

## TUESDAY, SEPTEMBER 12<sup>TH</sup> – MORNING

09:10 **Opening Ceremony**  
C. Champeaux (FR) - Chair of the Steering Committee  
L. Zajickova (CZ) - Chair of the Scientific Committee

### SURF / Plasma-surface interactions

Antipolis Auditorium

09:25 Plasma-surface interactions of atomic-layer processing toward sub-nm node semiconductor devices  
**Plenary speaker**  
S. Hamaguchi - Osaka Univ. (JP)

10:05 **Break 30'**

### SURF 1 / Plasma-surface interactions

Antipolis Auditorium

10:35 **#019** - Gas- and plasma-surface interactions in cryogenic conditions: a *quasi in situ* XPS study on Si substrates  
**F. Cemin, A. Girard, C. Cardinaud**  
Nantes Univ., CNRS, Institut des Matériaux de Nantes Jean Rouxel (IMN) - Nantes (FR)

10:55 **#034** - Selective cryoetching plasma process of Si<sub>3</sub>N<sub>4</sub>  
**R. Dussart, R. Ettouri, J. Nos, G. Antoun, T. Tillocher, P. Lefauchaux**  
GREMI – Univ. Orléans - CNRS - Orléans (FR)

11:15 **#049** - Photoresist removal in MEMS fabrication process with HDRF®, optimized chemistry by adding hydrogen radical in oxygen process  
**M. Segers, Y. Pilloux, A. Pageau**  
Plasma-Therm Europe - Bernin (FR)

11:35 **#108** - Effects of the substitution of Ar by Kr in ALE process of GaN  
**C. Mannequin<sup>1,2</sup>, C. Vallée<sup>3,2</sup>, G. Jacopin<sup>4</sup>, C. Durand<sup>5</sup>, T. Teramoto<sup>6</sup>, K. Akimoto<sup>2</sup>, E. Gheeraert<sup>4,2</sup>, M. Bonvalor<sup>3,2</sup>, H. Mariette<sup>5,7,2</sup>**  
<sup>1</sup> Nantes Univ., CNRS, Institut des Matériaux de Nantes Jean Rouxel (IMN) - Nantes (FR)  
<sup>2</sup> Faculty of Pure and Applied Sciences, Univ. Tsukuba - Tsukuba (JP)  
<sup>3</sup> CNRS/LTM, Univ. Grenoble-Alpes - Grenoble (FR)  
<sup>4</sup> CNRS/Institut Néel, Univ. Grenoble-Alpes - Grenoble (FR)  
<sup>5</sup> CEA/IRIG/PHELIQS, Univ. Grenoble-Alpes - Grenoble (FR)  
<sup>6</sup> Air Liquide Laboratories - Yokosuka (JP)  
<sup>7</sup> CNRS/Institut Néel, Univ. Grenoble-Alpes - Grenoble (FR)

11:55 **#081** - Impact of temperature towards the reduction of C<sub>4</sub>F<sub>8</sub> passivating gas-flow during bosch processing  
**J. Nos<sup>1</sup>, T. Tillocher<sup>1</sup>, P. Lefauchaux<sup>1</sup>, R. Dussart<sup>1</sup>, M. Boufnichel<sup>2</sup>**  
<sup>1</sup> GREMI, Orléans Univ. - CNRS - Orléans (FR)  
<sup>2</sup> STMicroelectronics - Tours (FR)

12:30 **Lunch**

## TUESDAY, SEPTEMBER 12<sup>TH</sup> – MORNING

### DEPO 1 / Plasma - deposited coatings

Ella Fitzgerald Room

- 10:35 **#091** - Structure, mechanical properties and thermal stability of (Gd,Hf,Sc,Ti,Zr)-nitride thin films  
**A. Kirnbauer<sup>1</sup>, M. Derflinger<sup>1</sup>, P. Polcik<sup>2</sup>, P.H. Mayrhofer<sup>1</sup>**  
<sup>1</sup> TU Wien, Thin Film Materials Science Division - Vienna (AT)  
<sup>2</sup> Plansee Composite Materials GmbH - Lechbruck am See (DE)
- 10:55 **#045** - Chemical and physical properties of gold-boron Laser Mégajoule target components coated by sputtering Physical Vapor Deposition  
**E. Brun<sup>1</sup>, S. Khieu<sup>1</sup>, V. Durand<sup>1</sup>, O. Heintz<sup>2</sup>, A. Krystianiak<sup>2</sup>, R. Botrel<sup>1</sup>, N. Cermelli<sup>1</sup>, A. Royer<sup>1</sup>**  
<sup>1</sup> CEA Valduc - Is sur Tille (FR)  
<sup>2</sup> CNRS Univ. Bourgogne - Dijon (FR)
- 11:15 **#150** - PVD coating on metallic powders: an innovative metallurgical process  
**A. Besnard<sup>1</sup>, Y. Pinot<sup>1</sup>, M.R. Ardigo-Besnard<sup>2</sup>, F. Bussière<sup>2</sup>, J.P. Chateau-Cornu<sup>2</sup>, C. Vandabeele<sup>3</sup>, S. Lucas<sup>3</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)
- 11:35 **#051** - Group III-nitride semiconductor materials made by low temperature plasma based Atomic Layer Deposition  
**N. Adjeroud, J. Polesel, Y. Fleming**  
Luxembourg Institute of Science and Technology (LIST) (LU)
- 11:55 **#012** - Permeation properties of plasma deposited gas separation membranes in dependence of atomic oxygen concentration  
**J. Jenderny<sup>1</sup>, J. Rubner<sup>2</sup>, D. Filla<sup>3</sup>, X. Xie<sup>4</sup>, M. Wessling<sup>2</sup>, G. Grundmeier<sup>4</sup>, P. Awakowicz<sup>1</sup>**  
<sup>1</sup> Applied Electrodynamics and Plasma Technology, Ruhr-Univ. Bochum - Bochum (DE)  
<sup>2</sup> Chemical Process Engineering AVT.CVT, RWTH Aachen Univ. - Aachen (DE)  
<sup>3</sup> Chair of Applied Electrodynamics and Plasma Technology, Ruhr-Univ. Bochum - Bochum (DE)  
<sup>4</sup> Technical and Macromolecular Chemistry, Univ. Paderborn - Paderborn (DE)
- 12:30 **Lunch**

## TUESDAY, SEPTEMBER 12<sup>TH</sup> – AFTERNOON

### SOUR / Plasma sources and electrical discharges

Antipolis Auditorium

- 14:00 Electrical characterization of barrier discharges: linking fundamentals and applications  
**Plenary speaker**  
**R. Brandenburg** – Leibniz-Institute for Plasma Science and Technology (INP), Greifswald (DE)  
Institute of Physics, Univ. Rostock (DE)

### SOUR 1/ Plasma sources and electrical discharges

Antipolis Auditorium

- 14:45 **#048** - Self-organization of HiPIMS plasma investigated by high-speed camera  
**M. Panjan**  
Jozef Stefan Institute - Ljubljana (SI)
- 15:05 **#084** - Angular distribution of ions and neutrals in High Power Impulse Magnetron Sputtering of titanium  
**J. Fischer<sup>1,2</sup>, M. Renner<sup>1</sup>, J.T. Gudmundsson<sup>3,4</sup>, M. Rudolph<sup>5</sup>, H. Hajihoseini<sup>6</sup>, D. Lundin<sup>1</sup>**  
<sup>1</sup> Linköping Univ. - Linköping (SE)  
<sup>2</sup> Evatec AG - Trübbach (CH)  
<sup>3</sup> KTH Royal Institute of Technology - Stockholm (SE)  
<sup>4</sup> Univ. Iceland - Reykjavik (IS)  
<sup>5</sup> Leibniz Institute of Surface Engineering (IOM) - Leipzig (DE)  
<sup>6</sup> Univ. Twente - Enschede (NL)
- 15:25 **#097** - Sputtered particle transport codes - comparison and developments  
**F. Manke, T. Richard, A. Sublet, M. Taborelli, M. Ady, R. Kersevan**  
CERN - Geneva (CH)

15:45 **Break 30'**

### PROC 2 / Process control

Antipolis Auditorium

- 16:15 **#088** - Studying the transport of atoms sputtered from a compound NBC target in HiPIMS discharges: plasma diagnostics and modelling  
**Keynote lecture**  
**T. Kozak<sup>1</sup>, M. Farahani<sup>1</sup>, A.D. Pajdarova<sup>1</sup>, A. Bahr<sup>2</sup>, R. Hahn<sup>2</sup>, H. Riedl<sup>2,3</sup>, P. Zeman<sup>1</sup>**  
<sup>1</sup> Department of Physics and NTIS-European Centre of Excellence, Univ. West Bohemia - Plzen (CZ)  
<sup>2</sup> Christian Doppler Lab. for Surface Engineering of High-performance Components, TU Wien - Wien (AT)  
<sup>3</sup> Institute of Materials Science and Technology, TU Wien - Wien (AT)
- 16:45 **#082** - Sputtered atom density – target heating correlation in hot magnetron sputtering discharge  
**K. Leonova<sup>1</sup>, S. Konstantinidis<sup>1</sup>, N. Britun<sup>2</sup>**  
<sup>1</sup> Plasma-Surface Interaction Chemistry (ChIPS), Univ. Mons - Mons (BE)  
<sup>2</sup> Center for Low-Temperature Plasma Sciences, Nagoya Univ. - Nagoya (JP)
- 17:05 **#169** - Characterization of a helium micro-plasma jet by means of ps-TALIF and a streak camera  
**K. Gazeli<sup>1</sup>, L. Invernizzi<sup>1</sup>, C. Anastassiou<sup>2</sup>, J. Franzke<sup>3</sup>, C. Duluard<sup>1</sup>, S. Prasanna<sup>1</sup>, K. Hassouni<sup>1</sup>, G. Lombardi<sup>1</sup>**  
<sup>1</sup> LSPM, CNRS, Univ. Sorbonne Paris Nord, UPR 3407 - Villetaneuse (FR)  
<sup>2</sup> ENAL Electromagnetics and Novel Applications Lab, Univ. Cyprus, - Nicosia (CY)  
<sup>3</sup> ISAS-Leibniz-Institut für Analytische Wissenschaften - Dortmund (DE)

## TUESDAY, SEPTEMBER 12<sup>TH</sup> – AFTERNOON

### SOUR / Plasma sources and electrical discharges

### Antipolis Auditorium

- 14:00 Electrical characterization of barrier discharges: linking fundamentals and applications  
**Plenary speaker**  
**R. Brandenburg** – Leibniz-Institute for Plasma Science and Technology (INP), Greifswald (DE)  
Institute of Physics, Univ. Rostock (DE)

### DEPO 2 / Plasma - deposited coatings

### Ella Fitzgerald Room

- 14:45 **#058** - Plasma polymer-metal composites: relations between chemical structure, topography and electrical properties  
**P. Lottin<sup>1,2</sup>, J.F. Coulon<sup>2</sup>, D. Debarnot<sup>1</sup>**  
<sup>1</sup> Institut des Molécules et Matériaux du Mans, UMR 6283 CNRS, Le Mans Univ., Le Mans (FR)  
<sup>2</sup> ECAM RENNES – Louis de Broglie, Campus de Ker Lann, Bruz (FR)
- 15:05 **#074** - Double tube configuration of atmospheric pressure plasma jet for deposition of organic coatings in open air  
**F. Arefi-Khonsari<sup>1</sup>, A. Anagri<sup>2</sup>, A. Baitukha<sup>3</sup>, J. Pulpytel<sup>1</sup>, S. Mori<sup>2</sup>**  
<sup>1</sup> Lab. Interfaces et Systèmes Electrochimiques LISE UMR8235, Sorbonne Univ., CNRS - Paris (FR)  
<sup>2</sup> Department of Chemical Science and Engineering Tokyo Institute of Technology - Tokyo (JP)  
<sup>3</sup> DIAM CONCEPT, ACCELAIR - Les Loges en Josas (FR)
- 15:25 **#161** - Environmentally-friendly plasma polymers to get durable water-repellent textile fabrics: a comprehensive study on coating structure-performance relationship  
**F. Bally-Le Gall<sup>1</sup>, S. Jebali<sup>1,2</sup>, J. Oliveira<sup>1</sup>, A. Airoudj<sup>1</sup>, A. Riahi<sup>1</sup>, I. Ferreira<sup>2</sup>, V. Roucoules<sup>1</sup>**  
<sup>1</sup> Institut de Science des Matériaux de Mulhouse (IS2M) - CNRS/UHA - Mulhouse (FR)  
<sup>2</sup> Institut Français du Textile et de l'Habillement (IFTH) - Mulhouse (FR)
- 15:45 **Break 30'**

### NANO 1 / Nanomaterials and nanostructured thin films

### Ella Fitzgerald Room

- 16:15 **#121** - Investigation by TEM and XPS of the thermal stability of multi-layer solar selective absorber  
**M. Richard-Plouet<sup>1</sup>, F. Chabanais<sup>1</sup>, A. Goulet<sup>1</sup>, J. Hamon<sup>1</sup>, N. Gautier<sup>1</sup>, A. Diop<sup>3,4</sup>, B. Diallo<sup>2</sup>, B. Plujat<sup>3</sup>, A. Bousquet<sup>4</sup>, T. Sauvage<sup>2</sup>, A. Soum-Glaude<sup>3</sup>, E. Tomasella<sup>4</sup>, L. Thomas<sup>3</sup>**  
**Keynote lecture**  
<sup>1</sup> Nantes Univ. - IMN UMR 6502 CNRS - Nantes (FR)  
<sup>2</sup> CEMHTI-CNRS UPR 3079 - Orléans (FR)  
<sup>3</sup> PROMES CNRS UPR 8521 - Univ. Perpignan - Perpignan (FR)  
<sup>4</sup> Université Clermont Auvergne - ICCF CNRS UMR 6296 CNRS - Clermont-Ferrand (FR)
- 16:45 **#140** - Pulsed laser processes for the development of gold/silver nanocomposites for plasmonic applications  
**M. Gireau<sup>1</sup>, C. Champeaux<sup>1</sup>, F. Dumas-Bouchiat<sup>1</sup>, S. Zeng<sup>2</sup>, G. Humbert<sup>2</sup>, F. Beffara<sup>2</sup>**  
<sup>1</sup> CNRS IRCER UMR 7315 - Limoges (FR)  
<sup>2</sup> CNRS XLIM UMR 7252 - Limoges (FR)
- 17:05 **#102** - Influence of Cu nanoparticles addition on fracture properties of sputter deposited nanostructured refractory MoNbTaVW HEA coatings  
**M. Zitek, T. Ziegelwanger, J. Keckes, R. Daniel**  
Department of Materials Science, Montanuniv. Leoben - Leoben (AT)

## TUESDAY, SEPTEMBER 12<sup>TH</sup> – AFTERNOON

17:30 **POSTER SESSION 1** (*until 19:30*)

**ITEC 1 / Innovation & Technologies**

**Ella Fitzgerald Room**

- 17:30 **#006** - A plasma for multidimensional elemental and molecular analysis of surfaces & interfaces  
**P. Chapon, A. Stankova**  
*Horiba - Palaiseau (FR)*
- 17:45 **#009** - Advanced patterning – ion beam etching for nano structuring  
**M. Loetsch**  
*scia Systems - Chemnitz (DE)*
- 18:00 **#172** - Advanced retarding field energy analyzer for accurate measurement of ion energy and flux in plasma-assisted thin film deposition tools  
**C. Linnane, A. Verma, T. Gilmore**  
*Impedans Ltd - Dublin (IE)*
- 18:15 **#151** - How to identify the optimal plasma treatment length for different surfaces  
**V. Schloupt<sup>1</sup>, N. Heil<sup>2</sup>, S. Schaubach<sup>2</sup>, Q. Liu<sup>2</sup>**  
<sup>1</sup> *DataPhysics Instruments GmbH - Metz (FR)*  
<sup>2</sup> *DataPhysics Instruments GmbH - Filderstadt (DE)*
- 18:30 End of the session and Poster session 1 until 19:30
- 19:30 **Industrial evening**

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

### NANO / Nanomaterials and nanostructured thin films

Antipolis Auditorium

08:40 Nonthermal plasma synthesis of photonic silicon nanocrystals

*Plenary speaker*

**U. Kortshagen** – Univ. Minnesota (US)

### NANO 2 / Nanomaterials and nanostructured thin films

Antipolis Auditorium

09:25 **#100** - ZnO nanoparticles thin films and evolution of their photoluminescence under oxygen plasma treatment

**J. Chevet<sup>1</sup>, A. Granier<sup>1</sup>, M. Feron<sup>2,3</sup>, F. Massuyeau<sup>1</sup>, M.L. Kahn<sup>2</sup>, R. Clergereaux<sup>3</sup>, A. Goulet<sup>1</sup>, M. Richard-Plouet<sup>1</sup>**

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

<sup>2</sup> Laboratoire de Chimie de Coordination UPR8241, CNRS - Toulouse (FR)

<sup>3</sup> Laplace, Univ. Toulouse, CNRS, UPS, INPT - Toulouse (FR)

09:45 **#075** - Optical study of metallic nanoparticles generated by thin-layer ion irradiation

**V. Goffinet<sup>1</sup>, S. Lucas<sup>2</sup>, P. Roquiny<sup>3</sup>**

<sup>1</sup> Unamur/AGC - Namur (BE)

<sup>2</sup> Unamur - Namur (BE)

<sup>3</sup> AGC - Gosselies (BE)

10:05

*Break 30'*

### NANO 3 / Nanomaterials and nanostructured thin films

Antipolis Auditorium

10:35 **#073** - Plasmonic Cu nanoparticles embedded in semiconductor heterostructures for photoconversion applications

**Y. Rodríguez Martínez<sup>1,2</sup>, J. Ghanbaja<sup>1</sup>, S. Migot<sup>1</sup>, Y. Battie<sup>1</sup>, S. Hamady<sup>3</sup>, M. Eriksson<sup>4</sup>, N. Almqvist<sup>4</sup>, A. Vomiero<sup>4</sup>, L. Vaillant<sup>2</sup>, D. Horwat<sup>1</sup>**

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

<sup>2</sup> Institute of Materials Science and Technology, Univ. Havana - Havana (CU)

<sup>3</sup> LMOPS, Univ. Lorraine - Metz (FR)

<sup>4</sup> Department of Engineering Sciences and Mathematics, Luleå Univ. Technology - Luleå (SE)

10:55 **#092** - Development of a microwave microplasma process for the elaboration of nanodiamonds

**A. Siby, S. Prasanna, K. Hassouni**

Laboratoire des Sciences des Procédés et des Matériaux - Villetaneuse (FR)

11:15 **#165** - In-flight anatase TiO<sub>2</sub> nanoparticles synthesis using an atmospheric pressure Ar/O<sub>2</sub> DBD plasma for photocatalytic applications

**S. Bulou, A. Bjelajac, A.M. Phillipe, Y. Fleming, J.B. Chemin, P. Choquet**

Luxembourg Institute of Science and Technology - Esch-sur-Alzette (LU)

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

### NANO 3 / Nanomaterials and nanostructured thin films (*suite*)

### Antipolis Auditorium

- 11:35 **#120** - Synthesis of gold/polymer nanocomposites in an atmospheric pressure plasma  
**A. Perdrau**<sup>1,2</sup>, **N. Barros**<sup>1,2</sup>, **H. Glénat**<sup>1</sup>, **F. Fanelli**<sup>3</sup>, **B. Plujat**<sup>1,2</sup>, **R. Rincón**<sup>4</sup>, **F. Massines**<sup>1</sup>  
<sup>1</sup> CNRS PROMES, Rambla de la thermodynamique - Perpignan (FR)  
<sup>2</sup> Univ. Perpignan Via Domitia - Perpignan (FR)  
<sup>3</sup> CNR-Nanotec, Bari Unit - Bari (IT)  
<sup>4</sup> Univ. Córdoba, Department of Physics - Córdoba (ES)
- 11:55 **#146** - Au nanoparticles decoration of different TiO<sub>2</sub> nanostructures using atmospheric pressure cold plasma  
**A. Bjelajac**<sup>1</sup>, **A.M. Phillipe**<sup>1</sup>, **R. Petrovic**<sup>2</sup>, **M. Stefanovic**<sup>3</sup>, **Y. Fleming**<sup>1</sup>, **J.B. Chemin**<sup>1</sup>,  
**P. Choquet**<sup>1</sup>, **S. Bulou**<sup>1</sup>  
<sup>1</sup> Luxembourg Institute of Science and Technology, Esch-sur-Alzette (LU)  
<sup>2</sup> Univ. Belgrade, Faculty of Technology and Metallurgy, Belgrade (RS)  
<sup>3</sup> Univ. Belgrade, Innovation Centre of the Faculty of Technology and Metallurgy, Belgrade (RS)
- 12:30 **Lunch**



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

### NANO / Nanomaterials and nanostructured thin films

Antipolis Auditorium

- 08:40 Nonthermal plasma synthesis of photonic silicon nanocrystals  
*Plenary speaker*  
**U. Kortshagen** – Univ. Minnesota (US)

### DEPO 3 / Plasma - deposited coatings

Ella Fitzgerald Room

- 09:25 **#040** - VN coatings for supercapacitor, an innovative approach to improve stability  
**E. Hays<sup>1</sup>, Y. Miao<sup>2</sup>, D. Pilloud<sup>3</sup>, C. Douard<sup>4</sup>, R. Boukherroub<sup>2</sup>, J.F. Pierson<sup>3</sup>, T. Brousse<sup>4</sup>, S. Lucas<sup>1</sup>, L. Houssiau<sup>1</sup>, J.J. Pireaux<sup>1</sup>, A. Achour<sup>1</sup>**  
<sup>1</sup> UNamur (BE)  
<sup>2</sup> IEMN Lille (FR)  
<sup>3</sup> IJL Nancy (FR)  
<sup>4</sup> IMN Nantes (FR)
- 09:45 **#065** - Plasma-assisted segregation of self-grown catalytic nanoparticles in perovskites for H<sub>2</sub> production by photoelectrocatalysis  
**T. Gries<sup>1</sup>, V. Guigoz<sup>1</sup>, S. Migot<sup>1</sup>, S. Bruyère<sup>1</sup>, R. Schneider<sup>2</sup>**  
<sup>1</sup> Institut Jean Lamour, CNRS, Univ. Lorraine - Nancy (FR)  
<sup>2</sup> Laboratoire Réactions et Génie des Procédés, CNRS, Univ. Lorraine - Nancy (FR)

10:05 *Break 30'*

### DEPO 4 / Plasma - deposited coatings

Ella Fitzgerald Room

- 10:35 **#079** - W/W-SiCH/TaO<sub>x</sub>N<sub>y</sub> solar selective absorber coatings for concentrated solar power  
**A. Mahammou<sup>1</sup>, A. Diop<sup>1</sup>, D. Ngoue<sup>1</sup>, B. Diallo<sup>2</sup>, B. Plujat<sup>1</sup>, A. Bousquet<sup>3</sup>, S. Quiozola<sup>1</sup>, M. Richard-Plouet<sup>4</sup>, T. Sauvage<sup>2</sup>, A. Gouillet<sup>4</sup>, A. Soum-Glaude<sup>1</sup>, E. Tomasella<sup>3</sup>, L. Thomas<sup>1</sup>**  
<sup>1</sup> PROMES - CNRS, Perpignan / Font-Romeu - Odeillo - Via - Univ. Perpignan - Perpignan (FR)  
<sup>2</sup> CEMHTI (Conditions Extrêmes et Matériaux) - Orléans (FR)  
<sup>3</sup> ICCF, Institut de Chimie de Clermont-Ferrand - Clermont-Ferrand (FR)  
<sup>4</sup> IMN, Institut des Matériaux Jean Rouxel - Nantes (FR)
- 10:55 **#148** - PVD coatings for PEMFC bipolar plates functionalization  
**M-A. Leroy, M. Ougier, C. Cambier, C. Pupier**  
IREIS / HEF Group, Andrézieux-Bouthéon (FR)
- 11:15 **#128** - Characterization of CuBi<sub>2</sub>O<sub>4</sub> thin films deposited by RF magnetron sputtering  
**L. Presmanes, B. Duployer, Y. Thimont, A. Barnabé, C. Tenaillon**  
CIRIMAT CNRS - Toulouse (FR)



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

### DEPO 4 / Plasma - deposited coatings (*suite*)

**Ella Fitzgerald Room**

- 11:35 **#166** - High-rate reactive deposition of ultrawide bandgap Ga<sub>2</sub>O<sub>3</sub> by liquid metal target sputtering  
**J. Purans, M. Zubkins, A. Azens, E. Butanovs, E. Strods**  
*Institute of Solid State Physics Univ. Latvia - RIGA (LV)*
- 11:55 **#124** - Non-equilibrium synthesis of Si<sub>1-x</sub>Mn<sub>x</sub> thin films for magnetic application  
**A. Bénédict-Cardenas<sup>1</sup>, T. Fox<sup>2</sup>, S. Bruyère<sup>1</sup>, C. Pauly<sup>2</sup>, S. Migot<sup>1</sup>, T. Hauet<sup>1</sup>, S. Petit-Watlot<sup>1</sup>, D. Horwat<sup>1</sup>, A. Nominé<sup>1</sup>**  
<sup>1</sup> Univ. Lorraine - Nancy (FR)  
<sup>2</sup> Saarland Univ. - Saarbrücken (DE)
- 12:30 **Lunch**

## WEDNESDAY, SEPTEMBER 13<sup>TH</sup> – AFTERNOON

### PLACC / Plasmas for conversion and catalysis

**Antipolis Auditorium**

- 14:00 Plasma-assisted CO<sub>2</sub> recycling: investigation on volume and surface kinetic  
*Plenary speaker*  
**T. Silva** – Instituto Superior Técnico, Lisbon (PT)

### PLACC 1 / Plasmas for conversion and catalysis

**Antipolis Auditorium**

- 14:45 **#133** - Interplay of transport, plasma concentration and chemistry in microwave discharges  
**G. van Rooij, M. Azevedo, T. Righart, T. Butterworth**  
Maastricht Univ. - Maastricht (NL)
- 15:05 **#119** - Plasma-assisted CO<sub>2</sub> hydrogenation over Ir/TiO<sub>2</sub> catalytic thin films in a DBD reactor  
**J. Gregory<sup>1</sup>, N. Pourali<sup>1</sup>, Y. Gong<sup>1</sup>, R. Walton<sup>1</sup>, V. Hessel<sup>2</sup>, E. Rebrov<sup>1,3</sup>**  
<sup>1</sup> Univ. Warwick - Coventry (UK)  
<sup>2</sup> Univ. Adelaide - Adelaide (AU)  
<sup>3</sup> Eindhoven Univ. Technology - Eindhoven (NL)
- 15:25 **#173** - Discharges in honeycomb monoliths and capillary tubes  
**K. Hensel, S. Kukura, R. Cimerman, M. Janda**  
Comenius Univ. - Bratislava (SK)
- 15:45 **#027** - Synthesis and effect of BiVO<sub>4</sub> thin films heterojunctions deposited by reactive magnetron co-sputtering on photogenerated charges for visible light photocatalysis  
**M. Goutte<sup>1</sup>, A. Bousquet<sup>1</sup>, E. Tomasella<sup>1</sup>, G. Monier<sup>2</sup>, T. Sauvage<sup>3</sup>**  
<sup>1</sup> Univ. Clermont Auvergne, Clermont Auvergne INP, CNRS, Institut de Chimie de Clermont-Ferrand (ICCF), Clermont-Ferrand (FR)  
<sup>2</sup> Univ. Clermont Auvergne, Clermont Auvergne INP, CNRS, Institut Pascal, Clermont-Ferrand (FR)  
<sup>3</sup> CNRS, UPR 3079, CEMHTI, Univ. Orléans (FR)
- 16:05 **Break 30'**

## WEDNESDAY, SEPTEMBER 13<sup>TH</sup> – AFTERNOON

### PLACC / Plasmas for conversion and catalysis

### Antipolis Auditorium

- 14:00 Plasma-assisted CO<sub>2</sub> recycling: investigation on volume and surface kinetic  
*Plenary speaker*  
**T. Silva** – Instituto Superior Técnico, Lisbon (PT)

### HELIAG 1 / Plasmas for health, agriculture and life science

### Ella Fitzgerald Room

- 14:45 **#037** - Bactericidal surface treatments for dental implants based on silver and copper MEVVA ion co-implantation  
**J. Caro<sup>1</sup>, R. Bonet<sup>1</sup>, J. Orrit-prat<sup>1</sup>, S. Molas<sup>1</sup>, A. Concustell<sup>1</sup>, M. Bahillo<sup>1</sup>, J. Muñoz<sup>2</sup>**  
<sup>1</sup> Eurecat, Centre Tecnològic de Catalunya, Unit of Metallic and Ceramic Materials - Manresa (ES)  
<sup>2</sup> Microdent Implant System - Santa Eulàlia de Ronçana (ES)
- 15:05 **#093** - Combination of plasma-polymer thin films and topography to limit bacterial adhesion  
**A. Whiteley, G. Nonglaton, J. Reche, Z. Mehrez, V. Jousseume**  
Univ. Grenoble Alpes, CEA Leti - Grenoble (FR)
- 15:25 **#122** - Investigation of the antibacterial properties of silver-doped amorphous carbon coatings produced by low pressure magnetron assisted acetylene discharges  
**V. Job<sup>1</sup>, J. Laloy<sup>2</sup>, V. Maloteau<sup>2</sup>, E. Hays<sup>1,3</sup>, S. Lucas<sup>1,3</sup>, S. Penninckx<sup>1,4</sup>**  
<sup>1</sup> LARN Laboratory (LARN-NARILIS), Univ. Namur - Namur (BE)  
<sup>2</sup> Laboratory (NNC-NARILIS), Department of Pharmacy, Univ. Namur - Namur (BE)  
<sup>3</sup> Innovative Coating Solutions (ICS), Univ. Namur, Forville (BE)  
<sup>4</sup> Medical Physics Department, Institut Jules Bordet, Univ. Libre de Bruxelles, Brussels (BE)
- 15:45 **#153** - The role of short- and long-lived reactive species on the anti-cancer action of plasma-treated liquids: *in vitro* and *in vivo* applications  
**J. Santos Sousa<sup>1</sup>, K. Sklias<sup>1</sup>, P.M. Girard<sup>2</sup>, T.H. Chung<sup>3</sup>, A. Stancampiano<sup>4</sup>, G. Bauville<sup>1</sup>, M. Fleury<sup>1</sup>, K. Gazeli<sup>1</sup>, T. Darny<sup>1</sup>, S. Dozias<sup>4</sup>, C. Douat<sup>4</sup>, J.M. Pouvesle<sup>4</sup>, E. Robert<sup>4</sup>, L. Mir<sup>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 Univ., Univ. Paris-Saclay, CNRS, INSERM - Orsay (FR)  
<sup>3</sup> Univ. Paris-Saclay, CNRS, Institut Gustave Roussy, METSY - Villejuif (FR)  
<sup>4</sup> GREMI, CNRS, Univ. Orléans - Orléans (FR)

- 16:05 *Break 30'*

## WEDNESDAY, SEPTEMBER 13<sup>TH</sup> – AFTERNOON

16:35 **POSTER SESSION 2** (until 18:30)

**ITEC 2 / Innovation & Technologies**

**Ella Fitzgerald Room**

**From 16:35 until 17:35, 12 min per presentation**

**#030** - DLC coatings with tailorable functionalities as a function of SP<sup>3</sup>/SP<sup>2</sup> hybridization

**B. Paul, G. Wahli, A. Lümke**

*Platit AG - Selzach (CH)*

**#168** - Optical emission spectroscopy of carbon plasma discharged by constant pulse current  
High Power Impulse Magnetron Sputtering

**A. Oniszczyk<sup>1</sup>, W. Trzewiczyński<sup>1</sup>, W. Gajewski<sup>1</sup>, J.R. Sobiecki<sup>2</sup>**

<sup>1</sup> *TRUMPF Huettinger sp. z o.o. - Zielonka (PL)*

<sup>2</sup> *Faculty of Materials Science and Engineering, Warsaw Univ. Technology - Warszawa (PL)*

**#078** - Optimized cylindrical inertial electrostatic confinement plasma source for thin film applications

**D. Tiedemann<sup>1</sup>, J. Emmerlich<sup>1</sup>, P. Hofmann<sup>1</sup>, M. Müller<sup>1</sup>, G. Herdrich<sup>2</sup>, S. Ulrich<sup>3</sup>**

<sup>1</sup> *Robert Bosch Manufacturing Solutions GmbH - Stuttgart (DE)*

<sup>2</sup> *Institute of Space Systems, Univ. Stuttgart - Stuttgart (DE)*

<sup>3</sup> *Institute for Applied Materials, Karlsruhe Institute of Technology - Eggenstein-Leopoldshafen (DE)*

**#125** - Deposition of SiO<sub>x</sub> based functional thin films for adhesion promotion and corrosion resistance using atmospheric pressure plasma jet

**D. Bensalem, M. Buske, P. Delfs**

*Plasmatreat GmbH - Steinhagen (DE)*

**#171** - Remote optical gas sensing to improve plasma and thin film quality & repeatability

**N. Kaabeche<sup>1</sup>, D. Monaghan<sup>1</sup>, J. Brindley<sup>1</sup>, B. Daniel<sup>1</sup>, V. Bellido-Gonzalez<sup>1</sup>**

*Gencoa Limited – Liverpool (UK)*

17:35 End of the session and Poster session 2 still in progress until 18:30

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

### PROC / Process control

Antipolis Auditorium

- 08:40 Low temperature plasmas for conductive carbons and multimaterials  
*Plenary speaker*  
**E. Kovacevic** – Univ. Orléans (FR)

### PROC 3 / Process control

Antipolis Auditorium

- 09:25 **#061** - Investigation of ionized metal flux fraction at industrial conditions  
**P. Vasina<sup>1</sup>, J. Hnilica<sup>1</sup>, P. Klein<sup>1</sup>, V. Sochora<sup>2</sup>**  
<sup>1</sup> Masaryk Univ. - Brno (CZ)  
<sup>2</sup> SHM - Sumperk (CZ)
- 09:45 **#028** - Spread of target ion and neutral in High Power Impulse Magnetron Sputtering  
**H. Hajihoseini<sup>1</sup>, N. Brenning<sup>2</sup>, M. Rudolph<sup>3</sup>, M.A. Raadu<sup>4</sup>, D. Lundin<sup>2</sup>, J. Fischer<sup>2</sup>, T. Minea<sup>5</sup>, J.T. Gudmundsson<sup>6</sup>**  
<sup>1</sup> Industrial Focus Group XUV Optics, MESA+ Inst. for Nanotechnology, Univ. Twente, - Enschede (NL)  
<sup>2</sup> Plasma and Coatings Physics Division, IFM-Materials Physics, Linköping Univ. - Linköping (SE)  
<sup>3</sup> Leibniz Institute of Surface Engineering (IOM) - Leipzig (DE)  
<sup>4</sup> Space and Plasma Physics, KTH Royal Institute of Technology - Stockholm (SE)  
<sup>5</sup> Laboratoire de Physique des Gaz et Plasmas LPGP, Univ. Paris–Saclay - Orsay (FR)  
<sup>6</sup> Science Institute, Univ. Iceland - Reykjavik (IS)

10:05 *Break 30'*

### PROC 4 / Process control

Antipolis Auditorium

- 10:35 **#033** - Plasma chemical reactions governed by the specific energy input  
**D. Hegemann, P. Navascués**  
*Empa, Swiss Federal Laboratories for Materials Science and Technology - St.Gallen (CH)*
- 10:55 **#095** - Analysis of low-pressure misty plasma processes by Optical Emission Spectroscopy  
**A. Granier<sup>1</sup>, S. Chouteau<sup>1,2</sup>, M. Richard-Plouet<sup>1</sup>, L. Stafford<sup>2</sup>**  
<sup>1</sup> Nantes Univ., CNRS, Institut des Matériaux de Nantes Jean Rouxel, IMN, Nantes (FR)  
<sup>2</sup> Département de physique, Univ. Montréal (CA)
- 11:15 **#105** - How carbon nanoparticles affect the behaviour of the plasma electrolytic oxidation process  
**L. Magniez<sup>1</sup>, C. Da Silva Tousch<sup>1</sup>, J. Martin<sup>1,2</sup>, S. Fontana<sup>1</sup>, S. Cahen<sup>1</sup>, G. Marcos<sup>1,2</sup>, T. Czerwec<sup>1,2</sup>, C. Hérold<sup>1</sup>, G. Henrion<sup>1,2</sup>**  
<sup>1</sup> CNRS – Univ. Lorraine - Institut Jean Lamour - Nancy (FR)  
<sup>2</sup> Univ. Lorraine, LabEx DAMAS - Metz (FR)
- 11:35 **#087** - Nanocrystalline diamond coatings of titanium and titanium alloys for biomedical applications using distributed antenna array microwave system  
**F. Bénédic<sup>1</sup>, A. Valinataj Omran<sup>1</sup>, C. Mahi<sup>1</sup>, C. Falentin-Daudré<sup>2</sup>, S. Prasanna<sup>3</sup>, A. Michau<sup>3</sup>, K. Hassouni<sup>1</sup>**  
<sup>1</sup> Univ. Sorbonne Paris Nord, LSPM, CNRS, UPR 3407 - Villetaneuse (FR)  
<sup>2</sup> LBPS-CSPBAT, UMR 7244, Univ. Sorbonne Paris Nord - Villetaneuse (FR)  
<sup>3</sup> LSPM, CNRS, UPR 3407, Univ. Sorbonne Paris Nord - Villetaneuse (FR)
- 11:55 **#055** - Reduction of oxide using an electron cyclotron wave resonance Ar/H<sub>2</sub> plasma - towards lunar raw materials use for H<sub>2</sub>O production  
**M. Sikiric, S. Bulou, P. Choquet**  
*Luxembourg Institute of Science and Technology - Esch-Sur-Alzette (LU)*

12:30 *Lunch*

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

### NANO / Nanomaterials and nanostructured thin films

Antipolis Auditorium

- 08:40 Low temperature plasmas for conductive carbons and multimaterials  
**Plenary speaker**  
**E. Kovacevic** – Univ. Orléans (FR)

### GROM 1 / Thin films growth and modelling

Ella Fitzgerald Room

- 09:25 **#160** - Molecular dynamics approach for the calculation of surface loss probabilities during the growth of C:H films from an argon-methane plasma  
**G. Otakandza Kandjani<sup>1</sup>, M. Mikikian<sup>1</sup>, P. Brault<sup>1</sup>, G. Tétard<sup>2</sup>, A. Michau<sup>2</sup>, K. Hassouni<sup>2</sup>**  
<sup>1</sup> Univ. Orléans / GREMI - Orléans (FR)  
<sup>2</sup> Univ. Sorbonne Paris Nord - Villetaneuse (FR)
- 09:45 **#116** - Multi-level investigation of the formation of silicide interface during Cu/Si energetic deposition process; a combined ab-initio, molecular dynamic, in-situ stress measurement and kinetic monte carlo simulation study  
**C. Mastail<sup>1</sup>, B. Vernet<sup>1,2</sup>, F. Nita<sup>1</sup>, L. Pizzagalli<sup>1</sup>, A. Michel<sup>1</sup>, G. Abadias<sup>1</sup>**  
<sup>1</sup> Institut P', Dpt. Physique et Mécanique des Matériaux, CNRS-Univ. Poitiers-ENSMA - Poitiers (FR)  
<sup>2</sup> Lab. des Sciences pour l'Environnement et l'Energie, Dpt. Physique, ENS-Univ. d'Etat d'Haïti (HT)

10:05 **Break 30'**

### GROM 2 / Thin films growth and modelling

Ella Fitzgerald Room

- 10:35 **#112** - Nanostructured plasma polymers from citronellal: the role of substrate's chemistry  
**J. Oliveira, A. Airoudj, F. Bally-Le Gall, V. Roucoules**  
Univ. Haute-Alsace, Univ. Strasbourg, CNRS, IS2M UMR 7361, Mulhouse (FR)
- 10:55 **#046** - Polymerization mechanisms in complex geometries using HMDSO low-pressure plasmas  
**P. Navascués<sup>1</sup>, M. Buchtelová<sup>2</sup>, L. Zajickova<sup>2</sup>, D. Hegemann<sup>1</sup>**  
<sup>1</sup> Empa - St. Gallen (CH)  
<sup>2</sup> CEITEC BUT - Brno (CZ)
- 11:15 **#147** - Boron-carbon thin films deposited via Plasma-Enhanced Atomic Layer Deposition (PE-ALD)  
**N. Innis, C. Marichy, C. Bousige, C. Journet**  
Laboratoire des Multimatériaux et Interfaces, UMR CNRS 5615 - Lyon (FR)
- 11:35 **#035** - Study of III-V thin films growth directly on silicon by remote-plasma CVD: towards a reduction in solar cell industrialisation costs  
**L. Watrin<sup>1,2</sup>, F. Silva<sup>1</sup>, C. Jadaud<sup>1</sup>, P. Bulkin<sup>1</sup>, J.C. Vanel<sup>1</sup>, E. Johnson<sup>1</sup>, K. Ouaras<sup>1</sup>, P. Roca I Cabarrocas<sup>1,2</sup>**  
<sup>1</sup> LPICM, Ecole Polytechnique - Palaiseau (FR)  
<sup>2</sup> Institut Photovoltaïque d'Ile-de-France (IPVF) - Palaiseau (FR)
- 11:55 **#053** - Sputtering and annealing of Mg<sub>2</sub>SiO<sub>4</sub> films as proxy of pristine component of the solar system  
**V. Guigoz<sup>1</sup>, A. Seret<sup>2</sup>, H. Rotella<sup>1</sup>, P. Venegues<sup>1</sup>, G. Libourel<sup>2</sup>, M. Portail<sup>1</sup>**  
<sup>1</sup> Univ. Côte d'Azur, CRHEA laboratory, UMR 7073 OCA-CNRS - Valbonne (FR)  
<sup>2</sup> Univ. Côte d'Azur, Lagrange laboratory, UMR 7296 OCA-UCA-CNRS - Nice (FR)

12:30 **Lunch**

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

### LIQU / Plasma and liquids

Antipolis Auditorium

14:00 How reactive species from cold plasma are transported into liquid water bulk/aerosol

*Plenary speaker*

**Z. Machala, M.E. Hassan, K. Hensel, M. Janda**

*Faculty of Mathematics, Physics and Informatics, Comenius Univ. Bratislava (SK)*

### LIQU 1/ Plasma and liquids

Antipolis Auditorium

14:45 **#077** - Gas phase properties and plasma-liquid interactions during DC and pulsed sputtering onto glycerol

**S. Atmane, A. Caillard, V. Orozco-Montes, P. Brault, A. Sauldubois**

*GREMI, Univ. Orléans, CNRS, Orléans (FR)*

15:05 **#016** - Atmospheric pressure plasma jet in contact with a liquid for the formation of silver and gold nanoparticles and their applications

**T. Habib<sup>1,2</sup>, B. Caillier<sup>1</sup>, J.M. Caiut<sup>2</sup>**

<sup>1</sup> *Institut National Universitaire Champollion - Albi (FR)*

<sup>2</sup> *Univ. Sao Paulo - Ribeirao Preto (BR)*

15:25 **#011** - Growth mechanism of nanosheets by discharges in liquids

**T. Belmonte<sup>1</sup>, A. Nominé<sup>1</sup>, T. Gries<sup>1</sup>, C. Noël<sup>1</sup>, J. Ghanbaja<sup>1</sup>, V. Milichko<sup>1,2</sup>**

<sup>1</sup> *Univ. Lorraine, CNRS, IJL, Nancy (FR)*

<sup>2</sup> *ITMO Univ., St. Petersburg (RU)*

15:45

*Break 30'*

### GROM 3 / Thin films growth and modelling

Antipolis Auditorium

16:15 **#025** - Growth mechanism of metallic foams synthesized by plasma electrolysis deposition: a numerical study

*Keynote lecture*

**B. Dufour<sup>1</sup>, C. Noël<sup>2</sup>, R. Botrel<sup>1</sup>, F. Durut<sup>1</sup>, T. Belmonte<sup>2</sup>**

<sup>1</sup> *Commissariat à l'Energie Atomique et aux Energies Alternatives, Valduc, Is-sur-Tille (FR)*

<sup>2</sup> *Institut Jean Lamour, Département CP2S, UMR 7198, CNRS-Univ. Lorraine, Nancy (FR)*

16:45 **#041** - *In situ* study of the amorphous-to-crystalline phase transformation of thermochromic SmNiO<sub>3-δ</sub> thin films

**Z. Fernandez Gutierrez<sup>1</sup>, S. Bruyère<sup>1</sup>, D. Pilloud<sup>1</sup>, E. Hays<sup>2</sup>, G. Medjahdi<sup>1</sup>, S. Barrat<sup>1</sup>, F. Capon<sup>1</sup>**

<sup>1</sup> *Univ. Lorraine, CNRS, IJL, Nancy (FR)*

<sup>2</sup> *Laboratoire d'Analyse par Réactions Nucléaires (LARN), Namur Institute of Structured Matter (NISM) Univ. Namur (BE)*



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

### GROM 3 / Thin films growth and modelling (*suite*)

### Antipolis Auditorium

- 17:05 **#031** - Growth manipulation strategies of ultrathin metallic layers aided by in situ and real-time diagnostics  
**G. Abadias<sup>1</sup>, D. Babonneau<sup>1</sup>, A. Michel<sup>1</sup>, K. Solanki<sup>1</sup>, J. Ramade<sup>1</sup>, M. Kaminski<sup>2</sup>, A. Resta<sup>3</sup>, A. Vlad<sup>3</sup>, A. Coati<sup>3</sup>, B. Krause<sup>2</sup>, K. Sarakinos<sup>4</sup>**  
<sup>1</sup> Institut Pprime, Univ. Poitiers - Poitiers (FR)  
<sup>2</sup> Karlsruhe Institute of Technology (KIT) - Karlsruhe (DE)  
<sup>3</sup> Synchrotron SOLEIL - Saclay (FR)  
<sup>4</sup> Univ. Helsinki - Helsinki (FI)
- 17:25 **#117** - Study on the effects of N<sub>2</sub> addition during Ag thin film sputtering deposition, using *in situ* and real-time measurements  
**R. Zapata<sup>1,2</sup>, R. Lazzari<sup>2</sup>, H. Montigaud<sup>1</sup>, M. Balestrieri<sup>1</sup>, I. Gozkyk<sup>1</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)
- 17:45 **#062** - Initial phase formation during nitriding of austenitic stainless steel  
**D. Manova, S. Mändl**  
Leibniz Institute of Surface Engineering - Leipzig (DE)

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

### LIQU / Plasma and liquids

### Antipolis Auditorium

14:00 How reactive species from cold plasma are transported into liquid water bulk/aerosol

**Plenary speaker**

**Z. Machala, M.E. Hassan, K. Hensel, M. Janda**

*Faculty of Mathematics, Physics and Informatics, Comenius Univ. Bratislava (SK)*

### TRIB 1 / Plasma - deposited protective and tribological coatings

### Ella Fitzgerald Room

14:45 **#060** - Synthesis and characterization of the ceramic refractory metal high entropy carbide thin films from the Cr-Hf-Mo-Ta-W system

**S. Debnarova<sup>1</sup>, T. Stasiak<sup>1,2</sup>, V. Buršíková<sup>1</sup>, P. Vašina<sup>1</sup>, P. Souček<sup>1</sup>**

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

<sup>2</sup> *National Center for Nuclear Research - Otwock-Swierk (PL)*

15:05 **#064** - Optimizing temperature stability in non-reactively sputtered (Hf,Ta,Ti,V,Zr)B-C-N coatings by design of the non-metal sublattice

**A. Kretschmer<sup>1</sup>, A. Kirnbauer<sup>1</sup>, R. Frost<sup>2</sup>, D. Primetzhofer<sup>2</sup>, H. Rojacz<sup>3</sup>, E. Badisch<sup>3</sup>, P.H. Mayrhofer<sup>1</sup>**

<sup>1</sup> *Institute of Materials Science and Technology, TU Wien - Vienna (AT)*

<sup>2</sup> *Department of Physics and Astronomy, Uppsala Univ. - Uppsala (SE)*

<sup>3</sup> *AC2T Research GmbH - Wiener Neustadt (AT)*

15:25 **#020** - Oxidation resistance and mechanical properties of AlTiZrHfTa(-N) high entropy films deposited by reactive magnetron sputtering

**D. Touaibia<sup>1</sup>, S. Achache<sup>1</sup>, A. Bouissil<sup>1</sup>, J. Ghanbaja<sup>2</sup>, S. Migot<sup>2</sup>, M. Arab Pour Yazdi<sup>3</sup>, F. Schuster<sup>4</sup>, B. Panicaud<sup>5</sup>, F. Sanchette<sup>5</sup>, M. El Garah<sup>5</sup>**

<sup>1</sup> *Univ. Technology of Troyes (UTT) - Nogent (FR)*

<sup>2</sup> *Institut Jean Lamour (IJL), Univ. Lorraine - Nancy (FR)*

<sup>3</sup> *Anton Paar TriTec SA / FEMTO-ST, Univ. Bourgogne Franche-Comté, UTBM (FR)*

<sup>4</sup> *Commissariat à l'Energie Atomique et aux énergies alternatives (CEA) Saclay (FR)*

<sup>5</sup> *Univ. Technology of Troyes (UTT) (FR)*

15:45

**Break 30'**

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

### Ella Fitzgerald Room

16:15 **#162** - A small-scale approach to characterize Ti-based thin films tribological behavior in *operando* conditions

**Keynote lecture**

**P. Steyer<sup>1</sup>, A. Sayilan<sup>1</sup>, D. Philippon<sup>1</sup>, C. Lopes<sup>2</sup>, F. Vaz<sup>2</sup>, N. Mary<sup>1</sup>, S. Descartes<sup>1</sup>**

<sup>1</sup> *INSA Lyon - MATEIS Lab. - Villeurbanne (FR)*

<sup>2</sup> *INSA Lyon - MATEIS Lab. - Guimaraes (PT)*

16:45 **#141** - Neon enhanced plasma ionization in Cr films deposition by HiPIMS-DOMS

**J. Oliveira, S. Adebayo, R. Serra**

*CEMMPRE – Univ. Coimbra - Coimbra (PT)*

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

TRIB 2 / Plasma - deposited protective and tribological coatings (*suite*)

Ella Fitzgerald Room

- 17:05 **#043** - Tribological characterization of TiO<sub>2</sub> thin films prepared by magnetron sputtering: the link between color change and TiO<sub>2</sub> wear  
**S. Marion<sup>1</sup>, C. Minfray<sup>2</sup>, V. Fridrici<sup>2</sup>, L. Dubost<sup>3</sup>, M. Lenci<sup>1,4</sup>, A. Pascale-Hamri<sup>4</sup>, R. Charriere<sup>1</sup>, J. Faucheu<sup>1</sup>**  
<sup>1</sup> Mines Saint-Etienne, Univ. Lyon, CNRS, UMR 5307 LGF, Centre SMS - Saint-Etienne (FR)  
<sup>2</sup> Lab. de Tribologie et Dynamique des Systèmes, Univ. Lyon, Ecole Centrale de Lyon - Ecully (FR)  
<sup>3</sup> IREIS, Andrézieux-Bouthéon (FR)  
<sup>4</sup> Manutech USD, Bâtiment des Hautes Technologies, Saint-Etienne (FR)
- 17:25 **#111** - Revisiting the mechanical properties of TiB<sub>2±z</sub> thin films grown from DCMS and HiPIMS  
**L. Enzlberger<sup>1</sup>, M. Podsednik<sup>2</sup>, A. Limbeck<sup>2</sup>, S. Kolozsvari<sup>3</sup>, P. Mayrhofer<sup>1</sup>**  
<sup>1</sup> TU Wien, Institute for Materials Science and Technology - Vienna (AT)  
<sup>2</sup> TU Wien, Institute for Chemical Technologies and Analytics - Vienna (AT)  
<sup>3</sup> Plansee Composite Materials SE, Research and Development - Lechbruck am See (DE)
- 17:45 **#113** - Role of Ti-Al-based thin films modified wettability on heat transfer exchange during droplet impact onto a heated surface  
**A. García Wong<sup>1</sup>, G. Marcos<sup>1</sup>, G. Castanet<sup>2</sup>, O. Caballina<sup>2</sup>, T. Potaufoux<sup>2</sup>, F. Lemoine<sup>2</sup>, J.F. Pierson<sup>1</sup>, T. Czerwiec<sup>1</sup>**  
<sup>1</sup> Institut Jean Lamour, Univ. Lorraine - Nancy (FR)  
<sup>2</sup> Laboratoire d'Energétique et de Mécanique Théorique et Appliquée, Univ. Lorraine - Nancy (FR)

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

### DEPO / Plasma - deposited coatings

Antipolis Auditorium

08:40 Surface engineering for sustainable future: multifunctional coatings for optics, energy, aerospace and manufacturing applications

**Plenary speaker**

**L. Martinu** – Polytechnique Montréal, Québec (CA)

### DEPO 5 / Plasma - deposited coatings

Antipolis Auditorium

09:25 **#167** - VO<sub>2</sub> thin films for thermal devices, the beginnings of a radiative thermal transistor

**I. Alonzo-Zapata<sup>1</sup>, C. Champeaux<sup>1</sup>, F. Enguehard<sup>2</sup>, J. Ordonez-Miranda<sup>2</sup>,  
F. Dumas-Bouchiat<sup>1</sup>**

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

<sup>2</sup> Institut Pprime, CNRS, Univ. Poitiers, ISAE-ENSMA, Futuroscope Chasseneuil - Poitiers (FR)

09:45 **#135** - Pulsed magnetron sputtering of strongly thermochromic VO<sub>2</sub>-based coatings with a low transition temperature

**M. Kaufman, S. Farrukh, J. Vlček**

Univ. West Bohemia – Plzeň (CZ)

10:05

**Break 30'**

### DEPO 6 / Plasma - deposited coatings

Antipolis Auditorium

10:35 **#080** - Photochromic properties of rare-earth oxyhydride thin films for smart windows applications

**Keynote lecture**

**D. Moldarev, E. Pitthan, M. Wolff, D. Primetzhofer**

Department of Physics and Astronomy, Uppsala Univ. - Uppsala (SE)

11:05 **#010** - Growth mechanisms and properties of magnetron sputtered TiO<sub>2</sub> thin films on complex 3D FOAM substrates

**L. Chavée<sup>1</sup>, S. Lucas<sup>1</sup>, T. Gries<sup>2</sup>, E. Haye<sup>1</sup>**

<sup>1</sup> Univ. Namur / NISM Institute - Namur (BE)

<sup>2</sup> Institut Jean Lamour - Nancy (FR)

11:25 **#022** - Plasma diagnostics of a pulsed hollow cathode discharge and deposition of copper nickel oxide thin films

**R. Hippler<sup>1</sup>, A. Kapran<sup>1</sup>, H. Wulff<sup>2</sup>, A. Pisarikova<sup>1</sup>, J. Olejnicek<sup>1</sup>, M. Cada<sup>1</sup>, Z. Hubicka<sup>1</sup>**

<sup>1</sup> Institute of Physics, Czech Academy of Sciences - Prague (CZ)

<sup>2</sup> Institute of Physics, Univ. Greifswald - Greifswald (DE)

11:45 **#036** - Reactive D.C. magnetron sputter deposition of crystalline silver niobate thin films

**L. Kölbl<sup>1</sup>, R. Franz<sup>1</sup>, A. Kobald<sup>2</sup>, M. Deluca<sup>2</sup>, C. Mitterer<sup>1</sup>**

<sup>1</sup> Department of Materials Science, Montanuniv. Leoben, Leoben (AT)

<sup>2</sup> Materials Center Leoben Forschung GmbH, Leoben (AT)

12:10 **Closing ceremony**

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

### DEPO / Plasma - deposited coatings

Antipolis Auditorium

08:40 Surface engineering for sustainable future: multifunctional coatings for optics, energy, aerospace and manufacturing applications

**Plenary speaker**

**L. Martinu** – Polytechnique Montréal, Québec (CA)

### SURF 2 / Plasma - surface interactions

Ella Fitzgerald Room

09:25 **#042** - Plasma-surface interactions in oxygen-containing plasmas

**V. Guerra<sup>1</sup>, J. Afonso<sup>1</sup>, J. Silveira<sup>1</sup>, A.S. Morillo Candas<sup>2</sup>, L. Vialetto<sup>3</sup>, P. Viegas<sup>1</sup>**

<sup>1</sup> Instituto de Plasmas e Fusão Nuclear, Instituto Superior Técnico, Univ. Lisboa (PT)

<sup>2</sup> Laboratoire de Physique des Plasmas (UMR 7648), CNRS, Univ. Paris Saclay, Sorbonne Univ., École Polytechnique, Palaiseau (FR)

<sup>3</sup> Theoretical Electrical Engineering, Faculty of Engineering, Univ. Kiel (DE)

09:45 **#089** - Plasma treatments on grains and fibers substrates for adhesion improvement in composite materials

**I. Bacquet<sup>1,2</sup>, C. Guyon<sup>1</sup>, M. Tatoulian<sup>1</sup>, M. Yonger<sup>2</sup>**

<sup>1</sup> Chimie ParisTech-PSL, PSL Research Univ. Paris, CNRS, Institut de Recherche de Chimie Paris (UMR 8247), Paris (FR)

<sup>2</sup> Saint-Gobain Research Paris (FR)

10:05

**Break 30'**

### SURF 3 / Plasma - surface interactions

Ella Fitzgerald Room

10:35 **#068** - Electrochemical characterization of surface damage in n-type GaN induced by Inductively Coupled Plasma Reactive Ion Etching (ICP-RIE) and Atomic Layer Etching (ALE)

**Keynote lecture**

**C. Pernel, W. Berthou, S. Suman, S. Ruel, L. Vauche**

CEA - Grenoble (FR)

11:05 **#050** - Deep etching of bulk titanium in fluorinated plasmas for biomedical devices

**R. Ettouri<sup>1</sup>, T. Tillocher<sup>1</sup>, P. Lefauchaux<sup>1</sup>, B. Boutaud<sup>2</sup>, R. Dussart<sup>1</sup>**

<sup>1</sup> Groupe de Recherches sur l'Energétique des Milieux Ionisés (GREMI), CNRS – Univ. Orléans (FR)

<sup>2</sup> MISTIC SAS - Issy-Les-Moulineaux (FR)

11:25 **#145** - Properties of nitrided layers produced in an active-screen plasma nitriding process

**G. Marcos<sup>1</sup>, R. Hugon<sup>1</sup>, C. Cardinaud<sup>2</sup>, O. Carrivain<sup>3</sup>, C. Noël<sup>1</sup>, T. Czerwec<sup>1</sup>**

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

<sup>2</sup> Institut des Matériaux Jean Rouxel - Nantes (FR)

<sup>3</sup> HEPIA/HES-SO - Genève (CH)

11:45 **#104** - Dual-phase nanocomposite coatings based on crystalline ZrN and glassy ZrCu

**P. Zeman<sup>1</sup>, S. Haviar<sup>1</sup>, M. Cervena<sup>1</sup>, A. Bondarev<sup>2</sup>, R. Cerstvy<sup>1</sup>**

<sup>1</sup> Dpt. Physics and NTIS - European Centre of Excellence, Univ. West Bohemia - Plzen (CZ)

<sup>2</sup> Dpt. Control Engineering, Faculty of Electrical Engineering, Czech Technical Univ. Prague - Prague (CZ)

12:10 **Closing ceremony** (Antipolis Auditorium)