TUESDAY, SEPTEMBER 23TH – MORNING

09:10 **Opening Ceremony**
C. Champeaux (FR) - Chair of the Steering Committee
V. Guerra (PT) - Chair of the Scientific Committee

Antipolis Auditorium

09:25 Plasmas for ultrawide bandgap materials
Plenary speaker
M. Sankaran - *Univ. Illinois, Urbana-Champaign (US)*

10:05 ***Break 30'***

DEPO 1 / Plasma-assisted deposition, coatings and layers — Antipolis Auditorium

10:35 **#077** - Minimizing the impact of negative oxygen ions on aluminium-doped zinc oxide thin films deposited by rotatable RF magnetron sputtering
L. Villibord, E. Stamate
Technical Univ. Denmark Nanolab - Lyngby (DK)

10:55 **#031** - Controlling the stoichiometry of copper oxides depending on operating parameters
Y. Wang, F. Arefi-Khonsari, A. Pailleret, J. Pulpytel
Sorbonne Univ., CNRS, LISE, Paris (FR)

11:15 **#023** - Exploring energy transfer in sputter deposited tungsten films: effects of magnetic field strength and pressure-distance on phase composition
F. Ahangarani Farahani, D. Depla
Department of Solid State Sciences, Ghent Univ., Gent (BE)

11:35 **#123** - From temperature-independent to tunable resistivity of high-entropy alloys thin films
S-E. Benrazzoug, J. Ghanbaja, S. Migot, V. Milichko, J.F. Pierson
Univ. Lorraine, CNRS, IJL, Nancy (FR)

11:55 **#089** - Optimization of deposition parameters for synthesising Nb_3Sn film on copper cavity with and without buffer layer
R. Valizadeh
ASTeC - Daresbury (UK)

12:15 End of the session

12:30 ***Lunch***

TUESDAY, SEPTEMBER 23TH – MORNING

09:10 **Opening Ceremony**
C. Champeaux (FR) - Chair of the Steering Committee
V. Guerra (PT) - Chair of the Scientific Committee

Antipolis Auditorium

09:25 Plasmas for ultrawide bandgap materials
Plenary speaker
M. Sankaran - *Univ. Illinois, Urbana-Champaign (US)*

10:05 ***Break 30'***

AMELI 1 / Plasma and/in liquid interaction — Ella Fitzgerald Room

10:35 **#038** - On the occurrence of internal partial discharges inside aluminium matrix composite layers during plasma electrolytic oxidation process
T. Czerwiec[1], A. Maizeray[1], G. Marcos[1], M.P. Planche[2], H. Liao[2], G. Henrion[1], J. Martin[1]
[1] Institut Jean Lamour, Univ. Lorraine - Nancy (FR)
[2] Univ. Marie et Louis Pasteur, UTBM, ICB - Montbéliard (FR)

10:55 **#016** - Investigation of the chemical behaviour of an electrolytic discharge used to synthesize low-density mesoporous metals
C. Boudat[1], F. Durut[1], R. Botrel[1], T. Belmonte[2]
[1] Commissariat à l'Energie et aux Energies Alternatives (CEA), Valduc, Is sur Tille (FR)
[2] Univ. Lorraine, CNRS, IJL, Nancy (FR)

11:15 **#103** - Degradation of methylene orange in aqueous solution using non-thermal plasma
T. Nguyen, G. Henrion, L. Sonhafouo Mbantio, T. Gries, C. Noël
Institute Jean Lamour - Equipe Plasmas - Procédés - Surfaces - Nancy (FR)

11:35 **#102** - Plasma technology for tetrodotoxin inactivation in *lagocephalus sceleratus* fishmeal
S. Mouchtouris[1, 2], G. Kokkoris[1, 2], M. Kotsiri[3], I. Kleidas[3], T.I. Anastasiou[3], E. Kagiampaki[3], M. Mandalakis[3], I. Nengas[3]
[1] School of Chemical Engineering, National Technical Univ. Athens - Athens (GR)
[2] Institute of Nanoscience & Nanotechnology, NCSR "Demokritos" - Athens (GR)
[3] Institute of Marine Biology, Biotechnology and Aquaculture, HCMR - Anavyssos & Heraklion (GR)

11:55 **#112** - Aerosol-assisted atmospheric pressure plasma deposition of active coatings based on natural antioxidant compounds
A. Lanza[1, 2], F. Palumbo[2], N. De Vietro[3], G. Mancini[3], A. Milella[1, 2], P. Favia[1, 2]
[1] Department of Chemistry, Univ. Bari Aldo Moro - Bari (IT)
[2] CNR-NANOTEC, C/o Department of Chemistry, Univ. Bari Aldo Moro - Bari (IT)
[3] Department of Biosciences, Biotechnology and Environment, Univ. Bari Aldo Moro - Bari(IT)

12:15 End of the session

12:30 ***Lunch***

TUESDAY, SEPTEMBER 23TH – AFTERNOON

Antipolis Auditorium

14:00 On novel merits of (plasma-assisted) atomic layer deposition for next-generation energy applications
Plenary speaker
M. Creatore – *Eindhoven Univ. of Technology – Eindhoven (NL)*

GROM 1 / Thin film growth and modelling — Antipolis Auditorium

14:45 **#022** - The role of nitrogen additive on the growth of ultrathin silver films: in situ and real-time studies during magnetron sputtering deposition
D. Babonneau[1], G. Abadias[1], A. Michel[1], F. Pailloux[1], K. Solanki[1], A. Coati[2], Y. Garreau[2,3], A. Resta[2], A. Vlad[2], M. Kaminski[4], B. Krause[4]
[1] Institut Pprime - Poitiers (FR)
[2] SOLEIL synchrotron - Gif-sur-Yvette (FR)
[3] Laboratoire Matériaux et Phénomènes Quantiques - Paris (FR)
[4] KIT, Institute of Photon Science and Synchrotron Radiation - Karlsruhe (DE)

15:05 **#117** - Improving TiO_2 anatase crystallization using a low power dielectric barrier discharge at atmospheric pressure in a single step process: a precursor and parametric study
N. Fosseur[1, 2], S. Godet[2], F. Reniers[1]
[1] Chemistry of Surfaces, Interfaces and Nanomaterials, Faculty of Sciences, Univ. Libre Bruxelles (BE)
[2] 4MAT, Engineering Faculty, Univ. Libre Bruxelles (BE)

15:25 **#130** - Experimental and theoretical study of plasma polymerization into 3D structures
L. Zajickova[1,3], D. Necas[1], M. Janusova[1], L. Janu[1], P. De Navascues[2], D. Hegemann[2], N. Rusnakova[3]
[1] CEITEC - Brno (CZ)
[2] EMPA - St. Gallen (CH)
[3] Masaryk Univ. - Brno (CZ)

15:45 ***Break 30'***

GROM 2 / Thin film growth and modelling — Antipolis Auditorium

16:15 **#045** - Metal thin films growth by magnetron sputter deposition in He: numerical and experimental approach
Keynote lecture
A-L. Thomann[1], P. Brault[1], T. Sauvage[2], A. Fernandez[3], A. Caillard[1]
[1] GREMI (CNRS/Univ. Orléans) - Orléans (FR)
[2] CEMHTI CNRS - Orléans (FR)
[3] CSIC-Univ. Seville - Séville (ES)

16:45 **#005** - Influence of the nature of the transition metal in oblique angle deposition
A. Besnard, H. Gerami, N. Martin
Univ. Marie et Louis Pasteur, SUPMICROTECH, CNRS, Institut FEMTO-ST - Besançon (FR)

17:05 **#108** - Kinetic monte carlo simulation of hetero-epitaxial deposition of metal onto silicon substrate; influence of multistep deposition process
C. Mastail, A. Muriel Sanchez, P. Polisetty, A. Michel, G. Abadias
Institut Pprime - Poitiers (FR)

17:30 POSTER SESSION 1 & INDUSTRIAL EVENING *(until 20:30)*

TUESDAY, SEPTEMBER 23TH – AFTERNOON

Antipolis Auditorium

14:00 On novel merits of (plasma-assisted) atomic layer deposition for next-generation energy applications
Plenary speaker
M. Creatore – *Eindhoven Univ. of Technology – Eindhoven (NL)*

PSURF 1 / Plasma surface processing — Ella Fitzgerald Room

14:45 **#075** - Dry etch process development of gapless silicon nitride microlens array for CMOS imager sensors
A. Tavernier[1], F. Tomaso[1], R. Coquand[1], Z. Mehrez[1], C. Bellegarde[1], C. Sese[1], L. Masarotto[1], S. Guerroudj[2]
[1] Univ. Grenoble Alpes, CEA, Leti - Grenoble (FR)
[2] STMicroelectronics - Crolles (FR)

15:05 **#104** - Development of plasma ALE for B-Ga_2O_3 using the gas mixture SF_6/Ar and CH_4/H_2
H. Beji, C. Cardinaud, A. Girard, C. Mannequin
Institut des Matériaux Jean Rouxel de Nantes - Nantes (FR)

15:25 **#046** - Plasma cryogenic processes applied to SiO_2 deep etching
R. Dussart[1], T. Tillocher[1], P. Lefaucheux[1], L. Becerra[1], L.J. Overzet[2]
[1] GREMI – Univ. Orléans - CNRS - Orléans (FR)
[2] PSAL - UT Dallas - Richardson (US)

15:45 ***Break 30'***

PSURF 2 / Plasma surface processing — Ella Fitzgerald Room

16:15 **#090** - Numerical simulations and ion beam experiments for the analyses of surface reactions for reactive ion etching
S. Hamaguchi
Keynote lecture
Univ. Osaka (JP)

16:45 **#107** - Enhancing plasma etching efficiency via physics-based modeling, experimental measurements, machine learning, and optimization algorithms
E. Boniakou[1], S. Mouchtouris[2], T. Boura[3], C. Zormpa[2], A. Kondi[2], D. Belounis[4], T. Giannakopoulos[3], A. Armaou[4], V. Constantoudis[2], E. Gogolides[2], G. Kokkoris[1]
[1] School of Chemical Engineering, National Technical Univ. of Athens - Athens (GR)
[2] Institute of Nanoscience & Nanotechnology, NCSR Demokritos - Athens (GR)
[3] Institute of Informatics & Telecommunications, NCSR Demokritos - Athens (GR)
[4] Chemical Engineering Department, Univ. Patras - Patras (GR)

17:05 **#049** - Formation of black silicon microstructures by the stiger etching process for microfluidic applications
A. Rahali, A. Stolz, L. Becerra, P. Lefaucheux, R. Dussart, T. Tillocher
GREMI, Univ. Orléans, CNRS UMR 7344 - Orléans (FR)

17:30 POSTER SESSION 1 & INDUSTRIAL EVENING *(until 20:30)*

WEDNESDAY, SEPTEMBER 24TH – MORNING

Antipolis Auditorium

08:40 Computational modeling of low temperature plasmas for the production of computer chips
Plenary speaker
A. Lietz – *North Carolina State Univ. (US)*

DEPO 2 / Plasma-assisted deposition, coatings and layers — Antipolis Auditorium

09:25 **#121** - Erosion resistant PVD coatings on CFRP substrates
P. Abarca[1,3], T. Maerten[1], S. Belveze[1], S. Guimond[2], C. Jaoul[3], P. Tristant[3], M. Cavarroc[4]
[1] Oerlikon Balzers France (FR)
[2] Oerlikon Surface Solutions AG - Balzers (LI)
[3] Univ. Limoges (FR)
[4] Safran Tech - Paris (FR)

09:45 **#067** - Extraordinary oxidation behavior of W-Zr thin-film metallic glasses: a route for tailoring functional properties of W-Zr-O films
P. Zeman, M. Cervena, J. Houska, S. Haviar, J. Rezek, S. Zuzjakova
Department of Physics and NTIS - European Centre of Excellence, Univ. West Bohemia, Pilsen (CZ)

10:05 ***Break 30'***

DEPO 3 / Plasma-assisted deposition, coatings and layers — Antipolis Auditorium

10:35 **#047** - Development and optimization of CrAlN coatings for enhanced tool performance in cryogenic machining of Ti_6Al_4V
G. Chettouh[1], S. Achache[1], Y. Pinot[2], F. Sanchette[1], C. Nouveau[2], M. El Garah[1]
[1] LASMIS, Antenne de Nogent et LRC CEA-LASMIS, NICCI, Nogent (FR)
[2] Arts et Métiers Institute of Technology, LABOMAP, HESAM Univ., Cluny (FR)

10:55 **#083** - Enhanced morphology and ferroelectric properties of $Sc_{0.3}Al_{0.7}N$ sputterred thin films via a compositionally graded layers
T. Nguyen, D.T. Dao, M.S. Azeem, I. Nesterenko, M. Moridi, T. Xu
Silicon Austria Labs - Villach (AT)

11:15 **#131** - Control of the structure of TiN sulfide thin films
J-F. Pierson, R. Juliac, D. Pilloud, S. Migot, A. Tahir, J. Ghanbaja, B. Vigolo, N. Stein
Univ. Lorraine, CNRS, IJL - Nancy (FR)

11:35 **#115** - Synthesis of metal doped diamond-like carbon films by magnetron sputtering
L. Marcinauskas[1, 2], H. Zhairabany[1], H. Khaksar[3], M. Milieška[2], A. Šarakovskis[4], E. Vanags[4]
[1] Department of Physics, Kaunas Univ. of Technology - Kaunas (LT)
[2] Plasma Processing Laboratory, Lithuanian Energy Institute - Kaunas (LT)
[3] Marian Smoluchowski Institute of Physics, Jagiellonian University - Krakow (PL)
[4] Institute of Solid State Physics, University of Latvia - Riga (LV)

11:55 **#057** - The effect of ion potential energy on thin film crystallinity in pulsed filtered cathodic arc deposition
D. Kalanov[1], S. Mandazhiev[1], J. Franze[1], A. Anders[1, 2], Y. Unutulmazsoy[1]
[1] Leibniz Institute of Surface Engineering (IOM) - Leipzig (DE)
[2] Felix Bloch Institute of Solid State Physics, Leipzig Univ. - Leipzig (DE)

12:15 End of the session

12:30 ***Lunch***

WEDNESDAY, SEPTEMBER 24TH – MORNING

Antipolis Auditorium

08:40 Computational modeling of low temperature plasmas for the production of computer chips
Plenary speaker
A. Lietz – *North Carolina State Univ. (US)*

MODIDD 1 / Modelling, diagnostics and data-driven optimization of plasma processes

Ella Fitzgerald Room

09:25 **#070** - Assisting plasma diagnostics with artificial intelligence methods: trends and applications in non-equilibrium plasmas operating from moderate-to-atmospheric pressures
D. Stefas[1], G. Makrypodi[2], K. Giotis[2,1], L. Invernizzi[1], P. Svarnas[2], G. Lombardi[1], C. Lazzaroni[1], K. Gazeli[1]
[1] LSPM—CNRS & Univ. Sorbonne Paris Nord - Villetaneuse (FR)
[2] High Voltage Lab., Electrical & Computer Eng. Dept., Univ. Patras - Rion (GR)

09:45 **#019** - M-second pulse and RF coupling in an APPJ
A. Patelli[1], R. Fiorotto[1], E. Shakerinasab[1], T. Habib[2], B. Caillier[2]
[1] Dept. Physics and Astronomy, Padova Univ., Padova (IT)
[2] Laboratoire DPHE, Univ. Toulouse, INU Champollion, Albi (FR)

10:05 ***Break 30'***

MODIDD 2 / Modelling, diagnostics and data-driven optimization of plasma processes

Ella Fitzgerald Room

10:35 **#024** - Comparative analysis of ns- and ps-TALIF diagnostics of atomic oxygen generated with a plasma jet driven by a tailored voltage waveform
Y. Song[1], L. Invernizzi[2], D. Stefas[2], G. Lombardi[2], K. Gazeli[2], A. Nikiforov[1], A. Sobota[3], R. Morent[1]
[1] Research Unit Plasma Technology, Faculty of Engineering and Architecture, Univ. Ghent (BE)
[2] LSPM - CNRS, Univ. Sorbonne Paris Nord - Villetaneuse (FR)
[3] EPGD Group, Dpt. Applied Physics and Science Education, Univ. Eindhoven (NL)

10:55 **#093** - Description of H-atom absolute densities and sub-ns decay times in a pulsed microtube plasma jet using ps-TALIF and a streak camera
Y. Agha, D. Stefas, L. Invernizzi, L. William, S. Prasanna, K. Gazeli, G. Lombardi
LSPM - CNRS, Univ. Sorbonne Paris Nord - Villetaneuse (FR)

11:15 **#082** - Unraveling no production in N_2–O_2 plasmas with 0D kinetic modeling and experimental validation
T. Silva[1], S. Bera[2], C. Pintassilgo[1,3], A. Herrmann[2], S. Welzel[2], M. Tsampas[2], R. van de Sanden[2], V. Guerra[1]
[1] Instituto de Plasmas e Fusão Nuclear (IPFN), Instituto Superior Técnico, Univ. Lisboa (PT)
[2] Dutch Institute for Fundamental Energy Research (DIFFER) - Eindhoven (NL)
[3] Departamento de Engenharia Física, Faculdade de Engenharia, Univ. Porto (PT)

11:35 **#097** - Time-resolved bayesian analysis of low-pressure misty plasmas using a collisional-radiative model coupled to optical emission spectroscopy
S. Chouteau[1], A. Durocher-Jean[2], M. Richard-Plouet[3], A. Granier[3], L. Stafford[2]
[1] Univ. Osaka (JP), [2] Univ. Montréal, Québec (CA), [3] Institut des Matériaux Jean Rouxel de Nantes (FR)

11:55 **#099** - Transient behavior of charged particles in pulse-modulated inductively coupled Cl_2 discharge
S. Kim, J.P. Booth, G. Curley
Laboratoire de Physique des Plasmas - Palaiseau (FR)

12:30 ***Lunch***

WEDNESDAY, SEPTEMBER 24TH – AFTERNOON

Antipolis Auditorium

14:00 Fundamental diagnostics and modeling for streamer discharge and its application for cancer treatment
Plenary speaker
R. Ono – *Univ. Tokyo (JP)*

AMELI 2 / Plasma and/in liquid interaction — Antipolis Auditorium

14:45 **#055** - Reactive sputtering onto ionic liquid, a new process to synthesize compound nanoparticles
A. Bousquet[1], S. Ibrahim[1], V. Ntomprougkidis[1], J.M. Adanson[1], P. Bonnet[1], M. Richard-Plouet[2], M. Le Granvalet[2], S. Roth[3], A. Bonduelle[3]
[1] ICCF - Clermont-Ferrand (FR)
[2] IMN - Nantes (FR)
[3] IFPEN - Solaize (FR)

15:05 **#058** - Sputtering of silver onto silicone oils: nanoparticle formation and mass transfer into the bulk solution
F-E. Bol, S. Konstantinidis
UMons - ChIPS - Mons (BE)

15:25 **#030** - Formation of Ru catalytic nanoparticles onto polyethylene glycol by plasma sputtering
A. Diop[1], S. Atmane[1], L. Gimenez[1], J. Lemaire[1], E. Millon[1], S. Iseni[1], A. Sauldubois[1, 2], P. Andreazza[3], A. Caillard[1]
[1] GREMI – CNRS, Univ. Orléans (FR)
[2] MACLE – CNRS - Orléans (FR)
[3] ICMN – CNRS, Univ. Orléans (FR)

15:45 **#080** - Deposition of $ZnGa_2O_4$ thin films by reactive co-sputtering of liquid gallium
J. Purans, M. Zubkins, E. Strods, E. Butanovs
Institute of Solid State Physics, Univ. Latvia, Riga (LV)

16:05 ***Break 30'***

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

WEDNESDAY, SEPTEMBER 24TH – AFTERNOON

Antipolis Auditorium

14:00 Fundamental diagnostics and modeling for streamer discharge and its application for cancer treatment
Plenary speaker
R. Ono – *Univ. Tokyo (JP)*

ITEC 1 / Innovative applications, solutions and technologies — Ella Fitzgerald Room

14:45 **#048** - Metal oxide reduction using inline openair-plasma process in combination with thin film deposition to enhance adhesion and improve durability in electronics
D. Bensalem, M. Buske, Y. Hamedi, S. Kulkarni
Plasmatreat, Steinhagen (DE)

15:05 **#015** - Pushing the limits of magnetron sputtering for innovative solutions
E. Haye[1], D. Muller[1, 2], C. Vandenabeele[1, 3], S. Lucas[1]
[1] ICS - Innovative Coating Solutions - Gembloux (BE)
[2] NCE, ULiège - Liège (BE)
[3] LARN-NISM, UNamur - Namur (BE)

15:25 **#006** - Unravelling the mechanisms behind dislocation density reduction in tungsten-doped single-crystal diamond: a synchrotron X-ray investigation
D. Nusimovici[1, 2], L. Valera[1], T.N. Tran-Caliste[3], J. Baruchel[3], O. Mathon[3], D. Eon[4], D. Chaussende[2], J. Bousquet[1]
[1] DIAMFAB, Grenoble (FR)
[2] Univ. Grenoble Alpes, CNRS, Grenoble INP, SIMaP, Grenoble (FR)
[3] ESRF, Grenoble (FR)
[4] Institut Néel, Grenoble (FR)

15:45 **#139** - Analysis and monitoring of protective coatings: advances in LECO's Glow Discharge Spectroscopy (GDS)
A. Houel[1], S. Bohm[2], V. Dubujet[1]
[1] LECO France (FR)
[2] LECO Europe (FR)

16:05 ***Break 30'***

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

THURSDAY, SEPTEMBER 25TH – MORNING

Antipolis Auditorium

08:40 Plasma technologies advancing biomedicine and sustainability
Plenary speaker
M. Bilek[1,2], C. Tran[1], A. Gilmour[2], S. Cottam[1], J. Sardharwalla[2], S. Fraser[2]
[1] School of Physics, A28, Univ. Sydney (AU) [2] School of Biomedical Engineering, Univ. Sydney (AU)

DEPO 4 / Plasma-assisted deposition, coatings and layers — Antipolis Auditorium

09:25 **#004** - Plasma deposition in non-equilibrium conditions
D. Hegemann, P. Navascues
EMPA - St.Gallen (CH)

09:45 **#040** - Atmospheric-pressure Plasma Enhanced Chemical Vapor Deposition of size agents on glass fibers for glass-reinforced plastics
M. Troia[1], M. Haag[2], C. Dobslaw[3], D. Dobslaw[4], A. Schulz[1], M. Walker[1], D. Ben Salem[5], P. Holste[5], P. Delfs[5], A. Knospe[5], B. Glocker[3]
[1] IGVP, Univ. Stuttgart (DE), [2] ITA RWTH Aachen Univ. (DE), [3] PlasmaAir AG - Weil der Stadt (DE), [4] TTI GmbH - Stuttgart (DE), [5] PlasmaTreat GmbH - Steinhagen (DE)

10:05 ***Break 30'***

DEPO 5 / Plasma-assisted deposition, coatings and layers — Antipolis Auditorium

10:35 **#092** - Plasma polymer thin films as adhesion primers in composite/elastomer assembly: controlling adhesion performance through deposition parameters
M. Ezzehar, A. Airoudj, G. Schrodj, F. Bally-Le-Gall, V. Roucoules
Institut de Science des Matériaux de Mulhouse (IS2M), CNRS - Mulhouse (FR)

10:55 **#109** - Plasma polymer film as an interlayer to improve polymer-metal composites disassembly and recycling efficiency
A. Culot[1], R. Dantinne[1], S.A. Raut[1], D. Cossement[2], J.M. Raquez[3], D. Thiry[1]
[1] Chimie des Interactions Plasma-Surface (ChIPS), Univ. Mons (BE)
[2] Materia Nova Research Center, Parc Initialis, Mons (BE)
[3] Service des Matériaux Polymères et Composites (SMPC), Univ. Mons (BE)

11:15 **#110** - Study of the chemical and textural properties of 2-vinylpyridine-based plasma polymers
R. Costes[1,2], A. Van der Lee[1], S. Badaire[2], A. Achille[2], V. Rouessac[1], S. Roualdes[1]
[1] Institut Européen des Membranes (IEM) - Montpellier (France)
[2] Manufacture française des pneumatiques Michelin - Cébazat (France)

11:35 **#020** - Impact of surface chemistry on the morphology of plasma polymers
P. Covin[1], A. Airoudj[1], C. Noël[2], F. Bally-Le Gall[1], T. Belmonte[2], V. Roucoules[1], J. Carneiro De Oliveira[1]
[1] Univ. Haute-Alsace, Univ. Strasbourg, CNRS, IS2M UMR 7361 - Mulhouse (FR)
[2] Univ. Lorraine, CNRS, IJL - Nancy (FR)

11:55 **#039** - Formation of radicals in amine plasma polymer thin films and their potential for covalent binding of biomolecules
L. Janu[1], B. Beliančínová[1], V.T. Santana[2], P. Skládal[3], L. Zajíčková[1, 4]
[1] Plasma Technologies, CEITEC, Univ. Brno (CZ)
[2] Magneto-Optical and THz Spectroscopy, CEITEC, Univ. Brno (CZ)
[3] Department of Biochemistry, Faculty of Science, Masaryk Univ., Brno (CZ)
[4] Department of Condensed Matter Physics, Faculty of Science, Masaryk Univ., Brno (CZ)

12:30 ***Lunch***

THURSDAY, SEPTEMBER 25TH – MORNING

Antipolis Auditorium

08:40 Plasma technologies advancing biomedicine and sustainability
Plenary speaker
M. Bilek[1,2], C. Tran[1], A. Gilmour[2], S. Cottam[1], J. Sardharwalla[2], S. Fraser[2]
[1] School of Physics, A28, Univ. Sydney (AU)
[2] School of Biomedical Engineering, Univ. Sydney (AU)

PSURF 3 / Plasma surface processing — Ella Fitzgerald Room

09:25 **#033** - In-situ XRD investigations during nitriding of duplex steel
D. Manova[1], J. Bauer[1], A. Dalke[2, 3], S. Mändl[1]
[1] Leibniz Institute of Surface Engineering (IOM) - Leipzig (DE)
[2] Institute of Materials Engineering, Technische Univ. Bergakademie Freiberg - Freiberg (DE)
[3] ZeHS, Technische Univ. Bergakademie Freiberg - Freiberg (DE)

09:45 **#029** - Reduction of oxides using an Electron Cyclotron Wave Resonance Ar/H_2 plasma - towards H_2O production on the Moon
M. Sikiric[1,3], S. Bulou[2], K. Hadler[1,3], P. Choquet[3]
[1] European Space Resources Innovation Centre, LIST, Esch-sur-Alzette (LU)
[2] Advanced Plasma & Vapor Deposition Processes Engineering, LIST, Esch-sur-Alzette (LU)
[3] Univ. Luxembourg - Faculty of Science, Technology and Medicine - Esch-sur-Alzette (LU)

10:05 ***Break 30'***

PSURF 4 / Plasma surface processing — Ella Fitzgerald Room

10:35 **#001**- Transient signals measurement capability for the analysis of thin films and surfaces reactivity
P. Chapon, A. Stankova, L. Garrido
Horiba France - Palaiseau (FR)

10:55 **#105** - Plasma-surface characterization during V_2O_3 thin films etching in SF_6/Ar plasma
T. Mbouja Signe, C. Mannequin, A. Girard, C. Cardinaud
Institut des Matériaux de Nantes Jean Rouxel (IMN) - Nantes (FR)

11:15 **#122** - Sensing enhancement of chemiresistive gas sensors by surface functionalization
S. Kim
Inha Univ., Incheon (KR)

11:35 **#111** - Defect-engineered V_2O_5/TiO_2 thin films deposited by DC sputtering for improved carbofuran degradation
D. Pjević, J. Georgijević, T. Stamenković, T. Vulić
Institute of Nuclear Sciences "VINCA", Univ. Belgrade (RS)

11:55 **#026** - Cleaning process of 3D and delicate heterogeneous structures with HDRF®, optimize chemistry with remote plasma, for microelectronics' and medical applications
M. Segers, G. Terenziani, S. Benkoula
Plasma-Therm Europe - Grenoble (FR)

12:15 End of the session

12:30 ***Lunch***

THURSDAY, SEPTEMBER 25TH – AFTERNOON

Antipolis Auditorium

14:00 Interface engineering for enhanced lithium-ion battery performance: thin film deposition using high power impulse magnetron sputtering
Plenary speaker
J. Alami
Mohammed VI Polytechnic Univ. (MA)

PSURF 5 / Plasma surface processing — Antipolis Auditorium

14:45 **#007** - Enhancing corrosion resistance of magnesium alloys with plasma treatment and electrospun biodegradable polymer coatings
L. Zahedi, P. Ghourchi Beigi, M. Stupavská, D. Kovačik
Dpt. of Plasma Physics and Technology, CEPLANT, Faculty of Science, Masaryk Univ., Brno (CZ)

15:05 **#114** - Elucidating the growth mechanism of functionnalized plasma polymer films using complex geometry substrates at various substrate temperatures
R. Dantinne, P. Leclere, D. Thiry
Univ. Mons (UMons) (BE)

15:25 **#124** - Plasma-induced physicochemical and topographical surface modifications for enhanced polymer adhesion
J-F. Coulon[1, 2], D. Debarnot[2], M. Yengui[1], A. Al Khatib[1]
[1] ECAM Louis de Broglie - Rennes (FR)
[2] Institut des Molécules et Matériaux du Mans - Le Mans (FR)

15:45 ***Break 30'***

THURSDAY, SEPTEMBER 25TH – AFTERNOON

Antipolis Auditorium

14:00 Interface engineering for enhanced lithium-ion battery performance: thin film deposition using high power impulse magnetron sputtering
Plenary speaker
J. Alami
Mohammed VI Polytechnic Univ. (MA)

MODIDD 3 / Modelling, diagnostics and data-driven optimization of plasma processes

Ella Fitzgerald Room

14:45 **#113** - Understanding backscattered ions in HiPIMS plasmas
Z. Belkaid, T. Minea, A. Revel
Laboratoire Physique des Gaz et Plasmas - Orsay (FR)

15:05 **#054** - Enhancing energy flux to insulating surfaces using unipolar and bipolar HiPIMS pulse configurations
M. Farahani, T. Kozák, A. Dagmar Pajdarová, J. Čapek
Dpt. Physics and NTIS - European Centre of Excellence, Univ. West Bohemia, Pilsen (CZ)

15:25 **#037** - Exploring ionized metal flux fraction in magnetron sputtering: insights from laboratory and industrial applications
P. Vasina[1], P. Klein[1], M. Ondryas[1], G. Lelovics[1], V. Sochora[2], M. Ucik[3], J. Kluson[3], M. Jilek[3], A. Lümkemann[4], J. Hnilica[1]
[1] Masaryk Univ. - Brno (CZ)
[2] SHM - Sumperk (CZ)
[3] Platit - Sumperk (CZ)
[4] Platit - Selsach (CH)

15:45 ***Break 30'***

THURSDAY, SEPTEMBER 25TH – AFTERNOON

DEPO 6 / Plasma-assisted deposition, coatings and layers — **Antipolis Auditorium**

16:15 **#042** - Hexagonal Boron Nitride deposition using micro-Plasma Enhanced Chemical Vapour Deposition (µPECVD) based on a Micro Hollow Cathode Discharge (MHCD)
B. Menacer, K. Gazeli, C. Lazzaroni, V. Mille
CNRS LSPM - Villetaneuse (FR)

16:35 **#116** - Plasma-Enhanced Chemical Vapor Deposition of SiON optical thin films and nano-laminates
S. Calvez, P. Dubreuil, A. Monmayrant, O. Gauthier-Lafaye
LAAS-CNRS - Toulouse (FR)

16:55 **#051** - Packaging solutions with plasma technology for enhancing gases barrier properties
L. Coelho[1], J. Rodeigues[1], F. Loureiro[1], M. Marques[1], C. Ribeiro[2], N. Pereira[3], A. Rebola[3]
[1] CeNTI - Centre of Nanotechnology and Advanced Materials - Vila Nova de Famalicão (PT)
[2] TECMEAT - Agri-food Competence Center for the Meat sector - Vila Nova de Famalicão (PT)
[3] UR - United Resins S.A. - Figueira da Foz (PT)

17:15 **#120** - Atmospheric pressure plasma-assisted deposition of zinc-based coatings for agriculture applications
M. Roggio[1, 2], M. Zabihzadeh Khajavi[3, 4], A. Nikiforov[3], F. Palumbo[2], P. Favia[1], N. De Geyter[3]
[1] Univ. Bari Aldo Moro, Department of Chemistry - Bari (IT)
[2] Institute of Nanotechnology National Research Council (CNR-NANOTEC) - Bari (IT)
[3] Ghent Univ., Dpt. of Applied Physics, RUPT - Ghent (BE)
[4] Ghent Univ., Dpt. of Food Technology, Safety and Health, RUFMFP - Ghent (BE)

17:35 **#061** - TiO_xC_y organometallic multilayers for titanium dental implants: the role of carbon in promoting osseointegration
S. Rubio, L. Houssiau
Univ. Namur (BE)

17:35 End of the session

19:30 **Conference dinner cocktail** (until 22:30)

THURSDAY, SEPTEMBER 25TH – AFTERNOON

MODIDD 4 / Modelling, diagnostics and data-driven optimization of plasma processes — **Ella Fitzgerald Room**

16:15 **#021** - Diagnostic of DC arc plasmas in aeronautic arc fault conditions: application to detection
A. Hellé, R. Hugon, F. Brochard, G. Marcos
Institut Jean Lamour - Nancy (FR)

16:35 **#088** - Plasma processing of monolayer graphene explored with numerical simulations
P. Vinchon[1], N. Mauchamp[1], L. Spiske[1], C. Bock[2], S. Hamaguchi[1]
[1] Univ. Osaka (JP)
[2] Ruhr-Univ. - Bochum (DE)

NANO 1 / Plasma nanotechnologies — **Ella Fitzgerald Room**

16:55 **#028** - DC plasma-inducted phase and morphological evolution of PtSn and PtRuSn nanoparticles produced in a magnetron-based gas aggregation source
A. Aryan[1,2], A. Caillard[1,3], M. Mikikian[1], P. Andreazza[2]
[1] GREMI, UMR7344, CNRS, Univ. Orléans (FR)
[2] ICMN, UMR7374, CNRS, Univ. Orléans (FR)
[3] UTOPII, UAR 2049, CNRS, Univ. Aix-Marseille, CNAM, École des Ponts ParisTec, INSA Lyon, Sorbonne Univ. (FR)

17:15 **#076** - Thermally-induced microstructural evolution in nanoparticle-based CuO, WO_3 and CuO-WO_3 thin films for hydrogen gas sensing
J. Capek, K. Shaji, S. Haviar, P. Zeman, M. Procházka, R. Čerstvý, N. Kumar
Univ. West Bohemia, Pilsen (CZ)

17:35 **#086** - Novel nanocomposite thin films by pulsed laser processes for plasmonic based sensing of cancer markers
M. Gireau[1], F. Du[2], J. Youssef[3,4], S. Vergnole[4], G. Humbert[3], S. Zeng[2], F. Dumas-Bouchiat[1], C. Champeaux[1]
[1] Univ. Limoges, CNRS, IRCER, UMR 7315, Limoges (FR)
[2] Univ. Troyes, CNRS, L2n, UMR 7076, Troyes (FR)
[3] Univ. Limoges, CNRS, XLIM, UMR 7252, Limoges (FR)
[4] ALPhANOV, Optics and Lasers Technology Ctr., Institut d'optique d'Aquitaine - Limoges (FR)

17:55 **#052** - Saturated plasmonic colours for identity security features obtained by magnetron sputtering and laser treatment
N. Jacquot[1], W. Ravisy[1], L. Dubost[1], C. Hubert[2], T. Girardin[2], R. Mermillod-Blondin[2], N. Destousches[2]
[1] IREIS, HEF Groupe, Andrézieux-Bouthéon (FR)
[2] Laboratoire Hubert Curien, Univ. Jean Monnet, Saint-Étienne (FR)

18:15 End of the session

19:30 **Conference dinner cocktail** (until 22:30)

FRIDAY, SEPTEMBER 26TH – MORNING

Antipolis Auditorium

08:40 Plasma-catalyst interaction mechanisms for CO_2 recycling and molecule conversion
Plenary speaker
O. Guaitella[1], D. Sadi[1], S. Bravo[1], B. Berdugo[1], M. Budde[1], D. Pai[1], T. Silva[2], V. Guerra[2]
[1] LPP, CNRS, Sorbonne Univ., École Polytechnique, Institut Polytechnique de Paris, Palaiseau (FR)
[2] Instituto de Plasmas e Fusão Nuclear, Instituto Superior Técnico, Univ. Lisboa (PT)

ITEC 2 / Innovative applications, solutions and technologies — **Antipolis Auditorium**

09:25 **#135** - Enhancing CO_2 plasma conversion by in-situ oxygen removal using a Solid Oxide Electricochemical Cell (SOEC)
R. van de Sanden[1], G.J. Zhang[2], A. Pikalev[1], X. Chen[1]
[1] Dutch Institute of Fundemental Energy Research, Eindhoven (NL)
[2] School of Electrical Engineering, Xi'An Jiaotong Univ. - Xi'An (CN)

09:45 **#034** - Exploring the potential of a pulsed thermionic vacuum arc as metal ion propulsion system
C. Costin[1], V. Tiron[2], I.L. Velicu[1]
[1] Faculty of Physics, Alexandru Ioan Cuza Univ. Iasi - Iasi (RO)
[2] Research Centre on Advanced Materials and Technologies, Dpt. Exact and Natural Science, Institute of Interdisciplinary Research, Alexandru Ioan Cuza Univ. Iasi - Iasi (RO)

10:05 ***Break 30'***

ITEC 3 / Innovative applications, solutions and technologies — **Antipolis Auditorium**

10:35 **#0125** - Study of CH_4 pyrolysis in a planar atmospheric gliding arc discharge
Keynote lecture
R. Snyders
Univ. Mons (BE)

11:05 **#044** - Impact of swift heavy ions irradiation on the microstructural and electrochemical properties of sputtered vanadium nitride thin films for micro-supercapacitors
J. Barbé[1,2], A. Lebreton[1,2], C. Douard[1,2], C. Grygiel[3], I. Monnet[3], C. Lethien[4,2], T. Brousse[1,2]
[1] Nantes Univ., CNRS, Institut des Matériaux de Nantes Jean Rouxel, IMN, Nantes (FR)
[2] Réseau sur le Stockage Electrochimique de l'Energie (RS2E), CNRS FR 3459, Amiens (FR)
[3] CIMAP, Normandie Univ., CEA, CNRS, UNICAEN, Caen (FR)
[4] IEMN, Univ. Lille, CNRS, Univ. Polytechnique Hauts-de-France, UMR 8520 - IEMN, Lille (FR)

11:25 **#084** - Plasma thin films for high-frequency filtering supercapacitors
U. Cvelbar, N.M. Santhosh
Jožef Stefan Institute - Ljubljana (SL)

11:45 **#078** - Lanthanum niobium oxide thin films deposited via reactive sputtering for high power micro-batteries
O. Touré[1, 2], J. Barbe[1, 2, 3], M.P. Besland[1], T. Brousse[1, 2, 3]
[1] Institut des Matériaux de Nantes Jean Rouxel, CNRS - Nantes (FR)
[2] Nantes Univ. - Nantes (FR)
[3] Réseau sur le Stockage Electrochimique de l'Energie (RS2E) - Amiens (FR)

12:10 Closing ceremony

FRIDAY, SEPTEMBER 26TH – MORNING

Antipolis Auditorium

08:40 Plasma-catalyst interaction mechanisms for CO_2 recycling and molecule conversion
Plenary speaker
O. Guaitella[1], D. Sadi[1], S. Bravo[1], B. Berdugo[1], M. Budde[1], D. Pai[1], T. Silva[2], V. Guerra[2]
[1] LPP, CNRS, Sorbonne Univ., École Polytechnique, Institut Polytechnique de Paris, Palaiseau (FR)
[2] Instituto de Plasmas e Fusão Nuclear, Instituto Superior Técnico, Univ. Lisboa (PT)

DEPO 7 / Plasma-assisted deposition, coatings and layers — Ella Fitzgerald Room

09:25 **#091** - Direct injection of iron acetate solutions in a low pressure plasma to prepare Fe_2O_3/TiO_2 nanocomposite thin films
S. Hekking[1, 2], A. Goullet[1], A. Granier[1], C. Maheu[1], L. Stafford[2], M. Richard-Plouet[1]
[1] Nantes Univ., CNRS, Institut des Matériaux de Nantes Jean Rouxel, IMN - Nantes (FR)
[2] Département de Physique, Univ. Montréal (CA)

09:45 **#106** - Aerosol assisted atmospheric pressure plasma deposition of hybrid TiO_2-based photoactive nanocomposite coatings for water remediation
R. Del Sole[1], F. Palumbo[2], C. Lo Porto[3], R. Comparelli[3], M.L. Curri[1,3], F. Fracassi[1,2], A. Milella[1,2]
[1] Univ. Bari Aldo Moro, Department of Chemistry - Bari (IT)
[2] Istituto di Nanotecnologia, CNR - Bari (IT)
[3] Istituto per i Processi Chimico-Fisici, CNR - Bari (IT)

10:05 ***Break 30'***

NANO 2 / Plasma nanotechnologies — Ella Fitzgerald Room

10:35 **#010** - Optimisation and *in situ* control of the deposition of nanocomposite thin films in low pressure misty plasma
Keynote lecture
A. Granier[1], J. Chevet[1], M. Feron[2], R. Clergereaux[3], P. Raynaud[3], M. Kahn[2], A. Goullet[1], M. Richard-Plouet[1]
[1] Nantes Univ., CNRS, Institut des Matériaux de Nantes Jean Rouxel, IMN, - Nantes (FR)
[2] Laboratoire de Chimie de Coordination UPR8241, CNRS, Toulouse (FR)
[3] Laplace, Univ. Toulouse, CNRS, UPS, INPT, Toulouse (FR)

11:05 **#069** - Metal-doped DLC coating by PE-CVD coupled with pulsed liquid injection
H. Klein[1,2,3], L. Stafford[3], R. Clergereaux[2], M.L. Kahn[2]
[1] CNRS-LCC - Toulouse (FR), [2] LAPLACE – Toulouse (FR), [3] Univ. Montréal (CA)

11:25 **#041** - Growth of gold-palladium nanoalloys by oblique angle deposition: exploration of their structure and optical properties
M. Costes, J. Ramade, S. Rousselet, K. Dussaillant, M. Marteau, F. Pailloux, S. Camelio, D. Babonneau
Institut Pprime, CNRS, Univ. Poitiers, ISAE-ENSMA - Poitiers (FR)

11:45 **#018** - Oblique angle co-sputtering of nanostructured Ti-W thin films: influence of deposition current on structure and electrical properties
H. Gerami, A. Besnard, J.M. Cote, N. Martin
Femto-st institute - Besançon (FR)

12:05 End of the session

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