of bulk diamond on diamond microneedles H. Aida ^{*1,2} , S-W. Kim ¹ , K. Ikejiri ¹ , K. Koyama ¹ , Y. Kawamata ¹ , H. Kodama ³ , A. Sawabe ³ , ¹ Namiki Precision Jewel Co. Ltd., Japan, ² Kyushu University, Japan, ³ Aoyama Gakuin University, Japan
14:30-14:45	[O3.1] Phosphorus incorporation and defect morphology optimisation for n-type diamond growth S.S. Nicley ^{*1,2} , P. Pobedinskas ^{1,2} , K. Haenen ^{1,2} , ¹ Hasselt University, Belgium, ² IMEC, Belgium
14:45-15:00	[O3.2] Diamond etching under high B/C gas ratios A. Fiori*, T. Teraji, <i>National Institute for Materials Science, Japan</i>
15:00-15:15	[O3.3] High speed synthesis of boron doped diamond by in-liquid plasma Y. Sakurai ^{*1,2} , Y. Harada ^{2,3} , C. Terashima ^{1,2} , H. Uetsuka ^{2,3} , K. Nakata ^{1,2} , K. Katsumata ^{1,2} , T. Kondo ^{1,2} , M. Yuasa ^{1,2} , A. Fujishima ² , ¹ Tokyo University of Science, Japan, ² Photocatalysis International Research Center, Japan, ³ Asahi Diamond Industrial Co., Ltd., Japan

15:15-15:30	[O3.4] Approaches for vertical diamond pin-diodes with high blocking voltage and bipolar operation F.A. Koeck, M. Dutta, R. Hathwar, S.M. Goodnick, S. Chowdhury, R.J. Nemanich*, <i>Arizona State University, USA</i>		
15:30-16:00	Refreshment break Room: Foyer Pasteur		
	Focused Session 4: Carbon nitride Chair: C. Donnet, <i>Université Jean Monnet, France</i>		
Room	Auditorium Einstein		
16:00-16:30	[Inv.03] Fullerene-like carbon nitride (CNx) thin films; the effects of doping elements on structure and mechanical resiliency L. Hultman, <i>Linköping University, Sweden</i>		
16:30-16:45	[O4.1] Beta carbon nitride nanoparticles as a new member of the eclectic family of fluorescent carbon nanodots F. Messina* ¹ , L. Sciortino ¹ , R. Popescu ² , A. Venezia ³ , A. Sciortino ⁴ , G. Buscarino ¹ , S. Agnello ¹ , R. Schneider ² , D. Gerthsen ² , M. Cannas ¹ , ¹ <i>University of Palermo, Italy</i> , ² <i>Karlsruhe Institute of Technology, Italy</i> , ³ <i>CNR, Italy</i> , ⁴ <i>University of Catania, Italy</i>		
16:45-17:00	[O4.2] Electrical behaviour at the nanoscale and electrochemical activity of amorphous carbon nitride thin films as a function of their nitrogen content A. Pailleret*, F. Billon, C. Deslouis, <i>Sorbonne Universités, France</i>		
17:00-17:30	[Inv.04] Conductive amorphous carbon nitride thin films for electrochemical electrode at low-temperature deposition by new method: The properties and structures Y. Kikuchi* ¹ , K.Y. Inoue ² , T. Matsue ² , S. Samukawa ² , ¹ <i>Tokyo Electron Limited, Japan</i> , ² <i>Tohoku University, Japan</i>		
17:30-19:00	Session 5: Poster session 1 Chair: YSA Committee		
Room	Foyer Pasteur		
Tuesday, 06 September 2016			
	Session 6A: Dislocations in diamond Chair: T. Schülke, <i>Fraunhofer Center for Coatings and Diamond Technologies & Michigan State University, USA</i>		Session 6B: Graphene Chair: C.I. Pakes, <i>La Trobe University, Australia</i>
Room	Auditorium Einstein		Sully 1
09:00-09:15	[O6A.1] Dislocation propagation in CVD diamond grown on engineered shape substrates A. Boussadi, A. Tallaire, V. Mille, O. Brinza, J. Achard*, <i>LSPM-CNRS, France</i>	09:00-09:30	[Inv.05] Isotope labelling in multilayered graphene systems M. Kalbáč, <i>Academy of Sciences of the Czech Republic, Czech Republic</i>
09:15-09:30	[YSA.1] Anisotropic stress, mosaic spread and dislocation density of heteroepitaxial diamond on Ir/YSZ/Si(111): Evolution with thickness and underlying mechanisms B-C. Gallheber*, M. Fischer, O. Klein, M. Schreck, <i>University of Augsburg, Germany</i>		
09:30-09:45	[O6A.2] Defect structure of heteroepitaxial diamond grown from grid-patterned nucleation region on Ir K. Ichikawa* ¹ , H. Kodama ¹ , K. Suzuki ² , A. Sawabe ¹ , ¹ <i>Aoyama Gakuin University, Japan</i> , ² <i>Toplas Engineering Co. Ltd., Japan</i>	09:30-09:45	[O6B.1] Rapid growth of high-quality graphene on Cu (111) surface using C₂H₂-based chemical vapour deposition M. Yang*, S. Sasaki, K. Suzuki, H. Miura, <i>Tohoku University, Japan</i>

09:45-10:00	[O6A.3] Fabrication of low defect density single crystalline diamond by two-step epitaxial lateral overgrowth F.N. Li*, W. Wang, Z.C. Liu, Y.F. Wang, S.Y. Li, J. Fu, T.F. Zhu, H.X. Wang, <i>Xi'an Jiaotong University, China</i>	09:45-10:00	[YSA.2] Fabrication of graphene on atomically flat diamond (111) surface using nickel as a catalyst S. Kanada* ¹ , M. Nagai ¹ , K. Nakanishi ¹ , S. Ito ¹ , T. Matsumoto ¹ , M. Ogura ² , D. Takeuchi ² , S. Yamasaki ² , N. Tokuda ¹ , T. Inokuma ¹ , ¹ <i>Kanazawa University, Japan</i> , ² <i>AIST, Japan</i>
10:00-10:15	[O6A.4] 3D imaging of defects in high-purity homoepitaxial diamond (100) films T. Teraji*, K. Watanabe, <i>National Institute for Materials Science, Japan</i>	10:00-10:15	[O6B.2] Wafer-scale graphene synthesis and application in flexible and transparent devices C-G. Choi, <i>Electronics and Telecommunications Research Institute (ETRI), Republic of Korea</i>
10:15-10:30	[O6A.5] Disappearance of stacking faults in single crystal diamond by thermal annealing S. Masuya* ¹ , T. Moribayashi ¹ , K. Hanada ¹ , H. Sumiya ² , M. Kasu ¹ , ¹ <i>Saga University, Japan</i> , ² <i>Sumitomo Electric Industries, Ltd., Japan</i>	10:15-10:30	[O6B.3] Frequency response of electrolyte-gated graphene electrodes and transistors S. Drieschner ¹ , A. Guimerà ² , R.G. Cortadella ³ , D. Viana ³ , B.M. Blaschke ¹ , J.A. Garrido* ^{3,4} , ¹ <i>Technische Universität München, Germany</i> , ² <i>Institut de Microelectrònica de Barcelona IMB-CNM (CSIC), Spain</i> , ³ <i>ICN2, Catalan Institute of Nanoscience and Nanotechnology (ICN2), Spain</i> , ⁴ <i>ICREA, Institució Catalana de Recerca i Estudis Avançats, Spain</i>
10:30-11:00	Refreshment break Room: Foyer Pasteur		
	Session 7A: Diamond deposition methods Chair: M. Schreck, <i>Universität Augsburg, Germany</i>		Session 7B: Characterization of carbon nanostructures I Chair: A. Krüger, <i>Julius-Maximilians-Universität Würzburg, Germany</i>
Room	Auditorium Einstein		Sully 1
11:00-11:15	[O7A.1] Growth and characterization of single crystal diamond by high power DC arcjet with rotating arc root with and without gas recycling F.X. Lu* ^{1,2} , L.F. Hei ^{1,2} , Y.M. Tong ¹ , G.H. Li ³ , H. Guo ³ , Z.L. Sun ³ , ¹ <i>University of Science and Technology Beijing, China</i> , ² <i>Hebei Plasma Diamond Science and Technology Ltd, China</i> , ³ <i>Beijing Plasma Diamond Technology R&D Ltd, China</i>	11:00-11:30	[Inv.06] Synthesis, structure and tunable electronic properties of pure and doped graphene D.Yu. Usachov, <i>St. Petersburg State University, Russia</i>
11:15-11:30	[O7A.2] Nanocrystalline diamond films deposited at low substrate temperature: From growth process to controlled film properties B. Baudrillart, F. Bénédic*, J. Achard, <i>Université Paris 13, France</i>		

11:30-11:45	[O7A.3] High speed video recording of pulsed discharges for microwave plasma assisted chemical vapor deposition of single crystalline diamond M. Muehle* ^{1,2} , J. Asmussen ² , M.F. Becker ¹ , T. Stuecken ² , T. Schuelke ^{1,2} , ¹ Fraunhofer USA Inc., USA, ² Michigan State University, USA	11:30-11:45	[O7B.1] Sol-gel transition in hydrosols of diamond single crystal nanoparticles A.Y. Vul* ¹ , E.D. Eidelman ^{1,2} , A.E. Aleksenskiy ¹ , A.V. Shvidchenko ¹ , A.T. Dideikin ¹ , V.S. Yuferev ¹ , V.T. Lebedev ³ , Y.V. Kul'velis ³ , M.V. Avdeev ⁴ , ¹ Ioffe Physical-Technical Institute, Russia, ² St. Petersburg State Chemical–Pharmaceutical Academy, Russia, ³ National Research Centre “Kurchatov Institute”, Russia, ⁴ Joint Institute for Nuclear Research, Russia
11:45-12:00	[O7A.4] Nucleation and growth of polycrystalline diamond films produced by direct-current micro-plasma technique F. Inzoli* ^{1,2} , F. Ghezzi ² , R. Caniello ² , D. Dellasega ^{1,2} , V. Russo ¹ , M. Passoni ^{1,2} , ¹ Politecnico di Milano, Italy, ² Consiglio Nazionale Delle Ricerche, Italy	11:45-12:00	[O7B.2] Nano-diamond ink formulation with strong photoluminescence properties I. Chernikov ¹ , B. Zousman ² , M. AlAraini ^{1,3} , R. Arif ^{1,4} , P. Lutsyk ¹ , O. Levinson ² , A. Rozhin* ¹ , ¹ Aston University, UK, ² Ray Techniques LTD, Israel, ³ Al Musanna College of Technology, Oman, ⁴ University of Sulaimani, Iraq
12:00-12:15	[O7A.5] CVD diamond growth in a microwave plasma with elevated SiH₄ content: From SiV centers to SiC and Si phases formation V.S. Sedov* ^{1,2} , A.K. Martyanov ¹ , V.G. Ralchenko ^{3,1} , A.A. Khomich ¹ , O.N. Poklonskaya ⁴ , V.I. Konov ^{1,2} , ¹ Russian Academy of Sciences, Russia, ² National Research Nuclear University MEPhI, Russia, ³ Harbin Institute of Technology, China, ⁴ Belarusian State University, Belarus	12:00-12:15	[O7B.3] Nanodiamond/oligopeptide composites and assemblies E. Muñoz* ¹ , I. Jurewicz ² , S. Seyedin ³ , J.M. Razal ³ , A.B. Dalton ^{4,2} , V.L. Cebolla ¹ , R. Garriga ⁵ , ¹ Instituto de Carboquímica ICB-CSIC, Spain, ² University of Surrey, UK, ³ Deakin University, Australia, ⁴ University of Sussex, UK, ⁵ Universidad de Zaragoza, Spain
12:15-12:30	 Industry talk by [Industry1] Evaluation results of hetero-epitaxially grown diamond substrate K. Koyama, S-W. Kim, K. Ikejiri, Y. Kawamata, H. Aida*, A. Sawabe, <i>Namiki Precision Jewel Co., Ltd, Japan</i>	12:15-12:30	[O7B.4] NIR fluorescent carbon nano-onions for cellular imaging A. Camisasca*, S. Lettieri, M. D'amora, S. Giordani, <i>Istituto Italiano di Tecnologia (IIT), Italy</i>
12:30-14:00	Lunch		
	Session 8A: Nanodiamond particles Chair: J.C. Arnault, <i>Commissariat à l'énergie atomique et aux énergies alternatives (CEA), France</i>		Focused session 8B: CNTs Chair: M. Kalbáč, <i>CAS-J. Heyrovsky Institute of Physical Chemistry, Czech Republic</i>
Room	Auditorium Einstein		Sully 1
14:00-14:15	[O8A.1] Sulphur functionalized nanodiamond for selective interaction with gold surfaces and biomolecules A. Krueger*, S. Heyer, <i>Wuerzburg University, Germany</i>	14:00-14:15	[O8B.1] Contact thermal resistance of densely-packed VACNTs and deformation mechanics of CNTs Y. Tsukiyama* ¹ , T. Kawasaki ¹ , I. Nitta ¹ , W. Norimatsu ² , M. Kusunoki ² , ¹ Niigata University, Japan, ² Nagoya University, Japan

14:15-14:30	[O8A.2] C₃-induced nanodiamond hydrogenation using molecular hydrogen at low temperature A.I. Ahmed ¹ , S. Mandal ² , O. Williams ² , C.L. Cheng* ¹ , ¹ National Dong Hwa University, Taiwan, ² Cardiff University, UK	14:15-14:30	[O8B.2] Tunable hydrophilicity/hydrophobicity of fluorinated carbon nanotubes via gas-phase grafting of monomers A.P. Kharitonov* ^{1,2} , J.L. Zha ^{3,4} , M. Dubois ^{3,4} , ¹ Russian Academy of Sciences, Russia, ² Tambov State Technical University, Russia, ³ Clermont Université, France, ⁴ CNRS, France
14:30-14:45	[O8A.3] Ion-exchange properties of detonation nanodiamond and related purity issues P.N. Nesterenko*, A. Peristyy, B. Paull, <i>University of Tasmania, Australia</i>	14:30-14:45	[O8B.3] Influence of CNT oxidation on the mechanical and thermoelectric performance of Cu-CNT composites K.Z. Milowska*, P.D. Bristowe, K. Koziol, <i>University of Cambridge, UK</i>
14:45-15:15	[Inv.07] Fluorescent nanodiamond probes coated in biocompatible polymer shells P. Cigler, <i>Institute of Organic Chemistry and Biochemistry AS CR, v.v.i., Czech Republic</i>	14:45-15:00	[O8B.4] Overcoming the skin effect using carbon nanotube cables G.P. Keeley*, H. Le Poche, A. Ghis, J. Dijon, <i>CEA, France</i>
		15:00-15:15	[O8B.5] Nanodiamonds as hard mask for on-wafer catalyst nanodot preparation: Application to carbon nanotubes growth and field emission applications J-P. Mazellier* ¹ , J. Delchevalrie ¹ , L. Sabaut ² , H.A. Girard ³ , S. Saada ³ , ¹ Thales Research & Technology, France, ² Thales Electron Devices, France, ³ CEA-LIST, France
15:15-15:30	 Industry talk by [Industry2] Introducing DAICEL's activities related to detonation nanodiamonds, from the production to unique application developments H. Ito, <i>DAICEL Corporation, Japan</i>	15:15-15:30	[O8B.6] Life-time verification of carbon nanotube-based x-ray tube for commercial use J-W. Jeong* ¹ , J-W. Kim ¹ , J-T. Kang ¹ , M-S. Shin ^{1,2} , S.R. Park ¹ , E.S. Go ^{1,2} , H.J. Jeon ^{1,2} , Y-C. Choi ¹ , Y-H. Song ^{1,2} , ¹ ETRI, Republic of Korea, ² UST, Republic of Korea
15:30-16:00	Refreshment break Room: Foyer Pasteur		
	Session 9A: Quantum effects Chair: J.A. Garrido, <i>Catalan Institute of Nanoscience & Nanotechnology (ICN2) and Catalan Institution for Research and Advanced Studies (ICREA), Spain</i>		Session 9B: DLC Chair: J.G. Buijnsters, <i>Delft University of Technology, Netherlands</i>
Room	Auditorium Einstein		Sully 1
16:00-16:30	[Inv.08] Purcell-enhanced single-photon emission from colour centers in diamond coupled to a tunable microcavity D. Hunger* ^{1,2} , H. Kaupp ^{1,2} , J. Benedikter ^{1,2} , T. Hümmer ^{1,2} , T.W. Hänsch ^{1,2} , ¹ Ludwig-Maximilians-University Munich, Germany, ² Max-Planck Institute of Quantum Optics, Germany	16:00-16:15	[YSA.3] Understanding carbon/lipid interaction for the rational design of biomaterials J. Vasconcelos*, F. Zen, D. Angione, R. Cullen, P. Colavita, <i>Trinity College Dublin, Ireland</i>
		16:15-16:30	[O9B.1] Correlation of structural and optical properties of PVD grown amorphous carbon thin films I. Solomon V ¹ , M. Ranjan ² , B. Sarma ¹ , A. Sarma* ^{1,2} , ¹ VIT University, India, ² FCIPT Institute for Plasma Research, India

16:30-16:45	<p>[YSA.4] Localization of narrowband single photon emitters in nanodiamonds K. Bray*¹, R. Sandstrom¹, C. Elbadawi¹, M. Fischer², M. Schreck², O. Shimoni¹, C. Lobo¹, M. Toth¹, I. Aharonovich¹, ¹University of Technology Sydney, Australia, ²Universitat Augsburg, Germany</p>	16:30-16:45	<p>[O9B.2] Ultrashort pulse laser microstructuring of diamond-like nanocomposite films E.V. Zavedeev*¹, M.L. Shupegin², A.D. Barinov², O.S. Zilova², B. Jaeggi³, P. Cam³, B. Neuenschwander³, S.M. Pimenov¹, ¹General Physics Institute, Russia, ²National Research University, Russia, ³Bern University of Applied Sciences, Switzerland</p>
16:45-17:00	<p>[O9A.1] Robust luminescence of the silicon-vacancy color center in diamond at high temperatures: Toward thermally-enhanced electroluminescent devices S. Lagomarsino*^{1,2}, F. Gorelli^{4,5}, M. Santoro^{4,5}, N. Fabbri^{4,5}, A. Hajeb⁵, S. Sciortino^{2,3}, L. Palla^{6,7}, C. Czelusniak^{2,3}, M. Massi², F. Taccetti², ¹University of Siegen, Germany, ²INFN-Firenze, Italy, ³University of Florence, Italy, ⁴INO-CNR, Italy, ⁵LENS, Italy, ⁶University of Pisa, Italy, ⁷INFN-Pisa, Italy, ⁸Moscow Institute of Physics and Technology, Russia, ⁹QSTAR, Italy</p>	16:45-17:15	<p>[Inv.09] Recent progress in industrial applications of DLC with focus on ta-C coatings T. Schuelke*^{1,2}, V. Weihnacht³, W. Fukarek⁴, ¹Michigan State University, USA, ²Fraunhofer USA, Inc, USA, ³Fraunhofer Institute for Materials and Beam Technology, Germany, ⁴VTD Vakuumtechnik Dresden GmbH, Germany</p>
17:00-17:15	<p>[YSA.5] Enhancement of the spin coherence time in NV center induced by an external electric field S. Kobayashi*^{1,2}, H. Morishita³, Y. Matsuzaki⁴, S. Miwa¹, Y. Suzuki¹, N. Mizuochi^{2,3}, ¹Osaka University, Japan, ²JST-CREST, Japan, ³Kyoto University, Japan, ⁴NTT Basic Research Laboratories, Japan</p>		
17:15-17:30	<p>[O9A.2] Diamond magnetometry of Meissner currents in a superconducting film N. Alfasi*, S. Masis, O. Shtempeluk, V. Kochetok, E. Buks, <i>Technion Israel Institute of Technology, Israel</i></p>	17:15-17:30	<p>[O9B.3] Impacts of substrate bias and dilution gas on the properties of Si-doped diamond-like carbon films by plasma deposition using organosilane as a Si source H. Nakazawa*, S. Miura, <i>Hirosaki University, Japan</i></p>
17:30-18:00	<p>[Inv.10] Photoelectric detection of NV centres magnetic resonances in diamond E. Bourgeois*^{1,2}, K. Buczak³, J. Hruby¹, M. Trupke³, M. Nesladek^{1,2}, ¹Hasselt University, Belgium, ²IMEC, Belgium, ³Vienna Center for Quantum Science and Technology, Austria</p>	17:30-17:45	<p>[O9B.4] Properties of DLC coatings produced in pulsed glow-discharge processes on nitrided and carbonitrided austenitic steel T. Borowski*¹, M. Dubek¹, K. Kowalczyk¹, K. Rozniatowski¹, K. Kulikowski¹, M. Spychalski¹, B. Adamczyk-Cieslak¹, B. Rajchel², ¹Warsaw University of Technology, Poland, ²Polish Academy of Sciences, Poland</p>
		17:45-18:00	<p>[O9B.5] Influence of amorphous carbon layers on tribological properties of PEEK composite in contact with nitrided layer produced on Ti6Al4V titanium alloy M. Tarnowski*¹, K. Kulikowski¹, T. Borowski¹, B. Rajchel², T. Wierzchon¹, ¹Warsaw University of Technology, Poland, ²Institute of Nuclear Physics, Poland</p>
Wednesday, 07 September 2016			

Focused Session 10: Characterization of carbon nanostructures II Chair: A.Ya. Vul', <i>Ioffe Physical Technical Institute, Russia</i>			
Room	Auditorium Einstein		
09:00-09:30	[Inv.11] Nanostructures & nanochemistry at carbon/carbon-related material surfaces, sub-surfaces and interfaces P.G. Soukiassian ^{1,2} , ¹ CEA-Saclay, France, ² Université de Paris-Sud, France		
09:30-09:45	[O10.1] Wrinkling the graphene: Control of topography by nanoparticles and fullerenes J.K. Vejpravova*, B. Pacakova, A. Mantlikova, T. Verhagen, V. Vales, O. Frank, M. Kalbac, <i>Czech Academy of Sciences, Czech Republic</i>		
09:45-10:00	[O10.2] Is carbon nanotube side-wall really functionalized? X. Devaux* ^{1,2} , N. Allali ^{1,2} , V. Mamane ^{3,2} , M. Dossot ^{1,2} , ¹ Université de Lorraine, France, ² CNRS, France, ³ Université de Strasbourg, France		
10:00-10:15	[O10.3] Luminescence dynamics of annealed nanodiamonds J. Salava* ¹ , F. Trojánek ¹ , S. Stehlík ² , B. Rezek ^{2,3} , P. Malý ¹ , ¹ Charles University in Prague, Czech Republic, ² Czech Academy of Sciences, Czech Republic, ³ Czech Technical University, Czech Republic		
10:15-10:30	[O10.4] Towards large scale preparation of carbon nanostructures in molten salts A.R. Kamali*, D.J. Fray, <i>University of Cambridge, UK</i>		
10:30-11:00	Refreshment break Room: Foyer Pasteur		
	Session 11A: High pressure Chair: M. Kasu, <i>Saga University, Japan</i>		Session 11B: 2D Materials Chair: P. Soukiassian, <i>Commissariat à l'énergie atomique et aux énergies alternatives (CEA), France</i>
Room	Auditorium Einstein		Sully 1
11:00-11:30	[Inv.12] Advanced ultra-hard nanopolycrystalline diamond H. Sumiya*, K. Ikeda, K. Arimoto, K. Harano, <i>Sumitomo Electric Industries, LTD., Japan</i>	11:00-11:15	[O11B.1] Pyridinic dominance nitrogen doped graphene by femtosecond pulsed laser deposition C. Maddi ¹ , T. Tite ¹ , V. Barnier ² , A.S. Loir ¹ , F. Bourquard ¹ , W. Wolski ² , C. Donnet* ¹ , F. Garrelie ¹ , ¹ Université de Lyon, France, ² Ecole Nationale Supérieure des Mines de St-Etienne, France
		11:15-11:30	[O11B.2] Lessons learned from carbon nanotube growth can be applied to graphene: 100% reproducibility and improved graphene quality by preheating precursor gases using thermal chemical vapor deposition G.D. Nessim, <i>Bar Ilan University, Israel</i>
11:30-11:45	[O11A.1] A new approach for HPHT synthesis of diamond from graphite S.V. Kidalov, F.M. Shakhov, V.Y. Davydov, V.V. Sokolov, A.Y. Vul*, <i>Ioffe Physical-Technical Institute, Russia</i>	11:30-11:45	[O11B.3] An electrochemical understanding of the graphite oxidation and graphene oxide reduction to produce graphene flakes or films F. Avril* ^{1,2} , M. Guillot ² , B. Sala ² , A. Pailleret ³ , T. Michel ¹ , A. Foucaran ¹ , ¹ Université Montpellier, France, ² éMa SAS, France, ³ Université Paris 06, France
11:45-12:00	[O11A.2] Synthesis of high-purity sp³ network polymer and its controlled conversion to nanodiamonds by high pressure high temperature T. Yanase* ¹ , K. Hasegawa ¹ , T. Nagahama ¹ , T. Taniguchi ² , F. Kawamura ² , T. Shimada ¹ , ¹ Hokkaido University, Japan, ² National Institute for Material Science, Japan	11:45-12:00	[O11B.4] Hydrogen peroxide sensor based on vertical nanographene platform M. Hiramatsu* ¹ , M. Tomatsu ¹ , H. Kondo ² , M. Hori ² , J.S. Foord ³ , ¹ Meijo University, Japan, ² Nagoya University, Japan, ³ University of Oxford, UK

12:00-12:15	[O11A.3] Pressure-induced polymerization on ferrocene-doped C₆₀ nanosheets and its light irradiation effect H. Gonnokami, K. Kato, H. Murata, M. Tachibana*, <i>Yokohama City University, Japan</i>	12:00-12:30	[Inv.13] A novel method for preparing high-quality two-dimensional hexagonal boron nitride: Ion beam sputtering deposition X.W. Zhang*, H.L. Wang, J.H. Meng, H. Liu, <i>Chinese Academy of Sciences, China</i>
12:15-12:30	[O11A.4] Polymerization of C₆₀ confined by 1,1,2-trichloroethane under high pressure C. Pei* ¹ , M. Feng ² , L. Wang ¹ , ¹ <i>Center for High Pressure Science and Technology Advanced Research, China</i> , ² <i>Jilin University, China</i>		
12:30-14:00	Lunch		
	Session 12: Surfaces & interfaces Chair: C.L. Cheng, <i>National Dong Hwa University, Taiwan</i>		
Room	Auditorium Einstein		
14:00-14:30	[Inv.14] Termination of the diamond surface with silicon and germanium A.K. Schenk ¹ , M.J. Sear ¹ , A. Tadich ² , B. Spencer ¹ , L. Ley ^{1,3} , A. Stacey ⁴ , C.I. Pakes* ¹ , ¹ <i>La Trobe University, Australia</i> , ² <i>Australian Synchrotron, Australia</i> , ³ <i>Universität Erlangen, Germany</i> , ⁴ <i>University of Melbourne, Australia</i>		
14:30-14:45	[O12.1] Enhanced photoelectron emission into vacuum and into ambient environments by amino (-NH₂) termination of diamond R.J. Hamers*, J. Bandy, S. Li, D. Zhu, <i>University of Wisconsin-Madison, USA</i>		
14:45-15:00	[O12.2] Modulation of protein fouling and interfacial properties at carbon surfaces via immobilization of glycans using aryldiazonium chemistry F. Zen* ¹ , J.M. Vasconcelos ¹ , J. Andersson ² , E.M. Scanlan ¹ , P.E. Colavita ¹ , ¹ <i>Trinity College Dublin, Ireland</i> , ² <i>Insplosion AB, Sweden</i>		
15:00-15:15	[O12.3] Real-time measurement of hole doping by NO₂ and SO₂ molecule adsorption on H-terminated diamond surfaces K. Hanada*, M. Kasu, <i>Saga University, Japan</i>		
15:15-15:30	[O12.4] Microstructure and hole accumulation mechanism of AlN/Diamond(111) heterojunctions prepared by MOVPE M. Imura* ¹ , R.G. Banal ¹ , M.Y. Liao ¹ , J. Liu ¹ , Y. Koide ¹ , T. Matsumoto ² , N. Shibata ² , Y. Ikuhara ² , ¹ <i>National Institute for Materials Science, Japan</i> , ² <i>The University of Tokyo, Japan</i>		
15:30-16:00	[Inv.15] Atom-by-atom wear of diamond in contact with silica: A quantum-mechanical simulation study G. Moras* ¹ , A. Peguiron ¹ , M. Walter ^{1,2} , H. Uetsuka ³ , L. Pastewka ^{1,4} , M. Moseler ^{1,2} , ¹ <i>Fraunhofer IWM, MicroTribology Center µTC, Germany</i> , ² <i>University of Freiburg, Germany</i> , ³ <i>Asahi Diamond Industrial Co. Ltd., Japan</i> , ⁴ <i>Karlsruhe Institute of Technology, Germany</i>		
16:00-17:30	Session 13: Poster session 2 and Refreshment break Chair: YSA Committee		
Room	Foyer Pasteur		
19:00-23:00	Conference dinner Domaine de Verchant		
Thursday, 08 September 2016			
	Session 14: Devices & technology Chair: J. Achard, <i>CNRS- Université Paris 13, France</i>		
Room	Auditorium Einstein		
09:00-09:30	[Inv.16] Diamond optomechanics M. Mitchell ^{1,2} , B. Khanaliloo ^{1,2} , D.P. Lake ^{1,2} , T. Masuda ¹ , J.P. Hadden ¹ , P.E. Barclay* ^{1,2} , ¹ <i>University of Calgary, Canada</i> , ² <i>National Institute for Nanotechnology, Canada</i>		
09:30-09:45	[O14.1] Single-crystalline diamond lenses for high-power laser applications V. Zuerbig* ¹ , C.J. Widmann ¹ , D. Brink ¹ , C. Holly ² , M. Traub ² , C.E. Nebel ¹ , ¹ <i>Fraunhofer Institute for Applied Solid State Physics IAF, Germany</i> , ² <i>Fraunhofer Institute for Laser Technology ILT, Germany</i>		
09:45-10:00	[O14.2] Selective etching of 100 oriented single crystalline substrates for diamond based power electronic applications K. Holc, V. Zuerbig*, W. Mueller-Sebert, C.E. Nebel, <i>Fraunhofer Institute for Applied Solid State Physics, Germany</i>		

10:00-10:15	[O14.3] High-rate anisotropic diamond (100) etching by carbon solid solution reaction into nickel during wet-annealing M. Nagai*, K. Nakanishi, T. Matsumoto, N. Tokuda, T. Inokuma, <i>Kanazawa University, Japan</i>
10:15-10:30	[YSA.6] Integration of diamond on GaN: A thermal and interface study R. Ramaneti* ^{1,2} , Y. Zhou ⁴ , S. Korneychuk ³ , J. Anaya Calvo ⁴ , P. Pobedinskas ^{1,2} , J. Derluyn ⁵ , J. Verbeeck ³ , M. Kuball ⁴ , K. Haenen ^{1,2} , ¹ Hasselt University, Belgium, ² IMOMECE, IMEC vzw, Belgium, ³ University of Antwerp, Belgium, ⁴ University of Bristol, UK, ⁵ EpiGaN b.v., Belgium
10:30-10:45	[O14.4] Photo and/or heat induced large conductivity change in graphene/diamond heterojunctions K. Ueda*, S. Aichi, H. Asano, <i>Nagoya University, Japan</i>
10:45-11:15	Refreshment break Room: Foyer Pasteur
	Session 15: Energy Chair: R.J. Hamers, <i>University of Wisconsin-Madison, USA</i>
Room	Auditorium Einstein
11:15-11:45	[Inv.17] Porous diamond electrodes for thin film supercapacitors E. Scorsone, <i>Commissariat à l'énergie atomique et aux énergies alternatives (CEA), France</i>
11:45-12:00	[O15.1] Metal nanoparticle-embedded porous diamond spherical particle catalysts T. Kondo*, T. Tsujimoto, E. Kai, T. Aikawa, M. Yuasa, <i>Tokyo University of Science, Japan</i>
12:00-12:15	[O15.2] Novel Pt-free nanostructured carbon materials with activity in the oxygen reduction reaction for fundamental studies and applications P.E. Colavita* ¹ , S.N. Stamatini ¹ , S. Marzorati ² , J.M. Vasconcelos ¹ , M. Longhi ² , R. Ivanov ³ , I. Hussainova ³ , ¹ Trinity College Dublin, Ireland, ² Università degli Studi di Milano, Italy, ³ Tallinn University of Technology, Estonia
12:15-12:30	[O15.3] Design of attractive carbon-based functional materials by combining atomic layer deposition and solvothermal MOF growth, for application in advanced oxidation process by electro-Fenton R. Esmilaire*, T-X. Le, S. Cerneaux, M. Cretin, M. Drobek, A. Julbe, M. Bechelany, <i>Université de Montpellier, France</i>
12:30-12:45	[O15.4] Development of high power density nuclear microbattery prototype based on diamond Schottky diodes V.S. Bormashov* ^{1,2} , S.Y. Troschiev ^{1,2} , S.A. Tarelkin ^{1,2} , A.P. Volkov ^{1,2} , D.V. Teteruk ¹ , M.S. Kuznetsov ¹ , N.V. Kornilov ¹ , S.A. Terentiev ¹ , V.D. Blank ^{1,2} , ¹ Technological Institute for Superhard and Novel Carbon Materials, Russia, ² Moscow Institute of Physics and Technology, Russia
12:45-14:15	Lunch
	Session 16: Dopant and defect characterization Chair: S. Yamasaki, <i>National Institute of Advanced Industrial Science and Technology (AIST), Japan</i>
Room	Auditorium Einstein
14:15-14:45	[Inv.18] Developing atom probe tomography as a tool to characterise the atomic-scale composition of doped CVD diamond films T.L. Martin* ¹ , S. Drijkoningen ^{2,3} , M.Z. Othman ⁴ , P.A.J. Bagot ¹ , S. Koelling ⁵ , P.W. May ⁴ , K. Haenen ^{2,3} , M.P. Moody ¹ , ¹ University of Oxford, UK, ² Hasselt University, Belgium, ³ Research Institute—IMEC vzw, Belgium, ⁴ University of Bristol, UK, ⁵ Technische Universiteit Eindhoven, The Netherlands
14:45-15:00	[O16.1] Isotope tracing and 3D atom-by atom mapping in diamond isotopic homojunctions S. Mukherjee* ¹ , H. Watanabe ² , D. Isheim ³ , D. Seidman ³ , O. Moutanabbir ¹ , ¹ Ecole Polytechnique de Montreal, Canada, ² National Institute of Advanced Industrial Science and Technology, Japan, ³ Northwestern University, USA
15:00-15:15	[O16.2] Evidence of linear Zeeman effect for boron doped diamond in high magnetic field S.A. Tarelkin* ^{1,2} , V.S. Bormashov ^{1,2} , S.G. Pavlov ⁴ , D. Kamensky ⁵ , M.S. Kuznetsov ¹ , S.A. Terentiev ¹ , A.S. Galkin ¹ , H-W. Hubers ^{4,6} , ¹ Technological Institute for Superhard and Novel Carbon Materials, Russia, ² Moscow Institute of Physics and Technology, Russia, ³ National University of Science and Technology MISIS, Russia, ⁴ German Aerospace Center (DLR), Germany, ⁵ Radboud University Nijmegen, The Netherlands, ⁶ Humboldt-Universität zu Berlin, Germany
15:15-15:30	[O16.3] Impact of HPHT substrates imperfections on the properties of phosphorus-doped CVD diamond layers P. Pobedinskas* ^{1,2} , P. Ščajej ³ , T.N. Tran Thi ⁴ , A. Lazea-Stoyanova ⁵ , K. Jarašiūnas ³ , K. Haenen ^{1,2} , ¹ Hasselt University, Belgium, ² IMEC vzw, IMOMECE, Belgium, ³ Vilnius University, Lithuania, ⁴ European Synchrotron Radiation Facility, France, ⁵ National Institute for Laser, Plasma and Radiation Physics, Romania
15:30-15:45	[O16.4] Advanced spectroscopic characterization of optical defects in thick CVD diamond layers grown with addition of moderate amounts of N₂ E. Biermans* ¹ , E. Barrie ¹ , A. Tallaire ² , J. Achard ² , A. Stesmans ³ , A. Anthonis ¹ , ¹ HRD Antwerp, Belgium,

	² Université Paris 13, France, ³ University of Leuven, Belgium
15:45-16:00	[O16.5] Investigation of defects in diamonds with VUV photoluminescence using synchrotron source H-C. Lu*, Y-C. Peng, M-Y. Lin, C-L. Chou, J-I. Lo, B-M. Cheng, <i>National Synchrotron Radiation Research Center, Taiwan</i>
16:00-16:30	Refreshment break Room: Foyer Pasteur
	Session 17: Diamond devices Chair: S. Koizumi, <i>National Institute for Materials Science (NIMS), Japan</i>
Room	Auditorium Einstein
16:30-16:45	[O17.1] Single-particle diamond membrane detector based on secondary electron emission for radiobiological applications M.T. Pomorski* ¹ , P. Barberet ^{2,3} , G. Claverie ^{2,3} , C. Mer-Calfati ¹ , S. Saada ¹ , ¹ CEA-LIST, <i>Diamond Sensor Laboratory, France</i> , ² Université de Bordeaux, France, ³ CNRS, France
16:45-17:00	[O17.2] Progress in 3D diamond detector development for tracking and dosimetry measurements A. Oh, I. Haughton*, F. Munoz Sanchez, G. Forcolin, S. Murphy, <i>The University of Manchester, UK</i>
17:00-17:15	[O17.3] Transient current induced in thin film diamonds by swift heavy ions S-I. Sato* ¹ , T. Makino ¹ , T. Ohshima ¹ , T. Kamiya ¹ , W. Kada ² , V. Grilj ³ , N. Skukan ³ , M. Jakšić ³ , M. Pomorski ⁵ , G. Vizkelethy ⁴ , ¹ Japan National Institutes of Quantum and Radiological Science and Technology, Japan, ² Gunma University, Japan, ³ Ruder Boškovic Institute, Croatia, ⁴ Sandia National Laboratories, USA, ⁵ CEA-LIST, France
17:15-17:30	[O17.4] Integrated temperature sensor with diamond Schottky diodes using a thermosensitive parameter G. Perez* ^{1,2} , N. Rouger ^{1,2} , P. Lefranc ^{1,2} , P-O. Jeannin ^{1,2} , Y. Avenas ^{1,2} , G. Chicot ^{1,2} , D. Eon ^{1,2} , ¹ Université Grenoble Alpes, France, ² CNRS, France
17:30-17:45	[O17.5] Fabrication of diamond rectenna devices for wireless power transmission M. Kasu* ^{1,2} , T. Oishi ¹ , N. Kawano ¹ , A. Miyachi ² , S. Kawasaki ¹ , ¹ Saga University, Japan, ² Japan Aerospace Exploration Agency, Japan
17:45-18:00	Closing ceremony – K. Haenen , <i>Hasselt University and IMEC vzw, Belgium</i>