Center for Development of Advanced Technologies
1st Seminar on Materials Processes and Microfabrication
November 24 – 25, 2024, Algiers, Algeria

Final Program

Time	Sunday November 24th, 2024			
8 30	**Welcome Opening and Registration**			
9 00	Plenary Session 1 / Session Chair: Dr. Walid FILALI Mohamed HENINI Univ. Nottingham			
10 00	Poster Session 1		Coffee Break	
11 00	Oral Session 1 Mat. Synt. Char. Conference Room Session Chairs: Dr. AMARA Dr. SAOULA	W. REZIG USTO-MB Preparation and Characterization of Hybrid Natural Material Biomass as Titanium Prepared Diatomite (SiO_2) from Alga Aquatic Doped FeAs Photocatalyst	Oral Session 1 Proc. Tech. and AI Room 133 Session Chairs: Mr. BENGHERABI Dr. DJEZZAR	N. MEKKAKIA MAAZA USTO-MB Plasma Cryoetching Process of Silicon for MEMS Applications
		K. SETTARA Univ. Skikda Manganese Doping Impact on the Photodegradation Properties of Zinc Oxide Thin Films		A. SOLTANI Univ. Biskra Integrating A.I Models for Prediction of Suitable Photocatalysts for Methylene Blue Degradation
		A. BENCHERIF Univ. Boumerdes Molarity Effect on the Physical Properties of ZnS Thin Films Prepared by Electrodeposition Method		Y. SENOUCI Univ. Biskra Traps Effect on the Temperature Dependence of NiO-Ga2O3 Capacitance-Voltage Characteristics
		S. DEBBOUB Univ. El Tarf Characterization of an Alloy Cu-based with Ultrasonic Ultrasound Technique		M. T. BENABBAS CDTA Effects of an Argon-based Atmospheric Pressure Plasma Jet on Deionized Water

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12	00	**Lunch**			
13	30	Oral Session 2 Mat. Synt. Char. Conference Room Session Chairs: Dr. OUCHABANE Dr. MEBDOUA	M. BOURAS Univ. Constantine 1 The Structural Properties of Nanostructured Alloys obtained by High-energy Milling	Oral Session 2 Proc. Tech. and AI Room 133 Session Chairs: Dr. AOUACHE Dr. MEKHELDI	H. BELGUEBLI Univ. Bejaia Experimental and Model Investigation of the Plastic Buckling Behaviour of Thin-walled Stainless Steel Tubular Structures under Complex Quasi–static Loads
			A. SI SALEM Univ. Tizi Ouzou Thermal and Physical Evaluation of Glass Fiber Textile Waste Based-Members with Hollow Cores		R. BOUCHAMA Univ. Constantine 1 Chip Image Processing for Cutting Tool Wear Monitoring during Turning Process
			A. BENDERRAG Univ. Oran 1 Silica-layered Double Hydroxide Nanoarchitectured Materials		M. MEDDOUR Univ. Bejaia Failure Prediction of GFRP Waste Bore based-sandwich Beams Subjected to Flexural Testing
14	15	Poster Session 2			Coffee Break
15	15	Oral Session 3 Mat. Synt. Char. Conference Room Session Chairs: Dr. ALIM Dr. TADJINE	S. NAITBACHIR USTHB Characterization of Mineral Insulating Oil in Transformers under AC Voltage Stress	Oral Session 3 Proc. Tech. and AI Room 133 Session Chairs: Dr. OUSSALAH Dr. SERHANE	L. HASSAINI USTHB Effect of Nanoclay Content on Morphology and Mechanical Properties of Compatibilized Poly(3 Hydroxybutyrate-Co-3-Hydroxyvalerate) (PHBV) Biocomposite
			I. BIBIMOUNE USTHB EDS and DSC Analysis of Forced Intermixing in Immiscible Cu-Cr Alloys		N. FERGUEN CDTA An Artificial Intelligence-based Approach for SEM Image Analysis of TBCs: Characterization and Detection of Defects
			A. SAHRAOUI USTHB Synthesis and Characterization of Ni-Mn and Co-Mn Catalysts for an Application in Photocatalysis Producing Green Hydrogen		N. BOUHELAL CDTA Isothermal Oxidation of Plasma Sprayed YSZ/MCrAlY Thermal Barrier Coating

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<table>
<tr><td colspan="2">Time</td><td colspan="3">Monday November 25th, 2024</td></tr>
<tr><td>9</td><td>00</td><td colspan="3">Plenary Session 2 / Session Chair: Dr. Salim HASSANI

Lokmane ABDELOUAHED
INSA – Rouen</td></tr>
<tr><td>10</td><td>00</td><td colspan="2">Poster Session 3
Coffee Break</td><td rowspan="5">Workshop</td></tr>
<tr><td rowspan="4">11</td><td rowspan="4">00</td><td rowspan="4">Oral Session 4
Mat. Synt. Char.

Conference Room

Session Chairs:
Dr. ABDELLI-MESSACI
Dr. LAFANE</td><td>M. BACHANI
ENP – Constantine
Au NPs-decorated Vanadium Dioxide Thin Films Synthesis for Gas Sensing Application</td></tr>
<tr><td>M. BADJI
USTO-MB
Synthesis of Bi-Fe-O based Thin Films via Sol-Gel assisted Spin Coating Technique</td></tr>
<tr><td>S. ZAABAT
Univ. Constantine 1
Investigation of ZnO Thin Films for Optical Applications</td></tr>
<tr><td>K. CHEMAA
Univ. Boumerdes
Stainless Steel Multilayer Coatings for Possible Application in Oil and Gas Industries</td></tr>
<tr><td>12</td><td>00</td><td colspan="3">Closing Ceremony</td></tr>
<tr><td>12</td><td>30</td><td colspan="3">Lunch</td></tr>
</table>

P1 - 1	Touffik BAOUZ (Univ. Bejaia): Compatibility and Thermo-mechanical and Morphological Properties of Melt-Mixed Blends of Poly (lactic acid)/recycled High Impact Polystyrene from Electric and Electronic Waste Equipment (PLA/rHIPS)	Mat. Synt. Char.
P1 - 2	Oualid CHINOUNE (Univ. Setif 1): The Effect of Third Element of Nickel Silicides (1nm W)	Mat. Synt. Char.
P1 - 3	Fahima INNAL (Univ. Skikda): Structural Characteristics of the TiW Layer Deposited by PVD at Different Thicknesses	Mat. Synt. Char.
P1 - 4	Fatima LATRECHE (Univ. Constantine 1): Optical Properties of Distributed Bragg Reflectors Prepared by the Sol-Gel Method	Mat. Synt. Char.
P1 - 5	Meryem MALLA (Univ. Guelma): The Mechanical and Tribological Properties of TiN Films on XC100 Steel Substrates	Mat. Synt. Char.
P1 - 6	Badra BOUCHAREB (Univ. Setif 1): Modification of Maghnite for the Elaboration of PVC Nanocomposites and Evaluation of Their Properties	Mat. Synt. Char.
P1 - 7	Mourad MIMOUNI (Univ. El Oued): Photopolymerization Monomer Nature and Neodymium Doping Effect on Structural Properties of Bi-2212 Superconducting Ceramics	Mat. Synt. Char.
P1 - 8	Nassima CHEBEL (NHSTE): A Study of the Structure and the Physical Characteristics of Gara Djebilet Iron Ore (Raw Material)	Mat. Synt. Char.
P1 - 9	Sarra BOUDJIT (Univ. Bejaia): Effect of Heat Treatment on Microstructure Evolution and Mechanical Properties of Ni-Cr Flame Sprayed Coating	Mat. Synt. Char.
P1 - 10	Fatma BOUZEBOUDJA (Univ. Tizi Ouzou): Substitution of River Sand by Waste Marble in a High Performances Mortar: Mechanical Characterization	Mat. Synt. Char.
P1 - 11	Anouar YAHIA (Univ. Biskra): Titanium Doped Indium Oxide Thin Films Prepared by Sol Gel via Spin Coating Method	Mat. Synt. Char.
P1 - 12	Amina BENDOUMI (USTHB): Characterization of Microstructure and Microhardness of C90 and C20 Carbons Steels after Laser Boriding Treatment	Proc. Tech.
P1 - 13	Fadia ZOUAD (Univ. Skikda): Design and Simulation of a Controller for a Delayed Fractional Chaotic System	Proc. Tech.
P1 - 14	Chaima SOUAIDI (Univ. Annaba): Multi-Objective Optimization in Sustainable Machining of AISI 52100 Bearing Steel using EDAS Method	AI
P1 - 15	Khaoula ABBED (Univ. Guelma): Enhancing Surface Quality, Power Consumption and Tool Life in Dry Machining of Ti-6Al-4V using TOPSIS based on Taguchi Approach	AI
P2 - 1	Chems Eddine RAMOUL (CRTI): Synthesis of Biodegradable Zn-Mg Alloys and Effect of Different Magnesium Contents on the Alloy	Mat. Synt. Char.
P2 - 2	Mania TERKI (USTHB): Synthesis and Characterization of a Nanomaterial based on Magnesium Oxide and Iron	Mat. Synt. Char.
P2 - 3	Radhia ELONG (Univ. Mostaganem): Elaboration of Biomass-Derived Functional Coating for Fruit Preservation	Mat. Synt. Char.
P2 - 4	Ferroudja LEMDANI (CDTA): Titanium-Nitride Coatings Prepared by Hipims Magnetron Sputtering	Mat. Synt. Char.
P2 - 5	Lyes DJEBARNI (CDTA): Nonlinear Laser-Plasma Interactions with non-Maxwellian Electrons	Mat. Synt. Char.

P2 - 6	Khalil GUELIFET (ENSK): Mixing Volumes of Mixtures of 2,2,2-Trifluoroethanol, 1-Hexanol, Toluene at Temperature T and Pressure 0,1 MPa	Mat. Synt. Char.
P2 - 7	Salma NAITBACHIR (USTHB): Electrical Impedance Spectroscopy (EIS) for Characterization of Transformer Mineral Oil	Mat. Synt. Char.
P2 - 8	Hayat AYACHE (CRNA): Synthesis and Characterization of Ordered Mesoporous Materiel	Mat. Synt. Char.
P2 - 9	Aicha BALI (USTHB): Preparation and Characterization of α-MoO3 Application to the Photodegradation of Methylene Bleu	Mat. Synt. Char.
P2 - 10	Lynda METREF (ESTA): Elaboration of a Thin Layer of PEDOT:PSS Semi-conductor Material Electrodeposited on a Flexible Substrate	Mat. Synt. Char.
P2 - 11	Hayet MISSOUNI (ENSK): Photopolymerization Monomer Nature and Neodymium Doping Effect on Structural Properties of Bi-2212 Superconducting Ceramics	Mat. Synt. Char.
P2 - 12	Nada AHMIA (Univ. Jijel): Construction of Direct Z-Scheme Heterostructure for Efficient Photocatalytic Degradation of an Organic Dye: Experimental and Theoretical Study	Mat. Synt. Char.
P2 - 13	Hadj LAHMAR (CDTA): Path Generation Method for Robotic Thermal Spraying on Free-form Surfaces Using Parts' CAD Models	Proc. Tech.
P2 - 14	Ammar RAMDANI (CDTA): PID Control Implemented on LabVIEW to Address the Alignment Issue in Optical Transmission Systems	Proc. Tech.
P2 - 15	Khadidja KHODJA (CDER): Numerical Investigation of Methane Decomposition by Non-thermal Plasma Process for Hydrogen Production	AI
P3 - 1	Hamza HARA (Univ. Bejaia): Structural Investigation of Pure Alumina and Nickel-Based Powders	Mat. Synt. Char.
P3 - 2	Salim KHIMA (Univ. Bejaia): Characteristics and Performance of Manganese Steels in the Mining Grinding Industry	Mat. Synt. Char.
P3 - 3	Salim BENAISSA (UROP - CDTA): Comprehensive Analysis of the Impact of Sulfur Oxide on the Optical Properties of Transparent Ceramics	Mat. Synt. Char.
P3 - 4	Roujaina BOUGANDOURA (Univ. Jijel): Modeling of High Temperature Superconducting Material in the Presence of an External Magnetic Field	Mat. Synt. Char.
P3 - 5	Hadjila BALIT (Univ. Bejaia): Generation of Three-dimensional Microstructure Model for Discontinuously Reinforced Composite by Modified Random Sequential Absorption Method	Mat. Synt. Char.
P3 - 6	Hanene BENDJEDDOU (Univ. Annaba): First-principles Study of Structural and Electronic Properties of the ZnSi1 – xSnxAs2 (x=0-1)	Mat. Synt. Char.
P3 - 7	Saliha LALLOUCHE (Univ. Chlef): Synthesis of Fe-Al thin film :X-ray peak profil analysis	Mat. Synt. Char.
P3 - 8	Lynda MOUHEB (Univ. Tizi Ouzou): Synthesis and Characterization of Keggin Type Vanadophosphomolybdate	Mat. Synt. Char.
P3 - 9	Imad CHEIKH (Univ. Oran 1): Annealing Temperature Effect on the Physico-chemical Properties of (ZnO/TiO2) Multilayers, Prepared by Thermal Evaporation	Mat. Synt. Char.
P3 - 10	Henni LAID (CDTA): Analysis of the Nitridation Impact on the Structural and Wettability Properties of TiAlN/NiCr Multilayer Coatings	Mat. Synt. Char.
P3 - 11	Chouaib DAOUDI (Univ. Skikda): Enhancing Photothermal Therapy with Core-Shell Nanoparticles: Applications in Subcutaneous Tumors	Proc. Tech.
P3 - 12	Raida ALEM (Univ. Blida): Simulation of Thin-Barrier AlGaN/GaN HEMT with High Al Mole Fraction using Al2O3 as Gate Insulator	Proc. Tech.
P3 - 13	Assala HAMIDANI (Univ. Bordj Bou Arreridj): Semi-empirical and Empirical Calculation of Kβ/Kα Intensity Ratios for Elements Ranging from 41Nb to 50Sn	AI