

## POSTER SESSIONS

### Poster Session #1 - Tuesday 12 September (17:30 – 19:30)

#### DEPO / Plasma - deposited coatings for optical, electronical and other functionalities

- #018** Effect of interfacial SiN<sub>x</sub> ultra-thin film on optical and electrical properties of PVD antireflective coating  
**B. Hiba<sup>1</sup>, G. Monier<sup>2</sup>, L. Bideux<sup>2</sup>, P. Hoggan<sup>2</sup>, A.Z. Dagou<sup>3</sup>, R. Ergun<sup>3</sup>, A. Bousquet<sup>4</sup>, E. Tomasella<sup>4</sup>**  
<sup>1</sup> Institut Pascal (IP), Institut de Chimie de Clermont-Ferrand ICCF – Clermont-Ferrand (FR)  
<sup>2</sup> Institut Pascal (IP) - Clermont-Ferrand (FR)  
<sup>3</sup> School of Engineering and Computing Sciences, Durham Univ. - Durham (UK)  
<sup>4</sup> Institut de Chimie de Clermont-Ferrand ICCF - Clermont-Ferrand (FR)
- #026** Effect of Tantalum addition on properties of Cu–Zr–based Thin Film Metallic Glasses (TFMGs)  
**S. Achache**  
LASMIS (FR)
- #039** Development and characterization of chromium-based PVD coatings for the protection of stainless steel bipolar plates for PEM fuel cells  
**J. Orrit-Prat, R. Bonet, S. Molas, A. Concustell, M. Bahillo, J. Caro**  
Eurecat, Centre Tecnològic de Catalunya, Unit of Metallic and Ceramic Materials - Manresa (ES)
- #067** Tailoring surface properties of Zr-V thin films by competitive self-separation of crystalline and amorphous phases during sputtering  
**Q. Liebgott<sup>1,2</sup>, A. Borroto<sup>3</sup>, S. Bruyère<sup>1</sup>, A. Ahmed<sup>2</sup>, D. Müller<sup>2</sup>, Z. Fernandez-Gutierrez<sup>1</sup>, R. El Beainou<sup>1</sup>, S. Migot<sup>1</sup>, F. Mücklich<sup>2</sup>, D. Horwat<sup>1</sup>**  
<sup>1</sup> Institut Jean Lamour - Nancy (FR)  
<sup>2</sup> Univ. Saarlandes - Saarbrücken (DE)  
<sup>3</sup> Univ. Rennes - Saint-Brieuc (FR)
- #182** Synthesis of multifunctional flexible Zn-Al based oxide thin film with antibacterial and moisture barrier properties using Atomic Layer Deposition system  
**J. Eom, T.Y. Cho, S.K. Cho**  
Korea Research Institute of Chemical Technology – Daejeon (KR)
- #193** Impact of plasma assistance on SiO<sub>2</sub> and HfO<sub>2</sub> thin films physicochemical and photometric aging properties  
**A. Soutenain<sup>1</sup>, M. Guy<sup>1</sup>, M. Chorel<sup>1</sup>, E. Lavastre<sup>1</sup>, E. Laborde<sup>2</sup>, P. Carles<sup>2</sup>, Y. Launay<sup>2</sup>, E. Hyvernaud<sup>2</sup>, S. Macnally<sup>3</sup>, M. Mireles<sup>3</sup>, A. Rigatti<sup>3</sup>, C. Ducros<sup>4</sup>, C. Dublanche-Tixier<sup>2</sup>**  
<sup>1</sup> CEA CESTA, Le Barp (FR)  
<sup>2</sup> Univ. Limoges, CNRS, IRCER, UMR 7315, Limoges (FR)  
<sup>3</sup> Laboratory for Laser Energetics, Univ. Rochester (US)  
<sup>4</sup> Univ. Grenoble Alpes, CEA, LITEN, DTNM, LCH, Grenoble (FR)

## Poster Session #1 - Tuesday 12 September (17:30 – 19:30)

#197 Sputtering techniques for smart textiles  
**D. Hegemann, M. Amberg, P. Rupper**  
*Empa - St.Gallen (CH)*

#207 Using evaporation to create hydrophobic coating  
**M. Soobaroyen**  
*Bronkhorst France - Montigny Les Cormeilles (FR)*

### GROM / Thin films growth and modelling

#063 Depth resolved XRD measurements using *in-situ* XRD during ion beam sputtering  
**D. Manova, S. Mändl**  
*Leibniz Institute of Surface Engineering - Leipzig (DE)*

#123 "MISSTIC": a multi-tool experimental setup for magnetron sputtering deposition combined with *in situ* and real-time characterization  
**R. Zapata<sup>1</sup>, H. Montigaud<sup>1</sup>, M. Balestrieri<sup>1</sup>, I. Gozhyk<sup>1</sup>, R. Lazzari<sup>2</sup>**  
<sup>1</sup>*Laboratoire Surface du Verre et Interfaces UMR 125 - Aubervilliers (FR)*  
<sup>2</sup>*Institut des Nanosciences de Paris UMR 7588 - Paris (FR)*

#126 Augmented reality representation for the investigation of simulated inclined chromium thin films  
**N. Watiez, D. Cotton, A. Besnard, R. Lou, H. Birembaux, J. Outeiro**  
*LaBoMaP - Cluny (FR)*

#149 Chromium carbide coatings by DC sputtering of a sintered target  
**A. Besnard<sup>1</sup>, Y. Pinot<sup>1</sup>, M.R. Ardigo-Besnard<sup>2</sup>, S. Lucas<sup>3</sup>, E. Haye<sup>4</sup>, L. Chavée<sup>4</sup>**  
<sup>1</sup>*Arts et Métiers Science and Technology - LaBoMaP - Cluny (FR)*  
<sup>2</sup>*Laboratoire Interdisciplinaire Carnot de Bourgogne (ICB) - Dijon (FR)*  
<sup>3</sup>*Innovative Coating Solutions (ICS) - Namur (BE)*  
<sup>4</sup>*Université de Namur, LARN laboratory, NISM - Namur (BE)*

#199 Ion beam sputter deposition of epitaxial Ga<sub>2</sub>O<sub>3</sub> thin films on C-plane Al<sub>2</sub>O<sub>3</sub>  
**D. Kalanov, Y. Unutulmazsoy, J.W. Gerlach, A. Lotnyk, J. Bauer, A. Anders, C. Bundesmann**  
*Leibniz Institute of Surface Engineering (IOM) - Leipzig (DE)*

## Poster Session #1 - Tuesday 12 September (17:30 – 19:30)

### HELIAG / Plasmas for health, agriculture and life science

- #044** Polysaccharide coatings for urinary catheters  
**A. Vesel<sup>1</sup>, N. Recek<sup>1</sup>, R. Zaplotnik<sup>1</sup>, K. Kuzmic<sup>2</sup>, L. Fras Zemljič<sup>2</sup>**  
<sup>1</sup> Jozef Stefan Institute - Ljubljana (SL)  
<sup>2</sup> Univ. Maribor, Faculty of Mechanical Engineering - Maribor (SL)
- #099** Plasma polymer coatings of non-planar materials for bioapplications  
**L. Janu<sup>1</sup>, D. Nečas<sup>1</sup>, E. Dvořáková<sup>1</sup>, M. Buchtelová<sup>1</sup>, L. Zajíčková<sup>1, 2, 3</sup>**  
<sup>1</sup> Plasma Technologies for Materials, CEITEC, Brno Univ. - Brno (CZ)  
<sup>2</sup> Dpt. Condensed Matter Physics, Masaryk Univ. - Brno (CZ)  
<sup>3</sup> Dpt. Theoretical and Experimental Electrical Engineering, Brno Univ. - Brno (CZ)
- #101** Towards a development of integrated micro-electro-apta-sensors into a diabetes organoid-on-a-chip device  
**A. Aubert<sup>1</sup>, G. Nonglaton<sup>1</sup>, Y. Thomas<sup>1</sup>, Y. Roupioz<sup>2</sup>**  
<sup>1</sup> Univ. Grenoble Alpes, CEA, LETI, DTBS - Grenoble (FR)  
<sup>2</sup> Univ. Grenoble Alpes, CNRS, CEA, IRIG, SyMMES - Grenoble (FR)
- #177** Influence of varying plasma parameters on the response of MG-63 osteoblast-like cells onto poly(allylamine) thin films  
**H. Salapare<sup>1</sup>, A. Airoudj<sup>1</sup>, R. Ramos<sup>1</sup>, F. Bally-Le Gall<sup>1</sup>, A. Ponche<sup>1</sup>, T. Petithory<sup>1</sup>, L. Pieuchot<sup>1</sup>, P. Fioux<sup>1</sup>, S. Seemann<sup>2</sup>, S. Staehlke<sup>2</sup>, J. Carneiro De Oliveira<sup>1</sup>, V. Roucoules<sup>1</sup>, J.B. Nebe<sup>2, 3</sup>, K. Anselme<sup>1</sup>**  
<sup>1</sup> Institut de Science des Matériaux de Mulhouse (IS2M) - CNRS - UHA - UMR 7361 - Mulhouse (FR)  
<sup>2</sup> Department of Cell Biology, Univ. Medical Center - Rostock (DE)  
<sup>3</sup> Department of Life, Light & Matter, Univ. Rostock - Rostock (DE)
- #203** Investigation of toxicity of plasma activated water on *lemna minor*  
**N. Puac<sup>1</sup>, O. Jovanovic<sup>1</sup>, A. Morina<sup>2</sup>, N. Skoro<sup>1</sup>**  
<sup>1</sup> Institute of Physics, Univ. Belgrade (RS)  
<sup>2</sup> Faculty of Science and Natural Resources, Univ. Malaysia Sabah, Sabah (MY)

### ITEC / Innovations & Technologies

- #107** Industrial technology for ta-C coatings deposition  
**J. Kluson<sup>1</sup>, M. Ucik<sup>1</sup>, M. Jilek<sup>1</sup>, A. Luemkemann<sup>2</sup>, H. Bolvardi<sup>2</sup>, B. Paul<sup>2</sup>**  
<sup>1</sup> Platit a.s. - Sumperk (CZ)  
<sup>2</sup> Platit AG - Selzach (CH)
- #110** Innovative conformal deposition solution into TSV integration for oxide, nitride, and metal layers by pulsed liquid precursor injection  
**M. Segers, P.D. Szkutnik, A. Pageau**  
Plasma-Therm Europe - Bernin (FR)

## Poster Session #1 - Tuesday 12 September (17:30 – 19:30)

### NANO / Nanomaterials and nanostructured thin films

- #017** Localized laser texturing of passivating nano-layer deposited by PVD for industrial olfactory sensors applications  
**S. Fabert<sup>1</sup>, W. Ravisy<sup>1</sup>, L. Dubost<sup>1</sup>, S. Ponton<sup>1</sup>, N. Morel<sup>2</sup>, C. Herrier<sup>2</sup>**  
<sup>1</sup> IREIS, Groupe HEF - Andrézieux-Bouthéon (FR)  
<sup>2</sup> ARYBALLE - Grenoble (FR)
- #096** Zirconium-based nanocatalysts by sputtering onto glycerol and solid carbon  
**A. Caillard<sup>1</sup>, S. Atmane<sup>1</sup>, S. Fazeli<sup>1</sup>, E. Millon<sup>1</sup>, A.L. Thomann<sup>1</sup>, P. Brault<sup>1</sup>, N. Neha<sup>2</sup>, T. Rifaideen<sup>2</sup>, C. Coutanceau<sup>2</sup>**  
<sup>1</sup> GREMI, Univ. Orléans / CNRS - Orléans (FR)  
<sup>2</sup> IC2MP, Univ. Poitiers / CNRS - Poitiers (FR)
- #132** Direct liquid reactor-injector of nanoparticles: a safer-by-design aerosol injection for nanocomposite thin-film deposition adapted to various plasma-assisted processes  
**L. Stafford<sup>1</sup>, G. Carnide<sup>2</sup>, L. Cacot<sup>1</sup>, N. Naudé<sup>2</sup>, M. Kahn<sup>3</sup>, R. Clergereaux<sup>3</sup>**  
<sup>1</sup> Univ. Montréal - Montréal (CA)  
<sup>2</sup> CNRS-LAPLACE - Toulouse (FR)  
<sup>3</sup> CNRS-LCC - Toulouse (FR)
- #194** Structural and chemical characterizations of nanostructured cermet aluminium oxy-nitride / copper films  
**P-L. Martin, M. Richard-Plouet, N. Gautier, J. Hamon, P.Y. Jouan, V. Brien**  
Nantes Univ., CNRS, Institut des Matériaux de Nantes Jean Rouxel, IMN, Nantes (FR)
- #202** Synthesis of ultra-thin film MAA:PEGDMA hydrogels with customized properties by atmospheric pressure plasma  
**J. Sans<sup>1,2</sup>, I. Azevedo<sup>1</sup>, R. Quintana<sup>1</sup>**  
<sup>1</sup> Materials Research & Technology Dpt., Luxembourg Inst. Science and Technology - Esch/Alzette (LU)  
<sup>2</sup> Dpt. Enginyeria Química, EEBE Univ. Politècnica de Catalunya - Barcelona (ES)

## Poster Session #1 - Tuesday 12 September (17:30 – 19:30)

### PROC / Process control (including plasma diagnostics, plasma modelling)

- #098** Optical diagnostics of a N<sub>2</sub>/Ar microplasma for the deposition of hexagonal boron nitride  
**B. Menacer, A. Remigy, C. Lazzaroni, K. Gazeli, G. Lombardi, S. Prasanna, X. Aubert**  
*Univ. Sorbonne Paris Nord, LSPM, CNRS - Villetaneuse (FR)*
- #129** Tuning plasma-droplet interactions in Dielectric Barrier Discharge at atmospheric pressure for thin-film deposition  
**L. Stafford<sup>1</sup>, L. Cacot<sup>1</sup>, R. Clergereaux<sup>2</sup>, N. Naudé<sup>3</sup>**  
<sup>1</sup> *Univ. Montréal - Montréal (CA)*  
<sup>2</sup> *CNRS-LAPLACE - Toulouse (FR)*  
<sup>3</sup> *UPS-LAPLACE - Toulouse (FR)*
- #131** Time-resolved optical emission spectroscopy analysis of a low-pressure RF plasma with pulsed injection of argon, pentane and ZnO nanoparticles  
**M. Dion<sup>1,2</sup>, R. Clergereaux<sup>2</sup>, L. Stafford<sup>1</sup>**  
<sup>1</sup> *Univ. Montréal - Montréal (CA)*  
<sup>2</sup> *LAPLACE - Toulouse (FR)*
- #137** Developing a method with optical emission spectroscopy to control thin layer in R-HiPIMS deposition process  
**D. Boivin<sup>1</sup>, A. Najah<sup>1</sup>, R. Jean-Marie-Désirée<sup>2</sup>, S. Cuynet<sup>2</sup>, L. De Poucques<sup>2</sup>**  
<sup>1</sup> *GREMI, UMR7344 Univ. Orléans/CNRS - Orléans (FR)*  
<sup>2</sup> *Univ. Lorraine, CNRS, IJL, Campus ARTEM - Nancy (FR)*
- #142** Study of N<sub>2</sub>/H<sub>2</sub> plasmas produced by an active screen source: contamination due to NO production and role of hydrogen in the gas mixture  
**R. Hugon<sup>1</sup>, G. Marcos<sup>1</sup>, O. Carrivain<sup>2</sup>, C. Noël<sup>1</sup>, T. Czerwec<sup>1</sup>**  
<sup>1</sup> *Institut Jean Lamour (IJL), Département CP2S, UMR 7198 CNRS, Univ. Lorraine - Nancy (FR)*  
<sup>2</sup> *HEPIA/HES-SO, Univ. Applied Sciences of Western Switzerland - Geneva (CH)*
- #174** Impact of electronegativity and monoenergetic electrons on the properties of electrostatic sheaths in magnetized discharge plasmas  
**S. Chekour<sup>1</sup>, A. Tahraoui<sup>1</sup>, Z. Kechidi<sup>2</sup>, N. Rebiai<sup>1</sup>, N. Fouial<sup>1</sup>, F. Abdedou<sup>1</sup>**  
<sup>1</sup> *Quantum Electronics Laboratory, Faculty of Physics, USTHB (DZ)*  
<sup>2</sup> *Laboratory of Electrical Engineering and Automatics - Media (DZ)*
- #185** Pulsed aerosol assisted plasma deposition: influence of the injection parameters  
**R. Clergereaux<sup>1</sup>, B. Briet<sup>1</sup>, M. Feron<sup>1,2</sup>, V. Orlandi<sup>1,3</sup>, G. Carnide<sup>4,5</sup>, M. Cavarroc<sup>6</sup>, M. Kahn<sup>4</sup>**  
<sup>1</sup> *CNRS-Laplace - Toulouse (FR)*  
<sup>2</sup> *CNRS-LCC - Toulouse (FR)*  
<sup>3</sup> *CNES-Spaceship - Toulouse (FR)*  
<sup>4</sup> *CNRS-LCC - Toulouse (FR)*  
<sup>5</sup> *Safran Tech - Magny Les Hameaux (FR)*  
<sup>6</sup> *Safran Tech - Magny Les Hameaux (FR)*

## Poster Session #1 - Tuesday 12 September (17:30 – 19:30)

**#189** In-situ temperature measurement of components in PECVD machines with a 3-fold rotation  
**P. Jäckh, D. Tiedemann, P. Hofmann, N. Holfelder**  
*Robert Bosch Manufacturing Solutions GmbH - Stuttgart (DE)*

**#195** Equivalent electrical circuit modeling of a He dielectric barrier discharge plasma jet  
**M. Puač<sup>1</sup>, N. Škoro<sup>1</sup>, K. Kutasi<sup>2</sup>, N. Puač<sup>1</sup>**  
<sup>1</sup>*Institute of Physics, Univ. Belgrade (RS)*  
<sup>2</sup>*Wigner Research Centre for Physics, Budapest (HU)*

### **SOUR / Plasma sources and electrical discharges**

**#143** Dynamics of the material ejection in a dipolar arc in DC regime and its connection to the arc noise  
**R. Hugon<sup>1</sup>, A. Helle<sup>1</sup>, F. Brochard<sup>1</sup>, S. Chouchène<sup>1,2</sup>, G. Marcos<sup>1</sup>, P. Sschweitzer<sup>1</sup>**  
<sup>1</sup>*Univ. Lorraine, Institut Jean Lamour, Campus ARTEM, Nancy (FR)*  
<sup>2</sup>*Apex Solutions, Pulligny (FR)*

**#152** O<sub>2</sub> shielding modulates the spatiotemporal density of Ar(1s<sub>5</sub>) in argon atmospheric-pressure micro-plasma jets  
**J. Santos Sousa<sup>1</sup>, D. Goncalves<sup>1,2</sup>, G. Bauville<sup>1</sup>, P. Jeanney<sup>1</sup>, L. Lemos Alves<sup>2</sup>, M. Lino da Silva<sup>2</sup>, S. Pasquiers<sup>2</sup>**  
<sup>1</sup>*Univ. Paris-Saclay, CNRS, Laboratoire de Physique des Gaz et des Plasmas - Orsay (FR)*  
<sup>2</sup>*Instituto de Plasmas e Fusão Nuclear, Instituto Superior Técnico, Univ. Lisboa - Lisboa (PT)*

**#158** New micro-plasma reactors for the synthesis of heterostructures of 2D films of hexagonal boron nitride and graphene  
**A-A. Halfaoui, G. Bauville, S. Pasquiers, J. Santos Sousa**  
*Univ. Paris-Saclay, CNRS, Laboratoire de Physique des Gaz et des Plasmas - Orsay (FR)*

## POSTER SESSIONS

### Poster Session #2 – Wednesday 13 September (16:35 – 18:30)

#### DEPO / Plasma - deposited coatings for optical, electronical and other functionalities

- #021** Plasma magnetron sputtering using combinatorial approach to deposit complex alloys thin films  
**D. Boivin<sup>1</sup>, A. Jagodar<sup>1</sup>, A. Caillard<sup>1</sup>, M. Cavarroc<sup>2</sup>, P. Brault<sup>1</sup>, A.L. Thomann<sup>1</sup>**  
<sup>1</sup> GREMI, UMR 7344 Université d'Orléans/CNRS - Orléans (FR)  
<sup>2</sup> SAFRAN Tech - Magny-Les-Hameaux (FR)
- #032** Solar-blind photodetectors based on  $\beta$ -Ga<sub>2</sub>O<sub>3</sub> fabricated by oxygen plasma assisted-pulsed laser deposition  
**E. Kim, T. Kim, Y. Kim, W.C. Jeong**  
Department of Physics, Hanyang Univ. - Seoul (KR)
- #090** Plasma decontamination of surfaces using a microwave torch – assessment of the additional role of a TiO<sub>2</sub> photocatalytic layer  
**C. Dublanche-Tixier<sup>1</sup>, L. Renoux<sup>1</sup>, L. Youssef<sup>1</sup>, P. Tristant<sup>1</sup>, C. Chazelas<sup>1</sup>, C. Maftah<sup>2</sup>, P. Leprat<sup>2</sup>**  
<sup>1</sup> Univ. Limoges, CNRS, IRCER, UMR 7315 - Limoges (FR)  
<sup>2</sup> Univ. Limoges, E2Lim - Limoges (FR)
- #094** Elaboration and characterization of WO<sub>3</sub>/TiO<sub>2</sub> nanostructured photoanodes for solar water splitting  
**J. Pulpytel, T. Lang, F. Arefi-Khonsari, A. Pailleret**  
LISE (UMR8235) - Sorbonne Univ. - CNRS - Paris (FR)
- #130** Superelastic TiZrNb and TiZrNbSn coatings for biomedical applications  
**G. Abadias<sup>1</sup>, T. Choquet<sup>1, 2</sup>, H. Chigama<sup>3</sup>, A. Fillon<sup>4</sup>, A. Michel<sup>1</sup>, D. Laille<sup>4</sup>, Y. Robin<sup>1</sup>, P. Vigneron<sup>3</sup>, M. Vayssade<sup>3</sup>, T. Gloriant<sup>4</sup>**  
<sup>1</sup> Institut Pprime - Poitiers (FR)  
<sup>2</sup> INSA Rennes - Rennes (FR)  
<sup>3</sup> Univ. Technologie de Compiègne - Compiègne (FR)  
<sup>4</sup> INSA Rennes - Rennes (FR)
- #183** Fabrication of high-quality moisture barrier film using SiN<sub>x</sub>/SiOF/SiN<sub>x</sub> via pilot-scale roll-to-roll PECVD system  
**T. Cho, J. Eom, S. Cho**  
Korea Research Institute of Chemical Technology - Daejeon (KR)



**Poster Session #2 – Wednesday 13 September (16:35 – 18:30)**

- #198** Thin-film hydrogels deposited by atmospheric-pressure nano-second plasma-induced polymerization of MAA:EGDMA  
**I. Azevedo Goncalves<sup>1,2</sup>, J. Sans<sup>3</sup>, D. Abessolo Ondo<sup>1</sup>, N.D. Boscher<sup>1</sup>, R. Quintana<sup>1</sup>**  
<sup>1</sup> Luxembourg Institute of Science and Technology (LIST) - Esch-sur-Alzette (LU)  
<sup>2</sup> Univ. Luxembourg - Esch-sur-Alzette (LU)  
<sup>3</sup> Univ. Politècnica de Catalunya (UPC) - Barcelona (ES)
- #208** Synthesis and characterization of chromium doped VO<sub>2</sub> thin films for new applications  
**J. Capdevila<sup>1,2</sup>, C. Champeaux<sup>1</sup>, F. Dumas-Bouchiat<sup>1</sup>, D. Koch<sup>2</sup>, M. Chaker<sup>2</sup>**  
<sup>1</sup> Univ. Limoges, CNRS, IRCER, UMR 7315, Limoges (FR)  
<sup>2</sup> Institut National de la Recherche Scientifique Énergie Matériaux Télécommunications, Québec – Varennes (CA)
- PLACC / Plasmas for conversion and catalysis**
- #014** Synthesis of nanoparticles by reactive magnetron sputtering on ionic liquid for photocatalytic applications, from metallic to Bi-based compound nanoparticles  
**A. Bousquet<sup>1</sup>, S. Ibrahim<sup>1</sup>, V. Ntomprougkidis<sup>1</sup>, M. Traikia<sup>1</sup>, G. Monier<sup>2</sup>, J.M. Andanson<sup>1</sup>, P. Bonnet<sup>1</sup>**  
<sup>1</sup> ICCF - Clermont-Ferrand (FR)  
<sup>2</sup> IP - Clermont-Ferrand (FR)
- #047** Dissociation of ammonia by microwave discharges in medium pressure range: an experimental study  
**M. Awaji, T. Belmonte, C. Noel, M. Belmahi, T. Gries**  
Univ. Lorraine, CNRS, IJL - Nancy (FR)
- #186** Discharge initiated synthesis of molecular life precursors in carbon monoxide based atmospheres  
**F. Krcma, J. Vesela, S. Chudjak**  
Brno Univ. Technology, Faculty of Chemistry - Brno (CZ)
- #205** Impact of water on atmospheric plasma ethanol conversion for hydrogen production using nano-pulsed plasma reactor  
**D. Lojen, L. Nyssen, T. Fontaine, D. Petitjean, N. Chandra Roy, F. Reniers**  
ChemSIN, Univ. Libre de Bruxelles - Bruxelles (BE)



## Poster Session #2 – Wednesday 13 September (16:35 – 18:30)

### NANO / Nanomaterials and nanostructured thin films

- #054** GLAD sputtering of nanostructured Ta thin films: influence of deposition angle on electrical resistivity at cryogenic temperature  
**H. Gerami, J.M. Cote, R. Salut, N. Martin**  
*Institut FEMTO-ST, UMR 6174, CNRS Univ. Bourgogne Franche-Comté - Besançon (FR)*
- #072** Galvanic corrosion-based antibacterial bimetallic nanoparticles produced by cylindrical gas aggregation source  
**N. Khomiakova<sup>1</sup>, D. Nikitin<sup>1</sup>, H. Biederman<sup>1</sup>, M. Cieslar<sup>1</sup>, Y. Al-Muhkhrabi<sup>2</sup>, D. Kahoun<sup>2</sup>, J. Lieskovská<sup>2</sup>, J. Kratochvíl<sup>2</sup>, O. Kylián<sup>1</sup>**  
<sup>1</sup> Charles Univ., Faculty of Mathematics and Physics, Prague (CZ)  
<sup>2</sup> Univ. South Bohemia, Faculty of Science, České Budějovice (CZ)
- #118** Laser beam nanostructuring of Gadolinium-Doped Cerium oxide (GDC) oxide thin films deposited by plasma magnetron sputtering  
**A-L. Thomann<sup>1</sup>, W. Karim<sup>1</sup>, A. Petit<sup>1</sup>, E. Millon<sup>1</sup>, J. Vuillet<sup>2</sup>, M. Tabbal<sup>3</sup>, N. Semmar<sup>1</sup>**  
<sup>1</sup> GREMI CNRS/Univ. Orléans - Orléans (FR)  
<sup>2</sup> CEA Le Ripault - Mons (FR)  
<sup>3</sup> American Univ. Beirut - Beirut (LB)
- #190** Plasma assisted nitriding of 2D transition metal carbide (MXENE) thin films  
**L. Pichon<sup>1</sup>, N. Decamps<sup>1</sup>, A. Benmoumen<sup>1</sup>, M.L. David<sup>1</sup>, S. Celerier<sup>2</sup>, L. Loupias<sup>2</sup>, P. Moreau<sup>3</sup>, M. Drouet<sup>1</sup>, V. Mauchamp<sup>1</sup>**  
<sup>1</sup> Univ. Poitiers, ISAE-ENSMA, CNRS, PPRIME - Poitiers (FR)  
<sup>2</sup> Univ. Poitiers, CNRS, IC2MP - Poitiers (FR)  
<sup>3</sup> Nantes Univ., CNRS, IMN, - Nantes (FR)
- #204** YTTRIA-stabilized zirconia thin films prepared by radio frequency magnetron sputtering for oxygen sensors  
**A. Benayache**  
*IM2NP - Marseille (FR)*

## Poster Session #2 – Wednesday 13 September (16:35 – 18:30)

### LIQU / Plasma and liquids

- #178** Influence of  $\sigma$  and  $\epsilon$  on the streamer dynamics at water surface  
**A. Hamdan, A. Herrmann**  
*Univ. Montréal (CA)*
- #192** Plasma assisted modification of colloidal Zn nanoparticles  
**K. Kutasi<sup>1</sup>, Z. Tóth<sup>2</sup>**  
<sup>1</sup>Wigner Research Centre for Physics, Institute for Solid State Physics and Optics - Budapest (HU)  
<sup>2</sup>Department of Medical Physics and Informatics, Univ. Szeged (HU)
- #200** Can process parameters significantly influence the size of silver nanoparticles synthesized by sputtering onto liquids?  
**H. Lasfargues<sup>1</sup>, L.C. Freymann<sup>1</sup>, S. Shankar<sup>1</sup>, R. Sahu<sup>2</sup>, C. Scheu<sup>2</sup>, J.M. Schneider<sup>1</sup>, C. Azina<sup>1</sup>**  
<sup>1</sup>Materials Chemistry, RWTH Aachen Univ. - Aachen (DE)  
<sup>2</sup>Max-Planck-Institut für Eisenforschung GmbH - Dusseldorf (DE)

### GROM / Thin films growth and modelling

- #007** The influence of structural design on the properties of TiN coatings  
**D. Munteanu<sup>1</sup>, I. Borsan<sup>1</sup>, C. Gabor<sup>1</sup>, M.A. Pop<sup>1</sup>, C. Lopes<sup>2</sup>, F. Macedo<sup>2</sup>, M. Rodrigues<sup>2</sup>, F. Vaz<sup>2</sup>**  
<sup>1</sup>Transilvania Univ. - Brasov (RO)  
<sup>2</sup>Minho Univ. - Braga (PT)
- #070** Modelling of thin film deposition into nanofibrous mats  
**D. Nečas**  
*CEITEC, Brno Univ. Technology - Brno (CZ)*
- #127** Analyse of the angular distribution of the columns of chromium tilted thin films through a comprehensive simulation  
**N. Watiez<sup>1</sup>, A. Besnard<sup>1</sup>, P. Moskovkin<sup>2</sup>, R. Lou<sup>1</sup>, H. Birembaux<sup>1</sup>, J. Outeiro<sup>1</sup>, S. Lucas<sup>2</sup>**  
<sup>1</sup>LaBoMaP - Cluny (FR)  
<sup>2</sup>LARN - Namur (BE)
- #134** Biased reactive high power impulse sputtering of silica  
**M. Serényi, G. Safran**  
*MFA Center of Energy Research – Budapest (HU)*

## Poster Session #2 – Wednesday 13 September (16:35 – 18:30)

### SURF / Plasma - surface interactions

- #059** *In-situ* FTIR spectroscopic analysis of plasma activation and plasma polymer film deposition on polylactid acid  
**H. Müller, S. Golebiowska, G. Grundmeier**  
*Technical and Macromolecular Chemistry, Paderborn Univ. - Paderborn (DE)*
- #136** How to functionalize PVD ZrCu-based thin film metallic glasses? Effect of an ultrashort laser surface treatment  
**P. Steyer<sup>1</sup>, N. Lebrun<sup>1</sup>, Z. Fernandez Gutierrez<sup>2</sup>, H. Bruhier<sup>3</sup>, M. Prudent<sup>3</sup>, C. Der Loughian<sup>1</sup>, S. Dassonneville<sup>1</sup>, A. Borroto<sup>2</sup>, F. Bourquard<sup>3</sup>, M. Rousseau<sup>4</sup>, J.F. Pierson<sup>2</sup>, J.P. Colombier<sup>3</sup>, F. Garrelie<sup>3</sup>**  
<sup>1</sup> INSA-Lyon, MATEIS Lab. - Villeurbanne (FR)  
<sup>2</sup> Univ. Lorraine, IJL - Nancy (FR)  
<sup>3</sup> Univ. St Etienne, LabHC - St-Etienne (FR)  
<sup>4</sup> Univ. St Etienne, Sainbiose Lab. - St-Etienne (FR)
- #138** Functionalization of MIL-53(Al) by means of ECR plasma treatment: a feasibility study  
**R. Jean-Marie-Desiree<sup>1</sup>, A. Najah<sup>2</sup>, G. Marcos<sup>1</sup>, S. Cuynet<sup>1</sup>, L. De Poucques<sup>1</sup>**  
<sup>1</sup> IJL - CNRS - Nancy (FR)  
<sup>2</sup> GREMI - CNRS - Orléans (FR)
- #155** Increasing the hydrogen storage capacities of MIL-53 Al by amino-grafting functionalization using an impulse Dielectric Barrier Discharge plasma  
**A. Najah<sup>1</sup>, D. Boivin<sup>2</sup>, R. Jean-Marie Desirée<sup>3</sup>, R. Luan Sehn Canevesi<sup>4</sup>, V. Fierro<sup>4</sup>, L. De Poucques<sup>3</sup>, G. Henrion<sup>3</sup>, S. Cuynet<sup>3</sup>**  
<sup>1</sup> GREMI, UMR7344 Univ. Orléans/CNRS - Bourges (FR)  
<sup>2</sup> GREMI, UMR7344 Univ. Orléans/CNRS - Orléans (FR)  
<sup>3</sup> Univ. Lorraine, CNRS, IJL - Nancy (FR)  
<sup>4</sup> Univ. Lorraine, CNRS, IJL - Epinal (FR)
- #157** Plasma surface modification of glass and stainless steel by an atmospheric-pressure air DBD treatment  
**A. Najah, F. Faubert, I. Géraud-Grenier, M. Wartel, S. Pellerin**  
*GREMI, UMR7344 Univ. Orléans/CNRS - Bourges (FR)*
- #159** Study by Optical Emission Spectroscopy (OES) of the characteristics of the plasma jet produced by an Axial Injection Torch (TIA): influence of a substrate placed on the jet axis  
**C. Chazelas, L. Renoux, P. Tristant, C. Dublanche Tixier**  
*Univ. Limoges, CNRS, IRCER, UMR 7315 - Limoges (FR)*
- #181** Towards accurate sputtering simulations: developing machine learning-based interatomic potentials for silicon  
**Y. Kotani<sup>1</sup>, S. Hamaguchi<sup>1</sup>, H. Kino<sup>2</sup>**  
<sup>1</sup> Center for Atomic and Molecular Technologies, Univ. Osaka (JP)  
<sup>2</sup> National Institute for Materials Science (NIMS) - Ibaraki (JP)

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**#184** Surface wettability modification of polyimide films by pulsed magnetron sputtering

**M. Barrera, F. Fietzke**

*Fraunhofer FEP - Dresden (DE)*

**#187** Advancing NH<sub>3</sub> sensing with plasma reduction of graphene oxide

**A. Kurtishaj<sup>1,2</sup>, N. Marath Santhosh<sup>1,2</sup>, V. Shvalya<sup>1</sup>, U. Cvelbar<sup>1,2</sup>**

<sup>1</sup> *Department of Gaseous Electronics (F6), Jožef Stefan Institute, Ljubljana (SI)*

<sup>2</sup> *Jožef Stefan International Post Graduate School, Ljubljana (SI)*

**#188** Hydrogen plasma reduction of regolith simulant

**J. Kadok<sup>1,2</sup>, S. Bulou<sup>1</sup>, P. Choquet<sup>1</sup>**

<sup>1</sup> *Luxembourg Institute of Science and Technology (LU)*

<sup>2</sup> *European Space Resources Innovation Centre (LU)*

### TRIB / Plasma - deposited protective and tribological coatings

**#013** Mechanical properties and tribological performances of AlTiZrTaHf(-N) high entropy nitrides deposited by reactive magnetron sputtering

**M. El Garah<sup>1</sup>, D.E. Touaibia<sup>1</sup>, S. Achache<sup>1</sup>, A. Michau<sup>2</sup>, E. Sviridova<sup>3</sup>, P.S. Postnikov<sup>3</sup>, M.M. Chehimi<sup>4</sup>, F. Schuster<sup>2</sup>, F. Sanchette<sup>1</sup>**

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<sup>4</sup> *Univ. Paris, ITODYS, UMR CNRS 7086 - Paris (FR)*

**#038** Development and characterization of ultra-hard DLC coatings for high quality machining of high strength aluminium alloys

**J. Caro<sup>1</sup>, G. Ramirez<sup>1</sup>, J.M. Gonzalez Castro<sup>2</sup>, J. Orrit-Prat<sup>1</sup>, R. Bonet<sup>1</sup>, N. Cuadrado<sup>1</sup>, M. Visaleca<sup>1</sup>, L. Carreras<sup>3</sup>**

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<sup>3</sup> *Tratamientos Térmicos Carreras S.A. - Sabadell (ES)*

**#056** Properties of tungsten-tantalum diboride coatings deposited by HiPIMS

**R. Psiuk, T. Moscicki**

*Institute of Fundamental Technological Research PAS - Warsaw (PL)*

**#083** Effect of annealing temperature on morphological and microstructural properties of CrN-MoN multilayers deposited by reactive magnetron sputtering

**R. Mareus<sup>1</sup>, A. Caillard<sup>1</sup>, A.L. Thomann<sup>1</sup>, G. Rosiere<sup>1,2</sup>, C. Richard<sup>3</sup>, M. Amigou<sup>2</sup>**

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<sup>3</sup> *GREMAN UMR 7347 Univ. Tours / CNRS - Tours (FR)*

**Poster Session #2 – Wednesday 13 September (16:35 – 18:30)**

- #114** Zirconium-based thin film metallic glasses prepared by magnetron sputtering  
**P. Souček<sup>1</sup>, J. Ženíšek<sup>1</sup>, T. Schmidtová<sup>1</sup>, V. Buršíková<sup>1</sup>, P. Vašina<sup>1</sup>, A. Kubiček<sup>2</sup>, V. Sochora<sup>2</sup>**  
<sup>1</sup> Masaryk Univ. - Brno (CZ)  
<sup>2</sup> SHM s.r.o. - Šumperk (CZ)
- #156** Increasing the thickness of sputtered Cr films by HiPIMS-DOMS  
**S. Adebayo, R. Serra, J. Oliveira**  
CEMMPRE, Univ. Coimbra - Coimbra (PT)
- #176** Influence of temperature on the properties of W-Ti-B coatings deposited with the HIPIMS method  
**T. Moscicki<sup>1</sup>, R. Psiuk<sup>1</sup>, M. Ciemiorek-Bartkowska<sup>2</sup>, M. Lewandowska<sup>2</sup>**  
<sup>1</sup> Institute of Fundamental Technological Research, Polish Academy of Sciences - Warsaw (PL)  
<sup>2</sup> Warsaw Univ. Technology, Faculty of Materials Science and Engineering - Warsaw (PL)
- #201** Plasma electrolytic oxidation of additively manufactured AlSi10MG alloy  
**P. Broniszewska-Wojdał, P. Pawłowski**  
Institute of Fundamental Technological Research, Polish Academy of Sciences - Warsaw (PL)