CONFERENCE PROGRAMME

Workshop for Multi-Functional Materials: from Synthesis to Applications

Valenciennes
Université Polytechnique Hauts-de-France
IMTD Building
27 to 29 June, 2023
Dear colleague,

We are very pleased to host the first "Workshop for multi-functional materials", organised by the Cross-Border Materials Institute Université Polytechnique Hauts-de-France - University of Mons, in cooperation with academic institutions and research entities.

The organisation committee would like to thank the sponsors of this workshop:

Scientific committee

Prof. Christian Courtois – CERAMATHS – UPHF
Prof. Franck Lauro – LAMIH UMR CNRS 8201 – UPHF
Prof. Philippe Leclère – Materials Institute – UMONS
Prof. Marjorie Olivier – Materials Institute – UMONS
Prof. Jean-Marie Raquez – Materials Institute – UMONS
Prof. Denis Rémiens – IEMN UMR CNRS 8520 Valenciennes site – UPHF
Prof. Michel Voué – Materials Institute – UMONS

Organisation committee

Prof. Eric Markiewicz – LAMIH UMR CNRS 8201 – UPHF
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Prof. Sébastien Grondel – IEMN UMR CNRS 8520 Valenciennes site – UPHF
Prof. Rony Snyders – Materials Institute – UMONS
Prof. El Hadj Dogheche – IEMN UMR CNRS 8520 Valenciennes site – UPHF
OBJECTIVES

Functional materials are generally characterized as those materials which possess particular native properties and functions of their own. For example, ferroelectricity, piezoelectricity, pyroelectricity, thermoelectricity, acoustic, magnetism or energy harvesting/storage functions.

The major scientific scope of the workshop concerns materials science (organic, inorganic, composites...), and engineering covering the major aspects from theory, characterizations at macro and nano scale to applications such as MEMS/NEMS devices, acoustic sensors and transducers, microfluidics, flexible electronics...

DOMAINS

- Materials & Chemistry
- Materials & Energy - Environment
- Materials & Health
- Materials & Mobility / Transportation
- Materials & Technologies
- Synthesis
- Characterizations
- Modelling
- From nano to macro
- Applications

Workshop dedicated to EUNICE Alliance Researchers & Students involved in Materials & Engineering
CONFERENCE PROGRAMME

Day 1 - Tuesday, 27th June 2023

13:00 - 14:45 ▶ General opening and presentation of EUNICE and REUNICE
14:45 - 16:00 ▶ Session 1: Materials & Health
16:30 - 18:30 ▶ Session 2: Materials & Applications

Day 2 - Wednesday, 28th June 2023

8:30 - 10:40 ▶ Session 3: Materials & Processes
11:00 - 13:00 ▶ Session 4: Materials & Processes
14:10 - 16:10 ▶ Session 5: Materials & Technologies
16:10 - 19:00 ▶ Poster session

Day 3 - Thursday, 29th June 2023

8:30 - 12:40 ▶ Session 6: Materials & Applications
12:40 - 16:00 ▶ Poster session
PROGRAMME
Day 1 - Tuesday, 27th June 2023

General opening and presentation of EUNICE and REUNICE

13:00 ▶ Opening of doors and reception registration of participants and delivery of badges

14:00 – 14:15 ▶ Opening of the workshop by Prof. A. Artiba, President of Univ. Polytechnique Hauts-de-France and Prof. P. Dubois, Rector of Univ. of Mons

14:15 – 14:45 ▶ Presentation of EUNICE and REUNICE by Prof. S. Grondel, European University Alliance Adviser, Univ. Polytechnique Hauts-de-France and Prof. R. Snyders, European University Alliance Adviser, Univ. of MONS
Session 1: Materials & Health
Chairman: El Hadj Dogheche

14:45 – 15:15
“Bioinspired Nanoplatforms based on Graphene Oxide and Neurotrophin-mimicking Peptides for tissue regeneration”
C. Satriano, invited talk
Univ. of Catania, Italy

15:15 – 15:35
“Processing of ceramic bone mimic and functionalization by phage therapy”
J.-C. Hornez et al.
CERAMATHS-DMP, Univ. Polytechnique Hauts-de-France, Dental Faculty-Univ. of Lille, Department of Oral and Maxillo Facial Surgery, Lille Univ. Nord-de-France, France

15:35 – 16:00
“Synthesis of amino-functionalized nanocarriers and continuous screening of their performance for drug delivery applications”
B. García-Merino et al.
Department of Chemical and Biomolecular engineering, Univ. of Cantabria, Spain

16:00 – 16:30
Coffee break
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Day 1 - Tuesday, 27th June 2023

Session 2: Materials & Applications
Chairman: Prof. Christophe Delerue

16:30 – 16:50  ▶  “Transient electronics: biopolymer based mechanoelectrical deformation sensors”
A. Pollicino et al.
Civil Engineering and Architecture Department, Univ. of Catania, Italy

16:50 – 17:10  ▶  “Flexible RF electronics on biobased substrate”
A. Sid et al.
Univ. of Lille, CNRS, Centrale Lille, Univ. Polytechnique Hauts-de-France, IEMN UMR CNRS 8520, Univ. of Artois, Unit's program Transformations and Agro-Resources, UniLasalle, ULR7519, France

17:10 – 17:30  ▶  “Vapoluminescent Zinc(II) salen-type complexes as chemosensors for volatile organic compounds”
A. Attinà et al.
Department of Chemical Sciences, Univ. of Catania, Italy
17:30 – 17:50  ▶  “Elaboration of nanoneedle arrays via nanosphere lithography and single step continuous ICP etching: Application for the detection of Rhodamine 6G by SERS and mass spectrometry”
P. Moustiez et al.
IEMN UMR CNRS 8520, Villeneuve d’Ascq, IBMM, Montpellier, France

17:50 – 18:10  ▶  “Insights in polymer electrochemical doping from molecular dynamics simulations”
N. Rolland et al.
Laboratory for Chemistry of Novel Materials, Univ. of Mons, Belgium

18:10 – 18:30  ▶  “Theoretical modeling of molecular switches”
C. Krzeminski
Univ. Polytechnique Hauts-de-France, IEMN UMR CNRS 8520, Univ. of Lille, France
**Session 3: Materials & Processes**
Chairman: Prof. Christian Courtois

8:30 – 9:00

“Singularities of piezoelectric systems”
S. Nicaise, invited talk
CERAMATHS-DMP, INSA Hauts-de-France, Univ.
Polytechnique Hauts-de-France, France

9:00 – 9:20

“Investigation of the microstructural and mechanical properties of Al/Cu and Cu/Cu interface produced by Magnetic Pulse Welding”
B. Zielinski et al.
UPHF - LAMIH UMR CNRS 8201, Mines ParisTech,
Centre de Mise en Forme des Matériaux (CEMEF), UMR CNRS, PSL Univ., Sophia Antipolis, Chimie Paris Tech-CNRS, Paris Technical Institute of Chemistry (PSL), PFT
Innovaltech, Saint-Quentin, France

9:20 – 9:40

“Synthesis of PGM nanocatalysts from solutions after hydromellurgical treatment of spent automotive converters (SAC)"
M. Regel-Rosocka et al.
Institute of Chemical Technology and Engineering,
Faculty of Chemical Technology, Poznan Univ. of Technology, Poznan, Poland
9:40 – 10:00  ▶  “Investigation about the possibility to make cemented carbide structures by reactive sintering”  
V. I. Stanciu et al.  
Metallurgy Lab, Univ. of Mons, Belgium

10:00 – 10:20  ▶  “Shaping of complex ceramic parts by several additive manufacturing processes”  
M. Lasgorceix et al.  
CERAMATHS-DMP, Univ. Polytechnique Hauts-de-France, Belgian Ceramic Research Centre, Mons, Belgium

10:20 – 10:40  ▶  “Rapid manufacturing of alumina parts combining additive manufacturing and microwave thermal treatments”  
F. Jean et al.  
CERAMATHS-DMP, Univ. Polytechnique Hauts-de-France, France

10:40 – 11:00  ▶  Coffee break
“Sintering of lead-free ceramic targets for thin films deposition by sputtering for nano and microelectronic applications”
M. Rguiti et al.
CERAMATHS-DMP et Procédés IEMN - Valenciennes site, CNRS UMR 8520, Univ. Polytechnique Hauts-de-France, France

“Macro- and Nanoscale Piezo- and Ferroelectric Properties in (001)-oriented Bi0.5Na0.5TiO3 Lead-Free Thin Films Grown by Sputtering on LaNiO3/Si Substrates”
R. Desfeux et al.
Univ. of Artois, CNRS, Centrale Lille, Univ. of Lille, UMR 8181, Unité de Catalyse et Chimie du Solide (UCCS) LENS, IEMN UMR CNRS 8520 – Valenciennes site, UPHF, UMET, Univ. of Lille, Sciences et Technologies, CNRS, Centrale Lille, INRA, UMR 8207, Villeneuve d’Ascq, France

“Lead-Free Perovskites Decorating Graphene for Gas Sensing Application”
J. Casanova-Chafer et al.
ChIPS, Chemistry Department, Univ. of Mons, Belgium, MINOS, Department of Electronics Engineering, Univ. of Rovira i Virgili, Spain, Instituto de Tecnología Química (Universitat Politécnica de València – Consejo Superior de Investigaciones Científicas), Valencia, Spain
12:00 – 12:20 ▶ “An overview of main results achieved with Sybilla equipment for the growth of oxide thin films”
G. Benvenuti
3D-Oxides, France, ABCD Technology, St Genis Pouilly, France, ABCD Technology, Nyon, Switzerland

12:20 – 12:40 ▶ “Optical Properties of LiNbO3 Thin Film Deposited at Low Temperature by Chemical Beam Vapor Deposition (CBVD)”
T. NK Bui et al.
IEMN UMR CNRS 8520 - Valenciennes site, Univ. Polytechnique Hauts-de-France, 3D-Oxides, Saint-Genis-Pouilly, Institute of Nanotechnology of Lyon (INL), Univ. of Lyon, Ecole Centrale de Lyon, CNRS, UMR5270, France

12:40 – 13:00 ▶ “Optical properties of HgTe from bulk to single nanocrystals and nanocrystal layers”
B. Chehaibou et al.
Univ. of Lille, CNRS, Centrale Lille, Univ. Polytechnique Hauts-de-France, Junia, UMR 8520 - IEMN, Lille, Sorbonne Univ., CNRS, Paris Institute of Nanosciences (INSP), ONERA - The French Aerospace Lab, Palaiseau, Laboratory of Physics and Material studies (LPEM), ESPCI-Paris, PSL Research Univ., Sorbonne Univ., Univ. of Paris 06, CNRS UMR 8213, STMicroelectronics, Grenoble, STMicroelectronics, Crolles, France

13:00 – 14:10 ▶ Lunch
14:10 – 14:30  ▶  “New approach to the sustainability of roads by applying induction heating to cold mix asphalt”  
C. De La Fuente-Navarro et al.  
GITECO Research Group, Univ. of Cantabria, Santander, Spain

14:30 – 14:50  ▶  “IEMN Micro Nano Fabrication platform”  
F. Vaurette  
Univ. of Lille, CNRS, Centrale Lille, Univ. Polytechnique Hauts-de-France, Junia-ISEN, IEMN UMR CNRS 8520, France

14:50 – 15:10  ▶  “Physical approach to quantify the mechanical behavior of biological tissue/electroactive nanowire sensors interfaces”  
H. Wehbe et al.  
IEMN UMR CNRS 8520 Valenciennes site, Univ. Polytechnique Hauts-de-France, CERAMATHS-DMP, LAMIH UMR CNRS 8201, France, Lebanese Univ., Faculty of Technology, Lebanon

15:10 – 15:30  ▶  “Shaping of hierarchical mesoporous silica monoliths by hard templating approach using sacrificial polymer beads”  
R. Yildiz et al.  
Univ. of Lille, CNRS, ENSCL, Centrale Lille, Univ. of Artois, Univ. Polytechnique Hauts-de-France - INSA Hauts-de-France, CERAMATHS-DMP, France
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15:30 – 15:50  ▶  “A biobased material for emerging applications”
M. A. Ben Achour et al.
CERAMATHS-DMP, IMT Nord Europe, Douai, IEMN
UMR CNRS 8520 - Valenciennes site, Univ.
Polytechnique Hauts-de-France, Univ. of Lille, CNRS,
INRA, ENSCL, UMR 8207 - UMET, Lille, Centexbel-VKC,
Belgium

15:50 – 16:10  ▶  “Dual-mode Photonic Fabric for Human Body Thermoregulation”
M. Boutghatin et al.
Univ. of Lille, CNRS Centrale Lille Univ. Polytechnique
Hauts-de-France, IEMN UMR CNRS 8520 – Lille, UMET
UMR Univ. of Lille INRAE Centrale Lille, Univ. of Lille,
CNRS, UMR 8523, PhLAM, Lille, France

16:10 – 19:00  ▶  Poster session with coffee break

19:00  ▶  Gala Dinner on site
"Antimicrobial integrated methodologies for orthopaedic applications"
E. Meurice et al.
CERAMATHS-DMP, Univ. Polytechnique Hauts-de-France, France and Univ. of Birmingham, England

“Mechanical and microstructural characterisation of human mitral valve chordae tendineae”
J. Casado, et al.
LADICIM (Laboratory of Materials Science and Engineering) Univ. of Cantabria. E.T.S. de Ing. de Caminos, Canales and Puertos, Spain

“Development of Antimicrobial Coatings for Orthopaedic Implants using Polyelectrolyte Multilayers with embedded Copper Oxide Nanoparticles”
A.-M. Milisav et al.
Ruder Bošković Institute, Zagreb, Croatia, Friedrich-Alexander Univ. Erlangen-Nuremberg, Erlangen, Germany, Innovation Institute for Nanotechnology and Correlative Microscopy (INAM), Forchheim, Germany, Fraunhofer Institute for Ceramic Technologies and Systems (IKTS), Forchheim, Germany, Institute of Physics, Zagreb, Croatia, CERAMATHS-DMP, Univ. Polytechnique Hauts-de-France, Cambrai, France

“Numerical analysis of the formation and control of plug/droplet in Microchannels"
M. Said et al.
Univ. of Science and Technology Houari Boumediene (USTHB), Department of Energetic and Fluid Mechanics, Laboratory of Theoretical and Applied Fluid Mechanics, Algiers, Algeria and Univ. Polytechnique Hauts-de-France, Department of Mechanics, LAMIH UMR CNRS 8201, France

“Engineering of bioglasses”
C. Albert-Mercier et al.
Univ. Polytechnique Hauts-de-France - INSA Hauts-de-France, CERAMATHS-DMP, France

"Design and synthesis of new [4,5-b] and [4,5-c] imidazopyridines as potential fluorophores/inhibitors for Human Cyclooxygenase-1”
C. Munzone et al.
Department of Chemical Sciences, Univ. of Catania, Italy
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Autonomous broadband ultrasound capsule dedicated to endoscopic characterization and physiological scanning”
W. Halim et al.
IEMN UMR CNRS 8520 Valenciennes site, Univ. Polytechnique Hauts-de-France, France, Lebanese University, Faculty of Technology, Saida, Lebanon

“Tribological characterisation method of the temporo-mandibular joint contacts”
C. Marechal et al.
LAMIH UMR CNRS 8201, UPHF, France, Department of Oral and Maxillofacial Anatomy and Radiology, Univ. of Lille, France, Univ. of Bordeaux, CNRS, MCC, PACEA, UMR 5199, France

"Nanoscale viscoelastic properties of acrylate copolymers as model systems for next-generation cosmetic bio-sourced materials”
T. Quynh Tran et al.
Laboratory for Physics of Nanomaterials and Energy (LPNE), Department of Physics, Materials Science and Engineering Research Institute Univ. of Mons, Belgium, L’Oréal Research and Innovation, Aulnay-sous-Bois, France

“Ti-based foams prepared by means of thermal dealloying process”
G. Adamek
Institute of Materials Science and Engineering, Poznan Univ. of Technology, Poznan, Poland

“Perovskite and perovskite-like materials obtained by mechanochemical synthesis”
I. Szafraniak-Wiza
Institute of Materials Science and Engineering, Poznan Univ. of Technology, M. Skłodowska-Curie, Poznan, Poland

"Development of new antimicrobial peptides by recombinant protein technology to functionalize orthopedic biomaterials"
C. Cantallops-Vilà et al.
Univ. Polytechnique Hauts-de-France, CERAMATHS, Valenciennes, France
“Fabrication and Nanoscale Electrical Characterization of Transparent Conductive Electrodes Based on Silver Nanowire Network”
S. H. Pham et al.
Laboratory for Chemistry of Novel Materials, Center for Innovation and Research in Materials and Polymers (CIRMAP), Research Institute in Materials Science and Engineering, Univ. of Mons, Belgium, Univ. of Artois, CNRS, Centrale Lille, Univ. of Lille, UMR 8181, UCCS, Lens, France, Laboratory for Physics of Nanomaterials & Energy (LPNE), Research Institute in Materials Science and Engineering, Univ. of Mons, Belgium, International Training Institute for Materials Science (ITIMS), Hanoi Univ. of Science and Technology, Vietnam

“Film Adhesion Characterization using Rayleigh modes Generated and Detected by Lasers”
M. Baher et al.
Univ. Polytechnique Hauts-de-France, Univ. of Lille, IEMN UMR CNRS 8520, Valenciennes, France

“Towards quantitative mapping of physical and chemical properties of materials using unsupervised data clustering methods”
T. De Muijlder et al.
Laboratory for Physics of Nanomaterials and Energy (LPNE) Research Institute for Materials Science and Engineering, Univ. of Mons, Belgium

“Core-shell Plasmonic nanostructures for Enhanced performance of the Ternary Organic Solar Cells with Polyimide-Integrated Graphene Electrodes”
M. Chalh et al.
Univ. of Lille, CNRS, Centrale Lille, Junia-ISEN, IEMN UMR CNRS 8520, Lille, France

“Study of the mechanical, viscoelastic, and chemical properties of polymer blend-based thin films by dynamic atomic force microscopy”
P. Nickmilder et al.
Univ. of Mons, Laboratory for Physics of Nanomaterials and Energy (LPNE), Research Institute for Materials Science and Engineering, Mons, Belgium, Institut de Chimie Physique, UMR8000, Univ. of Paris-Saclay, CNRS, Orsay, France.
8:30 – 9:00  ▶  “Progress in Organic Solar Cells through Nanostructural Characterisation”
Pr. E. Moons, invited talk
Karlstad Univ., Sweden

9:00 – 9:20  ▶  “Modeling and Control of Smart Material Based Actuator Using Energetic Macroscopic Representation”
S. Ghenna et al.
IEMN UMR CNRS 8520 - Valenciennes site, Univ. Polytechnique Hauts-de-France, France

9:20 – 9:40  ▶  “Scanning Probe Microscopy at IEMN”
M. Berthe et al.
Univ. of Lille, CNRS, Centrale Lille, Junia, Univ. Polytechnique Hauts-de-France, UMR 8520 - IEMN UMR CNRS 8520 – Lille, France

9:40 – 10:00  ▶  “Innovative visible-light active photoanodes for gas-phase photo-electrochemical CO2 reduction to chemicals”
I. Merino-Garcia et al.
Department of Chemical and Biomolecular Engineering, Univ. of Cantabria, Santander, Spain

10:00 – 10:20  ▶  “Python polymer analysis package”
I. Cudnik
Poznan Univ. of Technology, Poland
10:20 - 11:00  ▶ Coffee break

11:00 – 11:20  ▶ “GeTe thermal characterization with 3-omega and Raman thermometry methods”
C. Mercier et al.
Univ. of Lille, CNRS, Centrale Lille, Junia, Univ. Polytechnique Hauts-de-France, IEMN UMR CNRS 8520 – Lille, France, STMicroelectronics, CEA-Leti, Univ. Grenoble Alpes, France

11:20 – 11:40  ▶ “Influence of solution pH on the structure formation and protection properties of ZnAlCe hydrotalcites layers on hot-dip galvanized steel”
T. Thuy Pham et al.
Univ. of Mons, Belgium

11:40 – 12:00  ▶ “Optimized manufacturing and characterization of gas diffusion electrodes for CO2 electroreduction”
J. A. Abarca et al.
Department of Chemical and Biomolecular Engineering, Univ. of Cantabria, ETSIIT, Santander, Spain

12:00 – 12:20  ▶ “Integrated metrology devices dedicated to transient Harman measurement of silicon nano-meshes”
H. Ikzibane et al.
Univ. of Lille, Centrale Lille, Junia, Univ. Polytechnique Hauts-de-France, IEMN UMR CNRS 8520, Villeneuve d’Ascq, France
**PROGRAMME**

Day 3 - Thursday, 29th June 2023

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**12:20 – 12:40**


Z. De Grève

Univ. of Mons, Electrical Power Engineering Unit, Power Systems and Markets Research Group, Belgium

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**12:40 - 16:00**

Lunch and poster session

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**Poster session**

"Thermomechanical characterization of polar glass-ceramics for the realization of functional SAW devices at high temperature”

O. Zwein et al.

Materials Institute - Univ. of Mons, Belgian Ceramic Research Center, Mons, Belgium, IEMN UMR CNRS 8520, Univ. Polytechnique Hauts-de-France, France

“Piezoelectric structures with high coupling coefficient for MEMS applications”

R. Aitayad et al.

Univ. Polytechnique Hauts-de-France, CNRS, Univ. of Lille, IEMN UMR CNRS 8520, Valenciennes, France

“Fabrication of c-axis LiNbO3 Thin Film for Surface Acoustic Wave Applications”

T. Bui et al.

IEMN UMR CNRS 8520 Valenciennes site, UPHF, 3D-Oxides, France, INL, Univ. of Lyon, Ecole Centrale de Lyon, CNRS, UMR5270, France

“Comparison of conventional, microwave and SPS sintering of a glass powder precursor of a polar glass-ceramic”

S. Satha et al.

Institut Matériaux - Univ. of Mons, Mons, Belgium, CERAMATHS-DMP - Univ. Polytechnique Hauts-de-France, France, Belgian Ceramic Research Center, Mons, Belgium
“Synthesis and Piezoelectric Analysis of non-doped ZnO nanowires grown by hydrothermal technique”
I. Benkhaled et al.
Univ. Polytechnique Hauts-de-France, IEMN UMR CNRS 8520 Valenciennes site, France, Laboratory for Physics of Nanomaterials and Energy, Research Institute in Materials Science and Engineering, Univ. of Mons, Belgium

“Identification of defect in a dictionary using coda wave interferometry”
E. Akiki et al.
Univ. Polytechnique Hauts-de-France, CNRS, Univ. of Lille, IEMN UMR CNRS 8520, France

“Piezoelectric Properties at the Macro- and Nanoscale Levels and Microstructure in Ba0.85Ca0.15Ti0.9Zr0.1O3 (BCTZ) Thin Films Grown by Pulsed Laser Deposition”
M.-H. Chambrier et al.
Univ. of Artois, CNRS, Centrale Lille, Univ. of Lille, UMR 8181, UCCS, Univ. Polytechnique Hauts-de-France, CNRS, IEMN UMR CNRS 8520 - Valenciennes site, France

“Film Adhesion Characterization using Rayleigh modes Generated and Detected by Lasers”
M. Baher et al.
Univ. Polytechnique Hauts-de-France, Univ. of Lille, CNRS, IEMN UMR CNRS 8520 - Valenciennes site, France

“2D Solid: Modeling nonlinear acoustic imaging of an isolated crack using lamb waves”
R. Verma et al.
Univ. of Lille, IEMN UMR CNRS 8520, Lille, France, KU Leuven Campus Kortrijk, Belgium

“Development of a Broadband Surface Acoustic Wave Transducer for the Non-Destructive Characterization of Sub-Micrometric Thin Films”
M. Duquennoy et al.
IEMN UMR CNRS 8520, Univ. Polytechnique Hauts-de-France, CNRS, Univ. of Lille, France
“Thermomechanical characterization of polar glass-ceramics for the realization of functional SAW devices at high temperature”
O. Zwein et al.
Univ. of Mons, Materials Institute, Mons, Belgian Ceramic Research Center, Belgium, IEMN UMR CNRS 8520, CERAMATHS, Univ. Polytechnique Hauts-de-France, France

“Numerical modeling and simulation of ZnO nanowire devices for energy harvesting”
R. Belghouthi et al.
IEMN UMR CNRS 8520, Valenciennes site, Univ. Polytechnique Hauts-de-France, France

"Fabrication and Characterization of Pb-free Bi0.5Na0.5TiO3 Thick Films for Piezoelectric Applications”
Z. Khan et al.
IEMN UMR CNRS 8520, Valenciennes site, France, Plasma-Surface Interaction Chemistry (ChIPS) Laboratory, Mons, Belgium

“Sputtering of silver onto silicone oils: nanoparticle formation and mass transfer into the bulk solution”
F.-E. Bol et al.
Plasma-Surface Interaction Chemistry (ChIPS) Laboratory, Univ. of Mons, Belgium

“Effect of argon-nitrogen gas ratio on the properties of TiAlN films deposited on X38CrMoV5 hot work steel by reactive magnetron sputtering”
R. Rachidi et al.
Univ. Polytechnique Hauts-de-France, IEMN UMR CNRS 8520, Valenciennes site, LAMIH UMR CNRS 8201, Valenciennes, France

"Study of the sensitivity of Surface Acoustic Wave delay line humidity sensors, functionalized with a plain PVA layer or doped with PEDOT: PSS polymeric composit"
M. Duquennoy et al.
IEMN UMR CNRS 8520, Univ. Polytechnique Hauts-de-France, CNRS, Univ. of Lille, France
"Self-Healing Concrete - Experimental Research"
I. Agbamu et al.
Poznan Univ. of Technology, Poland

“Multiscale Modeling and Analysis of Concrete Material and Structures”
B. Bebani et al.
Institute of Building Engineering, Faculty of Civil Engineering and Transport, Poznan Univ. of Technology, Poland

“Estimation of the time Shift of a network of sensors by the correlation peak method”
O. Bouchakour et al.
Univ. Polytechnique Hauts-de-France, CNRS, Univ. of Lille, UMR 8520 - IEMN, Valenciennes site, France.

"Improvement in electroless nickel-boron deposition process for hard chromium replacement”
M. Yunact et al.
Univ. of Mons, Department of Metallurgy, Mons, Belgium, Univ. Central de Venezuela, Faculty of Engineering, Venezuela, Arts et Métiers Sciences et Technologies, MSMP EA-7350, Lille, LAMIH UMR CNRS 8201, Univ. Polytechnique Hauts-de-France, Valenciennes, France

“Enhancing corrosion resistance of AZ31 Mg alloy using Mg-Al layered double hydroxide (LDH) and post-treatment with benzoxazine resin”
R. Malekkhouyan et al.
Materials Science Department, Univ. of Mons, Belgium, Laboratory of Polymeric and Composite Materials, Center of Innovation and Research in Materials and Polymers, Univ. of Mons, Materia Nova asbl, Belgium
THANK YOU
For your participation