



European Materials Research Society

Spring Meeting 2022

May 30 | June 3
Virtual Conference

SYMPOSIUM 0

Nano-engineered coatings and thin films:
from design to applications

Symposium Organizers :

Jean-François PIERSON, Institut Jean Lamour – University of Lorraine

Jiri HOUSKA, University of West Bohemia

Nikolaos KALFAGIANNIS, Nottingham Trent University

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VACUUM & MATERIALS



Quantum Design

UK AND IRELAND

Monday may 30			
08:45	Welcome and Introduction to the Symposium		
	Hard coatings and coatings based on metallic glasses : Jean-François PIERSON		
09:00	INV Cross-sectional characterization and design of nanocrystalline thin films J. Keckes, J. Todt, M. Meindlthumer, R. Daniel, M. Burghammer, C. Mitterer Montanuniversität Leoben, European Synchrotron Radiation Facility	O 1.1	11:30 ZrCu-based ternary Thin Film Metallic Glasses as a solution for orthopedic implants Alina Vladescu, Anca C. Parau, Ioana M. Marinescu National Institute of Research and Development for Optoelectronics - INOE 2000, 409 Atomistilor St., R077125, Magurele, Romania
09:30	Small Scale Tribological Behaviour of TiN Film During Running-in Period with Controlled Environment Aslihan SAYILAN(1),(2), José FERREIRA(1), Christophe GOUDIN(1), David PHILIPPON(2), Nicolas MARY(1), Sylvie DESCARTES(2), Philippe STEYER(1) Aslihan SAYILAN: (1)Univ. Lyon, INSA-Lyon, CNRS UMR 5510, MATEIS, F-69621 Villeurbanne, France, (2)Univ. Lyon, INSA-Lyon, CNRS UMR5259, LaMCoS, F-69621 Villeurbanne, France, José FERREIRA: (1)Univ. Lyon, INSA-Lyon, CNRS UMR 5510, MATEIS, F-69621 Villeurbanne, France, Christophe GOUDIN: (1) Univ. Lyon, INSA-Lyon, CNRS UMR 5510, MATEIS, F-69621 Villeurbanne, France, David PHILIPPON: (2)Univ. Lyon, INSA-Lyon, CNRS UMR5259, LaMCoS, F-69621 Villeurbanne, France, Nicolas MARY: (1)Univ. Lyon, INSA-Lyon, CNRS UMR 5510, MATEIS, F-69621 Villeurbanne, France, Sylvie DESCARTES: (2)Univ. Lyon, INSA-Lyon, CNRS UMR5259, LaMCoS, F-69621 Villeurbanne, France, Philippe STEYER: (1)Univ. Lyon, INSA-Lyon, CNRS UMR 5510, MATEIS, F-69621 Villeurbanne, France	O 1.2	11:45 Synthesis of nanoengineered ZrCuAl thin film metallic glasses by pulsed laser deposition with enhanced mechanical properties Francesco Bignoli*(1)(2), Damien Faurie (1), Philippe Djemia (1), Florent Tetard (1), Fatiha Challali (1), Giancarlo Terraneo (3), Gregory Abadias (4), Laurent Belliard (5), Andrea Li Bassi (2), Matteo Ghidelli (1). (1) LSPM-CNRS, UPR3407, Université Sorbonne Paris Nord, France, (2) Micro- and Nanostructured Materials Lab, Politecnico di Milano, Italy, (3) Laboratory of Supramolecular and Bio-Nanomaterials (SupraBioNanoLab), Politecnico di Milano, Italy, (4) Institut Pprime, University of Poitiers, France, (5) Institut des NanoSciences de Paris, Sorbonne Université Paris, France,
09:45	Pulsed filtered cathodic arc deposition of metastable cubic (V,Al)N thin films Yeliz Unutulmazsoy1, Dmitry Kalanov1, Kyunghwan Oh1,2, Soheil K. Aghda3, Jürgen W. Gerlach1, Jochen M. Schneider3 and André Anders 1,2 1 Leibniz Institute of Surface Engineering (IOM), Permoserstr. 15, 04318 Leipzig, Germany, 2 Felix Bloch Institute of Solid State Physics, Leipzig University, Linnéstr. 5, 04103 Leipzig, Germany, 3 Materials Chemistry, RWTH Aachen University, Kopernikusstr. 10, 52074 Aachen, Germany	O 1.3	12:00 Discussion
10:00	Enhancement of high-T oxidation resistance and stability of hard and optically transparent Hf-B-Si-C-N films by Y or Ho addition Cervena, M., Zeman, P., Houska, J., Prochazka, M., Cerstvy, R., Haviar, S., Vlcek, J. Department of Physics and NTIS - European Centre of Excellence, University of West Bohemia, Univerzitni 8, 306 14 Plzen, Czech Republic	O 1.4	12:15 Lunch
10:15	Low carbon and nitrogen containing multicomponent alloys for tribological applications N. C. Zoita (1), M. Dinu (1), A. C. Parau (1), A. E. Kiss (1), I. Pana (1), A. Sobetkii (4), M. Mondragon (3), C. E. A. Grigorescu (1), X. Almandoz (2), A. López-Ortega (2), A-M. Iordache (1), J. M. Izurategi (3), M. I. Rusu (1), L. R. Constantin (1), V. Capatana (4), C. Bidalach (4) (1) National Institute of Research and Development for Optoelectronics, 409 Atomistilor Str., 077125 Magurele, Romania, (2) TEKNIKER, Tribology Unit, Iñaki Goenaga 5, 20600 Eibar, Spain, (3) GOIZPER S. Coop., Antigua 4, 20577 Antzuola, Spain, (4) SC MGM STAR CONSTRUCT SRL, 7 Pancota St, Bucharest 022773, Romania.	O 1.5	Electrical and optical coatings : Nikolaos KALFAGIANNIS
10:30	Discussion		13:45 INV Nano-Engineered Multifunctional Chromogenic and Transparent Conducting Oxide Coatings L. Österlund, S. Kim, J. Montero, P. Song Department of Materials Science and Engineering, The Ångström Laboratory, Uppsala University, P.O. Box 35, SE-75103 Uppsala, SWEDEN, Material Technology Research Institute, Pusan National University, Busan 46241, Korea
10:45			14:15 P-Type ZnO: Excimer Laser Annealing Induced Nitrogen Doping of Atomic Layer Deposition ZnO Thin Films Jodie West*(1), Wayne Cranton (2), Mary O'Neill (1), Nikolaos Kalfagiannis (1), Demosthenes Koutsogeorgis (1) (1) School of Science and Technology, Nottingham Trent University, Clifton Lane, Nottingham, NG11 8NS, UK, (2) Sheffield Hallam University, Materials and Engineering Research Institute, Sheffield, S1 1WB, UK * lead presenter
11:00	Amorphous high entropy alloy layers with remarkable thermal stability Alessandro Troglià, Mike van de Poll, Roland Bliem Advanced Research Center for Nanolithography, Science Park 106, 1098 XG Amsterdam, The Netherlands, Advanced Research Center for Nanolithography, Science Park 106, 1098 XG Amsterdam, The Netherlands, Advanced Research Center for Nanolithography, Science Park 106, 1098 XG Amsterdam, The Netherlands, and Institute of Physics, University of Amsterdam, Science Park 904, 1098XH Amsterdam, The Netherlands	O 1.6	14:30 Implementation of electrical resistance tomography for conductivity mapping of nanostructured transparent conductor materials Cultrera A., Milano G., De Leo N., Ricciardi C., Boarino L., Callegaro L., Cultrera A. (1,*), Milano G. (1), De Leo N.(1), Ricciardi C. (2), Boarino L. (1), Callegaro L. (1). (1) INRIM – Istituto Nazionale di Ricerca Metrologica, Turin, Italy. (2) Department of Applied Science and Technology, Politecnico di Torino, Turin, Italy.
11:15	Microstructure and properties control of sputter-deposited Zr-Cu thin film metallic glasses A. Borroto, M. Prudent, S. Bruyère, F. Bourquard, D. Pilloud, D. Horwat, M.A. Leroy, P. Steyer, J.P. Colombier, F. Garrelie, J.F. Pierson Université de Lorraine, CNRS, IJL, F-54000 Nancy, France, Univ Lyon, UJM-Saint-Etienne, CNRS, Institute of Optics Graduate School, Laboratoire Hubert Curien (UMR CNRS 5516), F-42023 St-Etienne, France, IREIS, Groupe HEF, 42160 Andrézieux-Bouthéon, France, Univ. Lyon, INSA Lyon, UCBL, CNRS, MATEIS, 69621 Villeurbanne, France	O 1.7	14:45 Solution processable high – k dielectric based low-cost polymer nanocomposite for energy storage device applications Suman Mandal1*, Yanbei Hou1, Ming Qing Wang1 and Kwang-Leong Choy1* Institute for Materials Discovery University College London Torrington Place, London WC1E 7JE, UK
			15:00 Inducing Circular and Linear Dichroism into a Hybrid Lead Halide Thin Film Semiconductor by Utilizing Chiral Amino Acids Markus W. Heindl (1), Tim Kodalle (2), Natalie Fehn (3), Lennart K. Reb (4), Shangpu Liu (1), Constantin Harder (4,5), Maged Abdelsamie (6), Lissa Eyre (1), Ian D. Sharp (1), Stephan V. Roth (5,7), Peter Müller-Buschbaum (4,8), Aras Kartouzian (3), Carolin M. Sutter-Fella (2), Felix Deschler (1) (1) Walter Schottky Institut and Department of Physics, Technical University of Munich, Am Coulombwall 4, 85748 Garching, Germany (2) Molecular Foundry, Lawrence Berkeley National Laboratory, 1 Cyclotron Rd., Berkeley, California 94720, United States (3) Catalysis Research Center and Chemistry Department, Technical University of Munich, Lichtenbergstraße 4, 85748 Garching, Germany (4) Lehrstuhl für Funktionelle Materialien, Physik-Department, Technische Universität München, James-Frank-Straße 1, 85748 Garching, Germany (5) Deutsches Elektronen-Synchrotron (DESY), Notkestr. 85, 22607 Hamburg, Germany (6) Materials Sciences Division, Lawrence Berkeley National Laboratory, 1 Cyclotron Rd., Berkeley, California 94720, United States (7) Department for Fiber and Polymer Technology, KTH Royal Institute of Technology, Teknikringen 56-58, 10044 Stockholm, Sweden (8) Heinz Maier-Leibnitz-Zentrum (MLZ), Technische Universität München, Lichtenbergstr. 1, 85748 Garching, Germany
			15:15 Growth of InP/GaP nanostructures on Si substrate by PE-ALD for optoelectronic devices Gudovskikh, A.S. *, Uvarov, A.V., Baranov, A.I., Maximova, A.A., Vyacheslavova E.A., Mozharov A.M. Alferov University, St. Petersburg, Russia

15:30	Transparent persistent luminescence films: from design to shimmering perspectives. Victor Castaing, Encarnación Arroyo, Manuel Ocaña, Ana Isabel Becerro, Gabriel Lozano and Hernán Míguez Instituto de Ciencia de Materiales de Sevilla, Consejo Superior de Investigaciones Científicas – Universidad de Sevilla, Americo Vespucio 49, 41092, Sevilla, Spain.	O 2.7	16:45	Influence of the nucleation surface on the growth of epitaxial Al₂O₃ thermal CVD films Maoxiang Zhu ^{1,2,3} Sofiane achache ^{1,2} Jean-François Pierson ³ Frédéric Sanchette ^{1,2} 1. LASMIS, Université de Technologie de Troyes, Antenne de Nogent, Pôle Technologique de Sud Champagne, 52800 Nogent, France 2. Nogent International Centre for CVD Innovation (NICCI), LRC CEA-LASMIS, UTT, Antenne de Nogent, Pôle Technologique de Sud Champagne, 52800 Nogent, France 3. Institut Jean Lamour, UMR CNRS 7198, Université de Lorraine, 54000 Nancy, France	O 3.6
15:45	Highly versatile up-converting oxyfluoride-based nanophosphor films Thi Tuyen Ngo ⁽¹⁾ , Elena Cabello-Olmo ⁽¹⁾ , Encarnación Arroyo ⁽¹⁾ , Ana I. Becerro ⁽¹⁾ , Manuel Ocaña ⁽¹⁾ , Gabriel Lozano ⁽¹⁾ , Hernán Míguez ⁽¹⁾ (1) Instituto de Ciencia de Materiales de Sevilla, Consejo Superior de Investigaciones Científicas-Universidad de Sevilla, Américo Vespucio 49, 41092, Sevilla, Spain	O 2.8	16:45	The effect of electrolyte compositions on the microstructure and properties of PEO coatings on pure Ti substrate Victor Andrei, Viorel Malinovsky, Cristian Mihăilescu, Ioana Dulama, Alexandru Marin, Elisabeta Coacă, Dan Cristea Victor Andrei - ELSSA LABORATORY SRL. Str.Crinului, nr.26, Pitești, 110109, Romania, andvic12@yahoo.com Viorel Malinovsky - University of Pitești, 110040 Pitești, Romania, Cristian Mihăilescu - National Institute for Laser, Plasma and Radiation Physics, 077125 Magurele, Romania, Ioana Dulama - Valahia University, Târgoviște, Romania, Alexandru Marin - Institute for Nuclear Research, Pitești, 115400 Mioveni, Romania, Elisabeta Coacă - Institute for Nuclear Research, Pitești, 115400 Mioveni, Romania, Dan Cristea - Transilvania University, nr.29, Eroilor Blvd. 500036 Brasov - Romania	O 3.7
16:00	Double parameter multilayer sensor for biomedical applications Ilze Aulika, Martins Zubkins, Jelena Butikova, Juris Purans Institute of Solid State Physics, University of Latvia (ISSP UL), LV-1063, Riga, Latvia	O 2.9	16:45	Enhancement of mechanical and anticorrosion properties of the 5083 aluminium alloy surface S.I. Sidorenko, S.M. Voloshko, B.N. Mordyuk, A.P. Burmak, N.V. Franchik, V.V. Mohylko, D.V. Stratoy National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute"	O 3.8
16:15	Discussion 1 : tba		16:45	Synthesis of Composite Layers on Cu₃₉Zn₁Pb Brass Using Ultrasonic Impact Treatment S.I. Sidorenko, B.N. Mordyuk, S.M.Voloshko, ?P. Burmak, V.?. Zakiev, N.V. Franchik, V. V. Mohylko National Technical University of Ukraine Igor Sikorsky Kyiv Polytechnic Institute	O 3.9
16:45	Developing functional nanofibrous membranes modified with β-cyclodextrins for improved surface properties and performance Saranya Rameshkumar, Ramesh Babu Padamati BioOrbic - Bioeconomy Research Centre, University College Dublin, Belfield, Dublin 4, Republic of Ireland AMBER, CRANN Institute, Trinity College Dublin, Dublin 2, Republic of Ireland School of Chemistry, Trinity College Dublin, Dublin 2, Republic of Ireland	O 3.1	16:45	Radiation memory effect in GaN:Si thin film R.Redko ^{1,2} , G.Milenin ¹ , S.Redko ¹ , V.Shvalagin ³ , V.Neymash ⁴ , V.Povarchuk ⁴ 1.V. Lashkaryov Institute of Semiconductor Physics of the National Academy of Sciences of Ukraine, 41 Nauky Ave., 03028 Kyiv, Ukraine, 2.State University of Telecommunications, 7 Solomenska str., 03680 Kyiv, Ukraine, 3L. Pysarzhevskiy Institute of Physical Chemistry of the National Academy of Sciences of Ukraine, 31 Nauky Ave., 03028 Kyiv, Ukraine, 4 Institute of Physics of the National Academy of Sciences of Ukraine, 46 Nauky Ave., 03028 Kyiv, Ukraine	O 3.10
16:45	Phase and amplitude study of a nanofiber scaffold studied by dual-comb mid-IR spectroscopy and IR spectroscopic ellipsometry Hinrichs, K. ⁽¹⁾ , Blevins, B.(2,3), Furchner, A.(4), Yadavalli N.S.(2,3), Minko S.(2,3,4), Horvath R.(5), Mangold, M.(5). (1) Leibniz-Institut für Analytische Wissenschaften - ISAS e.V., Schwarzschildstraße 8, 12489 Berlin, Germany, (2) Nanostructured Materials Laboratory, The University of Georgia, Athens, Georgia 30602, United States, (3) Department of Chemistry, The University of Georgia, Athens, Georgia 30602, United States, (4) Helmholtz-Zentrum Berlin für Materialien und Energie, Division Energy and Information (CatLab Project), Albert-Einstein-Straße 15, 12489 Berlin, (5) Department of Textile, Fiber, and Polymer Sciences, The University of Georgia, Athens, Georgia 30602, United States, (6) IRsweep AG, Laubisruetistrasse 44, 8712 Staefa, Switzerland, * lead presenter	O 3.2	16:45	Effects of 7 MeV proton irradiation on microstructural, morphological, optical, and electrical properties of FTO thin films Bosco Oryema, Edward Jurua, Itani G. Madiba, Ishaq Ahmad, Samson O. Aisida, Fabian I. Ezema, & Malik Maaza Bosco Oryema, Edward Jurua: Department of Physics, Mbarara University of Science and Technology, P.O Box 1410 Mbarara, Uganda. Bosco Oryema: Department of Physics, Muni University, P.O Box 725 Arua, Uganda. Itani G. Madiba, Fabian I. Ezema, Malik Maaza: UNESCO-UNISA Africa Chair in Nanosciences and Nanotechnology, College of Graduate Studies, University of South Africa, P.O Box 392, Pretoria, South Africa. NanoAfNet, Nanolaboratories, iThemba LABS-National Research Foundation of South Africa, P.O Box 722, Somerset West, Western Cape Province, South Africa Ishaq Ahmad, Samson O. Aisida, Fabian I. Ezema: National Centre for Physics, Quaid-i-Azam University Campus, Islamabad 44000, Pakistan Samson O. Aisida, Fabian I. Ezema: Department of Physics, Faculty of Natural and Applied Sciences, Coal City University, Enugu, Nigeria	O 3.11
16:45	ELECTROREDUCTION OF MOLYBDENUM: MECHANISMS AND ELECTRODEPOSITION FROM IONIC MELTS Stetsyuk Tatyana ¹ , Malyshev Viktor ² , Gab Angelina ² , Shakhnin Dmytro ² 1 Frantsevich Institute for Problems of Materials Science of NAS of Ukraine, 2 Open International University of Human Development «Ukraine»	O 3.3	16:45	2D layered chalcogenide crystals' surfaces application as templates for indium deposited nanosystems formation P.V. Galiy ¹ , T.M. Nenchuk ¹ , A. Ciszewski ² , P. Mazur ² , V.I. Dzyuba ¹ , T.R. Makar ¹ 1 Electronics and Computer Technology Department, Ivan Franko Lviv National University, 50 Dragomanov Street, Lviv, 79005, Ukraine, 2 Institute of Experimental Physics, University of Wrocław, pl. Maxa Borna 9, 50-204 Wrocław, Poland	O 3.12
16:45	Nonwoven fibre meshes fabrication for oxygen sensing via quenching of phosphorescence Nikolaos Salaris, Paul Haigh, Ioannis Papakonstantinou, Manish K. Tiwari Nanoengineered Systems Laboratory,UCL Mechanical Engineering,University College London, London WC1E 7JE, United Kingdom/ Wellcome/EPSCRC Centre for Interventional and Surgical Sciences (WEISS), University College London, London W1W 7TS, United Kingdom, School of Engineering, Newcastle University, NE1 7RU, Photonic Innovations Lab, Department of Electronic & Electrical Engineering, University College London, London WC1E 7JE, United Kingdom, Nanoengineered Systems Laboratory,UCL Mechanical Engineering,University College London, London WC1E 7JE, United Kingdom/ Wellcome/EPSCRC Centre for Interventional and Surgical Sciences (WEISS), University College London, London W1W 7TS, United Kingdom	O 3.4	16:45	Optical properties and sensing characteristics of ZnMeO (Me: Mn, Co, Ni) thin films I. D. Stolyarchuk, O. V. Kuzyk, O. O. Dan'kiv, I. V. Hadzaman, Kh. O. Metsan, A. O. Krypak Department of Physics, Drohobych Ivan Franko State Pedagogical University, 24 I.Franko str., 82100 Drohobych, Ukraine.	O 3.13
16:45	Simultaneous oblique deposition of nanocolumnar tungsten thin films with two sources Valérie POTIN ¹ , Housseem BOUKHALFA ¹ and Nicolas MARTIN ² 1 Laboratoire Interdisciplinaire Carnot de Bourgogne (ICB), UMR 6303 CNRS Université Bourgogne Franche-Comté, 9 Av. A. Savary, BP 47 870, F-21078 Dijon Cedex, France 2 Institut FEMTO-ST, UMR 6174 CNRS Univ. Bourgogne Franche-Comté, 15B, Avenue des Montboucons, 25030 Besançon Cedex, France	O 3.5			

16:45	Bottom-up process to create localized copper conductive lines on fabrics Justus Landsiedel (1) , Sandra Stroj (2) , Matthias Domke (2), Stephan Kasemann (3), Thomas Bechtold (1), Pham Tung (1), Noemi Aguiló-Aguayo (1) (1): Research Institute of Textile Chemistry and Textile Physics, University of Innsbruck, Hoehchststr. 73, 6850 Dornbirn, Austria, (2): Research Center for Microtechnology, Vorarlberg University of Applied Sciences, Hochschulstr. 1, 6850 Dornbirn, Austria	O 3.14	16:45	IR-emitting thin hybrid films, based on tris(8-hydroxyquinolate) Yb (III) in inorganic matrices K.I. Runina, A.U. Sekacheva, L.V. Popkova, O.B. Petrova, I.R. Avetisov, I.Ch. Avetissov Department of Chemistry and Technology of Crystals, D. Mendeleev University of Chemical Technology, MUCTR, Moscow, Russia	O 3.25
16:45	Evaluation of multilayer metal thin films adhesion using progressive scratch test S.I. Sidorenko (1), V.I. Zakiev (1,3), I.O. Kruhlov (1), A.K. Orlov (1), S.V. Prikhodko (2), S.M. Voloshko (1) 1-National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", 37 Peremogy ave., 03056 Kyiv, Ukraine, 2-University of California Los Angeles, 2121K-Engineering 5, 420 Westwood Plaza, CA Los Angeles 90095-1595, USA, 3-National Aviation University, 1 Liubomyra Huzara ave., Kyiv 03058, Ukraine.	O 3.15	16:45	Optical and mechanical simulation of 2 photon polymerisation printed nanostructures combined with hydrogel thin films Stefan Cesnik, Alexander Bergmann, Anna Maria Coclite Graz University of Technology, Inffeldgasse 33/I, 8010 Graz, Graz University of Technology, Inffeldgasse 33/I, 8010 Graz, Graz University of Technology, Petersgasse 16, 8010 Graz	O 3.26
16:45	The influence of low-energy ion bombardment on the low-temperature formation of nanosized thin-film materials with shape memory Sidorenko S.I., Kruhlov I.O., Orlov A.K., Voloshko S.M. National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", 37 Peremogy ave., 03056 Kyiv, Ukraine	O 3.16	16:45	Effect of thermal annealing on solvent resistance of semiconducting polymer films Shaoling Bai, Katherina Haase, Stefan Mannsfeld Technische Universität Dresden	O 3.27
16:45	A flower-like NiMn-LDH/poly-L-lysine composite for selective electrochemical sensing of tryptophan Jing Qian1, Juan Yang1, Qijin Wan1, and Nianjun Yang2 1 School of Chemistry and Environmental Engineering, Key Laboratory for Green Chemical Process of Ministry of Education, Hubei Key Lab of Novel Reactor and Green Chemical Technology, Wuhan Institute of Technology, Wuhan 430073, China, 2 Institute of Materials Engineering, University of Siegen, Siegen 57076, Germany	O 3.17	16:45	Control of the growth of nanostructures by Oblique-Angle Deposition (OAD) to create unique optical designs Cécile Marsal1, Etienne Panchout1, Baptiste Giroire1, Cyril Dupeyrat2, Thierry Girardeau1, Fabien Paumier1 1) Institut Pprime, UPR 3346 CNRS-Université de Poitiers-ENSMA, SP2MI, 86962 Futuroscope-Chasseneuil cedex, France 2) Safran Electronics&Defense, 26 avenue des Hauts de la Chaume, 86280 Saint-Benoît, France	O 3.28
16:45	Allergen detection using an optical fiber dual-zone aptasensor configuration Iulia ANTOHE1*, Ioana KUNCSE1 and Gabriel SOCOL1 1 National Institute for Lasers, Plasma and Radiation Physics - INFLPR, 409 Atomistilor Street, 077125 Bucharest - Magurele, Romania * Iulia ANTOHE is the corresponding author: iulia.antohe@inflpr.ro	O 3.18	16:45	Functional textiles based on PEDOT:PSS/PANI/MWCNT tricomponent nanocomposites for electromagnetic shielding applications Ana Rita Sousa *(1,2), José Barbosa (3), O. Salomé G.P. Soares (3), João Ferreira (4), Ana L. Gonçalves (4), Gilda Santos (4), Augusta Silva (4), José Morgado (4), Patrícia Soares (5), Sergey A. Bunyaev (1), Gleb N. Kakazei (1), Cristina Freire (2), M. Fernando R. Pereira (3), Clara Pereira (2), André M. Pereira (1) (1) IFIMUP - Institute of Physics for Advanced Materials, Nanotechnology and Photonics, Physics and Astronomy Department, Faculty of Sciences, University of Porto, Rua do Campo Alegre s/n, 4169-007 Porto, Portugal, (2) REQUIMTE/LAQV, Chemistry and Biochemistry Department, Faculty of Sciences, University of Porto, Rua do Campo Alegre s/n, 4169-007, Porto, Portugal, (3) LSRE-LCM, Department of Chemical Engineering, Faculty of Engineering, University of Porto, Rua Dr. Roberto Frias, 4200-465 Porto, Portugal, (4) CITEVE - Technological Centre for the Textile and Clothing Industry of Portugal, Rua Fernando Mesquita, 2785, 4760-034 Vila Nova de Famalicão, Portugal, (5) Cottonanswer, Rua dos Combatentes do Ultramar, 50, 4750-047 Lijó, Barcelos, Portugal,	O 3.29
16:45	Conductivity of oxide layers in the early stages of their growth by the atomic layer deposition A.V. Drozd, A.M. Yafasov 1. St. Petersburg Electrotechnical University "LETI", 2. St. Petersburg State University	O 3.19	16:45	Extrinsic activation of 2D polymerization using atomic clusters L. Forcieri 1, Q. Wu 1, A. Quadrelli 1, S. Hou 1, D. Buceta 2, M. A. López-Quintela 2, C. Lambert 1, S. P. Jarvis 1 1 Physics Department, Lancaster University, Lancaster, LA1 4YB, UK. 2 Laboratory of Nanotechnology and Magnetism, University of Santiago de Compostela, E-15782 Santiago de Compostela, Spain.	O 3.30
16:45	Another class of piezoresistive thin film materials: antiferromagnetic chromium alloys Silvan Schwebke, Günter Schultes HTW Saar University of Applied Sciences	O 3.20	16:45	Tuning Properties of Vapor Deposited, Oriented ZIF-8 via precursor density and conversion time Marianne Kräuter, Rob Ameloot, Timothée Stassin, Alexander Cruz, Sabina Rodríguez-Hermida, Roland Resel, Anna Maria Coclite Marianne Kräuter, Roland Resel, Anna Maria Coclite are affiliated with Institute of Solid State Physics, Graz University of Technology, Graz, Austria, e-mail: marianne.kraeuter@tugraz.at Rob Ameloot, Timothée Stassin, Alexander Cruz, Sabina Rodríguez-Hermida are affiliated with Center for Membrane Separations, Adsorption, Catalysis, and Spectroscopy, KU Leuven, Leuven, Belgium	O 3.31
16:45	Optical properties and time stability of sputter-coated copper films obtained by HiPIMS and DCMS processes Pana, I.*, Parau, A.C., Dinu, M., Kiss, A.E., Constantin, L.R., Vitelaru, C. National Institute of Research and Development for Optoelectronics - INOE 2000, 077125, Magurele - Ilfov, Romania * lead presenter	O 3.21	16:45	Magnetite-Based Nanostructured Coatings Functionalized with Nigella sativa and Dicloxacillin for Improved Wound Dressings Gabriela Dorcioman (1), Valentina Grumezescu *(1), Irina Negut (1), Doina Craciun (1), Florica Marinescu (2), Carmen Curutiu (2), Alina Maria Holban (2) 1) National Institute for Lasers, Plasma and Radiation Physics, Magurele-077125, Romania, 2) Faculty of Biology, University of Bucharest, Bucharest-077206, Romania	O 3.32
16:45	On the Complex Interplay between Charge Injection, Electron Transport, and Quantum Efficiency in Ambipolar Trilayer OLETS Salvatore Moschetto, Emilia Benvenuti, Hakan Husta, Resul Ozdemir, Antonio Facchetti, Michele Muccini, Mario prosa, Stefano Toffanin Institute of Nanostructured Materials (ISMN) - National Research Council (CNR), Department of Nanotechnology Engineering Abdullah Gül University, Department of Chemistry and the Materials Research Center Northwestern University	O 3.22	16:45	Multi-color nanosensors for ratiometric measurements of acidic, neural, and basic pH based on silica and polystyrene particles Priyanka Srivastava, Isabella Tavernaro, Lena Scholtz, Ute Resch-Genger Priyanka Srivastava, Isabella Tavernaro, Lena Scholtz, a,b Ute Resch-Genger, a a Bundesanstalt für Materialforschung und -prüfung (BAM), Fachbereich 1.2 Biophotonik, Berlin, Deutschland b Institut für Chemie und Biochemie, Freie Universität Berlin, Takustr. 3, 14195 Berlin, Deutschland	O 3.33
16:45	TiO2/Cu2O and Cu2O/TiO2 thin film bilayers for gas sensing applications D. Michoń*(1), M. Radecka (2), K. Zakrzewska (1). (1) AGH, University of Science and Technology, Institute of Electronics, Faculty of Computer Science, Electronics and Telecommunications, Al. Mickiewicza 30, 30-059 Kraków, Poland (2) AGH, University of Science and Technology, Faculty of Materials Science and Ceramics, Al. Mickiewicza 30, 30-059 Kraków, Poland * lead presenter	O 3.23			
16:45	Influence of deposition conditions of InGaN films grown by PECVD on the optical bandgap Thomet, J. E.*(1), Singh A.K.(1), Gabriel C.(2), Ballif C.(1,2), Hessler-Wyser A. (1), Wyrsch N.(1), Boccard M.(1). (1) Ecole Polytechnique de Lausanne, Switzerland (2) Centre Suisse d'Electronique et de Microtechnique, Switzerland	O 3.24			

16:45	Optically active Europium oxyhydroxide 2D-microstars embedded in thin films for photonic devices A. Caño(1), F. Chacon(1), B. Galiana(2), G.B. Perea(2), A. de Andrés(3), A. Mariscal-Jiménez(4), R. Serna(1), J. Gonzalo(1). (1) Laser Processing Group, Instituto de Optica, IO, CSIC, Serrano 121, 28006 Madrid, Spain, (2) Department of Physics, Escuela Politécnica Superior, Universidad Carlos III, 28911 Leganés, Madrid, Spain, (3) Instituto de Ciencia de Materiales de Madrid, ICMM, CSIC, Cantoblanco, 28049 Madrid, Spain, (4) Department of Information Technologies, Escuela Politécnica Superior, Universidad CEU-San Pablo, Campus Montepríncipe, Boadilla del Monte, Madrid 28668, Spain.	O 3.34
16:45	Zirconium oxynitride nanocatalysts by plasma sputtering and cluster beam deposition tool for the oxygen reduction reaction S. Atmane 1, N. Neha2, S. Valange2, C. Coutanceau2, S. Baranton2, P. Brault1, A.-L. Thomann1, E. Millon1, S. Ibrahim1, A. Caillard1 1 GREMI, Université d'Orléans, CNRS, 14 rue d'Issoudun, BP6744, 45067 Orléans cedex 2, France , 2 IC2MP, Université de Poitiers, CNRS, 4 rue Michel Brunet, 86022 Poitiers, France	O 3.35
16:45	Nanoplasmonic strain sensing with thin films containing Au nanoparticles dispersed in an oxide matrix Marco S. Rodrigues, Joel Borges, Filipe Vaz Centro de Física, Universidade do Minho, Campus de Gualtar, Braga, Portugal	O 3.36
16:45	Halogenated Polymer Thin Film with Ultra-High Refractive Index and Excellent Thermal Stability Ni Huo, Jeremy Rivkin, Wyatt E.Tenhaeff* University of Rochester Department of Chemical Engineering	O 3.37

Tuesday may 31

Nitride and oxide functional coatings : Jiri HOUSKA

09:00	INV Mesoporous coatings of metal oxynitride nanoparticles produced by reactive magnetron sputtering Andrei Choukourov1, Pavel Pleskunov1, Daniil Nikitin1, Kateryna Biliak1, Mariia Protsak1, Miroslav Cieslar1, Yuriy Pihosh2, Vikas Nandal3, Kazuhiko Seki3, Kazunari Domen2 1. Charles University, Faculty of Mathematics and Physics, Prague, Czech Republic, 2. The University of Tokyo, Japan, 3 National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan	O 4.1
09:30	Electrical and optical characterization of high entropy (NbTaTiVZr)Nx films S. Bachinin1,2, V. Grand d'Esnon1, D. Pilloud1, G. Pierson1, C. Gendarme1, A. Nominé1,2, V.A. Milichko1,2, J.F. Pierson1 1 Université de Lorraine, CNRS, IJL, Nancy, France 2 School of Physics and Engineering, ITMO University, St. Petersburg, Russia	O 4.2
09:45	Maximum achievable N content in atom-by-atom growth of amorphous (Si)-(B)-C-N films Jiri Houska Department of Physics and NTIS - European Centre of Excellence, University of West Bohemia, Univerzitni 8, 30614 Plzen, Czech Republic, email jhouska@kfy.zcu.cz	O 4.3
10:00	Tuning alumina matrix using MF and HiPIMS sputtering with gold nanoparticles for plasmonic coatings Marta Ferreira, Jean-Baptiste Chemin, Dr. Patrick Choquet Luxembourg Institute of Science and Technology (LIST)	O 4.4
10:15	Surface engineering of flexible Al2O3 substrate by chemical solution deposition M. Nasui, T. Petrisor Jr., R. B. Sonher , M.S. Gabor, L. Ciontea , T. Petrisor Centre for Superconductivity, Spintronics and Surface Science, Technical University of Cluj-Napoca, Str. Memorandumului, Nr. 28, 400114 Cluj-Napoca, Romania	O 4.5
10:30	Discussion	
10:45		
11:00	Coating of SPIONs with calix[4]arenes: enhanced stability, protective effect, and robust post-functionalization with PEI Carlos Moya (1), Ivan Jabin (2), and Gilles Bruylants (1) (1) Engineering of Molecular NanoSystems, Ecole Polytechnique de Bruxelles, Université libre de Bruxelles (ULB), Avenue F. D. Roosevelt 50, CP165/64, B-1050 Brussels, Belgium. (2) Laboratoire de Chimie Organique, Service de Chimie et PhysicoChimie Organiques, Université libre de Bruxelles (ULB), Avenue F.D. Roosevelt 50, CP160/06, 1050 Brussels, Belgium.	O 4.6
11:15	TiO2 thin film encapsulated moth-eye nanostructured PMMA surfaces with enhanced stability Tomas Kubart1, Daniel F. Fernandes1, Alejandra Jacobo-Martín2, Jaime J. Hernández2, Eduardo Solano3, Juan Carlos Martínez3, Miguel A. Monclús4, Jon M. Molina-Aldareguia4, Isabel Rodríguez2 1Uppsala University, Solid State Electronics, Box 65, 751 03 Uppsala, Sweden, 2Madrid Institute for Advanced Studies in Nanoscience (IMDEA Nanoscience), Ciudad Universitaria de Cantoblanco, C/ Faraday 9, 28049 Madrid, Spain. 3 ALBA Synchrotron, Carrer de la Llum 2-26,08290 Cerdanyola del Vallès, Barcelona, Spain. 4 IMDEA Materials Institute, C/ Eric Kandel 2, Technoetafe, Getafe. 28906 Madrid, Spain.	O 4.7
11:30	Nano-Faceted Growth of Polar-Oxide Thin Films: The Case of MgO(111) and NiO(111) Surfaces Dr Adam Kerrigan, Prof Michael Weinert, Prof Keith McKenna, Prof Vlado Lazarov University of York, University of Wisconsin-Milwaukee, University of York, University of York	O 4.8
11:45	Nanoporous structures by reduction of single-phase Cu oxide thin films : in-situ time-resolved XRD study Claudia Cancellieri 1, Yeliz Unutulmazsoy 1*, Luchan Lin 1**, Lars P.H. Jeurgens 1 1 Empa, Swiss Federal Laboratories for Materials Science and Technology, Laboratory for Joining Technologies & Corrosion, Überlandstrasse 129, 8600 Dübendorf, Switzerland, *Present address: Leibniz Institute for Surface Engineering, Permoserstrasse 15, 04318, Leipzig, Germany, **Present address: School of Materials Science and Engineering, Shanghai Jiaotong University, Shanghai 200240, China,	O 4.9

		Wednesday June 1	
12:00	Discussion		
	Electronics and sensing applications of thin films : Jean-François PIERSON		
15:00	INV Upscalable nanomanufacturing of large-area thin-film electronics	O 5.1	
	Thomas D. Anthopoulos King Abdullah University of Science and Technology (KAUST), KAUST Solar Centre, Kingdom of Saudi Arabia		
15:30	Piezoelectric nanostructured α-Quartz films on Silicon: from material to new devices	O 5.2	
	Claire Jolly* (1), David Sánchez-Fuentes (1), Dilek Cakiroglu (1). A. Gomez (1), Raisar Rathar (1,2), Laura Picas (2), A. Carretero-Genevri. (1) * lead presenter (1) Institut d'Electronique et des Systemes (IES), CNRS, Université de Montpellier, 860 Rue de Saint Priest 34095 Montpellier, France (2) Institut de Recherche en Infectiologie de Montpellier (IRIM), CNRS UMR 9004–Université de Montpellier, 34293 Montpellier, France		
15:30	Generation of Airy-like beam using laser inscribed elements	O 5.3	
	Justas Beržys, Sergej Orlov State research institute Center for Physical Sciences and Technology, Department of Fundamental Research		
15:45	Passivating polycrystalline copper with samarium oxide for use as a reflective cathode in organic photovoltaics	O 5.4	
	Simon Abrahamczyk, Marc Walker, Yisong Han, Steven Huband, Ross Hatton Department of Chemistry, University of Warwick, Department of Physics, University of Warwick, Analytical Science CDT, Senate House, University of Warwick		
16:00	Controlled formation of Diketopyrrolopyrrole-based polymer nanowires for high-performance Organic Field-Effect Transistors	O 5.5	
	Preetam Dacha, Mike Hamsch, Markus Löffler, Stefan C. B. Mannsfeld Preetam Dacha, Mike Hamsch and Stefan C. B. Mannsfeld: Center for Advancing Electronics Dresden (cfaed) and Faculty of Electrical and Computer Engineering, Technische Universität Dresden, Dresden 01069, Germany. Markus Löffler – Dresden Center for Nanoanalysis (DCN), Center for Advancing Electronics Dresden (cfaed), Technische Universität Dresden, Dresden 01069, Germany.		
16:15	Discussion		
16:30			
16:45	A novel wearable sensing device based on Ti-based nanostructured thin films for neuromuscular rehabilitation on elderly	O 5.9	
	Hugo Azevedo, Claudia Lopes, Nelson Azevedo, Juliana Cruz, Raul Fangueiro, Filipe Vaz 1. Centre of Physics, University of Minho, Guimarães, 4800-058, Portugal 2. IMPETUS, Estrada da Praia 1755, 4740-696 Barqueiros, Portugal 3. Centre for Textile Science and Technology (2C2T), University of Minho, Guimarães, 4800-058, Portugal		
17:00	Dissolved and gaseous oxygen sensing using Organic Electrochemical Transistors (OECT) for in-vitro monitoring and work-safety ap	O 5.6	
	Francesco Decataldo, Filippo Bonafè, Federica Mariani, Martina Serafini, Marta Tessarolo, Isacco Gualandi, Erika Scavetta, Beatrice Fraboni Department of Physics and Astronomy, Alma Mater Studiorum - University of Bologna Francesco Decataldo, Filippo Bonafè, Marta Tessarolo, Beatrice Fraboni Department of Industrial Chemistry, Alma Mater Studiorum - University of Bologna, Viale Risorgimento 4, 40136, Bologna (Italy) Federica Mariani, Martina Serafini, Isacco Gualandi, Erika Scavetta		
17:15	Nanofabrication of gradient composition alloy nanoparticle arrays for hydrogen sensing.	O 5.7	
	Andersson, C.Å.E.* (1), Serebrennikova, O., Tiburski, C. (1), Alekseeva, S., Fritzsche, J. (1), Langhammer, C. (1) (1) Department of Physics – Chalmers University of Technology, Sweden		
17:30	Vertical few-layered 3D-MoSe2 porous nanowall thin films prepared by sputtering for NO2 sensors	O 5.8	
	Jyoti Jaiswal Centre of Advanced Research, Department of Physics, Rajiv Gandhi University, Arunachal Pradesh 791112, India		
17:45	Discussion		
	Growth strategies for advanced materials : tba		
09:00	INV Growth manipulation strategies of ultrathin Ag layers based on gaseous additives: insights from real-time studies	O 6.1	
	G. Abadias (1), D. Babonneau (1), B. Krause (2), A. Michel (1), Y. Robin (1), A. Resta (3), A. Vlad (3), A. Coati (3), A. Jamnig (1), K. Sarakinos (4) 1. Institut Pprime, University of Poitiers -CNRS-ENSMA, France, 2. Karlsruhe Institute of Technology, Germany, 3. Synchrotron SOLEIL, France 4. University of Helsinki, Finland		
09:30	Environmental and economic assessment of advanced coatings over their whole life cycle: a case study on HiPIMS and TiAlN.	O 6.2	
	Merlo Antoine, Léonard Grégoire Uliège		
09:45	The effect of interface stress on the W/W grain boundary grooving in Cu/W nano-multilayers	O 6.3	
	A. V. Druzhinin 1, C. Cancellieri 2, L. P.H. Jeurgens 2, B.B. Straumal 1,3,4 1. Institute of Solid State Physics, Russian Academy of Sciences, Moscow district, Academician Ossipyan str., Chernogolovka 142432, Russian Federation, 2. Empa, Swiss Federal Laboratories for Materials Science and Technology, Laboratory for Joining Technologies and Corrosion, Überlandstrasse 129, Dübendorf CH-8600, Switzerland, 3. Karlsruhe Institute of Technology (KIT), Institute of Nanotechnology, Hermann-von-Helmholtz-Platz 1, Eggenstein-Leopoldshafen 76344, Germany, 4. National University of Science and Technology «MISIS», Leninskiy prospect 4, Moscow 119049, Russian Federation		
10:00	Nanostructured Janus Tungsten Molybdenum thin films prepared by co-sputtering GLAD technique	O 6.4	
	Valérie POTIN1, Housseem BOUKHALFA1, Nicolas MARTIN2 1 Laboratoire Interdisciplinaire Carnot de Bourgogne (ICB), UMR 6303 CNRS Université Bourgogne Franche-Comté, 9 Av. A. Savary, BP 47 870, F-21078 Dijon Cedex, France 2 Institut FEMTO-ST, UMR 6174 CNRS Univ. Bourgogne Franche-Comté, 15B, Avenue des Montboucons, 25030 Besançon Cedex, France		
10:15	Magnetron sputtering deposition in helium atmospheres to design porous nanostructured thin films	O 6.5	
	S. Ibrahim1, A. Fernandez1,2, P. Brault1, A. Sauldubois1, D. Hufschmidt2, M. C. Jiménez de Haro2, A. Petit1, A. Caillard1, T. Sauvage3, P. Desgardin3, Marie-France Barthe 3, A.L. Thomann1 1 GREMI, UMR7344 CNRS/Université d'Orléans, rue d'Issoudun, BP 6744, 45067 Orléans cedex2, FRANCE 2 Instituto de Ciencia de Materiales de Sevilla, CSIC - Universidad de Sevilla, Av. Américo Vespucio 49, 41092, Seville, Spain 3 CEMHTI, UPR3079 CNRS, 1D Avenue de la Recherche Scientifique, 45071 Orléans, France		
10:30	Discussion		
10:45			
11:00	Importance of the plasma-liquid interactions in the sputtering deposition of Pt nanoparticles in glycerol	O 6.6	
	S. Atmane , A. Sauldubois, P. Brault, A. Caillard GREMI, Université d'Orléans, CNRS, 14 rue d'Issoudun, BP6744, 45067 Orléans cedex 2, France		
11:15	Fast fabrication of cellulose-based nanocomposite electrodes via spray deposition	O 6.7	
	Marie Betker, Constantin Harder, Elisabeth Erbes, Julian Heger, Alexandros E. Alexakis, Benedikt Sochor, Qing Chen, Matthias Schwartzkopf, Peter Müller-Buschbaum, Simone Techert, Eva Malmström, Daniel L. Söderberg, Stephan V. Roth M. Betker, C. Harder, E. Erbes, Dr. B. Sochor, Dr. Q. Qing, Dr. M. Schwartzkopf, Prof. S. Techert, Prof. S. V. Roth, Deutsches Elektronen Synchrotron, Notkestraße 85, 22607 Hamburg, Germany, M. Betker, A. E. Alexakis, Prof. E. Malmström, Prof. L. D. Söderberg, Prof. S. V. Roth, Fibre and Polymer Technology, KTH Royal Institute of Technology, Teknikringen 56-58, 11428 Stockholm, A. E. Alexakis, Prof. E. Malmström, Prof. D. L. Söderberg, Wallenberg Wood Science Center, Royal Institute of Technology KTH, Teknikringen 52, 10044 Stockholm, Sweden, C. Harder, J. Heger, Prof. P. Müller-Buschbaum, Lehrstuhl für Funktionelle Materialien, Physik Department, Technische Universität München, James-Frank Straße 1, 85748 Garching, Germany, E. Erbes, Institute for X-ray Physics, Goettingen University, Friedrich Hund Platz 1, 37077 Goettingen, Germany		

11:30	Towards high throughput molecular layer deposition of alucone films Hardik Jain, Mariadriana Creatore, Paul Poodt Hardik Jain, TNO/Holst Centre, 5656 AE Eindhoven, Netherlands and Department of Applied Physics, Eindhoven University of Technology, 5600 MB Eindhoven, The Netherlands, Mariadriana Creatore, Department of Applied Physics, Eindhoven University of Technology, 5600 MB Eindhoven, The Netherlands, Paul Poodt, TNO/Holst Centre, 5656 AE Eindhoven, Netherlands and Department of Applied Physics, Eindhoven University of Technology, 5600 MB Eindhoven, The Netherlands	O 6.8	16:45	MAPLE Efficient Antimicrobial Platform for Extended Release of Drugs Anita Ioana Visan 1,* , Carmen Ristoscu 1 , Gianina Popescu-Pelin 1 , Mihai Sopronyi 1 , Consuela Elena Matei 1 , Gabriel Socol 1 , Mariana Carmen Chifiriuc 2,3 , Coralia Bleotu 3,4 , David Grossin 5 , Fabien Brouillet 6 , Sylvain Le Grill 6 , Ghislaine Bertrand 5 , Irina Zgura 7 , Rodica Cristescu 1 and Ion N. Mihailescu 1 1 National Institute for Laser, Plasma and Radiation Physics, 077125 Magurele, Ilfov, Romania, 2 Department of Microbiology, Faculty of Biology, University of Bucharest, 060101 Bucharest, Romania, 3 Earth, Environmental and Life Sciences Division, Research Institute of the University of Bucharest, 050567 Bucharest, Romania, 4 Stefan S. Nicolau Institute of Virology, 285 Mihai Bravu Ave, Sect. 3, PO 77, PO Box 201,030304 Bucharest, Romania 5 CIRIMAT, CNRS, INP-ENSIACET, Université de Toulouse, 4 allée Emile Monso, 31030 Toulouse, France, 6 CIRIMAT, CNRS, Université Toulouse 3-Paul Sabatier, 35 Chemin des Maraichers, CEDEX 9,31062 Toulouse, France, 7 National Institute of Materials Physics, 077125 Magurele, Ilfov, Romania, * Correspondence: anita.visan@infplr.ro ,	O 8.3
11:45	Nanocomposite thin film deposition by low-pressure misty plasmas Simon Chouteau1-2, Maria Mitronika1, Mireille Richard-Plouet1, Antoine Goulet1, Agnès Granier1, Luc Safford2 1 Université de Nantes, CNRS, Institut des Matériaux Jean Rouxel, IMN, F-44000 Nantes, France, 2 Département de Physique, Université de Montréal, Montréal, Québec H3C 3J7, Canada	O 6.9	16:45	Implant coatings based on low-cost sustainable natural resources for infection prevention Anita Ioana Visan 1,* , Carmen Ristoscu 1 , Gianina Popescu-Pelin 1 , Mariana Carmen Chifiriuc 2,3 , Marcela Popa 2, George Stan 4 , T Tite 4, and Ion N. Mihailescu 1 1 National Institute for Laser, Plasma and Radiation Physics, 077125 Magurele, Ilfov, Romania, 2 Department of Microbiology, Faculty of Biology, University of Bucharest, 060101 Bucharest, Romania, 3 Earth, Environmental and Life Sciences Division, Research Institute of the University of Bucharest, 050567 Bucharest, Romania, 4National Institute of Materials Physics, 077125 Magurele, Ilfov, Romania,	O 8.4
12:00	Discussion		16:45	Rub-resistant Antibacterial Surface Conversion Layer on Stainless Steel Haiyue Huang1, Olivia Williams Barber2, Zhilong Yu1, Hun Park1, Xiaobing Hu1,3, Xinqi Chen3,4, Chun-Hu Chen5, Erica M. Hartmann2* and Jiaying Huang1* 1 Department of Materials Science and Engineering, Northwestern University, Evanston, IL 60208, USA, 2 Department of Civil and Environmental Engineering, Northwestern University, Evanston, IL 60208, USA, 3 The NUANCE Center, Northwestern University, Evanston, IL 60208, USA, 4 Department of Mechanical Engineering, Northwestern University, Evanston, IL 60208, USA, 5 Department of Chemistry, National Sun Yat-sen University, Kaohsiung 80424, Taiwan	O 8.5
15:00	Large area/low deposition temperature nanocrystalline diamond films for protective optical coatings Chaimaa Mahi, Ovidiu Brinza, Riadh Issaoui, Jocelyn Achard, Fabien Bénédic Université Sorbonne Paris Nord, LSPM, CNRS, UPR 3407, Villetaneuse, France	O 7.1	16:45	Tuning the Structure of Metallic Thin Films with Pulsed Laser Deposition Alessandro Troglia, Roland Bliem Advanced Research Center for Nanolithography (ARCNL), Science Park 106, 1098 XG Amsterdam, The Netherlands, Advanced Research Center for Nanolithography (ARCNL), Science Park 106, 1098 XG Amsterdam, The Netherlands and Institute of Physics, University of Amsterdam, Science Park 904, 1098 XH Amsterdam, The Netherlands	O 8.6
15:15	The effect of subvalent and isoivalent impurities on the structural and optical properties of hafnia-based thin films L. Khomenkova1,2, T. Torchynska3, N. Korsunskaya3, O. Melnichuk4, L. Melnichuk4, X. Portier5, F. Gourbilleau5 1) V.Lashkaryov Institute of Semiconductor Physics at the NASU, 41 Pr. Nauky, Kyiv 03028, Ukraine, E-mail: khomen@ukr.net, 2) National University "Kyiv-Mohyla Academy", 2 Skovorody str., Kyiv, 04170, Ukraine, 3) Instituto Politécnico Nacional - IPN, ESFM, Mexico City, 07738, Mexico, 4) Mykola Gogol State University of Nizhyn, 2 Hrafaska Str., Nizhyn 16600, Ukraine, 5) CIMAP Normandie Univ, ENSICAEN, UNICAEN, CEA, CNRS, 6 Boulevard Maréchal Juin, 14000 Caen, France	O 7.2	16:45	Facile spin-coating deposition of crack-free TiO2 -rGO thin films for solar harnessing devices Timur Sh. Atabaev, Laura Khamkhash, Anara Molkenova Nazarbayev University, Nur-Sultan, Kazakhstan	O 8.7
15:30	Low temperature deposition and crystallization control of SiC thin layers for waveguide applications Vincent Tabouret (1), Alexandre Crisci (1), Magali Morais (1), Grégory Berthomé (1), Didier Chaussende*(1) (1) Univ. Grenoble Alpes, CNRS, Grenoble INP (Institute of engineering), SIMaP, 38000 Grenoble, France	O 7.5	16:45	Polyester filter hybrid with conductive nanowires and photocatalytic nanoparticles for air purification Ren-Yao Zheng, Wen-Yang Lien, Gen-Wen Hsieh* Institute of Lighting and Energy Photonics, College of Photonics, National Chiao Tung University, No. 301, Gaofa 3rd Rd., Guiren District, Tainan 71150, Taiwan (R.O.C.) * Corresponding author (G.-W.H.) Email: cwh31@nctu.edu.tw	O 8.8
15:45	Discussion		16:45	Dynamics of kinetic roughening and wettability in two-dimensional materials Abhijeet Das, Sanjeev Kumar Centre for Advanced Research, Department of Physics, Rajiv Gandhi University, Arunachal Pradesh – 791112, India	O 8.9
16:00	2 : Jean-François PIERSON		16:45	Antibacterial activity, cytotoxicity, and biocorrosion behavior of high-entropy alloy coating doped with immobilized AgNPs Armin Asghari Alamdari, Saman Hendessi, Ugur Unal, Amir Motallebzadeh* Materials Science and Engineering, Koç University, Sariyer 34450, Istanbul, Turkey, Koç University Surface Science and Technology Center (KUYSAM), Koç University, Sariyer, 34450, Istanbul, Turkey, Department of Chemistry, Koç University, Sariyer, 34450 Istanbul, Turkey	O 8.10
16:45	Flexible surface-enhanced Raman spectroscopy sensors for Rapid and direct biomolecule detection Gaidi, M (1, 2)*, Daoudi, K (1, 2), Columbus, S (2), Ramachandran, K (2), Tlili, A (3), El Khakani, M. A (4) (1) Department of Applied Physics and Astronomy, University of Sharjah, P. O. Box 27272 Sharjah, United Arab Emirates (2) Centre for Advanced Materials Research, Research Institute of Sciences and Engineering, University of Sharjah, P. O. Box 27272 Sharjah, United Arab Emirates (3) Department of Applied Biology, University of Sharjah, P. O. Box 27272 Sharjah, United Arab Emirates (4) Institut National de la Recherche Scientifique, INRS-Énergie, Blvd. Lionel-Boulet, Varennes, QC, Canada	O 8.1	16:45	Enhancing the activity of photocatalytic coatings by addition of 2D g-C3N4 Papailias, I.*(1), Giannakopoulou, T. (1), Todorova, N. (1), Anyfantis, G.C. (2), Arabatzis, I. (2), Trapalis, C. (1). (1) Institute of Nanoscience and Nanotechnology, NCSR "Demokritos", Athens, Greece. (2) NanoPhos S.A., Science and Technology Park of Lavrio, Lavrio, Greece.	O 8.11
16:45	Bioactive coatings used for biodegradation control of magnesium-based alloys Gabriela Juravlea1,2*, Alina Vladescu1, Anca C. Parau1, Diana M. Vranceanu2, Cosmin M. Cotrut2 1 National Institute of RD for Optoelectronics INOE2000, Department for Advanced Surface Processing and Analysis by Vacuum Technologies, 409 Atomistilor St., Magurele, RO77125, Romania, gabriela.juravlea@inoe.ro, alinava@inoe.ro, anca.parau@inoe.ro, 2 University Politehnica of Bucharest, 313 Spl. Independentei, Bucharest, RO60042, Romania, cosmin.cotrut@upb.ro, diana.vranceanu@upb.ro * Correspondence: gabriela.juravlea@inoe.ro, Tel.: +40-21-457-57-59	O 8.2			

16:45	FORMATION OF NANOSIZE FILMS ON THE BASIS OF CoSb3 R.A. Shkarban, Yu.M. Makogon, S.I. Sidorenko National Technical University of Ukraine "Igor Sikorsky Kyiv Polytechnic Institute", 37 Peremohy Ave., UA-03056 Kyiv, Ukraine	O 8.12	16:45	Influence of femtosecond laser surface texturing on the biological properties of ZrCuAg thin film metallic glasses Florian Dupla*(1), Solène Comby-Dassonneville(1), Mathilde Prudent(2), Alejandro Borroto(3), Christelle Der Loughian(1), Laurent Gremillard(1), Florence Garrelie(2), Florent Bourquard(2), Jean-Philippe Colombier(2), Marthe Rousseau(1, 4), Jean-François Pierson(3), Philippe Steyer(1). (1) University of Lyon, INSA Lyon, UCBL, CNRS, MATEIS Laboratory, 69621 Villeurbanne, France, (2) University of Lyon, UJM-Saint-Etienne, CNRS, Institute of Optics Graduate School, Laboratoire Hubert Curien UMR CNRS 5516, F-42023 St-Etienne, France, (3) Université de Lorraine, CNRS, Institut Jean Lamour, F-54000 Nancy, France, (4) SAINBIOSE Laboratory INSERM, U1059, University of Lyon, Jean Monnet University, F-44270 Saint-Priest-en-Jarez, France.	O 8.21
16:45	PLD synthesis of hydroxyapatite-alumina-zeolite composite coatings from natural resources for biomedical applications G. Popescu-Pelin1, C. Ristoscu1, L. Duta1, G.E. Stan2, M. Popa3,4, M.C. Chifiriuc3,4, F.N. Oktar5,6, and I.N. Mihailescu1 1National Institute for Lasers, Plasma and Radiation Physics, Magurele 077125, Romania 2National Institute of Materials Physics, Magurele 077125, Romania 3Microbiology Department, Faculty of Biology, University of Bucharest, Bucharest 060101, Romania 4Research Institute of the University of Bucharest (ICUB), University of Bucharest, Bucharest 050095, Romania 5Department of Bioengineering, Faculty of Engineering, University of Marmara, Kadikoy 34722, Istanbul, Turkey 6Center for Nanotechnology & Biomaterials Research, University of Marmara, Kadikoy 34722, Istanbul, Turkey	O 8.13	16:45	Cyclic olefin polymer (COP) and copolymer (COC) biofunctionalization with 4-carboxyphenyl diazonium salts: an optimization study Z. Chakim1, A.R. Protopapadaki1, C. O'Sullivan2 N. Okulova2, J. Kafka2, G. Tsekenis1 1Biomedical Research Foundation of the Academy of Athens, 11527, Athens, Greece, 2INMOLD A/S, Savsvinget 4B, DK-2970 Horsholm, Denmark	O 8.22
16:45	Combinatorial pulsed laser deposition of multifunctional coatings for bone tissue treatment Gianina Popescu-Pelin1, Cristian Butnaru1, Izabela Jinga1, Livia Sima2, Marioara Chiritoiu2, Gabriela Chiritoiu2, Felix Sima1, Gabriel Socol1 1National Institute for Lasers, Plasma and Radiation Physics, Magurele 077125, Ilfov, Romania 2Institute of Biochemistry of the Romanian Academy, Bucharest, Romania	O 8.14	16:45	Antibacterial activity of graphene and reduced graphene oxide coatings Todorova, N. *(1), Marinova, V.(2), Dimitrov, D.(2,3), Giannakopoulou, T.(1), Papailias, I.(1), Trapalis, C.(1) * lead presenter Affiliations (1) Institute of Nanoscience and Nanotechnology, National Centre for Scientific Research "Demokritos", Greece, (2) Institute of Optical Materials and Technologies, Bulgarian Academy of Sciences, Bulgaria, (3) Institute of Solid State Physics, Bulgarian Academy of Sciences, Bulgaria	O 8.23
16:45	Influence of surface pre-treatments on the anti-corrosion and cytotoxicity of Mg1Ca biodegradable alloy Neves, C.S.*(1), Sousa, I.(1), Freitas, M.A.(1), Fraga, S.(2,3), Moreira, L.(2,3), Teixeira, J.P.(2,3), Silva, R.M.(1), Silva, R.F.(1), Starykevich, M.(1), Scharnagl, N.(4), Zheludkevich, M.L.(4,5), Ferreira, M.G.S.(1), Tedim, J.(1). (1)Department of Materials Engineering and Ceramics, CICECO, University of Aveiro, Portugal (2)EPIUnit - Instituto de Saúde Pública, Universidade do Porto, Portugal (3)Departamento de Saúde Ambiental, Instituto Nacional de Saúde Doutor Ricardo Jorge, Portugal (4)Institute of Surface Science, Helmholtz-Zentrum Hereon, Germany (5)Institute for Materials Science, Faculty of Engineering, University of Kiel, Germany	O 8.15	16:45	Material characterization with reference to biocompatibility and microbiology dedicated for anti-microbial finger implant Adam Byrski1, Roman Major1, Marcin Dyrner2, Katarzyna Kasperkiewicz3, Łukasz Major1, Juergen M. Lackner4 1. Institute of Metallurgy and Materials Science, Polish Academy of Sciences, Reymonta St. 25, 30-059 Cracow, Poland 2. Faculty of Science and Technology, Jan Dlugosz University in Czeszochowa, Armii Krajowej Av, 13/15, 42-200 Czeszochowa, Poland 3. University of Silesia in Katowice, Faculty of Natural Sciences, Institute of Biology, Biotechnology and Environmental Protection, Jagiellońska St. 28, 40-032 Katowice, Poland, 4. JOANNEUM RESEARCH Forschungsges.m.b.H., Institute of Surface Technologies and Photonics, Functional Surfaces, Leobner Strasse 94, 8712 Niklasdorf, Austria	O 8.24
16:45	Effect of the composition on solid state dewetting behavior of CoCu thin films Farzam, F.*(1), Bellón, B.(1), Ghidelli, M.(1,2), Duarte Correa, M.J.(1), Chatain, D.(3), Dehm, G.(1). (1)Max-Planck-Institut für Eisenforschung GmbH, Düsseldorf, Germany, (2) Laboratoire des Sciences des Procédés et des Matériaux (LSPM), CNRS, Université Sorbonne Paris Nord, Villetaneuse, France, (3)Aix-Marseille Univ, CNRS, CINaM, Marseille, France, * lead presenter	O 8.16	16:45	Light Activated Inorganic Agents - the next generation of photocatalytic paints Răzvan Bucureşteanu, Viorel Chihaia, Bogdan Cojocar, Monica Ioniță, Anton Fica, Lia-Mara Dițu, Grigore Mihăescu 1. Department of Microbiology, Faculty of Biology, University of Bucharest, Intr. Portocalelor no 1-3, 060101, Bucharest, Romania, 2. Institute of Physical Chemistry "Ilie Murgulescu", Romanian Academy, Splaiul Independentei 202, 060021, Bucharest, Romania, 3. Department of Organic Chemistry, Biochemistry & Catalysis, Faculty of Chemistry, University of Bucharest, Bdul Regina Elisabeta 4-12, 030016 Bucharest, Romania, 4. University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Bucharest, Romania 5. University Politehnica of Bucharest, Faculty of Applied Chemistry and Materials Science, Department of Science and Engineering of Oxide Materials and Nanomaterials, anton.fica@upb.ro 6. Department of Microbiology, Faculty of Biology, University of Bucharest, Intr. Portocalelor no 1-3, 060101, Bucharest, Romania 7. Department of Microbiology, Faculty of Biology, University of Bucharest, Intr. Portocalelor no 1-3, 060101, Bucharest, Romania	O 8.25
16:45	New Perspective to Evaluate the Role Nanoceria for Lung Cancer via Molecular Mechanism Analysis Jamila Bayramova, Feride Melisa Bilgin, Melis Denizci Oncu, Digdem Aktoprakligil Aksu, Soner Aksu, Ahsen Morva Yilmaz, Hulya Yazici, Hilal Yazici TUBITAK-Marmara Research Center, Genetic Engineering and Biotechnology Institute, Kocaeli 41470, Turkey, Oncology Institute, Istanbul University, Istanbul 34295, Turkey, Molecular and Translational Biomedicine Program, Acibadem Mehmet Ali Aydinlar University, Istanbul 34684, Turkey, Istanbul Health and Technology University, Istanbul, 34025, Turkey, Istanbul Arel University, Faculty of Medicine, Department of Medical Biology and Genetics, Istanbul, 34010, Turkey.	O 8.17	16:45	A study of volatile organic compounds removal using porous silicon decorated with Pulsed-Laser-Deposited PbS nanoparticles Anouar Hajjaji1*, Ameni Rebhi1, Mabrouk Laabidi1, Mounir Gaidi4, Aymen Amine Assadi3, Brahim Bessais1, and My Ali ElKhakani2 1 Laboratoire de Photovoltaïque, Centre de Recherches et des Technologies de l'Energie, Technopôle de Borj-Cédria, BP 95 Hammam-Lif, 2050 Tunis, Tunisie 2Centre Énergie Matériaux et Télécommunications (INRS-EMT), Institut National de la Recherche Scientifique (INRS), 1650 Boulevard Lionel Boulet, Varennes, QC J3X 1S2, Canada 3 Univ Rennes, ENSCR, ISCR (Institut des Sciences Chimiques de Rennes), UMR 6226, F-35000, Rennes, France 4Center of Advanced Research Materials, Research Institute of Sciences and Engineering, University of Sharjah, Sharjah P.O. Box 27272, United Arab Emirates	O 8.26
16:45	Smart Bandage for Wound Healing Monitoring Federica Mariani (1)*, Isacco Gualandi (1), Martina Serafini (1), Danilo Arcangeli (1), Francesco Decataldo (2), Luca Possanzini (2), Marta Tessarolo (2), Beatrice Fraboni (2), Domenica Tonelli (1), Erika Scavetta (1) (1) Dipartimento di Chimica Industriale "Toso Montanari", Università di Bologna, Viale del Risorgimento 4, 40136 Bologna, Italy (2) Dipartimento di Fisica e Astronomia, Università di Bologna, Viale Berti Pichat 6/2, 40127 Bologna, Italy *federica.mariani8@unibo.it	O 8.20			

16:45	Marine-derived hydroxyapatite coatings synthesized by Pulsed laser deposition L. Duta1, G.E Stan2, V. Grumezescu1, G. Dorcioman1, E. Matei2, I. Zgura2, O. Gherasim1,3, G. Popescu-Pelin1, F.N. Oktar4,5 1National Institute for Lasers, Plasma and Radiation Physics, Lasers Department, Magurele, Romania 2National Institute of Materials Physics, Magurele, Romania 3Department of Science and Engineering of Oxide Materials and Nanomaterials, Faculty of Applied Chemistry and Materials Science, Politehnica University of Bucharest, Bucharest, Romania 4Department of Bioengineering, Faculty of Engineering, University of Marmara, Istanbul, Turkey 5Advanced Nanomaterials Research Laboratory (ANRL), University of Marmara, Istanbul, Turkey	O 8.27	16:45	Core/shell nanosystem for modulation of microbial biofilm formation on G-tube surfaces Grumezescu, V.(1), Hudită, A.(2), Gherasim, O.(1), Negut, I.(1), Dorcioman, G.(1), Grumezescu, A.M.(3), Ditu, L.M.(4), Holban, A.M.(4) (1)Lasers Department, National Institute for Lasers, Plasma and Radiation Physics, 077125 Magurele, Romania (2)Department of Biochemistry and Molecular Biology, Faculty of Biology, University of Bucharest, 050095 Bucharest, Romania (3) Department of Science and Engineering of Oxide Materials and Nanomaterials, Faculty of Applied Chemistry and Materials Science, Politehnica University of Bucharest, 011061 Bucharest, Romania (4)Department of Microbiology and Immunology, Faculty of Biology, University of Bucharest, 077206 Bucharest, Romania	O 8.35
16:45	Anti-melanoma activity of Doxorubicin loaded superparamagnetic iron oxide nanoparticles JINGA L.-I. (1,3), POPESCU-PELIN, G. (1), IONITA, P. (3), ANTOHE, I., (1) ICRIVERZI, M. (2), KUNCSEK, V. (4), IACOB, N. (4), KUNCSEK, A. (4), SIMA, L. E. (2), SOCOL, G. (1). (1) National Institute for Lasers, Plasma and Radiation Physics, Romania (2) Institute of Biochemistry of the Romanian Academy, Romania (3) Faculty of Chemistry, University of Bucharest, Romania (4) National Institute of Materials Physics, Romania	O 8.28	16:45	Out Of Plane Metal Coordination for a True Solvent Free Building with Molecular Bricks Alberto Calloni, Alessio Orbelli Biroli, Alberto Bossi, Madan S. Jagadeesh, Guglielmo Albani, Lamberto Duò, Franco Ciccacci, Andrea Goldoni, Alberto Verdini, Luca Schio, Luca Floreano, Gianlorenzo Bussetti A.C., M.S.J., G.A., L.D., F.C. and G.B. - Department of Physics, Politecnico di Milano (Italy), p.za Leonardo da Vinci 32, 20133 Milano (Italy), A.O.B. - Department of Chemistry, Università di Pavia, via Taramelli 12, 27100 Pavia (Italy), A.B. - Istituto di Scienze e Tecnologie Chimiche ?G. Natta? del Consiglio Nazionale delle Ricerche (CNR-SCITEC), via Golgi 19, 20133 Milano (Italy), A.G. - Elettra Sincrotrone Trieste, s.s. 14 km 163.5, 34149 Trieste (Italy), A.V., L.S. and L.F. - Istituto Officina dei Materiali ? CNR-IOM, Laboratorio TASC, s.s. 14 km 163.5, 34149 Trieste (Italy)	O 8.36
16:45	Hydroxyapatite of various biological origin: from powders to thin film cytocompatibility assessment L. Duta1, V. Grumezescu1, M.C. Chifiruc2,3, G.E Stan4, O. Gherasim1,5, I. Zgura4, F.N. Oktar6,7 1Lasers Department, National Institute for Lasers, Plasma and Radiation Physics, Magurele, Romania 2Department of Microbiology, Faculty of Biology, University of Bucharest, Bucharest, Romania 3Research Institute of the University of Bucharest (ICUB), Earth, Environmental and Life Sciences Division, Bucharest, Romania 4National Institute of Materials Physics, Magurele, Romania 5Department of Science and Engineering of Oxide Materials and Nanomaterials, Faculty of Applied Chemistry and Materials Science, Politehnica University of Bucharest, Bucharest, Romania 6Department of Bioengineering, Faculty of Engineering, University of Marmara, Istanbul, Turkey 7Advanced Nanomaterials Research Laboratory (ANRL), University of Marmara, Istanbul, Turkey	O 8.29	16:45	Synthesis and laser modification of WTe₂-xSex via reduction and tellurization/selenization of WO₃ grown by sol-gel A. Fernandez Garcia (1)*, M. Garcia-Lechuga (1,2), V. Torres Costa (1), O de Melo Pereira (1,3), F. Agullo-Rueda (4) & M. Manso Silvan (1,2) (1)Departamento de Fisica Aplicada, Universidad Autonoma de Madrid, 28049, Madrid, Spain, (2)Centro de Microanalisis de Materiales, Universidad Autonoma de Madrid, 28049, Madrid, Spain, (3)Departamento de Fisica, Universidad de La Habana, (4)Instituto de Ciencia de Materiales de Madrid, Consejo Superior de Investigaciones Cientificas (ICMM-CSIC), 28049, Madrid, Spain, *lead presenter	O 8.37
16:45	Visible-light photocatalytic activity of atomic layer deposited TiO₂ inverse opals films doped with preformed Au nanoparticles P. BIRNAL (a), C. MARCO DE LUCAS (a), I. POCHARD (b), F. HERBST (a), O. HEINTZ (a), L. SAVIOT (a), B. DOMENICHINI (a), L. IMHOFF (a) (a) Laboratoire Interdisciplinaire Carnot de Bourgogne (ICB), UMR 6303 CNRS-Universit� Bourgogne-Franche Comt�, 9 Av. A. Savary, BP 47 870, F-21078 DIJON Cedex, FRANCE (b) Laboratoire UTINAM, UMR 6213 CNRS-Universit� Bourgogne-Franche-Comt�, Besan�on, France	O 8.30	16:45	Ab-initio study of the formation of silicide interface, low (W/MO) VS High (Ag/Cu) adatom mobility Vernet B. (1,2), Nita F. (1,3), Michel A. (1), Abadias G. (1), Mastail C. * (1) (1) Institut P' D�partement Physique et M�canique des Mat�riaux, UPR 3346, CNRS-Universit� de Poitiers-ENSMA, TSA 41123, 86073 Poitiers cedex 9, France (2) Laboratoire des Sciences pour l'Environnement et l'Energie, D�partement Physique, ENS-Universit� d'Etat d'Haiti, HT6115 Canap�-Vert, Port-au-Prince, Haiti (3) National Institute for Research and Development in Microtechnologies, 126A Erou Iancu Nicolae, Voluntari Town, Ilfov County 077190, Romania	O 8.38
16:45	Block Copolymer Assisted Fabrication of Gallium Nanofilms for Orthopaedic Implant Coatings. Murphy, Brid*(1)(2), Crowley, Tim (3) & Morris, Michael. A (1)(2) (1)AMBER Research Centre, CRANN Institute, Trinity College Dublin, Dublin 2, Ireland, (2)School of Chemistry, Trinity College Dublin, Dublin 2, Ireland, (3)DePuy Synthes (Ireland), Loughbeg, Ringaskiddy, Co. Cork, Ireland, *lead presenter	O 8.31			
16:45	An in vitro evaluation of cerium-containing bioactive glass on metal implant coatings S.R. Gavinho1, I. Hammami1, A. Sofia P�dua2, J.C. Silva2, J.P. Borges2, I. S� Nogueira3, M.P.F. Gra�a1 1 I3N and Physics Department, Aveiro University, Aveiro, Portugal 2 I3N- CENIMAT, New University of Lisbon, Lisbon, Portugal 3 UCIBIO, REQUIMTE, Departamento Ci�ncias da Vida, FCT-UNL, Lisbon, Portugal	O 8.32			
16:45	Bioactive coatings based on hydroxyapatite for improved implantable devices Grumezescu, V.(1), Du�a, L.(1), Gherasim, O.(1), Holban, A.M.(2), Grumezescu, A.M.(3), Ficai, A.(3), Hudit�, A.(4) (1)Lasers Department, National Institute for Lasers, Plasma and Radiation Physics, 077125 Magurele, Romania, (2)Department of Microbiology and Immunology, Faculty of Biology, University of Bucharest, 077206 Bucharest, Romania (3) Department of Science and Engineering of Oxide Materials and Nanomaterials, Faculty of Applied Chemistry and Materials Science, Politehnica University of Bucharest, 011061 Bucharest, Romania, (4)Department of Biochemistry and Molecular Biology, Faculty of Biology, University of Bucharest, 050095 Bucharest, Romania,	O 8.33			
16:45	The development of new magnetic bio-nanomaterials based on plant virus for biomedical applications Sendos Darwish Souad Ammar, Nguy�t-Thanh HA DUONG	O 8.34			

Thursday June 2

Fundamental aspects of thin film growth : Nikolaos KALFAGIANNIS

- 09:00 **INV Design of weakly interacting heterostructures via selective surfactant deployment** O 9.1
Andreas Jammig¹, Nikolaos Pliatsikas², Gregory Abadias¹, and Kostas Sarakinos³
¹Institut Pprime, Département Physique et Mécanique des Matériaux, UPR 3346 CNRS, Université de Poitiers, ENSMA, 11 Boulevard Marie et Pierre Curie, TSA 41123, F86073 Poitiers Cedex 9, France ²Department of Physics, Aristotle University of Thessaloniki, GR-54124 Thessaloniki, Greece ³Department of Physics, University of Helsinki, P.O. Box 43, FI-00014, Helsinki, Finland
- 09:30 **Effect of the temperature substrate on the properties of a new ternary nitride semiconductor with a wide bandgap energy: MgSnN₂** O 9.2
A. Virfeu, F. Alnjiman, S. Diliberto, J. Ghanbaja, E. Haye, S. Migot, J.F. Pierson
A. Virfeu, F. Alnjiman, S. Diliberto, J. Ghanbaja, S. Migot, J.F. Pierson, Institut Jean Lamour (UMR CNRS 7198), Université de Lorraine, Nancy, France F. Alnjiman, Department of Physics and Astronomy at College of Science, King Saud University at Riyadh, Saudi Arabia E. Haye, Laboratoire d'Analyse par Réactions Nucléaires (LARN), Namur Institute of Structured Matter (NISM), University of Namur, 5000 Namur, Belgium
- 09:45 **Coarse-grained approach in growth simulations of metal oxides and polymers on planar and nanostructured substrates** O 9.3
Jorge Budagosky, Xabier Garcia-Casas, Juan R. Sánchez-Valencia, Ángel Barranco, Ana Borrás
Nanotechnology on Surfaces and Plasma Group, Materials Science Institute of Seville (CSIC-US), C/Américo Vespucio 49, Seville 41092, Spain.
- 10:00 **Study of Crystallization of Amorphous Metals through Molecular Dynamics Simulations** O 9.4
P. Dwivedi¹, A. Fraile², T. Polcar¹
¹ Department of Control Engineering, Faculty of Electrical Engineering, Czech Technical University in Prague, Karlovo náměstí 13, 121 35, Czech Republic. ² Nuclear Futures Institute, Bangor University, Gwynedd, LL57 2DG, United Kingdom.
- 10:15 **Atomistic study of early growth stages of Cu thin film growth by Kinetic Monte Carlo simulations** O 9.5
Nita, F.*^(1,2), Furgeaud, C.⁽¹⁾, Michel, A.⁽¹⁾, Abadias, G.⁽¹⁾, Mastail, C.⁽¹⁾
⁽¹⁾ Institut P' Département Physique et Mécanique des Matériaux, UPR 3346, CNRS-Université de Poitiers-ENSMA, TSA 41123, 86073 Poitiers cedex 9, France ⁽²⁾ National Institute for Research and Development in Microtechnologies, 126A Erou Iancu Nicolae, Voluntari Town, Ilfov County 077190, Romania
- 10:30 **Discussion**
- 10:45
- 11:00 **Self-assembly of bis-salphen metal-organic polymer networks: atomistic simulation of assembly and deformation processes** O 9.6
Sergey Pyrlin, Marta Ramos
Center of Physics of the Universities of Minho and Porto
- 11:15 **Deposition and study of the superhydrophilic diamond-like carbon films** O 9.7
S. Meškinis, A. Vasiliauskas, V. Kopustinskas, B. Abakevičienė, A. Guobienė
Institute of Materials Science of Kaunas University of Technology, K. Baršausko 59, Kaunas, Lithuania
- 11:30 **From tensile to compressive stress in Cu/W multilayers: impact on thermal conductivity and microstructure** O 9.8
Giacomo Lorenzin⁽¹⁾, Md Shafkat Bin Hoque⁽²⁾, Daniel Ariosa⁽³⁾, Patrick E. Hopkins⁽²⁾, (4), (5), Eric R. Houglund⁽⁴⁾, John A. Tomko⁽²⁾, Sean W. King⁽⁶⁾, Lars P.H. Jeurgens⁽¹⁾ and Claudia Cancellieri⁽¹⁾
⁽¹⁾ Empa, Swiss Federal Laboratories for Materials Science and Technology, Laboratory for Joining Technologies and Corrosion, Überlandstrasse 129, 8600 Dübendorf, Switzerland. ⁽²⁾ Department of Mechanical and Aerospace Engineering, University of Virginia, Charlottesville, VA, 22904, USA. ⁽³⁾ Instituto de Física, Facultad de Ingeniería, Universidad de la República, Herrera y Reissig 565, C.C. 30, Montevideo 11000, Uruguay. ⁽⁴⁾ Department of Materials Science and Engineering, University of Virginia, Charlottesville, Virginia 22904, USA. ⁽⁵⁾ Department of Physics, University of Virginia, Charlottesville, Virginia 22904, USA. ⁽⁶⁾ Logic Technology Development, Intel Corporation, Hillsboro, Oregon 97124, United States.

- 11:45 **Structural and magnetic properties of MBE grown Co₂FeSi/Si(111) films** O 9.9
I. Azaceta, S.A. Cavill and V.K. Lazarov
Department of Physics and Astronomy, University of York, Heslington, York, YO10 5DD, UK
- 12:00 **Discussion**
- Thin film growth and applications : Kostas SARAKINOS**
- 15:00 **Elaboration of Bi-based Nanoparticles by reactive magnetron sputtering on Ionic Liquid for photocatalytic applications** O 10.1
Vitalios Ntomproukidis⁽¹⁾, Jean-Michel Andanson⁽¹⁾, Pierre Bonnet⁽¹⁾, Angélique Bousquet⁽¹⁾
⁽¹⁾ Institute of Chemistry of Clermont-Ferrand (ICCF), University Clermont Auvergne, France
- 15:15 **Photocatalytic properties of thin film TiO₂ deposited by HiPIMS** O 10.2
Daniel F. Fernandes, Lars Österlund, Tomas Kubart
Daniel F. Fernandes, Tomas Kubart: Division of Solid State Electronics, Department of Electrical Engineering, Ångström Laboratory, Uppsala University, P.O. Box 65, 751 03, Uppsala, Sweden. Email (D.F. Fernandes): daniel.f.fernandes@angstrom.uu.se Email (T. Kubart): tomas.kubart@angstrom.uu.se Lars Österlund: Department of Materials Science and Engineering, Ångström Laboratory, Uppsala University, P.O. Box 534, SE-751 21 Uppsala, Sweden E-mail: lars.osterlund@angstrom.uu.se
- 15:30 **Pd and Rh atomic layer deposition by using ozone as the only co-reactant** O 10.3
Yiming Zou, Yuanyuan Guo, Chunyu Cheng, Ronn Goel, Alfred ling Yoong Tok
School of Materials Science and Engineering, Nanyang Technological University, 50 Nanyang Avenue, Singapore 639798
- 15:45 **Characterization of galvanic silver dispersion coatings with optimized electrical and tribological behavior** O 10.4
Kayla Johnson, Robin Arnet, Dr. Ann-Kathrin Egetenmeyer
Research Institute for Precious Metals and Metals Chemistry
- 16:00 **Low temperature deposition of crystalline V₂O₃ thin films by high power impulse magnetron sputtering** O 10.5
Wahyu Diyatmika¹, Martin Rudolph¹, Gargi Kodgirwar^{1,2}, Yeliz Unutulmazsoy¹, and André Anders^{1,3}
¹ Leibniz Institute of Surface Engineering (IOM), Permoserstraße 15, 04318 Leipzig, Germany, ² Faculty of Physics and Earth Science, Leipzig University, Linnéstraße 5, 04103 Leipzig, Germany, ³ Felix Bloch Institute of Solid State Physics, Leipzig University, Linnéstraße 5, 04103 Leipzig, Germany
- 16:15 **Discussion**
- 16:30
- 16:45 **Bi-phasic calcium phosphate coatings of natural origin synthesized by pulsed laser deposition** O 10.6
G. Popescu-Pelin¹, C. Ristoscu¹, L. Duta¹, G.E. Stan², M. Popa^{3,4}, M.C. Chifiriuc^{3,4}, F.N. Oktar^{5,6}, and I.N. Mihailescu¹
¹National Institute for Lasers, Plasma and Radiation Physics, Magurele 077125, Romania ²National Institute of Materials Physics, Magurele 077125, Romania ³Microbiology Department, Faculty of Biology, University of Bucharest, Bucharest 060101, Romania ⁴Research Institute of the University of Bucharest (ICUB), University of Bucharest, Bucharest 050095, Romania ⁵Department of Bioengineering, Faculty of Engineering, University of Marmara, Kadikoy 34722, Istanbul, Turkey ⁶Center for Nanotechnology & Biomaterials Research, University of Marmara, Kadikoy 34722, Istanbul, Turkey
- 17:00 **Micro/nanostructured piezoelectric α-quartz thin films on silicon** O 10.7
David Sánchez-Fuentes*⁽¹⁾, Q. Zhang⁽¹⁾, C. Jolly⁽¹⁾, R. Desgarceaux⁽¹⁾, A. Gomez⁽²⁾, M. Gich,⁽²⁾ A.Carretero-Genevriér.⁽¹⁾
⁽¹⁾ Institut d'Electronique et des Systemes (IES), CNRS, Université de Montpellier, 860 Rue de Saint Priest 34095 Montpellier, France ⁽²⁾ Institut de Ciència de Materials de Barcelona ICMA, Consejo Superior de Investigaciones Científicas CSIC, Campus UAB 08193 Bellaterra, Catalonia, Spain * lead presenter

17:15	<p>A multifunctional Copper-doped 45S5 Bioglass for dental implants: Synthesis and physical-biological characterization</p> <p>Imen. Hammami¹, Sílvia R. Gavinho¹, Manuel. P. F. Graça¹, Ana S. Pádua², Diogo J. Ramos², Isabel Sá-Nogueira³, Jorge C. Silva², Joao P. Borges² ¹13N and Physics Department, Aveiro University, Aveiro, Portugal, ² I3N-CENIMAT, New University of Lisbon, Lisbon, Portugal, ³ UCIBIO, REQUIMTE, Departamento Ciências da Vida, Faculdade de Ciências e Tecnologia, FCT-UNL, Lisbon, Portugal</p>	O 10.8
17:30	<p>Plasma Deposition of Boron Phosphide at Low temperature</p> <p>Maksimova, A.A.(1,2), Uvarov, A.V.(1), Baranov, A.I.(1), Gudovskikh, A.S.(1,2), Vyacheslavova, E.A.(1), Kirilenko, D.A.(3), Kleider, J.-P.(4,5) ⁽¹⁾ Alferov University (St. Petersburg Academic University), Khlopina str., 8k3, St. Petersburg, 194021, Russia, ⁽²⁾ Saint-Petersburg Electrotechnical University "LETI", Prof. Popov str., 5, St. Petersburg, 197376, Russia, ⁽³⁾ Ioffe Physical-Technical Institute of the Russian Academy of Sciences, Politekhnikeskaya st., 26, 194021, St. Petersburg, Russia, ⁽⁴⁾ Université Paris-Saclay, CentraleSupélec, CNRS, Laboratoire de Génie Electrique et Electronique de Paris, F-91192, Gif-sur-Yvette, France, ⁽⁵⁾ Sorbonne Université, CNRS, Laboratoire de Génie Electrique et Electronique de Paris, F-75252, Paris, France</p>	O 10.9
17:45	<p>Conformal growth of GaP on the Si nanowires surface via plasma-enhanced atomic layer deposition</p> <p>Uvarov, A.V.*(1,2), Gudovskikh, A.S.(1,2), Vyacheslavova, E.A.(1,2), Morozov, I.A.(1), Kirilenko, D.A.(3), Maksimova, A.A.(1,2), Baranov, A.I.(1,2) ⁽¹⁾ St. Petersburg National Research Academic University RAS St. Petersburg, Russia, ⁽²⁾ St. Petersburg Electrotechnical University "LETI", St. Petersburg, Russia, ⁽³⁾ Ioffe Physical-Technical Institute RAS, St. Petersburg, Russia,</p>	O 10.10
18:00	<p>Discussion</p>	

Friday June 3

Thin film materials for advanced energy : Jiri HOUSKA

09:00	<p>INV Nano-engineered crystalline silicon materials via low temperature plasma processes</p> <p>Pere Roca i Cabarrocas LPICM, CNRS, Ecole Polytechnique, Institut Polytechnique de Paris, 91120 Palaiseau, France</p>	O 11.1
09:30	<p>Nanometric a-Si:H/oxide Solar Cells for Transparent Photovoltaics</p> <p>Alex J. Lopez-Garcia, Cristobal Voz, Joaquim Puigdollers, Victor Izquierdo-Roca, Alejandro Pérez-Rodríguez Institut de Recerca en Energia de Catalunya (IREC), Sant Adrià del Besòs, Barcelona, Spain, Departament Enginyeria Electrònica, Universitat Politècnica de Catalunya, 08034, Barcelona, Spain, Departament Enginyeria Electrònica, Universitat Politècnica de Catalunya, 08034, Barcelona, Spain, Institut de Recerca en Energia de Catalunya (IREC), Sant Adrià del Besòs, Barcelona, Spain, Institut de Recerca en Energia de Catalunya (IREC), Sant Adrià del Besòs, Barcelona, Spain, IN2UB, Departament d'Enginyeria Electrònica i Biomèdica, Universitat de Barcelona, Barcelona, Spain</p>	O 11.2
09:45	<p>Study of the synthesis of Al₂O₃-Ag cermets by reactive magnetron co-sputtering for photothermal applications</p> <p>Adrien Chauvin, 1-2 François Reniers, 1 Rony Snyders 2-3 ¹ Chemistry of Surfaces, Interfaces and Nanomaterials, Faculty of Sciences, Université libre de Bruxelles, 50 Avenue F.D. Roosevelt, 1050 Brussels, Belgium, ² Chemistry of Plasma-Surface Interactions, University of Mons, 23 Place du Parc, 7000 Mons, Belgium, ³ Materia Nova Research Center, 3 Avenue Nicolas Copernic, 7000 Mons, Belgium</p>	O 11.3
10:00	<p>Passivation of porous Si using reactive magnetron sputtered TiN coating for high-performance supercapacitors</p> <p>Deepika Jhahria, Ramesh Chandra Nanoscience Laboratory, Institute Instrumentation Centre, Indian Institute of Technology Roorkee, Roorkee, 247667, India</p>	O 11.4
10:15	<p>Design, plasma deposition and optical performance of absorbers based on W/W-SiCH/TaON multilayers for CSP</p> <p>A. Diop* (1,2), D. Ngoue(1,2), A. Bousquet(3), B. Diallo(4), A. Grosjean (1,2), H. Glenat(1), S. Quozola(1,2), A. Goullet(5), T. Sauvage(4), A. Soum-Glaude(1), E. Tomasella(3), L. Thomas(1,2) ⁽¹⁾ PROMES-CNRS (Laboratory of PROcess, Materials, Solar Energy)-Perpignan/Font-Romeu-Odeillo-Via, France ⁽²⁾ Université de Perpignan, Perpignan, France ⁽³⁾ ICCF (Institut de Chimie de Clermont-Ferrand), Aubière, France ⁽⁴⁾ CEMHTI (Conditions Extrêmes et Matériaux), Orléans, France ⁽⁵⁾ IMN (Institut des Matériaux Jean Rouxel), Nantes, France</p>	O 11.5
10:30	<p>Discussion</p>	
10:45		
11:00	<p>Improved Electrochemical Conversion of CO₂ to Multicarbon Products by Using Molecular Doping</p> <p>Huali Wu¹, Kun Qi¹, Luc Lajaunie^{2,3}, Philippe Miele^{1,4}, Damien Voiry^{1*} ¹ Institut Européen des Membranes, IEM, UMR 5635, Université Montpellier, ENSCM, CNRS, Montpellier 34000, France, ² Departamento de Ciencia de los Materiales e Ingeniería Metalúrgica y Química Inorgánica, Facultad de Ciencias, Universidad de Cádiz, Campus Río San Pedro S/N, Puerto Real, 11510, Cádiz, Spain, ³ Instituto Universitario de Investigación de Microscopía Electrónica y Materiales (IMEYMAT), Facultad de Ciencias, Universidad de Cádiz, Campus Río San Pedro S/N, Puerto Real 11510, Cádiz, Spain, ⁴ Institut Universitaire de France (IUF), 1 rue Descartes, 75231 Paris Cedex 05,</p>	O 11.6
11:15	<p>Magnetron Sputtered Cr and Diamond Based Carbon as Protective Double Layer Coating for Accident Tolerant Nuclear Fuel Tubes</p> <p>Irena Kratochvílová*¹, Lucie Celbová², Petr Ashcheulov¹, Jiří Bulíř¹, Jaromír Kopeček¹, Kateřina Aubrechtová Dragounová^{1,2}, Jakub Luštnec^{1,2}, Jan Macák³, Petr Sajdl³ and Radek Škoda⁴ ¹FZU – Institute of Physics of the Czech Academy of Sciences, Na Slovance 1999/2, 182 21, Prague 8, Czech Republic, ²Faculty of Nuclear Sciences and Physical Engineering, Czech Technical University in Prague, Břehova 7, 115 19 Prague, Czech Republic, ³University of Chemistry and Technology, Power Engineering Department, Technická 3, Prague 6, CZ-166 28, Czech Republic, ⁴Czech Technical University in Prague, Czech Institute of Informatics, Robotics and Cybernetics, Jugoslávských partyzánů 1580/3, Prague 6, CZ-160 00, Czech Republic,</p>	O 11.7

- 11:30** **Ne and Al ion implantation effects on the microstructure, thermal and electrical properties of CrSi₂ thin films** **O 11.8**
M. Timm^{1,2,3}, E. Oliviero^{2,3}, W. Sun⁴, S. Gomes⁴, G. Hamaoui⁵, P. F. P. Fichtner⁶, N. Fréty²
1 Instituto de Física, Universidade Federal Do Rio Grande Do Sul, Porto Alegre, RS, Brazil 2 ICGM, CNRS, Univ. Montpellier, Montpellier, France 3 MEA, CNRS, Univ. Montpellier, Montpellier, France 4 CNRS, INSA Lyon, CETHIL, Univ Lyon, UMR5008, 69621 Villeurbanne, France 5 ESYCOM Laboratory, CNRS, Université Gustave Eiffel, 77454 Marne-la-Vallée, France 6 Escola de Engenharia, Universidade Federal Do Rio Grande Do Sul, Porto Alegre, RS, Brazil
- 11:45** **Formation of Phosphorus-Doped N-type Silicon Films Using Sputter Epitaxy Method** **O 11.9**
Hiroya Esaki* (1), Nobumitsu Hirose (2), Akifumi Kasamatsu (2), Toshiaki Matsui (2), Yoshiyuki Suda (3) and Takahiro Tsukamoto (1)
(1)The University of Electro-Communications, Japan (2)National Institute of Information and Communications Technology, Japan (3)Tokyo University of Agriculture and Technology, Japan
- 12:00** **Discussion and Closing**