



**XXXIX B-MRS Meeting 2023**  
October 1st to 5th



BRAZILIAN MATERIALS  
RESEARCH SOCIETY

**BOOKLET**

# Foreword

Ladies and gentlemen,

I am honored to stand before you today as the President of the XXI B-MRS Meeting and introduce this incredible gathering dedicated to the world of materials science and technology. This conference is not just an event; it is a celebration of knowledge, innovation, and the shared passion we have for advancing the field of materials science.

Our meeting reflects the profound impact that materials science has on our world. From the devices we use in our daily lives to the solutions that address global challenges, materials science is at the heart of progress.

Before we dive into the rich program that awaits us, I would like to take a moment to reflect on the importance of this gathering and the book that symbolizes our collective efforts.

This book, like our conference, is a repository of knowledge, a testament to human curiosity, and a tribute to the countless hours of research, collaboration, and dedication that each of you has invested in the field of materials science. Within these pages, you will find the latest discoveries, innovative technologies, and groundbreaking solutions that will shape the future of our discipline.

As we explore this book and the presentations throughout the conference, let us remember the essence of scientific discovery – curiosity. It is curiosity that has driven us to explore the properties of materials, to uncover the secrets of the universe at the nanoscale, and to engineer materials that have never existed before.

In our quest for innovation and sustainability, let us also embrace the idea of responsibility. Our discoveries and innovations have the power to change the world, and with that power comes the responsibility to ensure that our work benefits all of humanity and our planet. Sustainability is not an option; it is an imperative that must guide our research and our actions.

Throughout this meeting, you will have the opportunity to engage with leading experts, share your own research, and forge collaborations that will shape the future of materials science. The connections you make and the knowledge you gain here will not only advance your careers but will also contribute to the collective progress of our field.

I want to express my sincere gratitude to the organizing committee, the volunteers, our sponsors, and exhibitors for their unwavering support. Your dedication and hard work have made this event possible, and we are deeply thankful for your commitment to the advancement of materials science.

In conclusion, as we embark on this intellectual journey over the next few days, I encourage you to approach each presentation, each conversation, and each idea with an open mind and a spirit of collaboration. Let us use our knowledge and our passion for materials science to drive innovation and sustainability, and let us be stewards of the responsible use of our discoveries.

With that, I officially introduce the book of the XXI B-MRS Meeting, a testament to our collective pursuit of knowledge and progress.

Thank you, and let us embark on this exciting journey together. Enjoy the conference!

Carlos Jacinto da Silva  
Conference Chair

# Timetable

Time	Sun 01/Oct	Mon 02/Oct	Tue 03/Oct	Wed 04/Oct	Thu 05/Oct
07:30 - 19:00		REGISTRATION	REGISTRATION	REGISTRATION	REGISTRATION
09:30 - 20:00	REGISTRATION				
08:30 - 09:00			Plenary Session	Plenary Session	D,E,F,G,I,N,P,Q,R,V,X,Z
09:00 - 09:30		Special Round Table			
09:45 - 10:00					
10:00 - 10:15	Short Courses	Coffee Break	B,C,D,E,F,J,K,N,P,Q,T/U,X	D,E,F,G,I,N,P,Q,R,V,X,Z	
10:15 - 10:45		Plenary Session			Coffee Break
10:45 - 11:15	Microfluidics research: opportunities for material science		Coffee Break	Coffee Break	Plenary Session
11:15 - 11:45		A,B,C,E,J,K,N,O,Q,S,V,X	D,E,G,H,I,N,O,P,R,U,V,X	D,E,F,G,I,N,P,Q,R,U,X,Z	
11:45 - 12:00					Closing Ceremony
12:00 - 12:30					
12:30 - 13:15		Lunch	Lunch	Lunch	
13:15 - 14:00	Short Courses				
14:00 - 15:00	Young Researchers' School: Tutorial on Scientific Writing and the Editorial Process		C,D,E,F,G,I,N,Q,R,S,V,X		
15:00 - 15:30		A,B,C,E,H,J,K,M,N,O,S,V	Technical session	D,F,G,I,L,N,P,Q,R,V,X,Z	
15:30 - 15:45					
15:45 - 16:00	Short Courses				
16:00 - 16:25	From nanomaterials to macromolecules: Innovative technologies applied to forensic science	Coffee Break	Coffee Break	Coffee Break	
16:25 - 17:25		Plenary Session	Plenary Session	Plenary Session	
17:30 - 17:45					
17:45 - 18:30		A,B,C,E,J,K,M,N,O,Q,V,X	C,D,E,F,G,I,N,Q,R,S,V,X	D,E,F,G,I,L,N,P,R,V,X,Z	
18:30 - 20:00		Poster session	Posters session	Posters session	
19:00 - 22:00	Opening Ceremony, Memorial Lecture, Welcome cocktail				
21:00 - 00:00			Conference Party		

# Contents

MEMORIAL LECTURE.....	5	PRODUCING MORE EFFICIENT SYSTEMS VIA NANOSCALE CHARACTERIZATION.....	23
PLENARY LECTURES.....	5	SYMPOSIUM I - MATERIALS FOR ENERGY CONVERSION AND STORAGE .....	24
SPECIAL ROUND TABLE.....	5	SYMPOSIUM J - MATERIALS FOR APPLICATION IN SMART DEVICES FOR ENERGY STORAGE AND CONVERSION.....	27
TECHNICAL SESSION .....	5	SYMPOSIUM K - ENERGY HARVESTING: PEROVSKITE, ORGANIC, HYBRID, QUANTUM DOTS, AND DYE-SENSITIZED SOLAR CELLS ..	29
SYMPOSIUM A - ARTIFICIAL INTELLIGENCE APPLIED TO MATERIALS SCIENCE.....	7	SYMPOSIUM L - RADIATION DETECTORS....	31
SYMPOSIUM B - DESIGN OF INTELLIGENT HYBRID AND COMPOSITE NANOSYSTEMS: FROM CONCEPTS TO PROGRAMMABLE MATTER.....	8	SYMPOSIUM M - TOPOLOGY IN QUANTUM PHYSICS .....	32
SYMPOSIUM C - MULTIFUNCTIONAL POLYMER BLENDS AND COMPOSITES .....	10	SYMPOSIUM N - PROCESSING, PROPERTIES, MODELLING AND CHARACTERIZATION OF METALS AND ALLOYS .....	33
SYMPOSIUM D - ADVANCED MATERIALS APPLIED IN SENSORS FOR HEALTH, AGRICULTURAL, AND ENVIRONMENTAL APPLICATIONS.....	12	SYMPOSIUM O - RECENT ADVANCES IN COLD PLASMAS AND RELATED APPLICATIONS.....	37
SYMPOSIUM E - ADVANCED MATERIALS AND SURFACE TREATMENTS FOR BIOLOGICAL, DENTAL AND MEDICAL APPLICATIONS.....	14	SYMPOSIUM P - POLYSACCHARIDE-BASED MATERIALS .....	39
SYMPOSIUM F - NANOMATERIALS IN MEDICINE, NANOTOXICOLOGY AND NANOREGULATION: EXPLOITING THE NANO-BIO INTERFACE FOR CLINICAL TRANSLATION .....	17	SYMPOSIUM Q - MATERIALS FOR ADDITIVE MANUFACTURING .....	41
SYMPOSIUM G - PHOTOCATALYTIC MATERIALS APPLIED IN ENERGY CONVERSION AND ENVIRONMENTAL REMEDIATION.....	20	SYMPOSIUM R - ORGANIC ELECTRONICS, PHOTONICS AND BIOELECTRONICS: FUNDAMENTALS, APPLICATIONS AND EMERGING TECHNOLOGIES .....	44
SYMPOSIUM H - NEW DEVELOPMENTS IN BATTERY MATERIALS: DESIGNING AND		SYMPOSIUM S - ECO-DESIGN STRATEGIES OF BIO-POLYMERIC/NANOCELLULOSE MATERIALS: FROM FUNDAMENTAL ASPECTS TO MARKETING .....	47
		SYMPOSIUM T - MATERIALS AND DEVICES FOR INNOVATION IN THE AGRIBUSINESS ...	49

**SYMPOSIUM U - SUSTAINABLE PRODUCTION  
OF NANOMATERIALS AND INK  
FORMULATIONS FOR AFFORDABLE,  
EFFICIENT, AND REUSABLE PRINTED  
ELECTRONICS..... 50**

**SYMPOSIUM V - ADVANCED  
NANOCOMPOSITES FOR PHOTONICS :  
MATERIALS SYNTHESIS, OPTICAL PROPERTIES  
AND APPLICATIONS ..... 51**

**SYMPOSIUM X - RESEARCH ON 2D  
MATERIALS ..... 54**

**SYMPOSIUM Z - MAGNETISM, SPINTRONICS,  
SUPERCONDUCTIVITY AND COMPLEX  
MAGNETIC NANOSTRUCTURES ..... 58**

## Memorial Lecture

SUNDAY, OCTOBER 01

*SESSION ML (19:00 - 20:30) - Room Gustavo Leite Theater*

**19:00** **Spinning Wheels Beyond Rare Earth Spectroscopy: Building a Future with Functional Photonic Materials from 50 Years of Science, Sweat, and Tears** [Gilberto Fernandes Sá](#)<sup>1</sup>; <sup>1</sup>Universidade Federal de Pernambuco (ML.1)

## Plenary Lectures

MONDAY, OCTOBER 02

*SESSION PL-1 (10:15 - 11:15) - Room Gustavo Leite Theater*

**10:15** **Porous nanomaterials for capturing, sensing and releasing** [Luisa De Cola](#)<sup>1</sup>; <sup>1</sup>Istituto di Ricerche Farmacologiche Mario Negri (PL-1.1)

*SESSION PL-2 (16:25 - 17:25) - Room Gustavo Leite Theater*

**16:25** **Graphene and Related Materials: From Production to Applications** [Andrea C. Ferrari](#)<sup>1</sup>; <sup>1</sup>University of Cambridge (PL-2.1)

TUESDAY, OCTOBER 03

*SESSION PL-3 (08:30 - 09:30) - Room Gustavo Leite Theater*

**08:30** **Carbon-based materials** [Fernando Lázaro Freire Júnior](#)<sup>1</sup>; <sup>1</sup>Pontifícia Universidade Católica do Rio de Janeiro (PL-3.1)

*SESSION PL-4 (16:25 - 17:25) - Room Gustavo Leite Theater*

**16:25** **Luminescent nanothermometers in biomedicine: past, present and future** [Daniel Jaque](#)<sup>1</sup>; <sup>1</sup>Universidad Autónoma de Madrid (PL-4.1)

WEDNESDAY, OCTOBER 04

*SESSION PL-5 (08:30 - 09:30) - Room Gustavo Leite Theater*

**08:30** **Innovations in Materials and Technologies to Face New Threats in Water Treatment** [Conchi O Ania](#)<sup>1</sup>; <sup>1</sup>Centre national de la recherche scientifique (PL-5.1)

*SESSION PL-6 (16:25 - 17:25) - Room Gustavo Leite Theater*

**16:25** **Advanced Materials for Energy Efficient Printable Electronics** [Rodrigo Ferrão de Paiva Martins](#)<sup>1,2,3</sup>; <sup>1</sup>FCT NOVA: NOVA School of Science and Technology, <sup>2</sup>Centro de Investigação de Materiais (Lab. Associado I3N), <sup>3</sup>Centro de Excelência de Microelectrónica e Optoelectrónica de Processos (PL-6.1)

THURSDAY, OCTOBER 05

*SESSION PL-7 (10:45 - 11:45) - Room Gustavo Leite Theater*

**10:45** **Computational Modeling and Design of OLED Emitters Based on Earth-Abundant Elements** [Christel M. Marian](#)<sup>1</sup>; <sup>1</sup>Heinrich Heine Universität Düsseldorf (PL-7.1)

## Special Round Table

MONDAY, OCTOBER 02

*SESSION RT (09:00 - 10:00) - Room Gustavo Leite Theater*

**09:00** **Discuss join academic and funding opportunities for materials science development in Brazil and Portugal** [Elvira Maria Correia Fortunato](#)<sup>1</sup>, [Celso Pansera](#)<sup>2</sup>, [Fábio Guedes Gomes](#)<sup>3</sup>, [Luciana Barbosa de Oliveira Santos](#)<sup>4</sup>, [Mônica Alonso Cotta](#)<sup>5</sup>; <sup>1</sup>Universidade Nova de Lisboa, <sup>2</sup>Financiadora de Estudos e Projetos, <sup>3</sup>Fundação de Amparo à Pesquisa do Estado de Alagoas, <sup>4</sup>Ministério da Ciência, Tecnologia e Inovação, <sup>5</sup>University of Campinas (RT.1)

## Technical Session

TUESDAY, OCTOBER 03

*SESSION TS8 (15:10 - 16:00) - Room Pajuçara*

**15:10** **Scientific Entrepreneurship and Technological Innovation in Materials Science** [Viviane Nogueira Hamanaka](#)<sup>1</sup>, [Gregório Couto Faria](#)<sup>2</sup>, [Tiago Hilario Ferreira](#)<sup>3</sup>, [Lucas Fugikawa-Santos](#)<sup>4</sup>; <sup>1</sup>Autocoat Equipamentos e Processos de Depósito, <sup>2</sup>Instituto de Física de São Carlos- USP, <sup>3</sup>Innovative Materials, <sup>4</sup>Universidade Estadual Paulista (TS8.4)

*SESSION TS7 (15:10 - 16:00) - Room Pitanga*

**15:10** **History of Physics at UFPE ( 50 years of DF-UFPE)** [Wanderley Vitoriano da Silva Filho](#)<sup>1</sup>; <sup>1</sup>Universidade Federal do Amazonas (TS7.1)

*SESSION TS6 (15:10 - 16:00) - Room Siriguella*

**15:10** **How to Increase your Submission Visibility: Getting to Know Royal Society of Chemistry and Tips on Sending a Manuscript** [Elizabeth Magalhaes](#)<sup>1</sup>; <sup>1</sup>Royal Society of Chemistry (TS6.1)

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*SESSION TS5 (15:10 - 16:00) - Room Virgilio Loureiro Auditorium 2*

**15:10 Artificial Intelligence et al.: will large language models revolutionize scientific publishing?** [Valtair Severino dos Santos Junior](#)<sup>1</sup>; <sup>1</sup>ACS Publications (**TS5.1**)

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*SESSION TS4 (15:10 - 16:00) - Room Ponta Verde*

**15:10 Exploring the Open Facilities and Opportunities for Training and Research at the Brazilian Center of Research in Energy and Materials** [brunno lange albuquerque](#)<sup>1</sup>; <sup>1</sup>Brazilian Center of Research in Materials and Energy (CNPEM) (**TS4.1**)

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*SESSION TS3 (15:10 - 16:00) - Room Tamarindo*

**15:10 Exploring benefits of combined Rheology with Tribology for characterization of materials** [Jorge Maia](#)<sup>1</sup>; <sup>1</sup>Anton Paar (**TS3.1**)

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*SESSION TS2 (15:10 - 16:00) - Room Mangaba*

**15:10 Probing the Nanoscale Frontier. (S)TEM imaging and spectroscopy down to the picometer level** [kevin j mcilwrath](#)<sup>1</sup>; <sup>1</sup>Jeol USA (**TS2.1**)

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*SESSION TS1 (15:10 - 16:00) - Room Virgilio Loureiro Auditorium 1*

**15:10 Evolution of Raman Spectroscopy and Correlative Microscopy: Innovative sample scanning methods, instantaneous chemometrics by artificial intelligence, micro geoprocessing of images and colocalized correlations with various microscopy techniques** [Igor Alessandro Silva Carvalho](#)<sup>1</sup>; <sup>1</sup>Horiba Instruments Brasil (**TS1.1**)

MONDAY, OCTOBER 02

\* Invited Lecture

*SESSION A.01.D1 (11:15 - 12:30) - Room Jatiúca*

**11:15 Combining the Power of High-Throughput ab initio Calculations and Machine Learning towards Materials Informatics** [Gian-Marco Rignanese](#)<sup>1</sup>; <sup>1</sup>Université Catholique de Louvain (A.O1.D1.1\*)

**11:45 A machine learning-enhancement for portable electrochemical detection of viruses.** [Ronaldo Valentin Chalhua Reynoso](#)<sup>1</sup>, Ronaldo Cristiano Prati<sup>1</sup>, Ana Melva Champi Farfan<sup>1</sup>; <sup>1</sup>Universidade Federal do ABC (A.O1.D1.2)

**12:00 Synthesizing double halide perovskites with machine learning prediction** [Tatiane Preto](#)<sup>1</sup>, Fábio Baum<sup>2</sup>, MARCOS JOSE LEITE SANTOS<sup>1</sup>; <sup>1</sup>Universidade Federal do Rio Grande do Sul, <sup>2</sup>University of Washington (A.O1.D1.3)

**12:15 Prediction of self-healing properties of concrete modified with fibers and bacteria** [Carolina Luiza Emerciana Pessoa](#)<sup>1</sup>, Victor Hugo Peres Silva<sup>1</sup>, [Ricardo Stefani](#)<sup>1</sup>; <sup>1</sup>Universidade Federal de Mato Grosso (A.O1.D1.4)

*SESSION A.02.D1 (14:00 - 16:00) - Room Pajuçara*

**14:00 Engineering Soft-Matter with Agent-Driven High-Throughput Experiments** [Lilo D. Pozzo](#)<sup>1</sup>, Kiran Vaddi<sup>1</sup>, Karen Li<sup>1</sup>, Fábio Baum<sup>1</sup>, Huat Thart-Chiang<sup>1</sup>, Maria Politi<sup>1</sup>; <sup>1</sup>University of Washington (A.O2.D1.1\*)

**14:30 Natural language processing towards a data-oriented design approach for producing biochar and hydrochar** [Amauri Jardim Paula](#)<sup>1,2</sup>; <sup>1</sup>Universidade Federal do Ceará, <sup>2</sup>Ilum Escola de Ciências (A.O2.D1.2)

**14:45 Machine learning-assisted MD simulation of melting in superheated AlCu crystal validates the Classical Nucleation Theory** [Azat Tipseev](#)<sup>1</sup>, Roman E. Ryltsev<sup>2,3</sup>, Shiddhartha Ramprakash<sup>4</sup>, Nikolay M. Chitchev<sup>5</sup>, Edgar Dutra Zanotto<sup>1</sup>; <sup>1</sup>Federal University of Sao Carlos, <sup>2</sup>Institute of Metallurgy, Ural Branch of the Russian Academy of Sciences, 620016 Ekaterinburg, Russia, <sup>3</sup>Ural Federal University, 620002 Ekaterinburg, Russia, <sup>4</sup>National Institute of Technology Tiruchirappalli, 620015 Tamil Nadu, India, <sup>5</sup>Vereshchagin Institute for High Pressure Physics, Russian Academy of Sciences, 108840 Troitsk, Moscow, Russia (A.O2.D1.3)

**15:00 Machine learning as a tool on multiscale materials modelling: building bridges over scales** [Caetano Rodrigues Miranda](#)<sup>1</sup>; <sup>1</sup>Instituto de Física da Universidade de São Paulo (A.O2.D1.4)

**15:15 First principles physics-informed neural network for quantum wavefunctions and eigenvalue surfaces** [Gabriel Ravanhani Schleder](#)<sup>1</sup>, Marios Mattheakis<sup>2</sup>, Daniel T. Larson<sup>2</sup>, Efthimios Kaxiras<sup>2</sup>; <sup>1</sup>Brazilian Nanotechnology National Laboratory, <sup>2</sup>Harvard University (A.O2.D1.5)

**15:30 Machine learning and Natural Language Processing in Materials Sciences** [Osvaldo Novais de Oliveira Junior](#)<sup>1</sup>; <sup>1</sup>Universidade de São Paulo (A.O2.D1.6\*)

*SESSION A.03.D1 (17:30 - 18:30) - Room Tamarindo*

**17:30 Graph recommender system for ionic substitution: Discovering new materials** [Gustavo Martini Dalpian](#)<sup>1,2</sup>; <sup>1</sup>Universidade Federal do ABC, <sup>2</sup>Instituto de Física/USP (A.O3.D1.1\*)

**18:00 Machine Learning-Assisted Exploration of 111-Type 2D Perovskite Structures for Photovoltaic and Optoelectronic Applications: A High-Throughput Screening Approach** [Rogério Almeida Gouvêa](#)<sup>1</sup>, Pierre-Paul De Breuck<sup>2</sup>, Gian-Marco Rignanese<sup>2</sup>, MARCOS JOSE LEITE SANTOS<sup>1</sup>; <sup>1</sup>Universidade Federal do Rio Grande do Sul, <sup>2</sup>Université Catholique de Louvain (A.O3.D1.2)

**18:15 Supervised machine learning models developed to predict the properties of biocompatible Ti alloys** [Vinicius Richieri Manso Gonçalves](#)<sup>1</sup>, Luiz Paulo Lopes Fávoro<sup>2</sup>; <sup>1</sup>Universidade Estadual Paulista, <sup>2</sup>Universidade de São Paulo (A.O3.D1.3)



**MONDAY, OCTOBER 02**

\* Invited Lecture

*SESSION B.01.D1 (11:00 - 12:45) - Room Virgilio Loureiro Auditorium 1*

**11:15** **Molecule/Framework orientation on inorganics for anisotropic electrical, optical and thermal properties** Kenji Okada<sup>1</sup>; <sup>1</sup>Osaka Metropolitan University **(B.O1.D1.1\*)**

**11:45** **Laser-Driven, Local Implementation of Polymer Functionalities into Mesoporous Thin Films Enabling Selective Ionic Transport in 3D** Marius Kirsch<sup>1</sup>, Claire Förster<sup>1</sup>, Dr. Robert Lehn<sup>1</sup>, Dr. Daniel John<sup>1</sup>, Dr. Mathias Stanzel<sup>1</sup>, Prof. Dr. Annette Andrieu-Brunsen<sup>1</sup>; <sup>1</sup>Technische Universität Darmstadt **(B.O1.D1.2)**

**12:00** **Naphthalenediimides(bis)urea supramolecular synthons to build up molecular (1D)-fibers** Eduardo Rezende Triboni<sup>1</sup>; <sup>1</sup>Escola de Engenharia de Lorena - USP **(B.O1.D1.3)**

**12:15** **Simulation and Theoretical Studies on Nonequilibrium Processes of Soft Matter Near Interfaces** Qiyun Tang<sup>1</sup>; <sup>1</sup>Southeast University China **(B.O1.D1.4\*)**

*SESSION B.02.D1 (14:00 - 16:15) - Room Virgilio Loureiro Auditorium 1*

**14:00** **Photoresponsive soft materials made by molecular self-assembly** Bart Jan Ravoo<sup>1</sup>; <sup>1</sup>University of Münster **(B.O2.D1.1\*)**

**14:30** **Molecular-Electronic Switches that Mimic Synapses** Christian A. Nijhuis<sup>1</sup>; <sup>1</sup>University of Twente / Universiteit Twente **(B.O2.D1.2\*)**

**15:00** **DESIGN AND SYNTHESIS OF PROTEIN-CARRYING NANO-VEHICLES FOR LIGHT-INDUCED RELEASE** Andrea Montero Oleas<sup>1</sup>, Xavier Cattoñen<sup>2</sup>, Yoann Roupioz<sup>3</sup>, Lucy Linders Coria Oriundo<sup>1</sup>, Sara Aldabe Bilmes<sup>1</sup>; <sup>1</sup>Universidad de Buenos Aires - INQUIMAE, <sup>2</sup>Institut Néel, CNRS, Grenoble INP, Univ. Grenoble Alpes, <sup>3</sup>SyMMES, IRIG, CNRS, CEA, Univ. Grenoble Alpes **(B.O2.D1.3)**

**15:15** **Organic emitting compounds as smart molecular materials** Fabio Rizzo<sup>1</sup>; <sup>1</sup>University of Münster **(B.O2.D1.4\*)**

**15:45** **Synthesis and characterization study of Bi ferrite nanoparticles prepared by modified sol-gel method** Guilherme Jean Pereira de Abreu<sup>1</sup>, MAURO VINÍCIUS DE BARROS SOUZA<sup>2</sup>, Mayron Silva Castro<sup>2</sup>, Alessandro Martins<sup>2</sup>, Marcos Antônio de Sousa<sup>2</sup>, Richard Landers<sup>3</sup>, Roniere Leite Soares<sup>4</sup>, ALEXANDRE PANCOTTF, Jiale Wang<sup>5</sup>; <sup>1</sup>Universidade Federal do Paraná, <sup>2</sup>Universidade Federal de Jataí, <sup>3</sup>Gleb Wataghin Physics Institute, University of Campinas, <sup>4</sup>Universidade Federal de Campina Grande, <sup>5</sup>Donghua University, Shanghai **(B.O2.D1.5)**

*SESSION B.03.D1 (17:30 - 20:00) - Room Virgilio Loureiro Auditorium 1*

**17:30** **Bacterial Nanocellulose-Based Electrochemical Biosensors: An Overview and Producing Graphene on the Spot** Emanuel Carrilho<sup>1,2</sup>; <sup>1</sup>Instituto Nacional de Ciência Tecnologia de Bioanalítica, <sup>2</sup>Instituto de Química de São Carlos **(B.O3.D1.1\*)**

**18:00** **Designing Hybrid Functional Aerogels for Environmental Applications** Elias Paiva Ferreira Neto<sup>1</sup>, Thais Caroline Almeida da Silva<sup>2</sup>, Leonardo Marchiori<sup>2</sup>, Thiago Schuler<sup>1</sup>, Leonardo de Souza Santos<sup>1</sup>, Joseane Caroline Bernardes<sup>1</sup>, Rafael Romano Domenequetti<sup>2</sup>, Sajjad Ullah<sup>3</sup>, Ubirajara Pereira Rodrigues Filho<sup>4</sup>, Bianca Oliveira Mattos<sup>4</sup>, Hernane da Silva Barud<sup>5</sup>, Sidney José Lima Ribeiro<sup>6</sup>; <sup>1</sup>Universidade Federal de Santa Catarina, <sup>2</sup>Universidade Estadual Paulista, <sup>3</sup>University of Peshawar, <sup>4</sup>Universidade de São Paulo, <sup>5</sup>UNIVERSIDADE DE ARARAQUARA, <sup>6</sup>Universidade Estadual Paulista / Instituto de Química **(B.O3.D1.2)**

**18:15** **Organic-inorganic composites and aerogels** Sidney José Lima Ribeiro<sup>1</sup>; <sup>1</sup>Universidade Estadual Paulista / Instituto de Química **(B.O3.D1.3\*)**

**18:45** **Plasmonic hierarchical superstructures as highly efficient SERS substrates for applications in health and environment** Margarita Sánchez-Domínguez<sup>1</sup>, M. Edith Navarro Segura<sup>1</sup>, Ruben Darío Rivera Rangel<sup>1</sup>, Alexandra Cárdenas del Toro<sup>1</sup>, Edwin Adao Hernández Angulo<sup>1</sup>, Jaime Alvarez Quintana<sup>1</sup>, Juan Manuel Ceballos Guzmán<sup>1</sup>, Ana María Arizmendi Morquecho<sup>1</sup>; <sup>1</sup>CENTRO DE INVESTIGACION EN MATERIALES AVANZADOS S.C. **(B.O3.D1.4\*)**

**19:15** **Enhancement of phosphate removal using designed iron oxide nanostructures** Théo Lucante<sup>1,2</sup>, Philippe Choquet<sup>1</sup>, Manon Kretz<sup>2</sup>, Stéphane Le Calvé<sup>2</sup>, Anais Becker<sup>2</sup>, Joana Vaz-Ramos<sup>2,3</sup>, Ariane Zaloszcyc<sup>4</sup>, Sylvie Bégin-Colin<sup>2</sup>; <sup>1</sup>ICUBE, UMR 7357 UFG237 Imagerie Préclinique - Hôpital de Hautepierre, <sup>2</sup>Institut de Physique et Chimie des Matériaux de Strasbourg (IPCMS) UMR 7504 CNRS - Université de Strasbourg, <sup>3</sup>Institut de Chimie et Procédés pour l'Énergie, l'Environnement et la Santé (ICPEES) UMR 7515 CNRS - Université de Strasbourg, <sup>4</sup>INSERM, UMR\_S 1109 Service pédiatrique - Hôpital de Hautepierre **(B.O3.D1.5)**

**19:30** **Development of a thermoresponsive nanobiohybrid material to control enzymatic activity** Maira Theisen<sup>1</sup>, Heloíse Ribeiro de Barros<sup>1</sup>, Leandro Piovan<sup>1</sup>, Izabel Cristina Riegel Vidotti<sup>1</sup>; <sup>1</sup>Universidade Federal do Paraná **(B.O3.D1.6)**

**19:45 TPDH Nanotube: structural, mechanical and electronic properties.** [Juan Rafael Gomez Quispe](#)<sup>1</sup>, Pedro Alves da Silva Autreto<sup>1</sup>; <sup>1</sup>Universidade Federal do ABC (**B.O3.D1.7**)

**TUESDAY, OCTOBER 03**

\* Invited Lecture

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*SESSION B.O1.D2 (09:45 - 11:15) - Room Virgilio Loureiro Auditorium 1*

**09:45 Design of catalyst modified electrode using organic-inorganic hybrid metal hydroxide salt monolayer nanoparticles** [Naoki Tarutani](#)<sup>1</sup>, Sota Kimura<sup>1</sup>, Shohei Futatsugi<sup>1</sup>, Kiyofumi Katagiri<sup>1</sup>, Kei Inumaru<sup>1</sup>; <sup>1</sup>Hiroshima University (**B.O1.D2.1\***)

**10:15 Hybrid nanomaterials for biomedical applications** [Luisa De Cola](#)<sup>1</sup>, Maria Sancho-Albero<sup>1</sup>; <sup>1</sup>Istituto di Ricerche Farmacologiche Mario Negri (**B.O1.D2.2\***)

**10:45 Luminescent probes based on hierarchically structured lanthanide-doped NaREF4 nanoparticles** [Fernando Aparecido Sigoli](#)<sup>1</sup>, Flávia de Sousa Ferreira<sup>1</sup>, Plabo Batista Pinto<sup>1</sup>, Pedro W. Matrone<sup>1</sup>, Paulo V. Santos<sup>2</sup>, Italo Odone Mazali<sup>1</sup>, Odilon D. D. Couto Junior<sup>1</sup>; <sup>1</sup>Universidade Estadual de Campinas, <sup>2</sup>Paul-Drude-Institut für Festkörperelektronik, Leibniz-Institut im Forschungsverbund (**B.O1.D2.3\***)

MONDAY, OCTOBER 02

SESSION C.01.D1 (11:15 - 12:30) - Room Siriguella

**11:15** Magnetic Stimuli Responsive Bio-Degradable Nanocomposites: Based on PLA and Ni Nanoparticles Supported Thermally Reduce Graphene Oxide

Muhammad Nisar<sup>1</sup>, Griselda Barrera Galland<sup>2</sup>, Julian Penkov Geshev<sup>2</sup>, Carlos Pérez Bergmann<sup>2</sup>, Raul Quijada<sup>3</sup>; <sup>1</sup>Universidad Católica de la Santísima Concepción, <sup>2</sup>Universidade Federal do Rio Grande do Sul, <sup>3</sup>Universidad de Chile (C.O1.D1.1)

**11:30** Rietveld Refinement, electrical and mechanical study of PVA/ LiClO<sub>4</sub> flexible membranes. Yan Matheus Colares Pinto<sup>1</sup>, Juliana Pereira da Silva<sup>1</sup>, Sérgio Michielon De Souza<sup>1</sup>, Lianet Aguilera Domínguez<sup>1,2</sup>, Yurimiler Leyet Ruiz<sup>1</sup>; <sup>1</sup>Universidade Federal do Amazonas, <sup>2</sup>Instituto de Desenvolvimento Tecnológico (C.O1.D1.2)

**11:45** The impact of carbon nanoparticle dispersion and concentration on IPN-based nanocomposites' properties Matheus Mendes de Oliveira<sup>1</sup>, Danilo Justino Carastan<sup>1</sup>; <sup>1</sup>Universidade Federal do ABC (C.O1.D1.3)

**12:15** PVC-PMMA blends with plasticizing agents as substrates for Low cost and high efficiency solar cells GRACIANA DOS SANTOS DE SOUSA<sup>1</sup>, Luciana Doermas<sup>2</sup>, Fabiele Collovini Tavares<sup>1,3</sup>, Guillermo Júnior Nogueira Soares<sup>1</sup>, Rogerio Valaski<sup>3</sup>, Roberto Jakomin<sup>1</sup>, Maurício Pamplona Pires<sup>1</sup>, Patricia Lustosa de Souza<sup>2</sup>; <sup>1</sup>Universidade Federal do Rio de Janeiro, <sup>2</sup>Pontifícia Universidade Católica do Rio de Janeiro, <sup>3</sup>Instituto Nacional de Metrologia, Qualidade e Tecnologia (C.O1.D1.4)

SESSION C.02.D1 (14:00 - 16:00) - Room Siriguella

**14:00** On a layered composite coating with piezoresistivity and mechanoluminescence properties for wearable sensors Marino Lavorgna<sup>1</sup>, Jize Liu<sup>2</sup>; <sup>1</sup>National Research Council of Italy, Institute of Polymers, Composites and Biomaterials, <sup>2</sup>State Key Laboratory of Polymer Materials Engineering, Polymer Research Institute, Sichuan University (C.O2.D1.1\*)

**14:30** Shape memory effect of graphene-based thermoplastic polyurethane nanocomposites: influence of annealing-induced phase separation Ricardo Jorge Espanhol Andrade<sup>1,2</sup>, Fernanda Cabrera Flores Valim<sup>3,1,2</sup>, Gustavo Peixoto Oliveira<sup>1</sup>, Lucilene Betega Paiva<sup>3</sup>, Leice Gonçalves Amurin<sup>4</sup>, Chiara Santillo<sup>5</sup>, Marino Lavorgna<sup>2</sup>; <sup>1</sup>School of Engineering, Mackenzie Presbyterian University, <sup>2</sup>Mackenzie Institute for Research in Graphene and Nanotechnologies, <sup>3</sup>Instituto de Pesquisas Tecnológicas, <sup>4</sup>Centro de Tecnologia em Nanomateriais e Grafeno, <sup>5</sup>National Research Council of Italy, Institute of Polymers, Composites and Biomaterials (C.O2.D1.2)

**14:45** A NanoCodec: 3D Printed Nanostructured Quick Response Code with Physically Unclonable Function Based on Carbon Nanotubes Dhonata Sebastião Caldas Oliveira<sup>1,2</sup>, Luciano José Barbosa Quaresma<sup>1,2</sup>, Leandro José Sena Santos<sup>1,2</sup>, Dorivane Cohen Farias<sup>1,2</sup>, Kelly Costa Alves<sup>1,2</sup>, Marcos Allan Leite dos Reis<sup>1,2</sup>; <sup>1</sup>Universidade Federal do Pará, <sup>2</sup>Laboratório de Nanoestruturação 3D (C.O2.D1.3)

**15:00** The Role of Carbon Nanotubes Dispersion in PVDF/CNT Electrospun Nanofibers Maurício Kubaski<sup>1</sup>, Étienne Beaudoin<sup>1</sup>, Nicole R Demarquette<sup>1</sup>, Ricardo J Zednik<sup>1</sup>; <sup>1</sup>École de Technologie Supérieure (C.O2.D1.4)

**15:15** POLYANILINE-SILICA DOPED WITH OXALIC ACID AS A NOVEL EXTRACTOR PHASE IN TF-SPME FOR DETERMINATION OF HORMONES IN URINE SAMPLES USING 96-WELL PLATE SYSTEM AND HPLC-FLD DETECTION. Francielle Crocetta Turazzi<sup>1</sup>, Lucas Morés<sup>1</sup>, Eduardo Carasek<sup>1</sup>, Guilherme Mariz de Oliveira Barra<sup>1</sup>; <sup>1</sup>Universidade Federal de Santa Catarina (C.O2.D1.5)

**15:30** Self-Healing and Electrical Behavior of Reduced Graphene Oxide-Doped PEI/PAA LbL Films Shirley Monteiro Vieira da Rocha Hossack<sup>1</sup>, Antonio Riul Jr.<sup>1</sup>, Varlei Rodrigues<sup>1</sup>; <sup>1</sup>Universidade Estadual de Campinas (C.O2.D1.6)

**15:45** Development of PDMS-based ciliated soft robotic structures Cristian Padilha Fontoura<sup>1</sup>, Cesar Aguzzoli<sup>1</sup>; <sup>1</sup>Universidade de Caxias do Sul (C.O2.D1.7)

SESSION C.03.D1 (17:30 - 18:30) - Room Siriguella

**17:30** Towards smart circular manufacturing strategies - a materials revalorization perspective Lucas A. Hof<sup>1</sup>; <sup>1</sup>École de Technologie Supérieure (C.O3.D1.1\*)

**18:00** Development of a Nanoimprinting Process for Antireflective Glass Surfaces Douglas F Cole<sup>1</sup>, Lucas A. Hof<sup>1</sup>, Ricardo J Zednik<sup>1</sup>; <sup>1</sup>École de Technologie Supérieure (C.O3.D1.2)

**18:15** Socially and environmentally sustainable design of composite structures using natural Brazilian fibers Ana Laura Lima de Souza<sup>1</sup>, Breno Rocha Coelho<sup>1</sup>, Gustavo Fernandes da Silva<sup>1</sup>, João Pedro Stefani Lopes da Silva<sup>1</sup>, Paulo Bernardo Barroso de Almeida<sup>1</sup>, Gustavo dos Santos Magalhães<sup>1</sup>, Maria Augusta Correa Martins<sup>1</sup>, Thais Canever de Souza<sup>1</sup>, Vinícius de Galiza Vieira<sup>1</sup>, Vitor Sciarretta Ferreira<sup>1</sup>, Josué Labaki<sup>1</sup>; <sup>1</sup>Universidade Estadual de Campinas (C.O3.D1.3)

SESSION C.01.D2 (09:45 - 10:45) - Room Siriguela

**09:45 Manufacturing of polymer matrix membranes reinforced with nanocellulosic materials for use in wastewater filtration** Fábio Furtado<sup>1</sup>, Marina Borsuk Fogaça<sup>1</sup>, Thais Helena Sydenstricker Flores-Sahagun<sup>1</sup>, Rodrigo César Raimundo<sup>1</sup>, José Viriato Coelho Vargas<sup>1</sup>; <sup>1</sup>Universidade Federal do Paraná (C.O1.D2.1)

**10:00 Influence of sisal fiber on the physical and mechanical properties of homogeneous particleboards** Rodrigo Andraus Bispo<sup>1</sup>, Maria Eduarda Oliveira Garcia<sup>1</sup>, Felipe Reis Rodrigues<sup>1</sup>, Matheus Viana de Souza<sup>2</sup>, Pedro Henrique da Silva Cazella<sup>1</sup>, Pedro Silveira Campos<sup>1</sup>, Lucas Eduardo Dezen<sup>1</sup>, Jorge Luís Akasaki<sup>1</sup>, Sérgio Augusto Mello da Silva<sup>1</sup>; <sup>1</sup>Universidade Estadual Paulista, <sup>2</sup>Universidade Federal do Rio Grande do Norte (C.O1.D2.2)

**10:15 Evaluation of physical-mechanical properties of particleboards bound with polyethylene terephthalate and castor oil-based polyurethane resin** Rodrigo Andraus Bispo<sup>1</sup>, Pedro Silveira Campos<sup>1</sup>, Felipe Reis Rodrigues<sup>1</sup>, Pedro Henrique da Silva Cazella<sup>1</sup>, Matheus Viana de Souza<sup>2</sup>, Maria Eduarda Oliveira Garcia<sup>1</sup>, Lucas Eduardo Dezen<sup>1</sup>, Jorge Luís Akasaki<sup>1</sup>, Sérgio Augusto Mello da Silva<sup>1</sup>; <sup>1</sup>Universidade Estadual Paulista, <sup>2</sup>Universidade Federal do Rio Grande do Norte (C.O1.D2.3)

**10:30 Nanocarbon obtained from lignin pyrolysis as a reinforcing agent in polyamide-6 nanocomposites** Sanair Massafra<sup>1</sup>, Joyce Rodrigues Araujo<sup>2</sup>; <sup>1</sup>Instituto Nacional de Metrologia, Qualidade e Tecnologia, <sup>2</sup>Divisão de Metrologia de Materiais (C.O1.D2.4)

SESSION C.03.D2 (14:00 - 15:00) - Room Siriguela

**14:00 PC/ABS nanocomposites reinforced with graphene - a review** Layne Oliveira de Lucas Gontijo<sup>1</sup>, Bruna Farias de Bortoli<sup>1</sup>, Tamires Pereira Alves<sup>1</sup>, Andrielen Braz Vanzetto<sup>1</sup>, Rodrigo Denizarte de Oliveira Polkowski<sup>1</sup>, Ricardo Ferreira Cavalcanti de Albuquerque<sup>1</sup>, Fernando Gossler<sup>1</sup>; <sup>1</sup>FORD MOTOR COMPANY (C.O3.D2.1)

**14:30 The Use of Sheet Molding Compound for Applications in Electric Vehicles: A Systematic Review** Tamires Pereira Alves<sup>1,2</sup>, Layne Oliveira de Lucas Gontijo<sup>1,2</sup>, Bruna Farias de Bortoli<sup>1</sup>, Rodrigo Denizarte de Oliveira Polkowski<sup>1</sup>, Ricardo Ferreira Cavalcanti de Albuquerque<sup>1</sup>, Camila Gomes Peçanha de Souza<sup>1</sup>; <sup>1</sup>FORD MOTOR COMPANY, <sup>2</sup>Instituto Euvaldo Lodi - Bahia (C.O3.D2.2)

**14:45 Ballistic nanocomposite panels for vehicular protection: A review** Layne Oliveira de Lucas Gontijo<sup>1,2</sup>, Samuel Santos<sup>1,2</sup>, Bruna Farias de Bortoli<sup>1</sup>, Tamires Pereira Alves<sup>1,2</sup>, Rodrigo Denizarte de Oliveira Polkowski<sup>1</sup>, Ricardo Ferreira Cavalcanti de Albuquerque<sup>1</sup>; <sup>1</sup>FORD MOTOR COMPANY, <sup>2</sup>Instituto Euvaldo Lodi - Bahia (C.O3.D2.3)

SESSION C.04.D2 (17:30 - 18:30) - Room Siriguela

**17:30 Mechanical Properties of Mixed-Matrix Membranes Using Coarse-Grained Simulations** Daniela Andrade Damasceno<sup>1</sup>, Caetano Rodrigues Miranda<sup>1</sup>, Erich A. Müller<sup>2</sup>; <sup>1</sup>Instituto de Física/USP, <sup>2</sup>Imperial College London (C.O4.D2.1)

**17:45 Production of air filters composed of PHBV/nanoclay fibers for enhanced indoor air quality** Lucas Gomes Rabello<sup>1</sup>, Roberto Carlos da Conceição Ribeiro<sup>2</sup>, Rossana Mara da Silva Moreira Thiré<sup>1</sup>; <sup>1</sup>Universidade Federal do Rio de Janeiro, <sup>2</sup>Centro de Tecnologia Mineral (C.O4.D2.2)

**18:00 Recent advance in bone tissue regeneration** Mariana Ionita<sup>1</sup>, George Mihail Valsceanu<sup>1</sup>, Alexandra Ioana Cernescu<sup>1</sup>; <sup>1</sup>University Politehnica of Bucharest (C.O4.D2.3)

**18:15 3D printing of electrically conductive polymernanocomposites for fuel cell applications** Luis Marcelo Garcia da Silva<sup>1</sup>, Tamara Chalegre<sup>1</sup>, Lucas Y. M. Rodrigues<sup>1</sup>, Lívia P. Santos<sup>1</sup>, Paulo H. R. Dantas<sup>1</sup>, Thiago N. Viana<sup>1</sup>, Suel Eric Vidotti<sup>1</sup>, Anibal de Andrade Mendes Filho<sup>2</sup>, Danilo Justino Carastan<sup>2</sup>; <sup>1</sup>Federal University of ABC, <sup>2</sup>Universidade Federal do ABC (C.O4.D2.4)

TUESDAY, OCTOBER 03

\* Invited Lecture

SESSION D.01.D2 (09:45 - 10:45) - Room Jatiúca

**09:45 Gas sensors employing nanocrystal/cluster modified graphene** Eduard Llobet<sup>1</sup>, Juan Casanova<sup>1</sup>; <sup>1</sup>Universitat Rovira i Virgili (D.O1.D2.1\*)

**10:15 Study of a ZnO gas sensor produced by slot-die coating and using atmospheric pressure plasma treatment** Talitha R. Canabarra dos Santos<sup>1</sup>, Morgana Müller de França<sup>1</sup>, Lucimara Stolz Roman<sup>1</sup>; <sup>1</sup>Universidade Federal do Paraná (D.O1.D2.2)

**10:30 Synthesis and characterization of electrocatalytic surface for application in biosensors** Ana Cecília Cruz de Barros<sup>1</sup>, Lucas Alves de Lima<sup>1</sup>, Rosa Amalia Fireman Dutra<sup>1</sup>; <sup>1</sup>Universidade Federal de Pernambuco (D.O1.D2.3)

SESSION D.02.D2 (11:15 - 12:30) - Room Jatiúca

**11:15 Wearable sensors and biosensors for monitoring health and food quality** Oswaldo Novaes de Oliveira Junior<sup>1</sup>; <sup>1</sup>Universidade de São Paulo (D.O2.D2.1\*)

**11:45 Electrochemical nanoplatform for diagnosis of the schistosomiasis** Shefany DPaula Elias Torres Gonçalves<sup>1,2</sup>, Fábio Lopes de Melo<sup>3,4</sup>, César Augusto Souza de Andrade<sup>1,5</sup>, Maria Danielly Lima de Oliveira<sup>1,5</sup>; <sup>1</sup>Universidade Federal de Pernambuco, <sup>2</sup>Programa de Pós-Graduação em Inovação Terapêutica, <sup>3</sup>Instituto Aggeu Magalhães, <sup>4</sup>Laboratório de Referência em Esquistossomose, <sup>5</sup>Laboratório de Biodispositivos Nanoestruturados (D.O2.D2.2)

**12:00 Electrochemical Nanosensors for Quantification of Aminoacids: their Role as Diseases' Biomarkers** Marijia Oliveira Fonseca Goulart<sup>1</sup>, Poliana da Conceição<sup>1</sup>, Antônio Euzébio Goulart Santana<sup>1</sup>, Auro Atsushi Tanaka<sup>2</sup>, Ana Caroline Ferreira Santos<sup>1</sup>; <sup>1</sup>Federal University of Alagoas, <sup>2</sup>Universidade Federal do Maranhão (D.O2.D2.3)

**12:15 Volatile Organic Compounds sensors based on BaF<sub>2</sub>-Modified hBN Flakes** Boitumelo Matsoo<sup>1,2</sup>, Clara Inés García Martínez<sup>3</sup>, Thomas H. Mongwe<sup>4</sup>, Bérandère Toury<sup>1</sup>, José Pedro Mansueto Serbena<sup>3</sup>, Catherine Jourmet<sup>1</sup>; <sup>1</sup>Université Claude Bernard Lyon 1, <sup>2</sup>University of Chemistry and Technology Prague, <sup>3</sup>Universidade Federal do Paraná, <sup>4</sup>University of the Witwatersrand (D.O2.D2.4)

SESSION D.03.D2 (14:00 - 15:00) - Room Jatiúca

**14:00 Electrochemical Biosensor for the Detection of Protein-Protein Interaction** Luciana Daniele Trino Albano<sup>1</sup>, Luiz Gustavo Simão Albano<sup>1</sup>, Daniela Campos Granato<sup>1</sup>, Carlos C.B. Bufon<sup>2</sup>, Adriana F. Paes Leme<sup>1</sup>; <sup>1</sup>Brazilian Center for Research in Energy and Materials, <sup>2</sup>Universidade Presbiteriana Mackenzie (D.O3.D2.1)

**14:15 Planar vs Non-Planar Orientation in AuAg-Catalyzed InP Nanowire Growth: Implications for Sensing Device Fabrication** Mariana Zavarize<sup>1</sup>, N.V. Sibirev<sup>2</sup>, Y. Berdnikov<sup>3</sup>, Murilo Moreira<sup>1</sup>, Hélio Tamio Obata<sup>1</sup>, Varlei Rodrigues<sup>1</sup>, Vladimir Dubrovskii<sup>2</sup>, Monica Alonso Cotta<sup>1</sup>; <sup>1</sup>University of Campinas, <sup>2</sup>St. Petersburg State University, <sup>3</sup>National Research University (D.O3.D2.2)

**14:30 Synthesis and Characterization of Silver Nanoflowers and Silver Nanostars and their Application as SERS substrate for Pesticides Sensors in Aqueous Solutions** Lucas Bragança de Oliveira<sup>1</sup>, William da Silva Martini<sup>1</sup>, Diogo Silva Pellosi<sup>1</sup>, Rômulo Augusto Ando<sup>2</sup>; <sup>1</sup>Federal University of Sao Paulo, <sup>2</sup>University of São Paulo (D.O3.D2.3)

SESSION D.04.D2 (17:30 - 18:30) - Room Jatiúca

**17:30 Photochromic Sensing of La<sup>3+</sup> and Lu<sup>3+</sup> Ions using Polycaprolactone Fibers Doped with Spiropyran Dyes** Flávio Bastos Miguez<sup>1</sup>, João Paulo Campos Trigueiro<sup>2</sup>, Ivana Silva Lula<sup>3</sup>, Emmanuel S. Moraes<sup>4</sup>, Teresa Dib Zambon Atvars<sup>4</sup>, Frank Alexis<sup>5</sup>, Roberto Shiguero Nobuyasu Junior<sup>1</sup>, Frederico Barros De Sousa<sup>1</sup>; <sup>1</sup>Universidade Federal de Itajubá, <sup>2</sup>Centro Federal de Educação Tecnológica de Minas Gerais, <sup>3</sup>Universidade Federal de Minas Gerais, <sup>4</sup>Universidade Estadual de Campinas, <sup>5</sup>Universidad San Francisco de Quito (D.O4.D2.1)

**17:45 Synthesis and characterization of Eu-doped ceria nanostructures with controlled morphologies for humidity sensing** Pedro Paulo da Silva Ortega<sup>1</sup>, Nicolò Landini<sup>2</sup>, Sandro Gherardi<sup>2</sup>, Barbara Fabbri<sup>2</sup>, Elena Spagnoli<sup>2</sup>, Cesare Malagù<sup>2</sup>, Miguel Adolfo Ponce<sup>3</sup>, Elson Longo<sup>4</sup>, Alexandre Zirpoli Simoes<sup>1</sup>; <sup>1</sup>Universidade Estadual Paulista, <sup>2</sup>Università degli Studi di Ferrara, <sup>3</sup>Centro de Investigaciones en Física e Ingeniería del Centro de la Provincia de Buenos Aires, <sup>4</sup>Univerdade Federal de São Carlos (D.O4.D2.2)

**18:00 Ag-sensitized Eu<sup>3+</sup>-doped luminescent zeolites for sensing** Nicola Daldosso<sup>1</sup>, Michele Cassetta<sup>1</sup>, Francesco Enrichi<sup>1</sup>, Akeem Akinwekom<sup>2</sup>, Alberto Vomiero<sup>2</sup>, Farid Akhtar<sup>2</sup>, Warren Cairns<sup>3</sup>; <sup>1</sup>University of Verona, <sup>2</sup>Lulea University of Technology / Luleå tekniska universitet, <sup>3</sup>Consiglio Nazionale delle Ricerche (D.O4.D2.3)

**18:15 Scalable and green formation of graphitic nanolayers produces highly conductive pyrolyzed paper toward sensitive electrochemical sensors** Marcos Vinicius de Lima Tinoco<sup>1</sup>, Lucas Ryuichi Fujii<sup>2,1</sup>, Caroline Yumi Nakiri Nicoliche<sup>1</sup>, Gabriela Furlan Giordano<sup>1</sup>, Júlia Adorno Barbosa<sup>3,1</sup>, Jaqueline Falchi da Rocha<sup>4,1</sup>, Gabriel Trindade dos Santos<sup>5,1</sup>, Jefferson Bettini<sup>1</sup>, Murilo Santhiago<sup>4,1</sup>, Mathias Strauss<sup>1</sup>, Renato Sousa Lima<sup>2,3,4,1</sup>; <sup>1</sup>Brazilian Center for Research in Energy and Materials, <sup>2</sup>Universidade Estadual de Campinas, <sup>3</sup>Universidade de São Paulo, <sup>4</sup>Universidade Federal do ABC, <sup>5</sup>Universidade Federal do Rio Grande do Sul (D.O4.D2.4)

\* Invited Lecture

SESSION D.01.D3 (09:45 - 10:45) - Room Jatiúca

**09:45 The role of surface oxygen vacancies in the gas sensing mechanism of SnO<sub>2</sub>** [Chris Blackman](#)<sup>1</sup>; <sup>1</sup>University College London (D.O1.D3.1\*)

**10:15 Affordable Materials and Methods for Acoustofluidic Device Fabrication** [Giclélio Cavalcante da Silva](#)<sup>1,2</sup>; José Nathan Holanda Madeiros<sup>2</sup>, Glauber T. Silva<sup>1</sup>; <sup>1</sup>Federal University of Alagoas, <sup>2</sup>Integrated Acoustofluidics Laboratory LTDA (D.O1.D3.2)

**10:30 Titanium Oxide Nanoparticles: Synthesis and Application in Isopropyl Alcohol Detection** [Renan Barbieri Estefani](#)<sup>1</sup>, Angela Alidia Bernal Cárdenas<sup>1</sup>, José Pedro Mansueto Serbena<sup>1</sup>; <sup>1</sup>Universidade Federal do Paraná (D.O1.D3.3)

SESSION D.02.D3 (11:15 - 12:30) - Room Jatiúca

**11:15 Working towards sensing at room temperature with carbon nanotubes** [Paola Ayala](#)<sup>1</sup>; <sup>1</sup>Universität Wien (D.O2.D3.1\*)

**11:45 Carbon Dots from Cysteine for pH sensing, CMC detection and cellular imaging applications.** [SENDY MELISSA SANTOS DO NASCIMENTO](#)<sup>1</sup>, Artur Falqueto Sonsin<sup>2</sup>, Cintya D&#039; Angeles do Espírito Santo Barbosa<sup>1</sup>, Alexandre Urban Borbely<sup>1</sup>, Eduardo Jorge da Silva Fonseca<sup>1</sup>; <sup>1</sup>Universidade Federal de Alagoas, <sup>2</sup>Fundação Universidade Federal de Rondônia (D.O2.D3.2)

**12:00 NANOMATERIALS FUNCTIONALIZED WITH GRAPHENE DERIVATIVES FOR BIOSENSORS APPLICATIONS** [Ana Melva Champi Farfan](#)<sup>1</sup>; <sup>1</sup>Universidade Federal do ABC (D.O2.D3.3)

**12:15 Nanostructured sensor based on multi-walled carbon nanotube and temporin for bacterial detection** [Antônio Oscar Gomes Filho](#)<sup>1</sup>, Alberto Galdino da Silva Junior<sup>1</sup>, Glícia Maria de Oliveira<sup>2</sup>, Reginaldo Gonçalves de Lima Neto<sup>1</sup>, Octavio Luiz Franco<sup>3</sup>, César Augusto Souza de Andrade<sup>4,2</sup>, Maria Danielly Lima de Oliveira<sup>1,2</sup>; <sup>1</sup>Universidade Federal de Pernambuco, <sup>2</sup>Programa de Pós-Graduação em Inovação Terapêutica, <sup>3</sup>Universidade Católica Dom Bosco, <sup>4</sup>Laboratório de Biodispositivos Nanoestruturados (D.O2.D3.4)

SESSION D.03.D3 (14:00 - 16:00) - Room Jatiúca

**14:00 Agaricus bisporus lectin/poly(methylene blue)-based photoelectrochemical biosensor for selective lactose analysis in foodstuffs** [André Oliveira Santos](#)<sup>1</sup>, Vanessa Erika Abrantes Coutinho<sup>1</sup>, HERYKA REGINA ABRANTES DA COSTA<sup>1</sup>, Simone Moraes<sup>2</sup>, Thiago Mielle Brito Ferreira Oliveira<sup>1</sup>; <sup>1</sup>Universidade Federal do Cariri, <sup>2</sup>Instituto Politécnico do Porto (D.O3.D3.1)

**14:15 The effect of gold nanoparticle electrodeposition time in electrochemical immunosensing: a study based on S-protein biosensors** [Laís Canniatti Brazaca](#)<sup>1</sup>, Amanda Hikari Imamura<sup>1</sup>, Nathália Oeazau Gomes<sup>1</sup>, Mariana Bortholazzi Almeida<sup>1</sup>, Desiree Tamara Scheidt<sup>1</sup>, Paulo Augusto Raymundo-Pereira<sup>2</sup>, Osvaldo Novais de Oliveira Junior<sup>1</sup>, Bruno Campos Janegitz<sup>3</sup>, Sergio Antonio Spinola Machado<sup>1</sup>, Emanuel Carrilho<sup>4</sup>; <sup>1</sup>Universidade de São Paulo, <sup>2</sup>Instituto de Física de São Carlos - USP, <sup>3</sup>Universidade Federal de São Carlos - Campus Araras, <sup>4</sup>Instituto de Química de São Carlos Universidade de São Paulo (D.O3.D3.2)

**14:30 Light-assisted NO<sub>2</sub> gas-sensing response of hierarchical WO<sub>3</sub> nanostructures at room temperature** [Luís Fernando da Silva](#)<sup>1</sup>, Francesc Gispert Guirado<sup>2</sup>, Frank Güell Vilà<sup>2</sup>, Eduard Llobet<sup>2</sup>; <sup>1</sup>Federal University of Sao Carlos, <sup>2</sup>Universitat Rovira i Virgili (D.O3.D3.3)

**14:45 Red Wine and Drinking Water Analysis by A-TEEM Molecular Fingerprinting Spectroscopy: Free of Consumables Classification of Phenolics and Analysis of Colored Dissolved Organic Matter Compounds that Cause Toxic Disinfection By-Products.** [Igor Alessandro Silva Carvalho](#)<sup>1</sup>, Filipe Cabral<sup>1</sup>, Adam Gilmore<sup>2</sup>, Cary Joseph Davies<sup>2</sup>, Eric Teboul<sup>2</sup>; <sup>1</sup>Horiba Instruments Brasil, <sup>2</sup>HORIBA Scientific (D.O3.D3.4)

SESSION D.04.D4 (17:30 - 18:30) - Room Jatiúca

**17:30 Computational and (bio)electrochemical Study to Measure Glucose – Ganoderma applanatum Lectin Interactions at Sub-nanomolar Levels** Vanessa Erika Abrantes Coutinho<sup>1</sup>, [André Oliveira Santos](#)<sup>1</sup>, Brenna Espindola Bandeira Holanda<sup>1</sup>, HERYKA REGINA ABRANTES DA COSTA<sup>1</sup>, Thiago Mielle Brito Ferreira Oliveira<sup>1</sup>; <sup>1</sup>Universidade Federal do Cariri (D.O4.D4.1)

**17:45 Photopolymerizable photonic nanocomposites for personal dosimeters to monitor cutaneous production of vitamin D** [Elaine Cavalcanti Rodrigues Vaz](#)<sup>1</sup>, Gerson Silva Paiva<sup>1</sup>, Karina Maria<sup>1</sup>, Leandro Moura<sup>1</sup>, Lúcio Flávio da Mota Melo<sup>1</sup>, Paulo Henrique Leite Tavares Correia<sup>1</sup>, Sílvio Barros Melo<sup>1</sup>, Petrus Santa-Cruz<sup>1</sup>; <sup>1</sup>Universidade Federal de Pernambuco (D.O4.D4.2)

**18:00 Y<sub>7</sub>O<sub>6</sub>F<sub>3</sub> FOR CONTACTLESS TEMPERATURE SENSOR: THE RELATION BETWEEN STRUCTURAL AND OPTICAL PROPERTIES** [Bárbara Matos Cruz](#)<sup>1</sup>, Tatiane Strelow Lilje<sup>1</sup>, Adriano Borges Andrade<sup>1</sup>, Ruan Pedro Rodrigues Moura<sup>1</sup>, Márcio A. R. Alencar<sup>1</sup>, José Joatan Rodrigues Jr.<sup>1</sup>, Mario Ernesto Giroldo Valerio<sup>1</sup>, Zélia Soares Macedo<sup>1</sup>; <sup>1</sup>Universidade Federal de Sergipe (D.O4.D4.3)

**18:15 Physical-chemical characterization of biochar from cupuassu bark (Theobroma grandiflorum) for application as a soil conditioner** [Vera Lucia da Silva Marinho](#)<sup>1</sup>, Ruana Rontes Fonseca<sup>1</sup>, Tais Aimé Azevedo Garcia<sup>1</sup>, Marcelly Vieira da Costa<sup>1</sup>, Jakson Douglas Rocha de Albuquerque<sup>1</sup>; <sup>1</sup>Instituto Federal de Educação, Ciência e Tecnologia do Amazonas (D.O4.D4.4)

SYMPOSIUM E - Advanced Materials and Surface  
Treatments for Biological, Dental and Medical  
Applications

MONDAY, OCTOBER 02

\* Invited Lecture

SESSION E.01.D1 (11:15 - 12:30) - Room Ipioca

**11:15 Treatment of titanium by electrolytic plasma, aiming application in dental implants with drug delivery system** Natália Zanin Perelmuter de Melo<sup>1</sup>, Stephany Cimarosti Figueiredo Bessa<sup>1</sup>, Jussier de Oliveira Vitoriano<sup>2</sup>, Carlos Eduardo Bezerra de Moura<sup>3</sup>, Clodomiro Alves Junior<sup>1</sup>; <sup>1</sup>Universidade Federal do Rio Grande do Norte, <sup>2</sup>Universidade Federal Rural do Semi-árido, <sup>3</sup>Universidade Federal Rural do Semi-Árido (E.O1.D1.1\*)

**11:45 Effect of surface treatment by plasma enhanced chemical vapor deposition on Ti6Al4V to improvements on anticorrosion properties focused on dental application.** Silvia Mesquita Tamborim<sup>1</sup>, Anelise Marlene Schmidt<sup>2</sup>, Augusto Verstege<sup>1</sup>, Vladimir Jesus Trava-Airoldi<sup>3</sup>; <sup>1</sup>Universidade Federal do Rio Grande do Sul, <sup>2</sup>Fundação Universidade Federal do Pampa, <sup>3</sup>Instituto Nacional de Pesquisas Espaciais (E.O1.D1.2)

**12:00 Novel wear-resistant bio-composites produced by arc-melting process:  $\beta$  Ti-Nb matrix reinforced with TiC, TiB or hybrid TiC/TiB** Vinicius Richieri Manso Gonçalves<sup>1</sup>, Diego Rafael Nespeque Correa<sup>1</sup>, Carlos Alberto Fonzar Pintão<sup>1</sup>, Carlos Roberto Grandini<sup>1</sup>, Conrado Ramos Moreira Afonso<sup>2</sup>, Paulo Noronha Lisboa-Filho<sup>1</sup>; <sup>1</sup>Universidade Estadual Paulista, <sup>2</sup>Univeridade Federal de São Carlos (E.O1.D1.3)

SESSION E.02.D1 (14:00 - 16:00) - Room Ipioca

**14:00 Synthesis and characterization of magnetic MCM-41 applied as drug delivery system** Rafaela De andrade<sup>1</sup>, Monique Deon<sup>2</sup>, Wilmer José Villarreal Peña<sup>1</sup>, Edilson Valmir Benvenuti<sup>1</sup>; <sup>1</sup>Universidade Federal do Rio Grande do Sul, <sup>2</sup>Fundação Universidade Federal de Ciências da Saúde de Porto Alegre (E.O2.D1.1)

**14:15 Toxicity evaluation of  $\alpha$ -Fe<sub>16</sub>N<sub>2</sub> nanoparticles** Greici Gubert<sup>1</sup>, Jana Messias Sandes<sup>2</sup>, Jose Varalda<sup>3</sup>, Priscila Gubert<sup>2</sup>, Julia Bornhorst<sup>4</sup>, Caroline Brandão Quines<sup>5</sup>, Dante Homero Mosca<sup>2</sup>; <sup>1</sup>Univerdade Federal de São Carlos, <sup>2</sup>Universidade Federal de Pernambuco, <sup>3</sup>Universidade Federal do Paraná, <sup>4</sup>University of Potsdam, <sup>5</sup>Fundação Universidade Federal do Pampa (E.O2.D1.2)

**14:30 Functionalization and improvement of corrosion resistance of additively manufactured lattice structures** Guilherme Arthur Longhitano<sup>1,2,3</sup>, Ignacio Manuel García<sup>4</sup>, Maria Angeles Arenas<sup>4</sup>, Juan José Damborenea<sup>4</sup>, André Luiz Jardim<sup>1,3</sup>, Rubens Maciel Filho<sup>1,3</sup>, Ana Conde<sup>4</sup>; <sup>1</sup>Universidade Estadual de Campinas, <sup>2</sup>Centro de Tecnologia da Informação Renato Archer, <sup>3</sup>National Institute of Biofabrication, <sup>4</sup>National Center for Metallurgical Research (E.O2.D1.3)

**14:45 3D printed scaffolds using alpha wollastonite for biomedical applications** Angélica Galvão dos Santos Silva<sup>1</sup>, Leticia Terumi Kito<sup>2</sup>, Caroline Machado de Andrade Ramos<sup>2</sup>, Ana Paula Nogueira Alves<sup>3</sup>, TIAGO MOREIRA BASTOS CAMPOS<sup>4</sup>, Eliandra de Sousa Trichês<sup>3</sup>, Carolina Ramos Hurtado<sup>1</sup>, Gilmar Patrocínio Thim<sup>2</sup>; <sup>1</sup>Instituto Federal de Educação, Ciência e Tecnologia de São Paulo, <sup>2</sup>Instituto Tecnológico de Aeronáutica, <sup>3</sup>Universidade Federal de São Paulo, <sup>4</sup>Universidade de São Paulo (E.O2.D1.4)

**15:00 Synthesis and evaluation of poly(propylene fumarate)-grafted graphene oxide as nanofiller for porous scaffolds** Andreea Madalina Pandele<sup>1</sup>, Matei Raicopol<sup>1</sup>; <sup>1</sup>university politehnica of bucharest (E.O2.D1.5)

**15:15 Additive manufacturing of bioinspired and functionalized microneedles with active-passive hierarchical structures for self-decontaminating action** Alisson Silva de Albuquerque<sup>1</sup>, Karina Maria<sup>1</sup>, Janaina Versiani dos Anjos<sup>1</sup>, Petrus Santa-Cruz<sup>1</sup>; <sup>1</sup>Universidade Federal de Pernambuco (E.O2.D1.6)

**15:30 DEVELOPING BIOINSPIRED MIMETIC MODELS FOR BONE PHYSIOPATHOLOGY STUDIES** Lucas Fabrício Bahia Nogueira<sup>1</sup>, Maryanne Trafani de Melo<sup>2</sup>, Pietro Ciancaglini<sup>1</sup>, Camila Bussola Tovani<sup>3</sup>, Ana Paula Ramos<sup>4</sup>; <sup>1</sup>Universidade de São Paulo, <sup>2</sup>Faculdade de Filosofia, Ciências e Letras de Ribeirão Preto, <sup>3</sup>University of Bristol, <sup>4</sup>Faculdade de Filosofia, Ciências e Letras de Ribeirão Preto da Universidade de São Paulo (E.O2.D1.7\*)

SESSION E.03.D1 (17:30 - 18:30) - Room Ipioca

**17:30 PMMA-silica coatings modified with calcium phosphates and silver particles for bioactive protection of Ti6Al4V alloy** Mayara Carla Uvida<sup>1</sup>, Celso Valentim Santilli<sup>1</sup>, Anderson Oliveira Lobo<sup>2</sup>, Peter Hammer<sup>1</sup>; <sup>1</sup>São Paulo State University, <sup>2</sup>Federal University of Piauí (E.O3.D1.1)

**17:45 Upconversion Nanoparticle@Metal–Organic Framework (UCNP@MOF) core-shell nanostructures as theranostic materials for treatment and imaging of cancer** Marina Paiva Abucafy<sup>1</sup>, Beatriz Bianca Schulz Ramin<sup>1</sup>, Angelica Ellen Graminha<sup>1</sup>, Regina Célia Galvão Frem<sup>1</sup>, Sidney José Lima Ribeiro<sup>1</sup>; <sup>1</sup>Universidade Estadual Paulista / Instituto de Química (E.O3.D1.2)

**18:00 Improving the surface functionalization of 3D printed biosensor** John A Gomez-Sanchez<sup>1</sup>, Luciano de S. R. Bueno<sup>1</sup>, Pedro Bertemes Filho<sup>1</sup>, Fernanda Maltauro de Cordova<sup>1</sup>; <sup>1</sup>Fundação Universidade do Estado de Santa Catarina (E.O3.D1.3)

**18:15 Influence of Interstitial Oxygen on the Structure, Mechanical Properties, and Biocompatibility of Ti-25Ta Alloys for Biomedical Applications** Edriely Oliveira Saraiva<sup>1</sup>, Carlos Roberto Grandini<sup>1</sup>; <sup>1</sup>Universidade Estadual Paulista (E.O3.D1.4)

\* Invited Lecture

SESSION E.01.D2 (09:45 - 10:45) - Room Ipioca

**09:45 Nanostructures For Probing And Transfecting Living Cells** [Christelle Prinz](#)<sup>1</sup>; <sup>1</sup>Lund University / Lunds universitet (E.O1.D2.1\*)

**10:15 Interplay of degradability and protein corona formation on silica nanoparticles: implications for biomedical applications** [Juliana Tosta Theodoro Carvalho](#)<sup>1,2</sup>, [Lindomar Jose Calumbay Albuquerque](#)<sup>2</sup>, [Talitha Fernandes Stefanello](#)<sup>2</sup>, [Juliana Yoneda](#)<sup>2</sup>, [Ohanna Maria Menezes Madeiro da Costa](#)<sup>2</sup>, [Mateus Borba Cardoso](#)<sup>1,2</sup>; <sup>1</sup>Universidade Estadual de Campinas, <sup>2</sup>Brazilian Center for Research in Energy and Materials (E.O1.D2.2)

**10:30 Enhancing photodynamic efficiency of gold shell-isolated nanorods (AuSHINRs) upon toluidine blue-o (TBO) conjugation** [Alexandre Mendes de Almeida Junior](#)<sup>1</sup>, [Lucas Gontijo Moreira](#)<sup>1</sup>, [André Satoshi Ferreira](#)<sup>1</sup>, [Sabrina Aléssio Camacho](#)<sup>1,2</sup>, [Pedro Henrique Benites Aoki](#)<sup>1</sup>; <sup>1</sup>Universidade Estadual Paulista, <sup>2</sup>Universidade Estadual Paulista/ Faculdade de Ciências Letras (E.O1.D2.3)

SESSION E.02.D2 (11:15 - 12:30) - Room Ipioca

**11:15 A luminescent powder for latent fingerprint development: Evaluation of the acute oral toxicity and liver histopathology of the MOF**

**[Eu<sub>2</sub>(BDC)<sub>3</sub>(H<sub>2</sub>O)<sub>2</sub>]** [André Lopes Ruiz Talhari](#)<sup>1</sup>, [Filipe Gabriel Martinez Maurício](#)<sup>1</sup>, [Caroline Ribeiro Carneiro](#)<sup>1</sup>, [Idio Alves de Sousa Filho](#)<sup>2</sup>, [Bruna Rafaela Bezerra Gomes](#)<sup>1</sup>, [Fabiane Hiratsuka Veiga de Souza](#)<sup>1</sup>, [Ingrid Távora Weber](#)<sup>1</sup>; <sup>1</sup>Universidade de Brasília, <sup>2</sup>Universidade Federal Rural do Rio de Janeiro (E.O2.D2.1)

**11:30 Phthalocyanine-nanostructured lipid carrier dispersed in hybrid materials associated with photodynamic therapy against *Candida albicans*** [Sara Efigênia Dantas de Mendonça y Araújo](#)<sup>1</sup>, [Brenda Maria Silva Bezerra](#)<sup>1</sup>, [João Augusto Oshiro Junior](#)<sup>1</sup>; <sup>1</sup>Universidade Estadual da Paraíba (E.O2.D2.2)

**11:45 Development of biopolymeric composites containing bioactive glass for periodontitis treatment** [Ana Gabrielli Lemos](#)<sup>1</sup>, [Kelly Roberta Francisco](#)<sup>2</sup>, [Osvaldo Freitas](#)<sup>3</sup>; <sup>1</sup>Universidade Federal de São Carlos - Campus Sorocaba, <sup>2</sup>Universidade Federal de São Carlos - Campus Araras, <sup>3</sup>Universidade de São Paulo (E.O2.D2.3)

**12:00 Preparation of PVP/bentonite/AgNP nanocomposite films** [Joyelanne Kaline Chagas Souza](#)<sup>1</sup>, [Luciano Aparecido Meireles Grillo](#)<sup>1</sup>, [Camila Braga Domelas](#)<sup>1</sup>; <sup>1</sup>Universidade Federal de Alagoas (E.O2.D2.4)

SESSION E.03.D2 (14:00 - 15:00) - Room Ipioca

**14:00 Chitosan films loaded with different antibiotics: A comparative study on drug release** [Helton José Wiggers](#)<sup>1</sup>, [Nathália Fernanda Sczesny](#)<sup>1</sup>, [Cecília Zorzi Bueno](#)<sup>1</sup>, [Pascale Chevalier](#)<sup>2</sup>, [Francesco Copes](#)<sup>2</sup>, [Diego Mantovani](#)<sup>2</sup>; <sup>1</sup>Associação de Ensino, Pesquisa e Extensão Biopark, <sup>2</sup>Université Laval (E.O3.D2.1\*)

**14:30 Controlled Microwave Synthesis of CuOx Nanocubes** [Gustavo Henrique dos Santos Domingos](#)<sup>1</sup>, [Nicolas Moreira de Carvalho Gomes](#)<sup>2</sup>, [Rodolfo Foster Klein Gunnewiek](#)<sup>1</sup>, [Marco Aurélio Liuthevicene Cordeiro](#)<sup>2</sup>; <sup>1</sup>Federal University of Sao Carlos, <sup>2</sup>Universidade Federal de São Carlos (E.O3.D2.2)

**14:45 Polymeric microPLates for sustained drug delivery: A top-down low-pressure fabrication approach** [Bianca Martins Estevao](#)<sup>1</sup>, [Denise Murgia](#)<sup>1</sup>, [Paolo Decuzzi](#)<sup>1</sup>; <sup>1</sup>Istituto Italiano di Tecnologia (E.O3.D2.3)

SESSION E.04.D2 (17:30 - 18:30) - Room Ipioca

**17:30 Shining light on photosensitizers incorporated in lipid membranes** [Alexandre Mendes de Almeida Junior](#)<sup>1</sup>, [Lucas Gontijo Moreira](#)<sup>1</sup>, [André Satoshi Ferreira](#)<sup>1</sup>, [Mirella Boaro Kobal](#)<sup>1</sup>, [Karina Alves Toledo](#)<sup>1</sup>, [Sabrina Aléssio Camacho](#)<sup>1</sup>, [Pedro Henrique Benites Aoki](#)<sup>1</sup>; <sup>1</sup>Universidade Estadual Paulista (E.O4.D2.1)

**17:45 Ordered mesoporous silicas with different morphologies for potential applications in vaccine formulations** [Matheus Carlos Romeiro Miranda](#)<sup>1</sup>, [Thais Isabel Gaulze Oliveira](#)<sup>1</sup>, [Carmen Marchi Nunes](#)<sup>1</sup>, [Orlando Garcia Ribeiro](#)<sup>2</sup>, [Pedro Leonidas Oseliero Filho](#)<sup>3</sup>, [Luis Carlos Cides da Silva](#)<sup>3</sup>, [José Luiz de Souza Lopes](#)<sup>3</sup>, [Cristiano Luis Pinto de Oliveira](#)<sup>3</sup>, [Marcia Carvalho de Abreu Fantini](#)<sup>3</sup>, [Osvaldo Augusto Sant'Anna](#)<sup>2</sup>, [Tereza da Silva Martins](#)<sup>1</sup>; <sup>1</sup>Departamento de Química, Unifesp, <sup>2</sup>Instituto Butantan, <sup>3</sup>Instituto de Física/USP (E.O4.D2.2)

**18:00 Phthalocyanine-loaded ureasil-polyether materials associated with photodynamic therapy for vulvovaginal candidiasis** [Sara Efigênia Dantas de Mendonça y Araújo](#)<sup>1</sup>, [Brenda Maria Silva Bezerra](#)<sup>1</sup>, [João Augusto Oshiro Junior](#)<sup>1</sup>; <sup>1</sup>Universidade Estadual da Paraíba (E.O4.D2.3)

**18:15 Evaluation of coffee by-products and rosemary extracts as natural preservatives** [Luiza Aparecida Luna Silvério](#)<sup>1</sup>, [Janaína Artem Ataíde](#)<sup>1</sup>, [Érica Mendes dos Santos](#)<sup>1,2</sup>, [Priscila Gava Mazzola](#)<sup>1</sup>; <sup>1</sup>Universidade Estadual de Campinas, <sup>2</sup>Katholieke Universiteit Leuven (E.O4.D2.4)

WEDNESDAY, OCTOBER 04

SESSION E.01.D3 (09:45 - 10:45) - Room Ipioca

**09:45 Design of bone-mimetic collagen/K-carrageenan based scaffolds for investigating bone mineralization** [Lucas Fabrício Bahia Nogueira](#)<sup>1</sup>, [Marcos Antonio Eufrásio Cruz](#)<sup>1</sup>, [Maryanne Trafani de Melo](#)<sup>1</sup>, [Bianca Chierogato Maniglia](#)<sup>1</sup>, [Pietro Ciancaglini](#)<sup>1</sup>, [Massimo Bottini](#)<sup>2</sup>, [Ana Paula Ramos](#)<sup>1</sup>; <sup>1</sup>Universidade de São Paulo, <sup>2</sup>Università degli Studi di Roma Tor Vergata (E.O1.D3.1)



**10:00 Electrospon PVDF/HAp- $\beta$ -TCP composites:****Synthesis, Characterization and****Biocompatibility.**

Adriane Nascimento Volnistem<sup>1</sup>, Eduardo Azzolini Volnistem<sup>1</sup>, Wilson Ricardo Weinand<sup>1</sup>, Eduardo Radovanovic<sup>1</sup>, Taiana Gabriela Moretti Bonadio<sup>2</sup>, Valdirlei Fernandes Freitas<sup>2</sup>, Ivair Aparecido dos Santos<sup>1</sup>; <sup>1</sup>Universidade Estadual de Maringá, <sup>2</sup>Universidade Estadual do Centro Oeste (E.O1.D3.2)

**10:15 Ureasil-polyether hybrid vaginal ovules for co-administration of curcumin and miconazole**

against *Candida albicans* Brenda Maria Silva Bezerra<sup>1</sup>, José de Oliveira Alves Junior<sup>1</sup>, Sara Efigênia Dantas de Mendonça y Araújo<sup>1</sup>, João Augusto Oshiro Junior<sup>1</sup>; <sup>1</sup>Universidade Estadual da Paraíba (E.O1.D3.3)

**10:30 Atomic force microscopy used to identify****polymer chains conformation**

Juliana Juvandes Bomfim de Carvalho<sup>1</sup>, Gabriel Branco Pinheiro<sup>1</sup>, Igor Tenório Soares<sup>1</sup>, Lucas Gimenes de Moura<sup>2</sup>, Vanessa Kapps<sup>3</sup>, Maria de Fátima Vieira Marques<sup>1</sup>, Clara Muniz Almeida<sup>3</sup>; <sup>1</sup>Universidade Federal do Rio de Janeiro, <sup>2</sup>Universidade Federal de Santa Catarina, <sup>3</sup>Instituto Nacional de Metrologia, Qualidade e Tecnologia (E.O1.D3.4)

SESSION E.02.D3 (11:15 - 12:30) - Room Ipioca

**11:15 Fatigue and Accelerated Life Testing of Nanostructured Y-TZP with Non-Homogeneous Yttria****Distribution**

Paulo Noronha Lisboa-Filho<sup>1</sup>, Celso Antonio Goulart<sup>1</sup>, Mariana Miranda de Toledo piza<sup>2</sup>, Laura Firmo Carvalho<sup>2</sup>, Ernesto B. Benalcázar Jalkh<sup>2</sup>, Estevam Augusto Bonfante<sup>2</sup>; <sup>1</sup>São Paulo State University, <sup>2</sup>University of São Paulo (E.O2.D3.1\*)

**11:45 Barium Titanate-doped Hydroxyapatite for Bone Tissue Engineering Using Freeze-Casting****Process**

Alysson Martins Almeida Silva<sup>1</sup>; <sup>1</sup>Universidade de Brasília (E.O2.D3.2)

**12:00 Mechanical properties of hydroxyapatite-zirconia composites produced by different sintering****techniques**

Isabela Reis Lavagnini<sup>1</sup>, João Vitor Campos<sup>2</sup>, Anderson Oliveira Lobo<sup>3</sup>, Lflian Menezes de Jesus<sup>2</sup>, Eliria Maria de Jesus Agnolon Pallone<sup>1</sup>; <sup>1</sup>University of São Paulo, <sup>2</sup>Federal University of Sao Carlos, <sup>3</sup>Federal University of Piauí (E.O2.D3.3)

**12:15 PLA/Strontium-substituted hydroxyapatite scaffolds for Bone Tissue Engineering**

Adones Almeida Rocha<sup>1</sup>, Gabriella Neto Chagas<sup>1</sup>, Anna Carla Araújo<sup>2</sup>, Rossana Mara da Silva Moreira Thiré<sup>1</sup>; <sup>1</sup>Universidade Federal do Rio de Janeiro, <sup>2</sup>Institut National des Sciences Appliquées de Toulouse (E.O2.D3.4)

SESSION E.01.D4 (08:30 - 10:15) - Room Ipioca

**08:30 Physico-chemical characterization of six commercial chitosan and impact on antibacterial****releasing**

Isabela Tavares Rampim<sup>1</sup>, Helton José Wiggers<sup>1</sup>, Cecilia Zorzi Bueno<sup>1</sup>, Pascale Chevallier<sup>2</sup>, Francesco Copes<sup>2</sup>, Diego Mantovani<sup>2</sup>; <sup>1</sup>Associação de Ensino, Pesquisa e Extensão Biopark, <sup>2</sup>Université Laval (E.O1.D4.1)

**08:45 Bioprinting of Carboxymethylcellulose-Laponite Hydrogels with Dental Pulp Mesenchymal****Stem Cells**

INGRI JULIETH MANCILLA CORZO<sup>1</sup>, Diego Noé Rodríguez Sánchez<sup>1</sup>, Alexandre Leite Rodrigues de Oliveira<sup>1</sup>, Marcos Akira d'Ávila<sup>1</sup>; <sup>1</sup>Universidade Estadual de Campinas (E.O1.D4.2)

**09:00 Chitosan hydrogel containing bioactive glass aiming at 3D printing for tissue engineering****Larissa**

Ribeiro Lourenço<sup>1</sup>, Roger Borges<sup>2</sup>, Danilo Justino Carastan<sup>1</sup>, Monica Beatriz Mathor<sup>3</sup>, Juliana Marchi<sup>1</sup>; <sup>1</sup>Universidade Federal do ABC, <sup>2</sup>Faculdade Israelita de Ciências da Saúde Albert Einstein, <sup>3</sup>Instituto de Pesquisas Energéticas e Nucleares (E.O1.D4.3)

**09:15 Ureasil-polyether hybrid materials as a novel miconazole controlled-release system for the treatment****of vulvovaginal candidiasis**

Brenda Maria Silva Bezerra<sup>1</sup>, Sara Efigênia Dantas de Mendonça y Araújo<sup>1</sup>, João Augusto Oshiro Junior<sup>1</sup>; <sup>1</sup>Universidade Estadual da Paraíba (E.O1.D4.4)

**09:30 Nanoporous silicon microparticles in nanocellulose films: A promising approach for efficient****drug delivery**

Silvia Ponce<sup>1</sup>, Dalton Chumpitaz<sup>2</sup>, Karla Garrido-Miranda<sup>3</sup>, Héctor Pesenti<sup>4</sup>, Ángel Contreras<sup>4</sup>, Judith Vergara-Figueroa<sup>5</sup>, Gonzalo Recio Sánchez<sup>6</sup>, Jacobo Hernandez-Montelongo<sup>4</sup>; <sup>1</sup>Universidad de Lima, <sup>2</sup>Universidad Nacional de Ingeniería, <sup>3</sup>Agriaculture Nutritional Genomic Center, <sup>4</sup>Universidad Católica de Temuco, <sup>5</sup>Universidad del Bío-Bío, <sup>6</sup>Universidad San Sebastián (E.O1.D4.5)

**09:45 Influence of RGD motif amino acids on Cell Adhesion in nanostructured films for Cancer****Diagnosis**

Eduarda Baggio Paglia<sup>1</sup>, Gabriela Pereira De Freitas<sup>1,2</sup>, Estela Knopp Kerstner Baladin<sup>1,2</sup>, Jesús Enrique Campos Pacheco<sup>3</sup>, Hernandes Faustino de Carvalho<sup>1</sup>, Jorge Vicente Lopes da Silva<sup>2</sup>, Marcos Antonio Sabino Gutierrez<sup>2</sup>, Marisa Masumi Beppu<sup>1</sup>; <sup>1</sup>Universidade Estadual de Campinas, <sup>2</sup>Centro de Tecnologia da Informação Renato Archer, <sup>3</sup>Universidad Simón Bolívar (E.O1.D4.6)

**SYMPOSIUM F - Nanomaterials in Medicine,  
Nanotoxicology and Nanoregulation: Exploiting the Nano-  
Bio Interface for Clinical Translation**

**TUESDAY, OCTOBER 03**

*SESSION F.01.D2 (09:45 - 10:45) - Room Ponta Verde*

**09:45** Development of gold nanorods associated with microvesicles and Brazilian red propolis and their application for photothermal prostate cancer

**therapy** [Caroline Eloisa Apolinário Botteon](#)<sup>1</sup>, Natália Cristine Dias dos Santos<sup>1</sup>, Juliana Cancino-Bernardi<sup>2</sup>, Priscyla Daniely Marcato Gaspari<sup>1</sup>; <sup>1</sup>Faculdade de Ciências Farmacêuticas de Ribeirão Preto, Universidade de São Paulo, <sup>2</sup>Faculdade de Filosofia, Ciências e Letras de Ribeirão Preto, Universidade de São Paulo (**F.O1.D2.1**)

**10:00** siRNA controlled release from porous silicon nanoparticles coated with hyaluronic acid [Alessandro Ajó](#)<sup>1</sup>, Alessia Lucrezia Fenaroli<sup>2</sup>, Michael J. Sailor<sup>3</sup>, Luisa De Cola<sup>1,2</sup>; <sup>1</sup>Università degli Studi di Milano, <sup>2</sup>Istituto di Ricerche Farmacologiche Mario Negri, <sup>3</sup>University of California San Diego (**F.O1.D2.2**)

**10:15** Interaction Mechanisms of Carbohydrate Functionalized Silica-Based Nanoparticles and Bacteria: A Nano-FTIR Synchrotron Study [Clara Lana Bispo Fidelis](#)<sup>1,2</sup>, Talitha Fernandes Stefanello<sup>2</sup>, Lindomar Jose Calumby Albuquerque<sup>2</sup>, Renata Santos Rabelo<sup>2</sup>, Ohanna Maria Menezes Madeiro da Costa<sup>2</sup>, Mateus Borba Cardoso<sup>1,3</sup>; <sup>1</sup>Universidade Estadual de Campinas, <sup>2</sup>Brazilian Center for Research in Energy and Materials (**F.O1.D2.3**)

**10:30** Magnetic plasmonic NiFe<sub>2</sub>O<sub>4</sub>-silver nanoparticles: a potential SERS biosensor for newborn screening tests [Arturo Bismarck Linares Veliz](#)<sup>1</sup>, Rodrigo Morawski<sup>1</sup>, Alexandre Guimarães Brolo<sup>2</sup>, Thiago Serafim Martins<sup>3</sup>, Osvaldo Novais de Oliveira Junior<sup>4</sup>, Alexandre D. T. Costa<sup>5</sup>, Klester dos S. Souza<sup>1</sup>, Jacqueline Ferreira Leite Santos<sup>1</sup>; <sup>1</sup>Universidade Federal do Rio Grande do Sul, <sup>2</sup>University of Victoria British Columbia, <sup>3</sup>Instituto de Física de São Carlos - USP, <sup>4</sup>Instituto de Física de São Carlos - USP, <sup>5</sup>Instituto Oswaldo Cruz (**F.O1.D2.4**)

*SESSION F.03.D2 (14:00 - 15:00) - Room Ponta Verde*

**14:00** Surface modification of nanoparticles: disguise, blend in or stand out? [Elizana Martins Lima](#)<sup>1</sup>; <sup>1</sup>Universidade Federal de Goiás (**F.O3.D2.1\***)

**14:30** Mesoporous silica biomimetic nanoparticles for lung cancer therapy [ANGELICA MARIA MAZUERA ZAPATA](#)<sup>1</sup>, Valéria Maria Oliveira Cardoso<sup>1</sup>, Valtencir Zucolotto<sup>1</sup>; <sup>1</sup>Universidade de São Paulo (**F.O3.D2.2**)

**14:45** Exploring the Role of Glycocalyx and Protein Corona in the Cellular Uptake of Silica Nanoparticles [Paulo Henrique Olivieri Junior](#)<sup>1</sup>, Isabela Ferreira Assis<sup>1</sup>, Helena Bonciani Nader<sup>1</sup>, Giselle Zenker Justo<sup>1</sup>, Alioscka Augusto Sousa<sup>1</sup>; <sup>1</sup>Universidade Federal de São Paulo (**F.O3.D2.3**)

*SESSION F.04.D2 (17:30 - 18:30) - Room Ponta Verde*

**17:30** THE PROCESSING OF CELL MEMBRANES AS ACTIVE MATERIALS FOR NANOCARRIERS FABRICATION AND THEIR APPLICATION IN PHOTO/CHEMO THERAPIES AGAINST CANCER [Valtencir Zucolotto](#)<sup>1</sup>; <sup>1</sup>Nanomedicine and Nanotoxicology Group, Physics Institute of Sao Carlos, University of Sao Paulo, 13566-590, Sao Carlos, SP, Brazil (**F.O4.D2.1**)

**17:45** Cubic phase nanoparticles in the presence of lysozyme and curcumin: A structural approach [HEIDIE DA SILVA TORRES](#)<sup>1,2</sup>, AMANDA BELLINI<sup>1,2</sup>, Iris Ribeiro Sousa Ribeiro<sup>1</sup>, Luiz Fernando de Camargo Rodrigues<sup>1,2</sup>, Leandro Ramos Souza Barbosa<sup>1,2</sup>; <sup>1</sup>Brazilian Center for Research in Energy and Materials, <sup>2</sup>University of São Paulo (**F.O4.D2.2**)

**18:00** Evaluation of synthesis conditions and luminescence properties of fluoroperovskite nanoparticles with application in photodynamic therapy [Romina Keuchkerian](#)<sup>1</sup>, [María Eugenia Pérez Barthaburi](#)<sup>2</sup>, Leopoldo Suescun<sup>3</sup>, Carolina Crisci<sup>4</sup>, Ivana Aguiar<sup>5</sup>, Wilner Martínez-López<sup>6</sup>, Ricardo Costa de Santana<sup>7</sup>, Mauricio Rodriguez Chialanza<sup>8</sup>; <sup>1</sup>Facultad de Química- Universidad de la República, <sup>2</sup>Centro Universitario Regional del Este- Universidad de la República, <sup>3</sup>Facultad de Química, Universidad de la República, <sup>4</sup>Centro Universitario Regional del Este, <sup>5</sup>Universidad de la República, <sup>6</sup>Instituto de Investigaciones Biológicas Clemente Estable - MEC, <sup>7</sup>Universidade Federal de Goiás, <sup>8</sup>Centro Universitario Regional Este, Universidad de la República (**F.O4.D2.3**)

**18:15** CELLULOSE NANOCRYSTALS FOR ANTICANCER DRUG DELIVERY [Alessia Sambugaro](#)<sup>1</sup>, Marina Scarpa<sup>2</sup>, Chiara Nardon<sup>1</sup>, [Nicola Daldosso](#)<sup>1</sup>; <sup>1</sup>University of Verona, <sup>2</sup>Università degli Studi di Trento (**F.O4.D2.4**)

**WEDNESDAY, OCTOBER 04**

\* Invited Lecture

*SESSION F.01.D3 (09:45 - 10:45) - Room Ponta Verde*

**09:45** Invited Speaker: Shedding Light on Ag<sub>2</sub>S Nanoparticles: Imaging, Sensing, and Beyond [Erving Clayton Ximenes](#)<sup>1</sup>, Daniel Jaque<sup>1</sup>; <sup>1</sup>Universidad Autónoma de Madrid (**F.O1.D3.1\***)

**10:15** Electrosynthesis of silver sulfide quantum dots for nanotheranotics [Iago Ramon Vasconcelos](#)<sup>1</sup>, Felipe Leon Nascimento de Sousa<sup>2</sup>, Anderson De Jesus Caires, Denilson de Vasconcelos Freitas<sup>2</sup>, Marcelo Navarro<sup>1</sup>; <sup>1</sup>Universidade Federal de Pernambuco, <sup>2</sup>Centro de tecnologias estratégicas do Nordeste (**F.O1.D3.2**)

**10:30** GO-AgNPs nanohybrid: protein corona formation and cytotoxicity on zebrafish liver cell line [Aline Maria Zigiotta de Medeiros](#)<sup>1</sup>, Gabriela H. da Silva<sup>2</sup>, Nathalia Cristine Lima Azevedo<sup>2</sup>, Diego Stefani Teodoro Martinez<sup>1</sup>; <sup>1</sup>Brazilian Center for Research in Energy and Materials, <sup>2</sup>Brazilian Nanotechnology National Laboratory (**F.O1.D3.3**)

SESSION F.02.D3 (11:15 - 12:30) - Room Ponta Verde

**11:15 Photothermal response and luminescence of silver indium telluride nanocrystals** [Felipe Leon Nascimento de Sousa](#)<sup>1</sup>, Brenand AS Souza<sup>2,1</sup>, Anderson De Jesus Caires<sup>3</sup>, Severino Alves Júnior<sup>2</sup>, Denilson de Vasconcelos Freitas<sup>1</sup>, Marcelo Navarro<sup>2</sup>, <sup>1</sup>Centro de tecnologias estratégicas do Nordeste, <sup>2</sup>Universidade Federal de Pernambuco, <sup>3</sup>SENAI - FIEMG (F.02.D3.1)

**11:30 (Cancer) Theranostics with (Intrinsically) Radiolabeled Nanomaterials** [Weibo Cai](#)<sup>1</sup>; <sup>1</sup>University of Wisconsin - Madison (F.02.D3.2\*)

**12:00 DOPED CARBON NANOPARTICLES AS AGENTS FOR ANTI-CANCER THERAPY** [Annielle Mendes Brito Da Silva](#)<sup>1</sup>, Albina Mikhralieva<sup>2</sup>, Mykhailo Aleksander Nazarkovskiy<sup>2</sup>, Olena Artiushenko<sup>2</sup>, Luiz Anastacio Alves<sup>1</sup>, Volodymyr Zaitsev<sup>2</sup>; <sup>1</sup>Instituto Oswaldo Cruz, <sup>2</sup>Pontifícia Universidade Católica do Rio de Janeiro (F.02.D3.3)

**12:15 Development and characterization of chitosan nanoparticles loaded with different aminoglycoside antibiotics** [Cecilia Zorzi Bueno](#)<sup>1</sup>, [Tainá Kleinubing Da Silva](#)<sup>1</sup>, [Helton José Wiggers](#)<sup>1</sup>, [Pascale Chevallier](#)<sup>2</sup>, [Francesco Copes](#)<sup>2</sup>, [Diego Mantovani](#)<sup>2</sup>; <sup>1</sup>Associação de Ensino, Pesquisa e Extensão Biopark, <sup>2</sup>Université Laval (F.02.D3.4)

SESSION F.03.D3 (14:00 - 16:00) - Room Ponta Verde

**14:00 Nanoparticle-mediated immune suppression of metastatic cancer** [Preethi Korangath](#)<sup>1</sup>, [Lu Jin](#)<sup>2</sup>, [Chun-Ting Yang](#)<sup>1</sup>, [Sean Healy](#)<sup>1</sup>, [Chen Hu](#)<sup>1</sup>, [Suqi Ke](#)<sup>1</sup>, [Kathlene Gabrielson](#)<sup>1</sup>, [Jeremy Foote](#)<sup>3</sup>, [Robert Clarke](#)<sup>2</sup>, [Robert Ivkov](#)<sup>1</sup>; <sup>1</sup>Johns Hopkins University, <sup>2</sup>University of Minnesota, <sup>3</sup>University of Alabama Birmingham (F.03.D3.1\*)

**14:30 Design of luminescent SiO<sub>2</sub>/EuTTA/ZIF-8 nanocomposite loaded with uvaol for use as drug delivery platform for treatment of pulmonary diseases** [Rodrigo da Silva Viana](#)<sup>1</sup>, [Polliane M.C. de Araújo](#)<sup>1</sup>, [Juliane Silva](#)<sup>1</sup>, [Jamyllle Nunes de Souza Ferro](#)<sup>1,2</sup>, [Emiliano de O. Barreto](#)<sup>1</sup>, [Severino Alves Júnior](#)<sup>3</sup>; <sup>1</sup>Federal University of Alagoas, <sup>2</sup>Institute of Biological Sciences and Health, <sup>3</sup>Universidade Federal de Pernambuco (F.03.D3.2)

**14:45 Biomaterials based on mesoporous silica nanoparticles and hydroxyapatite for controlled DOX release** [Isabela Alves de Albuquerque Bessa](#)<sup>1</sup>, [Aline Farias Moreira da Silva](#)<sup>1</sup>, [Dayenny Louise D'Amato Leite](#)<sup>1</sup>, [Carolina Bastos Pereira Ligiero](#)<sup>1</sup>, [Danilo Rocha Hisse de Miranda](#)<sup>1</sup>, [Braulio Soares Archanjo](#)<sup>2,3</sup>, [João Victor Roza Cruz](#)<sup>4</sup>, [Nathalia de Oliveira Meireles da Costa](#)<sup>4</sup>, [Luis Felipe Ribeiro Pinto](#)<sup>4</sup>, [Alexandre Malta Rossi](#)<sup>5</sup>, [Célia Machado Ronconi](#)<sup>1</sup>; <sup>1</sup>Universidade Federal Fluminense, <sup>2</sup>Divisão de Metrologia de Materiais, <sup>3</sup>Instituto Nacional de Metrologia, Qualidade e Tecnologia, <sup>4</sup>Instituto Nacional do Câncer, <sup>5</sup>Centro Brasileiro de Pesquisas Físicas (F.03.D3.3)

**15:00 Buffering effect of cell membrane-coated ZnOPEI nanoparticles on pancreatic cancer under hypoxia conditions** [Bianca Martins Estevo](#)<sup>1,2</sup>, [Celisnolia M. Leite](#)<sup>1,3</sup>, [Thales Rafael Machado](#)<sup>1</sup>, [Nathalia Cristina Rissi](#)<sup>1</sup>, [Valtencir Zucolotto](#)<sup>1</sup>; <sup>1</sup>Nanomedicine and Nanotoxicology Group, Physics Institute of Sao Carlos, University of Sao Paulo, 13566-590, Sao Carlos, SP, Brazil, <sup>2</sup>Instituto Italiano di Tecnologia, <sup>3</sup>Instituto de Física de São Carlos-USP (F.03.D3.4)

**15:15 Real-Time Detection of Magnetic Nanoparticle Distribution Using Optically Pumped Magnetometers: A Pilot Study in Rats.** [Guilherme Augusto Soares](#)<sup>1</sup>, [Erick Guilherme Stoppa](#)<sup>1</sup>, [João Miguel Barboza](#)<sup>1</sup>, [Lais Pereira Buranello](#)<sup>1</sup>, [GABRIEL GUSTAVO DE ALBUQUERQUE BIASOTTI](#)<sup>1</sup>, [Andris Figueiroa Bakuzis](#)<sup>2</sup>, [José Ricardo de Arruda Miranda](#)<sup>1</sup>; <sup>1</sup>Instituto de Biociências de Botucatu - UNESP, <sup>2</sup>Universidade Federal de Goiás (F.03.D3.5)

**15:30 ANTIANGIOGENIC AND ANTITUMORAL ACTIVITY OF BIOMIMETIC DELIVERY SYSTEMS USING THE CHICKEN CHORIOALLANTOIC MEMBRANE (CAM) ASSAY** [Natalia Noronha Ferreira](#)<sup>1</sup>, [Natalia Sanchez Moreno](#)<sup>1</sup>, [Celisnolia Moraes Leite](#)<sup>1</sup>, [Camila Fernanda Rodero](#)<sup>1</sup>, [Valtencir Zucolotto](#)<sup>2</sup>; <sup>1</sup>Instituto de Física de São Carlos - USP, <sup>2</sup>Universidade de São Paulo (F.03.D3.6)

**15:45 Biomimetic magnetic nanocarriers for thermal nanomedicine** [João Victor Ribeiro Rocha](#)<sup>1</sup>, [Lucas Ribeiro Sousa](#)<sup>1</sup>, [Rafael Freire Krause](#)<sup>1</sup>, [Nathália Correa de Almeida Oliveira](#)<sup>1</sup>, [Marcella Miranda Siqueira Furtoso Rodrigues](#)<sup>1</sup>, [Jose Divino Barbosa Vaz](#)<sup>1</sup>, [Samuel de Melo Castro](#)<sup>1</sup>, [Carlos Eduardo Ribeiro Cardoso](#)<sup>1</sup>, [Nicholas Zufelato](#)<sup>1</sup>, [Eliana Martins Lima](#)<sup>1</sup>, [Marize Campos Valadares](#)<sup>1</sup>, [Mauro Cunha Xavier Pinto](#)<sup>1</sup>, [Sebastião A Mendanha](#)<sup>1</sup>, [Andris Figueiroa Bakuzis](#)<sup>1</sup>; <sup>1</sup>Universidade Federal de Goiás (F.03.D3.7)

SESSION F.04.D3 (17:30 - 18:30) - Room Ponta Verde

**17:30 Nanomaterials in Humans: Improving Health** [Thomas J. Webster](#)<sup>1</sup>; <sup>1</sup>Hebei University of Technology (F.04.D3.1)

**17:45 Electrically conductive polyaniline-derived nanofibers as active interface for biomedical applications** [Arthur Henrique Vidigal De Miranda](#)<sup>1</sup>, [Jéssica Cavaleiro da Silva](#)<sup>1,2</sup>, [Anna Leticia Martinez Martinez Toledo](#)<sup>1</sup>, [Giovanni Vita](#)<sup>2</sup>, [Carlos Augusto Gomes Soares](#)<sup>2</sup>, [Paulo Henrique de Souza Picciani](#)<sup>1</sup>; <sup>1</sup>Instituto de Macromoléculas Professora Eloisa Mano, <sup>2</sup>Instituto de Biologia (F.04.D3.2)

**18:00 Cell-Penetrating Peptide Nanotechnology: Opportunities in the Development of Innovative Therapeutics** [Emerson Rodrigo da Silva](#)<sup>1</sup>; <sup>1</sup>Departamento de Biofísica, Escola Paulista de Medicina, Universidade Federal de São Paulo (F.04.D3.3)

**18:15 The role of eco-corona on the toxicity of PVP-**

**AgNPs** Gabriela H. da Silva<sup>1</sup>, Francine C6a<sup>1</sup>, Luelc Souza da Costa<sup>1</sup>, Fabricio De Souza Delite<sup>1</sup>, Jefferson Bettini<sup>1</sup>, Iseult Lynch<sup>2</sup>, Diego Stéfani Teodoro Martinez<sup>1</sup>; <sup>1</sup>Brazilian Center for Research in Energy and Materials, <sup>2</sup>University of Birmingham **(F.O4.D3.4)**

**THURSDAY, OCTOBER 05**

*SESSION F.O1.D4 (08:30 - 10:15) - Room Ponta Verde*

**08:30 Illuminating the Biological World through Infrared Radiation at IMBUA Beamline on**

**Sirius** Ohanna Maria Menezes Madeiro da Costa<sup>1</sup>, Raul O. Freitas<sup>1,2</sup>; <sup>1</sup>Brazilian Center for Research in Energy and Materials, <sup>2</sup>Centro Nacional de Pesquisa em Energia e Materiais **(F.O1.D4.1)**

**08:45 Nanostructured electrochemical biosensor based on multi-walled carbon nanotube and temphylarate-1 for Klebsiella pneumoniae detection**

Winne Fernanda Souto Maior da Silva<sup>1</sup>, Antônio Oscar Gomes Filho<sup>1</sup>, Ludovico Migliolo<sup>2</sup>, Maria Danielly Lima de Oliveira<sup>1,3,4</sup>, Glauca Manoella de Souza Lima<sup>1</sup>, César Augusto Souza de Andrade<sup>1</sup>; <sup>1</sup>Universidade Federal de Pernambuco, <sup>2</sup>Universidade Católica Dom Bosco, <sup>3</sup>Laboratório de Biodispositivos Nanoestruturados, <sup>4</sup>Programa de Pós-Graduação em Inovação Terapêutica **(F.O1.D4.2)**

**09:00 Theranostic effect of magnetic iron oxide nanoparticle functionalized with aminosilane in**

**osteosarcoma 3D cancer models** Carolina Kaminski Sanz<sup>1</sup>, Marcel Guimarães Martins<sup>2</sup>, Camila Hubner Costabile Wendt<sup>1</sup>, Sara Gemini Pipemi<sup>1</sup>; <sup>1</sup>Universidade Federal do Rio de Janeiro, <sup>2</sup>Magtech Brasil **(F.O1.D4.3)**

**09:15 First in vivo tracking of TiO2 and Eu3+-doped TiO2 NCs using your luminescence**

Jerusa Maria Oliveira<sup>1</sup>, Kellen Talita Romão da Silva<sup>1</sup>, Francisco Rubens Alves dos Santos<sup>1</sup>, Felipe Berti Valer<sup>2</sup>, Ricardo Kenji Ohno Takaki<sup>2</sup>, JOÃO PAULO SANTOS DE CARVALHO<sup>3</sup>, Olagide Wagner de Castro<sup>1</sup>, Thiago Lopes Rocha<sup>4</sup>, Noelio O. Dantas<sup>1</sup>, Anielle Christine Almeida Silva<sup>1</sup>, Lucas Anhezini<sup>1</sup>; <sup>1</sup>Universidade Federal de Alagoas, <sup>2</sup>Universidade de São Paulo, <sup>3</sup>Universidade de Brasília, <sup>4</sup>Universidade Federal de Goiás **(F.O1.D4.4)**

**09:30 Protein corona: An investigation of the interactions between serum albumin and silica**

**nanoparticles** Gabriela Zoia<sup>1,2</sup>, Mateus Borba Cardoso<sup>1,2</sup>, Raul O. Freitas<sup>2,3</sup>, Ohanna Maria Menezes Madeiro da Costa<sup>2</sup>; <sup>1</sup>Universidade Estadual de Campinas, <sup>2</sup>Brazilian Center for Research in Energy and Materials, <sup>3</sup>Centro Nacional de Pesquisa em Energia e Materiais **(F.O1.D4.5)**

TUESDAY, OCTOBER 03

\* Invited Lecture

*SESSION G.02.D2 (11:15 - 12:30) - Room Virgilio Loureiro Auditorium 1*

**11:15** **Shining a Light on Sustainable Chemistry: Harnessing the Power of Photoelectrocatalysis for Clean Energy Conversion and Environmental Remediation** Dr. Andrea Folló<sup>1</sup>; <sup>1</sup>Cardiff University (G.02.D2.1\*)

**11:45** **Visible Light Photoelectrochemical Sensor for Dopamine: Determination Using Iron Vanadate Modified Electrode** Luiz Henrique Dall Antonia<sup>1</sup>, Luan Pereira Camargo<sup>1</sup>, Marcelo Rodrigues da Silva Pelissari<sup>2</sup>, Paulo Rogério Catarini da Silva<sup>1</sup>, Augusto Batagin-Neto<sup>3</sup>, Roberta Antigo Medeiros<sup>1</sup>, Marco Antonio Dias<sup>1</sup>; <sup>1</sup>Universidade Estadual de Londrina, <sup>2</sup>Universidade Estadual de São Paulo, <sup>3</sup>Universidade Estadual Paulista (G.02.D2.2)

**12:00** **Bactericidal and virucidal activity of polymer-based copper coating boosted by visible light radiation** Aline Lucchesi Schio<sup>1</sup>, Michele Strey de Lima<sup>1</sup>, Rafael Dorighello Cadamuro<sup>2</sup>, Alexandre Fassini Michels<sup>1</sup>, Mariana Roesch Ely<sup>1</sup>, Gislaíne Fongaro<sup>2</sup>, Carlos Alejandro Figueroa<sup>1</sup>; <sup>1</sup>Universidade de Caxias do Sul, <sup>2</sup>Universidade Federal de Santa Catarina (G.02.D2.3)

**12:15** **Optimizing sucrose-urea fuel mixture in solution combustion synthesis of N-doped zinc oxide nanoparticles for enhanced photocatalytic removal of tetracycline hydrochloride** Tainá Pigosso<sup>1</sup>, Byron Andrade Amorim Melo<sup>1</sup>, Leandro Lima Evangelista<sup>1</sup>, Sergio Yesid Gómez González<sup>1</sup>, Cristiano Binder<sup>1</sup>; <sup>1</sup>Universidade Federal de Santa Catarina (G.02.D2.4)

*SESSION G.03.D2 (14:00 - 15:00) - Room Virgilio Loureiro Auditorium 1*

**14:00** **Photocatalytic Reduction of CO<sub>2</sub> using hybrid carbon-based materials** Conchi O Ania<sup>1</sup>, Alicia Gomis Berenguer<sup>2</sup>, Elhassan AMATERZ<sup>1</sup>; <sup>1</sup>Centre national de la recherche scientifique, <sup>2</sup>Universidad de Alicante (G.03.D2.1\*)

**14:30** **Application of carbon fiber (CF/WO<sub>3</sub>) used as photoactivated filtration membrane for sertraline removal** Hernán Dario Rojas Mantilla<sup>1</sup>, Kallyni Irikura<sup>1</sup>, João Carlos de Souza<sup>1</sup>, Saily Cristina Ayala Durán<sup>1</sup>, Ricardo Andrés Salazar González<sup>2</sup>, Maria Valnice Boldrin Zanoni<sup>1</sup>; <sup>1</sup>Universidade Estadual Paulista, <sup>2</sup>Universidad de Santiago de Chile (G.03.D2.2)

**14:45** **Pulsed laser ablation of gold in water for the fixation of CO<sub>2</sub> into advanced functional nanomaterial** Tommasso Del Rosso<sup>1</sup>, Tahir<sup>1</sup>, Guilherme Conceição Concas<sup>1</sup>, Mariana Gisbert<sup>1</sup>, Nicola Daldosso<sup>2</sup>, Francesco Enrichi<sup>2</sup>, Gino Mariotto<sup>2</sup>, Alexandre Cuiñ<sup>3</sup>, Ricardo Queiroz Aucelio<sup>1</sup>, Walter Mendes de Azevedo<sup>4</sup>, Aldebarã Fausto Ferreira<sup>4</sup>, Yordi Enrique Fonseca<sup>5</sup>, Marco Cremona<sup>1</sup>, Fernando Lázaro Freire Júnior<sup>1</sup>, Geronimo Perez<sup>6</sup>, José Marcus Godoy<sup>1</sup>; <sup>1</sup>Pontifícia Universidade Católica do Rio de Janeiro, <sup>2</sup>University of Verona, <sup>3</sup>Universidade Federal de Juiz de Fora, <sup>4</sup>Universidade Federal de Pernambuco, <sup>5</sup>Centro Brasileiro de Pesquisas Físicas, <sup>6</sup>Universidade Federal Fluminense (G.03.D2.3)

*SESSION G.04.D2 (17:30 - 18:30) - Room Virgilio Loureiro Auditorium 1*

**17:30** **NaNbO<sub>3</sub>/Eumelanin composite: A new photocatalyst under visible light** Daiane Fernandes<sup>1</sup>, Cristiane W. Raubach<sup>1</sup>, Mateus M. Ferrer<sup>1</sup>, Pedro Lovato Gomes Jardim<sup>1</sup>, Mario Lucio Moreira<sup>1</sup>, Carlos Frederico de Oliveira Graeff<sup>2</sup>, Sergio da Silva Cava<sup>1</sup>; <sup>1</sup>Universidade Federal de Pelotas, <sup>2</sup>Universidade Estadual Paulista (G.04.D2.1)

**17:45** **Microwave-assisted solution combustion synthesis of N-doped zinc oxide nanoparticles with enhanced photocatalytic activity for water remediation** Leandro Lima Evangelista<sup>1</sup>, Tainá Pigosso<sup>1</sup>, Alicia Correa Lucena<sup>1</sup>, Byron Andrade Amorim Melo<sup>1</sup>, Sergio Yesid Gómez González<sup>1</sup>, Cristiano Binder<sup>1</sup>; <sup>1</sup>Universidade Federal de Santa Catarina (G.04.D2.2)

WEDNESDAY, OCTOBER 04

\* Invited Lecture

*SESSION G.01.D3 (09:45 - 10:45) - Room Virgilio Loureiro Auditorium 1*

**09:45** **Misfit Ca-cobaltites as promising electrodes for fuel cells and electrolyzers** Daniel Araújo de Macedo<sup>1</sup>; <sup>1</sup>Federal University of Paraíba (G.01.D3.1\*)

**10:15** **STRUCTURAL, CHEMISTRY, AND ELECTRONIC STATE OF THE INTERFACES OF TRANSPARENT CONDUCTING OXIDE AND HEMATITE APPLIED IN PHOTOELECTROCATALYSIS** Gabriel Trindade dos Santos<sup>1,2</sup>, karen Cristina Bedin<sup>2</sup>, Tanna E. R. Fiuza<sup>2</sup>, Ingrid Guadalupe Rodriguez Gutierrez<sup>2</sup>, Paulo F. P. Fichtner<sup>1</sup>, Flavio Leandro de Souza<sup>3</sup>, Jefferson Bettin<sup>2</sup>; <sup>1</sup>Universidade Federal do Rio Grande do Sul, <sup>2</sup>Brazilian Center for Research in Energy and Materials, <sup>3</sup>Universidade Federal do ABC (G.01.D3.2)

**10:30** **Optimization of niobium-based materials for photocatalysis and solar energy conversion** Sergio da Silva Cava<sup>1</sup>, Cátia Liane Ücker<sup>1</sup>, Vitor Goetzke<sup>1</sup>, Fabio Calcagno Riemke<sup>1</sup>, Daiane Fernandes<sup>1</sup>, Cristiane Wienke Raubach<sup>1</sup>, Mateus Ferrer<sup>1</sup>, Pedro Lovato Gomes Jardim<sup>1</sup>, Mario Lucio Moreira<sup>1</sup>; <sup>1</sup>Universidade Federal de Pelotas (G.01.D3.3)

SESSION G.02.D3 (11:15 - 12:30) - Room Virgilio  
Loureiro Auditorium 1

**11:15 Photoanodes Based on Heterojunction of CuBi<sub>2</sub>O<sub>4</sub>/TiO<sub>2</sub> for Green Hydrogen**

**Production** WELLINGTON DE SOUZA FERREIRA<sup>1</sup>, Leonardo José Lins Maciel<sup>2</sup>, Felipe Leon Nascimento de Sousa<sup>2</sup>, Denilson de Vasconcelos Freitas<sup>2</sup>, Luana Beatriz Correia de Oliveira<sup>1</sup>, Francisco de Assis Sales Ribeiro<sup>1</sup>, Giovanna Machado<sup>2</sup>; <sup>1</sup>Universidade Federal de Pernambuco, <sup>2</sup>Centro de tecnologias estratégicas do Nordeste (G.O2.D3.1)

**11:30 Titanium dioxide photoanodes sensitized with bismuth sulfide quantum dots for hydrogen**

**production** Larissa Giovanna Campos Silva<sup>1</sup>, Luana Beatriz Correia de Oliveira<sup>2</sup>, Cicero Inácio da Silva Filho<sup>3</sup>, Leonardo José Lins Maciel<sup>3</sup>, Felipe Leon Nascimento de Sousa<sup>2</sup>, Giovanna Machado<sup>3</sup>, Denilson de Vasconcelos Freitas<sup>3</sup>; <sup>1</sup>Universidade Federal Rural de Pernambuco, <sup>2</sup>Universidade Federal de Pernambuco, <sup>3</sup>Centro de tecnologias estratégicas do Nordeste (G.O2.D3.2)

**11:45 Effect of relative band position between semiconductors in photoanodes dedicated to green hydrogen production: TiO<sub>2</sub>/CdTe case**

**production** Maria Eduarda Ribeiro da Silva<sup>1</sup>, Luana Beatriz Correia de Oliveira<sup>1</sup>, Denilson de Vasconcelos Freitas<sup>2</sup>, Dayane Santos Marques<sup>1</sup>, Felipe Leon Nascimento de Sousa<sup>2</sup>, Marcelo Navarro<sup>1</sup>, Giovanna Machado<sup>2</sup>; <sup>1</sup>Universidade Federal de Pernambuco, <sup>2</sup>Centro de tecnologias estratégicas do Nordeste (G.O2.D3.3)

SESSION G.03.D3 (14:00 - 16:00) - Room Virgilio  
Loureiro Auditorium 1

**14:00 Pore confining and heteroatom-doping effects on adsorption and solar-driven photocatalytic activity of nanoporous carbons**

**production** Juan Matos Lale<sup>1</sup>, Po S. Poon<sup>2</sup>; <sup>1</sup>Universidad Autónoma de Chile, <sup>2</sup>Universidad de Concepción (G.O3.D3.1\*)

**14:30 Light-driving photoconversion of CO<sub>2</sub> into Solar Fuels**

**production** Yong Zhou<sup>1</sup>, Congping Wu<sup>2</sup>, Zhigang Zou<sup>2</sup>; <sup>1</sup>Anhui Polytechnic University, <sup>2</sup>Nanjing University (G.O3.D3.2)

**14:45 Synthesis and Characterization of Various TiO<sub>2</sub>NTs/rGO Heterostructures and its Application for Photocatalytic Degradation of the Methylene Blue.**

**production** Thais Sales Pinheiro<sup>1</sup>, Thiago Luiz de Almeida Cortiz<sup>1</sup>, Katia Franklin Albertin Torres<sup>1</sup>, Ana Melva Champi Farfan<sup>1</sup>; <sup>1</sup>Universidade Federal do ABC (G.O3.D3.3)

**15:00 Removing antibiotics from water via solar photo-Fenton using cobalt containing magnetite**

**production** Jany Hellen Ferreira de Jesus<sup>1</sup>, Karla Virginia Leite Lima<sup>2</sup>, Raquel Fernandes Pupo Nogueira<sup>1</sup>; <sup>1</sup>Universidade Estadual Paulista / Instituto de Química, <sup>2</sup>Universidade Estadual Paulista (G.O3.D3.4)

**15:15 Effect of fuel-to-oxidizer ratio on the synthesis of photocatalytic NiO by solution combustion method in a sucrose-nitrate system**

**production** Alicia Correa Lucena<sup>1</sup>, Byron Andrade Amorim Melo<sup>1</sup>, Tainá Pigosso<sup>1</sup>, Leandro Lima Evangelista<sup>1</sup>, Tatiana Bendo<sup>1</sup>, Cristiano Binder<sup>1</sup>; <sup>1</sup>Universidade Federal de Santa Catarina (G.O3.D3.5)

**15:30 Synthesis of MoS<sub>2</sub>/MoO<sub>3</sub> composites for the removal of cationic dyes by adsorption process**

**production** Jéssica Cristina de Almeida<sup>1</sup>, Thais Mota de Souza<sup>1</sup>, Thais Aparecida Rodrigues<sup>1</sup>, Douglas M. S. Del Duque<sup>2</sup>, Wagner Romito de Mendonça<sup>2-1</sup>; <sup>1</sup>Universidade Federal de São Carlos - Campus Sorocaba, <sup>2</sup>Instituto Federal de Educação, Ciência e Tecnologia de São Paulo (G.O3.D3.6)

SESSION G.04.D3 (17:30 - 18:30) - Room Virgilio  
Loureiro Auditorium 1

**17:30 Magnetic activated carbon for improving the removal of antibiotics from water by heterogeneous solar photo-Fenton**

**production** Karla Virginia Leite Lima<sup>1</sup>, Erika Maria Leite de Sousa<sup>2</sup>, Diana Luísa Duarte de Lima<sup>2</sup>, Vânia Maria Amaro Calisto<sup>2</sup>, Raquel Fernandes Pupo Nogueira<sup>1</sup>; <sup>1</sup>Universidade Estadual Paulista / Instituto de Química, <sup>2</sup>Universidade de Aveiro (G.O4.D3.1)

**17:45 Synthesis and characterization of iron (III) oxide/bismuth molybdate thin film heterostructure for the photo electrocatalytic degradation of antibiotic oxytetracycline.**

**production** Elizabeth Carmen Pastrana Alta<sup>1</sup>; <sup>1</sup>UNIVERSIDAD NACIONAL DE INGENIERÍA (G.O4.D3.2)

THURSDAY, OCTOBER 05

\* Invited Lecture

SESSION G.01.D4 (08:30 - 10:15) - Room Virgilio  
Loureiro Auditorium 1

**08:30 How Photocatalytic Materials can contribute for a Sustainable Agriculture**

**production** Cauê Ribeiro de Oliveira<sup>1</sup>; <sup>1</sup>EMBRAPA Instrumentação (G.O1.D4.1\*)

**09:00 CuO Catalysts Prepared by Chemical Precipitation Synthesis for CO<sub>2</sub> Photoreduction**

**production** Jéssica Cristina de Almeida<sup>1</sup>, Douglas M. S. Del Duque<sup>2</sup>, Wagner Romito de Mendonça<sup>2-1</sup>; <sup>1</sup>Universidade Federal de São Carlos - Campus Sorocaba, <sup>2</sup>Instituto Federal de Educação, Ciência e Tecnologia de São Paulo (G.O1.D4.2)

**09:15 Use of immobilized microalgae for effluent treatment and concomitant biomass production**

**production** Paulo Alexandre Silveira da Silva<sup>1</sup>, Beatriz Jacob Furlan<sup>1</sup>, ANDRE BELLINI MARIANO<sup>1</sup>, José Viriato Coelho Vargas<sup>1</sup>; <sup>1</sup>Universidade Federal do Paraná (G.O1.D4.3)

**09:30 Self-cleaning membrane made of cellulose and MIL-88A for the treatment of contaminant emulsions**

José Geraldo A. Pacheco<sup>1</sup>, Erica J Moraes Dantas<sup>1</sup>, Maria EAD Mota<sup>1</sup>, Santiago Arias Henao<sup>1</sup>, Celmy Maria Bezerra de Menezes Barbosa<sup>1</sup>, Gilson L Silva<sup>1</sup>; <sup>1</sup>Universidade Federal de Pernambuco (**G.O1.D4.4**)

**09:45 Bactericidal photocatalyst of TiO<sub>2</sub>-based copper under visible light radiation**

Michele Strey de Lima<sup>1</sup>, Aline Lucchesi Schio<sup>1</sup>, Rafaele Frassini<sup>1</sup>, Mariana Roesch Ely<sup>1</sup>, Cesar Aguzzoli<sup>1</sup>, Carlos Alejandro Figueroa<sup>1</sup>, Alexandre Fassini Michels<sup>1</sup>; <sup>1</sup>Universidade de Caxias do Sul (**G.O1.D4.5**)

**SYMPOSIUM H - New Developments in Battery Materials:  
Designing and Producing More Efficient Systems via  
Nanoscale Characterization**

**MONDAY, OCTOBER 02**

*SESSION H.W (12:30 - 14:00) - Room Umbu*

**12:30** **Workshop Strategies and Technologies for TEM Imaging of Beam/ Air Sensitive Materials** [Lee](#)

[Casalena](#)<sup>1</sup>; <sup>1</sup>Thermo Fisher Scientific (H.W.1)

*SESSION H.O1.D1 (14:00 - 16:00) - Room Umbu*

**14:00** **Nanoscale structural analysis of iron oxide crystallites using electron diffraction-based Pair Distribution Function (e-PDF) technique** [Naga Vishnu](#)

[Yardhan Mogili](#)<sup>1</sup>, [Jefferson Bettini](#)<sup>1</sup>, [Edson Roberto Leite](#)<sup>1</sup>, [João Batista Souza Junior](#)<sup>1</sup>; <sup>1</sup>Brazilian Center for Research in Energy and Materials (H.O1.D1.1)

**14:15** **Imaging Characterization Challenges and Solutions for Advanced Battery Development** [Zhao](#)

[Liu](#)<sup>1</sup>; <sup>1</sup>Thermo Fisher Scientific (H.O1.D1.2\*)

**14:45** **Controlling the electronic properties of graphene nanoribbons towards energy applications.** [Paola Ayala](#)<sup>1</sup>; <sup>1</sup>Universität Wien (H.O1.D1.3\*)

**15:15** **Emerging strategies and technologies for TEM imaging of beam and air sensitive materials** [Lee](#)

[Casalena](#)<sup>1</sup>; <sup>1</sup>Thermo Fisher Scientific (H.O1.D1.4)

**15:30** **Poly(o methoxyaniline) modified by the Biphasic Ceramic System Na<sub>2</sub>Ti<sub>3</sub>O<sub>7</sub>/ Na<sub>2</sub>Ti<sub>6</sub>O<sub>13</sub>** [Juliana](#)

[Pereira da Silva](#)<sup>1</sup>, [Salomao Costa](#)<sup>1</sup>, [Leandro Aparecido Pocrifka](#)<sup>1</sup>, [Yurimiler Leyet Ruiz](#)<sup>1</sup>, [Lianet Aguilera Domínguez](#)<sup>1,2</sup>; <sup>1</sup>Universidade Federal do Amazonas, <sup>2</sup>Instituto de Desenvolvimento Tecnológico (H.O1.D1.5)

**15:45** **Solid-state-biofuel cell for powering implantable medical devices** [Fernando Luis de Almeida](#)<sup>1</sup>,

[Rosemeire dos Santos Almeida](#)<sup>2</sup>; <sup>1</sup>Faculdade de Tecnologia do Estado de São Paulo - São Paulo / Itaquera, <sup>2</sup>Faculdade de Tecnologia do Estado de São Paulo - Mauá (H.O1.D1.6)

**TUESDAY, OCTOBER 03**

\* Invited Lecture

*SESSION H.O2.D2 (11:00 - 12:45) - Room Umbu*

**11:00** **Dynamic stability design for advanced solid-state batteries** [Xin Li](#)<sup>1</sup>; <sup>1</sup>Harvard University (H.O2.D2.1\*)

**11:30** **Understanding LiNi<sub>x</sub>Co<sub>y</sub>Mn<sub>z</sub>O<sub>2</sub> battery cathodes by advanced transmission electron microscopy** [Paulo Ferreira](#)<sup>1,2,3</sup>; <sup>1</sup>International Iberian Nanotechnology Laboratory, <sup>2</sup>Materials Science and Engineering Program, University of Texas at Austin, <sup>3</sup>Mechanical Engineering Department and IDMEC, Instituto Superior Técnico, University of Lisbon (H.O2.D2.2\*)

**12:00** **Theoretical Study of the solid-state electrolyte Li<sub>3</sub>PS<sub>4</sub> and the interfaces formed with Li<sub>2</sub>S and Li-anode** [Najara Leticia Marana](#)<sup>1</sup>, [Mauro Francesco Sgroi](#)<sup>1</sup>, [Anna Maria Ferrari](#)<sup>1</sup>, [Silvia Casassa](#)<sup>1</sup>, [Lorenzo Maschio](#)<sup>1</sup>; <sup>1</sup>Università degli Studi di Torino (H.O2.D2.3)



TUESDAY, OCTOBER 03

\* Invited Lecture

*SESSION I.O2.D2 (11:15 - 12:30) - Room Virgilio Loureiro Auditorium 2*

**11:15 Radical polymer devices for data and energy storage, and solar cell applications** [Giovanni Fanchini](#)<sup>1</sup>; <sup>1</sup>University of Western Ontario (**I.O2.D2.1\***)

**11:45 Microwave-assisted synthesis of metal semiconductors heterojunctions with photocatalytic applications** [Juliana dos Santos de Souza](#)<sup>1</sup>, BARBARA SCOLA RODRIGUES<sup>1</sup>, Maria Kuznetsova<sup>1</sup>, Caroline Helena Claudino<sup>1</sup>; <sup>1</sup>Universidade Federal do ABC (**I.O2.D2.2**)

*SESSION I.O3.D2 (14:00 - 15:00) - Room Virgilio Loureiro Auditorium 2*

**14:00 Unravelling the Catalytic Property of Copper-based Materials for High Electrochemical Conversion of Nitrate Ions to Ammonia** Gabriel Floriano Costa<sup>1,2</sup>, Manuel Edgardo Gomez Winkler<sup>1,3</sup>, Igor Messias<sup>1,4</sup>, Thiago Morais Mariano<sup>1,3</sup>, Maria Rodrigues Pinto<sup>1,5</sup>, Marina Dias Saraiva<sup>1,3</sup>, João Batista Souza Junior<sup>6</sup>, Nirala Singh<sup>2</sup>, [Raphael Nagao](#)<sup>1,3</sup>; <sup>1</sup>Universidade Estadual de Campinas, <sup>2</sup>University of Michigan, <sup>3</sup>Center for Innovation on New Energies, <sup>4</sup>Argonne National Laboratory, <sup>5</sup>Leiden University / Universiteit Leiden, <sup>6</sup>Brazilian Nanotechnology National Laboratory (**I.O3.D2.1\***)

**14:30 Unveiling the lithium-sulfur batteries: insights from a multidimensional in-situ and operando cell** [BRENO LUIZ DE SOUZA](#)<sup>1</sup>, Sebastian Risse<sup>2</sup>, Rafael Müller<sup>2</sup>, Enli Härk Monerjan<sup>2</sup>, Paulo Filho Marques de Oliveira<sup>1</sup>, Roberto Manuel Torresi<sup>1</sup>; <sup>1</sup>Universidade de São Paulo, <sup>2</sup>Helmholtz-Zentrum Berlin für Materialien (**I.O3.D2.2**)

**14:45 Reactive transition metal-oxygen species: a gas-phase study based on X-ray absorption spectroscopy** [Mayara da Silva Santos](#)<sup>1,2</sup>, Robert Medel<sup>3</sup>, Simon Kruse<sup>1,2</sup>, Max Flach<sup>1,2</sup>, Olesya S. Abylova<sup>1,2</sup>, Martin Timm<sup>2</sup>, Bernd von Issendorff<sup>1</sup>, Konstantin Hirsch<sup>2</sup>, Vicente Zamudio-Bayer<sup>2</sup>, Tony Stüker<sup>3</sup>, Sebastian Riedel<sup>3</sup>, J. Tobias Lau<sup>1,2</sup>; <sup>1</sup>Universität Freiburg, <sup>2</sup>Helmholtz-Zentrum Berlin für Materialien, <sup>3</sup>Freie Universität Berlin, <sup>4</sup>Humboldt Universität zu Berlin (**I.O3.D2.3**)

*SESSION I.O4.D2 (17:30 - 18:30) - Room Virgilio Loureiro Auditorium 2*

**17:30 Electrochemical Energy Storage: The Crucial Role of Batteries and Supercapacitors in Modern Technology.** [Roberto Manuel Torresi](#)<sup>1</sup>; <sup>1</sup>Universidade de São Paulo (**I.O4.D2.1\***)

**18:00 2D-materials based nanocomposite thin films for electrodes in aqueous and transparent Na- or K-ion batteries** [Aldo José Gorgatti Zarbin](#)<sup>1</sup>, Maria Karolina Ramos<sup>1</sup>, Ariane Schmidt<sup>1</sup>; <sup>1</sup>Universidade Federal do Paraná (**I.O4.D2.2**)

**18:15 A secondary source niobium oxide for batteries** [Gabriela Cordeiro Silva](#)<sup>1</sup>, Michelle Dias Alves Lage<sup>1</sup>, Cássia Ribeiro Souza<sup>1</sup>, Ana Clara Aparecida Reis<sup>1</sup>, Gabriel Túlio Mendes de Alvarenga<sup>1</sup>, Sônia Denise Ferreira Rocha<sup>1</sup>; <sup>1</sup>Universidade Federal de Minas Gerais (**I.O4.D2.3**)

WEDNESDAY, OCTOBER 04

\* Invited Lecture

*SESSION I.O1.D3 (09:45 - 10:45) - Room Virgilio Loureiro Auditorium 2*

**09:45 Novel hybrid perovskites from ab-initio simulations** [Nicola Seriani](#)<sup>1</sup>; <sup>1</sup>The Abdus Salam ICTP (**I.O1.D3.1\***)

**10:15 Simulating growth of nanostructured materials to relate their microscopic dynamics with their morphologies** [Fabio David Alves Aarão Reis](#)<sup>1</sup>; <sup>1</sup>Universidade Federal Fluminense (**I.O1.D3.2**)

**10:30 Photoelectrochemical performance of TiO<sub>2</sub> NTs sensitized by Bi<sub>2</sub>(Se<sub>1-x</sub>Se<sub>x</sub>)<sub>3</sub> quantum dots to green hydrogen generation** Iago R. Vasconcelos<sup>1</sup>, Luana Beatriz Correia de Oliveira<sup>1,2</sup>, Maria Eduarda Ribeiro da Silva<sup>1,2</sup>, Brenand AS Souza<sup>1,2</sup>, [Felipe Leon Nascimento de Sousa](#)<sup>2</sup>, Denilson de Vasconcelos Freitas<sup>2</sup>, Marcelo Navarro<sup>1</sup>, Giovanna Machado<sup>2</sup>; <sup>1</sup>Universidade Federal de Pernambuco, <sup>2</sup>Centro de tecnologias estratégicas do Nordeste (**I.O1.D3.3**)

*SESSION I.O2.D3 (11:15 - 12:30) - Room Virgilio Loureiro Auditorium 2*

**11:15 Undoped and doped vanadium dioxide : synthesis and applications** [Mohamed Chaker](#)<sup>1</sup>; <sup>1</sup>Institut National de la Recherche Scientifique (**I.O2.D3.1\***)

**11:45 Flash Sinter-Crystallization of Li<sub>1.3</sub>Al<sub>0.3</sub>Ti<sub>1.7</sub>(PO<sub>4</sub>)<sub>3</sub> for all solid-state batteries** [João Vitor Campos](#)<sup>1</sup>, Isabela Reis Lavagnini<sup>2</sup>, Vinicius Martins Zallocco<sup>1</sup>, Ana Candida Martins Rodrigues<sup>1</sup>; <sup>1</sup>Federal University of Sao Carlos, <sup>2</sup>Universidade de São Paulo (**I.O2.D3.2**)

**12:00 Reactive flash sintering for producing Li-ion conductors** [Lilian Menezes de Jesus](#)<sup>1</sup>; <sup>1</sup>Federal University of Sao Carlos (**I.O2.D3.3**)

**12:15 Fast microwave synthesis and sintering behavior of perovskite-type high entropy oxides** André Lair Ferreira Cardoso<sup>1</sup>, Iago Cordeiro Santa Barbara<sup>1</sup>, Claudia Patricia Fernandez Perdomo<sup>1</sup>, Dereck Nills Ferreira Muche<sup>1</sup>, Victor Carlos Pandolfelli<sup>1</sup>, [Rodolfo Foster Klein-Gunnewiek](#)<sup>1</sup>; <sup>1</sup>Federal University of Sao Carlos (**I.O2.D3.4**)

SESSION I.O3.D3 (14:00 - 16:00) - Room Virgilio  
Loureiro Auditorium 2

**14:15 2D diamond-like functionalized nanosheets for hydrogen evolution reaction** [Bruno Bueno Inaves Nascimento](#)<sup>1</sup>, Pedro Alves da Silva Autreto<sup>1</sup>; <sup>1</sup>Universidade Federal do ABC (**I.O3.D3.1**)

**14:30 Nb<sub>2</sub>O<sub>5</sub>.nH<sub>2</sub>O decorated with Platinum Nanoparticles (PtNPs): An Efficient Catalyst for Sodium Borohydride-Mediated Hydrogen Evolution Reaction** [Renata Pereira Lopes Moreira](#)<sup>1</sup>, Guilherme Mateus Bousada<sup>1</sup>, Victor Nogueira da Silva<sup>1</sup>, Bárbara Fernandes de Souza<sup>1</sup>, Iterlandes M. Júnior<sup>1</sup>, Carlos Henrique Furtado da Cunha<sup>2</sup>, Róbson Ricardo Teixeira<sup>1</sup>; <sup>1</sup>Fundação Universidade Federal de Viçosa, <sup>2</sup>Universidade Federal de São Carlos (**I.O3.D3.2**)

**14:45 PtSe<sub>2</sub> Nanoparticles and Their Structural Defects Towards Hydrogen Evolution Reaction** Victor Secco Lemos<sup>1,2</sup>, Ângela Albuquerque Teixeira Neto<sup>1</sup>, Daniel Angeli de Moraes<sup>1</sup>, Iara de Lacerda Pataca<sup>1</sup>, Olavo Fiamencini Verruma<sup>1</sup>, Carolina Pirogini Torres<sup>1</sup>, Naga Vishnu Vardhan Mogili<sup>1</sup>, Edson Roberto Leite<sup>1,3</sup>, [João Batista Souza Junior](#)<sup>1,2</sup>; <sup>1</sup>Brazilian Center for Research in Energy and Materials, <sup>2</sup>University of Campinas, <sup>3</sup>Federal University of Sao Carlos (**I.O3.D3.3**)

**15:00 Exsolved nickel nanoparticles for ethanol conversion to hydrogen** [Fernando Piazzolla](#)<sup>1</sup>, Tamara Siqueira Moraes<sup>1</sup>, Fabio Coral Fonseca<sup>1</sup>; <sup>1</sup>Instituto de Pesquisas Energéticas e Nucleares (**I.O3.D3.4**)

**15:15 Hydrogen storage properties of the high-entropy alloys derived from the Ti<sub>x</sub>Zr<sub>1-x</sub>CrMnFeNi system** [Gaspar Andrade](#)<sup>1</sup>, Bruno Hessel Silva<sup>2</sup>, Guilherme Zepont<sup>2</sup>, Ricardo Floriano<sup>1</sup>; <sup>1</sup>Universidade Estadual de Campinas, <sup>2</sup>Universidade Federal de São Carlos (**I.O3.D3.5**)

**15:30 Advances in Materials for Solar Photoelectrochemical Production of Fuels** [Oomman K Varghese](#)<sup>1</sup>, David Waligo<sup>1</sup>, Dhan Rana<sup>1</sup>, Bigyan Kandel<sup>1</sup>, Jayahansa Napagoda<sup>1</sup>, Maggie Paulose<sup>1</sup>; <sup>1</sup>University of Houston (**I.O3.D3.6\***)

SESSION I.O4.D3 (17:30 - 18:30) - Room Virgilio  
Loureiro Auditorium 2

**17:30 Interrogating hybrid perovskites from the nano- to the macroscale** [Marina S. Leite](#)<sup>1</sup>; <sup>1</sup>University of California, Davis (**I.O4.D3.1\***)

**18:00 Chiral cobalt oxide nanostructures templated by D- and L-cysteinyllhistidinyllalanine for spin selectivity in electron transport** [Iseli Lourenço Nantes](#)<sup>1</sup>, Julia Delatorre Bronzato Zazyki<sup>1</sup>, Marcelo Yudi Icimoto<sup>2</sup>, Vani Xavier de Oliveira Junior<sup>1</sup>, Alexandre José de Castro Lanfredi<sup>1</sup>, Jefferson Bettini<sup>3</sup>; <sup>1</sup>Universidade Federal do ABC, <sup>2</sup>Universidade Federal de São Paulo, <sup>3</sup>Brazilian Center for Research in Energy and Materials (**I.O4.D3.2**)

**18:15 High capacitance and expanded voltage window of MXene/Nanodiamonds supercapacitors in AlCl<sub>3</sub> electrolyte** [Murilo H. M. Faturel](#)<sup>1,2</sup>, Kyle Matthews<sup>3</sup>, Ruocun Wang<sup>3</sup>, Robert W. Lord<sup>3</sup>, Daniel Souza Corrêa<sup>1,2</sup>, Yury Gogotsi<sup>3</sup>; <sup>1</sup>Univeridade Federal de São Carlos, <sup>2</sup>EMBRAPA Instrumentação, <sup>3</sup>Drexel University (**I.O4.D3.3**)

THURSDAY, OCTOBER 05

SESSION I.O1.D4 (08:30 - 10:15) - Room Virgilio  
Loureiro Auditorium 2

**08:30 Materials Design for Na-ion Batteries based on Computational Simulations** Juarez L. F. Da Silva<sup>1</sup>, Tuanan Costa Lourenço<sup>1</sup>, [Juliane Fiates](#)<sup>1</sup>, Alex Silva de Moraes<sup>2</sup>, Gabriel A. Pinheiro<sup>3</sup>, Mauro Chierici Lopes<sup>2</sup>, Marcos Gonçalves Quiles<sup>2</sup>, Leonardo José Amaral de Siqueira<sup>3</sup>, Luis Gustavo Dias<sup>1</sup>; <sup>1</sup>Universidade de São Paulo, <sup>2</sup>Universidade Estadual do Oeste do Paraná, <sup>3</sup>Universidade Federal de São Paulo (**I.O1.D4.1**)

**08:45 A novel naphthalenediimide substituted with carboxylate groups as a building block for advanced materials for the energy sector** [Sergio Brochsztein](#)<sup>1</sup>, Gabriela Oliveira<sup>1</sup>, José Fernando Queiruga Rey<sup>1</sup>, Tatyara Monteiro da Silva<sup>1</sup>, Nataliana Roberta Silva Souza<sup>2</sup>, Jose Antonio Souza<sup>1</sup>, Caetano Rodrigues Miranda<sup>3</sup>; <sup>1</sup>Universidade Federal do ABC, <sup>2</sup>Federal University of ABC, <sup>3</sup>Instituto de Física da Universidade de São Paulo (**I.O1.D4.2**)

**09:00 Laser-induced graphene-cobalt oxide composite electrodes directly produced on polyimide tape: towards the efficient and cost-effective green hydrogen production** [Otavio Augusto Lima Alves](#)<sup>1</sup>, Felipe Leon Nascimento de Sousa<sup>2</sup>, Thiago André Salgueiro Soares<sup>2</sup>, Lara F. Loguercio<sup>3</sup>, Marcelo Navarro<sup>1</sup>, Giovanna Machado<sup>2</sup>; <sup>1</sup>Universidade Federal de Pernambuco, <sup>2</sup>Centro de tecnologias estratégicas do Nordeste, <sup>3</sup>Universidade Federal do Rio Grande do Sul (**I.O1.D4.3**)

**09:15 Eco-friendly Flexible Polyurethane- PEDOT: PSS Foam-based Supercapacitor for Sustainable Energy Storage** Reshma. A. R. Nair<sup>1</sup>, Jithin Kanathedath<sup>1</sup>, Anuja Sasikumar<sup>1</sup>, Mustehsan Beg<sup>1</sup>, [Libu Manjakkal](#)<sup>1</sup>; <sup>1</sup>Edinburgh Napier University (**I.O1.D4.4**)

**09:30 Polyethylene-based anion-exchange membranes for alkaline fuel cells produced by radiation-induced grafting methods** [Roberta Alvarenga Isidoro](#)<sup>1</sup>, Heloisa Augusto Zen<sup>1</sup>, Yasko Kodama<sup>1</sup>, Maria Vitoria Silva<sup>1</sup>, Elisabete Inácio Santiago<sup>1</sup>; <sup>1</sup>Instituto de Pesquisas Energéticas e Nucleares (**I.O1.D4.5**)

**09:45 Defective cobalt spinel oxide as bifunctional catalysts for Li-O<sub>2</sub> batteries** [André Navarro de Miranda](#)<sup>1</sup>, Gustavo Doubek<sup>1</sup>, Cristiane Barbieri Rodella<sup>2</sup>; <sup>1</sup>Universidade Estadual de Campinas, <sup>2</sup>Brazilian Center for Research in Energy and Materials (**I.O1.D4.6**)

**10:00** **Techniques to improve the electrochemical stable potential window of EDLCs while keeping the capacitance and series resistance at high rates of discharge.** Rocelito Lopes Andrade<sup>1</sup>, Neftali Lenin Villarreal Carreno<sup>2</sup>, MARCOS JOSE LEITE SANTOS<sup>1</sup>; <sup>1</sup>Universidade Federal do Rio Grande do Sul, <sup>2</sup>Universidade Federal de Pelotas **(I.O1.D4.7)**

**MONDAY, OCTOBER 02**

\* Invited Lecture

*SESSION J.01.D1 (11:15 - 12:30) - Room Mangaba*

**11:15** **Crystal growth from the melt: some fundamentals of growth and applications for energy conversion** Manuel Henrique Lente<sup>1</sup>; <sup>1</sup>Universidade Federal de São Paulo (J.O1.D1.1\*)

**11:45** **Developing a Highly Sensitive Sensor for Low Intensity and Low Frequency Magnetic Fields using CoFe<sub>2</sub>O<sub>4</sub> and PZT Fibers** Lilian Nunes Pereira<sup>1</sup>, Gustavo Sanguino Dias<sup>1</sup>, Ivair Aparecido dos Santos<sup>1</sup>, Luiz Fernando Cótica<sup>1</sup>; <sup>1</sup>Universidade Estadual de Maringá (J.O1.D1.2)

**12:00** **Spray pyrolysis as an alternative route to producing thermoelectric layers of Na<sub>2</sub>CoO<sub>2</sub>** MARCIO PERON FRANCO DE GODOY<sup>1</sup>, Mauricio Morais de Lima<sup>2</sup>, Mohammad Ali Nasiri<sup>2</sup>, Ana Luiza Costa Silva<sup>1</sup>, Ariano De Giovanni Rodrigues<sup>1</sup>, Andres Cantarero<sup>2</sup>; <sup>1</sup>Universidade Federal de São Carlos, <sup>2</sup>Universitat de València (J.O1.D1.3)

**12:15** **Growth and characterization of soft (K, Na)NbO<sub>3</sub>-based single crystals produced by Bridgman-Stockbarger method** Thissiana da Cunha Fernandes<sup>1</sup>, Daniel Thomazini<sup>2</sup>, Maria Virgínia Gelfuso<sup>2</sup>, Alejandro Pedro Ayala<sup>3</sup>, José Antonio Eiras<sup>4</sup>, Manuel Henrique Lente<sup>1</sup>; <sup>1</sup>Universidade Federal de São Paulo, <sup>2</sup>Universidade Federal de Itajubá, <sup>3</sup>Universidade Federal do Ceará, <sup>4</sup>Universidade Federal de São Carlos (J.O1.D1.4)

*SESSION J.02.D1 (14:00 - 16:00) - Room Mangaba*

**14:00** **The role of line defects on the physical properties of BiFeO<sub>3</sub> nanoparticles** Ivair Aparecido dos Santos<sup>1</sup>, Eduardo Azzolini Volnistem<sup>1</sup>, Roger Carvalho Oliveira<sup>1</sup>, Luiz Fernando Cótica<sup>1</sup>, Gustavo Sanguino Dias<sup>1</sup>; <sup>1</sup>Universidade Estadual de Maringá (J.O2.D1.1\*)

**14:30** **Room-temperature optical and magnetoelectric response in A and B site co-doped layer-structured Aurivillius ceramics** José Antonio Eiras<sup>1</sup>, MAHMOUD SALEH MOHAMMED AL KATHY<sup>2</sup>, Fabio Luis Zabotto<sup>2</sup>, Manuel Henrique Lente<sup>3</sup>, Eudes Borges Araujo<sup>4,5</sup>, Ivair Aparecido dos Santos<sup>6</sup>; <sup>1</sup>Federal University of São Carlos, <sup>2</sup>Departamento de Física, Universidade Federal de São Carlos, <sup>3</sup>Universidade Federal de São Paulo, <sup>4</sup>Universidade Estadual de São Paulo, <sup>5</sup>Universidade Estadual de São Paulo / Ilha Solteira, <sup>6</sup>Universidade Estadual de Maringá (J.O2.D1.2\*)

**15:00** **Multiferroic Coupling in Pb(Zr<sub>0.2</sub>Ti<sub>0.8</sub>)O<sub>3</sub>/CoFe<sub>2</sub>O<sub>4</sub> Nanostructured Composites** Fabio Luis Zabotto<sup>1</sup>, Ricardo Pereira Bonini<sup>1</sup>, Rodrigo Ambrosio Rodrigues de Carvalho<sup>1</sup>, Eriton Rodrigo Botero<sup>2,1</sup>, MAHMOUD SALEH MOHAMMED AL KATHY<sup>3</sup>, José Antonio Eiras<sup>4</sup>; <sup>1</sup>Universidade Federal de São Carlos, <sup>2</sup>Fundação Universidade Federal da Grande

Dourados, <sup>3</sup>Departamento de Física, Universidade Federal de São Carlos, <sup>4</sup>Federal University of Sao Carlos (J.O2.D1.3)

**15:15** **Application of the GPA tool in Ferroelectric Prototypes Analysis** Valdirlei Fernandes Freitas<sup>1</sup>, Luiz Fernando Cótica<sup>2</sup>, Ivair Aparecido dos Santos<sup>2</sup>, José Antonio Eiras<sup>3</sup>; <sup>1</sup>Universidade Estadual do Centro Oeste, <sup>2</sup>Universidade Estadual de Maringá, <sup>3</sup>Federal University of São Carlos (J.O2.D1.4)

**15:30** **Optimizing Parameters for BiFeO<sub>3</sub> Thin Film Formation via Dip Coating Deposition for Photovoltaic Applications** Luciano Cardoso Dias<sup>1</sup>, Fernanda Barbieri de Lara<sup>1</sup>, Maurício Mazur<sup>1</sup>, Ana Carolina Ferreira<sup>2</sup>, Karina Midori Endo<sup>1</sup>, Ivair Aparecido dos Santos<sup>3</sup>, Taiana Gabriela Moretti Bonadio<sup>1</sup>, Valdirlei Fernandes Freitas<sup>1</sup>; <sup>1</sup>Universidade Estadual do Centro Oeste, <sup>2</sup>State University of Maringá, <sup>3</sup>Universidade Estadual de Maringá (J.O2.D1.5)

**15:45** **Size and Dislocation Density-Dependent Magnetoelectric Effects in Cryomilled BiFeO<sub>3</sub> Nanoparticles for Advanced Electronics and energy harvesting** Eduardo Azzolini Volnistem<sup>1</sup>, André Marino Gonçalves<sup>1</sup>, Gustavo Sanguino Dias<sup>1</sup>, Luiz Fernando Cótica<sup>1</sup>, Ivair Aparecido dos Santos<sup>1</sup>; <sup>1</sup>Universidade Estadual de Maringá (J.O2.D1.6)

*SESSION J.03.D1 (17:30 - 18:30) - Room Mangaba*

**17:30** **Strategies for incorporation of polypyrrole as pseudocapacitive component in hybrid supercapacitors** Helinando Pequeno de Oliveira<sup>1</sup>, Ravi Moreno A. P. Lima<sup>1</sup>; UNIVERSIDADE FEDERAL DO VALE DO SÃO FRANCISCO (J.O3.D1.1)

**17:45** **PVDF-PLA-HA COMPOSITES OBTAINED BY 3D PRINTING FOR APPLICATIONS IN PIEZOELECTRIC BIOMATERIALS.** Patricia Camargo de Oliveira<sup>1</sup>, Miriã Andrade de Oliveira<sup>1</sup>, Karina Midori Endo<sup>1</sup>, Rafael Marangoni<sup>1</sup>, Valdirlei Fernandes Freitas<sup>1</sup>, Ricardo Yoshimitsu Miyahara<sup>1</sup>, Ivair Aparecido dos Santos<sup>2</sup>, Jaciele Marcia Rosso<sup>2</sup>, Taiana Gabriela Moretti Bonadio<sup>1</sup>; <sup>1</sup>Universidade Estadual do Centro Oeste, <sup>2</sup>Universidade Estadual de Maringá (J.O3.D1.2)

**18:00** **Patrónite-based VS<sub>4</sub> Nanostructures: Fundamental Aspects and Applications in Lithium-Sulfur Batteries** Leandro Seixas Rocha<sup>1</sup>, Jonathas Costa da Silva<sup>1</sup>, Renato Barbosa Moreira<sup>1</sup>, Rafael Oliveira de Figueiredo<sup>1</sup>; <sup>1</sup>Universidade Presbiteriana Mackenzie (J.O3.D1.3)

**18:15** **Multidimensional Elemental and Molecular Analysis for Surface Interface studies** Patrick Chapon<sup>1</sup>, Alice Stankova<sup>1</sup>, Clyde Chmielinski<sup>1</sup>, Igor Alessandro Silva Carvalho<sup>2</sup>; <sup>1</sup>HORIBA FRance, <sup>2</sup>Horiba (J.O3.D1.4)

**TUESDAY, OCTOBER 03**

*SESSION J.01.D2 (09:45 - 10:45) - Room Mangaba*

**09:45** **Exploring the phase transitions of low-dimensional metal halide perovskites** Alejandro Pedro Ayala<sup>1</sup>, Carlos William Araújo Paschoal<sup>1</sup>, Mayra Alexandra Padron Gomez<sup>1</sup>,

Juan Simon Rodriguez Hernandez<sup>1</sup>, Bruno Sousa Araújo<sup>1</sup>, Vasco Stascxak Neto<sup>1</sup>, Gustavo Antônio Ferreira de Melo<sup>1</sup>, Fabio Eduardo Oliveira Medeiros<sup>1</sup>, Otávio Peixoto Furtado<sup>1</sup>; <sup>1</sup>Universidade Federal do Ceará (J.O1.D2.1)

**10:00** Energetic and electronic properties of metal-organic frameworks doped with transition metals: A hybrid functional study [Walter Orellana](#)<sup>1</sup>; <sup>1</sup>Universidad Andrés Bello (J.O1.D2.2)

**10:15** Optimizing Photoconversion Efficiency in BiFeO<sub>3</sub> Perovskite Thin Films through Temperature and Layer Control [Luciano Cardoso Dias](#)<sup>1</sup>, Fernanda Barbieri de Lara<sup>1</sup>, Maurício Mazur<sup>1</sup>, Ana Carolina Ferreira<sup>2</sup>, Karina Midori Endo<sup>1</sup>, Ivair Aparecido dos Santos<sup>3</sup>, Taiana Gabriela Moretti Bonadio<sup>1</sup>, Valdirlei Fernandes Freitas<sup>1</sup>; <sup>1</sup>Universidade Estadual do Centro Oeste, <sup>2</sup>State University of Maringá, <sup>3</sup>Universidade Estadual de Maringá (J.O1.D2.3)

**10:30** Polymorphism of lithium fluoride nanoclusters: structure, stability, mechanism of formation, structural and electronic properties. [Marco Antonio Chaer Nascimento](#)<sup>1</sup>, Ricardo Rodrigues Oliveira<sup>1</sup>, Felipe Fantuzzi Soares<sup>2</sup>, Aline Verônica Henkes<sup>1</sup>; <sup>1</sup>Universidade Federal do Rio de Janeiro, <sup>2</sup>University of Kent (J.O1.D2.4)

**MONDAY, OCTOBER 02**

\* Invited Lecture

*SESSION K.O1.D1 (11:15 - 12:30) - Room Virgilio Loureiro Auditorium 2*

**11:15 ORGANIC SOLAR CELLS (OSCs): MORPHOLOGY, LIGHT HARVESTING, EXCITON DISSOCIATION AND ENERGY TRANSFER STUDIES.** [Lucimara Stolz Roman](#)<sup>1</sup>; <sup>1</sup>Universidade Federal do Paraná (K.O1.D1.1\*)

**11:45 Amphiphilic main-chain poly(fullerene xylene)s** [Roger C Hiorns](#)<sup>1</sup>, [Jessyka Carolina Bittencourt](#)<sup>2</sup>, [Lucas Kaique Roncaselli](#)<sup>2</sup>, [André Vítor Santos Simões](#)<sup>2</sup>, [Vinicius Jessé Rodrigues de Oliveira](#)<sup>2</sup>, [Maria Eduarda Rocha Santos Medina](#)<sup>2</sup>, [Didier Bégue](#)<sup>3</sup>, [Deuber Lincon da Silva Agostini](#)<sup>2</sup>, [Patricia Targon Campana](#)<sup>4</sup>, [Clarissa Almeida Olivati](#)<sup>2</sup>; <sup>1</sup>Centre national de la recherche scientifique, <sup>2</sup>Universidade Estadual Paulista, <sup>3</sup>Université de Pau et des Pays de l'Adour, <sup>4</sup>Universidade de São Paulo (K.O1.D1.2)

**12:00 Multimodal Spectroscopic Characterization of Perovskites for Photovoltaic Applications** [Francis Ndi](#)<sup>1</sup>, [Igor Alessandro Silva Carvalho](#)<sup>2</sup>, [Felipe Cabral](#)<sup>2</sup>; <sup>1</sup>HORIBA Scientific, <sup>2</sup>Horiba Instruments Brasil (K.O1.D1.3)

*SESSION K.O2.D1 (14:00 - 16:00) - Room Virgilio Loureiro Auditorium 2*

**14:00 Synthesis and physical properties of low-dimensional 0D, 1D, and 2D hybrid organic-inorganic halide perovskites** [Jose Antonio Souza](#)<sup>1</sup>; <sup>1</sup>Universidade Federal do ABC (K.O2.D1.1\*)

**14:30 Thermal degradation kinetics of halide perovskites with mixed organic cations** [Fernando Brondani Minussi](#)<sup>1</sup>, [Rogério Marcos da Silva Jr.](#)<sup>1</sup>, [Eudes Borges Araújo](#)<sup>1</sup>; <sup>1</sup>Universidade Estadual Paulista (K.O2.D1.2)

**14:45 Synthesis and Characterization of Stable 2D Perovskite Incorporating a Thieno-Pyrrole-Containing Ligand and 2D/3D Interface Engineering** [Ariany Bonadio](#)<sup>1</sup>, [Ziyuan Ma](#)<sup>2</sup>, [Mihaela C. Stefan](#)<sup>2</sup>, [Zhiqun Lin](#)<sup>3</sup>, [Jose Antonio Souza](#)<sup>1</sup>; <sup>1</sup>Universidade Federal do ABC, <sup>2</sup>The University of Texas at Dallas, <sup>3</sup>Georgia Institute of Technology (K.O2.D1.3)

**15:00 Stability study on Perovskite-based solar cell devices with salophen** [Eralci Moreira Therézio](#)<sup>1</sup>, [Francisco Nascimento Silva](#)<sup>1</sup>, [Jilian Nei de Freitas](#)<sup>2</sup>, [Andreia de Morais](#)<sup>2</sup>, [José Carlos Germino](#)<sup>3</sup>, [Ana Flávia Nogueira](#)<sup>4</sup>, [Romildo Jerônimo Ramos](#)<sup>1</sup>; <sup>1</sup>Universidade Federal de Mato Grosso, <sup>2</sup>Centro de Tecnologia da Informação Renato Archer, <sup>3</sup>Universidade de Aveiro, <sup>4</sup>Universidade Estadual de Campinas (K.O2.D1.4)

**15:15 Photoinduced Frenkel pair defect lead phase-segregation in halide perovskite alloys** [FERNANDO PEREIRA SABINO](#)<sup>1</sup>, [Gustavo Martini Dalpian](#)<sup>1</sup>, [Alex Zunger](#)<sup>2</sup>; <sup>1</sup>Universidade Federal do ABC, <sup>2</sup>University of Colorado Boulder (K.O2.D1.5)

**15:30 Addressing the charge carrier trapping mechanism in CsPbBr<sub>3</sub> NCs** [Diego Scalfaro da Silva](#)<sup>1</sup>, [Brener Rodrigo de Carvalho Vale](#)<sup>1</sup>, [Claudevan Alvinio de Sousa](#)<sup>1</sup>, [Luiz Gustavo Bonato](#)<sup>1</sup>, [André Felipe Vale da Fonseca](#)<sup>2</sup>, [Jefferson Bettini](#)<sup>3</sup>, [Ana Flávia Nogueira](#)<sup>2</sup>, [Lazaro Padilha](#)<sup>1</sup>; <sup>1</sup>Gleb Wataghin Physics Institute, University of Campinas, <sup>2</sup>Universidade Estadual de Campinas, <sup>3</sup>Brazilian Center for Research in Energy and Materials (K.O2.D1.6)

**15:45 CsPbBr<sub>3</sub> QDs Changing the Morphology and Structure of MAPbI<sub>3</sub> Films for Perovskite Solar Cells** [Helder Moreira Braga](#)<sup>1</sup>, [Andre Sarto Polo](#)<sup>1</sup>; <sup>1</sup>Universidade Federal do ABC (K.O2.D1.7)

*SESSION K.O3.D1 (17:30 - 18:30) - Room Virgilio Loureiro Auditorium 2*

**17:30 Advancements on double-junction silicon-perovskite photovoltaics** [Fernando Ely](#)<sup>1</sup>; <sup>1</sup>Centro de Tecnologia da Informação Renato Archer (K.O3.D1.1\*)

**18:00 INTERCONNECTION DESIGN OPTIMIZATION FOR EFFICIENT FLEXIBLE PEROVSKITE SOLAR MODULES** [Luiza de Queiroz Corrêa](#)<sup>1</sup>, [Izabela Bicalho](#)<sup>1</sup>, [Adriano dos Santos Marques](#)<sup>1</sup>, [Bárbara H.S Miranda](#)<sup>1</sup>, [Gabriela de Amorim Soares](#)<sup>1</sup>, [Sílvia L. Fernandes](#)<sup>1</sup>, [Jair Rodrigues](#)<sup>1</sup>, [Maria Luiza Vilela](#)<sup>4</sup>, [Fernanda Guimarães](#)<sup>1</sup>, [Rodrigo de Q. Vilaça](#)<sup>1</sup>, [Diego Bagnis](#)<sup>1</sup>, [Igor Braga da Silva](#)<sup>2</sup>; <sup>1</sup>Oninn Centro de Inovações, <sup>2</sup>Companhia Energética de Minas Gerais (K.O3.D1.2)

**18:15 Ti<sub>3</sub>C<sub>2</sub> MXene as efficient additive for high-performance inverted perovskite solar cells** [Hugo Gajardoni de Lemos](#)<sup>1</sup>, [Jéssica Helisa Hautrive Rossato](#)<sup>1</sup>, [João Pedro Breveglieri da Silva](#)<sup>1</sup>, [Gabriel Dias Trevisan](#)<sup>1</sup>, [Victor Piovesane Silva](#)<sup>1</sup>, [Carlos Frederico de Oliveira Graeff](#)<sup>1</sup>; <sup>1</sup>São Paulo State University (K.O3.D1.3)

**TUESDAY, OCTOBER 03**

*SESSION K.O1.D2 (09:45 - 10:45) - Room Virgilio Loureiro Auditorium 2*

**09:45 Advancing the stability of quantum dot-sensitized solar cells through CuS/carbon composite counter electrodes** [Wagner Souza Machado](#)<sup>1</sup>, [José Agenor Carvalho Júnior](#)<sup>1</sup>, [Vitor Pereira](#)<sup>1</sup>, [Marcelo Coelho Batista](#)<sup>1</sup>, [Marco Antonio Schiavon](#)<sup>1</sup>; <sup>1</sup>Universidade Federal de São João Del Rei (K.O1.D2.1)

**10:00 Synthesis of perovskite thin films from sputtered lead iodide** [José Maria Clemente da Silva Filho](#)<sup>1</sup>, [Francisco das Chagas Marques](#)<sup>1</sup>; <sup>1</sup>Universidade Estadual de Campinas (K.O1.D2.2)

**10:15 Ag-Au bimetallic nanoparticles effect on perovskite solar cells performance** Maria Zilda Oliveira<sup>1,2</sup>, Calink Indiara do Livramento dos Santos<sup>2</sup>, Anderson Thesing<sup>3</sup>, Giovanna Machado<sup>2</sup>; <sup>1</sup>Universidade Federal de Pernambuco, <sup>2</sup>Centro de tecnologias estratégicas do Nordeste, <sup>3</sup>Universidade Federal do Rio Grande do Sul (**K.O1.D2.3**)

**10:30 The role of acceptor properties on the hole transport mechanism in low-donor content organic solar cells** Jonas Kublitski<sup>1</sup>, Donato Spoltore<sup>2</sup>, Giacomo Londi<sup>3</sup>, Felix Talnack<sup>4</sup>, Shen Xing<sup>1</sup>, Jakob Wolansky<sup>4</sup>, Johannes Benduhn<sup>4</sup>, Stefan C. B. Mannsfeld<sup>4</sup>, David Beljonne<sup>3</sup>, Karl Leo<sup>4</sup>; <sup>1</sup>Universidade Tecnológica Federal do Paraná, <sup>2</sup>Università di Parma, <sup>3</sup>Université de Mons (Université de Mons-Hainaut), <sup>4</sup>University of Technology of Dresden (**K.O1.D2.4**)

\* Invited Lecture

*SESSION L.O3.D3 (14:00 - 16:00) - Room Ipioca*

**14:00 Unraveling the Arrhenius Activation Energy for Fission-Track Annealing in minerals** [Sandro Guedes de Oliveira](#)<sup>1</sup>, [Matheus Rufino](#)<sup>1</sup>, [Arnaldo Luis Lixandrão Filho](#)<sup>1</sup>; <sup>1</sup>Universidade Estadual de Campinas (L.O3.D3.1\*)

**14:30 Fluorescence microscopy: Unfolding spatial distribution of color centers and metallic colloids in ionic crystals irradiated with GeV ions?** [Maurício Maekawa Chaves](#)<sup>1</sup>, [Igor Alencar Vellame](#)<sup>2</sup>; <sup>1</sup>Universidade Estadual de Campinas, <sup>2</sup>Universidade Federal de Santa Catarina (L.O3.D3.2)

**14:45 Kinetics of chemical etching in isotropic, solid-state nuclear track detectors: Predicting etch-pit diameters of alpha particles from a bulk source** [Igor Alencar Vellame](#)<sup>1</sup>; <sup>1</sup>Universidade Federal de Santa Catarina (L.O3.D3.3)

**15:00 Brazilian minerals (alexandrite, quartz and fluorapatite) as ionizing radiation detectors** [Neilo Marcos Trindade](#)<sup>1</sup>, [Matheus Cavalcanti dos Santos Nunes](#)<sup>1,2</sup>, [Isabela Alves Ferreira](#)<sup>3,1</sup>, [Roberto Turibio Ebina Kawanaka Martins](#)<sup>3,1</sup>, [Alexia Oliveira Silva](#)<sup>3,1</sup>, [Makaiko Chithambo](#)<sup>4</sup>, [Elisabeth Mateus Yoshimura](#)<sup>1</sup>; <sup>1</sup>Instituto de Física da Universidade de São Paulo, <sup>2</sup>Universidade Estadual de São Paulo, <sup>3</sup>Instituto Federal de Educação, Ciência e Tecnologia de São Paulo, <sup>4</sup>Rhodes University (L.O3.D3.4)

**15:15 Effects of radiation on the crystal lattice of minerals: a case study on Zircon and Apatite.** [ANTONIO SAID WEBBE SALES](#)<sup>1</sup>, [Luís Roberto Gentil](#)<sup>1</sup>, [Sandro Guedes de Oliveira](#)<sup>2</sup>, [Airton Natanael Coelho Dias](#)<sup>1</sup>; <sup>1</sup>Universidade Federal de São Carlos - Campus Sorocaba, <sup>2</sup>Universidade Estadual de Campinas (L.O3.D3.5)

**15:30 Whey-assisted proteic sol-gel method as a new synthesis route for  $\beta$ -spodumene** [Ricardo Ferrari Ferraz](#)<sup>1</sup>, [Thaís M. T. Nascimento](#)<sup>1</sup>, [Jenifer Tejada Cardoso](#)<sup>1</sup>, [Raquel A. P. Oliveira](#)<sup>1</sup>; <sup>1</sup>UNIVERSIDADE FEDERAL DO VALE DO SÃO FRANCISCO (L.O3.D3.6)

**15:45 Synthesis and thermoluminescence studies of Ce<sup>3+</sup> doped calcium aluminate** [Wallace Rodrigues da Silva Júnior](#)<sup>1</sup>, [Elisabeth Mateus Yoshimura](#)<sup>2</sup>, [Carina Ulsen](#)<sup>3</sup>, [Neilo Marcos Trindade](#)<sup>2</sup>; <sup>1</sup>Universidade Estadual Paulista, <sup>2</sup>Instituto de Física da Universidade de São Paulo, <sup>3</sup>University of São Paulo (L.O3.D3.7)

*SESSION L.O4.D3 (17:30 - 18:30) - Room Umbu*

**17:30 Crystallographic characterization of the mineral zircon and the thermochronology** [Carlos Alberto Tello Saenz](#)<sup>1</sup>, [Murilo Candido de Azevedo](#)<sup>1</sup>, [Luiz Augusto Stuaní Pereira](#)<sup>2</sup>; <sup>1</sup>Universidade Estadual Paulista, <sup>2</sup>Universidade Federal de Campina Grande (L.O4.D3.1\*)

**18:00 Analysis of phototransferred thermoluminescence in rose quartz** [Isabela Alves Ferreira](#)<sup>1,2</sup>, [Matheus Cavalcanti dos Santos Nunes](#)<sup>3,2</sup>, [Makaiko Chithambo](#)<sup>4</sup>, [Neilo Marcos Trindade](#)<sup>2</sup>; <sup>1</sup>Instituto Federal de Educação, Ciência e Tecnologia de São Paulo, <sup>2</sup>Instituto de Física/USP, <sup>3</sup>Universidade Estadual Paulista, <sup>4</sup>Rhodes University (L.O4.D3.2)

**18:15 Investigation of the Optically Stimulated Luminescence of Brazilian Alexandrite stimulated with different light sources** [Matheus Cavalcanti dos Santos Nunes](#)<sup>1,2</sup>, [Elisabeth Mateus Yoshimura](#)<sup>1</sup>, [Makaiko Chithambo](#)<sup>3</sup>, [Neilo Marcos Trindade](#)<sup>1</sup>; <sup>1</sup>Instituto de Física/USP, <sup>2</sup>São Paulo State University, <sup>3</sup>Rhodes University (L.O4.D3.3)



\* Invited Lecture

SESSION M.O1.D1 (14:00 - 16:00) - Room Jatiúca

**14:00** The “ABC” of adatomic collapse in correlated Moiréless multi-graphene [Antonio C. Seridonio](#)<sup>1</sup>; <sup>1</sup>Universidade Estadual Paulista (M.O1.D1.1\*)

**14:20** Probing topological phase transitions in graphene family materials via quantum reflection [Patrícia Pinto Abrantes](#)<sup>1</sup>, Tarik Pereira Cysne<sup>2</sup>, D. Szilard<sup>3</sup>, Felipe Siqueira de Souza da Rosa<sup>3</sup>, Felipe Arruda Pinheiro<sup>3</sup>, Carlos Farina de Souza<sup>3</sup>; <sup>1</sup>Universidade Federal de São Carlos, <sup>2</sup>Universidade Federal Fluminense, <sup>3</sup>Universidade Federal do Rio de Janeiro (M.O1.D1.2\*)

**14:40** Multiple strong topological gaps and hexagonal warping in Bi<sub>4</sub>Te<sub>3</sub> Thaís Chagas Peixoto Silva<sup>1</sup>, Omar A. Ashour<sup>2</sup>, Guilherme A. S. Ribeiro<sup>1</sup>, [Wendell Simões e Silva](#)<sup>3</sup>, Zhenglü Li<sup>2</sup>, Steven G. Louie<sup>2</sup>, Rogério Magalhães Paniago<sup>1</sup>, Yves Petroff<sup>3</sup>; <sup>1</sup>Universidade Federal de Minas Gerais, <sup>2</sup>University of California Berkeley, <sup>3</sup>Brazilian Center for Research in Energy and Materials (M.O1.D1.3\*)

**15:00** Emergent phenomena from topology in tellurium [Jaime F de Oliveira](#)<sup>1</sup>, Magda Bittencourt Fontes<sup>1</sup>, Elisa Baggio Saitovitch<sup>1</sup>, Marcello Barbosa da Silva Neto<sup>2</sup>, Carsten Enderlein<sup>2</sup>; <sup>1</sup>Centro Brasileiro de Pesquisas Físicas, <sup>2</sup>Universidade Federal do Rio de Janeiro (M.O1.D1.4\*)

**15:20** Band structure of tellurium and photoelectric phenomena [Mikhail Glazov](#)<sup>1</sup>, Eugeniy Ivchenko<sup>1</sup>, Mikhail Nestoklon<sup>1</sup>; <sup>1</sup>Ioffe Institute (M.O1.D1.5\*)

**15:40** Emergent self-organized quantum phases on grain-boundary defects in topological materials [Vladimir Juricic](#)<sup>1,2</sup>; <sup>1</sup>Universidad Santa María, <sup>2</sup>the Nordic Institute for Theoretical Physics (M.O1.D1.6\*)

SESSION M.O3.D1 (17:30 - 18:30) - Room Jatiúca

**17:30** Disentangling edge and bulk contributions in spin pumping of YIG/MoS<sub>2</sub> triangular flakes [Flavio Garcia](#)<sup>1</sup>, Rodrigo Torrao Victor<sup>1</sup>, Syed Hamza Safer Gardezi<sup>1</sup>, Jorlandio F. Felix<sup>2</sup>, Victor Carozo<sup>3</sup>, Luiz Carlos Sampaio Lima<sup>1</sup>; <sup>1</sup>Centro Brasileiro de Pesquisa Física, <sup>2</sup>Universidade de Brasília, <sup>3</sup>Pontifícia Universidade Católica do Rio de Janeiro (M.O3.D1.1\*)

**17:50** Unveiling quantum phase transition by disorder and defects in 2D-materials: Jacutingaite Family [Adalberto Fazzio](#)<sup>1</sup>, Felipe Crasto de Lima<sup>1</sup>, Roberto Hiroki Miwa<sup>2</sup>; <sup>1</sup>Brazilian Center for Research in Energy and Materials, <sup>2</sup>Universidade Federal de Uberlândia (M.O3.D1.2\*)

MONDAY, OCTOBER 02

\* Invited Lecture

*SESSION N.O1.D1 (11:15 - 12:30) - Room Gustavo Leite Theater*

**11:15** **Developments and Industrializations of Zr-based Bulk Metallic Glasses and Fe-based Glassy and Nanocrystalline Alloys** [Akihisa Inoue](#)<sup>1</sup>; <sup>1</sup>Josai International University (N.O1.D1.1\*)

**11:45** **Corrosion behavior of high entropy alloys** [ROCHE Virginie](#)<sup>1</sup>; <sup>1</sup>GRENOBLE INP SA LEPMI (N.O1.D1.2\*)

**12:15** **Solidification Behavior of Metallic Alloys by Selective LASER Melting** [Claudemiro Bolfarini](#)<sup>1</sup>, Brenda Juliet Martins Freitas<sup>2</sup>, Leandro Henrique Pereira<sup>3</sup>, Walter José Botta Filho<sup>2</sup>; <sup>1</sup>Federal University of Sao Carlos, <sup>2</sup>Universidade Federal de São Carlos, <sup>3</sup>Universidade Federal de São Carlos (N.O1.D1.3\*)

*SESSION N.O2.D1 (14:00 - 16:00) - Room Gustavo Leite Theater*

**14:00** **Metal-based nanoparticles supported on date seed-activated carbon as electrocatalysts for the conversion of biomass derivatives into biofuels** [Ricardo Pereira Nogueira](#)<sup>1</sup>, Fawzi Banat<sup>1</sup>; <sup>1</sup>Khalifa University of Science and Technology (N.O2.D1.1\*)

**14:30** **Aluminide diffusion coatings on Additively manufactured stainless steel** [Edson Daniel Banak Varela](#)<sup>1</sup>, Ana Sofia Climaco Monteiro D'Oliveira<sup>1</sup>; <sup>1</sup>Universidade Federal do Paraná (N.O2.D1.2)

**14:45** **Effect of annealing temperature on the final size of NiSi<sub>2</sub> and CoSi<sub>2</sub> nanoplates endotaxially grown in Si(100) wafers covered by Ni and Co salts** [Thiago Paulino Schuitek](#)<sup>1</sup>, Guinther Kellermann<sup>1</sup>, Daniel da Silva Costa<sup>1</sup>, Aldo Felix Craievich<sup>2</sup>; <sup>1</sup>Universidade Federal do Paraná, <sup>2</sup>Instituto de Física/USP (N.O2.D1.3)

**15:00** **Effect of C and N addition on the grain refinement and mechanical behavior of the Cr<sub>40</sub>Co<sub>40</sub>Ni<sub>20</sub> Multi-Principal Element Alloy** [Gustavo Bertoli](#)<sup>1</sup>, Claudio S. Kiminami<sup>1</sup>, Francisco Gil Coury<sup>1</sup>; <sup>1</sup>Universidade Federal de São Carlos (N.O2.D1.4)

**15:15** **Chromium carbides dissolution and corrosive attack on the surface of an AISI 430 stainless steel after heat treatment in different temperatures** [Fabrício César de Mendonça Cordeiro](#)<sup>1,2</sup>, Leandro de Arruda Santos<sup>1</sup>, Wilian da Silva Labiapari<sup>2</sup>; <sup>1</sup>Universidade Federal de Minas Gerais, <sup>2</sup>Aperam South America (N.O2.D1.5)

**15:30** **Reversible room temperature hydrogen storage in the (Ti<sub>0.5</sub>Zr<sub>0.5</sub>)<sub>1</sub>(Fe<sub>0.33</sub>Mn<sub>0.33</sub>Cr<sub>0.33</sub>)<sub>2</sub> multicomponent alloy designed by computational thermodynamic tools** [Jéssica Bruna Ponsoni](#)<sup>1,2</sup>, Mateusz Balcerzak<sup>3,2</sup>, Walter José Botta Filho<sup>1</sup>, Michael Felderhoff<sup>2</sup>, Guilherme Zepon<sup>1</sup>; <sup>1</sup>Universidade Federal de São Carlos, <sup>2</sup>Max-Planck-Institut für Kohlenforschung, <sup>3</sup>Poznan University of Technology (N.O2.D1.6)

**15:45** **The voids on high coercive Sm-Co films deposited on Ta buffer** [Tainara Coutinho de Carvalho](#)<sup>1</sup>, Braulio Soares Archanjo<sup>2,3</sup>, Renata Simão<sup>1</sup>, Vitoria Barthem<sup>1</sup>; <sup>1</sup>Universidade Federal do Rio de Janeiro, <sup>2</sup>Divisão de Metrologia de Materiais, <sup>3</sup>Instituto Nacional de Metrologia, Qualidade e Tecnologia (N.O2.D1.7)

*SESSION N.O3.D1 (17:30 - 18:30) - Room Gustavo Leite Theater*

**17:30** **Advanced ferrous alloys and coatings for demanding applications** [Guilherme Yuuki Koga](#)<sup>1</sup>, Claudemiro Bolfarini<sup>1</sup>, Claudio S. Kiminami<sup>1</sup>, Alberto Moreira Jorge Junior<sup>1</sup>, Walter José Botta Filho<sup>1</sup>; <sup>1</sup>Universidade Federal de São Carlos (N.O3.D1.1)

**17:45** **Exploring the Compositional Flexibility and Mechanical Properties of Multi-Principal Element Alloys** [Francisco Gil Coury](#)<sup>1</sup>; <sup>1</sup>Universidade Federal de São Carlos (N.O3.D1.2)

**18:00** **Nanostructured ceramic-metallic films produced by magnetron sputtering** [Felipe Sampaio Alencastro](#)<sup>1</sup>, Olavo Teixeira Neto<sup>1,2</sup>, Renata Antoun Simão<sup>1</sup>; <sup>1</sup>Universidade Federal do Rio de Janeiro, <sup>2</sup>Instituto Nacional de Metrologia, Qualidade e Tecnologia (N.O3.D1.3)

**18:15** **Enhancing Wear Resistance of Railway Tracks through Tailored Multicomponent Microstructure** [Mohammad Masoumi](#)<sup>1</sup>, Fabiano Eduardo Cezario<sup>1</sup>, Dany Andrade<sup>2</sup>, Felipe Moreno Siqueira Borges de Carvalho<sup>2</sup>, Gustavo Tressia; <sup>1</sup>Universidade Federal do ABC, <sup>2</sup>Instituto de Pesquisas Tecnológicas (N.O3.D1.4)

TUESDAY, OCTOBER 03

\* Invited Lecture

*SESSION N.O1.D2 (09:45 - 10:45) - Room Gustavo Leite Theater*

**09:45** **High entropy alloys with fixed fcc-structure for hydrogen storage** [Michael Felderhoff](#)<sup>1</sup>, [Frederik Winkelmann](#)<sup>1</sup>, Mateusz Balcerzak<sup>1</sup>, Gero Padberg<sup>1</sup>; <sup>1</sup>Max-Planck-Institut für Kohlenforschung (N.O1.D2.1\*)

**10:15** **Design, Processing and Hydrogen Storage Properties of Multicomponent Alloys Derived from the TiZrNbCrFeNi System** [Ricardo Floriano](#)<sup>1</sup>, Gaspar Andrade<sup>1</sup>, Gabriel de Luccah Bueno Galliani Fontana<sup>1</sup>, Igor S. Vicente<sup>1</sup>, Guilherme Zepon<sup>2,3</sup>; <sup>1</sup>Universidade Estadual de Campinas, <sup>2</sup>Universidade Federal de São Carlos, <sup>3</sup>Universidade Federal de São Carlos (N.O1.D2.2\*)

**10:30** On the impacts of reactive high-energy ball milling on the structural, microstructural, and hydrogen storage performance of refractory multicomponent alloys Renato Belli Strozzi<sup>1,2</sup>, Guilherme Zepon<sup>3</sup>, Walter José Botta Filho<sup>1</sup>, Claudia Zlotea<sup>2</sup>; <sup>1</sup>Universidade Federal de São Carlos, <sup>2</sup>Centre national de la recherche scientifique, <sup>3</sup>Universidade Federal de São Carlos (N.O1.D2.3)

SESSION N.02.D2 (11:15 - 12:30) - Room Gustavo Leite Theater

**11:15** Compositional and cycling effects in several high entropy alloys foreseen for solid-state hydrogen storage Claudia Zlotea<sup>1</sup>, Nayely Pineda-Romero<sup>1</sup>, Anis Bouzidi<sup>1</sup>, Renato Belli Strozzi<sup>1</sup>, Guilherme Zepon<sup>2</sup>, Walter José Botta Filho<sup>2</sup>; <sup>1</sup>Centre national de la recherche scientifique, <sup>2</sup>Universidade Federal de São Carlos (N.O2.D2.1\*)

**11:45** High-energy ball milling routes for preparing hydrogen storage TiFe-Nb alloy José Guilherme Dellamano<sup>1</sup>, Michelangelo Durazzo<sup>1</sup>, Ricardo Mendes Leal Neto<sup>1</sup>; <sup>1</sup>Instituto de Pesquisas Energéticas e Nucleares (N.O2.D2.2\*)

**12:00** Preparation of Highly Reactive Mg<sub>2</sub>Ni Alloys and its Surface Protection Using Polyeterimine Daniel Rodrigo Leiva<sup>1</sup>, Felipe Henrique Matheus<sup>1</sup>, Guilherme Zepon<sup>2</sup>, Verona Biancardi Oliveira<sup>3</sup>, Ana Rodrigues Cameirão<sup>1</sup>, Manoela Simões Cândido<sup>1</sup>, Cesar Augusto Gonçalves Beatrice<sup>1</sup>, Luiz Antonio Pessan<sup>2</sup>; <sup>1</sup>Universidade Federal de São Carlos, <sup>2</sup>Federal University of Sao Carlos, <sup>3</sup>Universidade do Estado do Rio de Janeiro (N.O2.D2.3\*)

**12:15** Hydrogen Storage Properties of the TiVFeZr Multicomponent Alloy Vinícius Aranda<sup>1</sup>, Daniel Rodrigo Leiva<sup>1</sup>, Jacques Huot<sup>2</sup>, Walter José Botta Filho<sup>1</sup>, Guilherme Zepon<sup>1</sup>; <sup>1</sup>Universidade Federal de São Carlos, <sup>2</sup>Université du Québec à Trois-Rivières (N.O2.D2.4)

SESSION N.03.D2 (14:00 - 15:00) - Room Gustavo Leite Theater

**14:00** Mechanical deformations as a way to enhance hydrogen storage properties of metal hydrides Jacques Huot<sup>1</sup>; <sup>1</sup>Université du Québec à Trois-Rivières (N.O3.D2.1\*)

**14:30** Strategies to design multicomponent metal alloys for different hydrogen storage applications Guilherme Zepon<sup>1</sup>, Renato Belli Strozzi<sup>2</sup>, Bruno Hessel Silva<sup>2</sup>, Jéssica Bruna Ponsozi<sup>2</sup>, Otávio Abreu Pedroso<sup>1</sup>, Walter José Botta Filho<sup>2</sup>; <sup>1</sup>Federal University of Sao Carlos, <sup>2</sup>Universidade Federal de São Carlos (N.O3.D2.2)

**14:45** Design of a Ti-V-Nb-Cr alloy with hydrogen storage reversibility at room temperature Bruno Hessel Silva<sup>1</sup>, Walter José Botta Filho<sup>1</sup>, Guilherme Zepon<sup>1,2</sup>; <sup>1</sup>Universidade Federal de São Carlos, <sup>2</sup>Universidade Federal de São Carlos (N.O3.D2.3)

SESSION N.04.D2 (17:30 - 18:30) - Room Gustavo Leite Theater

**17:30** The effect of Al, Cr and Mo additions in NbTiSiZr coatings Eloisa Pereira Cardozo<sup>1</sup>, Ana Sofia Clímaco Monteiro D'Oliveira<sup>1</sup>; <sup>1</sup>Universidade Federal do Paraná (N.O4.D2.1)

**17:45** Thermodynamic and properties investigation of Cu modified niobium silicides diffusion coatings Beatriz Aparecida Pinto<sup>1</sup>, Ana Sofia Clímaco Monteiro D'Oliveira<sup>1</sup>, Nabil Chaia<sup>2</sup>; <sup>1</sup>Universidade Federal do Paraná, <sup>2</sup>Universidade Federal de Alfenas (N.O4.D2.2)

**18:00** Study of the microstructural stability of the nitrided layer of AISI H13 steel after temperature exposure Cristiane Sales Gonçalves<sup>1</sup>, ANDRÉ PAULO TSCHIPTSCHIN<sup>1</sup>; <sup>1</sup>Escola Politécnica da Universidade de São Paulo (N.O4.D2.3)

WEDNESDAY, OCTOBER 04

\* Invited Lecture

SESSION N.01.D3 (09:45 - 10:45) - Room Gustavo Leite Theater

**09:45** Welding of High-Entropy Alloys João Pedro Oliveira<sup>1</sup>; <sup>1</sup>Universidade NOVA de Lisboa (N.O1.D3.1\*)

**10:15** Hydrogen induced failure in Ti6Al4V0.1Ru alloy Barbara Guerra Neumann<sup>1,2</sup>, Sara Correa Marques<sup>3</sup>, Jéssica Dornelas Silva<sup>3</sup>, Dilson Silva dos Santos<sup>2</sup>; <sup>1</sup>Universidade Federal do Rio de Janeiro, <sup>2</sup>Instituto Alberto Luiz Coimbra de Pós-Graduação e Pesquisa em Engenharia, <sup>3</sup>Universidade Federal de Minas Gerais (N.O1.D3.2\*)

SESSION N.02.D3 (11:15 - 12:30) - Room Gustavo Leite Theater

**11:15** Microstructure and mechanical behavior of directionally solidified AlCoCrFeNi<sub>2.1</sub> and Al<sub>0.8</sub>CrFeNi<sub>2.2</sub> eutectic high entropy alloys Matheus Piovesana Wischi<sup>1</sup>, Leticia Falcao Starck<sup>1</sup>, Márcio Sangali Cristino da Silva<sup>1</sup>, Kaio Niitsu campo<sup>2</sup>, Rubens Caram<sup>1</sup>; <sup>1</sup>Universidade Estadual de Campinas, <sup>2</sup>Universidade Federal de Goiás (N.O2.D3.1\*)

**11:45** Effects of warm-rolling process on CrMnFeCoNi multicomponent alloy Caroline Nazare Gonçalves<sup>1</sup>, Moses James Paul<sup>2</sup>, Bernd Gludovatz<sup>2</sup>, Francisco Gil Coury<sup>3</sup>, Guilherme Zepon<sup>4</sup>, Eric Marchezini Mazzer<sup>4</sup>; <sup>1</sup>Universidade Federal de Minas Gerais, <sup>2</sup>University of New South Wales, <sup>3</sup>Universidade Federal de São Carlos, <sup>4</sup>Federal University of Sao Carlos (N.O2.D3.2\*)

**12:00** Seven decades of Hall-Petch: background and current trends Roberto B. Figueiredo<sup>1</sup>; <sup>1</sup>Universidade Federal de Minas Gerais (N.O2.D3.3)

**12:15 Anomalous temperature-dependent behavior of thermophysical properties of CrFeNi, CoCrNi, and CoCrFeNi medium- and high-entropy alloys** [Angelo F Andreoli](#)<sup>1,2</sup>, Andrea Fantin<sup>3,4</sup>, Sergey Kasatikov<sup>4</sup>, Francisco Gil Coury<sup>1</sup>, Vinicius Pereira Bacurau<sup>1</sup>, Piter Gargarella<sup>1</sup>; <sup>1</sup>Universidade Federal de São Carlos, <sup>2</sup>Leibniz Institute for Solid State and Materials Research, <sup>3</sup>Technische Universität Berlin, <sup>4</sup>Helmholtz-Zentrum Berlin für Materialien (N.O2.D3.4)

SESSION N.03.D3 (14:00 - 16:00) - Room Gustavo Leite Theater

**14:00 The estimation of the surface plastic deformation produced by grit-blasting in maraging steel using the strain-induced  $\gamma$ - $\alpha'$  transformation phenomena** José Carlos Fortes Palau<sup>1,2</sup>, Dilermando Nagle Travessa<sup>1</sup>; <sup>1</sup>Universidade Federal de São Paulo, <sup>2</sup>Instituto de Aeronáutica e Espaço (N.O3.D3.1\*)

**14:15 Effect of Solution Heat Treatment on Microstructure and Properties of Ni-15Nb-M alloys (M = Al, Ti, Cr, Fe)** [Conrado Ramos Moreira Afonso](#)<sup>1</sup>, Mariana Correa Rossi<sup>1</sup>, Vinicius Cardoso Ottami<sup>1</sup>, Mariana Santos Pereira<sup>2</sup>; <sup>1</sup>Universidade Federal de São Carlos, <sup>2</sup>Universidade Federal de São Carlos (N.O3.D3.2\*)

**14:30 Materials costumization by In-situ synthesis of advanced alloys** [Ana Sofia Climaco Monteiro](#)  
[D'Oliveira](#)<sup>1</sup>; <sup>1</sup>Universidade Federal do Paraná (N.O3.D3.3\*)

**14:45 Multicomponent Fe-based glass-forming alloys developed for coatings applications** [Diego Davi Coimbra](#)<sup>1</sup>, Guilherme Zeponi<sup>1</sup>, Guilherme Yuuki Koga<sup>1</sup>, Gabriel Pedrino<sup>1</sup>, Claudio S. Kiminami<sup>2</sup>, Claudemiro Bolfarini<sup>2</sup>, Walter José Botta Filho<sup>2</sup>; <sup>1</sup>Universidade Federal de São Carlos, <sup>2</sup>Universidade Federal de São Carlos (N.O3.D3.4)

**15:00 Microstructural and physical properties of commercial Nb-46.5wt.%Ti superconducting wires with different configuration strategies** [Lucas Barcelos Otani](#)<sup>1</sup>, Tales Ferreira<sup>2</sup>, Daniel Y. Kakizaki<sup>2</sup>, Alan A. Vianna<sup>2</sup>, Rafael Defavari<sup>2</sup>, Rafael M. Seraphim<sup>2</sup>, Osmar Roberto Bagnato<sup>2</sup>, Lucas Barboza Sarno Da Silva<sup>3</sup>, Durval Rodrigues Jr.<sup>3</sup>; <sup>1</sup>Federal University of Sao Carlos, <sup>2</sup>Centro Nacional de Pesquisa em Energia e Materiais, <sup>3</sup>Universidade de São Paulo (N.O3.D3.5)

**15:15 Individual effect of Y and Nd on the microstructure formation of Mg-Y-Nd alloys processed by severe plastic deformation** [Peter Minarik](#)<sup>1</sup>, Maria Zemkova<sup>1</sup>, Jan Dittrich<sup>1</sup>, Jan Bohlen<sup>2</sup>, Robert Kral<sup>1</sup>; <sup>1</sup>Charles University, <sup>2</sup>Helmholtz-Zentrum Hereon (N.O3.D3.6)

**15:30 Mechanical and Tribological Performance of AlCuTi Alloy Coated with NiP** [Ricardo Diego Torres](#)<sup>1</sup>, Ramatiana Maria Davies<sup>1</sup>, Marcos Eduardo Soares<sup>2</sup>, Paulo Cesar Soares Junior<sup>1</sup>; <sup>1</sup>Pontifícia Universidade Católica do Paraná, <sup>2</sup>Universidade Tecnológica Federal do Paraná (N.O3.D3.7)

SESSION N.04.D3 (17:30 - 18:30) - Room Gustavo Leite Theater

**17:30 Quick x-ray Absorption spectroscopy for Time and space-resolved experiments: Opportunities for research in energy materials** [Santiago J.A. Figueroa](#)<sup>1</sup>, Amelie Rochet<sup>1</sup>, Igor Ferreira Torquato<sup>1</sup>, Alexey Marques Espíndola<sup>1</sup>, Murilo F. Oliveira<sup>1</sup>; <sup>1</sup>Brazilian Center for Research in Energy and Materials (N.O4.D3.1\*)

**17:45 Highly porous CP-Ti foams manufactured with powder compaction, the space holder method and plasma-assisted sintering for biomedical applications** [Francisco Cavilha Neto](#)<sup>1</sup>, Cristiano Binder<sup>1</sup>, Aloisio Nelmo Klein<sup>1</sup>, Claudio Aguilar<sup>2</sup>, Vicente Salinas Barrera<sup>3</sup>; <sup>1</sup>Universidade Federal de Santa Catarina, <sup>2</sup>Universidad Técnica Federico Santa María, <sup>3</sup>Universidad Autónoma de Chile (N.O4.D3.2)

**18:00 Influence of solution annealing temperature on the microstructure of maraging 400 steels** [Daniela Passarelo Moura da Fonseca](#)<sup>1</sup>, Angelo Fernando Padilha<sup>2</sup>; <sup>1</sup>Instituto Senai de Inovação em Processamento a Laser, <sup>2</sup>Universidade de São Paulo (N.O4.D3.3)

THURSDAY, OCTOBER 05

\* Invited Lecture

SESSION N.01.D4 (08:30 - 10:15) - Room Gustavo Leite Theater

**09:00 High Temperature Oxidation of Multicomponent Refractory Alloys: An Overview and Future Trends** [Carlos Alberto Della Rovere](#)<sup>1,2</sup>; <sup>1</sup>Universidade Federal de São Carlos, <sup>2</sup>Laboratório de Corrosão Munir Rachid (N.O1.D4.1\*)

**09:15 Mechanical properties and microstructure of biodegradable ultrafine-grained magnesium alloy processed by severe plastic deformation** [Miloš Janeček](#)<sup>1</sup>, Jitka Stráská<sup>1</sup>, Michaela Šlapáková<sup>1</sup>, Jakub Čížek<sup>1</sup>, Hyoung Seop Kim<sup>2</sup>; <sup>1</sup>Charles University, <sup>2</sup>Pohang University of Science & Technology (N.O1.D4.2)

**09:30 A protocol for making X-ray microtomography available in an open laboratory scheme** [Izaque Alves Maia](#)<sup>1</sup>, Gustavo Henrique de Magalhães Gomes<sup>1</sup>, José Luis Dávila Sánchez<sup>1</sup>, Claudio Yamamoto Morassuti<sup>1</sup>, Karina Feliciano Santos<sup>1</sup>, Juliana Kelmy Macario Barboza Daguano<sup>1</sup>, Pedro Yoshito Noritomi<sup>1</sup>, Guilherme Arthur Longhitano<sup>2</sup>, Márcio Sangali Cristiano da Silva<sup>2</sup>, Marcos Antonio Sabino Gutierrez<sup>2,3</sup>, Thiago Nunes Palhares<sup>4</sup>, Carla Cristina Schmitt Cavalheiro<sup>4</sup>, Jorge Vicente Lopes da Silva<sup>4</sup>, Marcília Valéria Guimarães<sup>1</sup>; <sup>1</sup>Centro de Tecnologia da Informação Renato Archer, <sup>2</sup>Universidade Estadual de Campinas, <sup>3</sup>Universidade Simón Bolívar, <sup>4</sup>Universidade de São Paulo (N.O1.D4.3)

**10:00 Solubilization and aging heat treatments of aluminum alloy 5083 with Microstructural analysis via FEG-EBSD** Eloam Jéssica Nunes Holanda<sup>1</sup>, Mauricio Mhirdaui Peres<sup>1</sup>, Nicolau Apoena Castro,<sup>2</sup> <sup>1</sup>Universidade Federal do Rio Grande do Norte, <sup>2</sup>Federal University of Rio Grande do Norte – UFRN **(N.O1.D4.4)**

**SYMPOSIUM 0 - Recent Advances in Cold Plasmas and Related Applications**

**MONDAY, OCTOBER 02**

\* Invited Lecture

*SESSION 0.01.D1 (11:00 - 12:45) - Room Ponta Verde*

**11:15 Dry Coatings by Cold Plasma for the Innovation in Regenerative and Reporative Medicine** [Diego Mantovani](#)<sup>1</sup>, Pascale Chevallier<sup>1</sup>, Andranik Sarkissian<sup>2</sup>; <sup>1</sup>Université Laval, <sup>2</sup>Plasmionique (O.01.D1.1\*)

**11:45 Effect of plasma deposition parameters on properties of TiO2 coatings for antibacterial applications** [Masoud Shekargoftar](#)<sup>1</sup>, Chloé Audet<sup>1</sup>, Pascale Chevallier<sup>1</sup>, Lidi Yanez Hernandez<sup>1</sup>, Andranik Sarkissian<sup>2</sup>, Diego Mantovani<sup>1</sup>; <sup>1</sup>Université Laval, <sup>2</sup>Plasmionique (O.01.D1.2)

**12:00 Development of a plasma-based platform for Ag-controlled release profile for antibacterial applications** Linda Bonilla<sup>1</sup>, [Pascale Chevallier](#)<sup>1</sup>, Andranik Sarkissian<sup>2</sup>, Diego Mantovani<sup>1</sup>; <sup>1</sup>Université Laval, <sup>2</sup>Plasmionique (O.01.D1.3)

**12:15 From cell permeabilization to cosmetic ingredient penetration in skin explants with non-thermal plasmas** VIJAYARANGAN Vinodini<sup>1</sup>, DOZIAS Sébastien<sup>1</sup>, HEUSELE Catherine<sup>2</sup>, JEANNETON Olivier<sup>2</sup>, NIZARD Carine<sup>2</sup>, PICHON Chantal<sup>3</sup>, POUVESLE Jean Michel<sup>1</sup>, [ROBERT ERIC](#)<sup>1</sup>; <sup>1</sup>CNRS/Université d'Orléans, <sup>2</sup>LVMH Recherche, <sup>3</sup>CNRS Orléans (O.01.D1.4\*)

*SESSION 0.02.D1 (14:00 - 16:00) - Room Ponta Verde*

**14:00 What plasma sources are suitable for my selected applications?** [Luis César Fontana](#)<sup>1</sup>, Julio Cesar Sagás<sup>1</sup>, Daniela Becker<sup>1</sup>, Teresa Tromm Steffen<sup>1</sup>, Abel André Cândido Recco<sup>1</sup>, Jacimar Nahorny<sup>1</sup>; <sup>1</sup>Universidade do Estado de Santa Catarina (O.02.D1.1\*)

**14:30 Influence of plasma polarity on salt precipitation in hypersaline waters** Lucas Cabral Rocha<sup>1</sup>, [Clodomiro Alves Junior](#)<sup>1</sup>, Tatiane Fonseca de Melo<sup>1</sup>; <sup>1</sup>Universidade Federal Rural do Semi-árido (O.02.D1.2\*)

**15:00 Plasma in the modification of natural polymers** [Renata Antoun Simão](#)<sup>1</sup>; <sup>1</sup>Universidade Federal do Rio de Janeiro (O.02.D1.3)

**15:15 Development of a visual UV-sensitive polymeric colorimetric device** Amanda de Sousa Martinez de Freitas<sup>1,2</sup>, Rafael Parra Ribeiro<sup>3</sup>, Jéssica Souza Rodrigues<sup>2</sup>, Lucas Felipe de Lima<sup>4</sup>, Felipe O. Fernandes<sup>3</sup>, Nilson C. Cruz<sup>2</sup>, Elidiane C. Rangel<sup>3</sup>, Walter Ruggeri Waldman<sup>2</sup>, [Adriana Oliveira Delgado-Silva](#)<sup>2</sup>; <sup>1</sup>Universidade Federal de São Paulo, <sup>2</sup>Universidade Federal de São Carlos, <sup>3</sup>Universidade Estadual Paulista, <sup>4</sup>Universidade Estadual de Campinas (O.02.D1.4)

**15:30 Use of Pulsed Plasma in Science and Industry** [Marcello Filgueira](#)<sup>1</sup>; <sup>1</sup>Universidade Estadual do Norte Fluminense Darcy Ribeiro (O.02.D1.5\*)

*SESSION 0.03.D1 (17:30 - 18:45) - Room Ponta Verde*

**17:30 Metallic nanoparticles plasma synthesis from organometallic precursors** [Laurent Houssiau](#)<sup>1</sup>; <sup>1</sup>Université de Namur (O.03.D1.1\*)

**18:00 OPPORTUNITIES OFFERED BY SUSTAINABLE DEVELOPMENT GOALS IN PLASMA SURFACE TREATMENTS OF METALLIC SURFACES** [czerwiec](#)<sup>1,2</sup>; <sup>1</sup>Institut Jean Lamour, <sup>2</sup>Université de Lorraine (O.03.D1.2\*)

**18:30 Physical and electrochemical properties of MLG based electrodes surfaces modified by microwave-assisted reactive plasma.** [ROGÉRIO VALENTIM GELAMO](#)<sup>1</sup>, Jéferson Aparecido Moreto<sup>1</sup>, CAMILA CRISTINA DA SILVA<sup>1</sup>, Jair Scarmínio<sup>2</sup>, Abner de Siervo<sup>3</sup>; <sup>1</sup>Universidade Federal do Triângulo Mineiro, <sup>2</sup>Universidade Estadual de Londrina, <sup>3</sup>Universidade Estadual de Campinas (O.03.D1.3)

**TUESDAY, OCTOBER 03**

\* Invited Lecture

*SESSION 0.02.D2 (11:00 - 12:45) - Room Ponta Verde*

**11:00 A low-cost atmospheric pressure plasma jet for applications in oral medicine** [Konstantin Georgiev Kostov](#)<sup>1</sup>, Fellype do Nascimento<sup>1</sup>, Torsten Gerling<sup>2</sup>, Aline da Graça Sampaio<sup>1</sup>, Mariana Raquel da Cruz Vegian<sup>1</sup>, Diego Morais da Silva<sup>1</sup>, Cristiane Yumi Koga Ito<sup>1</sup>; <sup>1</sup>Universidade Estadual Paulista, <sup>2</sup>Leibniz Institute for Plasma Science and Technology (O.02.D2.1\*)

**11:30 In vitro evaluation of the antibacterial activity and cytotoxicity of a helium cold plasma jet on the treatment of tracheal prostheses** Diego Morais da Silva<sup>1</sup>, Noala Vicensoto Moreira Milhan<sup>1</sup>, Fellype do Nascimento<sup>1</sup>, Daniel Legendre<sup>2</sup>, Paulo Francisco Guerreiro Cardoso<sup>3</sup>, Fabio Gava Aoki<sup>4</sup>, Konstantin Georgiev Kostov<sup>1</sup>, [Cristiane Yumi Koga Ito](#)<sup>1</sup>; <sup>1</sup>Universidade Estadual Paulista, <sup>2</sup>Fundação Adib Jatene, <sup>3</sup>Instituto do Coração do Hospital das Clínicas da Universidade de São Paulo, <sup>4</sup>Universidade Federal de São Paulo (O.02.D2.2)

**11:45 Influence of the working gas on the temperature of atmospheric pressure plasma jets** [Fellype do Nascimento](#)<sup>1</sup>, Diego Morais da Silva<sup>1</sup>, Aline da Graça Sampaio<sup>1</sup>, Mariana Raquel da Cruz Vegian<sup>1</sup>, Noala Vicensoto Moreira Milhan<sup>1</sup>, Torsten Gerling<sup>2</sup>, Paulo Francisco Guerreiro Cardoso<sup>3</sup>, Cristiane Yumi Koga Ito<sup>1</sup>, Konstantin Georgiev Kostov<sup>1</sup>; <sup>1</sup>Universidade Estadual Paulista, <sup>2</sup>Leibniz Institute for Plasma Science and Technology, <sup>3</sup>Instituto do Coração do Hospital das Clínicas da Universidade de São Paulo (O.02.D2.3)

**12:00** Active diagnostics of electrolytic plasma processes for surface engineering of advanced materials [Aleksey Yerokhin](#)<sup>1</sup>, Aleksey Rogov<sup>1</sup>, Allan Matthews<sup>1</sup>; <sup>1</sup>University of Manchester (**O.O2.D2.4\***)

TUESDAY, OCTOBER 03

\* Invited Lecture

*SESSION P.01.D2 (09:45 - 11:00) - Room Tamarindo*

**09:45 FUTURE POLYSACCHARIDES RESEARCH AND DEVELOPMENT TRENDS PRESENTED IN THE EPNOE ROADMAP 2040** [Karin Stana Stana Kleinschek](#)<sup>1</sup>, Pedro Fardim<sup>2</sup>; <sup>1</sup>University of Technology Graz, <sup>2</sup>KU Leuven (P.O1.D2.1\*)

**10:15 FINE-TUNING CELLULOSE NANOFIBRILS FOR ENHANCED PACKING PERFORMANCE VIA ENZYME-ASSISTED DEFIBRILLATION** [Bruno Las-Casas Chaves](#)<sup>1</sup>, Valdeir Arantes<sup>1</sup>; <sup>1</sup>Escola de Engenharia de Lorena - EEL/USP (P.O1.D2.2)

**10:30 3D printing of asymmetric membranes based on cationized chitosans and beta-chitin whiskers to biomedical applications** [Sérgio Paulo Campana-Filho](#)<sup>1</sup>, Leonardo Henrique Semensato<sup>1</sup>, Danilo Martins dos Santos<sup>2</sup>, Daniel Souza Corrêa<sup>2</sup>; <sup>1</sup>Instituto de Química de São Carlos Universidade de São Paulo, <sup>2</sup>EMBRAPA Instrumentação (P.O1.D2.3)

*SESSION P.02.D2 (11:15 - 12:30) - Room Tamarindo*

**11:15 Mesoporous polysaccharide-based carriers as future sustainable materials for pharmaceutical applications** [Pedro Fardim](#)<sup>1</sup>, Fan Xie<sup>1</sup>, Guy Van den Mooter<sup>1</sup>; <sup>1</sup>Katholieke Universiteit Leuven (P.O2.D2.1\*)

**11:45 Carrageenan beads: exploring drug delivery potential** [Férica Mendes dos Santos](#)<sup>1,2</sup>, Priscila Gava Mazzola<sup>1</sup>, Pedro Fardim<sup>2</sup>; <sup>1</sup>Universidade Estadual de Campinas, <sup>2</sup>Katholieke Universiteit Leuven (P.O2.D2.2)

**12:00 Enhanced properties of chitosan films modified with TiO<sub>2</sub> nanoparticles: the surface influence** [Arthur Martins Gabriel](#)<sup>1</sup>, Daniella Lury Morgado<sup>1</sup>, Guilherme Augusto Arioli<sup>1</sup>, Francisco Guilherme Esteves Nogueira<sup>1</sup>, Cauê Ribeiro de Oliveira<sup>2</sup>, Emerson Rodrigues de Camargo<sup>1</sup>; <sup>1</sup>Universidade Federal de São Carlos, <sup>2</sup>EMBRAPA Instrumentação (P.O2.D2.3)

**12:15 Fatty Acid Cellulose Esters (FACEs): Structure-properties relationship elucidation according to both fatty chain length and substitution degree – Toward high value-added applications** [Nicolas Joly](#)<sup>1</sup>, Patrick Martin<sup>1</sup>; <sup>1</sup>Univ. Artois (P.O2.D2.4)

WEDNESDAY, OCTOBER 04

\* Invited Lecture

*SESSION P.01.D3 (09:45 - 11:00) - Room Tamarindo*

**09:45 Expanding the property space of polysaccharides through peptide conjugation** [Rupert Kargl](#)<sup>1</sup>; <sup>1</sup>Graz University of Technology (P.O1.D3.1\*)

**10:15 Production and characterization of novel mixed-mode beads for protein adsorption and purification** [Pedro Fardim](#)<sup>1</sup>; <sup>1</sup>Katholieke Universiteit Leuven (P.O1.D3.2)

**10:30 Films based on potato starch modified by dry heating treatment; one green alternative for properties improvement** Pedro Augusto Invernizzi Sponchiado<sup>1</sup>, Milena Martelli Tosi<sup>1</sup>, Delia Blácido<sup>1</sup>, Pietro Ciancaglini<sup>1</sup>, Ana Paula Ramos<sup>1</sup>, [Bianca Chieregato Maniglia](#)<sup>1</sup>; <sup>1</sup>Universidade de São Paulo (P.O1.D3.3)

*SESSION P.02.D3 (11:15 - 12:30) - Room Tamarindo*

**11:15 Exploiting the properties of chitosans in nanostructured films** [Oswaldo Novais de Oliveira Junior](#)<sup>1</sup>; <sup>1</sup>Universidade de São Paulo (P.O2.D3.1\*)

**11:45 PLA-based nonwovens modified with beta-chitin whiskers and silver nanoparticles: A new biomaterial potentially useful as wound dressing** [Sérgio Paulo Campana-Filho](#)<sup>1</sup>, Amanda Grizzo<sup>1</sup>, Danilo Martins dos Santos<sup>2</sup>, Vitor Paulo Vieira da Costa<sup>2,3</sup>, Raphael Guimarães Lopes<sup>4,5</sup>, Natalia Mayumi Inada<sup>2</sup>, Daniel Souza Corrêa<sup>2</sup>; <sup>1</sup>Instituto de Química de São Carlos Universidade de São Paulo, <sup>2</sup>EMBRAPA Instrumentação, <sup>3</sup>Nanotechnology National Laboratory for Agriculture, <sup>4</sup>Sao Carlos Institute of Physics University of São Paulo, <sup>5</sup>Sao Carlos Institute of Physics (P.O2.D3.2)

**12:00 Synthesis of bio-based polyurethanes with simultaneous film formation using nanocellulose as additives** [Filipe Biagioni Habitzreuter](#)<sup>1</sup>, Deyvid Souza Porto<sup>1</sup>, Rachel Passos de Oliveira Santos<sup>2</sup>, Roberto Avolio<sup>3</sup>, Igor Polikarpov<sup>4</sup>, Elisabete Frollini<sup>5</sup>; <sup>1</sup>Instituto de Química de São Carlos Universidade de São Paulo, <sup>2</sup>Universidade de Ribeirão Preto, <sup>3</sup>Italian National Research Council, <sup>4</sup>Instituto de Física de São Carlos- USP, <sup>5</sup>Universidade de São Paulo (P.O2.D3.3)

*SESSION P.03.D3 (14:00 - 16:00) - Room Tamarindo*

**14:00 Exploiting the potential of polysaccharide in the development of advanced bioinks for 3D bioprinting applications** [Carmen S. R. Freire](#)<sup>1</sup>; <sup>1</sup>CICECO – Aveiro Institute of Materials, Department of Chemistry, University of Aveiro, Portugal (P.O3.D3.1\*)

**14:30 3D printed bone scaffolds based on potato starch activated by hydroxyapatite nanoparticles replaced by Sr<sup>2+</sup>** Lucas Santos Silva<sup>1</sup>, Pedro Augusto Invernizzi Sponchiado<sup>1</sup>, Maryanne Trafani de Melo<sup>1</sup>, Pietro Ciancaglini<sup>1</sup>, Ana Paula Ramos<sup>1</sup>, [Bianca Chieregato Maniglia](#)<sup>1</sup>; <sup>1</sup>Universidade de São Paulo (P.O3.D3.2)



**14:45** **Influence of acid treatment on the properties of beta-chitin nanoparticles** [Filipe Biagioni Habitzreuter](#)<sup>1</sup>, Sérgio Paulo Campana-Filho<sup>1</sup>; <sup>1</sup>Instituto de Química de São Carlos Universidade de São Paulo (P.O3.D3.3)

**15:00** **Production and regeneration of sorbent material based on kapok fibers, chitosan and castor oil: application in the cleaning of fauna affected by oil spills.** [Islla Mirella Caetano Silvino](#)<sup>1</sup>, Beatriz Seixas Alves<sup>1</sup>, Nathália L. P. Andrade<sup>1</sup>, Carmem Lucia de Paiva e Silva Zanta<sup>1</sup>, Vanderson Barbosa Bernardo<sup>1</sup>, José Leandro da Silva Duarte<sup>1</sup>, Leonardo Mendonça Tenório de Magalhães Oliveira<sup>1</sup>; <sup>1</sup>Federal University of Alagoas (P.O3.D3.4)

**15:15** **Carboxymethylcellulose production from sugarcane bagasse: a new approach in biorefinery concept** Camila Florencio<sup>1,2</sup>, Andrew Milli Elias<sup>1</sup>, Maycon Jhony Silva<sup>1,3</sup>, Thalita Jessika Bondancia<sup>1</sup>, Mariana Govoni Brondi<sup>1,3</sup>, Maria Alice Martins<sup>1</sup>, Cristiane Sanchez Farinas<sup>1,3</sup>, [Cauê Ribeiro de Oliveira](#)<sup>1,3</sup>, Luiz Henrique Capparelli Mattoso<sup>1,3</sup>; <sup>1</sup>EMBRAPA Instrumentação, <sup>2</sup>Nanox Tecnologia SA, <sup>3</sup>Federal University of Sao Carlos (P.O3.D3.5)

SESSION P.O4.D3 (17:30 - 18:45) - Room Tamarindo

**17:30** **Synthesized MgO polysaccharide starch-based: Periclase phase formation for chromium adsorption and its reuse as green pigments** Nayara Balaba<sup>1</sup>, [Silvia Jaeger](#)<sup>1</sup>, Julia de Oliveira Primo<sup>1</sup>, Fauze Jacó Anaissi<sup>1</sup>; <sup>1</sup>Universidade Estadual do Centro Oeste (P.O4.D3.1)

**17:45** **The impact of osmotic pressure on the water holding capacity and herbicide adsorption of new magnetic hydrogels composed of polysaccharide and zeolite supported on poly(methacrylic acid)-co-polyacrylamide networks** [Fabrício Cerizza Tanaka](#)<sup>1</sup>, Gabriel Lima Borges<sup>2</sup>, Daniel Araujo Gonçalves<sup>3</sup>, Cicero Rafael Cena da Silva<sup>4</sup>, Marcia Regina de Moura Aouada<sup>2</sup>, Fauze Ahmad Aouada<sup>2</sup>; <sup>1</sup>Faculdade de Zootecnia e Engenharia de Alimentos - USP, <sup>2</sup>São Paulo State University, <sup>3</sup>Fundação Universidade Federal da Grande Dourados, <sup>4</sup>Universidade Federal de Mato Grosso do Sul (P.O4.D3.2)

**18:00** **Cellulose-based Materials: Important Player in the Circular Bioeconomy** [Elisabete Frollini](#)<sup>1</sup>; <sup>1</sup>University of São Paulo (P.O4.D3.3)

THURSDAY, OCTOBER 05

\* Invited Lecture

SESSION P.O1.D4 (08:30 - 10:15) - Room Tamarindo

**08:30** **Nanostructured biomass for multifunctional materials** [Luiz Henrique Capparelli Mattoso](#)<sup>1</sup>, Caio Gomide Otoni<sup>2</sup>; <sup>1</sup>EMBRAPA Instrumentação, <sup>2</sup>Univerdade Federal de São Carlos (P.O1.D4.1\*)

**09:00** **MATERIALS RECENTLY DEVELOPED AT THE GMPC-UEM / LIMAV-UFPI BASED ON POLYSACCHARIDES AND THEIR POTENTIAL FOR TECHNOLOGICAL USES** [Edvani Curti Muniz](#)<sup>1,2,3</sup>; <sup>1</sup>Universidade Estadual de Maringá, <sup>2</sup>Universidade Federal do Piauí, <sup>3</sup>Universidade Tecnológica Federal do Paraná (P.O1.D4.2\*)

**09:30** **AIR AND OXYGEN PLASMA PEN TREATMENT ON THE GELATINATION OF CORN STARCH** [Renata Antoun Simão](#)<sup>1</sup>; <sup>1</sup>Universidade Federal do Rio de Janeiro (P.O1.D4.3)

**09:45** **Densification of starch compound for direct dosing in thermoplastic starch extrusion process** [Kelly Lucas Lizano](#)<sup>1</sup>, Antonio Aprigio da Silva Curvelo<sup>2</sup>, Antonio José Felix Carvalho<sup>1</sup>; <sup>1</sup>Escola de engenharia de São Carlos - Universidade de São Paulo, <sup>2</sup>Instituto de Química de São Carlos - Universidade de São Paulo (P.O1.D4.4)

**10:00** **ALGINATE SPRAYS LOADED WITH SAPONINS FROM THE SAQTA ROOT (Colignonia parviflora subsp. Biumbellata) APPLIED FOR THE DESORPTION OF IMPREGNATED OIL IN ROCKS** [ANA CECILIA VALDERRAMA NEGRÓN](#)<sup>1</sup>, Miguel Angel Veliz Hinostraza<sup>1</sup>, Éder Tadeu Gomes Cavalheiro<sup>2</sup>, TIAGO VENÂNCIO<sup>3</sup>, JUAN LOPEZ VALENTÍN<sup>4</sup>, JUAN DÁVALOS PRADO<sup>4</sup>, OLIVIO NINO CASTRO MANDUJANO<sup>5</sup>; <sup>1</sup>UNIVERSIDAD NACIONAL DE INGENIERÍA, <sup>2</sup>Instituto de Química de São Carlos - Universidade de São Paulo, <sup>3</sup>Universidade Federal de São Carlos, <sup>4</sup>Consejo Nacional de Investigación Científica, <sup>5</sup>Universidad Nacional Mayor de San Marcos (P.O1.D4.5)

MONDAY, OCTOBER 02

\* Invited Lecture

*SESSION Q.01.D1 (11:15 - 12:30) - Room Umbu*

**11:15 Mechanical properties of an aluminum quasicrystal-forming alloy prepared by laser powder bed fusion** [Piter Gargarella<sup>1</sup>](#), Aylanna Priscila Marques de Araujo<sup>1,2</sup>, Claudio S. Kiminami<sup>1</sup>, Volker Uhlenwinkel<sup>3</sup>; <sup>1</sup>Universidade Federal de São Carlos, <sup>2</sup>Programa de pós-graduação em Ciência e Engenharia de Materiais, <sup>3</sup>Leibniz-Institut für Werkstofforientierte Technologien - IWT (Q.O1.D1.1\*)

**11:45 Residual stresses investigation in Metal Additive Manufacturing** [Amanda Rossi de Oliveira<sup>1</sup>](#), Sydney Ferreira Santos<sup>2</sup>, Erik Gustavo Del Conte<sup>1</sup>; <sup>1</sup>Universidade Federal do ABC, <sup>2</sup>Federal University of ABC (Q.O1.D1.2)

**12:00 Mechanical behavior of additively manufactured maraging steel samples** Pedro Luiz Lima dos Santos<sup>1</sup>, Julián Arnaldo Ávila Diaz<sup>2,3</sup>, Eduardo Bertoni da Fonseca<sup>4</sup>, André Henrique Guimarães Gabriel<sup>4</sup>, André Jardini<sup>5</sup>, [Éder Sócrates Najjar Lopes<sup>5</sup>](#); <sup>1</sup>University of Leeds, <sup>2</sup>Universidade Estadual Paulista, <sup>3</sup>Universitat Politècnica de Catalunya, <sup>4</sup>Universidade Estadual de Campinas, <sup>5</sup>University of Campinas (Q.O1.D1.3)

**12:15 Development of L-PBF contour parameters and optimized cooling channel geometry** [Daniela Passarelo Moura da Fonseca<sup>1</sup>](#), Gustavo Scheid Prass<sup>1</sup>, Victor Lira Chastinet<sup>1</sup>, Giovanna Fiocco Colombo<sup>2</sup>, Moysés Leite de Lima<sup>2</sup>, Henrique Rodrigues Oliveira<sup>1</sup>; <sup>1</sup>Instituto Senai de Inovação em Processamento a Laser, <sup>2</sup>Instituto de Pesquisas Tecnológicas (Q.O1.D1.4)

*SESSION Q.03.D1 (17:30 - 18:30) - Room Umbu*

**17:30 The Thermo-Calc Additive Manufacturing Module: An integrated Calphad-based FEM tool** [Alisson Kwiatkowski da Silva<sup>1</sup>](#), Andreas Markström<sup>1</sup>, Amer Malik<sup>1</sup>, Quang Minh Do<sup>1</sup>, Johan Jeppsson<sup>1</sup>; <sup>1</sup>Thermo-Calc Software AB (Q.O3.D1.1)

**17:45 Processability of AISI 410L Stainless Steel by Laser Powder Bed Fusion** [Marcos Vinícius Bento<sup>1</sup>](#), Dan Alexander Gallego<sup>1</sup>, Victor Lira Chastinet<sup>1</sup>, Henrique Rodrigues Oliveira<sup>1</sup>; <sup>1</sup>Instituto Senai de Inovação em Processamento a Laser (Q.O3.D1.2)

**18:00 Mechanical Properties of 410L Stainless Steel Processed by Laser Additive Manufacturing** [Marcos Vinícius Bento<sup>1</sup>](#), Jurandir Marcos Sa de Sousa<sup>1</sup>, Juliane Ribeiro da Cruz<sup>1</sup>, Alessandro Rabelo<sup>1</sup>, Henrique Rodrigues Oliveira<sup>1</sup>; <sup>1</sup>Instituto Senai de Inovação em Processamento a Laser (Q.O3.D1.3)

**18:15 Gas Atomization of AA2017 for Additive Manufacturing: A Systematic Investigation into Powder Production and Processing** [Vitor Eduardo Pinotti<sup>1</sup>](#), Angelo F Andreoli<sup>1</sup>, Piter Gargarella<sup>1</sup>; <sup>1</sup>Universidade Federal de São Carlos (Q.O3.D1.4)

TUESDAY, OCTOBER 03

\* Invited Lecture

*SESSION Q.01.D2 (09:45 - 10:45) - Room Umbu*

**09:45 Microstructure of a heat-treated 420S SS deposited by LDED on AISI D2 substrate** [Moysés Leite de Lima<sup>1</sup>](#), Giovanna Fiocco Colombo<sup>1</sup>, Jeferson Trevisan Pacheco<sup>2</sup>, Marcelo Taveira Veiga<sup>2</sup>; <sup>1</sup>Instituto de Pesquisas Tecnológicas, <sup>2</sup>Instituto Senai de Inovação em Processamento a Laser (Q.O1.D2.1\*)

**10:15 Cracking susceptibility of AISI A2 Tool Steel manufactured through Laser Powder Bed Fusion** [Bruno Bianchini<sup>1</sup>](#), Piter Gargarella<sup>1,2</sup>, Leonardo do Carmo Braghini<sup>1</sup>; <sup>1</sup>Universidade Federal de São Carlos, <sup>2</sup>Federal University of Sao Carlos (Q.O1.D2.2)

**10:30 Non-equilibrium solidification of the ferromagnetic Fe-Si6.5 alloy: microstructure and physical properties** Diogo de Campos Fernandes<sup>1</sup>, Piter Gargarella<sup>1</sup>, Vitor Eduardo Pinotti<sup>1</sup>, [Angelo F Andreoli<sup>1</sup>](#); <sup>1</sup>Universidade Federal de São Carlos (Q.O1.D2.3)

*SESSION Q.03.D2 (14:00 - 15:00) - Room Umbu*

**14:00 Laser heat treatment of AISI M4 multilayers deposited by L-DDED** [Gustavo Scheid Prass<sup>1</sup>](#), Beatriz Aparecida Pinto<sup>1</sup>, Jeferson Trevisan Pacheco<sup>1</sup>, Marcelo Taveira Veiga<sup>1</sup>, Giovanna Fiocco Colombo<sup>2</sup>, Moysés Leite de Lima<sup>2</sup>; <sup>1</sup>Instituto Senai de Inovação em Processamento a Laser, <sup>2</sup>Instituto de Pesquisas Tecnológicas (Q.O3.D2.1)

**14:15 EXPERIMENTAL ANALYSIS OF PARAMETERS FOR USE OF AISI H13 IN ADDITIVE MANUFACTURING PROCESS – LASER POWDER-DIRECTED ENERGY DEPOSITION** [Johan Sebastián Grass Nuñez<sup>1</sup>](#), Daniel Andres Rojas Perilla<sup>1</sup>, Fábio Edson Mariani<sup>2</sup>, Alessandro Roger Rodrigues<sup>1</sup>, Reginaldo Teixeira Coelho<sup>3</sup>; <sup>1</sup>Escola de engenharia de São Carlos - Universidade de São Paulo, <sup>2</sup>Instituto Tecnológico de Aeronáutica, <sup>3</sup>Universidade de São Paulo (Q.O3.D2.2)

**14:30 Retained austenite decomposition pathways in additively manufactured H13 hot-work tool steel** [Eduardo Bertoni da Fonseca<sup>1</sup>](#), Julián David Escobar Atehortua<sup>2</sup>, André Henrique Guimarães Gabriel<sup>1</sup>, Giovanni Gonçalves Ribamar<sup>2</sup>, Torben Boll<sup>3</sup>, Éder Sócrates Najjar Lopes<sup>1</sup>; <sup>1</sup>Universidade Estadual de Campinas, <sup>2</sup>Universidade de São Paulo, <sup>3</sup>Karlsruhe Institute of Technology (Q.O3.D2.3)

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SESSION Q.04.D2 (17:30 - 18:30) - Room Umbu

**17:30** Feasibility study of composite materials for space printing applications 4D [Tiago Rodrigues Dos Santos](#)<sup>1</sup>, Luana Bruna Lopes Ribeiro<sup>1</sup>, Cristian Vendittozzi<sup>1</sup>, Manuel Nascimento Dias Barcelos<sup>1</sup>, Maria del P. H. Falla<sup>1</sup>; <sup>1</sup>Universidade de Brasília (Q.04.D2.1)

**17:45** Self-disinfecting photopolymerizable nanocomposites for 3D printing: allying antiviral properties [Tamires da Silva Lima](#)<sup>1</sup>, Karina Maria<sup>1</sup>, Ivani Malvestiti<sup>1</sup>, Petrus Santa-Cruz<sup>1</sup>; <sup>1</sup>Universidade Federal de Pernambuco (Q.04.D2.2)

**18:00** A systematic review of 3D printable filaments reinforced by natural nanofibers [Rodrigo Denizarte de Oliveira Polkowski](#)<sup>1</sup>, [Leonardo Cardoso de Freitas](#)<sup>1</sup>, Katielly Vianna Polkowski<sup>1</sup>, Marina Reis de Andrade<sup>1</sup>; <sup>1</sup>TRL9 LAB (Q.04.D2.3)

**18:15** The role of rheology in the development of bioinks for 3D bioprinting [Paula Cristina Gomes Fernandes](#)<sup>1</sup>, Viviane Fajardo Filgueiras<sup>1,2</sup>, João Henrique Lopes<sup>1</sup>; <sup>1</sup>Instituto Tecnológico de Aeronáutica, <sup>2</sup>Universidade Federal de São Paulo (Q.04.D2.4)

WEDNESDAY, OCTOBER 04

\* Invited Lecture

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SESSION Q.01.D3 (09:45 - 10:45) - Room Umbu

**09:45** Selective Laser Melting of  $\beta$  Ti Micrometric Powders down to Atomic Sputtering of Thin Films for Implant Applications [Conrado Ramos Moreira Afonso](#)<sup>1</sup>, Felype Narciso de Mattos<sup>1</sup>, Pedro Augusto de Paula Nascete<sup>1</sup>, Rubens Caram<sup>2</sup>; <sup>1</sup>Universidade Federal de São Carlos, <sup>2</sup>Universidade Estadual de Campinas (Q.01.D3.1\*)

**10:15** Developing Ti-based multi-layered materials using a multi-material laser powder bed fusion platform [Márcio Sangali Cristiano da Silva](#)<sup>1</sup>, João Felipe Queiroz Rodrigues<sup>1</sup>, Leticia Falcao Starck<sup>1</sup>, Matheus Valentim<sup>1</sup>, Gilberto Vicente Prandi<sup>1</sup>, Alessandra Cremasco<sup>1</sup>, Rodrigo José Contieri<sup>1</sup>, [Rubens Caram](#)<sup>1</sup>; <sup>1</sup>Universidade Estadual de Campinas (Q.01.D3.2)

**10:30** Effect of pores on the tribological and tribocorrosion behavior of additively manufactured lattice structures [Guilherme Arthur Longhitano](#)<sup>1,2,3</sup>, Ignacio Manuel García<sup>4</sup>, Maria Angeles Arenas<sup>4</sup>, Juan José Damborenea<sup>4</sup>, André Luiz Jardim<sup>1,3</sup>, Rubens Maciel Filho<sup>1,3</sup>, Ana Conde<sup>4</sup>; <sup>1</sup>Universidade Estadual de Campinas, <sup>2</sup>Centro de Tecnologia da Informação Renato Archer, <sup>3</sup>National Institute of Biofabrication, <sup>4</sup>National Center for Metallurgical Research (Q.01.D3.3)

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SESSION Q.02.D3 (11:15 - 12:30) - Room Umbu

**11:15** Additive manufacturing of ceramics, opportunities and challenges with emphasis on vat polymerization [Carlos Alberto Fortulan](#)<sup>1</sup>; <sup>1</sup>Escola de Engenharia de São Carlos (USP) (Q.02.D3.1\*)

**11:45** Smart additives based on nanoparticles of mixed oxides derived from LDH in the crystallization of phases formed during cement hydration [Adriana Araújo Almeida](#)<sup>1</sup>, Rodrigo Morais Menezes Dos Santos<sup>1</sup>, Caio Carvalho dos Santos<sup>1</sup>, Valérie Briois<sup>2</sup>, Sandra Helena Pulcinelli<sup>1</sup>, Celso Valentim Santilli<sup>1</sup>; <sup>1</sup>Universidade Estadual Paulista / Instituto de Química, <sup>2</sup>Synchrotron Soleil (Q.02.D3.2)

**12:00** Main parameters and challenges for producing high-quality alumina-based ceramic parts via digital light processing technique [Jhonata Rafael Verza](#)<sup>1</sup>, Ana Paula da Luz<sup>1</sup>; <sup>1</sup>Federal University of Sao Carlos (Q.02.D3.3)

**12:15** Exploring the Use of HDDR-Processed Powders as Feedstock for Powder Bed Fusion Additive Manufacturing of Bonded Magnets [Marcelo Augusto Rosa](#)<sup>1</sup>, [Bruno Lessmann Fertig](#)<sup>1</sup>, Wagner Costa Macedo<sup>1</sup>, Leonardo Uliam Lopes<sup>1</sup>, Carlos Henrique Ahrens<sup>1</sup>, Paulo Antônio Pereira Wendhausen<sup>1</sup>; <sup>1</sup>Universidade Federal de Santa Catarina (Q.02.D3.4)

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SESSION Q.03.D3 (14:00 - 16:00) - Room Umbu

**14:00** Additive manufacturing of PLA/SEP bionanocomposites: Influence of nanoparticle content and printing conditions on crystallinity and morphology [Yan Faria Guimarães Silva](#)<sup>1</sup>, [Juliano Marini](#)<sup>1</sup>; <sup>1</sup>Univerdade Federal de São Carlos (Q.03.D3.1\*)

**14:30** Computational modeling of the mechanical behavior of additively manufactured PA12. [Joan O'Connor](#)<sup>1</sup>, Cristiane Evelise Ribeiro da Silva<sup>1</sup>, Guido Graça<sup>2</sup>, Julia Pitanga<sup>1</sup>, Edwin Sallica<sup>1</sup>, Lavinia A. Borges<sup>3,4</sup>, Fernando P. Duda<sup>3,4</sup>, Claudio Teodoro dos Santos<sup>1</sup>, Maurício de Jesus Monteiro<sup>1</sup>; <sup>1</sup>Instituto Nacional de Tecnologia, <sup>2</sup>Instituto Superior Técnico de Lisboa, <sup>3</sup>Universidade Federal do Rio de Janeiro, <sup>4</sup>Instituto Alberto Luiz Coimbra de Pós-Graduação e Pesquisa em Engenharia (Q.03.D3.2)

**14:45** Synthesis and characterization of 3d printed geopolymer for catalysis [FRANCESCA TATIANA ALBINO](#)<sup>1</sup>, RAFAEL VIDAL ELEUTÉRIO<sup>1</sup>, Lisandro Simão<sup>2</sup>, Dachamir Hotza<sup>1</sup>; <sup>1</sup>Universidade Federal de Santa Catarina, <sup>2</sup>Universidade de Ribeirão Preto (Q.03.D3.3)

**15:00** Parametric modeling for Additive Manufacturing of: software comparison and applications [Laureana Stelmastchuk Benassi Fontolan](#)<sup>1</sup>, Leonardo Mendes Ribeiro Machado<sup>1</sup>, Marcelo Fernandes Oliveira<sup>1</sup>, Pedro Yoshito Noritomi<sup>1</sup>; <sup>1</sup>Centro de Tecnologia da Informação Renato Archer (Q.03.D3.4)

**15:15 Crosslinking of alginate as gel-matrix for bioprinting applications: study of the influence of different divalent cations in morphology and rheological behavior**

Kaline do Nascimento Ferreira<sup>1</sup>, Gustavo Henrique de Magalhães Gomes<sup>1</sup>, Matheus Mendes de Oliveira<sup>2</sup>, Angelo Romeu da Silva Júnior<sup>1</sup>, Juliana Kelmy Macario Barboza Daguano<sup>1</sup>, Marcos Antonio Sabino Gutierrez<sup>3</sup>; <sup>1</sup>Centro de Tecnologia da Informação Renato Archer, <sup>2</sup>Universidade Federal do ABC, <sup>3</sup>Universidad Simón Bolívar Venezuela (Q.O3.D3.5)

**15:30 Additive manufacturing of microstructures**

**with nanometric resolution** Izaque Alves Maia<sup>1</sup>, José Luis Dávila Sánchez<sup>1</sup>, Juliana Kelmy Macario Barboza Daguano<sup>1</sup>, Juliana Girón Bastidas<sup>1</sup>, Claudio Yamamoto Morassuti<sup>1</sup>, Gustavo Henrique de Magalhães Gomes<sup>1</sup>, Pedro Yoshito Noritomi<sup>1</sup>, Jorge Vicente Lopes da Silva<sup>1</sup>; <sup>1</sup>Centro de Tecnologia da Informação Renato Archer (Q.O3.D3.6)

**15:45 Production of conductive filaments based on recycled PLA for the development of 3D-printed electrochemical sensors**

Cristiane Kalinke<sup>1</sup>, Paulo Roberto de Oliveira<sup>2</sup>, Robert D. Crapnell<sup>3</sup>, Evelyn Sigley<sup>3</sup>, Craig E. Banks<sup>3</sup>, Bruno Campos Janegitz<sup>2</sup>, Juliano Alves Bonacin<sup>1</sup>; <sup>1</sup>Universidade Estadual de Campinas, <sup>2</sup>Universidade Federal de São Carlos - Campus Araras, <sup>3</sup>Manchester Metropolitan University (Q.O3.D3.7)

**THURSDAY, OCTOBER 05**

\* Invited Lecture

SESSION Q.O1.D4 (08:30 - 10:15) - Room Umbu

**08:30 Holistic approach for quality assurance and quality control for laser powder bed fusion**

Edson Costa Santos<sup>1</sup>; <sup>1</sup>Carl Zeiss Industrielle Messtechnik GmbH (Q.O1.D4.1\*)

**09:00 Corrosion Resistance of AlSi10Mg Processed by Conventional and Additive Manufacturing Techniques**

Juliane Ribeiro da Cruz<sup>1</sup>, Dan Alexander Gallego<sup>1</sup>, Giselle Isabel Rezende Luebke<sup>1</sup>, Marcos Vinícius Bento<sup>1</sup>, Jurandir Marcos Sa de Sousa<sup>1</sup>, Cláudia E. B. Marino<sup>2</sup>; <sup>1</sup>Instituto Senai de Inovação em Processamento a Laser, <sup>2</sup>Universidade Federal do Paraná (Q.O1.D4.2)

**09:15 A review of the modification of aluminum powders for processing by LPBF**

Nicolas Rojas Arias<sup>1,2</sup>, Francisco Gil Coury<sup>3</sup>, Sergio de Traglia Amancio-Filho<sup>1</sup>, Piter Gargarella<sup>2,3</sup>; <sup>1</sup>Graz University of Technology, <sup>2</sup>Federal University of Sao Carlos, <sup>3</sup>Univerdade Federal de São Carlos (Q.O1.D4.3)

**09:30 Magnetic texture development approaches on Rare-Earth based composite magnets obtained via Additive Manufacturing – Prospects and Challenges**

Rafael Gitti Tortoretto Fim<sup>1</sup>, Bruno Lessman Fertig<sup>1</sup>, Leonardo Fernandes Antunes<sup>1</sup>, Wagner Costa Macedo<sup>1</sup>, Carlos Henrique Ahrens<sup>1</sup>, Paulo Antônio Pereira Wendhausen<sup>1</sup>; <sup>1</sup>Universidade Federal de Santa Catarina (Q.O1.D4.4)

SYMPOSIUM R - Organic Electronics, Photonics and  
Bioelectronics: Fundamentals, Applications and Emerging  
Technologies

TUESDAY, OCTOBER 03

\* Invited Lecture

SESSION R.02.D2 (11:15 - 12:30) - Room Mangaba

**11:15** Meniscus-Guided Coating of Organic Semiconductors for Applications in Field-Effect

**Transistors** [Wojciech Pisula](#)<sup>1,2</sup>; <sup>1</sup>Technical University of Lodz, <sup>2</sup>Max Planck Institute for Polymer Research (R.O2.D2.1\*)

**11:45** Synthesis of PEDOT:PSS Conductive Inks: Do Byproducts of the Chemical Route Influence the Final Properties of the Ink? [Germán Darío Gómez Higuaita](#)<sup>1</sup>, Gregório Couto Faria<sup>2</sup>; <sup>1</sup>Instituto de Física de São Carlos - USP, <sup>2</sup>Instituto de Física de São Carlos - USP (R.O2.D2.2)

**12:00** Organic mixed ionic electronic conductor based on water-soluble melanin/PEDOT:PSS blend to bioelectronics and energy storage applications [Natan Luis Nozella](#)<sup>1</sup>, Miguel Henrique Boratto<sup>1,2</sup>, João Victor Morais Lima<sup>1</sup>, Nayrim Brizuela Guerra<sup>1</sup>, George G. Malliaras<sup>2</sup>, Rafael Furlan de Oliveira<sup>3</sup>, Carlos Frederico de Oliveira Graeff<sup>1</sup>; <sup>1</sup>Universidade Estadual Paulista, <sup>2</sup>University of Cambridge, <sup>3</sup>Brazilian Nanotechnology National Laboratory (R.O2.D2.3)

**12:15** Changes observed on performance and parameters extracted from electrolyte-gated transistors dependent on gate voltage [Keli Fabiana Seidel](#)<sup>1</sup>, Hélio José Lucas Junior<sup>1</sup>, Jéssica Nayara Patrzyk<sup>1</sup>, Marcos Luginieski<sup>2</sup>, José Pedro Mansueto Serbena<sup>3</sup>; <sup>1</sup>Universidade Tecnológica Federal do Paraná, <sup>2</sup>Instituto de Física de São Carlos - USP, <sup>3</sup>Universidade Federal do Paraná (R.O2.D2.4)

SESSION R.03.D2 (14:00 - 15:00) - Room Mangaba

**14:00** Capacitive field-effect sensors for biosensoric applications [Michael Josef Schöningh](#)<sup>1</sup>; <sup>1</sup>INB (R.O3.D2.1\*)

**14:30** Thin films of Polyaniline-based nanocomposites with CeO<sub>2</sub> and WO<sub>3</sub> metal oxides applied to the impedimetric and capacitive transducer stages in chemical sensors [Beatriz Cotting Rossignati Palmeira de Albuquerque Melo Vaz](#)<sup>1</sup>, Amanda Portes Vieira<sup>1</sup>, Martin S. Barbosa<sup>1</sup>, Luis Miguel Gomes Abegão<sup>1</sup>, Hugo José Nogueira Pedroza Dias Mello<sup>1</sup>; <sup>1</sup>Universidade Federal de Goiás (R.O3.D2.2)

**14:45** Insertion of Carbon Nanotubes in Langmuir-Blodgett films of phospholipids and galactose oxidase for bioelectronics [Luciano Caselli](#)<sup>1</sup>, Gabriel Nerath<sup>1</sup>, José Roberto Siqueira Junior<sup>2</sup>; <sup>1</sup>Universidade Federal de São Paulo, <sup>2</sup>Universidade Federal do Triângulo Mineiro (R.O3.D2.3)

SESSION R.04.D2 (17:30 - 18:30) - Room Mangaba

**17:30** Fabrication and comparison of electrochemical sensors based on polymeric and carbon

**materials** [Marystela Ferreira](#)<sup>1</sup>, Cristiane Carla Maciel<sup>2</sup>; <sup>1</sup>Universidade Federal de São Carlos - Campus Sorocaba, <sup>2</sup>Universidade Estadual Paulista (R.O4.D2.1)

**17:45** Virucidal action of photogenerated phenothiazine radical cation impregnated in cotton fabric and polypropylene face mask. [Lilian Martins-Nascimento](#)<sup>1</sup>, Adrienne Marlise Mendes Brito<sup>1</sup>, Julia Delatorre Bronzato Zazyki<sup>1</sup>, Martha T. Oliveira<sup>1</sup>, Silgia Aparecida Costa<sup>2</sup>, Sirlene Maria da Costa<sup>2</sup>, Otaciro Rangel Nascimento<sup>2</sup>, Iseli Lourenço Nantes<sup>1</sup>; <sup>1</sup>Universidade Federal do ABC, <sup>2</sup>Universidade de São Paulo (R.O4.D2.2)

**18:00** Analytical Approach for the Analysis of Multivariate Impedance Data [Lucas Fugikawa-Santos](#)<sup>1</sup>, João Paulo Braga<sup>1,2</sup>, Vinicius Martins de Oliveira<sup>2</sup>, Vitor Barbanti Pereira Leite<sup>1</sup>; <sup>1</sup>Universidade Estadual Paulista, <sup>2</sup>University of Maryland (R.O4.D2.3)

**18:15** Exploring hybrid nanostructured films as an interface for energy storage and sensing applications [José Roberto Siqueira Junior](#)<sup>1</sup>, Danilo Alves Oliveira<sup>1</sup>, Paulo Vitor de Moraes<sup>1</sup>, Luciano Caseli<sup>2</sup>, Michael Josef Schöningh<sup>3</sup>; <sup>1</sup>Universidade Federal do Triângulo Mineiro, <sup>2</sup>Universidade Federal de São Paulo, <sup>3</sup>INB (R.O4.D2.4)

WEDNESDAY, OCTOBER 04

\* Invited Lecture

SESSION R.01.D3 (09:45 - 10:45) - Room Mangaba

**09:45** Solid state solvation: matrix effects in TAD-OLED [Anna Painelli](#)<sup>1</sup>; <sup>1</sup>University of Parma (R.O1.D3.1\*)

**10:15** Enhancement of NLO response of organic chromophores through solvent effects: Theoretical Modeling using a multiscale methodology [Vinícius Manzoni](#)<sup>1</sup>; <sup>1</sup>Universidade Federal de Alagoas (R.O1.D3.2)

**10:30** Designing emitters based on Cu(I) complexes with thermally activated delayed fluorescence and phosphorescence [Giliandro Farias](#)<sup>1</sup>, Cristian Momoli Salla<sup>2</sup>, Ivan H. Bechtold<sup>2</sup>; <sup>1</sup>Instituto de Física/USP, <sup>2</sup>Universidade Federal de Santa Catarina (R.O1.D3.3)

SESSION R.02.D3 (11:15 - 12:30) - Room Mangaba

**11:15** OLEDs for lighting: is simplifying the structure the best way? [José Carlos Germino](#)<sup>1</sup>, Manish Kumar<sup>1</sup>, [Luiz Pereira](#)<sup>1</sup>; <sup>1</sup>Universidade de Aveiro (R.O2.D3.1)

**11:30** **Synthesis and Characterization of New Potential TADF Copolymers for the Development of OLED Devices** Daniela Corrêa Santos<sup>1</sup>, Guilherme Costa Coutinho<sup>1</sup>, Renata da Silva Cardoso<sup>2</sup>, Jilian Nei de Freitas<sup>3</sup>, Maria de Fátima Vieira Marques<sup>1</sup>; <sup>1</sup>Universidade Federal do Rio de Janeiro, <sup>2</sup>Instituto de Macromoléculas Prof. Eloi Mano, <sup>3</sup>Centro de Tecnologia da Informação Renato Archer (R.O2.D3.2)

**11:45** **Exploring Homotriazine derivatives as potential liquid crystal anisotropic emitters with delayed fluorescence** Gustavo Sérgio dos Santos<sup>1</sup>, Eduard Westphal<sup>1</sup>, Ivan H. Bechtold<sup>1</sup>, Harald Bock<sup>2</sup>; <sup>1</sup>Universidade Federal de Santa Catarina, <sup>2</sup>Centre de Recherche Paul-Pascal (R.O2.D3.3)

**12:00** **The case study of Nematic – Smectic C transition investigation in Isoxazoles and Isoxazolines 3,5-diarylsubstituted Liquid Crystalline Esters.** Aloir Antonio Merlo<sup>1</sup>, Rafaela Raupp da Rosa<sup>2</sup>, Arthur R. Piasson<sup>1</sup>, Noel A. Clark<sup>3</sup>, Caroline Sabrine Batista Weber<sup>1</sup>, David M. Walba<sup>3</sup>; <sup>1</sup>Universidade Federal do Rio Grande do Sul, <sup>2</sup>Faculty of Science and Technology, University NOVA of Lisbon, <sup>3</sup>University of Colorado Boulder (R.O2.D3.4)

**12:15** **Study and optical characterization of the poly (3-methylthiophene) electrochemically synthesized** Ruth Guimarães da Silva Soares<sup>1</sup>, Júlio Goulart dos Santos<sup>1</sup>, Francisco Nascimento Silva<sup>1</sup>, Cássio Araújo Nascimento<sup>1</sup>, Romildo Jerônimo Ramos<sup>1</sup>, Eralci Moreira Therézio<sup>1</sup>; <sup>1</sup>Universidade Federal de Mato Grosso (R.O2.D3.5)

SESSION R.03.D3 (14:00 - 16:00) - Room Mangaba

**14:00** **Green Solvents from Renewable Feedstocks for Stable Organic Electronics** Derya Baran<sup>1</sup>; <sup>1</sup>King Abdullah University of Science & Technology (R.O3.D3.1\*)

**14:30** **Electronic Transport in Organic Solar Cells: J-V Analytical Models and Electric Transient Measurements** Roberto Mendonça Faria<sup>1</sup>, Daniel Roger Amorim<sup>2</sup>, Mariana Richelle Pereira da Cunha<sup>3</sup>, Douglas José Coutinho<sup>1</sup>, Gregório Couto Faria<sup>4,3</sup>; <sup>1</sup>Universidade Tecnológica Federal do Paraná, <sup>2</sup>Universidade Federal do Piauí, <sup>3</sup>Instituto de Física de São Carlos da Universidade de São Paulo, <sup>4</sup>Universidade de São Paulo (R.O3.D3.2)

**15:00** **Unraveling Fundamentals on Organic Electrochemical Transistors Through Thermodynamics Principles** Bianca de Andrade Feitosa<sup>1</sup>, Bruno Bassi Millan Torres<sup>2</sup>, Douglas José Coutinho<sup>3</sup>, Gregório Couto Faria<sup>2</sup>; <sup>1</sup>Escola de Engenharia de São Carlos (USP), <sup>2</sup>Instituto de Física de São Carlos - USP, <sup>3</sup>Universidade Tecnológica Federal do Paraná (R.O3.D3.3)

**15:15** **First-Principles study on the absorption characteristics of charge-transfer states in  $\alpha$ -sexithiophene:fullerene systems** Florian Steffen Günther<sup>1,2</sup>, Gareth John Moore<sup>3</sup>, Natalie Banerji<sup>2</sup>, Frank Ortmann<sup>4</sup>; <sup>1</sup>Universidade Estadual Paulista, <sup>2</sup>Universidade de São Paulo, <sup>3</sup>Universität Bern, <sup>4</sup>Technische Universität München (R.O3.D3.4)

**15:30** **Screened optimally tuned range separated hybridfunctionals for solvated molecular systems** Thiago Branquinho de Queiroz<sup>1</sup>, Reinaldo Vieira Dantas Filho<sup>1</sup>; <sup>1</sup>Universidade Federal do ABC (R.O3.D3.5)

**15:45** **Study of the influence of the dopant in the PAni thin film on the energy transfer of the PAni/P3OT interface** Júlio Goulart dos Santos<sup>1</sup>, Romildo Jerônimo Ramos<sup>1</sup>, Alexandre Marletta<sup>2</sup>, Eralci Moreira Therézio<sup>1</sup>; <sup>1</sup>Universidade Federal de Mato Grosso, <sup>2</sup>Universidade Federal de Uberlândia (R.O3.D3.6)

SESSION R.04.D3 (17:30 - 18:30) - Room Mangaba

**17:30** **Layer-by-layer film containing reduced graphene oxide and manganese dioxide nanocomposite for supercapacitor electrodes** Danilo Alves Oliveira<sup>1</sup>, Jodie L. Lutkenhaus<sup>2</sup>, José Roberto Siqueira Junior<sup>1</sup>; <sup>1</sup>Universidade Federal do Triângulo Mineiro, <sup>2</sup>Texas A&M University (R.O4.D3.1)

**17:45** **Exploring the Potential of Spray-Coated Graphene Oxide Memristors for Organic Electronics Applications** Giovanni Romeu Carvalho<sup>1</sup>, Nayton Claudinei Vicentini<sup>1</sup>, Anne Caroline de Paula Fernandes<sup>1</sup>, Camila Thomacelli Tavares<sup>1</sup>, Iuri Kistenmacher Machado<sup>1</sup>, Marina Costa Totti<sup>1</sup>, Alessandro Henrique de Lima<sup>2</sup>, Cristiano Legnani<sup>1</sup>, Indhira Oliveira Maciel<sup>1</sup>, Benjamin Fragneaud<sup>1</sup>, Welber Gianini Quirino<sup>1</sup>; <sup>1</sup>Universidade Federal de Juiz de Fora, <sup>2</sup>Universidade Federal de Juiz de Fora (UFJF) (R.O4.D3.2)

**18:00** **Ultrathin Surface-Supported Metal-Organic Framework Heterojunctions for Novel Hybrid Electronics Based on Rolled-up Nanomembranes** Luiz Gustavo Simão Albano<sup>1</sup>, Tatiana Parra Vello<sup>1</sup>, Ricardo Magno Lopes da Silva<sup>1</sup>, Davi Henrique Starnini de Camargo<sup>1</sup>, Gabriel Ravanhani Schleder<sup>1</sup>, Adalberto Fazzio<sup>1</sup>, Christof Wöll<sup>2</sup>, Carlos C.B. Bufon<sup>3</sup>; <sup>1</sup>Brazilian Center for Research in Energy and Materials, <sup>2</sup>Karlsruhe Institute of Technology, <sup>3</sup>Universidade Presbiteriana Mackenzie (R.O4.D3.3)

**18:15** **Reservoir computing: Using conjugated polymers for constructing physical reservoirs** Rafael Francisco Santiago De Souza<sup>1</sup>, Gregório Couto Faria<sup>2,3</sup>, Bruno Bassi Millan Torres<sup>1</sup>; <sup>1</sup>Instituto de Física de São Carlos - USP, <sup>2</sup>Universidade de São Paulo, <sup>3</sup>Instituto de Física de São Carlos da Universidade de São Paulo (R.O4.D3.4)

THURSDAY, OCTOBER 05

\* Invited Lecture

SESSION R.01.D4 (08:30 - 10:15) - Room Mangaba

**08:30** **Femtosecond-laser processing of diamond for photonic applications** Cleber Renato Mendonça<sup>1</sup>, Filipe Assis Couto<sup>1</sup>, Lucas Konaka Nolasco<sup>1</sup>, Juliana Mara Pinto Almeida<sup>2</sup>, Charlie Oncebay<sup>3</sup>, Sérgio Ricardo Muniz<sup>1</sup>; <sup>1</sup>Universidade de São Paulo, <sup>2</sup>Univerdade Federal de São Carlos, <sup>3</sup>National University of Engineering, (R.O1.D4.1\*)

**09:00** **Conformation of polyethyleneimine (PEI) interlayers used in organic electronics probed by SFG vibrational spectroscopy** Claudia Santana Gonçalves Ferreira<sup>1</sup>, Florian Steffen Günther<sup>2</sup>, Paulo Barbeitas Miranda<sup>1</sup>; <sup>1</sup>Universidade de São Paulo, <sup>2</sup>Universidade Estadual Paulista (R.O1.D4.2)

**09:15** **Nonlinear optical characterization of dipolar Imidazo[4,5-b]pyridine molecules** Orlando David Marbello Ospina<sup>1</sup>, André Gasparotto Pelosi<sup>1</sup>, Leandro Henrique Zucolotto Cocca<sup>2,1</sup>, João Victor Pereira Valverde<sup>1</sup>, Sandrine Pigue<sup>3</sup>, Leonardo De Boni<sup>1</sup>, Cleber Renato Mendonça<sup>4</sup>; <sup>1</sup>Instituto de Física de São Carlos - USP, <sup>2</sup>Universidade Federal de Goiás, <sup>3</sup>Université Paris Saclay, <sup>4</sup>Universidade de São Paulo (R.O1.D4.3)

**09:30** **Mapping the electric field within polymeric transistors by sum-frequency generation microscopy** Marcos da Silva Sousa<sup>1</sup>, Paulo Barbeitas Miranda<sup>2</sup>; <sup>1</sup>Instituto de Física de São Carlos- USP, <sup>2</sup>Universidade de São Paulo (R.O1.D4.4)

**09:45** **Direct Laser Writing Fabrication and Thermo-Optic Characterization of Polymeric Microresonators** Gabriel Henrique Armando Jorge<sup>1</sup>, Filipe Assis Couto<sup>2</sup>, Cleber Renato Mendonça<sup>2</sup>; <sup>1</sup>Escola de engenharia de São Carlos - Universidade de São Paulo, <sup>2</sup>Universidade de São Paulo (R.O1.D4.5)

**10:00** **Nonlinear refraction spectrum of resins used in direct laser writing** RENAN SOUZA CUNHA<sup>1</sup>, João Victor Pereira Valverde<sup>1</sup>, Lino Misoguti<sup>1</sup>, Leonardo De Boni<sup>1</sup>, Cleber Renato Mendonça<sup>1</sup>; <sup>1</sup>Instituto de Física de São Carlos - USP (R.O1.D4.6)

**SYMPOSIUM S - Eco-design Strategies of Bio-Polymeric/Nanocellulose Materials: from fundamental aspects to marketing**

**MONDAY, OCTOBER 02**

\* Invited Lecture

*SESSION S.O1.D1 (11:00 - 12:45) - Room Tamarindo*

**11:00 Cellulose nanomaterials and advanced applications** [Alain Dufresne](#)<sup>1</sup>; <sup>1</sup>Institut Polytechnique de Grenoble (S.O1.D1.1\*)

**11:27 Cellulose nanofibers-based composites for application as electronic devices** [Daniel Pasquini](#)<sup>1</sup>; <sup>1</sup>Universidade Federal de Uberlândia (S.O1.D1.2\*)

**11:41 Cellulose/Graphene Oxide Composites: rheological characterization of dispersions and mechanical properties of selfsustained films** [Cibele Carneiro Pessan](#)<sup>1</sup>, Juliana da Silva Bernardes<sup>2,3</sup>, Sílvia Helena Prado Bettini<sup>4</sup>, Edson Roberto Leite<sup>2,4</sup>; <sup>1</sup>Nanox Tecnologia SA, <sup>2</sup>Brazilian Center for Research in Energy and Materials, <sup>3</sup>Brazilian Nanotechnology National Laboratory, <sup>4</sup>Federal University of Sao Carlos (S.O1.D1.3)

**11:53 Large-scale graphene synthesis using lignin as precursor** [Joyce Rodrigues Araújo](#)<sup>1</sup>, Oleksii Kuznetsov<sup>1</sup>, Alexander Martins Silva<sup>1</sup>, Braulio Soares Archanjo<sup>1</sup>, Renata Simao<sup>2</sup>; <sup>1</sup>Instituto Nacional de Metrologia, Qualidade e Tecnologia, <sup>2</sup>Universidade Federal do Rio de Janeiro (S.O1.D1.4)

**12:05 Modified matrices of gellan gum doped with lanthanide ions for the production of sensors by 3D printing** [Francisco Recco Torres](#)<sup>1</sup>, Roberta Silva Pugina<sup>1</sup>, Molíria Vieira dos Santos<sup>1</sup>, Hernane da Silva Barud<sup>2</sup>, José Maurício Almeida Caiuti<sup>1</sup>; <sup>1</sup>Universidade de São Paulo, <sup>2</sup>UNIVERSIDADE DE ARARAQUARA (S.O1.D1.5)

**12:17 Nanocellulose materials for 2D and 3D applications** [Gilberto Siqueira](#)<sup>1</sup>; <sup>1</sup>Swiss Federal Laboratories for Materials Science and Technology (S.O1.D1.6\*)

*SESSION S.O2.D1 (14:00 - 16:00) - Room Tamarindo*

**14:00 Bio-polymer based hybrid materials as functional adsorbents and delivery tools.** [Gulaim A Seisenbaeva](#)<sup>1</sup>; <sup>1</sup>Swedish University of Agricultural Sciences (S.O2.D1.1\*)

**14:27 Exploring the Influence of Freezing and Drying Processes on Nanocellulose-Natural Rubber Latex Fillers for Enhancing Mechanical and Physical Properties of Bionanocomposites** Gabriela Pereira De Freitas<sup>1</sup>, Julia Batista Grillo Prado<sup>1</sup>, [Pedro Ivo Cunha Claro](#)<sup>1</sup>, Amanda Alves Domingos Maia<sup>1</sup>, Marcos Vinicius Lorevice<sup>1</sup>, Rubia Figueredo Gouveia<sup>1</sup>; <sup>1</sup>Brazilian Center for Research in Energy and Materials (S.O2.D1.2)

**14:39 Electric forces as a tool for manufacturing nanostructured nanocellulose materials: thermoplastic nanocomposites, thermoformable panels and continuous filaments** [Antonio José Felix Carvalho](#)<sup>1</sup>, Emanoel Maria Santos Chiromito<sup>1</sup>, Rafael Grande<sup>1</sup>, Eliane Trovatti<sup>2</sup>; <sup>1</sup>Escola de engenharia de São Carlos - Universidade de São Paulo, <sup>2</sup>UNIVERSIDADE DE ARARAQUARA (S.O2.D1.3\*)

**14:53 Investigation of Electrochemical Performances of an Transparent and Flexible Supercapacitor** Arun K. Sebastian<sup>1</sup>, Mustehsan Beg<sup>1</sup>, Chandini Kumar<sup>1</sup>, Athul C. S. Chandran<sup>1</sup>, Achu M. Titus<sup>1</sup>, Hongnian Yu<sup>1</sup>, [Libu Manjakkal](#)<sup>1</sup>; <sup>1</sup>Edinburgh Napier University (S.O2.D1.4)

**15:05 Use of algae biomass to obtain nanocellulose and technological applications** [Nefali Lenin Villarreal Carreno](#)<sup>1</sup>, Luiza Ribeiro Santana<sup>1</sup>, Alao Valério Filho<sup>1</sup>, Guilherme Kurz Maron<sup>1</sup>, Érica da Costa Campos<sup>1</sup>, Claudio Martin Pereira de Pereira<sup>1</sup>; <sup>1</sup>Universidade Federal de Pelotas (S.O2.D1.5\*)

**15:19 Spectroscopic studies of a composite from Eu<sup>3+</sup>-doped cellulose nanocrystals/fibron for luminescent cholesteric film production** [Pedro Henrique de Lara Sanches](#)<sup>1</sup>, Francisco Recco Torres<sup>1</sup>, Molíria Vieira dos Santos<sup>1</sup>, José Maurício Almeida Caiuti<sup>1</sup>; <sup>1</sup>Universidade de São Paulo (S.O2.D1.6)

**15:31 Cellulose nanocrystals and composites: from synthetic approaches to engineering materials** Rafaela Raupp da Rosa<sup>1</sup>, Paula Isabel Pereira Soares<sup>1</sup>, Catarina Marques Mendes Almeida da Rosa Leal<sup>2,1</sup>, Joao P Borges<sup>1</sup>, Maria Helena Figueiredo Godinho<sup>1</sup>, [Susete Maria Brazão Nogueira Fernandes](#)<sup>1</sup>; <sup>1</sup>Universidade Nova de Lisboa, <sup>2</sup>Instituto Superior de Engenharia de Lisboa (S.O2.D1.7\*)

**TUESDAY, OCTOBER 03**

\* Invited Lecture

*SESSION S.O3.D2 (14:00 - 15:00) - Room Tamarindo*

**14:00 Nanostructured Polysaccharides Materials for Water Purification** [SABU THOMAS](#)<sup>1</sup>; <sup>1</sup>Mahatma Gandhi University (S.O3.D2.1\*)



**14:27 Non-toxic Aerogel Comprising Nanocellulose and Natural Rubber Latex for Removal of Heavy Metal in Aqueous Environmental** Marcos Vinicius Lorevice<sup>1</sup>, Pedro Ivo Cunha Claro<sup>1</sup>, Nadia Andrade Aleixo<sup>1</sup>, Livia Salles Martins<sup>1</sup>, Marcella Torres Maia<sup>1</sup>, Amanda Alves Domingos Maia<sup>1</sup>, Ana Paula Stelzer de Oliveira<sup>1</sup>, Diego Stéfani Teodoro Martinez<sup>1</sup>, [Rubia Figueredo Gouveia](#)<sup>1</sup>; <sup>1</sup>Brazilian Center for Research in Energy and Materials (S.O3.D2.2)

**14:39 Surface-engineered nanocellulose towards improved kinetic stability of Pickering emulsions** [Caio Gomide Ottoni](#)<sup>1</sup>; <sup>1</sup>Universidade Federal de São Carlos (S.O3.D2.3\*)

SESSION S.O4.D2 (17:30 - 18:45) - Room Tamarindo

**17:30 Bacterial cellulose. From biomedical to photonics applications** [Sidney José Lima Ribeiro](#)<sup>1</sup>; <sup>1</sup>Universidade Estadual Paulista / Instituto de Química (S.O4.D2.1\*)

**17:44 Ecodesign-Inspired Nanocellulose Production: High Efficiency and Customizable Properties with Enzyme-Based Platform Technologies** [Valdeir Arantes](#)<sup>1</sup>; <sup>1</sup>Universidade de São Paulo (S.O4.D2.2\*)

**17:58 Bacterial cellulose, fibroin and other biocompatible substrates for organic devices.** [Marco Cremona](#)<sup>1</sup>; <sup>1</sup>Pontifícia Universidade Católica do Rio de Janeiro (S.O4.D2.3\*)

**18:12 Centrifugal casting: An innovative, green method for producing bioplastics** Erica Oliveira da Silva<sup>1</sup>, Caio Gomide Ottoni<sup>2</sup>, [Lizandro Manzano](#)<sup>1</sup>; <sup>1</sup>Instituto Federal de Educação, Ciência e Tecnologia do Amazonas, <sup>2</sup>Universidade Federal de São Carlos (S.O4.D2.4)

**18:24 Bacterial nanocellulose: From fundamental aspects to marketing** [Hernane da Silva Barud](#)<sup>1</sup>; <sup>1</sup>UNIVERSIDADE DE ARARAQUARA (S.O4.D2.5\*)

TUESDAY, OCTOBER 03

*SESSION T/U.01.D2 (09:45 - 10:45) - Room Pitanga*

**09:45 Raman Spectroscopy, FT-IR, TGA-DTA and DFT calculation on the complex of Monoethanolamine with the transition metal Cu (II).** [Jonathan Schavetock](#)

[Branco](#)<sup>1</sup>, [Adriano Bruzutti de Siqueira](#)<sup>1</sup>, [Jorge L. B. Faria](#)<sup>1</sup>, [Ricardo R. F. Bento](#)<sup>1</sup>; <sup>1</sup>Universidade Federal de Mato Grosso **(T/U.O1.D2.1)**

**10:00 Mineral nanoparticles as plant stress mitigation and growth promotion agents** [Vadim](#)

[Kessler](#)<sup>1</sup>; <sup>1</sup>Swedish University of Agricultural Sciences / Sveriges Lantbruksuniversitet **(T/U.O1.D2.2)**

**10:15 Additive manufactured microfluidic device for electrochemical detection of carbendazim in honey**

**samples** [Bruno Campos Janegitz](#)<sup>1</sup>, [Luiz Ricardo Guterres e Silva](#)<sup>2</sup>, [Jéssica Santos Stefano](#)<sup>2</sup>, [Robert D. Crapnell](#)<sup>3</sup>, [Craig E. Banks](#)<sup>3</sup>; <sup>1</sup>Universidade Federal de São Carlos - Campus Araras, <sup>2</sup>Univerdade Federal de São Carlos, <sup>3</sup>Manchester Metropolitan University **(T/U.O1.D2.3)**

**SYMPOSIUM U - Sustainable Production of Nanomaterials  
and Ink Formulations for Affordable, Efficient, and  
Reusable Printed Electronics**

**TUESDAY, OCTOBER 03**

*SESSION T/U.01.D2 (09:45 - 10:45) - Room Pitanga*

**10:30 Bio-sourced Nanomaterials and Solvents for  
Electronics and Energy Applications** Carla Cristina

Decandio<sup>1</sup>, Monica Jung de Andrade<sup>2</sup>; <sup>1</sup>Merck S.A., <sup>2</sup>Millipore  
Sigma (T/U.01.D2.4)

*SESSION U.02.D2 (11:15 - 12:30) - Room Siriguela*

**11:15 Evaluation the environmental impact of  
electronics and how printed electronics can improve  
sustainability** Jeff Kettle<sup>1</sup>; <sup>1</sup>University of Glasgow (U.02.D2.1\*)

**11:45 Sustainable Devices: From Ink Formulation to  
Their Printability** João Coelho<sup>1,2</sup>, Emanuel Abreu Antunes

Carlos<sup>1</sup>; <sup>1</sup>FCT NOVA: NOVA School of Science and Technology, <sup>2</sup>Facultad  
de Física - Universidad de Sevilla (U.02.D2.2\*)

**12:15 Piezoresistive ABS/CNTs Nanostructured 3D  
Printed Sensor for Industry 4.0** Luciano José Barbosa

Quaresma<sup>1,2</sup>, Rosieleme Silva Dias<sup>2</sup>, Dhonata Sebastião Caldas Oliveira<sup>1,2</sup>,  
Kelly Costa Alves<sup>1,2</sup>, Marcos Allan Leite dos Reis<sup>1,2</sup>, Waldeci  
Paraguassu<sup>1</sup>; <sup>1</sup>Universidade Federal do Pará, <sup>2</sup>Laboratório de  
Nanoestruturação 3D (U.02.D2.3)

**WEDNESDAY, OCTOBER 04**

\* Invited Lecture

*SESSION U.02.D3 (11:15 - 12:30) - Room Pitanga*

**11:15 Additive manufacturing of batteries:**

**Comparison between fabrication processes** Sergio

Pinilla<sup>1,2</sup>, Sean Ryan<sup>1</sup>, Lorcan McKeon<sup>1</sup>, Meiyang Liang<sup>1</sup>, Ahin Roy<sup>3,1</sup>,  
Sebastien Vaesen<sup>1</sup>, Valeria Nicolosi<sup>1</sup>; <sup>1</sup>Trinity College University of  
Dublin, <sup>2</sup>IMDEA Energy, <sup>3</sup>Indian Institute of Technology  
Kharagpur (U.02.D3.1\*)

**11:45 Production and characterization of graphene-**

**based hybrid inks** Jade Helena Campos Augstroz<sup>1,2</sup>, Evelyn Alves

Nunes Simonetti<sup>1,2</sup>, André Petraconi<sup>3</sup>, Gilmar Patrocínio Thim<sup>3</sup>, Gilberto  
Petraconi Filho<sup>3</sup>, Douglas Marcel Gonçalves Leite<sup>2</sup>; <sup>1</sup>Instituto Federal de  
Educação, Ciência e Tecnologia de São Paulo, <sup>2</sup>Instituto Tecnológico de  
Aeronáutica, <sup>3</sup>Instituto Tecnológico de Aeronáutica (U.02.D3.2)

**12:00 Electrodeposition of manganese oxide on  
paper-based laser-induced graphene for sustainable**

**supercapacitor fabrication** Maykel dos Santos Klem<sup>1,2</sup>, João  
Coelho<sup>1</sup>, Rodrigo Ferrão de Paiva Martins<sup>1</sup>, Neri Alves<sup>2</sup>; <sup>1</sup>FCT NOVA:  
NOVA School of Science and Technology, <sup>2</sup>Universidade Estadual Paulista  
"Júlio de Mesquita Filho" - Faculdade de Ciências e Tecnologia - Campus de  
Presidente Prudente (U.02.D3.3)

**12:15 Laser-Induced Graphene for flexible tracks  
and biodegradable printed electrolyte gated**

**transistor** Rogério Miranda Morais<sup>1</sup>, Mayk Rodrigues Do Nascimento<sup>1</sup>,  
Douglas Henrique Vieira<sup>2</sup>, Maykel dos Santos Klem<sup>3</sup>, Maíza Silva  
Ozório<sup>1</sup>, Neri Alves<sup>1</sup>; <sup>1</sup>Universidade Estadual Paulista Júlio de Mesquita Filho  
- Faculdade de Ciências e Tecnologia - Campus de Presidente  
Prudente, <sup>2</sup>Universidade Estadual Paulista &quot;Júlio de Mesquita  
Filho&quot; - Faculdade de Ciências e Tecnologia - Campus de Presidente  
Prudente, <sup>3</sup>Universidade Estadual Paulista "Júlio de Mesquita Filho" -  
Faculdade de Ciências e Tecnologia - Campus de Presidente  
Prudente (U.02.D3.4)

**MONDAY, OCTOBER 02**

\* Invited Lecture

*SESSION V.01.D1 (11:15 - 12:30) - Room Pitanga*

**11:15 Characterization of Novel Nonlinear Optical Materials** Sanaz Faryadras<sup>1</sup>, Eric W Van Straylight<sup>1</sup>, David J Hagan<sup>1</sup>; <sup>1</sup>University of Central Florida (V.O1.D1.1\*)

**11:45 Nanomaterials properties for photonics applications** Isabel Cristina dos Santos Carvalho<sup>1</sup>; <sup>1</sup>Pontificia Universidade Católica do Rio de Janeiro (V.O1.D1.2\*)

**12:15 Advanced Solid-State NMR Characterization of Glass-Ceramic-Nanocomposites: Quantification of Noncrystalline Phases and Residual Glass in the Li<sub>2</sub>O-Nb<sub>2</sub>O-SiO<sub>2</sub> System** Henrik Bradtmüller<sup>1</sup>, Qiuju Zheng<sup>2</sup>, Anuraag Gaddam<sup>3</sup>, Hellmut Ecker<sup>3</sup>, Edgar Dutra Zanotto<sup>1</sup>; <sup>1</sup>Univeridade Federal de São Carlos, <sup>2</sup>Qilu University of Technology, <sup>3</sup>Universidade de São Paulo (V.O1.D1.3)

*SESSION V.02.D1 (14:00 - 16:00) - Room Pitanga*

**14:00 Relationship between structure and nonlinear optical response in nanostructured materials** Raúl Rangel-Rojó<sup>1</sup>, Karen Yahaira Raygoza-Esquivel<sup>2</sup>, Jacob Licea-Rodríguez<sup>1</sup>, Israel Rocha-Mendoza<sup>1</sup>, Paulina Segovia<sup>1</sup>, Alicia Oliver<sup>3</sup>, Tiziana Cesca<sup>4</sup>, Giovanni Mattei<sup>4</sup>; <sup>1</sup>Centro de Investigación Científica y de Educación Superior de Ensenada, <sup>2</sup>Universidad Autónoma de Baja California, <sup>3</sup>Universidad Nacional Autónoma de México, <sup>4</sup>Università degli Studi di Padova (V.O2.D1.1\*)

**14:30 New materials for three-dimensional nanothermometry** Daniel Jaque<sup>1</sup>; <sup>1</sup>Universidad Autónoma de Madrid (V.O2.D1.2\*)

**15:00 Fabrication and assessment of mechanically flexible 1D photonic crystals and active planar waveguides** Giacomo Zanetti<sup>1,2</sup>, Alice Carlotto<sup>3,2</sup>, Lam Thi Ngoc Tran<sup>3,2,4</sup>, Anna Szczyrek<sup>2</sup>, Bartosz Babiarczuk<sup>5</sup>, Osman Sayginer<sup>6</sup>, Stefano Varas<sup>2</sup>, Justyna Krzak<sup>5</sup>, Oreste Salvatore Bursi<sup>1</sup>, Daniele Zonta<sup>1</sup>, Anna Luiza Lukowiak<sup>7</sup>, Giancarlo C. Righini<sup>8</sup>, Maurizio Ferrari<sup>2</sup>, Giacomo Baldi<sup>1</sup>, Matteo Bonomo<sup>9</sup>, Simone Galliano<sup>9</sup>, Claudia Barolo<sup>9</sup>, Silvia M. Pietralunga<sup>3</sup>, Alessandro Chiasera<sup>3</sup>; <sup>1</sup>Università degli Studi di Trento, <sup>2</sup>IFN-CNR, CSMFO Lab and FBK Photonics Unit, Trento, <sup>3</sup>Consiglio Nazionale delle Ricerche - Istituto di Fotonica e Nanotecnologie, <sup>4</sup>Dept. of Materials Technology, Faculty of Applied Sciences, HCMC University of Technology and Education, <sup>5</sup>Dept. of Mechanics, Materials and Biomedical Engineering, Wrocław University of Science and Technology, <sup>6</sup>Technische Universität München, <sup>7</sup>INTIBS, PAS, <sup>8</sup>IFAC-CNR, <sup>9</sup>Università degli Studi di Torino (V.O2.D1.3\*)

**15:30 Functional nanostructured tungsten oxides films by RF-sputtering** Silvia Maria Pietralunga<sup>1</sup>, Alice Carlotto<sup>2,3</sup>, Hao Chen<sup>4</sup>, Matteo Pedroni<sup>1</sup>, Stefano Varas<sup>3</sup>, Lam Thi Ngoc Tran<sup>2,3,5</sup>, Giorgio Speranza<sup>3</sup>, Cristina Armellini<sup>3</sup>, Osman Sayginer<sup>6</sup>, Alessandro Chiasera<sup>3</sup>, Gian Luca Chiarello<sup>7</sup>, MAURIZIO FERRARI<sup>3</sup>, Alberto Tagliaferri<sup>4</sup>, Espedito Vassallo<sup>1</sup>; <sup>1</sup>Consiglio Nazionale delle Ricerche, <sup>2</sup>Consiglio Nazionale delle Ricerche - Istituto di Fotonica e Nanotecnologie, <sup>3</sup>IFN-CNR, CSMFO Lab and FBK Photonics Unit, Trento, <sup>4</sup>Politecnico di Milano, <sup>5</sup>Dept. of Materials Technology, Faculty of Applied Sciences, HCMC University of Technology and Education, <sup>6</sup>Technische Universität München, <sup>7</sup>Università degli Studi di Milano (V.O2.D1.4\*)

*SESSION V.03.D1 (17:30 - 18:30) - Room Pitanga*

**17:30 Carbon dots derived from Methyl red as generator of Reactive Oxygen Species and its application as photosensitizer in Antimicrobial Photodynamic Therapy against fungi.** Walter Muniz Júnior<sup>1</sup>, Raul Lima Ferreira<sup>1</sup>, Maurício Casanova<sup>1</sup>, Melissa Landell<sup>1</sup>, Italo Nunes de Oliveira<sup>1</sup>; <sup>1</sup>Universidade Federal de Alagoas (V.O3.D1.1)

**17:45 Free-standing ZnO nanowire/graphite membranes: time resolved photoluminescence** Ezequiel Tosi<sup>1</sup>, Nadia Celeste Vega<sup>2</sup>, Benjamin Tilmann<sup>3</sup>, Guillermo Rozas<sup>4</sup>, Oscar Marin Ramirez<sup>2</sup>, Gustavo Grinblat<sup>5</sup>, Stefan Maier<sup>3</sup>, David Comedi<sup>2</sup>; <sup>1</sup>ESISNA Group, Instituto de Ciencia de Materiales de Madrid, <sup>2</sup>Instituto de Física del Noroeste Argentino, <sup>3</sup>Nanoinstitut Munich, Faculty of Physics, Ludwig-Maximilians - Universität München, <sup>4</sup>Centro Atómico Bariloche and Instituto Balseiro, Comisión Nacional de Energía Atómica - Universidad Nacional de Cuyo, <sup>5</sup>Facultad de Ciencias Exactas y Naturales, Unoversidad de Buenos Aires (V.O3.D1.2)

**18:00 Second Harmonic Scattering of Nanoscale Materials : From Incoherent to Coherent Scattering** Pierre-Francois Brevet<sup>1</sup>; <sup>1</sup>University Claude Bernard Lyon 1 (V.O3.D1.3\*)

**TUESDAY, OCTOBER 03**

\* Invited Lecture

*SESSION V.02.D2 (11:15 - 12:30) - Room Pitanga*

**11:15 Recent advances in engineering nanoparticles in optical fibers** Zhuorui Lu<sup>1</sup>, Natalia Vakula<sup>2</sup>, Michèle Ude<sup>1</sup>, Martiane Cabie<sup>3</sup>, Thomas Neisius<sup>3</sup>, François Orange<sup>4</sup>, Franck Pigeonneau<sup>5</sup>, Laetitia Petit<sup>2</sup>, Wilfried Blanc<sup>1</sup>; <sup>1</sup>Centre national de la recherche scientifique, <sup>2</sup>Tampere University, <sup>3</sup>Aix-Marseille Université, <sup>4</sup>Université Côte d'Azur, <sup>5</sup>École des Mines de Paris (V.O2.D2.1\*)

**11:45 Earth-Abundant Layered Materials: Vibrational Properties and Nanophotonics Applications** Ingrid David Barcelos<sup>1</sup>; <sup>1</sup>Brazilian Center for Research in Energy and Materials (V.O2.D2.2\*)

**12:15** **Nd<sup>3+</sup>-Yb<sup>3+</sup>:YAG thermal sensing for in vivo experiments: a comparison between materials synthesized by modified Pechini and solvothermal methods** [Itádia Vallerini Barbosa<sup>1</sup>](#), [Geraldine Dantelle<sup>2</sup>](#), [Alain Ibanez<sup>2</sup>](#), [Lauro June Queiroz Maia<sup>1</sup>](#); <sup>1</sup>Universidade Federal de Goiás, <sup>2</sup>Université Grenoble Alpes (**V.O2.D2.3**)

SESSION V.O3.D2 (14:00 - 15:00) - Room Pitanga

**14:00** **Photonic Nanostructures for Energy, Sensing, and Photothermal Applications** [T. Randall Lee<sup>1</sup>](#); <sup>1</sup>University of Houston (**V.O3.D2.1\***)

**14:30** **Active aerosols to control the propagation of light** [Jake Fontana<sup>1</sup>](#); <sup>1</sup>U.S. Naval Research Laboratory (**V.O3.D2.2\***)

SESSION V.O4.D2 (17:30 - 18:30) - Room Pitanga

**17:30** **Incorporating specific nanoparticles to induce new functionalities in optical fibers** [Younes Messaddeq<sup>1</sup>](#); <sup>1</sup>Université Laval (**V.O4.D2.1\***)

**18:00** **Managing Nanomaterials for Boosted Random Lasers Performance: Basics and Multidisciplinary Applications** [Anderson S. L. Gomes<sup>1</sup>](#); <sup>1</sup>Universidade Federal de Pernambuco (**V.O4.D2.2\***)

## WEDNESDAY, OCTOBER 04

SESSION V.O1.D3 (09:45 - 10:45) - Room Pitanga

**09:45** **Carbon nanodots as active laser media** [Alice Sciortino<sup>1</sup>](#), [Antonino Madonia<sup>2</sup>](#), [Ashim Pramanik<sup>1</sup>](#), [Angela Terracina<sup>1</sup>](#), [Gianluca Minervini<sup>2</sup>](#), [Annamaria Panniello<sup>2</sup>](#), [Marco Cannas<sup>1</sup>](#), [Niccolò Mauro<sup>1</sup>](#), [Marinella Striccoli<sup>2</sup>](#), [Fabrizio Messina<sup>3</sup>](#); <sup>1</sup>Università degli Studi di Palermo, <sup>2</sup>CNR-IPCF, <sup>3</sup>University of Palermo (**V.O1.D3.1**)

**10:00** **Ultrasmall Au<sub>6</sub> Nanoclusters with Multifunctional Optoelectrical Properties and Quantum Coherence** [Alice Sciortino<sup>1</sup>](#), [Sourov Chandra<sup>2</sup>](#), [Pietro Castronovo<sup>1,3</sup>](#), [Susobhan Das<sup>2</sup>](#), [Ahmed Faisal<sup>2</sup>](#), [Diao Li<sup>2</sup>](#), [Arijit Jana<sup>4</sup>](#), [Ville Liljestrom<sup>2</sup>](#), [Hua Jiang<sup>2</sup>](#), [L.-S. Johansson<sup>2</sup>](#), [Xi Chen<sup>2</sup>](#), [nonappa<sup>2</sup>](#), [T. Pradeep<sup>2</sup>](#), [Marco Cannas<sup>1</sup>](#), [Bo Peng<sup>2</sup>](#), [Ras Robin<sup>2</sup>](#), [Sun Zhipei<sup>2</sup>](#), [Olli Ikkala<sup>2</sup>](#), [Fabrizio Messina<sup>3</sup>](#); <sup>1</sup>Università degli Studi di Palermo, <sup>2</sup>Aalto University / Aalto-yliopisto, <sup>3</sup>University of Palermo, <sup>4</sup>Indian Institute of Technology Madras (**V.O1.D3.2**)

**10:15** **Photochromic Behavior of Cationic Naphthalene Diimides** [Thaísa Brandão Ferreira de Moraes<sup>1,2</sup>](#), [Rafael Gagliardi Antoneli<sup>1</sup>](#), [Luca Michael Sihn<sup>1</sup>](#), [Christophe Bucher<sup>2</sup>](#), [Grégoire Jean-François Demets<sup>1</sup>](#), [Jonathan W. Steed<sup>3</sup>](#), [Eduardo Rezende Triboni<sup>1</sup>](#); <sup>1</sup>Universidade de São Paulo, <sup>2</sup>École Normale Supérieure de Lyon, <sup>3</sup>Durham University (**V.O1.D3.3**)

**10:30** **Photonic inorganic materials containing lanthanides for random lasers, luminescence nanothermometry and optical waveguides** [Lauro June Queiroz Maia<sup>1</sup>](#); <sup>1</sup>Universidade Federal de Goiás (**V.O1.D3.4**)

SESSION V.O3.D3 (14:00 - 16:00) - Room Pitanga

**14:00** **Chalcogenide glasses AVBVI and optical fibers on their base with low optical loss** [Igor Skripachev<sup>1</sup>](#), [Mihail Churbanov<sup>1</sup>](#), [V. Plotnichenko<sup>2</sup>](#); <sup>1</sup>Institute of Chemistry of High Purity Substances, Russian Academy of Sciences, <sup>2</sup>Fiber Optics Research Center, Moscow (**V.O3.D3.1**)

**14:15** **The role of Eu<sup>2+</sup>/Eu<sup>3+</sup> ratio in Eu<sup>2+</sup> based persistent phosphors explored by the case of SrAl<sub>2</sub>O<sub>4</sub>:EuDy** [Davi Sampaio<sup>1</sup>](#), [Jerre Cristiano Alves dos Santos<sup>2</sup>](#), [Deyvid do Carmo Silva<sup>3</sup>](#), [John Ballato<sup>4</sup>](#), [Ronald Santos Da Silva<sup>1</sup>](#); <sup>1</sup>Universidade Federal de Alagoas, <sup>2</sup>Universidade Federal do Recôncavo da Bahia, <sup>3</sup>Universidade Federal de Sergipe, <sup>4</sup>Clemson University (**V.O3.D3.2**)

**14:30** **Temperature effects on the Raman spectrum of lead metasilicate glass, crystals and melt: vibrational anharmonicity and configurational transformation.** [Paulo Sergio Pizani<sup>1</sup>](#), [Thiago Rodrigues da Cunha<sup>2</sup>](#), [RAFAELLA BARTZ PENA<sup>3,4</sup>](#), [Ariano De Giovanni Rodrigues<sup>1</sup>](#), [Adalberto Picinin<sup>1</sup>](#), [José Pedro Rino<sup>1</sup>](#); <sup>1</sup>Universidade Federal de São Carlos, <sup>2</sup>Universidade Federal de São Carlos, <sup>3</sup>Brazilian Center for Research in Energy and Materials, <sup>4</sup>Brazilian Synchrotron Light Laboratory (**V.O3.D3.3**)

**14:45** **Magneto-optical sensors: Design and Development** [Marcelo Nalin<sup>1</sup>](#), [Douglas Faza Franco<sup>1</sup>](#); <sup>1</sup>Universidade Estadual Paulista (**V.O3.D3.4**)

**15:00** **Influence of Al/P ratio on the luminescence properties of erbium-doped alumino-phosphoro-silicate glasses obtained by sol-gel method** [Beatriz Helena Costa<sup>1</sup>](#), [Gabriel Toshiaki Tayama<sup>1,2</sup>](#), [Victor Anthony Garcia Rivera<sup>2</sup>](#), [Younes Messaddeq<sup>3,4</sup>](#), [Silvia Helena Santagneli<sup>1</sup>](#); <sup>1</sup>Universidade Estadual Paulista / Instituto de Química, <sup>2</sup>Centre d'optique, Photonique et Laser - Université Laval, <sup>3</sup>Université Laval (**V.O3.D3.5**)

**15:15** **Co/Nb modified barium titanate synthesis via sol-gel method for transparent photonics applications** [Rodrigo Nunes de Souza<sup>1</sup>](#), [Alysson Martins Almeida Silva<sup>1</sup>](#), [Luiz Fernando Lima<sup>2</sup>](#); <sup>1</sup>Universidade de Brasília, <sup>2</sup>Universidade Federal de Minas Gerais (**V.O3.D3.6**)

**15:30** **Two-photon absorption in colloidal nanomaterials** [Lazaro A Padilha<sup>1</sup>](#), [Arthur Alo<sup>1</sup>](#), [Jonathan Cotrino Lemus<sup>1</sup>](#), [Claudevan Alvino de Sousa<sup>2</sup>](#); <sup>1</sup>Universidade Estadual de Campinas, <sup>2</sup>Gleb Wataghin Physics Institute, University of Campinas (**V.O3.D3.7**)

SESSION V.O4.D3 (17:30 - 18:30) - Room Pitanga

**17:30** **Optimization of luminescence intensity of glutathione capped AgIn<sub>5</sub>S<sub>8</sub>@ZnS quantum dot alloys in aqueous medium** [Camila Caroline Lopes Arruda<sup>1</sup>](#), [Denilson de Vasconcelos Freitas<sup>2</sup>](#), [Felipe Leon Nascimento de Sousa<sup>2</sup>](#), [Daniela M. A. Ferraz Navarro<sup>1</sup>](#), [Marcelo Navarro<sup>1</sup>](#); <sup>1</sup>Universidade Federal de Pernambuco, <sup>2</sup>Centro de tecnologias estratégicas do Nordeste (**V.O4.D3.1**)

**17:45 Nonlinear optical properties of colloidal perovskite nanoplatelets superlattices** [Claudevan Alvino de Sousa](#)<sup>1</sup>, Brenner Rodrigo de Carvalho Vale<sup>1</sup>, Raphael Fernando Mora<sup>2</sup>, Luiz Gustavo Bonato<sup>1</sup>, André Felipe Vale da Fonseca<sup>2</sup>, Ana Flávia Nogueira<sup>2</sup>, Lazaro A Padilha<sup>1</sup>; <sup>1</sup>Gleb Wataghin Physics Institute, University of Campinas, <sup>2</sup>Universidade Estadual de Campinas (V.O4.D3.2)

**18:00 Optical and structural properties of heterojunctions based on MPA-capped silver indium sulfide QDs** [Luana Beatriz Correia de Oliveira](#)<sup>1</sup>, Felipe Leon Nascimento de Sousa<sup>2</sup>, Maria Eduarda Ribeiro da Silva<sup>1</sup>, Denilson de Vasconcelos Freitas<sup>2</sup>, Larissa Giovanna Campos Silva<sup>3</sup>, Leonardo José Lins Maciel<sup>2</sup>, Marcelo Navarro<sup>1</sup>, Giovanna Machado<sup>2</sup>; <sup>1</sup>Universidade Federal de Pernambuco, <sup>2</sup>Centro de tecnologias estratégicas do Nordeste, <sup>3</sup>Universidade Federal Rural de Pernambuco (V.O4.D3.3)

**18:15 In situ UV generation by upconversion nanoparticles in photopolymerizable nanocomposites for disinfection of 3D printing surfaces** [Lays de Araújo Makiyama](#)<sup>1</sup>, Karina Maria<sup>1</sup>, Oscar Manoel Loureiro Malta<sup>1</sup>, Petrus Santa-Cruz<sup>1</sup>; <sup>1</sup>Universidade Federal de Pernambuco (V.O4.D3.4)

## THURSDAY, OCTOBER 05

\* Invited Lecture

*SESSION V.O1.D4 (08:30 - 10:15) - Room Pitanga*

**08:30 Photonics at high-temperature regimes with refractory materials** [Marina S. Leite](#)<sup>1</sup>; <sup>1</sup>University of California, Davis (V.O1.D4.1\*)

**09:00 Automated machine learning to improve the accuracy of luminescent thermometers** Emanuel Pinheiro dos Santos<sup>1</sup>, Roberta Silva Pugina<sup>2</sup>, Eloísa Garibalde Hilário<sup>2</sup>, Alyson J. A. Carvalho<sup>1</sup>, Carlos Jacinto<sup>3</sup>, Francisco A. M. G. Rego-Filho<sup>4</sup>, Askery Canabarro<sup>3</sup>, Anderson S. L. Gomes<sup>1</sup>, José Maurício Almeida Caiuti<sup>2</sup>, [ANDRE DE LIMA MOURA](#)<sup>3</sup>; <sup>1</sup>Universidade Federal de Pernambuco, <sup>2</sup>Universidade de São Paulo, <sup>3</sup>Universidade Federal de Alagoas, <sup>4</sup>Instituto Federal de Alagoas (V.O1.D4.2)

**09:15 Improvement of the efficiency of Si-based solar cells by applying thin films of downconversion materials** [Otávio José de Oliveira](#)<sup>1</sup>, Ana Paula de Melo Monteiro Modesto<sup>1</sup>, Marcelo Villalva<sup>2,3,4</sup>, Francisco das Chagas Marques<sup>2</sup>; <sup>1</sup>Gleb Wataghin Physics Institute, University of Campinas, <sup>2</sup>Universidade Estadual de Campinas, <sup>3</sup>University of Campinas, <sup>4</sup>School of Electrical and Computer Engineering (V.O1.D4.3)

**09:30 Sulfur quantum dots obtained by femtosecond laser ablation of elemental sulfur in water** Aldebarã Fausto Ferreira<sup>1</sup>, Gabriela da Costa Carvalho<sup>1</sup>, João Paulo Barbosa de Almeida<sup>1</sup>, Vagner Bezerra dos Santos<sup>1</sup>, [Walter Mendes de Azevedo](#)<sup>1</sup>; <sup>1</sup>Universidade Federal de Pernambuco (V.O1.D4.4)

**09:45 A smart nanoplatform based on upconversion nanoparticles functionalized with europium complexes for temperature sensing** [João Antonio Oliveira Santos](#)<sup>1</sup>, Miao Liu<sup>2</sup>, Arohan Dutta<sup>2</sup>, Vivienne Tam<sup>3</sup>, Ana Maria Pires<sup>4,5</sup>, Fiorenzo Vetrone<sup>2</sup>, Sergio Antonio Marques de Lima<sup>5</sup>; <sup>1</sup>Universidade Estadual Paulista / Instituto de Química, <sup>2</sup>Institut National de la Recherche Scientifique, <sup>3</sup>McGill University, <sup>4</sup>Universidade Estadual Paulista, <sup>5</sup>Universidade Estadual Paulista Júlio de Mesquita Filho - Faculdade de Ciências e Tecnologia - Campus de Presidente Prudente (V.O1.D4.5)

**10:00 The role of intermolecular interactions in the luminescence of Eu<sup>III</sup>-phosphor incorporated in polymeric films** [Leonardo Figueiredo Saraiva](#)<sup>1</sup>, Airon Germano Bispo Junior<sup>2</sup>, Sergio Antonio Marques de Lima<sup>1</sup>, Ana Maria Pires<sup>1</sup>; <sup>1</sup>Universidade Estadual Paulista, <sup>2</sup>Universidade Estadual de Campinas (V.O1.D4.6)

MONDAY, OCTOBER 02

\* Invited Lecture

*SESSION X.01.D1 (11:15 - 12:30) - Room Pajuçara*

**11:15 Contributions of the Laboratory of Advanced Materials Chemistry – LAQMA-UFPR in layered materials, emphasizing layered double hydroxides and hydroxide salts** [Fernando Wypych](#)<sup>1</sup>; <sup>1</sup>Universidade Federal do Paraná (X.O1.D1.1\*)

**11:45 Novel two-dimensional materials from abundant minerals: adding value and strategic applications** [Bernardo Ruegger Almeida Neves](#)<sup>1</sup>, Alan Barros de Oliveira<sup>2</sup>, Ana Paula Moreira Barboza<sup>2</sup>, Elisângela Silva Pinto<sup>3</sup>, Hélio Chacham<sup>1</sup>, Karolline Aparecida de Souza Araujo<sup>3</sup>, Mariana de Castro Prado<sup>2</sup>, Mario Sergio de Carvalho Mazzoni<sup>1</sup>, Matheus Josué Souza Matos<sup>2</sup>, Ricardo Wagner Nunes<sup>1</sup>, Ronaldo Junio Campos Batista<sup>2</sup>, Taise Matte Manhobosco<sup>2</sup>; <sup>1</sup>Universidade Federal de Minas Gerais, <sup>2</sup>Universidade Federal de Ouro Preto, <sup>3</sup>Instituto Federal de Educação, Ciência e Tecnologia de Minas Gerais (X.O1.D1.2)

**12:00 New 2D materials from non-van der Waals solids** [Raphael Tromer](#)<sup>1</sup>, [Eliézer Fernando Oliveira](#)<sup>2</sup>, [Cristiano Francisco Woellner](#)<sup>3</sup>, [Chandra Tiwary](#)<sup>4</sup>, [Pulickel Ajayan](#)<sup>5</sup>, [Douglas Soares Galvão](#)<sup>6</sup>; <sup>1</sup>Universidade Estadual de Campinas, <sup>2</sup>Universidade Estadual Paulista, <sup>3</sup>Universidade Federal do Paraná, <sup>4</sup>Indian Institute of Technology Kharagpur, <sup>5</sup>Rice University, <sup>6</sup>Gleb Wataghin Physics Institute, University of Campinas (X.O1.D1.3)

**12:15 How near-field infrared microscopy enables vibrational analysis of natural 2D nanocavities for water confinement** [Raphaella de Oliveira](#)<sup>1,2</sup>, [Alisson Ronieri Cadore](#)<sup>2</sup>, [Raul O. Freitas](#)<sup>2</sup>, [Angelo Malachias de Souza](#)<sup>1</sup>, [Klaus Krambrock](#)<sup>1</sup>, [Ingrid David Barcelos](#)<sup>2</sup>; <sup>1</sup>Universidade Federal de Minas Gerais, <sup>2</sup>Brazilian Center for Research in Energy and Materials (X.O1.D1.4)

*SESSION X.03.D1 (17:30 - 18:30) - Room Pajuçara*

**17:30 Layered Materials for Optoelectronics and Quantum Technologies** [Andrea C. Ferrari](#)<sup>1</sup>; <sup>1</sup>University of Cambridge (X.O3.D1.1\*)

**18:00 Super-strong optical phonon energy renormalization measured by spatially coherent tip-enhanced Raman spectroscopy in a graphene device** [Rafael Battistella Nadas](#)<sup>1</sup>, [Andrei Gadelha](#)<sup>2,1</sup>, [Tiago Campolina Barbosa](#)<sup>1,3</sup>, [Cassiano Rabelo](#)<sup>4</sup>, [Thiago de Lourenço e Vasconcelos](#)<sup>5</sup>, [Vitor Monken](#)<sup>1,4</sup>, [Leonardo Cristiano Campos](#)<sup>1,3</sup>, [Riichiro Saito](#)<sup>6</sup>, [Luiz Gustavo Cancado](#)<sup>1</sup>, [Aldo Jorio](#)<sup>1</sup>; <sup>1</sup>Universidade Federal de Minas Gerais, <sup>2</sup>Universidade Federal do Ceará, <sup>3</sup>Centro de Tecnologia em Nanomateriais e Grafeno, <sup>4</sup>Fábrica de Nano Soluções, <sup>5</sup>Divisão de Metrologia de Materiais, <sup>6</sup>Tohoku University (X.O3.D1.2)

**18:15 Graphene as a gate-tunable window for near-field imaging in the terahertz** [FLÁVIO HENRIQUE FERES](#)<sup>1</sup>, [Ingrid David Barcelos](#)<sup>2</sup>, [Alisson Ronieri Cadore](#)<sup>2</sup>, [Lukas Wehmeier](#)<sup>3</sup>, [Tobias Noerenberg](#)<sup>4</sup>, [Rafael Alves Mayer](#)<sup>1,5</sup>, [Raul O. Freitas](#)<sup>2,5</sup>, [Lukas M. Eng](#)<sup>4</sup>, [Susanne C. Kehr](#)<sup>4</sup>, [Francisco Carlos Barbosa Maia](#)<sup>5</sup>; <sup>1</sup>Universidade Estadual de Campinas, <sup>2</sup>Brazilian Center for Research in Energy and Materials, <sup>3</sup>National Synchrotron Light Source II, <sup>4</sup>University of Technology of Dresden, <sup>5</sup>Centro Nacional de Pesquisa em Energia e Materiais (X.O3.D1.3)

TUESDAY, OCTOBER 03

\* Invited Lecture

*SESSION X.01.D2 (09:45 - 10:45) - Room Pajuçara*

**09:45 Screening nanocatalysts for agrochemical neutralization: selective functionalization and effects of coverage, support, group and neighboring** [André H. G. Martinez](#)<sup>1</sup>, [Vinícius O. Costa](#)<sup>1</sup>, [Mayara Gabriela Gonçalves](#)<sup>1</sup>, [Gabriel C. B. Gomes](#)<sup>1</sup>, [Yane Honorato Santos](#)<sup>1</sup>, [Sergio H. Domingues](#)<sup>2</sup>, [Aldo José Gorgatti Zarbin](#)<sup>1</sup>, [Elisa Souza Orth](#)<sup>1</sup>; <sup>1</sup>Universidade Federal do Paraná, <sup>2</sup>Mack Graphpe, Mackenzie Presbyterian University (X.O1.D2.1\*)

**10:15 2D Materials for Photovoltaic Energy Harvesting** [Pedro Paulo de Mello Venezuela](#)<sup>1</sup>, [Enesio Marinho Jr](#)<sup>2</sup>, [Cesar Enrique Perez Villegas](#)<sup>3</sup>, [Alexandre Reily Rocha](#)<sup>2</sup>; <sup>1</sup>Universidade Federal Fluminense, <sup>2</sup>Universidade Estadual Paulista, <sup>3</sup>Universidad Privada del Norte (X.O1.D2.2)

**10:30 Understanding the oxidation of redox exfoliated NbS<sub>2</sub>** [Danilo Argenton Nazeaoka](#)<sup>1</sup>, [Daniel Grasseschi](#)<sup>2</sup>, [Alisson Ronieri Cadore](#)<sup>3</sup>, [Jéssica E S Fonsaca](#)<sup>4</sup>, [Ali M. Jawaid](#)<sup>5</sup>, [Richard A. Vaia](#)<sup>6</sup>, [Christiano J.S. de Matos](#)<sup>6</sup>; <sup>1</sup>Universidade Presbiteriana Mackenzie, <sup>2</sup>Universidade Federal do Rio de Janeiro, <sup>3</sup>Brazilian Center for Research in Energy and Materials, <sup>4</sup>Mackenzie Institute for Research in Graphene and Nanotechnologies, <sup>5</sup>Materials and Manufacturing Directorate, Air Force Research Laboratories, <sup>6</sup>Mackenzie Presbyterian University (X.O1.D2.3)

*SESSION X.02.D2 (11:15 - 12:30) - Room Pajuçara*

**11:15 NANOSTRATEGIES FOR MOLECULE ADSORPTION WITH BIOLOGICAL AND ENVIRONMENTAL INTEREST** [Solange Binotto Fagan](#)<sup>1</sup>; <sup>1</sup>Universidade Franciscana (X.O2.D2.1\*)

**11:45 Doped 2D diamond: properties and potential application** [Bruno Bueno Ipaves Nascimento](#)<sup>1</sup>, [João Francisco Justo](#)<sup>2</sup>, [Lucy Vitória Credidio Assali](#)<sup>1</sup>; <sup>1</sup>Instituto de Física da Universidade de São Paulo, <sup>2</sup>Escola Politécnica de Universidade de São Paulo (X.O2.D2.2)

**12:00 Study of glyphosate adsorption on graphene-based substrates: a DFT study** [Wanderson Souza Araújo](#)<sup>1</sup>, [José Rafael Bordin](#)<sup>1</sup>, [Maurício Jeomar Piotrowski](#)<sup>1</sup>; <sup>1</sup>Universidade Federal de Pelotas (X.O2.D2.3)

**12:15** First principles study of ZnX and CdX (X=S, Se, Te) direct band gap semiconductors and its van der Waals heterostructures. Jose Eduardo Padilha de Sousa<sup>1</sup>, Gabriel Henrique Perin<sup>2</sup>, Danilo Paula Kuritza<sup>2</sup>, Rafael Rodrigues Barbosa<sup>2</sup>, Roberto Hiroki Miwa<sup>3</sup>, Renato Borges Pontes<sup>4</sup>; <sup>1</sup>Universidade Federal do Paraná, <sup>2</sup>Universidade Estadual de Maringá, <sup>3</sup>Universidade Federal de Uberlândia, <sup>4</sup>Universidade Federal de Goiás (X.O2.D2.4)

SESSION X.O3.D2 (14:00 - 15:00) - Room Pajuçara

**14:00** Synergetic enhancement of quantum yields of monolayer WS<sub>2</sub> by proximal metal gating Jeongyong Kim<sup>1</sup>; <sup>1</sup>Sungkyunkwan University (X.O3.D2.1\*)

**14:30** Luminescence enhancement of CVD grown Ga-doped WS<sub>2</sub> monolayers Shuai Zhang<sup>1</sup>, Andre N. Barbosa<sup>1</sup>, Fernando Lázaro Freire Junior<sup>1</sup>; <sup>1</sup>Pontifícia Universidade Católica do Rio de Janeiro (X.O3.D2.2)

**14:45** Room-Temperature Ultrafast Photoluminescence of an Electron-Hole Plasma in 2D TMDs Frederico Barros de Sousa<sup>1</sup>, Raül Perea-Causin<sup>2</sup>, Sean Hertmann<sup>3</sup>, Lucas Lafeté Prates da Fonseca<sup>1</sup>, Bárbara Luiza Teixeira Rosa<sup>4</sup>, Samuel Brem<sup>5</sup>, Chirag Palekar<sup>1</sup>, Stephan Reitzenstein<sup>4</sup>, Achim Hartschuh<sup>4</sup>, Ermin Malic<sup>5</sup>, Leandro M. Malard<sup>1</sup>; <sup>1</sup>Universidade Federal de Minas Gerais, <sup>2</sup>Chalmers University of Technology, <sup>3</sup>Ludwig Maximilians Universität München, <sup>4</sup>Technische Universität Berlin, <sup>5</sup>Philipps Universität Marburg (X.O3.D2.3)

SESSION X.O4.D2 (17:30 - 18:30) - Room Pajuçara

**17:30** Stacking order effects on the energetic stability and electronic properties of n-doped graphene/h-BN van der Waals heterostructures on SiC(0001) Roberto Hiroki Miwa<sup>1</sup>, Dominike Pacine de Andrade Deus<sup>2</sup>, João Marcelo Jordão Lopes<sup>3</sup>; <sup>1</sup>Universidade Federal de Uberlândia, <sup>2</sup>Instituto Federal de Educação, Ciência e Tecnologia do Triângulo Mineiro, <sup>3</sup>Paul-Drude-Institut für Festkörperelektronik, Leibniz-Institut im Forschungsvverbund (X.O4.D2.1)

**17:45** Study of Defects as a function of the temperature of synthesis and He ions bombardment doses of MoSe<sub>2</sub> by CVD Fábio Cardoso Ofredi Maia<sup>1</sup>, Alair do Nascimento Freire Diniz<sup>2</sup>, Cintia Lima Pereira<sup>1</sup>, Vinicius Ornelas<sup>1</sup>, Maria Clara Godinho de Oliveira<sup>1</sup>, Victor Carozo<sup>3</sup>, Erika Lira Butchers<sup>4</sup>, Braulio Soares Archanjo<sup>4</sup>, Indhira Oliveira Maciel<sup>2</sup>, Benjamin Fragneaud<sup>2</sup>, Rogério Magalhães Paniago<sup>1</sup>, Frederico Barros de Sousa<sup>1</sup>, Rodrigo Gribel Lacerda<sup>1</sup>, Leandro M. Malard<sup>1</sup>, Angelo Malachias de Souza<sup>1</sup>; <sup>1</sup>Universidade Federal de Minas Gerais, <sup>2</sup>Universidade Federal de Juiz de Fora, <sup>3</sup>Pontifícia Universidade Católica do Rio de Janeiro, <sup>4</sup>Divisão de Metrologia de Materiais (X.O4.D2.2)

**18:00** Substrate-Induced Changes on the Optical Properties of Monolayer WS<sub>2</sub> Francisco Araujo<sup>1</sup>, Francisco Silva<sup>2</sup>, Tianyi Zhang<sup>3</sup>, Changjing Zhou<sup>3</sup>, Zhong Lin<sup>4</sup>, Nestor Perea Lopez<sup>3</sup>, Samuel Filgueiras Rodrigues<sup>2</sup>, Mauricio Terrones<sup>3</sup>, Antonio Gomes Souza Filho<sup>5</sup>, Rafael Alencar<sup>6</sup>, Bartolomeu Cruz Viana Neto<sup>7</sup>; <sup>1</sup>Instituto Federal de Educação, Ciência e Tecnologia do Maranhão, <sup>2</sup>Instituto Federal de Educação, Ciência e Tecnologia do Maranhão, <sup>3</sup>Pennsylvania State University, <sup>4</sup>Binghamton University, <sup>5</sup>Universidade Federal do Ceará, <sup>6</sup>Universidade Federal do Pará, <sup>7</sup>Universidade Federal do Piauí (X.O4.D2.3)

**18:15** Intrinsic Mechanical Strain in Chemical Vapor Deposition-Grown MoS<sub>2</sub>/MoSe<sub>2</sub> Monolayer Heterostructures Wellerson dos Reis Ramos<sup>1</sup>, Leticia Mara Vieira Idefonso<sup>1</sup>, Alair do Nascimento Freire Diniz<sup>1</sup>, Juliany Dos Santos Souza<sup>1</sup>, Yago Cruz dos Santos<sup>1</sup>, Cristiano Legnani<sup>1</sup>, Welber Gianini Quirino<sup>1</sup>, Daniel Vasconcelos Pazzini Massote Massote<sup>1</sup>, Indhira Oliveira Maciel<sup>1</sup>, Benjamin Fragneaud<sup>1</sup>; <sup>1</sup>Universidade Federal de Juiz de Fora (X.O4.D2.4)

WEDNESDAY, OCTOBER 04

\* Invited Lecture

SESSION X.O1.D3 (09:45 - 10:45) - Room Pajuçara

**09:45** From Electrochemical Sensors to Microfibers: Advancements in Graphene-Based Technologies Cecília de Carvalho Castro e Silva<sup>1,2</sup>; <sup>1</sup>Mackenzie Presbyterian University, <sup>2</sup>Mackenzie Presbyterian Institute (X.O1.D3.1\*)

**10:15** Defect engineering on the basal plane of ultra-large MoS<sub>2</sub> monolayers for electrochemical hydrogen production Leonardo Hideki Hasimoto<sup>1,2</sup>, Cláudia de Lourenço<sup>2</sup>, Ana Beatriz Sorana de Araújo<sup>2</sup>, Murilo Santhiago<sup>2,3</sup>; <sup>1</sup>Universidade Federal do ABC, <sup>2</sup>Brazilian Center for Research in Energy and Materials, <sup>3</sup>Brazilian Nanotechnology National Laboratory (X.O1.D3.2)

**10:30** 3d transition metal coordination on monolayer MoS<sub>2</sub>: a facile doping method to functionalize surfaces Walner Costa Silva<sup>1</sup>, Liu He<sup>2</sup>, Leonardo Santana Gonçalves de Souza<sup>1</sup>, Amanda Garcez Veiga<sup>1</sup>, Leandro Seixas Rocha<sup>3</sup>, Kazunori Fujisawa<sup>2</sup>, Ethan Kahn<sup>2</sup>, Tianyi Zhang<sup>2</sup>, Fu Zhang<sup>2</sup>, Zhuohang Yu<sup>2</sup>, Katherine Thompson<sup>2</sup>, Yu Lei<sup>2</sup>, Christiano J.S. de Matos<sup>3</sup>, Maria Luiza Miranda Rocco<sup>1</sup>, Mauricio Terrones<sup>2</sup>, Daniel Grasseschi<sup>1</sup>; <sup>1</sup>Universidade Federal do Rio de Janeiro, <sup>2</sup>Pennsylvania State University, <sup>3</sup>Mackenzie Presbyterian University (X.O1.D3.3)

SESSION X.O2.D3 (11:15 - 12:30) - Room Pajuçara

**11:15** Magneto-optical properties of van der Waals heterostructures Yara Galvão Gobato<sup>1</sup>; <sup>1</sup>Universidade Federal de São Carlos (X.O2.D3.1\*)



**11:45** **Magneto Dependence of Excitonic States of**

**Twisted WSe<sub>2</sub>** [Mária Clara Godinho de Oliveira](#)<sup>1</sup>, Lucas Liberal Fonseca<sup>1</sup>, Gabriel Marques Jacobsen<sup>2</sup>, Alessandra Ames<sup>2</sup>, Bernardo Ruegger Almeida Neves<sup>1</sup>, Ana Paula Moreira Barboza<sup>3</sup>, Takashi Taniguchi<sup>4</sup>, Kenji Watanabe<sup>4</sup>, Marcio Daldin Teodoro<sup>2</sup>, Leandro M Malard<sup>1</sup>, Leonardo C. Campos<sup>1</sup>; <sup>1</sup>Universidade Federal de Minas Gerais, <sup>2</sup>Universidade Federal de São Carlos, <sup>3</sup>Universidade Federal de Ouro Preto, <sup>4</sup>National Institute for Materials Science (X.O2.D3.2)

**12:00** **Electrical control of excitonic complexes in**

**MoSe<sub>2</sub> homobilayers** [Bárbara Luiza Teixeira Rosa](#)<sup>1</sup>, Chirag Palekar<sup>1</sup>, Allison Ronieri Cadore<sup>2</sup>, Yuhui Yang<sup>1</sup>, Aris Koulas-Simos<sup>1</sup>, Sefaattin Tongay<sup>3</sup>, Stephan Reitzenstein<sup>1</sup>; <sup>1</sup>Technische Universität Berlin, <sup>2</sup>Brazilian Center for Research in Energy and Materials, <sup>3</sup>Arizona State University (X.O2.D3.3)

**12:15** **Spin-valley physics in strained transition metal dichalcogenides monolayers** [PAULO EDUARDO DE FÁRIA JUNIOR](#)<sup>1</sup>; <sup>1</sup>Universität Regensburg (X.O2.D3.4)

SESSION X.O3.D3 (14:00 - 16:00) - Room Pajuçara

**14:00** **FLEXIBLE ELECTRONICS BASED ON CONJUGATED POLYMERS AND 2D**

**MATERIALS** [Lucimara Stolz Roman](#)<sup>1</sup>; <sup>1</sup>Universidade Federal do Paraná (X.O3.D3.1\*)

**14:30** **Multilayer Graphene as an Endoreversible Otto Engine**

[Patrício Vargas](#)<sup>1</sup>, Francisco J. Peña<sup>1</sup>, Nathan Myers<sup>2</sup>, Natalia Cortes<sup>3,4</sup>; <sup>1</sup>Universidad Santa María, <sup>2</sup>Virginia Tech, <sup>3</sup>Ohio University, <sup>4</sup>Universidad de Tarapacá, (X.O3.D3.2)

**14:45** **Film formation and chiro-dependent**

**properties of chiral 2D perovskites** [Lucas Scalon](#)<sup>1,2,3</sup>, Julius Brunner<sup>2,3</sup>, Maria Gabriella Detone Guaita<sup>1</sup>, Rodrigo Szostak<sup>4</sup>, Miguel Albaladejo-Siguan<sup>2,3</sup>, Tim Kodalle<sup>5</sup>, Carolin Sutter-Fella<sup>5</sup>, Caio Costa Oliveira<sup>1</sup>, Yana Vaynzof<sup>2,3</sup>, Ana Flávia Nogueira<sup>1</sup>; <sup>1</sup>Universidade Estadual de Campinas, <sup>2</sup>Technische Universität Dresden, <sup>3</sup>Leibniz Institute for Solid State and Materials Research, <sup>4</sup>Brazilian Synchrotron Light Laboratory, <sup>5</sup>Lawrence Berkeley National Laboratory (X.O3.D3.3)

**15:00** **Electrons, ions and photons as tools for modify and study graphene and related materials** [Braulio Soares Archanjo](#)<sup>1</sup>; <sup>1</sup>Instituto Nacional de Metrologia, Qualidade e Tecnologia (X.O3.D3.4)

**15:15** **Bottom-up fabrication of graphene nanoribbons: from ultra-high-vacuum to device**

**integration** [Gabriela Borin Barin](#)<sup>1</sup>; <sup>1</sup>Swiss Federal Laboratories for Materials Science and Technology (X.O3.D3.5\*)

**15:45** **CHARACTERIZATION AND QUANTIFICATION OF ZERO AND ONE-DIMENSIONAL DEFECTS IN WS<sub>2</sub> BY RAMAN AND PHOTOLUMINESCENCE**

**SPECTROSCOPIES** [Leticia Mara Vieira Ildefonso](#)<sup>1</sup>, Wellerson dos Reis Ramos<sup>1</sup>, Alair do Nascimento Freire Diniz<sup>1</sup>, Juliany Dos Santos Souza<sup>1</sup>, Yago Cruz dos Santos<sup>1</sup>, Cristiano Legnani<sup>1</sup>, Welber Gianini Quirino<sup>1</sup>, Daniel Vasconcelos Pazzini Massote Massote<sup>1</sup>, Braulio Soares Archanjo<sup>2</sup>, Indhira Oliveira Maciel<sup>1</sup>, Benjamin Fragaud<sup>1</sup>; <sup>1</sup>Universidade Federal de Juiz de Fora, <sup>2</sup>Instituto Nacional de Metrologia, Qualidade e Tecnologia (X.O3.D3.6)

SESSION X.O4.D3 (17:30 - 18:30) - Room Pajuçara

**17:30** **Multimodal spectroscopy techniques for**

**nanostructured materials characterization** Joao Lucas Rangel Silva<sup>1</sup>, Raqida Makarem<sup>1</sup>, Praveena Manimunda<sup>1</sup>, Emilio Nogueles Diaz<sup>2</sup>, Francis Ndi<sup>1</sup>, Didier Hocelle<sup>1</sup>, [Filipe Cabral](#)<sup>3</sup>, Igor Alessandro Silva Carvalho<sup>3</sup>, Jeremy Brites<sup>1</sup>; <sup>1</sup>HORIBA Scientific, <sup>2</sup>Universidad Complutense de Madrid, <sup>3</sup>Horiba (X.O4.D3.1)

**17:45** **Light emission from epsilon near zero**

**resonances in polar 2D crystals** [Francisco Carlos Barbosa Maia](#)<sup>1</sup>, Flavio Feres<sup>2,1</sup>, Ingrid David Barcelos<sup>3</sup>, Rafael Alves Mayer<sup>2,1</sup>, Raul O. Freitas<sup>1</sup>, Michael Lobet<sup>4</sup>, Lukas M. Eng<sup>3</sup>, Susanne C. Kehr<sup>5</sup>; <sup>1</sup>Centro Nacional de Pesquisa em Energia e Materiais, <sup>2</sup>Universidade Estadual de Campinas, <sup>3</sup>Brazilian Center for Research in Energy and Materials, <sup>4</sup>Université de Namur, <sup>5</sup>University of Technology of Dresden (X.O4.D3.2)

**18:00** **Plasmon phonon-polaritons in minimally twisted bilayer graphene and talc heterostructures**

**observed by scanning scattering nearfield optical microscopy** [Tiago Campolina Barbosa](#)<sup>1,2</sup>, Raul O. Freitas<sup>3,4</sup>, Leonardo Cristiano Campos<sup>1,2</sup>, Ingrid David Barcelos<sup>3</sup>; <sup>1</sup>Universidade Federal de Minas Gerais, <sup>2</sup>Centro de Tecnologia em Nanomateriais e Grafeno, <sup>3</sup>Brazilian Center for Research in Energy and Materials, <sup>4</sup>Centro Nacional de Pesquisa em Energia e Materiais (X.O4.D3.3)

**18:15** **Water-in-water Pickering emulsions stabilized by talc or kaolinite layered nanoparticles.**

[Vitor Vianna de Souza Machado](#)<sup>1</sup>, Bianca Hazt<sup>1</sup>, Anne Raquel Sotiles<sup>1</sup>, Rilton Alves de Freitas<sup>1</sup>, Fernando Wypych<sup>1</sup>; <sup>1</sup>Universidade Federal do Paraná (X.O4.D3.4)

THURSDAY, OCTOBER 05

SESSION X.O1.D4 (08:30 - 10:15) - Room Pajuçara

**09:00** **Evolution of nanoRaman & Correlative Spectroscopy for 2D Materials: Innovative Sample scanning, Automatic Chemometrics, Imaging, Colocalized Correlations with Scanning Electron Microscopy, X-ray Microfluorescence & Others**

**Spectroscopy Techniques.** [Igor Alessandro Silva Carvalho](#)<sup>1</sup>, Joao Lucas Rangel Silva<sup>2</sup>, Marc Chaigneau<sup>3</sup>, LUDIVINE FROMENTOUX<sup>3</sup>, Thibault BRULE<sup>3</sup>; <sup>1</sup>Horiba Instruments Brasil, <sup>2</sup>HORIBA Scientific, <sup>3</sup>HORIBA FRance (X.O1.D4.1)

### **09:15** Optical Study of Graphene/Water

**Interactions** [Eliel Gomes da Silva Neto](#)<sup>1</sup>, Leonel Muniz Meireles<sup>2</sup>, Gustavo Arrighi Ferrari<sup>3</sup>, Ivo Silvestre Almeida<sup>4</sup>, Mario Sergio de Carvalho Mazzoni<sup>5</sup>, Bernardo Ruegger Almeida Neves<sup>5</sup>, Hélio Chacham<sup>5</sup>, Rodrigo Gribel Lacerda<sup>5</sup>; <sup>1</sup>Universidade Federal da Bahia, <sup>2</sup>Centro Federal de Educação Tecnológica de Minas Gerais, <sup>3</sup>Instituto Federal de Educação, Ciência e Tecnologia de Minas Gerais, <sup>4</sup>Universidade Federal de Ouro Preto, <sup>5</sup>Universidade Federal de Minas Gerais (**X.O1.D4.2**)

### **09:30** Structural and optical characterization of some Van der Waals materials: talc, jacutingaite and

**tilkerodeite** Raphael Longuinhos Monteiro Lobato<sup>1</sup>, Alisson Ronieri Cadore<sup>2</sup>, A. Vymazalová<sup>3</sup>, A. R. Cabral<sup>4,5</sup>, SIMONE SILVA ALEXANDRE<sup>4</sup>, Ricardo Wagner Nunes<sup>4</sup>, H. A. Bechtel<sup>6</sup>, Christiano J.S. de Matos<sup>7,8</sup>, Raul O. Freitas<sup>2,9</sup>, Ingrid David Barcelos<sup>2</sup>, [Jenaina Ribeiro-Soares](#)<sup>1</sup>; <sup>1</sup>Universidade Federal de Lavras, <sup>2</sup>Brazilian Center for Research in Energy and Materials, <sup>3</sup>Czech Geological Survey, <sup>4</sup>Universidade Federal de Minas Gerais, <sup>5</sup>Centro de Desenvolvimento da Tecnologia Nuclear, <sup>6</sup>Advanced Light Source, <sup>7</sup>School of Engineering, Mackenzie Presbyterian University, <sup>8</sup>MackGraphe, Mackenzie Presbyterian University, <sup>9</sup>Centro Nacional de Pesquisa em Energia e Materiais (**X.O1.D4.3**)

**09:45** Exploring the use of earth-abundant layered materials in 2D-based studies Ingrid David Barcelos<sup>1</sup>, Raphaela de Oliveira<sup>2</sup>, Matheus Josué Souza Matos<sup>3</sup>, Raphael Longuinhos<sup>4</sup>, Jenaina Ribeiro-Soares<sup>4</sup>, Ana Paula Moreira Barboza<sup>3</sup>, Mariana de Castro Prado<sup>3</sup>, Gabriel Ravanhani Schleder<sup>5</sup>, Elisângela Silva Pinto<sup>6</sup>, Yara Galvão Gobato<sup>7</sup>, Hélio Chacham<sup>2</sup>, Bernardo Ruegger Almeida Neves<sup>2</sup>, [Alisson Ronieri Cadore](#)<sup>5</sup>; <sup>1</sup>Brazilian Synchrotron Light Laboratory, <sup>2</sup>Universidade Federal de Minas Gerais, <sup>3</sup>Universidade Federal de Ouro Preto, <sup>4</sup>Universidade Federal de Lavras, <sup>5</sup>Brazilian Nanotechnology National Laboratory, <sup>6</sup>Instituto Federal de Educação, Ciência e Tecnologia de Minas Gerais, <sup>7</sup>Univerdade Federal de São Carlos (**X.O1.D4.4**)

### **10:00** Grafeno Brasil Platform: a booster for consolidation of graphene-based products' market in

**Brazil** [Mateus José Fernandes Martins](#)<sup>1</sup>, Jailton C Damasceno<sup>1</sup>, Oleksii Kuznetsov<sup>1</sup>, Joyce Rodrigues Araujo<sup>2</sup>; <sup>1</sup>Instituto Nacional de Metrologia, Qualidade e Tecnologia, <sup>2</sup>Divisão de Metrologia de Materiais (**X.O1.D4.5**)

WEDNESDAY, OCTOBER 04

\* Invited Lecture

SESSION Z.O1.D1 (09:45 - 10:45) - Room Siriguela

**09:45** **Magnetic properties at high H/T**

**regimes** [Fernando Luis de Araujo Machado](#)<sup>1</sup>; <sup>1</sup>Universidade Federal de Pernambuco (**Z.O1.D1.1\***)

**10:15** **Fabrication and measurement of**

**superconducting qubits** [Lucas Medeiros Ruela](#)<sup>1</sup>, ARTHUR CHIANELLI MONTEIRO REBELLO<sup>2</sup>, Naiara Yohanna Klein<sup>2</sup>, Gustavo Moreto<sup>1</sup>, Francisco Paulo Rouxino<sup>1</sup>; <sup>1</sup>Gleb Wataghin Physics Institute, University of Campinas, <sup>2</sup>Centro Brasileiro de Pesquisas Físicas, <sup>3</sup>Universidade Estadual de Campinas (**Z.O1.D1.2**)

**10:30** **DESIGN, SIMULATION AND FABRICATION OF SUPERCONDUCTING CIRCUITS FOR QUANTUM COMPUTING** [ARTHUR CHIANELLI MONTEIRO REBELLO](#)<sup>1</sup>, Naiara Yohanna Klein<sup>1</sup>, Francisco Paulo Rouxino<sup>2</sup>, Ivan S. Oliveira<sup>1</sup>, João Paulo Sinnecker<sup>1</sup>; <sup>1</sup>Centro Brasileiro de Pesquisas Físicas, <sup>2</sup>Universidade Estadual de Campinas (**Z.O1.D1.3**)

SESSION Z.O2.D3 (11:15 - 12:30) - Room Siriguela

**11:15** **Magnetic flux distribution in superconducting films decorated with an array of pinning centers:**

**influence of the geometry of antidots** [Wilson Aires Ortiz](#)<sup>1</sup>; <sup>1</sup>Departamento de Física, Universidade Federal de São Carlos (**Z.O2.D3.1**)

**11:30** **Supercurrent diode effect and anisotropic vortex squeezing in non-centrosymmetric Rashba**

**superconductors** [Denis Kochan](#)<sup>1</sup>; <sup>1</sup>Slovak Academy of Sciences (**Z.O2.D3.2**)

**11:45** **Current-induced modifications of superconducting Nb multiterminal transport bridges with different angles** [Maycon Motta](#)<sup>1</sup>, Stefan Marinkovic<sup>2</sup>, Elijah Anertey Abbey<sup>1</sup>, Davi Araujo Dalbuquerque Chaves<sup>3</sup>, Simon Collienne<sup>2</sup>, Emile Fournneau<sup>2</sup>, Lu Jiang<sup>4</sup>, Cue Xue<sup>4</sup>, You-He Zhou<sup>5</sup>, Wilson Aires Ortiz<sup>6</sup>, Ngoc Duy Nguyen<sup>2</sup>, Alexander Volodin<sup>7</sup>, JORIS VAN DE VONDEL<sup>7</sup>, Alejandro V. Silhanek<sup>2</sup>; <sup>1</sup>Federal University of Sao Carlos, <sup>2</sup>Université de Liège, <sup>3</sup>Universidade Federal de São Carlos, <sup>4</sup>Northwestern Polytechnical University, <sup>5</sup>Lanzhou University, <sup>6</sup>Universidade Federal de São Carlos, <sup>7</sup>Katholieke Universiteit Leuven (**Z.O2.D3.3**)

**12:00** **The role of Tb, Dy and Ho intercalations on the superconducting and magnetic properties of**

**ZrTe<sub>3</sub>** [Leandro Rodrigues de Faria](#)<sup>1</sup>, Fabio Santos Alves Abud<sup>1</sup>, Lucas Eduardo Correa<sup>2</sup>, Milton Torikachvil<sup>3</sup>, Antonio Jefferson da Silva Machado<sup>1</sup>; <sup>1</sup>Escola de Engenharia de Lorena da Universidade de São Paulo, <sup>2</sup>Centro Nacional de Pesquisa em Energia e Materiais, <sup>3</sup>San Diego State University (**Z.O2.D3.4**)

**12:15** **Tuning transport supercurrents in FIB-nanostructured Nb films by a magnetic field-induced weak-link to strong-link transition** [Davi Araujo Dalbuquerque Chaves](#)<sup>1</sup>, Marlon Ivan Valerio Cuadros<sup>2</sup>, Lu Jiang<sup>3</sup>, Elijah Anertey Abbey<sup>1</sup>, Fabiano Colauto<sup>1</sup>, Ana Augusta Mendonça Oliveira<sup>4</sup>, Antonio Marcos Helgueira de Andrade<sup>5</sup>, Lincoln Brum Leite Gusmão Pinheiro<sup>4</sup>, Tom Henning Johansen<sup>6</sup>, Cue Xue<sup>7</sup>, You-He Zhou<sup>7</sup>, Alejandro V. Silhanek<sup>8</sup>, Wilson Aires Ortiz<sup>1</sup>, Maycon Motta<sup>1</sup>; <sup>1</sup>Universidade Federal de São Carlos, <sup>2</sup>Universidade Estadual de Maringá, <sup>3</sup>Northwestern Polytechnical University, <sup>4</sup>Instituto Federal de Educação, Ciência e Tecnologia de São Paulo, <sup>5</sup>Universidade Federal do Rio Grande do Sul, <sup>6</sup>University of Oslo, <sup>7</sup>Lanzhou University, <sup>8</sup>Université de Liège (**Z.O2.D3.5**)

SESSION Z.O3.D3 (14:00 - 16:15) - Room Siriguela

**14:15** **Stabilizing skyrmions on ordered arrays of nanodomains and nanodisks.** [Juliano Casagrande](#)

[Denardin](#)<sup>1</sup>; <sup>1</sup>Universidad de Santiago de Chile (**Z.O3.D3.1\***)

**14:45** **Skyrmion dynamics in the presence of defects**

**in Pd/Fe/Ir** [Pamela Costa Carvalho](#)<sup>1</sup>, Angela Burlamaqui Klautau<sup>2</sup>, Helena Maria Petrilli<sup>1</sup>, Anders Bergman<sup>3</sup>; <sup>1</sup>Universidade de São Paulo, <sup>2</sup>Universidade Federal do Pará, <sup>3</sup>Uppsala University / Uppsala Universitet (**Z.O3.D3.2**)

**15:00** **Zero-field magnetic skyrmions in symmetric Pt/Co synthetic antiferromagnetic multilayers** [Lucas](#)

[Scaranari Palhares](#)<sup>1,2</sup>, Jeovani Brandão<sup>1</sup>, Fanny Béron<sup>2</sup>; <sup>1</sup>Brazilian Center for Research in Energy and Materials, <sup>2</sup>University of Campinas (**Z.O3.D3.3**)

**15:15** **Correlation between interfacial atomic intermixing and the formation of skyrmions** [Pamela Costa Carvalho](#)<sup>1</sup>, Ivan de Paula Miranda<sup>2</sup>, Jeovani Brandão<sup>3</sup>, Anders Bergman<sup>2</sup>, Julio Criginski Cezar<sup>3</sup>, Angela Burlamaqui Klautau<sup>4</sup>, Helena Maria Petrilli<sup>1</sup>; <sup>1</sup>Universidade de São Paulo, <sup>2</sup>Uppsala University / Uppsala Universitet, <sup>3</sup>Brazilian Center for Research in Energy and Materials, <sup>4</sup>Universidade Federal do Pará (**Z.O3.D3.4**)

**15:30** **Permalloy nanowires growth by Haberland-type gas aggregation source** [Claudio Alejandro Gonzalez Fuentes](#)<sup>1</sup>, Christian Orellana<sup>2</sup>, Maria Abellan<sup>2</sup>, Rodrigo Segura<sup>3</sup>, Christian Romero<sup>2</sup>; <sup>1</sup>Universidad de Santiago de Chile, <sup>2</sup>Universidad Técnica Federico Santa María, <sup>3</sup>Universidad de Valparaíso (**Z.O3.D3.5**)

**15:45** **Magnetic domains stabilization on curved substrate** [Danian Alexandre Dugato](#)<sup>1</sup>, Wesley B. Jalil da Fonseca<sup>2</sup>, Evelyn C. S. Santos<sup>2</sup>, Trevor Almeida<sup>4</sup>, Flávio Garcia<sup>1</sup>; <sup>1</sup>Centro Brasileiro de Pesquisas Físicas, <sup>2</sup>Instituto Nacional de Tecnologia, <sup>3</sup>Universidade Federal do Rio de Janeiro, <sup>4</sup>University of Glasgow (**Z.O3.D3.6**)

SESSION Z.O4.D3 (17:30 - 18:30) - Room Siriguela

**17:30** **Study of magnetic nanoparticles produced on hollow cathode magnetron sputtering gun** [Rodrigo Dias Garcia](#)<sup>1</sup>, Antonio Domingues Santos<sup>1</sup>; <sup>1</sup>Instituto de Física da Universidade de São Paulo (**Z.O4.D3.1**)

**17:45 Tailoring CeO<sub>2</sub> Nanoparticles via Microwave-Assisted Hydrothermal Synthesis** [Ronei C. Oliveira](#)<sup>1</sup>, Ailton José Moreira<sup>1</sup>, Ernesto Chaves Pereira de Souza<sup>1</sup>, Adilson J A de Oliveira<sup>1</sup>; <sup>1</sup>Federal University of Sao Carlos (**Z.O4.D3.2**)

**18:00 Effects of Local Spin-Density Waves in Antiferromagnetic phases in Cr-V Alloys** Leticia Maria de Oliveira<sup>1</sup>, Paulo Eduardo Narcizo de Souza<sup>2</sup>, Paulo Cesar de Camargo<sup>3</sup>, [Adilson J A de Oliveira](#)<sup>3</sup>; <sup>1</sup>Fundação Universidade Federal do Vale do São Francisco, <sup>2</sup>Universidade de Brasília, <sup>3</sup>Federal University of Sao Carlos (**Z.O4.D3.3**)

**18:15 Magnetic nanocomposite aiming to silica nanoparticles production for viral inactivation in 3D printing surfaces** [Anderson Gomes Vieira](#)<sup>1</sup>, Karina Maria<sup>1</sup>, Petrus Santa-Cruz<sup>1</sup>, Antonio Carlos Pavão<sup>1</sup>; <sup>1</sup>Universidade Federal de Pernambuco (**Z.O4.D3.4**)

THURSDAY, OCTOBER 05

\* Invited Lecture

*SESSION Z.O1.D4 (08:30 - 10:15) - Room Siriguela*

**08:30 Ground-state phase diagram and universality of topological valence-bond-solid quantum phase transitions in a ferrimagnetic Heisenberg tetramer chain** [Marcelo Leite Lyra](#)<sup>1</sup>, Luan Felipe Santos Martins Veríssimo<sup>1</sup>, Maria Socorro Seixas Pereira<sup>1</sup>; <sup>1</sup>Universidade Federal de Alagoas (**Z.O1.D4.1**)

**08:45 Magnetocaloric effect in compounds R<sub>2</sub>Cu<sub>2</sub>X (X=Cd,In).** [Nilson Antunes de Oliveira](#)<sup>1</sup>, Julieth Caro Patiño<sup>1</sup>; <sup>1</sup>Universidade do Estado do Rio de Janeiro (**Z.O1.D4.2**)

**09:00 Assessing the relaxation mechanisms contributions through the magnetoimpedance effect in YIG/W bilayers** [João Gustavo da Silva Santos](#)<sup>1,2</sup>, Edmilson Felix da Silva<sup>2</sup>, Matheus Gamino Gomes<sup>2</sup>, Felipe Bohn<sup>2</sup>, Marcio Assolin Correa<sup>2</sup>; <sup>1</sup>Universidade Federal de Pernambuco, <sup>2</sup>Universidade Federal do Rio Grande do Norte (**Z.O1.D4.3**)

**09:15 Tailoring ultrathin film growth for integration in high performing magnetic sensors** [Suzana Cardoso](#)<sup>1</sup>, Felipe Bohn<sup>2</sup>; <sup>1</sup>INESC MN, <sup>2</sup>Universidade Federal do Rio Grande do Norte (**Z.O1.D4.4\***)

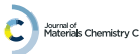
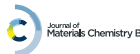
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