

## MONDAY, SEPTEMBER 13<sup>TH</sup> – MORNING

### 08:45 Opening Ceremony

#### LIQU / Plasma and liquids

Plenary Room

09:00 Large volume liquid treatment with high-density microwave plasma

*Plenary speaker*

**H. Toyoda** - Nagoya Univ. (JP)

#### SURF / Plasma-surface interactions

Plenary Room

09:45 Renewable energy driven non-equilibrium chemistry: Plasma chemistry as the special case"

*Plenary speaker*

**R. van de Sanden** - Differ, Eindhoven (NL)

10:30

*Break 30'*

#### ENER 1 / Renewable energies

Room A

11:00 Investigation of the aptness of pulsed laser deposition for the sequential fabrication of Cu(In,Ga)Se<sub>2</sub>-based thin-film solar cells

**E. Kyriakides<sup>1</sup>, P. Ioannou<sup>1</sup>, C. Nikolaou<sup>1</sup>, V. Paraskeva<sup>2</sup>, M. Hadjipanayi<sup>2</sup>, G. Georghiou<sup>2</sup>, P. Papagiorgis<sup>3</sup>, G. Itskos<sup>3</sup>, J. Giapintzakis<sup>1</sup>**

<sup>1</sup> Department of Mechanical and Manufacturing Engineering, Univ. Cyprus, Nicosia (CY)

<sup>2</sup> PV Technology Laboratory, Dpt. of Electrical and Computer Engineering, Univ. Cyprus, Nicosia (CY)

<sup>3</sup> Department of Physics, Experimental Condensed Matter Physics Laboratory, Univ. Cyprus, Nicosia (CY)

11:15 Low-temperature air plasma mineralization of low-cost mesoporous titania-based electron-transport layer in perovskite solar cells

**J. Vida<sup>1</sup>, M. Shekargoftar<sup>1</sup>, J. Pospíšil<sup>2</sup>, P. Dzik<sup>2</sup>, T. Homola<sup>1</sup>**

<sup>1</sup> Department of Physical Electronics, Faculty of Science, Masaryk Univ., Brno (CZ)

<sup>2</sup> Faculty of Chemistry, Brno Univ., Brno (CZ)

11:30 Influence of the silver content in (Ag,Cu)I thin films on their optical and electrical properties

**O. Madkhali<sup>1,2</sup>, A. Redjaimia<sup>1</sup>, S.O.S. Hamady<sup>3</sup>, F. Alnjiman<sup>1</sup>, A.E. Giba<sup>1,4</sup>, M. Jullien<sup>1</sup>, J.F. Pierson<sup>1</sup>**

<sup>1</sup> Institut Jean Lamour (UMR CNRS 7198), Univ. Lorraine, Nancy (FR)

<sup>2</sup> Department of Physics at College of Science, Jazan Univ., Saudi Arabia (SA)

<sup>3</sup> Laboratoire Matériaux Optiques, Photonique et Systèmes, Univ. Lorraine, Metz (FR)

<sup>4</sup> National Institute of Laser Enhanced Sciences, Cairo Univ., Giza (EG)

11:45 Tailored electrodes for solid acid fuel cells via sputtering: Improved platinum utilization via optimized layer microstructure

**A. Kühne<sup>1</sup>, O. Lorenz<sup>1</sup>, M. Rudolph<sup>1</sup>, A. Anders<sup>1,2</sup>, B. Abel<sup>1,3</sup>**

<sup>1</sup> Leibniz Institute of Surface Engineering (IOM), Leipzig (DE)

<sup>2</sup> Felix Bloch Institute of Solid State Physics, Leipzig Univ. (DE)

<sup>3</sup> Department of Chemistry and Mineralogy, Leipzig Univ. (DE)

12:00 Carbon-based coatings deposited by HiPIMS for metallic bipolar plates with enhanced durability performance

**M. Panizo Laiz<sup>1,2</sup>, J.A. Santiago<sup>3</sup>, I. Fernández<sup>3</sup>, M. Morales<sup>4,2</sup>, C. Molpeceres<sup>4,2</sup>**

<sup>1</sup> Instituto de Fusión Nuclear "Guillermo Velarde" (UPM), Madrid (ES)

<sup>2</sup> Departamento de Física Aplicada e Ingeniería de Materiales. (ETSII-UPM), Madrid (ES)

<sup>3</sup> Nano4Energy SL, Madrid (ES)

<sup>4</sup> Centro Láser, UPM, Madrid (ES)

12:15 Discussion with morning speakers 60'

## MONDAY, SEPTEMBER 13<sup>TH</sup> – MORNING

### SURF 1 / Plasma - surface interactions

Room B

- 11:00 Relation between CH<sub>4</sub> yield and CO emission intensity gradient in plasma-assisted CO<sub>2</sub> methanation  
**M. Ideguchi<sup>1</sup>, T. Hasegawa<sup>1</sup>, K. Kamataki<sup>1</sup>, S. Toko<sup>2</sup>, D. Yamashita<sup>1</sup>, N. Itagaki<sup>1</sup>, K. Koga<sup>1,3</sup>, M. Shiratani<sup>1</sup>**  
<sup>1</sup> Kyushu Univ., Fukuoka (JP)  
<sup>2</sup> Osaka Univ. (JP)  
<sup>3</sup> NIFS - Tokyo (JP)
- 11:15 Molecular dynamics simulations of CH<sub>4</sub> plasma deposition on stainless steel surfaces: C<sub>2</sub>H<sub>3</sub><sup>+</sup> bombardment on hydrocarbon films  
**G. Otakandza Kandjani<sup>1</sup>, P. Brault<sup>1</sup>, M. Mikikian<sup>1</sup>, G. Tetard<sup>2</sup>, A. Michau<sup>2</sup>, K. Hassouni<sup>2</sup>**  
<sup>1</sup> GREMI, UMR7344, CNRS -Univ. Orléans (FR)  
<sup>2</sup> LSPM CNRS, Univ. Paris 13, Villetaneuse (FR)
- 11:30 Atmospheric Pressure Plasma (APP) for removal of soiling from Concentrating Solar Power (CSP) mirrors.  
**K. Gobey<sup>1</sup>, A. Bennett<sup>2</sup>, C. Sansom<sup>1</sup>, P. King<sup>1</sup>, K. Papangelis<sup>3</sup>**  
<sup>1</sup> Cranfield University - CRANFIELD (UK)  
<sup>2</sup> Cranfield Plasma Solutions - CRANFIELD (UK)  
<sup>3</sup> ADTEC Plasma Technology - LONDON (UK)
- 11:45 Plasma – surface interaction on InP studied by photoemission spectroscopies (XPS, HAXPES) inside a GD-OES crater  
**M. Bouttemy<sup>1</sup>, B. Spencer<sup>2</sup>, P. Dally<sup>3,1</sup>, S. Béchu<sup>1</sup>, P. Chapon<sup>4</sup>, A. Etcheberry<sup>1</sup>**  
<sup>1</sup> Institut Lavoisier de Versailles (ILV), Univ. Versailles Saint-Quentin-en-Yvelines, Univ. Paris-Saclay, CNRS, UMR 8180, Versailles (FR)  
<sup>2</sup> Sir Henry Royce Institute, Department of Materials, School of Natural Sciences, Univ. Manchester (UK)  
<sup>3</sup> IPVF, Palaiseau (FR)  
<sup>4</sup> HORIBA Scientific, Palaiseau (FR)
- 12:00 Aspect-ratio-dependent etch effects in Titanium deep reactive ion etching  
**R. Ettouri<sup>1,2</sup>, T. Tillocher<sup>1</sup>, P. Lefaucheux<sup>1</sup>, B. Boutaud<sup>2</sup>, J. Phung<sup>2</sup>, H. Philippe<sup>2</sup>, R. Dussart<sup>1</sup>**  
<sup>1</sup> GREMI, UMR 7344, CNRS / Univ. Orléans (FR)  
<sup>2</sup> MISTIC SAS, Issy-Les-Moulineaux (FR)
- 12:15 Discussion with morning speakers 60'

## MONDAY, SEPTEMBER 13<sup>TH</sup> – MORNING

### DEPO 1 / Plasma - deposited coatings for optical, electronical and other functionalities

Room C

- 11:00 The potential of hydration in functional plasma coatings  
**D. Hegemann<sup>1</sup>, E. Bülbül<sup>1</sup>, S. Gaiser<sup>1</sup>, M. Amberg<sup>1</sup>**  
*Empa - St. Gallen (CH)*
- 11:15 Silver influence on the antibacterial activity of multi-functional Zr based thin film metallic glasses  
**G. Nkou Bouala<sup>1</sup>, A. Etiemble<sup>2</sup>, C. Der-Loughian<sup>3</sup>, P. Steyer<sup>3</sup>**  
<sup>1</sup> *ENSAM, Cluny (FR)*  
<sup>2</sup> *ECAM, Lyon (FR)*  
<sup>3</sup> *INSA Lyon, Villeurbanne (FR)*
- 11:30 Structure and mechanical properties of superelastic Ti-Nb-based sputtered thin films for biomedical applications  
**T. Choquet<sup>1,2</sup>, G. Abadias<sup>1</sup>, A. Fillon<sup>2</sup>, A. Michel<sup>1</sup>, M. Vayssade<sup>3</sup>, T. Gloriant<sup>2</sup>**  
<sup>1</sup> *Département Physique et Mécanique des Matériaux, Institut Pprime, Poitiers (FR)*  
<sup>2</sup> *Univ Rennes, INSA Rennes (FR)*  
<sup>3</sup> *Centre de recherche de Royallieu, Univ. Technologie de Compiègne (FR)*
- 11:45 Oxidation of sputter-deposited V<sub>2</sub>N as an innovative precursor to achieve thermochromic VO<sub>2</sub> thin films  
**A. García Wong, D. Pilloud, S. Bruyère, F. Capon, J.F. Pierson**  
*Institut Jean Lamour, Nancy (FR)*
- 12:00 Tuning metal-to-insulator transitions in reactively sputtered V<sub>2</sub>O<sub>3</sub> epitaxial thin films using structure and stoichiometry  
**S. Shayestehaminzadeh<sup>1</sup>, E.B. Thorsteinsson<sup>2</sup>, A.S. Ingason<sup>3</sup>, F. Magnus<sup>2</sup>, U.B. Arnalds<sup>2</sup>**  
<sup>1</sup> *Technovation Center, AGC Glass Europe – Gosselies (BE)*  
<sup>2</sup> *Science Institute, Univ. Iceland – Reykjavik (IS)*  
<sup>3</sup> *Grein Research ehf., Reykjavik (IS)*
- 12:15 Discussion with morning speakers 60'

## TUESDAY, SEPTEMBER 14<sup>TH</sup> – MORNING

### PROC / Process control

Plenary Room

- 09:00 Influence of the electron description on the modelling of scenarios with interest for plasma-based applications  
*Plenary speaker*  
**L.L. Alves** - Univ. Lisboa (PT)

### INDU 1 / Industrial hot topics

Room A

- 09:45 Prototyping a multi-cathode HiPIMS coating set-up for complex substrates  
**F. Manke<sup>1</sup>, A. Sublet<sup>1</sup>, F. Avino<sup>2</sup>, T. Richard<sup>1</sup>, A.T. Perez-Fontenla<sup>1</sup>, A. Grudiev<sup>1</sup>, M. Taborelli<sup>1</sup>**  
<sup>1</sup> European Organization for Nuclear Research CERN - Geneva (CH)  
<sup>2</sup> École Polytechnique Fédérale de Lausanne - Swiss Plasma Center - Geneva (CH)
- 10:00 Surface modification applications of inverted fireballs  
**G. Eichenhofer<sup>1</sup>, J. Gruenwald<sup>2</sup>**  
<sup>1</sup> 4A-PLASMA – Holzgerlingen (DE)  
<sup>2</sup> G-Labs – Taxenbach (AT)
- 10:15 Magnetic properties and magnetocaloric effect in low temperature ordered Laves phase solid solutions  
**J. Cwik<sup>1</sup>, Y. Koshkid'ko<sup>1</sup>, M. Malecka<sup>1</sup>, A. Mikhailova<sup>2</sup>, K. Nenkov<sup>3</sup>, N. Oliveira<sup>4</sup>**  
<sup>1</sup> Institute of Low Temperature and Structure Research, PAS, Okólna 2 - Wroclaw (PL)  
<sup>2</sup> Baikov Institute of Metallurgy and Materials Science, RAS - Moscow (RU)  
<sup>3</sup> IFW Dresden, Institute of Metallic Materials, - Dresden (DE)  
<sup>4</sup> Instituto de Física Armando Dias Tavares-Univ. do Estado do Rio de Janeiro, Rio de Janeiro (BR)
- 10:30 Break 30'

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

Room B

- 09:45 Tribological properties of self-lubricant DLC coatings on additive manufactured AISi10Mg alloy of different surface roughness  
**A. Rota<sup>1</sup>, D. Casotti<sup>2</sup>, N. Bellina<sup>1</sup>, E. Salerno<sup>2</sup>, A. Ballestrazzi<sup>1</sup>, E. Gualtieri<sup>1</sup>, G. Paolicelli<sup>2</sup>, S. Valeri<sup>1</sup>**  
<sup>1</sup> FIM – Univ. di Modena e Reggio Emilia Italy - Modena (IT)  
<sup>2</sup> CNR-NANO S3 Italy – Modena (IT)
- 10:00 Highly transparent and scratch resistant thin film multilayer developed by DC reactive sputtering  
**M. Freitas<sup>1</sup>, H. Pizarro<sup>1</sup>, R. Carvalho<sup>1</sup>, D. Santos<sup>1</sup>, A. Pinto<sup>1</sup>, J. Teixeira<sup>1</sup>, A. Freitas<sup>2</sup>, D. Baptista<sup>2</sup>, M. Amaral<sup>2</sup>, R. Dias<sup>3</sup>, P. Sousa<sup>3</sup>, L. Rebouta<sup>4</sup>, J. Martins<sup>4</sup>**  
<sup>1</sup> CeNTI - Center for Nanotechnology and Smart Materials – Vila Nova de Famalicao (PT)  
<sup>2</sup> PRIREV – Surface Technology – Vagos (PT)  
<sup>3</sup> INL – International Iberian Nanotechnology Laboratory – Braga (PT)  
<sup>4</sup> CF-UM-UP – Centro de Física - Braga (PT)
- 10:30 Break 30'

## TUESDAY, SEPTEMBER 14<sup>TH</sup> – MORNING

### PROC / Process control

Room C

- 09:45 Transport of ions and neutrals in high power impulse magnetron sputtering discharges studied by particle-based simulations  
**T. Kozak**  
*Univ. West Bohemia - Plzen (CZ)*
- 10:15 Optimisation of hexagonal boron nitride deposition by micro hollow cathode discharge  
**A. Remigy<sup>1</sup>, M. Jacquemin<sup>1</sup>, V. Mille<sup>1</sup>, O. Brinza<sup>1</sup>, C. Lazzaroni<sup>1</sup>, G. Lombardi<sup>1</sup>, N. De Oliveira<sup>2</sup>**  
<sup>1</sup> LSPM CNRS UPR3407, Univ. Paris13, Sorbonne Paris Cité – Villetaneuse (FR)  
<sup>2</sup> Synchrotron SOLEIL – Saint-Aubin (FR)
- 10:30 Break 30'

### SOUR / Plasma sources and electrical discharges

Room A

- 11:00 Streamer discharges on a dielectric surface: mechanism and high-resolution electric field development  
**T. Hoder<sup>1</sup>, L. Kusyn<sup>1</sup>, J. Jansky<sup>1, 2, 3</sup>, D. Bessieres<sup>3</sup>, R. Brandenburg<sup>4</sup>, M. Becker<sup>4</sup>, J. Paillo<sup>3</sup>**  
<sup>1</sup> Masaryk Univ. - Brno (CZ)  
<sup>2</sup> Univ. Defence - Brno (CZ)  
<sup>3</sup> Univ. Pau - Pau (FR)  
<sup>4</sup> INP Greifswald – Greifswald (DE)
- 11:15 Microwave plasma source in multimode cavity: the wave plasma brush  
**V. Mazières<sup>1</sup>, R. Pascaud<sup>2</sup>, O. Pascal<sup>1</sup>, L. Liard<sup>1</sup>, S. Dap<sup>1</sup>, L. Stafford<sup>3</sup>, R. Clergereaux<sup>1</sup>**  
<sup>1</sup> Laboratoire LAPLACE, Univ. Paul Sabatier, Toulouse (FR)  
<sup>2</sup> ISAE-SUPAERO, Univ. Toulouse (FR)  
<sup>3</sup> Département de physique, Univ. Montréal (CA)
- 11:30 Spoke-less sputtering at high working gas pressures in HiPIMS discharges  
**D. Kalanov, M. Rudolph, W. Diyatmika, A. Anders**  
*Leibniz Institute of Surface Engineering (IOM) - Leipzig (DE)*
- 11:45 Plasma spokes in RF and DC magnetron sputtering discharges  
**M. Panjan**  
*Jožef Stefan Institute - Ljubljana (SI)*
- 12:00 Capillary and slit RF plasma jets interacting with surfaces and liquids  
**L. Zajickova<sup>1, 2</sup>, M. Klima<sup>1</sup>, K. Polaskova<sup>1, 2</sup>, L. Dostal<sup>1</sup>, P. Drexler<sup>1</sup>, D. Necas<sup>1</sup>**  
<sup>1</sup> Brno Univ. of Technology - Brno (CZ)  
<sup>2</sup> Masaryk Univ. - Brno (CZ)
- 12:15 Discussion with morning speakers 60'

## TUESDAY, SEPTEMBER 14<sup>TH</sup> – MORNING

### TRIB 2 / Plasma - deposited protective and tribological coatings

Room B

- 11:00 Industrially deposited W-B-C coatings with high hardness and increased fracture resistance for forming applications  
**P. Vasina<sup>1</sup>, M. Kroker<sup>1</sup>, P. Matej<sup>1</sup>, P. Soucek<sup>1</sup>, L. Zabransky<sup>1</sup>, V. Bursikova<sup>1</sup>, V. Sochora<sup>2</sup>, M. Jilek<sup>3</sup>**  
<sup>1</sup> Masaryk Univ. - Brno (CZ)  
<sup>2</sup> SHM - Sumperk (CZ)  
<sup>3</sup> SHM - Dallas (US)
- 11:15 Small-scale tribological behaviour of Ti-Based PVD thin films in operando conditions  
**A. Sayilan<sup>1</sup>, J. Ferreira<sup>1</sup>, C. Goudin<sup>1</sup>, D. Philippon<sup>2</sup>, J. Borges<sup>3</sup>, F. Vaz<sup>3</sup>, N. Mary<sup>1</sup>, S. Descartes<sup>2</sup>, P. Steyer<sup>1</sup>**  
<sup>1</sup> Univ. Lyon, INSA-Lyon, CNRS UMR 5510, MATEIS, Villeurbanne (FR)  
<sup>2</sup> Univ. Lyon, INSA-Lyon, CNRS UMR5259, LaMCoS, Villeurbanne (FR)  
<sup>3</sup> Univ. Minho, Centro de Fisica, Campus de Gualtar, Braga (PT)
- 11:30 TiAlN coating by bipolar sputtering: mechanical properties and thermal oxidation  
**E. Hays<sup>1</sup>, L. Chavee<sup>1</sup>, S. Lucas<sup>2</sup>**  
<sup>1</sup> UNamur – Namur (BE)  
<sup>2</sup> Innovative Coating Solutions SA - Indianapolis (US)
- 11:45 Comparison of the oxide growth mechanism at 950°C for a TiAlCrN, a TiAlSiN and a TiAlCrSiN coating deposited by HIPIMS  
**N. Valle<sup>1</sup>, M.R. Alhafian<sup>1</sup>, J.B. Chemin<sup>1</sup>, L. Bourgeois<sup>2</sup>, M. Penoy<sup>2</sup>, P. Choquet<sup>1</sup>**  
<sup>1</sup> Luxembourg Institute of Science and technology - Belvaux (LU)  
<sup>2</sup> CERATIZIT - Mamer (LU)
- 12:00 General remarks on tin and ti(c,n) thin-films used for orthodontic applications  
**V. Suci<sup>1</sup>, A. Ferreira<sup>2</sup>, F. Vaz<sup>2</sup>, D. Munteanu<sup>1</sup>**  
<sup>1</sup> Transilvania Univ. – Brasov (RO)  
<sup>2</sup> Univ. Minho – Braga (PT)
- 12:15 Discussion with morning speakers 60'

## TUESDAY, SEPTEMBER 14<sup>TH</sup> – MORNING

### DEPO 2 / Plasma - deposited coatings for optical, electronical and other functionalities

Room C

- 11:00 Sputtered ZnO:Al/NiCr thin layer stack: influence of the operating conditions on the oxidation states  
**M. Herve<sup>1</sup>, J. Voronkoff<sup>2</sup>**  
<sup>1</sup> Joint Unit SGR -CNRS, SVI – Aubervilliers (FR)  
<sup>2</sup> Saint Gobain Research Paris – Aubervilliers (FR)
- 11:15 Monitoring tantalum nitride thin films structure by reactive HiPIMS magnetron sputtering: from microstructures to properties  
**A. Achile<sup>1</sup>, A. Poulon-Quintin<sup>1</sup>, D. Michau<sup>1</sup>, M. Cavarroc<sup>2</sup>**  
<sup>1</sup> ICMCB-CNRS, Univ. Bordeaux - Pessac (FR)  
<sup>2</sup> SAFRAN Paris-Saclay – Magny-les-Hameaux (FR)
- 11:30 Preparation and study of CuBi<sub>2</sub>O<sub>4</sub> thin films by RF magnetron sputtering  
**B. Duployer, C. Tenailleau, Y. Thimont, P. Lenormand, A. Barnabe, L. Presmanes**  
CIRIMAT, CNRS, Univ. Paul Sabatier, Toulouse (FR)
- 11:45 Ion assistance selection during film deposition using HiPIMS with Positive Pulsing  
**I. Fernandez<sup>1</sup>, J.A. Santiago<sup>1</sup>, A. Mendez<sup>1</sup>, J. Molina<sup>2</sup>, M. Monclus<sup>2</sup>**  
<sup>1</sup> NANO4ENERGY SL – Madrid (ES)  
<sup>2</sup> Imdea Materiales – Madrid (ES)
- 12:15 Discussion with morning speakers 60'

## TUESDAY, SEPTEMBER 14<sup>TH</sup> – AFTERNOON

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

Plenary Room

- 14:00 Plasma nanofabrication challenges for future semiconductor and quantum device manufacturing  
*Plenary speaker*  
**D. Graves** - PPPL, Princeton/NJ (US)

### SURF 2 / Plasma - surface interactions

Room A

- 14:45 SiO<sub>x</sub>F<sub>y</sub> layer deposition for cryogenic nanoscale etching  
**G. Antoun<sup>1</sup>, T. Tillocher<sup>1</sup>, P. Lefauchaux<sup>1</sup>, J. Nos<sup>1</sup>, A. Girard<sup>2</sup>, C. Cardinaud<sup>2</sup>, J. Faguet<sup>3</sup>, K. Maekawa<sup>4</sup>, D. Zhang<sup>4</sup>, H. Kim<sup>4</sup>, M. Wang<sup>4</sup>, R. Dussart<sup>1</sup>**  
<sup>1</sup> GREMI, Univ. Orléans / CNRS (FR)  
<sup>2</sup> IMN, Univ. Nantes / CNRS (FR)  
<sup>3</sup> Tokyo Electron America, Inc. – Austin (US)  
<sup>4</sup> TEL Technology Center, America LLC – Albany (US)
- 15:00 An investigation of adhesion mechanisms between a PMMA support and aluminum thin films deposited by cold plasma.  
**M. Kouicem<sup>1</sup>, E. Tomasella<sup>2</sup>, A. Bousquet<sup>2</sup>, M. Dubois<sup>2</sup>, G. Monier<sup>3</sup>, C. Robert-Goumet<sup>3</sup>, L. Dubost<sup>4</sup>**  
<sup>1</sup> IREIS/HEF groupe - Andrézieux-Bouthéon (FR)  
<sup>2</sup> Univ. Clermont Auvergne, CNRS, SIGMA Clermont, ICCF – Clermont-Ferrand (FR)  
<sup>3</sup> Univ. Clermont Auvergne, CNRS, Institut Pascal - Clermont-Ferrand (FR)  
<sup>4</sup> IREIS/HEF Groupe - Andrézieux-Bouthéon (FR)
- 15:15 Plasma etching of PP, PET and RPET foils used for advanced packaging material  
**M. Amberg, M.C. Höhener, S. Lehner, P. Rupper, M. Lienhard, D. Hegemann**  
*Empa, Swiss Federal Laboratories for Materials Science and Technology - St. Gallen (CH)*
- 15:30 Spacer dry etching for 2D & 3D CMOS devices: towards atomic precision  
**V. Bacquié, A. Tavernier, F. Boulard, N. Possémé**  
*CEA Leti – Grenoble (FR)*
- 15:45 Molecular Dynamics simulations of CH<sub>4</sub> plasma deposition on stainless steel surfaces: C<sub>2</sub>H<sub>3</sub><sup>+</sup> bombardment on hydrocarbon films  
**G. Otakandza Kandjani<sup>1</sup>, P. Brault<sup>1</sup>, M. Mikikian<sup>1</sup>, G. Tetard<sup>2</sup>, A. Michau<sup>2</sup>, K. Hassouni<sup>2</sup>**  
<sup>1</sup> GREMI, UMR7344, CNRS – Univ. Orléans (FR)  
<sup>2</sup> LSPM CNRS, Univ. Paris 13, Villetaneuse (FR)
- 16:00 Break 30'
- 16:30 Discussion with afternoon speakers 60'
- 17:30 Poster short presentations 60'



## TUESDAY, SEPTEMBER 14<sup>TH</sup> – AFTERNOON

### GROM 1 / Thin films growth and modelling

Room B

- 14:45 Comprehensive PVD simulation: Application to antireflective coatings produced by OAD.  
**A. Besnard<sup>1</sup>, N. Watiez<sup>1</sup>, F. Paumier<sup>2</sup>, S. Hurand<sup>2</sup>, C. Marsal<sup>2</sup>, F. Maudet<sup>3</sup>, B. Lacroix<sup>4</sup>, A.J. Santos<sup>4</sup>, R. Garcia<sup>4</sup>, F.M. Morales<sup>4</sup>, C. Dupeyrat<sup>5</sup>, G. Baptiste<sup>5</sup>, S. Lucas<sup>6</sup>**  
<sup>1</sup>Arts et Metiers Science and Technology - Cluny (FR)  
<sup>2</sup>Institut Pprime – Chasseneuil-du-Poitou (FR)  
<sup>3</sup>Helmholtz-Zentrum - Berlin (DE)  
<sup>4</sup>IMEYMAT University of Cádiz - CadizZ (SP)  
<sup>5</sup>Safran Electronics and Defense - Saint-Benoît (FR)  
<sup>6</sup>University of Namur, LARN-NISM - Namur (BE)
- 15:00 Experimental and modeling study on Ar/Cr high power impulse magnetron sputtering discharge  
**J. Zgheib, A. Rhallabi, P.Y. Jouan**  
CNRS-IMN – Nantes (FR)
- 15:15 A multiscale modelling of thin film growth: application to sputter-deposited Cu films  
**C. Mastail, C. Furdeaud, F. Nita, A. Michel, G. Abadias**  
Institut Pprime, UPR 3346, Département Physique et Mécanique des Matériaux, CNRS-Univ. Poitiers-ENSMA, - Poitiers (FR)
- 15:30 At the edge of crystallization: a bottom-up route for the design of two-phase crystalline-amorphous nano(micro)-structured films  
**A. Borroto<sup>1,2</sup>, S. Bruyère<sup>1</sup>, S. Migot<sup>1</sup>, A.C. García-Wong<sup>1</sup>, J. Zollinger<sup>1</sup>, S. Mathieu<sup>1</sup>, T. Gries<sup>1</sup>, D. Pilloud<sup>1</sup>, J.F. Pierson<sup>1</sup>, F. Mücklich<sup>2</sup>, D. Horwat<sup>1</sup>**  
<sup>1</sup>Univ. Lorraine, CNRS, IJL, Nancy (FR)  
<sup>2</sup>Department of Materials Science and Engineering, Saarland Univ., Saarbrücken (DE)
- 15:45 Growth of VO<sub>2</sub> polymorphs by radiofrequency magnetron sputtering  
**L. Diebold<sup>1,2</sup>, O. Ishchenko<sup>2</sup>, T. Maroutian<sup>1</sup>, G. Garry<sup>2</sup>, P. Aubert<sup>1</sup>**  
<sup>1</sup>Centre de Nanosciences et de Nanotechnologies (C2N) – Palaiseau (FR)  
<sup>2</sup>TE-OX - Orsay (FR)
- 16:00 Break 30'
- 16:30 Discussion with afternoon speakers 60'
- 17:30 Poster short presentations 60'

## TUESDAY, SEPTEMBER 14<sup>TH</sup> – AFTERNOON

### PROC 2 / Process control

Room C

- 14:45 Measurement of reactive species absolute concentrations in N<sub>2</sub>, Ar/N<sub>2</sub>, He/N<sub>2</sub> and H<sub>2</sub>/N<sub>2</sub> microwave flowing afterglows at reduced pressure  
**J. Sarrette, V. Ferrer, A. Ricard, J.P. Gardou, F. Marchal**  
*LAPLACE – Toulouse (FR)*
- 15:00 Developing a method with optical emission spectroscopy to control thin layer in R-HiPIMS deposition process  
**D. Boivin, A. Najah, C. Noel, G. Henrion, S. Cuyenet, L. Depoucques**  
*Univ. Lorraine, CNRS, IJL, Campus ARTEM, Nancy (FR)*
- 15:15 Backward-Facing Step forced flow in a nanosecond pulsed cold atmospheric pressure Argon plasma jet  
**T. Darny, G. Bauville, M. Fleury, S. Pasquiers, J. Santos Sousa**  
*Laboratoire de Physique des Gaz et des Plasmas – Orsay (FR)*
- 15:30 Oxygen atom densities in radiofrequency capacitively-coupled plasmas (RF-CCP) at intermediate pressures determined by cavity ringdown spectroscopy  
**J-P. Booth, A. Volynets, G. Curley**  
*LPP-CNRS, Ecole Polytechnique, France – Palaiseau (FR)*
- 15:45 Energetics of reactions in a dielectric barrier discharge with argon carrier gas: Halocarbons  
**S. Watson<sup>1</sup>, C. Pattyn<sup>1</sup>, B. Nisol<sup>2</sup>, S. Reuter<sup>1</sup>, M.R. Wertheimer<sup>1</sup>**  
<sup>1</sup> *Polytechnique Montreal (CA)*  
<sup>2</sup> *Molecular Plasma Group - Foetz (LU)*
- 16:00 *Break 30'*
- 16:30 Discussion with afternoon speakers 60'
- 17:30 Poster short presentations 60'

## WEDNESDAY, SEPTEMBER 15<sup>TH</sup> – MORNING

### NANO / Nanomaterials and nanostructured thin films

Plenary Room

**09:00** Novel methods for tuning film properties using nanostructures

*Plenary speaker*

**M. Shiratani** - Kyushu Univ. (JP)

### NANO 1 / Nanomaterials and nanostructured thin films

Room A

**09:45** LIPSS formation by picosecond laser irradiation of magnetron sputtered gadolinium-doped ceria thin films

**W. Karim<sup>1</sup>, M. Mickan<sup>1</sup>, A. Petit<sup>1</sup>, M. Tabbal<sup>2</sup>, A.L. Thomann<sup>1</sup>, N. Semmar<sup>1</sup>**

<sup>1</sup> Univ. Orleans (FR)

<sup>2</sup> AUB – Beirut (LB)

**10:00** Soft in hard magnetic nanocomposites by dual laser ablation approach

**T. Nguyen Van<sup>1,2</sup>, N. Dempsey<sup>3</sup>, C. Champeaux<sup>4</sup>, F. Dumas-Bouchiat<sup>4</sup>**

<sup>1</sup> Univ. Limoges, CNRS, IRCER, UMR 7315, Limoges (FR)

<sup>2</sup> Department of Physics, Le Quy Don Technical Univ., Hanoi (VN)

<sup>3</sup> Univ. Grenoble Alpes, CNRS, Institut Néel (FR)

<sup>4</sup> Univ. Limoges, CNRS, IRCER, UMR 7315, Limoges (FR)

**10:15** Few-layer Graphene production from graphite electrode exfoliation by nanosecond high-voltage pulsed discharge in liquid nitrogen.

**C. Da Silva Tusch, Q. Liebgott, S. Fontana, S. Cuynet, C. Noël, D. Ibrahim, H. Kabbara, A. Letoffé, M. Poncot, I. Royaud, G. Henrion, C. Hérold**

Institut Jean Lamour – Nancy (FR)

### PROC 3 / Process control

Room C

**09:45** Control of large-area deposition process of diamond films with versatile properties

**F. Bénédic, C. Mahi, D. Dekkar, C.Y. Duluard, O. Brinza, R. Issaoui, J. Achard**

LSPM, CNRS, UPR 3407, Univ. Sorbonne Paris Nord – Villetaneuse (FR)

**10:00** Atomic layer etching of Gallium Nitride (GaN) using SF<sub>6</sub>/Ar plasmas

**L. Hamraoui<sup>1</sup>, T. Tillocher<sup>1</sup>, P. Lefaucheux<sup>1</sup>, R. Dussart<sup>1</sup>, M. Boufnichel<sup>2</sup>**

<sup>1</sup> GREMI – Orléans (FR)

<sup>2</sup> STMicroelectronics – Tours (FR)

**10:15** Active Screen Plasma Nitriding: plasma diagnostics and experiments in a laboratory reactor and an industrial one.

**G. Marcos<sup>1</sup>, O. Carrivain<sup>1</sup>, C. Noël<sup>1</sup>, R. Hugon<sup>1</sup>, O. Skiba<sup>2</sup>, T. Czerwicz<sup>1</sup>**

<sup>1</sup> Institut Jean Lamour – Nancy (FR)

<sup>2</sup> IRT M2P – Metz (FR)

**10:30** Discussion with morning speakers 30'

**11:00** Break 30'

**11:30** Poster short presentations 60'

## WEDNESDAY, SEPTEMBER 15<sup>TH</sup> – AFTERNOON

13:30 Poster short presentations 90'

### DEPO 3 / Plasma - deposited coatings for optical, electronical and other functionalities

Room A

- 15:00 Fast and low-temperature atmospheric PECVD deposition of crystalline films of the system Sr-Ti-O for multifunctional applications  
**A. Huerta Flores<sup>1</sup>, O.J. Usiobo<sup>1</sup>, P. Choquet<sup>1</sup>, J.N. Audinot<sup>1</sup>, N.D. Boscher<sup>1</sup>, R. Heyberger<sup>2</sup>**  
<sup>1</sup> LIST, Materials Research and Technology Department - Esch-sur-Alzette (LU)  
<sup>2</sup> Molecular Plasma Group – Foetz (LU)
- 15:15 Comparison of dual ECR/RF-Magnetron/ Tetramethylsilane (TMS) and RF-Magnetron/TMS plasmas used for SiCN:H thin films deposition in Ar/N<sub>2</sub> gaz mixture  
**R. Hugon<sup>1</sup>, Z. Al Hallak<sup>1,2</sup>, M. Belmahi<sup>1</sup>**  
<sup>1</sup> Institut Jean Lamour CNRS UMR 7198 Univ. Lorraine – Nancy (FR)  
<sup>2</sup> Laboratoire de Physique et Modélisation, Univ. Libanaise, Tripoli (LB)
- 15:30 Photocatalytic and electrical properties of Ti-W oxide thin films deposited by low temperature PECVD  
**W. Ravisy<sup>1</sup>, P.L. Martin<sup>1</sup>, B. Dey<sup>2</sup>, S. Bulou<sup>2</sup>, P. Choquet<sup>2</sup>, A. Gouillet<sup>1</sup>, P.Y. Tessier<sup>1</sup>, M. Richard-Plouet<sup>1</sup>, A. Granier<sup>1</sup>**  
<sup>1</sup> CNRS, Institut des Matériaux Jean Rouxel, Univ. Nantes (FR)  
<sup>2</sup> Materials Research and Technology Department, LIST – Esch-sur-Alzette (LU)
- 15:45 Wafer edge and bevel encapsulation by localized SiO<sub>2</sub> and Si<sub>3</sub>N<sub>4</sub> plasma enhanced chemical vapor deposition  
**F. Boulard<sup>1</sup>, F. Fournel<sup>1</sup>, L. Brunet<sup>1</sup>, P. Ruault<sup>2</sup>, F. Gaucher<sup>2</sup>, L. Taleh<sup>3</sup>, M. Keovisai<sup>3</sup>, C. Porzier<sup>1</sup>, N. Posseme<sup>1</sup>**  
<sup>1</sup> CEA, LETI, Univ. Grenoble Alpes (FR)  
<sup>2</sup> LAM Research SAS – Meylan (FR)  
<sup>3</sup> LAM Research – Fremont (US)
- 16:00 Vanadium-doped TiO<sub>2</sub> synthesised by metal organic Plasma Enhanced Chemical Vapour Deposition for photocatalytic applications  
**B. Dey<sup>1</sup>, S. Bulou<sup>1</sup>, D. Cardenas-Morcoso<sup>1</sup>, T. Gaulain<sup>1</sup>, W. Ravisy<sup>2</sup>, M. Richard-Plouet<sup>2</sup>, A. Gouillet<sup>2</sup>, A. Granier<sup>2</sup>, P. Choquet<sup>1</sup>**  
<sup>1</sup> Luxembourg Institute of Science and Technology - Esch-sur-Alzette (LU)  
<sup>2</sup> Institut des Matériaux Jean Rouxel – Nantes (FR)

## WEDNESDAY, SEPTEMBER 15<sup>TH</sup> – AFTERNOON

13:30 Poster short presentations 90'

### GROM 2 / Thin films growth and modelling

Room B

- 15:00 Pulsed aerosol assisted deposition of pp-HMDSO thin film in a Dielectric Barrier Discharge  
**L. Cacot<sup>1,2</sup>, M. Kahn<sup>3</sup>, R. Clergereaux<sup>1</sup>, N. Naudé<sup>1</sup>, L. Stafford<sup>2</sup>**  
<sup>1</sup>LAPLACE, CNRS, INPT, UPS, Univ. Toulouse (FR)  
<sup>2</sup>Département de Physique, Univ. Montréal (CA)  
<sup>3</sup>Laboratoire de Chimie de Coordination (CNRS) - Toulouse (FR)
- 15:15 Role of H<sub>3</sub><sup>+</sup> ions in deposition of silicon thin films from SiH<sub>4</sub>/H<sub>2</sub> discharge: modeling and experiments  
**T. Zhang<sup>1</sup>, J.M. Orlac'h<sup>2</sup>, M. Ghosh<sup>1</sup>, V. Giovangigli<sup>1</sup>, P. Roca I Cabarrocas<sup>1</sup>**  
<sup>1</sup>Ecole Polytechnique – Palaiseau (FR)  
<sup>2</sup>ONERA – Châtillon (FR)
- 15:30 A parametric study for the PECVD from Ar/CH<sub>4</sub>  
**E. Von Wahl, I. Ellien, T. Lecas, M. Mikikian**  
GREMI, CNRS / Univ. Orléans (FR)
- 15:45 Helium-charged aluminum and silicon films deposited by Direct Current Magnetron Sputtering  
**S. Ibrahim<sup>1</sup>, P. Brault<sup>1</sup>, A. Caillard<sup>1</sup>, T. Sauvage<sup>2</sup>, P. Desgardin<sup>2</sup>, M.F. Barthe<sup>2</sup>,  
D. Hufschmidt<sup>3</sup>, A. Fernández<sup>4</sup>, A.L. Thomann<sup>1</sup>**  
<sup>1</sup>GREMI, UMR7344 CNRS Univ. Orléans (FR)  
<sup>2</sup>CEMHTI, UPR3079 CNRS, Orléans (FR)  
<sup>3</sup>Instituto de Ciencia de Materiales de Sevilla, CSIC – Univ. Sevilla (ES)  
<sup>4</sup>LE STUDIUM RESEARCH FELLOW, Loire Valley Institute for Advanced Studies, Orléans & Tours (FR)
- 16:00 The effect of nitrogen on the stress and morphology evolution during growth of thin silver films  
**G. Abadias<sup>1</sup>, A. Jamnig<sup>1,2</sup>, H. Bahsoun<sup>1</sup>, N. Pliatsikas<sup>2</sup>, K. Sarakinos<sup>2</sup>, G. Radnoczy<sup>3</sup>,  
P. Barna<sup>3</sup>**  
<sup>1</sup>Institut Pprime - CNRS – Univ. Poitiers – Chasseneuil-Futuroscope (FR)  
<sup>2</sup>Nanoscale Engineering Division, IFM, Univ. Linköping (SE)  
<sup>3</sup>Centre for Energy Research, Institute for Technical Physics and Materials Science – Budapest (HU)

## THURSDAY, SEPTEMBER 16<sup>TH</sup> – AFTERNOON

### HELI / Health and life science

Plenary Room

14:00 A cocktail of active ingredients – benefits and challenges for plasma medicine

*Plenary speaker*

**K. Stapelmann** - North Carolina State Univ. (US)

### NANO 2 / Nanomaterials and nanostructured thin films

Room A

14:45 Thermal evolution of bilayers composed of fcc nanoparticles prepared by gas aggregation cluster source

**T. Košutová<sup>1</sup>, L. Horák<sup>1</sup>, Z. Krtouš<sup>2</sup>, D. Nikitin<sup>2</sup>, A. Kuzminova<sup>2</sup>, N. Khomiakova<sup>2</sup>, O. Kylián<sup>2</sup>, M. Dopita<sup>1</sup>**

<sup>1</sup> Department of Condensed Matter Physics, Fac. of Mathematics and Physics, Charles Univ. Prague (CZ)

<sup>2</sup> Department of Macromolecular Physics, Fac. of Mathematics and Physics, Charles Univ. - Prague (CZ)

15:00 One-step nanocomposite thin films synthesis by direct liquid injection of a colloidal solution in a low-pressure plasma: optimization of the nanoparticles distribution

**S. Chouteau<sup>1</sup>, M. Richard-Plouet<sup>1</sup>, A. Gouillet<sup>1</sup>, A. Granier<sup>1</sup>, L. Stafford<sup>2</sup>**

<sup>1</sup> CNRS, Institut des Matériaux Jean Rouxel, Univ. Nantes (FR)

<sup>2</sup> Département de Physique, Univ. Montréal (CA)

15:15 Nanoparticles and self-assembled nanotrusses generated through hollow cathode pulsed sputtering

**S. Ekeröth<sup>1,2</sup>, U. Helmersson<sup>1</sup>**

<sup>1</sup> Linköping Univ. (SE)

<sup>2</sup> Ionautics AB - Linköping (SE)

15:30 Charge gas and discharge parameters influence on kinetic and nucleation in RF Ar/C<sub>2</sub>H<sub>2</sub> plasmas

**G. Tetard<sup>1</sup>, A. Michau<sup>1</sup>, S. Prasanna<sup>1</sup>, J. Mougnot<sup>1</sup>, P. Brault<sup>2</sup>, K. Hassouni<sup>1</sup>**

<sup>1</sup> LSPM - Villetaneuse (FR)

<sup>2</sup> GREMI - Orléans (FR)

15:45 Pulsed aerosol assisted plasma deposition: influence of the injection parameters on ZnO/DLC nanocomposite thin films

**A. Girardeau<sup>1,2,3</sup>, G. Carnide<sup>1,2,4</sup>, A.F. Mingotaud<sup>4</sup>, M. Cavarroc<sup>3</sup>, M. Kahn<sup>5</sup>, R. Clergereaux<sup>1</sup>**

<sup>1</sup> LAPLACE, CNRS UMR5213 - Toulouse (FR)

<sup>2</sup> LCC, CNRS UPR8241 - Toulouse (FR)

<sup>3</sup> Safran Tech, Pôle M&P - Magny Les Hameaux (FR)

<sup>4</sup> IMRCP CNRS UMR 5623 – Toulouse (FR)

<sup>5</sup> LCC, CNRS UPR8241 - Toulouse (FR)

16:00 Break 30'

16:30 Discussion with afternoon speakers 60'

17:30 Poster short presentations 60'

## THURSDAY, SEPTEMBER 16<sup>TH</sup> – AFTERNOON

### LIQU / Plasma and liquids

Room B

- 14:45 Magnetron sputtering of copper, silver and gold onto oils for nanoparticle synthesis.  
**S. Konstantinidis<sup>1</sup>, A. O'reilly<sup>1</sup>, K. Patel<sup>1</sup>, A. Chauvin<sup>1</sup>, J. De Winter<sup>1</sup>, D. Cornil<sup>1</sup>, J. Cornil<sup>1</sup>, A. Panepinto<sup>2</sup>, J. Veselý<sup>3</sup>, H. Alem-Marchand<sup>4</sup>, A. Sergievskaya<sup>1</sup>**  
<sup>1</sup> Univ. Mons (BE)  
<sup>2</sup> Materia Nova – Mons (BE)  
<sup>3</sup> Charles Univ. – Prague (CZ)  
<sup>4</sup> Institut Jean Lamour – Nancy (FR)
- 15:00 Plasma-liquid interaction: a novel route to exfoliate graphite flakes and functionalize graphene.  
**Q. Liebgott<sup>1,2</sup>, C. Da Silva Tusch<sup>1</sup>, A. Letoffé<sup>1</sup>, S. Cuynet<sup>1</sup>, S. Fontana<sup>1</sup>, C. Noël<sup>1</sup>, D. Ibrahim<sup>1</sup>, H. Kabbara<sup>1</sup>, M. Ponçot<sup>1</sup>, I. Royaud<sup>1</sup>, C. Hérold<sup>1</sup>, G. Henrion<sup>1</sup>**  
<sup>1</sup> Univ. Lorraine, CNRS, IJL, Nancy (FR)  
<sup>2</sup> Chair of Functional Materials, Saarland Univ., Saarbrücken (DE)
- 15:15 Statistical analysis of the temporal evolution of spark discharges under various conditions of electrode configuration, liquid composition, and pulse magnitude and width  
**N. Bourbeau<sup>1</sup>, A. Dorval<sup>2</sup>, F. Valensi<sup>2</sup>, A. Hamdan<sup>1</sup>**  
<sup>1</sup> Univ. of Montreal (CA)  
<sup>2</sup> Univ. de Toulouse (FR)
- 15:30 Investigation of the streamer propagation at air-water interface: influence of water conductivity and other discharge conditions.  
**A. Herrmann, J. Diamond, J. Margot, A. Hamdan**  
Univ. Montréal - Département de Physique (CA)
- 15:45 The dependance of the selective anti-cancer nature of plasma-activated solutions on short- and long-lived reactive oxygen and nitrogen species  
**K. Sklias<sup>1</sup>, J. Santos Sousa<sup>1</sup>, P.M. Girard<sup>2,3</sup>**  
<sup>1</sup> Univ. Paris-Saclay, CNRS, Laboratoire de Physique des Gaz et des Plasmas, Orsay (FR)  
<sup>2</sup> Institut Curie, PSL Research Univ., CNRS, INSERM, UMR 3347, Orsay (FR)  
<sup>3</sup> Univ. Paris-Saclay, CNRS, UMR 3347, Orsay (FR)
- 16:00 Break 30'
- 16:30 Discussion with afternoon speakers 60'
- 17:30 Poster short presentations 60'

## THURSDAY, SEPTEMBER 16<sup>TH</sup> – AFTERNOON

### DEPO 4 / Plasma - deposited coatings for optical, electronical and other functionalities

Room C

- 14:45 Deposition and characterization of sputtered gallium doped zinc oxide thin films for NO<sub>2</sub> gas sensing  
**L. Presmanes<sup>1</sup>, L. Parellada-Monreal<sup>1</sup>, V. Gunasekaran<sup>1</sup>, Y. Thimont<sup>1</sup>, A. Barnabé<sup>1</sup>, P. Menini<sup>2</sup>**  
<sup>1</sup> CIRIMAT UMR CNRS 5085 – Univ. Paul Sabatier – Toulouse (FR)  
<sup>2</sup> LAAS-CNRS - Toulouse (FR)
- 15:00 Influence of lanthanum stoichiometry in La<sub>x</sub>FeO<sub>y</sub> perovskites on their photocatalytic performances in hydrogen production by water splitting.  
**T. Gries<sup>1</sup>, V. Guigoz<sup>1,2</sup>, S. Bruyère<sup>1</sup>, S. Migot<sup>1</sup>, R. Schneider<sup>2</sup>**  
<sup>1</sup> Univ. Lorraine, CNRS, IJL, Nancy (FR)  
<sup>2</sup> Univ. Lorraine, CNRS, LRGP, Nancy (FR)
- 15:15 Alkali out-diffusion from glass substrate to sputtered silica films  
**S. Ben Khemis<sup>1,2</sup>, L. Cormier<sup>1</sup>, E. Burov<sup>2</sup>, H. Montigaud<sup>2</sup>, E. Guillard<sup>2</sup>**  
<sup>1</sup> Sorbonne Univ., CNRS UMR7590, MNHN, IRD, IMPMC, Paris (FR)  
<sup>2</sup> Surface du Verre et Interfaces (UMR 125), CNRS/Saint-Gobain Research Paris (FR)
- 15:30 Enhancement of high-temperature oxidation resistance and thermal stability of hard and optically transparent Hf-B-Si-C-N films by Y or Ho addition  
**M. Cervená, P. Zeman, J. Houška, M. Procházka, R. Cerstvý, S. Haviar, J. Vlcek**  
Univ. West Bohemia – Plzen (CZ)
- 15:45 MgSnN<sub>2</sub> a new semiconductor material for optoelectronic applications  
**F. Alnjiman<sup>1</sup>, A. Virfeu<sup>1</sup>, S. Diliberto<sup>1</sup>, P. Boulet<sup>1</sup>, J. Ghanbaja<sup>1</sup>, H. Albrithen<sup>2,3,4</sup>, J.F. Pierson<sup>1</sup>**  
<sup>1</sup> Institut Jean Lamour (UMR CNRS 7198) – Nancy (FR)  
<sup>2</sup> Department of Physics and Astronomy, College of Science, King Saud Univ. – Riyadh (SA)  
<sup>3</sup> King Abdullah Institute for Nanotechnology, King Saud Univ. - Riyadh (SA)  
<sup>4</sup> K.A.CARE Energy Research and Innovation Center - Riyadh (SA)
- 16:00 Break 30'
- 16:30 Discussion with afternoon speakers 60'
- 17:30 Poster short presentations 60'



## FRIDAY, SEPTEMBER 17<sup>TH</sup> – MORNING

### SOUR / Plasma sources and electrical discharges

Plenary Room

- 09:00** Electrical diagnostics for Dielectric Barrier Discharges: from integrated measurements to spatially resolved measurements. Benefits for plasma processes at atmospheric pressure?  
*Plenary speaker*  
**N. Naudé** - Univ. Toulouse (FR)

### INDU 2 / Industrial hot topics

Room A

- 09:45 Atmospheric plasma technology: Innovative solutions for biomedical, agricultural, aerospace, defense, and energy applications  
**A. Bennett**  
Cranfield Univ. – Cranfield (UK)
- 10:00 Modification of 3D printed objects properties with interlayer plasma treatments using a built-in DBD micro torch  
**J. Kadok, S. Bulou, T. Gaulain, P. Choquet**  
Luxembourg Institute of Science and Technology – Belvaux (LU)
- 10:15 Durable and low cost plasma deposited coatings benchmark for HT-PEMFC metallic bipolar plates  
**M. Cavarroc<sup>1</sup>, J.B. Jollys<sup>2</sup>, M. Scohy<sup>2</sup>, S. Abbou<sup>2</sup>**  
<sup>1</sup> Safran Tech – Magny-les-Hameaux (FR)  
<sup>2</sup> Safran Power Units – Toulouse (FR)
- 10:45 Discussion with morning speakers 30'
- 11:15 Break 30'
- 11:45 Poster short presentations 60'
- 12:45 Closing Ceremony**

## FRIDAY, SEPTEMBER 17<sup>TH</sup> – MORNING

### NANO 3 / Nanomaterials and nanostructured thin films

Room B

- 09:45 Effect of exit-orifice size on Cu nanoparticles produced by gas-aggregation source  
**Š. Batková<sup>1</sup>, J. Capek<sup>1</sup>, T. Kozák<sup>1</sup>, S. Haviar<sup>1</sup>, P. Mareš<sup>2</sup>**  
<sup>1</sup> Univ. of West Bohemia – Plzen (CZ)  
<sup>2</sup> HVM Plasma Ltd. – Prague (CZ)
- 10:00 In situ plasma pre-treatments of Silicon for ALD of Al<sub>2</sub>O<sub>3</sub>  
**P. Dubreuil<sup>1</sup>, E. Scheid<sup>1</sup>**  
LAAS-CNRS – Toulouse (FR)
- 10:15 Structural and photoemission properties of very thin nanostructured carbon films prepared by electron beam-plasma vacuum deposition  
**J. Huran<sup>1</sup>, M. Nozdrin<sup>1</sup>, A. Skrypnik<sup>1</sup>, V. Sasinková<sup>2</sup>, E. Kováčová<sup>3</sup>, G. Shirkov<sup>1</sup>**  
<sup>1</sup> Joint Institute for Nuclear Research – Dubna (RU)  
<sup>2</sup> Institute of Chemistry, Slovak Academy of Sciences – Bratislava (SK)  
<sup>3</sup> Institute of Electrical Engineering, Slovak Academy of Sciences – Bratislava (SK)
- 10:30 Pulsed Laser Deposition for the fabrication of Gold nanoparticle arrays and Gold nanoparticles-Vanadium dioxide nanocomposites  
**A. Bercea<sup>1,2</sup>, C. Champeaux<sup>1</sup>, C. Constantinescu<sup>1</sup>, F. Dumas-Bouchiat<sup>1</sup>**  
<sup>1</sup> Univ. Limoges, CNRS, IRCER, UMR7315, Limoges (FR)  
<sup>2</sup> National Institute for Lasers, Plasma and Radiation Physics, Măgurele (RO)
- 10:45 Discussion with morning speakers 30'
- 11:15 Break 30'
- 11:45 Poster short presentations 60'
- 12:45 Closing Ceremony**

## FRIDAY, SEPTEMBER 17<sup>TH</sup> – MORNING

### PROC 4 / Process control

Room C

- 09:45 2D electric field measurements in Ar plasmas using a fine particle trapped with optical tweezers  
**S. Okunaga<sup>1</sup>, K. Kamataki<sup>1</sup>, K. Tomita<sup>2</sup>, Y. Pan<sup>1</sup>, D. Yamashita<sup>1</sup>, N. Itagaki<sup>1</sup>, K. Koga<sup>1,3</sup>, M. Shiratani<sup>1</sup>**  
<sup>1</sup> Kyushu Univ. – Fukuoka (JP)  
<sup>2</sup> Hokkaido Univ. – Hokkaido (JP)  
<sup>3</sup> NINF – Tokyo (JP)
- 10:00 Detection of trends in ground-state densities from optical emission spectroscopy data obtained during a controlled high-power impulse magnetron deposition of ZrO<sub>2</sub> films  
**A. Pajdarova, J. Vıcek**  
*Department of Physics and NTIS – European Centre of Excellence, Univ. West Bohemia, Plzen (CZ)*
- 10:15 Optimisation of hexagonal boron nitride deposition by micro hollow cathode discharge  
**A. Remigy<sup>1</sup>, M. Jacquemin<sup>1</sup>, V. Mille<sup>1</sup>, O. Brinza<sup>1</sup>, C. Lazzaroni<sup>1</sup>, G. Lombardi<sup>1</sup>, N. De Oliveira<sup>2</sup>**  
<sup>1</sup> LSPM CNRS UPR3407, Univ. Paris13, Sorbonne Paris Cité – Villetaneuse (FR)  
<sup>2</sup> Synchrotron SOLEIL – Saint-Aubain (FR)
- 10:45 Discussion with morning speakers 30'
- 11:15 Break 30'
- 11:45 Poster short presentations 60'
- 12:45 **Closing Ceremony**