Programme **http://www.uhasselt.be/sbdd**

Hasselt Diamond Workshop 2026

SBDD XXX

March 4 - 6, 2026
cultuurcentrum Hasselt (Cultural Centre), Hasselt, Belgium

During three full days, SBDD XXX will address recent progress in a variety of topics ranging from fundamental material science to applications, focusing on CVD diamond.

Tuesday, March 3, 2026

18:00 – 22:00 **Registration & Reception at *Café Café*.**

Wednesday, March 4, 2026

08:20 – 08:50 **Registration at the *cultuurcentrum Hasselt*.**

08:50 – 09:00 **Opening "Hasselt Diamond Workshop 2026 – SBDD XXX".**

Session 1
Field Effect Devices
Chair: Julien Pernot, CNRS/Université Grenoble Alpes-Institut Néel, France

09:00
1.1 (Invited)
Engineering inversion-channel diamond MOSFETs: From Conventional to novel structures
T. Matsumoto[1,2], Y. Nakamura[2], K. Sato[2], K. Kobayashi[1], K. Ichikawa[1,2], K. Hayashi[1,2], M. Nagai[3], T. Makino[3], H. Kato[3], M. Ogura[3], S. Yamasaki[1], T. Inokuma[1,2], D. Takeuchi[3], N. Tokuda[1,2]
[1]*Advanced Research Center for Diamond Science and Technology, Kanazawa University, Kakuma-machi, Kanazawa, Ishikawa, Japan*, [2]*Graduate School of Natural Science and Technology, Kanazawa University, Kakuma-machi, Kanazawa, Ishikawa, Japan*, [3]*Advanced Power Electronics Research Center, National Institute of Advanced Industrial Science and Technology, 1-1-1 Umezono, Tsukuba, Ibaraki, Japan*

09:30
1.2
Highly conductive interface between single-crystalline α-MoO_3 and hydrogen-terminated diamond
Y. Takahide[1,2], K. Hino[1,2], Y. Sasama[1], M. Monish[1], J. Kikkawa[1], W. Amalia[1], T. Miyazaki[1]
[1]*National Institute for Materials Science (NIMS), Tsukuba 305-0044, Japan*, [2]*University of Tsukuba, Tsukuba 305-8571, Japan*

09:50
1.3
Over 300 mA in a diamond JFET: interdigitated FET structure optimization
D. Michez[1,2], J. Letellier[1], R. Makhoul[2], J. Pernot[3,4], N. Rouger[2]
[1]*DIAMFAB, 38600 Fontaine, France*, [2]*Université Toulouse, Toulouse INP, CNRS, Laplace, 31000, Toulouse, France*, [3]*Univ. Grenoble Alpes, CNRS, Grenoble INP, Institut Néel, 38000 Grenoble, France*, [4]*Institut Universitaire de France (IUF), 75231 Paris, France*

10:10 **Coffee Break (Grand Banquet Hall)**

Session 2
Quantum Physics & Application I
Chair: Miloš Nesládek, Hasselt University & imec, Belgium

10:50
2.1 (Invited)
Controlling spin-mechanics interactions for spin control and coherence enhancement
B. Pingault[1]
[1]*Argonne National Laboratory & University of Chicago, USA*

11:20
2.2
Pulsed mechanical readout of a levitated quantum spin system
A. A. Wood[1], D. S. Rice[1], F. H. Cassells[1], T. Xie[1], R. M. Goldblatt[1], T. Delord[2], G. Hetet[3], A. M. Martin[1]
[1]*School of Physics, University of Melbourne, Parkville, VIC 3010, Australia*, [2]*Department of Physics, City College of the City University of New York, New York, NY 10031, USA*, [3]*Laboratoire De Physique de l'Ecole Normale Superieure, 24 rue Lhomond, 75231 Paris, France*

11:40
2.3
Nuclear Spin detection in Levitating Diamonds
V. Julien[1], C. Louis[1], G. Hétet[1], P. Maxime[1]
[1]*Laboratoire De Physique de l'Ecole Normale Supérieure, Ecole Normale Supérieure, PSL Research University, CNRS, Sorbonne Université, Université de Paris , 24 rue Lhomond, 75231 Paris Cedex 05, France.*

12:00
2.4
Non-linear Diamond-Maser Oscillations
C. W. Zollitsch[1], C. W. M. Kay[1,3], J. Breeze[2]
[1]*Department of Chemistry, Saarland University, Saarbrücken, Germany*, [2]*Department of Physics & Astronomy, University College London, London, UK*, [3]*London Centre for Nanotechnology, University College London, London, UK*

12:20 SBDD XXX group photo (Lecture Hall)

12:30 Lunch (Grand Banquet Hall)

Session 3
CVD Diamond
Chair: Satoshi Koizumi, National Institute for Materials Science (NIMS), Japan

14:10
3.1 (Invited)
Optimizing thick CVD diamond synthesis: Effect of growth parameters on growth rate, crystal quality, and point defect incorporation
U. F.S. D'Haenens-Johansson[1,2], D. C. Jones[2], A. Chan[2]
[1]*Gemological Institute of America (GIA), 50 W. 47th St., New York, NY 10036, USA*, [2]*Gemological Institute of America (GIA), Secaucus, NJ 07094, USA*

14:40
3.2
Generation of axial or shear stress in homo-epitaxial CVD diamond films
T. Tsuji[1], T. Teraji[1]
[1]*National Institute for Materials Science, 1-1 Namiki, Tsukuba, Ibaraki, 305-0044, Japan*

15:00
3.3
Phosphorus doping efficiency considerations for pulsed deposition techniques
F. A.M. Koeck[1], R. Nemanich[1]
[1]*Department of Physics, Arizona State University, 550 E Tyler Drive, Tempe AZ, USA*

15:20
3.4
Exciton absorption in electronic grade CVD diamond from photocurrent spectroscopy
R. Vandebosch[1], Z. Remes[2], E. Bourgeois[1,3], M. Nesladek[1,3]
[1]*Institute for Materials research (IMO), Hasselt University, Wetenschapspark 1, Diepenbeek, Belgium*, [2]*Institute of Physics of the Czech Academy of Sciences, Na Slovance 2, Prague, Czechia*, [3]*Imomec division IMEC, Wetenschapspark 1, Diepenbeek, Belgium*

15:40 Coffee Break (Grand Banquet Hall)

Session 4
Quantum Physics & Application II
Chair: Christoph Becher, Universität des Saarlandes, Germany

16:20
4.1 (Invited)
Low noise surfaces by hydrogen infusion for next generation NV diamonds
C. Findler[1], J. Lang[1], E. Raffalt[1], A. de Gleria Clark[1], H. Himani[2], D. Singh[2], D. Bucher[2], C. Osterkamp[1]
[1]*Diatope GmbH, Wilhelm-Runge-Straße 10, 89081 Ulm, Germany*, [2]*Chemistry Department, Technical University of Munich, Lichtenbergstraße 4, 85748 Garching b. München, Germany*

16:50
4.2
Systematic investigation of optically-induced aging of NV centers for improved quantum sensing
K. Herb[1], L. A. Völker[1], L. Bechelli[1], J. M. Abendroth[1], C. L. Degen[1], P. Perrin[1]
[1]*Department of Physics, ETH Zürich, Otto-Stern-Weg 1, 8093 Zürich, Switzerland*

17:10
4.3
Photocatalytic control of shallow diamond color center charge states
M. Li[1], J. A. Zuber[1,2], M. Obramenko[1,2], P. Tognina[1], A. Corazza[1], M. Batzer[1], M. Grimau Puigibert[1], J. Happacher[1], P. Maletinsky[1,2]
[1]*Department of physics, University of Basel, Klingelbergstrasse 82, CH-4056, Basel, Switzerland*, [2]*Swiss Nanoscience Institute, University of Basel, Klingelbergstrasse 82, CH-4056, Basel, Switzerland*

17:30
4.4
Optical Widefield Nuclear Magnetic Resonance Microscopy
J. C. Dräger[1], K. D. Briegel[1], X. Chen[1], N. R. von Grafenstein[1], P. Blümler[2], R. D. Allert[1], D. B. Bucher[1]
[1]*Technical University of Munich, Munich, Germany*, [2]*University of Mainz, Mainz, Germany*

Session 5
Posters I & Reception sponsored by:

Chairs: Simona Baluchová, Charles University, Czechia; Takayuki Iwasaki, Institute of Science Tokyo, Japan; Anke Krueger, Universität Stuttgart, Germany; Saman Majdi, Uppsala University, Sweden

17:50 – 20:00 (Grand & Small Banquet Hall)

5.1
Real time observation of glass-like carbon formation from SU-8
S. Mandal[1], S. Astley[2], J. Stritt[1], J. A Cuenca[1], E. L H Thomas[1,3], D. Andrew Evans[2], O. A Williams[1]
[1]*School of Physics and Astronomy, Cardiff University, Cardiff, UK*, [2]*Department of Physics, Aberystwyth University, Aberystwyth, UK*, [3]*Institute of Micro Production Technology, Leibniz University Hannover, Hannover, Germany*

5.2

Machine Learning for Diamond Materials Research

T. G.I. van Wijk[1,2], E. Thomas[1,2], E. Aylin Melan[1,2,3], D. E.P. Vanpoucke[1,2]

[1]*Institute for Materials Research (IMO), Quantum and Artificial inTelligence design Of Materials (QuATOMs), Hasselt University, Agoralaan Gebouw D, 3590 Diepenbeek, Belgium*, [2]*IMOMEC, IMEC vzw, Wetenschapspark 1, 3590 Diepenbeek, Belgium*, [3]*NISM, University of Namur, Namur, Belgium*

5.3

The carbon vacancy in diamond: new insights into the electronic structure and charge state conversion

M. Tuan Luu[1], A. Tayefeh Younesi[1], Q. Khai Dao[1], G. Thiering[2], C. Linderälv[3], A. Zaitsev[4], R. Ulbricht[1]

[1]*Max-Planck-Institut für Polymerforschung, Ackermannweg 10, 55128 Mainz, Germany*, [2]*Wigner Research Centre for Physics, Hungarian Academy of Sciences, PO Box 49, Budapest 1525, Hungary*, [3]*University of Oslo, Department of Physics, Centre for Material Science and Nanotechnology, P.O. Box 1048, Blindern, Oslo N-0316, Norway*, [4]*College of Staten Island/CUNY, 2800 Victory Blvd., Staten Island, NY 10312, USA*

5.4

Understanding of the Orange Phosphorescence in HPHT synthetic diamonds

J. Zarupski[1], M. Bouman[1]

[1]*Research Department, HRD Antwerp, Hoveniersstraat 22, Antwerp, Belgium*

5.5

Ultra-thin Diamond Detectors for On-Line Monitoring of Ion Microbeams

C. Léonhart[1], M.-L. Gallin-Martel[1], E. Gheeraert[2], P. Barberet[3], F. Vianna-Legros[4]

[1]*1Univ. Grenoble Alpes, CNRS/IN2P3 Laboratoire de Physique Subatomique et Cosmologie (LPSC), 53 Av. des Martyrs, 38000 Grenoble, France*, [2]*Univ. Grenoble Alpes, CNRS, Grenoble INP, Institut Néel, 25 Av. des Martyrs, 38000 Grenoble, France*, [3]*Univ. Bordeaux, CNRS, LP2I, UMR 5797, 33170 Gradignan, France*, [4]*ASNR, Laboratoire de Microirradiation, Métrologie et Dosimétrie des Neutrons (LMDN), 13108 Saint-Paul -lez-Durance, France*

5.6

Characterisation of a large-area single-crystal diamond microstrip detector for real-time synchrotron x-ray microbeam monitoring

T. Bettio[1,2], C. Milewski[1,2], M. Reynaud[1], J.-F. Muraz[1], C. Hall[3], M.-L. Gallin-Martel[1], L. Gallin-Martel[1], F. di Franco[1], D. Dauvergne[1], M. Cameron[3], J.-F. Adam[2], J. Livingstone[1]

[1]*Université Grenoble-Alpes, CNRS, Grenoble INP, LPSC UMR5821, 53 avenue des Martyrs, Grenoble, France.*, [2]*Université Grenoble-Alpes, UGA/INSERM UA7 STROBE, 2280 rue de la Piscine, Saint Martin d'Hères, France.*, [3]*Australian Synchrotron, ANSTO, 800 Blackburn Rd, Clayton, Victoria, Australia.*

5.7

Study of diamond detectors at cryogenic temperatures with an IBIC and IBIL synergy

G. Provatas[1], D. Cosic[1], K. Ivanković Nizić[1], M. Matijević[1], L. Basioli[1], M. Pomorski[2], M. Jakšić[1]

[1]*Division of Experimental Physics, Ruđer Bošković Institute, 10000 Zagreb, Croatia*, [2]*Université Paris-Saclay, CEA, LIST, F-9112, Palaiseau, France*

5.8

Diamond–YAG:Ce Composite Scintillators as Frontend Screens for Synchrotron X-Ray Beams

V. Sedov[1], A. Martyanov[1], I. Tiazhelov[1], S. Kuznetsov[1], V. Konov[1]

[1]*Prokhorov General Physics Institute of the Russian Academy of Sciences, 38 Vavilov str., Moscow, Russia*

5.9

Impact of Space Radiation on Diamond Lattice Damage and Sensor Stability

Y. Beerden[1], A. Ermakova[1,2]

[1]*Institute for Materials Research (IMO), Hasselt University, Wetenschapspark 1, Diepenbeek, Belgium*, [2]*Belgian Institute for Space Aeronomy (BIRA-IASB), Ringlaan 3, Brussels, Belgium*

5.10

Ultrafast wear of boron-doped diamond electrodes induced by pulsed bipolar activation

S. Ben Khemis[1], C. Njel[1], M. Frégnaux[2], A. Etcheberry[2], E. Scorsone[1]

[1]*Université Paris-Saclay, CEA, LIST, F-9112, Palaiseau, France*, [2]*Institut Lavoisier de Versailles, Université Paris-Saclay, UVSQ, CNRS, UMR 8180, 78035 Versailles Cedex, France*

5.11

Investigation into Optimal Metallisation Schemes to Minimise Contact Resistance on Polycrystalline Boron Doped Diamond for Electrochemical Applications

G. Pryer-Freeman[1], J. Tully[1], D. Field[2], M. Newton[3], J. Macpherson[1]
[1]*Department of Chemistry, University of Warwick*, [2]*Element six Ltd.*, [3]*Department of Physics, University of Warwick*

5.12

Investigating the Destruction of Short-Chain PFAS via Electrochemical Oxidation with Boron Doped Diamond Electrodes

J. Tully[1], M. Amerio-Cox[2], F. Tang[1], A. Dettlaff[3], J. V. Macpherson[1], T. Sidnell[2], S. C. Mathias[2], P. Sears[2], M. J. Bussemaker[2], T. Mollart[4]
[1]*Department of Chemistry, University of Warwick, Gibbet Hill Road, CV4 7AL, UK.*, [2]*School of Chemistry and Chemical Engineering, University of Surrey*, [3]*Faculty of Chemistry, Gdańsk University of Technology, Gdańsk, Poland.*, [4]*Element Six (UK) Limited, Oxford, OX11 0QR, UK*

5.13

Electrochemical Cortisol Immunosensor Signal Enhanced by Nanolayered Oxidized HPHT Nanodiamonds with Citrate Gold Nanoparticles

S. Ravishankar Maleyur[1], C. Esmaeili[1], B. Rezek[1]
[1]*Faculty of Electrical Engineering, Czech Technical University in Prague, Technická 2, 16627 Prague, Czechia*

5.14

DFT Simulations of Boron-Doped Diamond-Metal Oxide Heterojunctions: Correlation with Electrochemical PFOS Degradation

B. Dec[1], I. Kaczmarzyk-Knitter[1], R. Bogdanowicz[1], M. Pierpaoli[1]
[1]*Department of Optoelectronics, Gdańsk University of Technology, Narutowicza 11/12, 80-233 Gdańsk, Poland*

5.15

Diamond Surfaces Against Bacteria: Chemistry and Topography

M. Hougen[1], I. Rios-Mondragon[1,2], M. Roxana Cimpan[2], P. Johan Høl[3], J. Zalieckas[1]
[1]*Institute of Physics and Technology, University of Bergen, Alléegaten 55, Bergen, Norway*, [2]*Department of Clinical Dentistry, University of Bergen, Årstadveien 19, Bergen, Norway*, [3]*Department of Clinical Medicine, University of Bergen, Biomatlab, Laboratoriebygget, Bergen, Norway*

5.16

Enhancing BDD electrochemical properties by surface patterning with femtosecond laser-induced periodic subwavelength surface structures

P. Jakóbczyk[1], M. Mastellone[2], V. Valentini[2], A. Bellucci[2], D. Trucchi[2], R. Bogdanowicz[1], M. Pierpaoli[1]
[1]*Department of Optoelectronics, Gdańsk University of Technology, 11/12 Narutowicza St., Gdańsk, Poland*, [2]*Istituto di Struttura della Materia (ISM-CNR), Consiglio Nazionale delle Ricerche, DiaTHEMA Lab, Via Salaria km 29,300, Monterotondo Stazione, Roma, Italy*

5.17

Evaluation of Radiation Hardness of H-Terminated Diamond MOSFETs with Ion Implanted Buried p^+ Electrodes

S. Uehara[1], Y. Seki[1,2], Y. Hoshino[2], H. Umezawa[3], J. H. Kaneko[1]
[1]*Graduate School of Engineering, Hokkaido University*, [2]*Department of Physics, Faculty of Science, Kanagawa University*, [3]*National Institute of Advanced Industrial Science and Technology*

5.18

Investigation of Hole Transport Dynamics in Diamond using Monte Carlo Simulations

R. Yamazaki[1], J. Isberg[1], N. Suntornwipat[1], S. Majdi[1]
[1]*Division of Electricity, Department of Electrical Engineering, Uppsala University, Box 65, 751 03 Uppsala, Sweden*

5.19

Scaling current rating of diamond-based MOSFETs: Interdigitated lateral deep-depletion diamond field-effect transistor

D. Michez[1,2], J. Letellier[1], D. Sardois[1,2], M. Couret[2], J. Pernot[3,4], N. Rouger[2]
[1]*DIAMFAB, 5 impasse de Charvet, 38600 Fontaine, France*, [2]*Université Toulouse, Toulouse INP, CNRS, Laplace, 31000, Toulouse, France*, [3]*Univ. Grenoble Alpes, CNRS, Grenoble INP, Institut Néel, 38000 Grenoble, France*, [4]*Institut Universitaire de France (IUF), 75231 Paris, France*

5.20

Optimization of time-of-flight electron beam induced current technique: a tool to investigate diamond substrates

L. Laghezza[1], F. Donatini[1], J. Pernot[1,2]

[1]*Univ. Grenoble Alpes, CNRS, Grenoble INP, Institut Néel, 38000 Grenoble, France*, [2]*Institut Universitaire de France (IUF), 75231 Paris, France*

5.21

Advanced Electro-Thermal Modelling of Field-Management Structures in Diamond Power Devices

M. Kah[1], N. Donato[1], R. Watkins[2], C. Henderson[2], J. Yang[2], R. Jackman[2], F. Udrea[1]

[1]*Engineering Department, University of Cambridge, Trumpington Street, CB2 1PZ, Cambridge - UK*, [2]*UCL (University College London), London Centre for Nanotechnology (LCN) & the Department of Electronic and Electrical Engineering, 17-19 Gordon Street, WC1H 0AH, London – UK*

5.22

TCAD Modeling of Radiation Effects in Power Diamond Devices

A. Michez[1], C. Marques[1], D. Michez[2], J. Letellier[2]

[1]*DELPHEA, 34090, Montpellier, France*, [2]*DIAMFAB, 38600 Fontaine*

5.23

Bipolar Diamond Devices Enabled by High Purity Intrinsic and Doped Diamond

R. Nemanich[1], F. A. Koeck[1], S. Goodnick[1], T. Thornton[1]

[1]*Arizona State University, Tempe, AZ, USA*

5.24

Fully Covered Diamond Schottky Barrier Diode Based on Residual Al Mask

J. Yang[1], R. Watkins[1], C. Henderson[1], M. Kah[2], N. Donato[2], F. Udrea[2], R. Jackman[1]

[1]*UCL (University College London), London Centre for Nanotechnology (LCN) & the Department of Electronic and Electrical Engineering, 17-19 Gordon Street, WC1H 0AH, London - UK*, [2]*Engineering Department, University of Cambridge, Trumpington Street, CB2 1PZ, Cambridge – UK*

5.25

Proton irradiation effects on diamond FET transistor biosensors with adsorbed cell serum proteins

B. Rezek[1], E. Ukraintsev[1], M. Krátká[2], A. Artemenko[2], M. Davídková[3], A. Kromka[2]

[1]*Faculty of Electrical Engineering, Czech Technical University in Prague, Technická 2, 16627 Prague, Czechia*, [2]*Institute of Physics, Czech Academy of Sciences, Cukrovarnická 10, 16200 Prague, Czechia*, [3]*Nuclear Physics Institute, Czech Academy of Sciences, Řež 130, 25068 Řež, Czechia*

5.26

Lateral diamond MOSFET simulation for a monolithic switching cell

T. NIAKAN[1], N. ROUGER[1]

[1]*Université de Toulouse, Toulouse INP, CNRS, LAPLACE, Toulouse, France*

5.27

(100) vertical PIN diamond diode with i- & n-type phosphorus doped layers

F. Sevely[1], R. Grosset-Darracq[1,2], K. Isoird[1], J. Tasselli[1], M. Bouras[3], R. Gillet[3], R. Issaoui[4], K. Castillo Arivizu[4], D. Planson[5], L. Viêt Phung[5], C. Sonneville[5], M.-A. Pinault-Thaury[3]

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5.28

Impact of extended defects on diamond Schottky pseudo-vertical diodes performances

B. Granet[1], M. Guerrero[1], C. Perrier[1], D. Z. Nusimovici[1], V. Maurya[1], J. Letellier[1], J. Bousquet[1], L. Valera[1]

[1]*DIAMFAB, 36000 Fontaine, France*

5.29

Impact of contacts and surface preparation on persistent photocurrent in MSM diamond photodetectors for sensing

N. Gehl[1,2], A. J. Biacchi[1], M. Kelley[3], B. A. McCullian[1], E. G. Bittle[1]

[1]*Nanoscale Device Characterization Division, National Institute of Standards and Technology, 100 Bureau Dr, Gaithersburg, MD, USA*, [2]*Enrico Fermi Institute, University of Chicago, 933 East 56th Street, Chicago, IL, USA*, [3]*Advanced Quantum Technologies Group, MIT Lincoln Laboratory, 244 Wood St, Lexington, MA, USA*

5.30

Studying Mutual Effects of Two Mesa-Structured Diamond Transistors

D. Eon[1], V. Diniel[1]

[1]*Institut Néel, Univ. Grenoble Alpes, CNRS, 38000 Grenoble, France*

5.31

Electroluminescence investigation of high-power Mo/B-doped diamond pseudo-vertical Schottky diodes reaching 177 kW/cm2

G. Biasin[1,4], M. Fregolent[1,4], C. De Santi[1,4], J. Bassaler[2], V. Maurya[2], J. Letellier[2], G. Meneghesso[1,4], E. Zanoni[1,4], G. Verzellesi[3,4], A. Chini[3,4], M. Meneghini[1,4]

[1]*University of Padova, Italy*, [2]*DIAMFAB, Fontaine, France*, [3]*University of Modena and Reggio Emilia, Italy*, [4]*IU.NET, Italy*

5.32

Diamond composite materials for high-performance flexible aqueous batteries

X. Dong[1,2], N. Yang[1], X. Jiang[2]

[1]*Department of Chemistry & IMO-IMOMEC, Hasselt University, Diepenbeek 3590, Belgium*, [2]*Institute of Materials Engineering, University of Siegen, 57076 Siegen, Germany*

5.33

Q-optimised nanoelectromechanical diamond resonators

E. Thomas[1,2], S. Mandal[1], W. Leigh[1], O. Williams[1]

[1]*School of Physics and Astronomy, Cardiff University, Queen's Buildings, The Parade, Cardiff, CF24 3AA, Cardiff, United Kingdom*, [2]*Now at Institute of Micro Production Technology, Leibniz University Hannover, An der Universität 2, Garbsen, 30823, Germany*

5.34

Diamond cloth-supported NiMnOx electrodes for flexible supercapacitors

C. Li[1,2], X. Jiang[1], N. Yang[2,3]

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5.35

Laser-Scripted Graphene-Boron Doped Diamond Nanowall Hybrids: Advanced Field Emitters for Next-Generation Microplasma Devices

M. Ficek[1], K. Jothiramalingam Sankaran[2], B. Dec[1], M. Pierpaoli[1], S. Deshmukh[1], M. Sawczak[3], W. A. Goddard III[4], R. Bogdanowicz[1,4]

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5.36

Visible-Light-Responsive Diamond Photocathodes through Multi-Scale Structural Design

A. Bellucci[1], C. Maccato[2,3], D. Barreca[3], G. Andrea Rizzi[2], E. Bolli[1], M. Mastellone[1], R. Salerno[1], V. Valentini[1], D. Maria Trucchi[1]

[1]*Istituto di Struttura della Materia-CNR (ISM-CNR), DiaTHEMA Lab, 00015 Monterotondo, Italy*, [2]*Department of Chemical Sciences, Padova University and INSTM, 35131 Padova, Italy*, [3]*CNR-ICMATE and INSTM, Department of Chemical Sciences, Padova University, 35131 Padova, Italy*

5.37

PCD Coating of Diced Si Field Emitters for Enhanced Field Emission Performance

A. M. Buchta[1], E. L.H. Thomas[1], F. Dencker[1], M. C. Wurz[1]

[1]*Institute of Micro Production Technology, Leibniz University Hanover, An der Universität 2, Garbsen, Germany*

5.38

Nanostructured Silicon–Diamond Cathodes for Photon-Enhanced Thermionic Emission

R. Salerno[1,2], A. Bellucci[2], E. Bolli[2], M. Mastellone[2,3], V. Valentini[2], R. Polini[1], D. M. Trucchi[2]

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5.39

Achieving a Large Net 'Negative Electron Affinity' on Diamond (100) via Molecular Oxygen and Lithium Functionalisation

R. Zulkharnay[1], W. Greenwood[2], A. Wood[2], J. Laverock[1], N. Fox[1,2]

[1]*School of Chemistry, University of Bristol, Cantock's Close, Bristol, BS8 1TS, UK*, [2]*School of Physics, H.H. Wills Physics Laboratory, University of Bristol, Tyndall Avenue, Bristol, BS8 1TL, UK*

5.40

Towards Reliable Quantum Photonics: Controlling Hard Mask Stability and Plasma Etching in Diamond Nanofabrication

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5.41

Comparative study of Atomic Layer Etching processes for diamond materials

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5.42

High-Resolution Electron Beam Lithography for the Fabrication of Vertical Diamond Power Transistors

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5.43

Laser-Induced Graphitization Interior to Bulk Diamond Forming Monolithic Electronic Structures

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5.44

Planarization Strategies for Tilt Compensation in Diamond Plates for Scalable Quantum Magnetometers.

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5.45

Scalable fabrication of microlenses in diamond membranes using grayscale photolithography

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5.46

Fabrication methods for quantum photonic nanostructures in diamond

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5.47

Engineering Nanostructured Surfaces for Contact-Mediated Bacterial Inactivation

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5.48

Plasma-based polishing of polycrystalline diamond

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5.49

Fabrication of Diamond Membranes with Temperature Sensitive Color Centers

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5.50

Towards Scalable Platform for Next-Generation Quantum and Photonic Diamond Devices

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5.51

Polycrystalline diamond smoothing using grazing incidence reactive plasma etching

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5.52

Nanopatterning of diamond by focused ion beam induced graphitization

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5.53

Surface Activation of Fluorescent Nanodiamonds Trough Lattice Amination

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5.54

Toward Fully Fluorinated Fluorescent Nanodiamonds

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5.55

Kinetics of Anionic Ring-Opening Polymerization of Glycidol on Plasma-Oxygenated vs. Acid-Carboxylated Nanodiamond Surfaces

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5.56

Beta-glucan coated fluorescent nanodiamonds for uptake improvement in yeast cells

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5.57

Fabrication of Diamond Particles with Ge-V Centers from Nanocrystalline CVD Films

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5.58

Low-field all-optical detection of superconductivity using NV nanodiamonds

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5.59

Roughness suppression in thick polycrystalline diamond films during MPCVD growth

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5.60

2.45 GHz Microwave Plasma CVD System: Highly Uniform Large Area Diamond Growth

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5.61

Delta-Doped Diamond via in-situ Plasma-Distance Control

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5.62

Toward large area conductive single crystal diamond: linear antenna MW PECVD of boron doped diamond on heteroepitaxy diamond substrates

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5.63

High-rate growth of heavily B-doped diamond from a liquid precursor of boron in a custom-built chemical vapour deposition system

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5.64

Understanding threading dislocation reduction through a multiscale study of tungsten incorporation in W-doped diamond layers

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5.65

Deep defect study in phosphorous-doped (100) diamond SPND

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5.66

Gas-Plasma Coupling for Uniform diamond growth over 4-in and beyond

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5.67

Synthesis and Characterization of Ultra-Pure Quantum-Grade Diamond Single Crystals via MPCVD

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5.68

Impact of surface treatments on stress in nitrogen doped homoepitaxial CVD diamond: Role of surface morphology and roughness

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5.69

Homoepitaxial Heavily Boron-Doped Diamond with High Crystalline Quality Grown by MPCVD

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5.70

Optical plasma emission gauges for gas monitoring in CVD diamond reactors

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5.71

Fabrication of large-area single-crystal diamond wafers via mosaic growth strategy

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5.72

Magnetized RF Plasma for the Growth of Nanodiamond Particles and Polycrystalline Diamond at Low-Temperature

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5.73

Quantification and optimization of single crystal CVD diamond growth via Ni-assisted etch pit evolution kinetics

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5.74

Low-temperature CVD growth of nanocrystalline diamond on β-Ga_2O_3 substrates

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5.75

High-density negatively charged silicon-vacancy centers in monocrystalline diamond via controlled PE-CVD growth

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5.76

Effect of in situ tungsten doping on diamond epitaxial growth modes and threading dislocation density

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5.77

Studying Nanodiamond Deposition on Silicon Substrates with Trenches

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5.78

Numerical simulation of etch pit closure during CVD diamond growth

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5.79

Development and testing of 3D surface wave plasma chemical vapor deposition reactor

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5.80

Gentle Growth of high-quality (111) Diamond in a Laser-Assisted NIRIM CVD Reactor

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5.81

Study on initial process of (001) heteroepitaxy diamond growth on (11-20) sapphire substrate with misorientation

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5.82

Modelling of a 3D surface wave plasma chemical vapor deposition reactor

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5.83

Control of PCD formation on SCD during high-pressure MPCVD

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5.84

Lattice location of implanted 6He in diamond

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5.85

Diamond layer transfer: impact of hydrogen implantation

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5.86

P ion implantation for diamonds over a graphitization limit by hot ion implantation technique

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5.87

Theoretical investigation of helium related defects in diamond

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5.88

High-Efficiency Detection of Low-Energy Nitrogen Ions in Diamond

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5.89

SRIM calculations of ion implantation in diamond for membrane fabrication

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5.90

GeV Centers in Boron and Phosphorus Doped Diamond: Structural Formation Versus Optical Activation

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5.91

From Strain to Zero-Phonon Line Shifts: The Case of the Germanium-Vacancy

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5.92

AC magnetometry in the strong drive regime with NV centers in diamond

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5.93

Optimal Control for Quantum Sensing with NV Centers in Diamond

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5.94

Sensing Electric Currents in an a-IGZO TFT-Based Circuit Using a Quantum Diamond Microscope

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5.95

Quantum simulation of Time Crystal phase with nuclear spin layers in diamond

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5.96

Experimental Comparison of Filter Integration Strategies for NV Center Photoluminescence Detection in ODMR Measurements

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5.97

Ab-initio theory of orbitally coupled spin Hamiltonians for Jahn-Teller active quantum defects in diamond

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5.98

Solid-state NVC nuclear spin gyroscope

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5.99

Analyzing the Impact of Chemical Environments on Spin Defects in Diamond through automatized Screening

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5.100

Maximizing the Fluorescence Collection of fiber-based NV Sensors

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5.101

FRET between NV centers in diamond and chlorophyll molecules: a novel resource for multimodal sensing and imaging in plant cells

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5.102

In-situ Detection of Free Radicals using Nitrogen Vacancy (NV) Center-based T1 Relaxometry

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5.103

Exe.py: Ab initio fine structure parameters for trigonal defect qubits within the E⊗e Jahn-Teller case

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5.104

NV candle: Quantitative CW microwave magnetometry via Rabi resonance in diamond quantum sensors

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5.105

Statistical k-space Photoluminescence Analysis of NV Centers in Diamond Nanopillars with Varying Diametershere

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5.106

High fidelity single-qubit quantum state tomography of electron-14N nuclear hybrid spin register in diamond using Rabi oscillations

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5.107

Room temperature bolometric detection of NV centers

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5.108

Saturable absorption and Kerr anisotropy in NV-doped diamond probed by femtosecond Z-scan

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5.109

Orientation Enhancement of NV Centers in Diamond by Microwave Annealing

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5.110

Charge state manipulation of NV color centers in phosphorus-doped diamond Schottky diodes

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5.111

Imaging of microwave magnetic field orientation using continuous-wave experiments on nitrogen-vacancy centers in diamond

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5.112

Generating and processing ensembles of nitrogen-vacancy centers in diamond for improved quantum sensing

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5.113

Multi-NV Diamond Quantum Chip for Scalable Room-Temperature Quantum Technologies

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5.114

A compact architecture of a radiofrequency spectrum analyser based on an ensemble of nitrogen-vacancy centers in diamond

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5.115

Optical, electrical, and spin metrology for diamond PDMR sensors

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5.116

Building spin-based quantum register on coupled NV-centres in diamond: 3-qubit control

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5.117

Deterministic laser fabrication of NV- centres in delta doped diamond

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5.118

Frequency resolved UV photoluminescence of NV rich single crystal diamond

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5.119

Element-specific determination of new PbV colour centre in diamond using radiotracer photoluminescence spectroscopy

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5.120

Quantum Sensing of Intracellular Free Radicals: Towards Cancer Diagnostics

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5.121

Local nanoscale probing of electron spins using NV centers in diamond

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5.122

Diamond-Based Platforms for Biochemical Measurements of Clock Cell Signalling

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5.123

Functionalized Diamond thin Films for Quantum Technology Components

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5.124

Diamond Based Quantum Thermal Biosensing of Magnetotactic Bacteria for Magnetic Hyperthermia

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5.125

A New Cryo-DAC Platform for magnetic studies at High-Pressure and Low-Temperature

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5.126

Vibrational sum-frequency generation spectroscopy for probing diamond surfaces

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5.127

Widefield Quantum Magnetic Imaging of Magnetic Microstructures with Biomedical Applications

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5.128

Resonant Grating Waveguide for Quantum Magnetometry Industrial Applications

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5.129

High-sensitivity diamond nanostructures for compact and low-power NV magnetometers

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5.130

Vehicle test of battery monitoring using diamond quantum sensors

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5.131

Broadband AC magnetic field sensing based on a CW scheme under strong perpendicular magnetic fields

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5.132

Vector Biomagnetic Field Sensing Using Ion-Implanted NV Centers in Diamond

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5.133

Nitrogen-vacancy-center-based characterization of ferromagnetic resonance in magnetoelastic thin films

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5.134

Transimpedance Amplifier for PDMR-Based NV Magnetometer

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5.135

Towards Adaptive Characterization of Nuclear Spin Ensembles in Silicon Carbide via Signal-to-Image AI Model

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5.136

Straining Group-IV Vacancy Color Centers in Diamond: A DFT study of the ZPL position and shift

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5.137

Group-IV color centers in diamond: interaction with static electric fields

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5.138

Influence of Surface Chemistry on the Optical Properties of IV Group Color Centers in Diamond

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5.139

Broadband Pump Probe Spectroscopy of SiV Centres Reveals Unique Spectroscopic Features

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5.140

Mechanistic insight into the formation of SiV ensembles within polycrystalline diamond

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5.141

Optical coherent control over orbitally split states in negatively charged silicon vacancy in diamond

V. Kondratyev[1], R. Ulbricht[1]
[1]*Max-Planck-Institut für Polymerforschung, Ackermannweg 10, 55128 Mainz, Germany*

5.142

Integration of Diamond Nanobeams with SnVs on Al_2O_3 waveguides for Scalable Quantum Computer Application

Y. Yang[1], T. Miyatake[1], M. Hida[1], N. Fushimi[1], K. Kaminaka[1], R. Kitagawa[1], T. Iwai[1], I. Takagi[1], H. Matsukiyo[2], S. Ishida[2], S. Iwamoto[2], T. Miyazawa[1], K. Kawaguchi[1], R. Ishihara[3], S. Sato[1]
[1]*Fujitsu Limited, Atsugi, Kanagawa, Japan*, [2]*Research Center for Advanced Science and Technology, University of Tokyo, Meguro-ku, Tokyo*, [3]*Delft University of Technology, Delft, The Netherlands*

5.143
Towards scalable nanophotonic interfaces for single tin-vacancy centers in diamond
J. Fait[1], K. Mark[1], G. A. Hunter-Smith[1], N. Klingner[2], A. Sadzak[3], A. Krueger[3], G. Astakhov[2], C. Becher[1]
[1]*Fachbereich Physik, Universität des Saarlandes, 66123, Saarbrücken, Germany*, [2]*Institute of Ion Beam Physics and Materials Research, Helmholtz-Zentrum Dresden - Rossendorf (HZDR), 01328, Dresden, Germany*, [3]*Institute of Organic Chemistry, University of Stuttgart, 70569, Stuttgart, Germany*

20:00 Closing Day 1 "Hasselt Diamond Workshop 2026 – SBDD XXX".

Thursday, March 5, 2026

Session 6
Quantum Growth & Application
Chair: Ulrika F.S. D'Haenens-Johansson, Gemological Institute of America (GIA), USA

09:00
6.1 (Invited)
Heavy group-IV vacancy centers in diamond for quantum network
T. Iwasaki[1]
[1]*Department of Electrical and Electronic Engineering, School of Engineering, Institute of Science Tokyo*

09:30
6.2
Time-Resolved Material Science using a Tin-Vacancy Center in Diamond as a Quantum Electrometer
C. Gurr[1], C. Güney Torun[1], G. Pieplow[1], T. Schröder[1,2]
[1]*Institut für Physik, Humboldt-Universität zu Berlin, Newtonstraße 15, Berlin, Germany*, [2]*Ferdinand-Braun-Institut gGmbH, Leibniz-Institut für Höchstfrequenztechnik, Gustav-Kirchhoff-Straße 4, Berlin, Germany*

09:50
6.3
Low-Nitrogen Quantum Diamond: Material Engineering and Optimisation for use in Pulsed Magnetometry
J. Tang[1,2], C. A. Roncaioli[3], A. M. Edmonds[4], A. Davidsson[5], C. A. Hart[1], M. Markham[4], R. L. Walsworth[1,2,6]
[1]*Quantum Technology Center, University of Maryland, College Park, MD, United States*, [2]*Department of Physics, University of Maryland, College Park, MD, United States*, [3]*DEVCOM Army Research Laboratory, Adelphi, MD, United States,*, [4]*Element Six Global Innovation Centre, Didcot, Oxfordshire, United Kingdom,*, [5]*Department of Chemistry and Biochemistry, University of Maryland, College Park, MD, United States*, [6]*Department of Electrical Engineering and Computer Science, University of Maryland, College Park, MD, United States*

10:10
6.4
Coherence time of 12C enriched freestanding single crystal CVD diamond
T. Teraji[1], J. Chen[1], C. Shinei[1,2], H. Abe[3], Y. Masuyama[3]
[1]*National Institute for Materials Science, 1-1 Namiki, Tsukuba, Ibaraki 305-0044, Japan*, [2]*University of Tsukuba, T 1-1-1 Tennodai, Tsukuba, Ibaraki 305-8577, Japan*, [3]*National Institutes for Quantum Science and Technology, Takasaki, Gunma 370-1292, Japan*

10:30 Coffee Break (Grand Banquet Hall)

Session 7
Diamond Electronic Devices
Chair: Hitoshi Umezawa, National Institute of Advanced Industrial Science and Technology (AIST), Japan

11:10
7.1 (Invited)
Channel mobility of hexagonal boron nitride/hydrogen-terminated diamond heterojunction field-effect transistor
Y. Sasama[1], Y. Takahide[1,2]
[1]*National Institute for Materials Science*, [2]*University of Tsukuba*

11:40
7.2
Over 400V Field-Plate Enhanced Vertical Diamond Schottky Diodes with Near-Ideal Behavior and 3000A/cm² Current Density
V. Maurya[1], M. Guerrero[1], R. Issaoui[2], J. Bassaler[1], J. Letellier[1]
[1]*DIAMFAB, 5 impasse de Charvet, 38600 Fontaine, FRANCE*, [2]*HiQuTe Diamond, 20 B RUE DANJOU 92100 Boulogne Billancourt, France*

12:00
7.3
Avalanche Ionization and Radiation Damage Recovery in Vertical Single-Crystal Diamond Schottky Diodes
M. Pomorski[1], D. Fras[1], R. Gourad[1], M. Jaksic[2], M. Matijevic[2], C. Masante[3], G. Provatas[2], H. Soares-Antunes[3], L. Le Van-Jodin[3]
[1]*Université Paris-Saclay, CEA-List, F-9112, Palaiseau, France*, [2]*Laboratory for Ion Beam Interactions, Ruder Bošković Institute, Bijenička cesta 54, 10000, Zagreb, Croatia*, [3]*Université Grenoble Alpes, CEA-Leti, F-38000 Grenoble, France*

12:20
7.4
Investigating the Stability and Control of Valley-Polarized Transport in Diamond
S. Majdi[1], J. Isberg[1], R. Yamazaki[1], N. Suntornwipat[1]
[1]*Diamond Electronics group, Department of Electrical Engineering, Ångström laboratory, Uppsala University, Box 65, SE-751 03, Sweden*

12:40 Lunch (Grand Banquet Hall) + Joint Committees Meeting (Fluistertuin)

Session XXX
Chairs: The SBDD Organisers

14:10
Special

Session 8
Diamond Processing & Devices
Chair: Ken Haenen, Hasselt University & imec, Belgium

14:40
8.1
Diamond SAW devices for 5G Transceivers
J. Cuenca[1], S. Mandal[1], O. Williams[1]
[1]*School of Physics and Astronomy, Cardiff University, Cardiff, CF24 3AA, United Kingdom*

15:00
8.2
Direct laser writing of diamond-based nanochannels and their integration into nanofluidic devices
S. Janssens[1], M. Ayu Ardini[1], D. Vázquez-Cortés[1], C. Cassidy[2], E. Fried[1]
[1]*Mechanics and Materials Unit, Okinawa Institute of Science and Technology Graduate University, 1919-1 Tancha, Onna-son, Kunigami-gun, Okinawa, Japan*, [2]*Science and Technology Group, Okinawa Institute of Science and Technology Graduate University, 1919-1 Tancha, Onna-son, Kunigami-gun, Okinawa, Japan*

15:20
8.3
Nanodiamond-Berberine Nanohybrids: A Physics-Driven Approach to Biocompatible Melanoma Therapy
X.-Y. You[1], Y.-C. Yeh[1], Z.-Y. Peng[1], P. Manik Badgujar[1], C.-L. Cheng[1]
[1]*Department of Physics, National Dong Hwa University, Taiwan*

Session 9
Posters II & Coffee Break
Chairs: Simona Baluchová, Charles University, Czechia; Takayuki Iwasaki, Institute of Science Tokyo, Japan; Anke Krueger, Universität Stuttgart, Germany; Saman Majdi, Uppsala University, Sweden

15:40 – 17:10 (Grand & Small Banquet Hall)

For a detailed list of posters, see Session 5.

Session 10
Quantum Sensing
Chair: Chia-Liang Cheng, National Dong Hwa University, Taiwan

17:10
10.1
Microscale mapping heat diffusion using widefield NV thermometry
L. Evanno[1], M. Techer[1], P.-J. Wu[1,4], M.-P. Adam[1], M. Schmidt[1], M. Aurousseau[2], L. Toraille[3], Y. Yung Hui[4], H.-C. Chang[4], D. Rochais[2], J.-F. Roch[1]
[1]*LUMIN, Université Paris-Saclay, CNRS, ENS Paris-Saclay, CentraleSupelec, 91190 Gif-sur-Yvette, France*, [2]*CEA, DAM, DIF, 91297 Arpajon, France*, [3]*CEA, DAM, Le Ripault,37260, Monts, France*, [4]*Institute of Atomic and Molecular Sciences, Academia Sinica, Taipei City 106319, Taiwan*

17:30
10.2
Intracellular Temperature Sensing Using NV Centers in Nanodiamonds
A. Shmakova[1], S. Zaghbouni[2], M. Petrov[1], R. Vandebosch[1], K. Kvakova[3], V. Chadimova[3], J. Neburkova[3], P. Cigler[3], B. Brone[2], M. Nesladek[1]
[1]*IMO-IMOMEC, Hasselt University, Wetenschapspark 1, 3590 Diepenbeek, Belgium*, [2]*BIOMED, Hasselt University, Agoralaan gebouw C, 3590 Diepenbeek, Belgium*, [3]*Institute of Organic Chemistry and Biochemistry of the CAS, Flemingovo nam. 2, 160 00 Prague, Czechia*

17:50
10.3
The influence of surface functionalization on the properties of NV centres in nanodiamond and its relevance for biomedical quantum sensing
A. Sadzak[1], E. Mayerhoefer[1], I. Perez[2], M. Guimaraes[3], L. Spantzel[2], F. Jelezko[3], M. Börsch[2], A. Krueger[1]
[1]*Institute of Organic Chemistry, University of Stuttgart, Pfaffenwaldring 55, Stuttgart, Germany*, [2]*Single Molecule Microscopy Group, Jena University Hospital, Nonnenplan 2-4, 07743 Jena, Germany*, [3]*Institute for Quantum Optics, University of Ulm, Albert-Einstein-Allee 11, 89081 Ulm, Germany*

18:10 Closing Day 2 "Hasselt Diamond Workshop 2026 – SBDD XXX".

20:00 Conference Dinner at the *Ravel* & *De Boulevard* of the *Holiday Inn*.

Friday, March 6, 2026

Session 11
Doped Diamond Devices
***Chair:* Etienne Gheeraert, CNRS/Université Grenoble Alpes-Institut Néel, France**

09:00
11.1 (Invited)
Single-crystal boron-doped diamond electrochemistry governed by crystal orientation and surface engineering
S. Baluchová[1], A. Taylor[2], K. Schwarzová-Pecková[1], A. Lytvynenko[1,2], V. Mortet[2]
[1]*Department of Analytical Chemistry, Faculty of Science, Charles University, Albertov 6, Prague 2, Czechia*, [2]*FZU – Institute of Physics of the Czech Academy of Sciences, Na Slovance 1999/2, Prague 8, Czechia*

09:30
11.2
Positively charged filters for virus filtration
S. Mandal[1], O. A Williams[1]
[1]*School of Physics and Astronomy, Cardiff University, Cardiff, UK, CF24 3AA*

09:50
11.3
Black-Diamond-based High-Temperature Solar Cells
D.M. Trucchi[1], A. Bellucci[1], E. Bolli[1], M. Girolami[1], M. Mastellone[1], A. Mezzi[2], S. Orlando[1], R. Polini[3], R. Salerno[1,3], A. Santagata[1], V. Serpente[1], V. Valentini[1]
[1]*Istituto di Struttura della Materia, National Research Council of Italy, Italy*, [2]*Istituto per lo Studio dei Materiali Nanostrutturati, National Research Council of Italy, Italy*, [3]*Dipartimento di Scienze e Tecnologie Chimiche, TorVergata University, Italy*

10:10
11.4
Enhancing CO_2 reduction with large-surface-area BDD electrodes
M. Mao[1], G. Iwai[2], Y. Einaga[2], P. W. May[1]
[1]*School of Chemistry, University of Bristol, Bristol, BS8 1TS, United Kingdom*, [2]*Department of Chemistry, Keio University, 3-14-1 Hiyoshi, Yokohama 223-8522, Japan*

10:30 Coffee Break (Grand Banquet Hall)

Session 12
Quantum Physics & Application III
Chair: Tokuyuki Teraji, National Institute for Materials Science (NIMS), Japan

11:00
12.1 (Invited)
Graphene-diamond: Next-generation all carbon hybrid materials
S. Majdi[1], N. Suntornwipat[1], R. Yamazaki[1], A. Aitkulova[1], J. Isberg[1]
[1]*Division of Electricity, Department of Electrical Engineering, Uppsala University, Box 65, 751 03, Uppsala, Sweden*

11:30
12.2
Electrical detection of NV-based DEER for nanoscale spin bath spectroscopy
O. Rubinas[1,2], J. Prooth[1,2], M. Petrov[1], D. Chvátil[3], E. Bourgeois[1,2], M. Nesladek[1,2]
[1]*Institute for Material Research (IMO), Hasselt University, Wetenschapspark 1, Diepenbeek, Belgium*, [2]*IMOMEC, IMEC, Kapeldreef 75, Heverlee, Belgium*, [3]*Department of Accelerators Nuclear Physics Institute of the CAS, Rez Husinec 25068, Czech Republic*

11:50
12.3
Voltage dependent depletion of a long-lived charge reservoir as a pathway to all electrical single-spin readout
A. Ulibarri[1], D. McCloskey[1,2], D. Wang[1], N. Dontschuk[1], A. Martin[1], A. Wood[1]
[1]*School of Physics, University of Melbourne, Parkville, VIC 3010, Australia.*, [2]*Australian Research Council Centre of Excellence in Quantum Biotechnology, School of Physics, University of Melbourne, Parkville, VIC 3010, Australia.*

12:10
12.4
Homogeneous Free-Standing Nanostructures from Bulk Diamond over Millimeter Scales for Quantum Technologies
A. Corazza[1], S. Ruffieux[1], Y. Zhu[2], C. A. Jamarillo Concha[2], Y. Fontana[1], M. Obramenko[1], C. Galland[2], R. J. Warburton[1], P. Maletinsky[1]
[1]*Department of Physics, University of Basel, CH-4056 Basel, Switzerland*, [2]*Institute of Physics and Center for Quantum Science and Engineering, Ecole Polytechnique Fédérale de Lausanne (EPFL), 1015 Lausanne, Switzerland*

12:30
12.5
Chipscale diamond quantum systems for sensing and timekeeping
T. Chen[1], C. W. Zollitsch[2], S. Nur[1]
[1]*Department of Quantum Computer Engineering, Faculty of Electrical Engineering Mathematics and Computer Science, Delft University of Technology, Delft, The Netherlands*, [2]*Department of Chemistry, Saarland University, Saarbrücken, Germany*

12:50 Lunch (Grand Banquet Hall)

Session 13
Quantum Magnetometry
Chair: Jean François Roch, École normale supérieure Paris-Saclay, France

14:10
13.1
Microwave-free 13C hyperpolarization in randomly oriented diamond particles enhanced by kHz spinning
R. Blinder[1], G. Muzabirova[2], V. N. Agafonov[3], R. Witter[1], J. Matysik[2], F. Jelezko[1,4]
[1]*Institute for Quantum Optics, Albert-Einstein Allee 11, Ulm University, 89081 Ulm, Germany*, [2]*Department of Analytical Chemistry, Leipzig University, Linnéstrasse 3, 04103 Leipzig, Germany*, [3]*GREMAN UMR 7347, University F. Rabelais, 37200 Tours, France*, [4]*Centre for Integrated Quantum Science and Technology (IQST), Ulm 89081, Germany*

14:30
13.2
Laser-Enhanced Quantum Sensing with NV Ensembles in Diamond
F. Schall[1], L. Lindner[1], Y. Rottstaedt[1], J. J. Schindler[1], T. Probst[1], M. Rattunde[1], F. Reiter[1], R. Quay[1], R. Bek[2], A. M. Zaitsev[3], T. Ohshima[4], A. D. Greentree[5], J. Jeske[1]
[1]*Fraunhofer Institute for Applied Solid State Physics IAF, Tullastraße 72, 79108 Freiburg, Germany*, [2]*Twenty-One Semiconductors GmbH, Kiefernweg 4, 72654 Neckartenzlingen, Germany*, [3]*College of Staten Island (CUNY), 2800 Victory Blvd., Staten Island, NY 10312, USA*, [4]*Nat. Inst. for Quantum Science and Technology (QST), 1233 Watanuki, Takasaki, Gunma 370-1292, Japan*, [5]*ARC Centre of Excellence for Nanoscale BioPhotonics, RMIT University, Melbourne VIC 3001, Australia*
OPTIMAS, RPTU University Kaiserslautern-Landau, Erwin-Schrödinger-Str.,Kaiserslautern, Germany

14:50
13.3
Quantum Diamond Magnetometry : High-Pressure Sensing for High-Tc Superconductivity
C. Roussy[1], C. Dailledouze[1], I. Belgacem[1], K. On Ho[1], A. Hilberer[2,3], L. Toraille[2,3], B. Yavkin[1], M.-P. Adam[1], M. Schmidt[1], P. Loubeyre[2,3], J. François Roch[1]
[1]*Université Paris-Saclay, CNRS, ENS Paris-Saclay, CentralSupelec, LuMIn, F-91190 Gif-sur-Yvette, France*, [2]*CEA DAM, DIF, F-91297 Arpajon, France*, [3]*Université Paris-Saclay, CEA, Laboratoire Matière en Conditions Extrêmes, 91680 Bruyères-le-Châtel, France*

15:10
13.4
Endoscopic magnetic-field sensor based on nitrogen-vacancy centers in diamond
S. Johansson[1], D. Lönard[1], I. Cardoso Barbosa[1], A. Erlenbach[1], A. Bukschat[1], A. Thomas[1], J. Gutsche[1], A. Widera[1]
[1]*Department of Physics and Research Center OPTIMAS, RPTU University Kaiserslautern-Landau, Erwin-Schrödinger-Str.,Kaiserslautern, Germany*

15:30 Closing "Hasselt Diamond Workshop 2026 – SBDD XXX".

Workshop sponsored by Konfidi, Nevermined, Seki Diamond Systems, FTDiam, Mintres, Qnami, Diatope, S-TEAM, Qblox, HiQuTe Diamond, MUEGGE, STR, Element Six – Orbray, Supreme Green, Cambridge Isotope Laboratories, and Hasselt University via the Institute for Materials Research (IUMAT).

HASSELT DIAMOND WORKSHOP 2026 – SBDD XXX

Tuesday, March 3 , 2026

18:00 – 22:00 Registration & Reception *Café Café*.

Wednesday, March 4, 2026

08:20 – 08:50 Registration at the *cultuurcentrum Hasselt*.

08:50 – 09:00 Opening "Hasselt Diamond Workshop 2026 – SBDD XXX".

09:00 – 10:10 Session 1
Field Effect Devices
Chair: Julien Pernot, CNRS/Université Grenoble Alpes-Institut Néel, France

10:10 – 10:50 Coffee Break (Grand Banquet Hall)

10:50 – 12:20 Session 2
Quantum Physics & Application I
Chair: Miloš Nesládek, Hasselt University & imec, Belgium

12:20 SBDD XXX group photo (Lecture Hall)

12:30 – 14:10 Lunch (Grand Banquet Hall)

14:10 – 15:40 Session 3
CVD Diamond
Chair: Satoshi Koizumi, National Institute for Materials Science (NIMS), Japan

15:40 – 16:20 Coffee Break (Grand Banquet Hall)

16:20 – 17:50 Session 4
Quantum Physics & Application II
Chair: Christoph Becher, Universität des Saarlandes, Germany

17:50 – 20:00 Session 5
Posters I & Reception sponsored by:

KONFIDI Diamond Laser Processing Infrastructure
NEVERMINED NEXT GENERATION DIAMONDS
SEKI DIAMOND SYSTEMS A Unit of Cornes Technologies Ltd.
FTD Flawless Technical Diamonds

Chairs: Simona Baluchová, Charles University, Czechia; Takayuki Iwasaki, Institute of Science Tokyo, Japan; Anke Krueger, Universität Stuttgart, Germany; Saman Majdi, Uppsala University, Sweden

20:00 Closing Day 1 "Hasselt Diamond Workshop 2026 – SBDD XXX".

Thursday, March 5, 2026

09:00 – 10:30 Session 6
Quantum Growth & Application
Chair: Ulrika F. S. D'Haenens-Johansson, Gemological Institute of America (GIA), USA

10:30 – 11:10 Coffee Break (Grand Banquet Hall)

11:10 – 12:40 Session 7
Diamond Electronic Devices
Chair: Hitoshi Umezawa, National Institute of Advanced Industrial Science and Technology (AIST), Japan

12:40 – 14:10	**Lunch (Grand Banquet Hall)**
14:10 – 14:40	**Session XXX** **Chair: The SBDD Organisers**
14:40 – 15:40	**Session 8** **Diamond Processing & Devices** **Chair: Ken Haenen, Hasselt University & imec, Belgium**
15:40 – 17:10	**Session 9** **Posters II** **Chairs: Simona Baluchová, Charles University, Czechia; Takayuki Iwasaki, Institute of Science Tokyo, Japan; Anke Krueger, Universität Stuttgart, Germany; Saman Majdi, Uppsala University, Sweden**
17:10– 18:10	**Session 10** **Quantum Sensing** **Chair: Chia-Liang Cheng, National Dong Hwa University, Taiwan**
18:10	**Closing Day 2 "Hasselt Diamond Workshop 2026 – SBDD XXX".**
20:00	**Conference dinner at the *Ravel* & *De Boulevard* of the *Holiday Inn.***

Friday, March 6, 2026

09:00 – 10:30	**Session 11** **Doped Diamond Devices** **Chair: Etienne Gheeraert, CNRS/Université Grenoble Alpes-Institut Néel, France**
10:30 – 11:00	**Coffee Break (Grand Banquet Hall)**
11:00 – 12:50	**Session 12** **Quantum Physics & Application III** **Chair: Tokuyuki Teraji, National Institute for Materials Science (NIMS), Japan**
12:50 – 14:10	**Lunch (Grand Banquet Hall)**
14:10 – 15:30	**Session 13** **Quantum Magnetometry** **Chair: Jean François Roch, École normale supérieure Paris-Saclay, France**
15:30	**Closing "Hasselt Diamond Workshop 2026 – SBDD XXX".**