Jornadas CF-UM-UP 2019

December 13th 2019

Auditorium B2, Building CPII, Campus Gualtar, UMinho, Braga, Portugal

Programme

8h30 – 9h00	Registration
	Opening Session
9h00 – 9h10	Mikhail Vasilevskiy, Director of CF-UM-UP
	Morning Session
	Contributed Talks — Chair: Senentxu Lanceros-Mendez
9h10 – 9h25	**TopoSEM: a simple software tool to obtain three-dimensional surfaces from images of Scanning Electron Microscopy** Diego Martinez-Martinez
9h25 – 9h40	**Magneto-optical Kerr effect in spin split two-dimensional massive Dirac materials** Gonçalo Catarina
9h40 – 9h55	**Microfluidics for controlled self-assembly of cubosome nanoparticles of tunable size** Celso Ferreira
9h55 – 10h10	**Stationary Quantum Transport in Finite Fermionic Systems** João P. Santos Pires
10h10 – 10h25	**Development of a High-Resolution Localized Surface Plasmon Resonance Bio- and Gas-Sensing System using Nano-Designed Thin Films of Au-TiO_2** Marco S. Rodrigues
10h25 – 11h20	Poster Session, Vote for Best Oral Presentation & Coffee Break
	Keynote Speaker — Chair: Filipe Vaz
11h20 – 12h00	**New strategies towards high performance and low temperature processing of solution process metal oxide TFTs** Elvira Fortunato, CENIMAT/i3N Departamento de Ciência dos Materiais, FCT, Universidade NOVA de Lisboa & CEMOP/UNINOVA
	Invited Talks — Chair: Pedro Alpuim
12h00 – 12h20	**Transparent Thermoelectric TiO_2:Nb Thin Films** Carlos Tavares, CF-UM-UP, Universidade do Minho
12h20 – 12h40	**Exploring the Spectral and Temporal Dependence of Nonlinear Optical Effects in Graphene** César Bernardo, CF-UM-UP, Universidade do Minho
12h40 – 14h00	Lunch Break

Afternoon Session		
	Keynote Speaker	Chair: José Manuel Meijome
14h00 – 14h40	**Light, Vision and Eyes: History and Modern Optics** Luis Miguel Bernardo, Departamento de Física e Astronomia da Universidade do Porto	
	Invited Talks	Chair: José Manuel Meijome
14h40 – 15h00	**Magnetoelectric biomaterials for cell response modulation** Margarida M. Fernandes, CF-UM-UP & CEB, Universidade do Minho	
15h00 – 15h20	**Measuring valley polarization with second harmonic generation, and other nonlinear optics experiments with 2D crystals** José Carlos Viana Gomes, CF-UM-UP, CA2DM & Graphene Research Centre, National University of Singapore	
15h20 – 15h30	Poster Session	
15h30 – 16h05	Flash Poster Presentations	Chair: Ana Rita Rodrigues
16H05 – 16h30	Poster Session, Vote for Best Flash Poster Presentation & Coffee Break	
	Round Table Discussion	Moderator: Filipe Vaz
16h30 – 17h45	**The importance of research in the innovation challenges and needs of industry** Filipe Vaz, Prorector of Research and Projects at UM & CF-UM-UP Researcher Senentxu Lanceros-Méndez, CF-UM-UP Researcher Lorena Diéguez, CEO RubyNanomed & INL Staff Researcher Eliseu Vieira, Bosch Head of Engineering Department in Braga Alexandre Marques, ZF Group I&D Centre Administrator in Portugal Cláudia Azevedo, ANI Interface Unit Coordinator	

Closing Session	
17h45 – 18h00	Best Presentation Awards & Concluding Remarks

List of Posters participating in Best Poster Award[1]

Code	Poster
PA01	**Measuring the spectral properties of the skin of human faces** Dora N. Marques, João M. M. Linhares, Andreia E. Gomes, Ricardo J. F. Pereira, Sérgio M. C. Nascimento
PA02	**Best daylighting for viewing the skin of human faces** Andreia E. Gomes, João M. M. Linhares, Ricardo J. F. Pereira, Sérgio M. C. Nascimento
PA03	**Exciton-polaritons in a cylindrical microcavity with an embedded 2D semiconductor layer** José Nuno S. Gomes, Carlos Trallero-Giner, Nuno M. R. Peres, Mikhail I. Vasilevskiy
PA04	**Optical Kerr effect in graphene under pulsed illumination in the visible spectral range** Diogo Cunha, César R. Bernardo, Michael Belsley, Mikhail Vasilevskiy
PA05	**Excitation of Graphene Plasmons by Quantum Emitters** Beatriz Ferreira, Nuno Peres
PA06	**The versatility of membrane-water partitioning in pharmacokinetic modelling** Eduarda Fernandes, T. Soares, A. Almeida, S. Benfeito, C. M. Lopes, B. Sarmento, F. Borges, M.E.C.D. Real Oliveira, M. Lúcio
PA07	**Liposomal Curcumin to overcome multidrug resistance in Cancer Treatment** Telma B. Soares, A. Dias, M.E.C.D. Real-Oliveira, M. Lúcio
PA08	**Liposomal hydrogels for the intravaginal co-delivery of antiretroviral drugs** Maria J. Faria, M. E. C. D. Real Oliveira, J. das Neves, T. Viseu and M. Lúcio
PA09	**Lipid colloidal dispersions loaded with omega-3 fatty acids and/or resveratrol developed for topical application against psoriasis** Ana R. Caldas, M.E.C.D. Real Oliveira, C. M. Lopes and Marlene Lúcio
PA10	**Plasmonic magnetogels as composite systems for multimodal cancer therapy** Sérgio R. S. Veloso, Paula M. T. Ferreira, J. A. Martins, Paulo J. G. Coutinho, Elisabete M. S. Castanheira
PA11	**PEGylated magnetoliposomes based on calcium-substituted magnesium ferrite nanoparticles as curcumin nanocarriers for cancer therapy** Beatriz D. Cardoso, A. Rita O. Rodrigues, B. G. Almeida, P. J. G. Coutinho, Elisabete M.S. Castanheira
PA12	**Synthesis and characterization of magnetoliposomes containing nickel ferrite nanoparticles covered with gold for applications in phototherapy** Irina S. R. Rio, Ana Rita O. Rodrigues, Elisabete M. S. Castanheira, Paulo J. G. Coutinho
PA13	**Development of magnetic nanoparticles decorated with silver for photodegradation of textile dyes with visible light** Ricardo J. C. Fernandes, Carlos A.B. Magalhães, Carlos O. Amorim, Vítor S. Amaral, Bernardo G. Almeida, Elisabete M.S. Castanheira, Paulo J.G. Coutinho
PA14	**Formation of monoolein-cationic lipid nanoparticles by solvent-exchange in bulk and microfluidics** Margarida M. Barros, C.J.O. Ferreira, M.E.C.D. Real Oliveira1 B.F.B. Silva

1 Posters will be on display in the Hall of CPII building. The selected flash presentations will be delivered in the Auditorium B2 of CPII building

PA15	**Simulation of the temperature profile of $BaCaZrTiO_3$ thin films during laser annealing** Tiago Rebelo, Bernardo G. Almeida
PA16	**Multiferroic $CoFe_2O_4$\$LiNbO_3$ Bilayers** Bruna M. Silva, J. Oliveira, J.A. Mendes, B.G. Almeida
PA17	**Chromium triiodide magnetic nanofibers** Vahideh Bayzi Isfahani, João H. Belo, Loukya Boddapati, Anabela Gomes Rolo, Rosa M. F. Baptista, Leonard Francis, João P. Araújo, Etelvina de Matos Gomes, Bernardo Almeida
PA18	**High-quality graphene-based dispersions for flexible electronics** Miguel Monteiro, Sergey Tkachev, Andrea Capasso, Pedro Alpuim
PA19	**Two-dimensional MoSe2 growth on soda-lime glass by chemical vapor deposition** João N. Rodrigues, J. Santos, P. Alpuim, A. Capasso
PA20	**Towards graphene based RF devices** Vitor Silva, I. Colmiais, L. Baptista, J. Borme, P. M. Mendes, P. Alpuim
PA21	**Label-free detection of DNA using graphene liquid-gate transistors** Telma Domingues, J. Rafaela Guerreiro, A. Ipatov, A. Purwidyantri, J. Borme, M. Prado, P. Alpuim
PA22	**Field-Effect Transistors as biosensors: building up for the end application** Patrícia D. Cabral, T. Rodrigues, J. Borme, E. Fernandes, P. Alpuim
PA23	**Au:CuO Nanocomposite Thin Films for Gas Sensing with High-Resolution Localized Surface Plasmon Resonance Spectroscopy** Manuela Proença, Marco S. Rodrigues, Joel Borges, Filipe Vaz
PA24	**Influence of a plasma treatment on the microstructure and plasmonic behaviour of Au-Al2O3 thin films** Diana I. Meira, Marco S. Rodrigues, Joel Borges, Filipe Vaz
PA25	**Influence of nanoparticle size and composition on the plasmonic response of Au-TiO_2 and Ag/Au-TiO_2 thin films** Diogo Costa, Marco S. Rodrigues, Lucian Roiban, Philippe Steyer, Joel Borges, Filipe Vaz
PA26	**Transparent Niobium-doped Titanium Dioxide Thin Films with high Seebeck coefficient for thermoelectric applications** Joana M. Ribeiro, Filipe C. Correia, Carlos J. Tavares
PA27	**Thermoelectric study of ZnO-based thin films: the effect of Bi dopant content** Filipe C. Correia, J.M. Ribeiro, J.S. Reparaz, A.R. Goñi, A.M. Mendes3 C.J. Tavares
PA28	**Water-based CuInxGa1-xSe2 chalcopyrite nanoink for flexible solar cells** Bruna F. Gonçalves, Viviana Sousa, Gabriela Botelho, Yury V. Kolen'ko, Senentxu Lanceros-Mendéz
PA29	**Water-based graphene inks for printed electronics** Miguel Franco, Raquel Alves, Pedro Costa, Senentxu Lanceros-Méndez
PA30	**Mechano-electrical skeletal muscle cell stimulation for tissue regeneration** Sylvie Ribeiro, C. Ribeiro, E. O. Carvalho, C. R. Tubio, N. Castro, N. Pereira, V. Correia, A. C. Gomes and S. Lanceros-Méndez
PA31	**High magnetoelectric response materials for all-printed electronics** Ana C. Lima, N. Pereira, R. Polícia, C. Ribeiro1, V. Correia, S. Lanceros-Mendez, P. Martins
PA32	**Evaluation of the bacterial response to piezoelectric microenvironments** Estela O. Carvalho, Margarida M. Fernandes, Jorge Padrao, Ana Nicolau, Jorge Marqueś-Marchań, Agustina Asenjo, Francisco M. Gama, Clarisse Ribeiro, Senentxu Lanceros-Mendez
PA33	**Thermochromic and Thermoresistive Ionic Liquids based Printable Materials** Liliana Correia Fernandes, Daniela Maria Correia, Clara García-Astrain, Nelson Pereira, Mohammad

	Tariq, José M. S. S. Esperança and Senentxu Lanceros-Mendez
PA34	**Development of magnetoelectric materials for printed electronics** Nelson Pereira, A. C. Lima, R. Polícia, V. Correia, P. Martins and S. Lanceros-Mendez
PA35	**Micropatterned electroactive polymers for biomedical and energy applications** Teresa Marques-Almeida, R. Gonçalves, S. Ribeiro, D. Miranda, M. M. Silva, V. F. Cardoso, F. M. Gama, C.M. Costa, C. Ribeiro, S. Lanceros-Mendez
PA36	**Ionic-Liquid-Based Electroactive Polymer Composites for MuscleTissue Engineering** Rafaela M. Meira, D. M. Correia, S. Ribeiro, P. Costa, A.C. Gomes, F.M. Gama, S. Lanceros-Méndez and C. Ribeiro
PA37	**Nano and micro materials for highly efficient arsenic removal from water** Hugo Salazar, P. M. Martins, Kiran P. Shejale, Rakesh K. Sharma, R. Krishnapriya, S. Ferdov, M. Silva, G. Botelho, A. Fidalgo-Marijuana and S. Lanceros-Mendez
PA38	**Surface engineering of nanostructured Ta surface with incorporation of osteoconductive elements by anodization** Luísa Fialho, Sandra Carvalho
PA39	**Alternative coatings to hexavalent chromium in applications under cyclic loads** Edgar Carneiro, José D. Castro, S. Carvalho
PA40	**Multifunctional coatings based on doped Ag-TiN for 3D printed ceramic pieces** José D. Castro, E. Carneiro, S. M. Marques, Bruno Figueiredo, Antonio J. Pontes, Álvaro M. Sampaio, Isabel Carvalho, Mariana Henriques, Paulo J. S. Cruz, S. Carvalho
PA41	**TiSiN(Ag) coatings deposited by HiPIMS** Diogo Cavaleiro, F. Fernandes, S. Carvalho
PA42	**Oxidation of Metallic and Bimetallic Nanoparticles Produced by Magnetron Sputtering** Hafsae Lamsaf, L. Rebouta, S. Carvalho, S. Calderon V.
PA43	**Effect of morphology on the wear behaviour of CrN coating deposited by arc-PVD method** Rita Ferreira, Óscar Carvalho, Luís Sobral , Sandra Carvalho, Filipe Silva
PA44	**A Polynomial Approach to the Spectrum of Dirac-Weyl Graphene Flakes** Maurício F. C. M. Quintela, João M. B. Lopes dos Santos1
PA45	**Edge-magnetism in Transition-metal Dichalcogenide Nanoribbons** Francisco M. O. Brito, João M. V. P. Lopes, Eduardo V. Castro

List of Regular Posters[2]

Code	Poster
RP01	**Ocular biometry and refractive error of a Young Portuguese Subjects during 3 years of University Enrolment** Daniela Lopes-Ferreira, Ana Rita Oliveira Vaz, Rute J. Macedo-de-Araújo, Ana Amorim-de-Sousa, Paulo Fernandes, Ana F. Mota, André Amorim, Miguel Faria-Ribeiro, Sofia Peixoto-de-Matos Antonio Miranda, Jorge Jorge, António Queirós, José Manuel González-Méijome
RP02	**Applications of real-time measurement of ocular aberrations** Jessica Gomes and Sandra Franco
RP03	**The influence of coloured lighting on accommodative parameters in subjects with accommodative dysfunctions** Daniela Chaves, João Linhares, Sandra Franco
RP04	**The Influence of the Coloured Lighting on Amplitude of Accommodation** Raquel Moreira, João Linhares, Sandra Franco
RP05	**The influence of coloured lighting on binocular vision** Tiago Machado, Sandra Franco, João Linhares
RP06	**Energy storage characteristics of ferroelectric-dielectric multilayered thin films** J. P. B. Silva, J. M. B. Silva, M. J. S. Oliveira, T. Weingärtner, K. C. Sekhar, Mário Pereira, M. J. M. Gomes
RP07	**Tenofovir disoproxil fumarate/emtricitabine-loaded electrospun fibers for vaginal administration and prevention of HIV transmission** S. Bogas, M.J. Faria, R. Nunes, S. Lanceros-Mendez, J. das Neves, M. Lúcio, Teresa Viseu
RP08	**DODAB:MO versus novel liposomes for protein delivery: comparing toxicity and encapsulation efficiency** Vanessa Pinho, Mário Fernandes, Ana C.N. Oliveira, Ivo Lopes, Cláudia Botelho, José A. Teixeira, Maria Elisabete Cunha Dias Real Oliveira, Andreia C. Gomes
RP09	**Nonlinear optical response of excitons** Carlos D. M. Fernandes, G. B. Ventura, N. M. R. Peres
RP10	**A graphene-based terahertz plasmonic device for biosensing** Alexandre Chícharo, Jérôme Borme, Yuliy Bludov, Chund-Da Liao, Fátima Cerqueira, Nuno Peres, Pedro Alpuim
RP11	**Design and Development of Laser Surface Textures to Reduce Friction For Steel** Vipin Richhariya, O. Carvalho, P. Amoroso, A. Cavaleiro and F.S. Silva
RP12	**Electroactive polymer-based microstructures for biomedical applications** André S. Macedo, E.S. Pimentel, V.F. Cardoso, D.M. Correia, G. Botelho, S. Lanceros-Méndez
RP13	**Antifungal action of ZnO thin films prepared by glancing angle deposition** Patrícia Pereira-Silva, Augusto Costa-Barbosa, Diogo Costa, Marco S. Rodrigues, Paula Sampaio, Joel Borges, Filipe Vaz
RP14	**Development of Clear, Photocatalytic and Self-cleaning Asphalt Mixtures**

2 Posters will be on display in the Hall of CPII building.

	Iran Rocha Segundo, Salmon Landi Jr., Elisabete Freitas, Cedric Vuye, Tom Tytgat, Siegfried Denys, Manuel Filipe Costa, Joaquim Carneiro
RP15	**Enhanced ionic conductivity in electrospun separator membranes based on poly(vinylidene fluoride) blended with different ionic liquids for lithium-ion battery applications** João C. Barbosa, D. Correia, R. Gonçalves, C. M. Costa, V. de Zea Bermudez, M.M. Silva and S. Lanceros-Mendez
RP16	**Analytical expressions for the second order conductivity of a cold semiconductor** Gonçalo B. Ventura, D. J. Passos, J. M. V. Parente Lopes, J. M. B. Lopes dos Santos
RP17	**Magnetic dipolar synchronization of vortex-based spin torque nano-oscillators with independent top contacts** Leandro Martins, Alex Jenkins, Jérôme Borme, João Ventura, Ricardo Ferreira and Paulo Freitas
RP18	**(Para)magnetic nanocarriers for early detection and treatment of solid tumors** Cátia Rocha, Manuel Bañobre-López, Juan Gallo
RP19	**Fluorescent Effect on Textile Supercapacitors** Joana S. Teixeira, André M. Pereira, Clara Pereira
RP20	**Orbital Hall effect in Transition Metal Dichalcogenides monolayers** Tatiana G. Rappoport
RP21	**Self-assembling of dipeptide nanotubes inside electrospun fibers with strong piezoelectric response** Rosa M. F. Baptista, Etelvina de Matos Gomes, M. Manuela M. Raposo, Susana P.G. Costa, Paulo E. Lopes, Bernardo Almeida, Michael S. Belsley
RP22	**Enhancing the performance of separator membranes by surface micropatterning for lithium ion batteries** Carlos M. Costa, R. Gonçalves, T. Marques-Almeida, D. Miranda, M. M. Silva, V. F. Cardoso, S. Lanceros-Méndez
RP23	**Ionic Liquid based polymer actuators** Daniela M. Correia, Carlos M. Costa, S. Lanceros-Méndez
RP24	**Transparent magnetoactive composites** R. Polícia, A. C. Lima, N. Pereira, E. Calle, M. Vázquez, S. Lanceros-Mendeza and Pedro Martins
RP25	**Environmental remediation strategies based on polymernanocomposites** Pedro M. Martins, H. Salazar, J.Teixeira, and S. Lanceros-Mendez
RP26	**Ground state phase diagram of spin-1/2 transverse ANNNI chain** Somayyeh Nemati, Fatemeh Khastehdel Fumani, Saeed Mahdavifar