

11TH EUROPEAN SCHOOL FOR YOUNG MATERIALS SCIENTISTS

SEPTEMBER
27TH TO 28TH, 2022

UNINOVA
NOVA School of Science and Technology | FCT NOVA
Campus da Caparica - PORTUGAL

PROGRAM

SEP. 27TH

Opening | 10:00 A.M.

10h05 | Welcome / Opening Notes
Professor Luís Pereira

10h15 | Invited Speaker - Professor Maciej Szczerba
"Magnetic field-induced bending in Ni-Mn-Ga-based melt-spun ribbons"

Session 1 | 11:20 A.M. Characterization session

Chairperson: Prof. Szczerba

11h20 | Talk 1 - Arkadiusz Szewczyk
"Structural changes in NiMnGa based alloys depending on the form of occurrence"

11h40 | Talk 2 - Kamila Limanówka
"The influence of Zr and Er micro-alloying elements on the durability of mechanical properties in Al-Mg alloys with high content of Mg"

12h00 | Talk 3 - Bowen Zhang
"In-situ observation of fracture behavior and mechanism for 2D covalent organic frameworks"

12h20 | Talk 4 - Magdalena Jakubowska
"Damage Assessment of Heat Resistant Steels 14MoV6-3 through Electron Back Scatter Diffraction EBSD under Creep Conditions"

Session 2 | 02:00 P.M. Biological materials session

Chairperson: Prof. Magdalena Bieda-Niemiec

14h00 | Talk 5 - Adam Byrski
"Influence of surface modifications on properties of materials dedicated for finger implants"

14h20 | Talk 6 - Adriana Gonçalves
"Electrospinning of tuned thermoresponsive polymers for controlled drug release in cancer treatment"

14h40 | Talk 7 - Stefan Weitz
"Micromechanical testing of mollusks shells in dry and wet states"

Session 3 | 03:15 P.M. Energy-related (materials and devices) I session

Chairperson: Prof. Luis Pereira

15h15 | Talk 8 - Simone Siccardi
"Self-Healing Polymers for Lithium Metal Batteries"

15h35 | Talk 9 - Sabrina Trano
"Smart polymeric platforms for potassium batteries"

15h55 | Talk 10 - José Tiago Carvalho
"Direct growth of MoS₂ nanostructures on carbon-yarns for supercapacitors"

Poster Session | 04:15 P.M.

Chairperson: Prof. Luis Pereira | Dr André Clausner | Prof Magdalena Bieda-Niemiec

Poster 1 - Inês Santos
"Self-aligned and Sub- μm Oxide TFTs: TCAD Simulation and Fabrication"

Poster 2 - Emily Duggan
"ALD of Doped ZnO for Epsilon Near Zero Applications"

Poster 3 - Carlos Silva
"RuO₂/ZTO memristors for bio-inspired neuromorphic applications"

Poster 4 - Marta Łukasik
"Effects of ICP-RIE dry etching on slope angle and morphology of sidewalls in mesa-type photodetector structures"

Poster 5 - Aleksandra Dybel
"Structural behaviour of CVD-like graphene on Cu (100) investigated using MD simulations"

Poster 6 - Raquel Azevedo
"Sustainable and cost-effective solution based memristors"

Poster 7 - Maciej Sobolewski
"Microstructure and thermal conductivity of the electronic interconnections soldered using new lead-free solder alloys"

Poster 8 - Zulema Serrano
"Synthesis and characterisation of faceted Cu₂O nanocrystals"

Poster 9 - Nils Kaube
"Bioinspired development of artificial enamel via in-situ nano-mineralization"

Poster 10 - Magdalena Wróbel
"Changes in the microstructure and mechanical properties during four-passes hydrostatic extrusion of biodegradable zinc alloys"

Poster 11 - Michał Karaś
"Influence of hydrostatic extrusion of biodegradable magnesium alloys on the rate of hydrogen release"

Poster 12 - Raquel Barras
"Porous PDMS conformable coating for high power output carbon fibers-based single electrode triboelectric energy harvesters"

Poster 13 - Anna Trelka
"Microstructure of cold sprayed (Cr₃C₂-25(Ni₂₀Cr))-(Ni-graphite) coatings after annealing correlated with mechanical and tribological properties"

Poster 14 - Olgierd Jeremiasz
"Laminating processes of photovoltaic (PV) modules based on materials modified by laser surface treatment techniques"

Poster 15 - Jenny Boane
"Colloidal-lithographed front contacts for high performing flexible solar cells endowed with light trapping"

Poster 16 - Amelia Zięba
"Effect of dealloing process on the microstructure of intermetallic rapidly solidified ribbons"

Poster 17 - Karol Janus
"Effect of the novel thermomechanical heat treatment on the microstructure and mechanical properties of the high-carbon carbide-free bainitic steel"

Poster 18 - Anna Kozik
"Fabricating hard anodic oxide coatings with a porous microstructure on aluminium alloy 5754"

Poster 19 - Marcin Prochwicz
"Improvement of Mechanical Properties of Refractory Linings Through Partial Orientation of Polymer Fibers"

Poster 20 - Milena Kowalska
"Effect of annealing on microstructure and martensitic transformation in L₂₁ Ni-Mn-Ga-Co-Cu melt-spun ribbons"

Poster 21 - Piotr Garbień
"Evolution of crystal structure, microstructure and hardness of cast steel after different heat treatment variants"

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SEP. 28TH

Welcome | 09:30 A.M.

09h35 | Welcome / Opening Notes
Dr. André Clausner

09h40 | Invited Speaker - Professor Pedro Barquinha
"Materials, processes and components for sustainable flexible electronics"

Session 4 | 10:45 A.M. Oxide materials and thin-films session

Chairperson: Prof. Pedro Barquinha

10h45 | Talk 11 - Arkadiusz Zydek
"Oxidation of Al-based alloy – Reactive Molecular Dynamics study"

11h05 | Talk 12 - Maria Pereira
"Flexible 1-transistor-1-memristor crossbar for Artificial Neural Network hardware"

11h25 | Talk 13 - Mariana Cortinhal
"Atomic Layer Deposition of Al_2O_3/Ta_2O_5 Gate Dielectric Stacks for Low-Temperature Oxide Thin-Film Transistors"

11h45 | Talk 14 - Piotr Jabłoński
"Morphology and topography of co-sputtered Cu, Cr, Ti - based layers"

12h05 | Talk 15 - Maria Leonor Matias
"TiO₂ nano-floating photocatalysts grown on cork for water purification using natural sunlight"

Session 5 | 02:00 P.M.

Energy-related (materials and devices) II session

Chairperson: Dr. André Clausner

14h00 | Talk 16 - Miguel Alexandre
"Improved Light Management via Dots-in-Host semiconductors"

14h20 | Talk 17 - Guilherme Ribeiro
"Intermediate Band Solar Cells based on CQDs in a perovskite matrix"

14h40 | Talk 18 - Guilherme Ferreira
"Sustainable mechanical energy harvesters for smart cellulose-based IoT applications"

15h00 | Talk 19 - Joana Figueira
"Printed and Flexible Thermoelectric Sensors with Graphite Flakes"

Closing Remarks | 03:30 P.M.

Chairperson: Prof. Luis Pereira | Dr. André Clausner | Dr. Joanna Wojewoda-Budka

ORGANIZATION & SUPPORT

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