



European Materials Research Society

Spring Meeting 2022

May 30 | June 3
Virtual Conference

SYMPOSIUM C

Semiconductor nanostructures towards opto-electronic
and photonic device applications – VIII

Symposium Organizers :

Anna FONTCUBERTA I MORRAL,
Laboratory of Semiconductor Materials Institute of Materials, IMX

Iwan MOREELS, Ghent University

Jean-Francois DAYEN, Université de Strasbourg

Sergio BROVELLI, University of Milano-Bicocca

Monday may 30			12:00	Discussion	
08:45	Welcome and Introduction to the Symposium		12:15	Lunch	
	Synthesis and optical properties I : Sergio Brovelli			Optical properties and defect studies in nanostructures : Iwan Moreels	
09:00	INV Halide Perovskite Nanocrystals: Synthesis and Optical Properties Liberato Manna Department of Nanochemistry, Istituto Italiano di Tecnologia, via Morego 30, 16163 Genova, Italy	C 1.1	13:45	INV Finding the weakest link: surface electrochemistry of nanomaterials A. Houtepen TU Delft, The Netherlands	C 3.1
09:30	Synthesis and characterization of phosphonium based 1D halide perovskites Prabhanjan Pradhan, Subrat Rout and Biplab K Patra *(Corresponding Author) Email- prabhanjan.p@immt.res.in Email-bkpatra@immt.res.in (Corresponding Author) Materials Chemistry Department, CSIR-Institute of Minerals and Materials Technology, Bhubaneswar, 751013, India	C 1.2	14:15	Exciton recombination dynamics in thin films of 2D tin iodide perovskite inkjet-printed on a flexible substrate Chirvony, V.S.(1), Suárez, I.(2), Martínez-Pastor, J.P.(1), Dirin, D.N.(3,4), Kovalenko, M.V.(3,4), Vescio, G(5), Friero, J.L.(5), Garrido, B.(5), Cirera, A.(5) (1)UMDO, Instituto de Ciencia de los Materiales, Universidad de Valencia, Valencia 46980, Spain, (2)Escuela Técnica Superior de Ingeniería, Universidad de Valencia, Valencia 46100, Spain, (3)Department of Chemistry and Applied Biosciences, ETH Zurich, Zurich 8093, Switzerland, (4)Laboratory for Thin Films and Photovoltaics, Empa-Swiss Federal Laboratories for Materials Science and Technology, Dübendorf 8600, Switzerland, (5)Applied Nanoelectronics, Department of Electronics, University of Barcelona, 08028 Barcelona, Spain.	C 3.2
09:45	2D hybrid perovskite for light sensing Rosanna Mastroia, Karl Jonas Riisnaes, Agnes Bacon, Ioannis Leontis, Hoi Tung Lam, Tsz Hin Edmund Chan, Luisa De Marco, Laura Polimeno, Annalisa Coriolano, Steven Hepplestone, Monica Felicia Craciun, and Saverio Russo Rosanna Mastroia, Karl Jonas Riisnaes, Agnes Bacon, Ioannis Leontis, Hoi Tung Lam, Tsz Hin Edmund Chan, Steven Hepplestone, Monica Felicia Craciun, Saverio Russo Centre for Graphene Science, College of Engineering, Mathematics and Physical Sciences, University of Exeter, Exeter EX4 4QL, United Kingdom Luisa De Marco, Laura Polimeno, Annalisa Coriolano, Institute of Nanotechnology, CNR NANOTEC, via Monteroni, 73100, Lecce, Italy,	C 1.3	14:30	Supported Indium Phosphide Quantum Dots for Visible-Light Photo-Redox Catalysis Kaltoum Bakkouche 1,2,*, Fabio Ferrari 1, Nadia Katir 2, Abdelkrim El Kadib 2, Céline Nayral 1, Fabien Delpech 1. 1 LPCNO, Université de Toulouse, CNRS, INSA, UPS, 135 Avenue de Rangueil, 31077 Toulouse, France 2 Euromed Research Center, Engineering Division, Euro-Med University of Fès (UEMF), Route de Meknes, Rond-point de Bensouda, 30070 Fès, Maroc	C 3.3
10:00	Development of CdSe/CdS core/shell nanocrystals with near-unity fluorescence efficiency Alina Myslovskal, Ali Hossain KhanII, and Iwan MoreelsI * I Department of Chemistry, Ghent University, 9000 Ghent, Belgium II Department of Chemical, Biological & Macromolecular Sciences, S.N. Bose National Centre for Basic Sciences, JD Block, Sector-III, Salt Lake City, Kolkata, 700106, India	C 1.6	14:45	Probing TMD defects with atomic scale probe microscopy Edward Dunn, Professor Robert Young, Doctor Samuel Jarvis Lancaster University Physics Department, Lancaster University Physics Department, Lancaster University Physics Department	C 3.4
10:15	Strongly Anharmonic Octahedral Tilting in 2D Hybrid Halide Perovskites Menahem, Matan*(1), Dai, Zhenbang(2), Aharon, Sigalit(1), Sharma, Rituraj(1), Asher, Maor(1), Diskin-Posner, Yael(1), Korobko, Roman(1), Rapp, Andrew M.(2), Yaffe, Omer(1) (1) Weizmann Institute of Science, Israel (2) University of Pennsylvania, Philadelphia, Pennsylvania * lead presenter	C 1.5	15:00	Discussion	
10:30	Discussion			Synthesis and optical study of nanowires : Valerio Pinchetti	
10:45	Nanoparticles synthesis and growth : Francesco Carulli		15:15	INV Showcasing the advantage of nanowire configuration for functional characterization of new materials Mirjana Dimitrievska,1 Simon Escobar Steinvall,1 Elias Z. Stutz,1 Rajrupa Paul,1 Jean-Baptiste Leran,1 and Anna Fontcuberta i Morral1,2 1 - Laboratory of Semiconductor Materials, Institute of Materials, Faculty of Engineering, École Polytechnique Fédérale de Lausanne, 1015 Lausanne, Switzerland 2 - Institute of Physics, Faculty of Basic Sciences, École Polytechnique Fédérale de Lausanne, 1015 Lausanne, Switzerland	C 4.1
11:00	Ultrahigh sensitive optical conductive polymer nanowires with quantum nanodots synthesized by a pulsed laser irradiation Masahiro Goto, Michiko Sasaki National Institute for Materials Science	C 2.1	15:45	Silicon nanowires for photovoltaic applications Mohamed BEN RABHA, Wissam DIMASSI, Belgassem BOUKTIF LaNSER, CRTEN	C 4.2
11:15	Experimental and computational study of Silicon Clathrates nano-cages occupation impact on the semiconducting properties Vollondat, R.*(1), Stoeffler, D.(2), Roques, S.(1), Slaoui, A.(1), Fix, T.(1) (1) CNRS et Université de Strasbourg, Laboratoire ICube, 67037 Strasbourg, France (2) CNRS et Université de Strasbourg, Institut de Physique et Chimie des Matériaux de Strasbourg, F-67034 Strasbourg, France * lead presenter	C 2.2	16:00	Core-shell nanowires based on TiO2 and CuO with enhanced optoelectronic properties Andreea Costas (1)*, Nicoleta Preda (1), Monica Enculescu (1), Andrei Kuncser (1) and Ionut Enculescu (1) (1) National Institute of Material Physics, 405A Atomistilor Street, 077125, Magurele, Romania	C 4.3
11:30	Nanoparticles of ZnMeO (Me: Mn, Co, Cr) generated by pulsed laser ablation in liquids and ultrasound wave-assisted Stolyarchuk I. D., Dan?kiv O. O., Kuzyk O. V., Holskiy V. B., Metsan Kh. O., Hrytskiv T. V., Krypak A. O. Department of Physics, Drohobych Ivan Franko State Pedagogical University, 24 I.Franko str., 82100 Drohobych, Ukraine.	C 2.3	16:15	Discussion	
11:45	Controlled-Growth of Gold Nanoparticle on Janus-Type Cu2-xS/CuInS2 Heteronanorods via Photochemical Deposition Fenghuan Zhao,1* Chenghui Xia,2 Celso de Mello Donega,2 Jean-Pierre Delville,3 Marie-Helene Delville,1 1. Univ. Bordeaux, CNRS, Bordeaux INP, ICMCB, UMR 5026, Pessac F-33608, France 2. Debye Institute for Nanomaterials Science, Utrecht University, 3508 TA Utrecht, Netherlands 3. Univ. Bordeaux, CNRS, LOMA, UMR 5798, Talence F-33405, France	C 2.4	16:30	Advanced spectroscopy of nanostructures I : Elena Shornikova	
			16:45	INV By design light matter interaction in nanocrystal array, a step toward active nanophotonics Audrey Chu, Charlie Gréboval, Tung Huu Dang, Adrien Khalili, Angela Vasaneli, Gregory Vincent, Emmanuel Lhuillier a. Sorbonne Université, CNRS, Institut des NanoSciences de Paris, INSP, F-75005 Paris, France. b. Laboratoire de physique de l'Ecole Normale Supérieure, ENS, Université PSL, CNRS, Sorbonne Université, Université de Paris, 75005 Paris, France c. ONERA - The French Aerospace Lab, 6, chemin de la Vauve aux Granges, BP 80100, F-91123 Palaiseau, France.	C 5.1

17:15	Hot carrier dynamics in monolayer WS₂: hot carrier cooling, carrier-carrier interaction, and trapping Tong Wang, Thomas R. Hopper, Navendu Mondal, Sihui Liu, Felice Torrisi, Artem Bakulin Department of Chemistry, Imperial College London, White City Campus, London W12 0BZ, United Kingdom, Department of Materials Science and Engineering, Stanford University, Stanford, California 94305, United States, Department of Chemistry, Imperial College London, White City Campus, London W12 0BZ, United Kingdom, Department of Chemistry, Imperial College London, White City Campus, London W12 0BZ, United Kingdom, Department of Chemistry, Imperial College London, White City Campus, London W12 0BZ, United Kingdom, Department of Chemistry, Imperial College London, White City Campus, London W12 0BZ, United Kingdom,	C 5.2		
17:30	Isolated [SbCl₆]³⁻ Octahedra Are the Only Active Emitters in Rb₇Sb₃Cl₁₆ Nanocrystals Valerio Pinchetti(1), Baowei Zhang(2), Juliette Zito(2), Andrea Pianetti(1), Ivan Infante(2), Luca De Trizio(2), Liberato Manna(2) and Sergio Brovelli(1) (1) Dipartimento di Scienza dei Materiali, Università degli Studi di Milano-Bicocca, Via Roberto Cozzi 55, 20125 Milano, Italy (2) Nanochemistry Department, Istituto Italiano di Tecnologia (IIT), Via Morego 30, 16163 Genova, Italy	C 5.3		
17:45	Discussion			
			Tuesday may 31	
			Perovskite nanostructures for optoelectronics : Liberato Manna	
09:00	INV Shape-directed assembly of lead halide perovskite nanocrystals into superfluorescent superlattices Maksym V. Kovalenko ^{1,2} ¹ ETH Zürich, Department of Chemistry and Applied Biosciences, CH-8093, Zurich, Switzerland ² Empa-Swiss Federal Laboratories for Materials Science and Technology, CH-8600, Dübendorf, Switzerland E-mail address: mvkovalenko@ethz.ch			C 6.1
09:30	Robust, reproducible, low-waste and large scale procedure for high-quality CsPbBr₃ Nanobrick synthesis for scintillation Sara Mecca, Francesca Pallini, Valerio Pinchetti, Francesco Bruni, Francesca Cova, Luca Beverina Dipartimento di Scienza dei Materiali, Università degli Studi di Milano-Bicocca, 20125 Milano, Italy Glass to Power SpA via Fortunato Zeni 8, Rovereto (TN)			C 6.2
09:45	Lead Chalcohalide Nanocrystals: from Heterostructures with Cesium Lead Perovskites to Phase Selective Synthesis Andrea Pianetti, Stefano Toso, Muhammad Imran, Enrico Mugnaioli, Annagrazia Moliterni, Rocco Caliendo, Nadine Schrenk, Andrea Pianetti, Juliette Zito, Francesco Zaccaria, Mauro Gemmi, Cinzia Giannini, Sergio Brovelli, Ivan Infante, Sara Balse, Liberato Manna Dipartimento di Scienza dei Materiali, Università degli Studi di Milano-Bicocca, 20125 Milano, Italy Department of Nanochemistry, Istituto Italiano di Tecnologia, Via Morego 30, 16163 Genova, Italy International Doctoral Program in Science, Università Cattolica del Sacro Cuore, 25121 Brescia, Italy Electron Crystallography, Center for Materials Interfaces, Istituto Italiano di Tecnologia, Viale Rinaldo Piaggio 34, 56025 Pontedera, Italy d Istituto Di Cristallografia ? Consiglio Nazionale delle Ricerche (IC?CNR), I-70126 Bari, Italy e Electron Microscopy for Materials Science (EMAT) and NANOLab Center of Excellence, University of Antwerp, 2020 Antwerp, Belgium Dipartimento di Chimica e Chimica Industriale, Università degli Studi di Genova, Via Dodecaneso 31, 16146 Genova, Italy			C 6.3
10:00	Exploring Perovskite-Organic Multiple Quantum Wells for Efficient Emission and Lasing Tobias Antrach (1), Martin Kroll (1), Markas Sudzius (1), Johannes Benduhn (1), Yana Vaynzof (1), Karl Leo (1) (1) Technische Universität Dresden, IAPP- Dresden Integrated Center for Applied Physics and Photonic Materials, Germany			C 6.4
10:15	Extreme X-ray radiation hardness and high scintillation yield in perovskite nanocrystals Matteo L. Zaffalon, Francesca Cova, Mingming Liu, Alessia Cemmi, Ilaria Di Sarcina, Carmelita Rodà, Mauro Fasoli, Francesco Meinardi, Liang Li, Anna Vedda, Sergio Brovelli 1. Dipartimento di Scienza dei Materiali, Università degli Studi Milano - Bicocca, via R. Cozzi 55, IT-20125 Milano, Italy & Istituto Nazionale di Fisica Nucleare (INFN), Sezione di Milano ? Bicocca, Milano, Italy, 2. Dipartimento di Scienza dei Materiali, Università degli Studi Milano - Bicocca, via R. Cozzi 55, IT-20125 Milano, Italy & Istituto Nazionale di Fisica Nucleare (INFN), Sezione di Milano ? Bicocca, Milano, Italy, 3. School of Environmental Science and Engineering, Shanghai Jiao Tong University, 800 Dongchuan Road, 200240 Shanghai, P.R. China, 4. ENEA Fusion and technology for nuclear safety and security department, Casaccia R.C., Via Anguillarese 301, 00123 Rome, Italy, 5. ENEA Fusion and technology for nuclear safety and security department, Casaccia R.C., Via Anguillarese 301, 00123 Rome, Italy, 6. Dipartimento di Scienza dei Materiali, Università degli Studi Milano - Bicocca, via R. Cozzi 55, IT-20125 Milano, Italy, 7. Dipartimento di Scienza dei Materiali, Università degli Studi Milano - Bicocca, via R. Cozzi 55, IT-20125 Milano, Italy & Istituto Nazionale di Fisica Nucleare (INFN), Sezione di Milano ? Bicocca, Milano, Italy, 8. Dipartimento di Scienza dei Materiali, Università degli Studi Milano - Bicocca, via R. Cozzi 55, IT-20125 Milano, Italy, 9. School of Environmental Science and Engineering, Shanghai Jiao Tong University, 800 Dongchuan Road, 200240 Shanghai, P.R. China, 10. Dipartimento di Scienza dei Materiali, Università degli Studi Milano - Bicocca, via R. Cozzi 55, IT-20125 Milano, Italy & Istituto Nazionale di Fisica Nucleare (INFN), Sezione di Milano ? Bicocca, Milano, Italy, 11. Dipartimento di Scienza dei Materiali, Università degli Studi Milano - Bicocca, via R. Cozzi 55, IT-20125 Milano, Italy & Istituto Nazionale di Fisica Nucleare (INFN), Sezione di Milano ? Bicocca, Milano, Italy,			C 6.5
10:30	Discussion			
10:45				

Nanomaterial for optoelectronic devices I : Iwan Moreels

11:00	Simultaneously formation of g-C₃N₄/TiO₂ binary films on Ti surface as perspective material for renewable energy M. Bondarenko, P. Silenko, Yu. Solonin, A. Ragulya, M. Zahornyi, N. Gubareni, O. Khyzhun, N. Yarova Frantsevich Institute for Problems of Materials Science of NASU, Krzhyzhanovsky St. 3, 03142 Kiev, Ukraine	C 7.1
11:15	Optimization of Silver nanowire Electrodes for Non-Fullerene Organic Solar Cells : PCE12:ITIC Issoufou IBRAHIM ZAMKOYE (1,2), Johann BOUCLÉ (1,2), Bruno LUCAS (1,2), Sylvain VEDRAINE (1,2). (1) Univ. Limoges, XLIM, UMR 7252, F-87000 Limoges, France (2) CNRS, XLIM, UMR 7252, F-87000 Limoges, France.	C 7.2
11:30	Inkjet printing lead-free ASnX₃ (A =FA, MA, X = Br, I) perovskites for next generation solar cells J.L. Friero,1 G. Vescio,1 F. Vinocour,2 S. Hernández,1 B.Bursa,2 A. Cirera,1 S. Öz,2 B. Garrido1. 1) MIND-IN2UB, Department of Electronics and Biomedical Engineering, Universitat de Barcelona, Martí i Franquès 1, 08028 Barcelona (Spain) 2) SAULE Technology Center, Wrocław Technology Park, 11 Dunska Str. Sigma building 54-427 Wrocław, Poland	C 7.3
11:45	Enhanced light trapping by surface decoration with subwavelength dielectric arrays Ashish Prajapati (1) Gil Shalev (1, 2) 1. School of Electrical and Computer Engineering, Ben-Gurion University of the Negev, Israel 2. The Ilse-Katz Institute for Nanoscale Science and Technology, Ben-Gurion University of the Negev, POB 653, Beer-Sheva 8410501, Israel	C 7.4
12:00	Discussion	
12:15	Lunch and Plenary	

Nanomaterial for optoelectronic devices II : Francesco Carulli

15:00	Nanocrystals, mesocrystals, supercrystals ? a toolbox for materials with collective optoelectronic effects Marcus Scheele Universität Tübingen, Institute of Physical and Theoretical Chemistry, Germany	C 8.1
15:30	Enhanced GaAsSb/GaAsN type-II superlattice solar cell performance by accurate composition control A. Gallego Carro, L. Stanojević, Malte Schwarz, S. Catalán-Gómez, V. Braza, S. Flores, D. Fernandez-Reyes, T. Ben, D. González, D. Fuertes Marrón, G. Barbieri, J.M. Llorens, B. Alén, A. Guzman, A. Hierro, ? Ga?evi?, J. M. Ulloa Institute for Optoelectronic Systems and Microtechnology (ISOM), Universidad Politécnica de Madrid, University Research Institute on Electron Microscopy & Materials, (IMEYMAT), Universidad de Cádiz, Instituto de Energía Solar (IES), Universidad Politécnica de Madrid, Instituto de Micro y Nanotecnología IMN-CNM, CSIC	C 8.2
15:45	Exploring the optoelectronic properties of high-performing 2D TMDs exfoliated via solution-processable routes Rebekah A Wells, Miao Zhang, Tzu-Heng Cheng, Victor Boureau, Marina M. Caretti, Kevin Sivula Ecole Polytechnique Federale de Lausanne (LIMNO, LBEN, LBEN, CIME, LIMNO, LIMNO)	C 8.3
16:00	Single photon emitters arrays by capillary assembly of colloidal semiconductor CdSe/CdS nanocrystals M. Barelli, C. Vidal, S. Fiorito, V. Aglieri, A. Myslovska, R. Sapienza, I. Moreels and F. Di Stasio M. Barelli, S. Fiorito, V. Aglieri, F. Di Stasio - Istituto Italiano di Tecnologia (Italy) C. Vidal, R. Sapienza - Imperial College (UK) A. Myslovska, I. Moreels - Ghent University (Belgium)	C 8.4
16:15	Discussion	
16:30		

Nanostructures for lasing application : Sergio Brovelli

16:45	Recent Progress Toward Colloidal Quantum Dot Laser Diodes Victor I. Klimov Chemistry Division, Los Alamos National Laboratory, Los Alamos, New Mexico, USA. klimov@lanl.gov	C 9.1
17:15	Optical Gain in Core-only CdSe and Core/Crown CdSe/CdS 3.5 monolayer Nanoplatelets. Carmelita Rodà, Alessio Di Giacomo, Pieter Geiregat, Iwan Moreels Physics and Chemistry of Nanostructures, Department of Chemistry, Ghent University, 9000 Ghent, Belgium	C 9.2
17:30	Amplification of spontaneous emission and lasing in optical waveguides integrating lead-free perovskite thin films Juan P. Martínez-Pastor, Isaac Suárez, Vladimir S. Chirvony, Jesús Sánchez-Díaz, Rafael S. Sánchez, Iván Mora-Seró. Juan P. Martínez-Pastor, Vladimir S. Chirvony, UMDO, Instituto de Ciencia de los Materiales, Universidad de Valencia, Valencia 46980, Spain, Isaac Suárez, Escuela Técnica Superior de Ingeniería, Universidad de Valencia, Valencia 46100, Spain, Jesús Sánchez-Díaz, Rafael S. Sánchez, and Iván Mora-Seró, Institute of Advanced Materials (INAM), Universitat Jaume I, Castelló de la Plana, Castelló 12006, Spain.	C 9.3
17:45	Discussion	

Wednesday june 1

Nanocrystals doping : Jean-Francois Dayen

09:00	INV Heterovalent doped quantum dots and heterostructures to metal under large lattice mismatch Jiatao Zhang ^{1*} 1. Beijing Key Laboratory of Construction Tailorable Advanced Functional Materials and Green Applications, School of chemistry and chemical engineering, Beijing Institute of Technology, Beijing, 100081, China	C 10.1
09:30	Correlation between localization of dopants and optoelectronic properties of Si-nanocrystals formed in P-doped SiO/SiO₂ layers A. E. Giba (1,2), F. Trad (1), M. Stoffel (1), X. Devaux (1), D. Zhigunov (3), A. Bouché (1), S. Geiskopf (1), R. Demoulin (4), P. Pareige (4), E. Talbot (4), M. Vergnat (1), H. Rinnert (1) (1) Université de Lorraine, CNRS, Institut Jean Lamour, F-54000 Nancy-France (2) National Institute of Laser Enhanced Sciences, Cairo University, Giza 12613, Egypt (3) Skolkovo Institute of Science and Technology, Bolshoy Boulevard 30, bld. 1, 121205 Moscow, Russia (4) Normandie Université, UNIROUEN, INSA Rouen, CNRS, Groupe de Physique des Matériaux, 76000 Rouen-France	C 10.2
09:45	Al, Ga or In-Doped Zinc Oxide Plasmonic Nanoparticles prepared by solvothermal synthesis for IR & optoelectronic applications Alexandre DA SILVA, Cédric VANCAEYZEELE, Pierre-Henri AUBERT, Frédéric VIDAL, Laurent DUPONT LPPI, CY Cergy-Paris University , LPPI, CY Cergy-Paris University , LPPI, CY Cergy-Paris University , LPPI, CY Cergy-Paris University , Optics department, IMT Atlantique	C 10.3
10:00	Explanation of the detected sigmoidal feature in the temperature-dependent photoluminescence measurements of InAs quantum dots Rihani Jawher(a), Mehrez Oueslati(b), Vincent Sallet(c), Jean-Christophe Harmand(d), and Radhwen Chtourou(a) (a): Laboratoire de Photovoltaïque de Semiconducteurs et de Nanostructures, Centre de Recherche des Sciences et Technologie de l'Energie, BP. 95, Hammam-Lif 2050, Tunisia. (b): Laboratoire de Nanomatériaux, Nanotechnologie et Energie (L2NE), Faculté des Sciences de Tunis, Université de Tunis El Manar, 2092 Tunis, Tunisia. (c): Groupe d'Etude de la Matière Condensée (GEMAC), CNRS, Université St Quentin en Yvelines, Université Paris-Saclay, 45 avenue des Etats-Unis, 78035 Versailles, France. (d): Laboratoire de Photonique et de Nanostructures, CNRS Route de Nozay 91 460, Marcoussis, France.	C 10.4
10:15	Reabsorption-free plastic scintillators based on engineered doped nanocrystals Francesco Carulli, Francesca Cova, Luca Gironi, Franco Meinardi, Anna Vedda, Sergio Brovelli Francesco Carulli, Francesca Cova, Franco Meinardi, Anna Vedda, Sergio Brovelli, Dipartimento di Scienza dei Materiali, Università degli Studi di Milano-Bicocca, 20125 Milano, Italy. Luca Gironi, Dipartimento di Fisica, Università degli Studi di Milano-Bicocca, 20125 Milano, Italy.	C 10.5
10:30	Discussion	
10:45		
	Nanomaterial for optoelectronic devices III : Sergio Brovelli	
11:15	pMoOx-nMoS₂ Heterojunction Assembly for Tunable and Efficient Optoelectronic Devices Rajesh Kumar Ulaganathan, Ganesh Ghimire, Denys I. Miakota, and Stela Canulescu Technical University of Denmark	C 12.1
11:30	Emission mechanism analysis of Green InGaN/GaN light-emitting diodes with the Si-doped graded short-period superlattice (GSL). Sanam SaeidNahaei ¹ , DongKun LEE ¹ , Kim Geun-Hyeong ² , Jin Soo Kim ³ , Jong Su Kim ^{1*} 1 Department of Physics, Yeungnam University, Gyeongsan 38541, Korea. 2Department of Physics, Kyungwoon University, Gumi 13557, Korea. 3Division of Advanced Materials Engineering and Research Center of Advanced Materials Development, Chonbuk National University, Jeonju 561-756, South Korea.	C 12.2

11:45	Silicon QD decorated Silicon nitride Films : Optical emission and photo conductivity Santanu Ghosh, Harsh Gupta, Pariksha Malik and Pankaj Srivastava Nanotech Laboratory, Department of Physics, Indian Institute of Technology Delhi, New Delhi-110016, India	C 12.3
12:00	Discussion	
12:15	Lunch and Plenary	
	Nanostructures for IR application : Jean-Francois Dayen	
15:00	INV Infrared Colloidal Quantum Optoelectronics: LEDs and Lasers Gerasimos Konstantatos gerasimos.konstantatos@icfo.eu	C 12.1
15:30	Optically-pumped near infrared stimulated emission in PbS colloidal quantum dots LEDs Nima Taghipour, Ibrahim Tanriover, Mariona Dalmases, Guy L. Whitworth, Christina Graham, Valerio Purneri, Koray Aydin, and Gerasimos Konstantatos Nima Taghipour (1), Ibrahim Tanriover (2), Mariona Dalmases (1), Guy L. Whitworth (1), Christina Graham (1), Valerio Purneri (1),(3), Koray Aydin (2), and Gerasimos Konstantatos (1), (3) (1) ICFO, Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology, 08860 Barcelona, Spain (2) Department of Electrical and Computer Engineering, Northwestern University, Evanston, Illinois 60208, USA (3) ICREA, Institució Catalana de Recerca i Estudis Avançats, 08010 Barcelona, Spain	C 11.1
15:45	Optical detector of explosive precursors based on PbS colloidal quantum dots Mitri, F.(1)*, De Iacovo, A.(1), De Santis, S.(1), Giansante, C. (2), Sotgiu, G.(1), Colace, L. *corresponding author (1) Department of Industrial, Electronics and Mechanical Engineering, Univ. Roma Tre, Italy, (2) CNR Nanotec, Istituto di Nanotecnologia, Italy,	C 11.2
16:00	Strained Ge-rich SiGe nanocrystals in nanocrystallized HfO₂ layers for extended VIS-SWIR photoelectric sensitivity Ana-Maria Lepadatu (1), Catalin Palade (1), Adrian Slav (1), Valentin Serban Teodorescu (1,2) , Toma Stoica (1), Magdalena Lidia Ciurea (1,2) (1) National Institute of Materials Physics, 405A Atomistilor Street, 077125 Magurele, Romania, (2) Academy of Romanian Scientists, 54 Splaiul Independentei, 050094 Bucharest, Romania	C 11.3
16:15	Discussion	
16:30		
	: TBD	
16:45	Capacitance characterization of a-Si:H/c-Si heterojunction solar cells based on array of silicon nanowires formed by dry etching Baranov, A.I.*(1,2), Morozov, I.A.(1), Uvarov, A.V.(1), Shugurov, K. Yu.(1), Vyacheslavova, E.A.(1), Maksimova, A.A.(1), Gudovskikh, A.S.(1,2), Dönerçark, E.(3) & Turan, R.(3) (1) Alferov University, Russia. (2) St Petersburg Electrotechnical University «LETI», Russia. (3) Middle East Technical University ? Center for Solar Energy Research and Application (METU-GÜNAM), Turkey * lead presenter	C 13.1
16:45	Optical and Magneto-Optical Properties of Donor-Bound Excitons in Vacancy-Engineered Colloidal Nanocrystals Francesco Carulli, Valerio Pinchetti, Matteo L. Zaffalon, Andrea Camellini, Silvia Rotta Loria, Fabrizio Moro, Marco Fanciulli, Margherita Zavelani-Rossi, Francesco Meinardi, Scott A. Crooker, and Sergio Brovelli Francesco Carulli, Valerio Pinchetti, Matteo L. Zaffalon, Fabrizio Moro, Marco Fanciulli, Francesco Meinardi, Sergio Brovelli Dipartimento di Scienza dei Materiali, Università degli Studi di Milano-Bicocca, 20125 Milano, Italy. Andrea Camellini, Silvia Rotta Loria, Margherita Zavelani-Rossi, Dipartimento di Energia, Politecnico di Milano, IT-20133 Milano, Italy. Scott A. Crooker, National High Magnetic Field Laboratory, Los Alamos National Laboratory, Los Alamos, New Mexico 87545, United States.	C 13.2

16:45	Near field optical excitation in subwavelength Light funnel arrays Ankit Chauhan ¹ , Ashish Prajapati ¹ and Gil Shalev ^{1,2*} 1. School of Electrical & Computer Engineering, Ben-Gurion University of the Negev, POB 653, Beer-Sheva 8410501, Israel 2. The Ilse-Katz Institute for Nanoscale Science & Technology, Ben-Gurion University of the Negev, POB 653, Beer-Sheva 8410501, Israel. *E-mail: glshalev@bgu.ac.il	C 13.3	16:45	Effect of Deposition of Submonolayer Cs Films on the Density of Electronic States and the Depth of the Output Zone of CoSi₂/Si(1 Umirzakov B.E., Bekpulatov I.R., Turapov I.Kh., Igamov B.D. Tashkent state technical university, bekpulatov85@rambler.ru, ilkhomjon31121985@gmail.com	C 13.13
16:45	Aluminum nanostructures decorated Porous silicon for multicrystalline Silicon Passivation B. Bouktif, W. Dimassi and M. Ben Rabha LaNSER, Research and Technology Centre of Energy (CRTE), BorjCedriaTechnopark, BP.95, Hammam-Lif 2050, Tunisia	C 13.4	16:45	Obtaining a two-layer system silicide – silicon Normurodov M.T., Umirzakov B.E., Bekpulatov I.R., Normurodov D.A., Kholmukhamedova V.Kh. Karshi state university and Tashkent state technical university, bekpulatov85@rambler.ru, ilkhomjon31121985@gmail.com	C 13.14
16:45	Inkjet printing lead-free TEA2SnI₄ perovskite for next generation red light emitting devices G. Vescio, J.L.L. Friero, D. Dirin, S. Hernández, A. Cirera, M. Kovalenko, B. Garrido 1) MIND-IN2UB, Department of Electronics and Biomedical Engineering, Universitat de Barcelona, Martí i Franqués 1, 08028 Barcelona (Spain) 2) ETH Zürich, Kovalenko Lab - Functional Inorganic Materials, Anorganische Funktionsmaterialien, Vladimir-Prelog-Weg 1-5/10, 8093 Zürich, (Switzerland)	C 13.5	16:45	Influence of various actions on the composition and structure of the surface of single-crystal Si Umirzakov B.E., Bekpulatov I.R., Tursunmetova Z.A., Khujaniyazov J.B., Ibragimova B.V. Tashkent State Technical University named after I.A. Karimov, University str., 2, Tashkent, 100095, Uzbekistan Research Institute of Semiconductor Physics and Microelectronics At the National University named after Mirzo Ulugbek, Tashkent, 100057 Uzbekistan *e-mail: bekpulatov85@rambler.ru	C 13.15
16:45	Using NiOx nanoporous layer as the HIL for fabricating quantum dot light-emitting diodes Wei-Sheng Chen, Sheng-Hsiung Yang Institute of Lighting and Energy Photonics, National Yang Ming Chiao Tung University	C 13.6	16:45	On-site Graphene Formed on Nanoimprinted Si Nanowires and the Assembled Schottky Junction Photovoltaic Cells Wipakorn Jevasuwan, Steaphan M. Wallace, Yoshimasa Sugimoto, and Naoki Fukata International Center for Materials Nanoarchitectonics, National Institute for Materials Science, 1-1 Namiki Tsukuba Ibaraki JAPAN 305-0044	C 13.16
16:45	Utilization of NiOx thin film or nanoporous layer as the HTL for fabricating inverted perovskite solar cells Zhang-Wei Huang, Sheng-Hsiung Yang Institute of Lighting and Energy Photonics, National Yang Ming Chiao Tung University	C 13.7	16:45	Stable and ultraviolet-enhanced broadband photodetectors based on Si nanowire arrays-Cs₃Cu₂I₅ nanocrystals hybrid structures Wenqing Liang et al. Sichuan University	C 13.17
16:45	Sol-gel IV-VI semiconductor quantum dots-doped inorganic thin films for temperature detection devices Elisa, M. (1), Iordache, S. M. (1), Iordache, A.-M. (1), Vasiliu, I. C. (1), Pana, I. (1), Enculescu, M. (2), Elosua Aguado, C. (3) (4), Arregui, F. J. (3), Lopez D. (3), Ulieru, D. (5), Vila, X. (5), Caridad Hernández, J. (6), Casanova González, M. A. (6), de Paz Santana, J. F. (7), Nicoara A.-I. (8), Eftimie M. (8). (1) National Institute for R & D for Optoelectronics-INOE 2000, Romania (2) National Institute of Materials Physics, Magurele, Jud. Ilfov, 077125, Romania (3) Public University of Navarre, Spain (4) Institute of Smart Cities (ISC), Public University of Navarre, Spain (5) SITEX 45, Bucharest, 022543, Romania (6) Automation of The Internet of Things SL, AlfaloT, Spain (7) University of Salamanca, Spain (8) Politehnica University of Bucharest, 011061, Romania	C 13.8	16:45	Optical properties of rough nanowires with silver nanoparticles Havryliuk O.O., Tkachuk O. I., Semchuk O.Yu., Biliuk A.A. Chuiko Institute of Surface Chemistry NAS of Ukraine	C 13.18
16:45	The influence of bright and dark excitons on the trap-assisted recombination Jedrzej Szymkowski Gdansk University of Technology, Gdansk, Poland	C 13.9	16:45	Twist angle dependence of MoS₂/WSe₂ heterostructures on activation energy of interlayer exciton Kairi Yamase ¹ , Naoto Horikawa ¹ , Kenji Watanabe ² , Takashi Taniguchi ² , Yusuke Hoshi ¹ 1 Tokyo City University, 2 National Institute for Materials Science	C 13.19
16:45	Effect of MEH-PPV deposition on the chemical composition and the photoluminescence properties of silicon nanowires Lobna Jerbi, Mehdi Rahmani, Hosni Ajlani, Mohammed Guendouz, Abdelaziz Meftah. UMR FOTON, CNRS, Université de Rennes 1, Enssat, BP 80518, 6 rue Kerampont, F22305, Lannion, France	C 13.10	16:45	Using rhodamine 6G and phloxine B organic dyes as photosensitizers for inkjet-printed indium oxide phototransistors Liu F. (1)*, Gillan L. (1), Leppäniemi J. (1). (1)VTT Technical Research Centre of Finland, Ltd, Finland * lead presenter	C 13.20
16:45	Cooperative Visible Light Communication to Support Indoor Guidance Services M. Vieira (1,2,3), M. A. Vieira (1,2), P. Louro (1,2), P. Vieira (1,4) (1) Electronics Telecommunication and Computer Dept. ISEL, R. Conselheiro Emídio Navarro, 1959-007 Lisboa, Portugal (2) CTS-UNINOVA, Quinta da Torre, Monte da Caparica, 2829-516, Caparica, Portugal. (3) DEE-FCT-UNL, Quinta da Torre, Monte da Caparica, 2829-516, Caparica, Portugal. (4) Instituto de Telecomunicações, Instituto Superior Técnico, 1049-001, Lisboa, Portugal	C 13.11	16:45	Effect of thermal treatment on electrical properties of hBN-encapsulated MoTe₂ Y. Odagiri ¹ , K. Watanabe ² , T. Taniguchi ² , and Y. Hoshi ¹ 1 Tokyo City University, Japan 2 National Institute for Materials Science, Japan	C 13.21
16:45	Modelling of indoors Visible Light Communication links P. Louro (1,2), M. Vieira (1,2,3), M. A. Vieira (2), P. Vieira (1,4) (1) Electronics Telecommunication and Computer Dept. ISEL, R. Conselheiro Emídio Navarro, 1949-007 Lisboa, Portugal (2) CTS-UNINOVA, Quinta da Torre, Monte da Caparica, 2829-516, Caparica, Portugal. (3) DEE-FCT-UNL, Quinta da Torre, Monte da Caparica, 2829-516, Caparica, Portugal. (4) Instituto de Telecomunicações, Instituto Superior Técnico, 1049-001, Lisboa, Portugal	C 13.12	16:45	Color tuning of a TADF blue OLED by using a fluorescent dopant Dhruvajyoti Barah, Subhamoy Sahoo, Jayeeta Bhattacharyya, Debduutta Ray Department of Electrical Engineering, Indian Institute of Technology Madras, Chennai 600036, India, Department of Physics, Indian Institute of Technology Madras, Chennai 600036, India, Department of Physics, Indian Institute of Technology Madras, Chennai 600036, India, Department of Electrical Engineering, Indian Institute of Technology Madras, Chennai 600036, India	C 13.22
			16:45	Building quasi-monocrystalline Cu₂O photovoltaic thin film from nanocube building blocks Anna Capitaine, Beniamino Sciacca Aix Marseille Univ, CINaM, CNRS, CINaM	C 13.23
			16:45	Oxygen plasma treatment to engineer defect complexes in ZnO nanowires grown by chemical bath deposition Dieulesaint, A. (1), Villafuerte, J. (1,2), Chaix-Pluchery, O. (1), Weber, M. (1), Donatini, F. (2), Pernot, J. (2), Bès, A. (3), Lacoste, A. (3), Consonni, V. (1), & Sarigiannidou, E. (1). (1) Université Grenoble Alpes, CNRS, Grenoble INP, LMGP, F-38000 Grenoble, France (2) Université Grenoble Alpes, CNRS, Grenoble INP, Institut NEEL, F-38000 Grenoble, France (3) Université Grenoble Alpes, CNRS, IN2P3, LPSC, F-38000 Grenoble, France	C 13.24

16:45	Dispersion of the vibrational and electronic excitations in 3D crystals of MOS2 and their 2D-monolayers 1L-MOS2 Viktor Gubanov, Antonina Naumenko Faculty of Physics, Taras Shevchenko National University of Kyiv	C 13.25	16:45	Preparation, characterization and optical properties of β-Ga2O3 nano-formations on Ga2Se3 substrate for nanoelectronics Veaceslav Sprincean ¹ , Liviu Leontie ² , Silviu Gurlui ² , Oleg Lupan ^{3,4} , Sandra Hansen ⁴ , Rainer Adeling ⁴ , Tudor Braniste ⁵ , Mihail Caraman ¹ ¹ Faculty of Physics and Engineering, Moldova State University, 60 Alexei Mateevici Str., MD-2009, Chisinau, Republic of Moldova, ² Faculty of Physics, Alexandru Ioan Cuza University of Iasi, Bulevardul Carol I, Nr. 11, RO-700506 Iasi, Romania, ³ Center for Nanotechnology and Nanosensors, Department of Microelectronics and Biomedical Engineering, Technical University of Moldova, 168, Stefan cel Mare Av., MD-2004, Chisinau, Republic of Moldova, ⁴ Functional Nanomaterials, Faculty of Engineering, Institute for Materials Science, Kiel University, Kaiserstrasse 2, D-24143, Kiel, Germany, ⁵ National Center for Materials Study and Testing, Technical University of Moldova, Stefan cel Mare Av. 168, MD-2004 Chisinau, Moldova.	C 13.35
16:45	Stoichiometry tunability of Cesium-Copper-Iodide synthesized by controlling the precursors concentration using a simple one-pot J.D. Forero, S. Hernández, J.L. Frierio, S. González-Torres, G. Mathiazhagan, G. Vescio, B. Garrido, and A. Cirera. 1) MIND, Department of Electronics and Biomedical Engineering, Universitat de Barcelona, Martí i Franquès 1, E-08028, Barcelona, Spain. 2) Institute of Nanoscience and Nanotechnology (IN2UB), Universitat de Barcelona, Av. Joan XXIII S/N, E-08028, Barcelona, Spain.	C 13.26	16:45	Changing the electronic structure of single-crystal Ge by various methods D.A. Tashmukhamedova, B.E. Umirzakov, M.B. Yusupzhanova, S.T. Abraeva Tashkent state technical university, Tashkent, Uzbekistan, 100095	C 13.36
16:45	Study of Small Molecule Charge Transport Layers in Solution-Based Ambient Air Processed Perovskite Light Emitting Diodes G. Mathiazhagan* (1,2), S. González-Torres (1,2), S. Gimenez (1,2), J.D. Forero (1,2), G. Vescio (1,2), A. Cirera (1,2), B. Garrido (1,2) (1) MIND, Department of Electronics and Biomedical Engineering, Universitat de Barcelona, Martí i Franquès 1, E-08028, Barcelona, Spain: (2) Institute of Nanoscience and Nanotechnology (IN2UB), Universitat de Barcelona, Av. Joan XXIII S/N, E-08028, Barcelona, Spain	C 13.27	16:45	Supramolecular nanostructures based on S-Heptazine for photocatalytic reactions Dennis Schröder*, Felix Wenzel, Klaus Kreger and Hans.-Werner Schmidt Macromolecular Chemistry I and Bavarian Polymer Institute, University of Bayreuth, 95440 Bayreuth, Germany	C 13.37
16:45	Comparison of performance of inkjet-printed and spin-coated SnO2/NiO heterojunctions S. González-Torres(1), G. Mathiazhagan(1), J. L. Frierio(1), G. Vescio(1), S. Giménez(1), J.D. Forero(1), M. Osajca(2), N. Lüchinger(2), M. Rossier(2), A. Hauser(2), F. Linardi(2), S. Hernández(1), A. Cirera(1), B. Garrido(1) 1) MIND-IN2UB, Department of Electronics and Biomedical Engineering, Universitat de Barcelona, Martí i Franquès 1, 08028 Barcelona (Spain), 2) Avantama AG, Laubisruetistrasse 50, Staefa 8712, Switzerland	C 13.28	16:45	Synthesis and characterization of lead-free cesium titanium bromide perovskites Girija Sankar Mahapatra, Ajith Kumar K and Biplob K Patra*(Corresponding Author) Email- girijamahapatra@gmail.com Email- bkpatra@immt.res.in (Corresponding Author) Materials Chemistry Department, CSIR- Institute of Minerals and Materials Technology, Bhubaneswar, 751013, India .	C 13.38
16:45	Formation of radial a-Si:H p-i-n solar cells on silicon nanowires arrays toward flexible photovoltaics Vyacheslavova E.A.*(1), Uvarov A.V.(1), Baranov A.I.(1), Maksimova A.A.(1), Gudovskikh A.S.(1,2). (1) St Petersburg Academic University, 194021, Saint Petersburg, Russia. (2) St Petersburg Electrotechnical University «LETI», 197376, Saint Petersburg, Russia. *lead presenter	C 13.29	16:45	Growth modes and chemical phase separation in GaP1-xNx layers grown by chemical beam epitaxy on nominally (001)-oriented Si K. Ben Saddik*(1), R. Volkov(2), J. Lähnemann(3), J. Grandal(4), N. Borgardt(2), B. J. Garcia(1,5), S. Fernández-Garrido(1,5) (1) Electronics and Semiconductors Group (ElySe), Applied Physics Department, Universidad Autónoma de Madrid, 28049 Madrid, Spain, (2) Department of Electron Microscopy Lab, National Research University of Electronic Technology MIET, 124498 Zelenograd, Russia, (3) Paul-Drude-Institut für Festkörperelektronik, Leibniz-Institut im Forschungsverbund Berlin e.V., Hausvogteiplatz 577, 10117 Berlin, Germany, (4) ISOM, Universidad Politécnica de Madrid, Avda. Complutense 30, 28040 Madrid, Spain, (5) Instituto Nicolás Cabrera, Universidad Autónoma de Madrid, 28049 Madrid, Spain, * lead presenter	C 13.39
16:45	Synthesis and characterization of the ternary nitride semiconductor Zn2VN3: theoretical prediction, combinatorial screening, and Siarhei Zhuk, ¹ Andrey A. Kistanov, ² Simon C. Boehme, ^{1,3} Noémie Ott, ¹ Fabio La Mattina, ¹ Michael Stiefel, ¹ Maksym V. Kovalenko, ^{1,3} Sebastian Sio ¹ 1) Empa ? Swiss Federal Laboratories for Materials Science and Technology, 8600 Dübendorf, Switzerland, 2) Nano and Molecular Systems Research Unit, University of Oulu, 90014 Oulu, Finland, 3) Laboratory of Inorganic Chemistry, Department of Chemistry and Applied Bioscience, ETH Zürich, 8093 Zürich, Switzerland	C 13.30	16:45	Structural and optical properties of sol-gel glasses with copper selenide nanoparticles: SANS study and DDA simulation V.S. Gurin, A.A. Alexeenko, A.V. Rutkauskas, Yu.E. Gorshkova, S.E. Kichanov, D.P. Kozlenko Research Institute for Physical Chemical Problems, Minsk, Belarus, Gomel State Technical University, Gomel, Belarus, Joint Institute for Nuclear Research, Dubna, Russia	C 13.40
16:45	Metal oxide core-shell nanowires decorated with silver nanoparticles prepared by a straightforward dry approach Andreea Costas (1)*, Nicoleta Preda (1), Andrei Kuncser (1), Nicoleta Apostol (1), Carmen Curutiu (2) and Ionut Enculescu (1) (1) National Institute of Material Physics, 405A Atomistilor Street, 077125, Magurele, Romania (2) University of Bucharest, Faculty of Biology, Microbiology Immunology Department, Aleea Portocalelor 1-3, 060101, Bucharest, Romania	C 13.31	16:45	Metal oxide plasmonic nanocrystals for infrared modulation Jonathan Chrun (1), Alexandre Khaldi (1), Cédric Vancaeyzeele (2), Pierre-Henri Aubert (2), Frédéric Vidal (2), Laurent Dupont (1) (1) Optics department, Institut Mines-Télécom Atlantique, 29280 Plouzané, France , (2) Laboratoire de Physicochimie des Polymères et des Interfaces, CY Université, 95000 Cergy, France	C 13.41
16:45	Enhancement of photoelectrochemical properties of hematite thin films by loading iron phosphate co-catalyst Fateme Parveh, Amin Yourdkhani and Reza Poursalehi Materials Engineering Department, Tarbiat Modares University, Tehran, Iran. Abstract:	C 13.32	16:45	Inkjet printing of ternary copper halide Cs3Cu2I5 perovskite nanocrystals for next generation blue light emitting devices J.L. Frierio,1 G. Vescio,1 A. F. Gualdrón-Reyes,2 S. Hernández,1 A. Cirera,1 I. Mora-Seró,2 B. Garrido1. 1) MIND-IN2UB, Department of Electronics and Biomedical Engineering, Universitat de Barcelona, Martí i Franquès 1, 08028 Barcelona (Spain) 2) INAM, Universitat Jaume I (UJI), Avenida de Vicent Sos Baynat s/n, 12071 Castelló de la Plana (Spain)	C 13.42
16:45	Crystal structure and band zones of Si nanosized phases created at various depths of the surface region of SiO2 B.E.Umirzakov, G.X. Allayarova, A.K.Tashatov B.E.Umirzakov	C 13.33	18:00	E-MRS EU-40 Materials Prize & MRS Mid-Career Researcher Award Presentations	
16:45	Determination of kinetic characteristics Thermal Desorption of K Atoms and Ions during the Adsorption of NaCl and RbCl Molecules G.T. Rakhmanov National University of Uzbekistan named after Mirzo Ulugbek, Tashkent, Uzbekistan	C 13.34			

Thursday June 2

Synthesis and optical properties II : Jean-Francois Dayen

09:00	INV Controlling the surface chemistry of nanoparticle to reach thicker semiconductor nanoplatelets of various shapes Sandrine Ithurria Sandrine.ithurria@espci.fr	C 14.1
09:30	Influence of the second sphere of coordination on the control of indium phosphide nanocrystals synthesis Ferrari Fabio, Swain Robert, McVey Benjamin, Bakkouche Kaltoum, Chaudret Bruno, Nayral Céline, Delpech Fabien Laboratoire de Physique et Chimie des Nano-Objets, UMR 5215 INSA, CNRS, UPS, 135 avenue de Rangueil, F-31077 Toulouse Cedex 4, France	C 14.2
09:45	Zero-dimensional Gd₃SbCl₆ crystals as intrinsically reabsorption-free scintillators for radiation detection Francesca Cova, Valerio Pinchetti, Ye Wu, Luca Gironi, Anna Vedda, Liberato Manna, and Sergio Brovelli Francesca Cova, Anna Vedda, Valerio Pinchetti, Sergio Brovelli, Dipartimento di Scienza dei Materiali, Università degli Studi di Milano-Bicocca, 20125 Milano, Italy. Luca Gironi, Dipartimento di Fisica, Università degli Studi di Milano-Bicocca, 20125 Milano, Italy. Ye Wu, School of Materials Science and Engineering, Nanjing University of Science and Technology, Nanjing 210094, People's Republic of China. Liberato Manna, Istituto Italiano di Tecnologia, Via Morego 30, Genova 16163, Italy.	C 14.3
10:00	Impact of Crown Size on the Optical Gain Characteristics of Core/Crown (CdSe/CdS) Nanoplatelets M. Chandra Sekhar?, Ali Hossain Khan?, Carmelita Rodá?, Jari Leemans??, Zeger Hens??, Iwan Moreels? ? - Physics and Chemistry of Nanostructures, Ghent University, Ghent, Belgium ? - Center for Nano and Biophotonics, Ghent University, Ghent, Belgium ? - Department of Chemical Biological & Macromolecular Sciences, S.N. Bose National Centre for Basic Sciences, Kolkata, India	C 14.4
10:15	The role of defects in WSe₂ nanoflakes: Activation and defect passivation result high photoelectrochemical HER activity Péter S. Tóth, Gábor Szabó, Csaba Janáky Department of Physical Chemistry and Materials Science, Interdisciplinary Excellence Center, University of Szeged, Rerrich Sq. 1., Szeged, 6720, Hungary	C 14.5
10:30	Discussion	
10:45		

Synthesis and optical properties III : Iwan Moreels

11:00	Large-area 2D-TMDs heterostructures engineered for enhanced light harvesting Gardella, M.?(1), Zambito, G. (1), Ferrando, G. (1) Giordano, M.C. (1), Buatier de Mongeot, F. (1) (1) Dip. di Fisica, Università di Genova, Via Dodecaneso 33, 16146 Genova, Italy	C 15.1
11:15	Synthesis of Ge_{1-x}Sn_x nanoparticles prepared under ambient conditions Sogaard, N.B.?(1), Bondesgaard, M.(1), Bertelsen, A.D.(1), Iversen, B.B.(1), Julsgaard, B.(1) (1) Aarhus University, Denmark	C 15.2
11:30	Colloidal Synthesis Of Fluorescent Monolayer MoX₂ (X = S, Se) Nanosheets Via a Design Of Experiments Approach Gabriele Pippia [a], Anastasia Rousaki [a], Matteo Barbone [b,c], Jonas Billet [a], Rosaria Brescia [d], Anatolii Polovitsyn [d], Beatriz Martín-García [d], Marko Petric [b,c], Amine Ben Mhenni [b], Isabel Van Driessche [a], Peter Vandenabeele [a], Kai Müller [b,c], Iwan Moreels [a] [a] Ghent University, Department of Chemistry, Krijgslaan 281, 9000 Gent, Belgium, [b] Walter Schottky Institute, Technische Universität München, Am Coulombwall 4, D - 85748 Garching, Germany, [c] Munich Center for Quantum Science and Technology (MCQST), Schellingstrasse 4, 80799 Munich, Germany, [d] Istituto Italiano di Tecnologia, Via Morego 30, 16163 Genova, Italy,	C 15.3
11:45	Highly luminescent &#960;-radicals for optoelectronics ? design perspectives Petri Murto, Hugo Bronstein University of Cambridge, United Kingdom	C 15.4

12:00 Discussion

12:15 Lunch and Plenary

Advanced spectroscopy of nanostructures II : Jean-Francois Dayen

15:00	INV Exciton parameters in CdSe-based colloidal nanoplatelets E. Shornikova TU Dortmund, Germany	C 16.1
15:30	Coulomb repulsions as a means of modulating electronic and optical properties of colloidal nanoplatelets Jordi Llusar, David F. Macias-Pinilla, Josep Planelles, Juan I. Clemente Departament de Química Física i Analítica, Universitat Jaume I, Castelló de la Plana, Spain, Insitute of Advanced Materials, Universitat Jaume I, Castelló de la Plana, Spain, Departament de Química Física i Analítica, Universitat Jaume I, Castelló de la Plana, Spain, Departament de Química Física i Analítica, Universitat Jaume I, Castelló de la Plana, Spain	C 16.2
15:45	Disruptive Green Optical Gain in Bulk-Like CdS Quantum Dots through Strong Band Gap Renormalization Ivo Tanghe, Isabella Wagner, Margarita Samoli, Kai Chen, Servet Ataberk Cayan, Ali Khan, Dries Van Thourhout, Justin Hodgkiss, Zeger Hens, Iwan Moreels, and Pieter Geiregat 1,2,3, 4,5, 2,3, 5,6,7, 2,3, 8, 1,2, 4,5, 2,3, 2,3 (1): Photonics Research Group, Ghent University, 9000, Gent, Belgium (2): Center for Nano and Biophotonics (NB Photonics), Ghent University, Belgium (3): Physics and Chemistry of Nanostructures, Ghent University, 9000, Gent, Belgium (4): School of Chemical and Physical Sciences, Victoria University of Wellington, 6012, Wellington, New Zealand (5): MacDiarmid Institute for Advanced Materials and Nanotechnology, New Zealand. (6): Robinson Research Institute, Victoria University of Wellington, 6012, Wellington, New Zealand (7): The Dodd-Walls Centre for Photonic and Quantum Technologies, University of Otago, 9010, Dunedin, New Zealand (8): Department of Chemical, Biological & Macromolecular Sciences, S.N. Bose National Centre for Basic Sciences, JD Block, Sector-III, Salt Lake City, Kolkata 700106, India	C 16.3
16:00	Gain material for wide band amplification in long haul telecommunications Q. Hochart, R. S. Joshy, A. Balocchi, O. Delorme, C. Calo, A. Wilk, H. Carrère LPCNO, III-V Lab	C 16.4
16:15	Discussion	
16:30		

Nanostructures for electronics : Valerio Pinchetti

16:45	INV Use of heteromaterial interactions to modify the properties of electronic materials J. Urban LBL	C 17.1
17:15	A high-mobility hole bilayer in a germanium double quantum well Beatrice Ferrari, Alberto Tosato, Amir Sammak, Alexander R. Hamilton, Menno Veldhorst, Michele Virgilio and Giordano Scappucci Affiliations: A. Tosato, A. Sammak, M. Veldhorst, G. Scappucci QuTech and Kavli Institute of Nanoscience Delft University of Technology PO Box 5046, Delft, GA 2600, The Netherlands B. M. Ferrari University of Milano-Bicocca Department of Material Science –, Via R. Cozzi 55. 20125 Milano, Italy A. Sammak QuTech and TNO Stieltjesweg 1 Delft CK 2628, The Netherlands A. R. Hamilton School of Physics University of New South Wales Sydney, New South Wales 2052, Australia A. R. Hamilton ARC Centre of Excellence for Future Low-Energy Electronics Technologies University of New South Wales Sydney, New South Wales 2052, Australia M. Virgilio Dipartimento di Fisica “, E. Fermi”, Università di Pisa Largo Pontecorvo 3, Pisa 56127, Italy	C 17.3
17:30	Fabrication of OFET Using Self Synthesised Nanoparticle and Nanocomposite Sk Shahrukh, Achintya Dhar Department of Physics, Indian Institute of Technology Kharagpur.	C 17.4
17:45	Discussion	

Syntesis and optical properties III : Iwan Moreels

- 09:00 INV Phonon engineering in nanostructures: material design and innovative experimental techniques** **C 18.1**
M. De Luca,1,2 M. Y. Swinkels,1 D. de Matteis,1 Y. Kaur,1 M. Camponovo,1 C. Fasolato,1,3 X. Cartoixa,4 R. Rurali5 and I. Zardo1,*
1 Department of Physics, University of Basel, Basel, Switzerland 2 Physics Department, Sapienza University of Rome, Rome, Italy 3 Dipartimento di Fisica e Geologia, Università degli Studi di Perugia, Perugia, Italy 4 Departament d'Enginyeria Electrònica, Universitat Autònoma de Barcelona, Bellaterra, Barcelona, Spain 5 Institut de Ciència de Materials de Barcelona (ICMAB-CSIC), Campus de Bellaterra, Bellaterra, Barcelona, Spain *corresponding author: ilaria.zardo@unibas.ch
- 09:30 MIT- controlled plasmonic response of thermochromic materials** **C 18.2**
G. Savorianakis1, 2, *, A. Sergievskaya1, B. Maes3, M. Voué2 and S. Konstantinidis1
1Plasma-Surface Interaction Chemistry (ChIPS), University of Mons, 20 Place du Parc, Mons B-7000, Belgium 2Physics of Materials and Optics (LPMO), University of Mons, 20 Place du Parc, Mons B-7000, Belgium 3Micro- and Nanophotonic Materials (MMNP), University of Mons, 20 Place du Parc, Mons B-7000, Belgium
- 09:45 Intelligent Split Intersections: Communication through Visible Light.** **C 18.3**
M. A. Vieira (1,2), M. Vieira (1,2,3), P. Louro (1,2), P. Vieira (1,4)
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- 10:00 MOVPE growth of cubic GaN on GaAs (110) substrate?** **C 18.4**
I.Daldoul a*, S. Othmani a, A. Mballo b, P. Vuong b, J.P. Salvestrini b,c, N. Chaaben a
a Laboratoire de Recherche sur les Hétéro-Epitaxies et Applications, Faculté des Sciences de Monastir, 5019, Université de Monastir, Tunisia b International Research Lab Georgia Tech ? CNRS (IRL 2958), Georgia Tech Lorraine, 2 rue Marconi, 57070, Metz, France c School of Electrical and Computer Engineering, Georgia Institute of Technology, Atlanta, GA, 30332, USA Corresponding author. E-mail address: imendaldoul9@gmail.com (I.Daldoul).
- 10:15 2D Materials Based van der Waals Heterostructures grown by Pulsed Laser Deposition** **C 18.5**
Martando Rath1, Cardin Julien2, Christophe Labbé2, Adrian David1, Wilfrid Prellier1, Ulrike Lüders1 and Arnaud Fouchet1
1 Normandie Univ, ENSICAEN, UNICAEN, CNRS, CRISMAT, 14000, Caen, France 2 CIMAP, Normandie Univ, ENSICAEN, UNICAEN, CNRS, 14000, Caen, France
- 10:30 Discussion**
- 10:45**

Advanced nanostructures characterization : Krishna Maity

- 11:00 Electron Microscopy and EDS analysis of InGaAs-InP Heterointerfaces in Horizontal Nanowires Grown with the TASE Process** **C 19.1**
Enrico Brugnotto[1,2], Markus Scherrer[1], Heinz Schmid[1], Vihar Georgiev[2], Marilynne Sousa[1]
[1] IBM Research Europe - Zurich, Säumerstrasse 4, 8803 Rüschlikon, Switzerland, [2] School of Engineering, University of Glasgow, Glasgow G12 8QQ, United Kingdom
- 11:15 Three-Dimensional Lithography on Silicon Nanowire Arrays** **C 19.2**
Fedja J. Wendisch and Gilles R. Bourret
University of Salzburg
- 11:30 Influence of the measuring tip-to-semiconductor contact on the overall electrical characterization of nanowire structures** **C 19.3**
Juliane Koch (1), Lisa Liborius (2), Peter Kleinschmidt(1), Nils Weimann (2), Werner Prost (2), Thomas Hannappel (1)
(1) Department of Mathematics and Natural Science, Institute for Physics, Fundamentals of energy materials, Ilmenau University of Technology, Ilmenau 98693, Germany, (2) Components for High Frequency Electronics (BHE), University of Duisburg-Essen, Duisburg 47057, Germany

- 11:45 Response of n-channel strained-Si MODFETs as sub-THz direct detectors** **C 19.4**
J. Delgado Notario, J. Calvo-Gallego, Y. M. Meziani, K. Fobelets, M. Ferrando Bataller, J. E. Velázquez-Pérez
CENTERA Laboratories, Institute of High Pressure Physics, Warsaw, Poland, NanoLab, University of Salamanca, 37008 Salamanca, Spain, NanoLab, University of Salamanca, 37008 Salamanca, Spain, Department of Electrical and Electronic Engineering, Imperial College, London SW7 2AZ, UK, Telecommunication Engineering School, Universitat Politècnica de València, 46022 Valencia, Spain, NanoLab, University of Salamanca, 37008 Salamanca, Spain,

12:00 Discussion and Closing