



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
Prof. Ruddy Wattiez – UMONS
Directeur de Recherche Christophe Delerue – IEMN UMR CNRS 8520 – U Lille
Prof. Laurent Dubar – LAMIH UMR CNRS 8201 – UPHF
Prof. Mohammadi Ouaftouh – IEMN UMR CNRS 8520 Valenciennes site – UPHF
Prof. Mourad Abed, LAMIH UMR CNRS 8201 - UPHF
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
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PROGRAMME

Day 1 - Tuesday, 27th June 2023

Session 1: Materials & Health

Chairman: El Hadj Dogheche

- 14:45 – 15:15 ▶ “Bioinspired Nanoplatfoms 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**

PROGRAMME

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
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PROGRAMME

Day 1 - Tuesday, 27th June 2023


- 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

PROGRAMME

Day 2 - Wednesday, 28th June 2023

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 hydrometallurgical 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
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PROGRAMME

Day 2 - Wednesday, 28th June 2023

- 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**

PROGRAMME

Day 2 - Wednesday, 28th June 2023

Session 4: Materials & Processes

Chairman: Prof. Denis Rémiens

- 11:00 – 11:20 ▶ “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
- 11:20 – 11:40 ▶ “Macro- and Nanoscale Piezo- and Ferroelectric Properties in (001)-oriented Bi_{0.5}Na_{0.5}TiO₃ 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
- 11:40 – 12:00 ▶ “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 Politècnica de València – Consejo Superior de Investigaciones Científicas), Valencia, Spain
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PROGRAMME

Day 2 - Wednesday, 28th June 2023

- 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**

PROGRAMME

Day 2 - Wednesday, 28th June 2023

Session 5: Materials & Technologies

Chairman: Prof. Franck Lauro

- 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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PROGRAMME

Day 2 - Wednesday, 28th June 2023

- 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**

PROGRAMME

Day 2 - Wednesday, 28th June 2023

Poster session

"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.

Ruđer 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



PROGRAMME

Day 2 - Wednesday, 28th June 2023

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. Cantalops-Vilà et al.

Univ. Polytechnique Hauts-de-France, CERAMATHS, Valenciennes, France

PROGRAMME

Day 2 - Wednesday, 28th June 2023

“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”

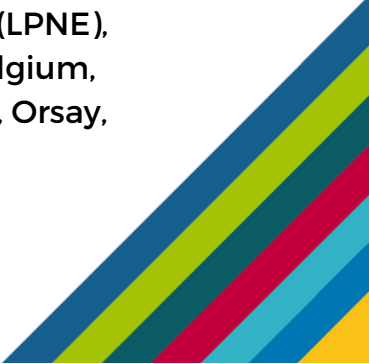
M. Chalh et al.

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.



PROGRAMME

Day 3 - Thursday, 29th June 2023


Session 6: Materials & Applications

Chairman: Prof. Philippe Leclere

- 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

PROGRAMME

Day 3 - Thursday, 29th June 2023

- 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, ETSIT, 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
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PROGRAMME

Day 3 - Thursday, 29th June 2023

12:20 - 12:40 ▶ “Renewable Energy Communities: What? Why? How?”
Z. De Grève
Univ. of Mons, Electrical Power Engineering Unit,
Power Systems and Markets Research Group,
Belgium

12:40 - 16:00 ▶ Lunch and poster session

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

PROGRAMME

Day 3 - Thursday, 29th June 2023

“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 Ba_{0.85}Ca_{0.15}Ti_{0.9}Zr_{0.1}O₃ (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



PROGRAMME

Day 3 - Thursday, 29th June 2023

“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 Bi_{0.5}Na_{0.5}TiO₃ 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

PROGRAMME

Day 3 - Thursday, 29th June 2023

"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. Malekhouyan 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

