TUESDAY, JUNE 9TH – MORNING

09:10 **Opening Ceremony**
Jean-François Pierson (FR) – Conference Chair
Anouk Galtayries (FR) – Conference co-chair & Chair of the Steering Committee

Auditorium

09:30 Green thin films: from processing to applications
Plenary speaker
E. Fortunato – *i3N, NOVA FCT, Caparica (PT)*

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

GROM 1 / Thin film growth & modelling **Auditorium**

10:40 **#164** - Phase engineering of boron nitride thin films by CVD of borazine
Keynote lecture
C. Journet, T. Souvignet, C. Marichy
Univ. Claude Bernard Lyon 1, CNRS, LMI UMR 5615 - Villeurbanne (FR)

11:10 **#025** - X-ray pole figure characterization of SnTe thin films prepared on severely lattice mismatched GaAs substrates
M. Kobayashi[1,2], Y. Chen[1]
[1] Department of Electrical Engineering and Bioscience, Waseda Univ., Tokyo (JP)
[2] Kagami Memorial Research Institute for Materials Science and Technology, Waseda Univ. - Tokyo (JP)

11:30 **#215** - Topotactic phase transitions in epitaxial $LaCoO_3$ thin films grown by PI-MOCVD
A. Koroleva, M.S.I. Sozal, C. Jimenez, M. Burriel
Univ. Grenoble Alpes, CNRS, Grenoble INP, LMGP - Grenoble (FR)

11:50 **#227** - Structural, morphological and optical characterization of pure and Mg-doped Al_2O_3 nanometric films
L. Qian
Micron Technology - Singapore (SG)

12:10 ***Lunch break***

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

SENCA 1 / Thin films for sensing & capture **Rhune 1**

10:40 **#145** - Hybrid PEDOT:PSS/Ag thin films: overcoming sensitivity limits in polymer-based SERS
Keynote lecture
O. Kylián, P. Pivko, J. Hanuš, E. Kočišová, M. Procházka
Charles Univ., Faculty of Mathematics and Physics - Prague (CZ)

11:10 **#163** - New approach to develop selective surfaces for biosensors: ionic liquid based thin film
L. Rabachou[1], O. Lavastre[1], E. Bano[1], V. Stambouli[2]
[1] CROMA - Grenoble (FR)
[2] LMGP - Grenoble (FR)

11:30 **#139** - Dual pulsed laser tailored nano-architectured thin films for sub-attomolar cancer markers detection
M. Gireau[1], F. Du[2], J. Youssef[3,5], A. Gateau[4], F. Lalloué[4], G. Humbert[3], S. Zeng[2], C. Champeaux[1], F. Dumas-Bouchiat[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] Univ. Limoges, INSERM, CAPTuR, UMR 1308, Limoges (FR)
[5] ALPhANOV, Optics & Lasers Thechnology Ctr., Limoges (FR)

11:50 **#008** - Optimizing $Li_{3x}La_{\{2/3-x\}}TiO_3$ thin films deposited via Physical Vapor Deposition technique for pH sensor applications
T. Nguyen[1], Z. Li[2], D. Dragoe[1], Q.N. Pham[1], M. Andrieux[1]
[1] CNRS UMR 8182, ICMMO – SP2M, Univ. Paris-Saclay, Orsay (FR)
[2] Laboratoire de Physique des Solides, Univ. Paris-Saclay, Orsay (FR)

12:10 ***Lunch break***

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

DEVO 1 / Thin films for sustainable development **Rhune 2**

10:40 **#080** - Engineering transparent cool window through chemical strain
Keynote lecture
E. Panda, M. Dotiyal
Materials Engineering Department, Indian Institute of Technology Gandhinagar - Gandhinagar (IN)

11:10 **#170** - Advancements in lens coating technologies: environmental impact and efficiency improvements
F. Guillain[1], V. Coué[1], G. Laval[1], M. Dumoux[2], C. Lecuret[2]
[1] Essilor International, affiliate of EssilorLuxottica - Créteil (FR)
[2] Essilor International, affiliate of EssilorLuxottica - Dijon (FR)

11:30 **#0190** - TiO_2-based thin films for the photococatalytic production of H_2 from sugar
C. Maheu[1], T.T. Ho[2], F. Chabanais[1], M.P. Besland[1], M. Boujtita[2], M. Richard-Plouet[1]
[1] Nantes Univ., CNRS, Institut des Matériaux de Nantes Jean Rouxel, IMN, Nantes (FR)
[2] Nantes Univ, CNRS, CEISAM, UMR 6230, Nantes (FR)

11:50 **#126** - Rational control of the Bi/V Ratio in $BiVO_4$ photoanodes enabled by DFT and magnetron co-sputtering
O. El Ouardi[1,2], K. Munawar[1], J. Alami[1], B. Vigolo[2], M. Makha[1]
[1] CCSE, Dpt. of Materials Science, Energy and Nano-engineering (MSN), UM6P, Benguerir (MA)
[2] Univ. Lorraine, CNRS, Institute Jean Lamour, UMR 7198, Nancy (FR)

12:10 ***Lunch break***

TUESDAY, JUNE 9TH – AFTERNOON

GROM 2 / Thin film growth & modelling — **Auditorium**

14:00 **#015** - How does stress evolve during growth of compositionally complex alloy thin films?
G. Abadias[1], H. Slimani[1], M. Chalopin[1], J.B. Dubois[1], F. Pailloux[1], P. Djemia[2], M. Ghidelli[2]
[1] Institut Pprime - Poitiers (FR)
[2] LSPM - Villetaneuse (FR)

14:20 **#159** - Reactive molecular dynamics of high-temperature oxidation in Ni-Al-Cr alloy coatings
A. Richard[1,2], P. Brault[1,2], A.L. Thomann[2], T. Perez[3], E. Menou[3], M. Cavarroc-Weimer[3]
[1] ms4all, Orléans (FR)
[2] GREMI, CNRS, Univ. Orléans (FR)
[3] SAFRAN Tech, Magny-les-Hameaux (FR)

14:40 **#031** - Tailoring mechano-thermal performance of SiO_2-Cr-Au thin films via sputtering and annealing: a molecular dynamics approach
T. Vashistha
Materials Engineering, Indian Institute of Technology Gandhinagar - Gandhinagar (IN)

15:00 **#049** - Thermal conductivity evolution in Cu–Mo nanometric metallic multilayers during annealing
A. Akarou[1], A. Titova[2], H. Zapolsky[2], R. Patte[2], G. Demange[2], O. Politano[1]
[1] Laboratoire ICB UMR 6303, Univ. Bourgogne Europe, CNRS - Dijon (FR)
[2] Laboratoire GPM UMR 6634, Univ. Rouen Normandie, CNRS - Rouen (FR)

15:20 ***Break 40'***

GROM 3 / Thin film growth & modelling — **Auditorium**

15:50 **#105** - Reactive sputtering of niobium disulfide thin films from niobium target using H_2S as a reactive gas
T. Nyberg[1], J. De Mata[2], A. Lindblad[2]
[1] Solid State Electronics, Ångström Laboratory, Uppsala Univ. - Uppsala (SE)
[2] X-ray Photon Science, Ångström Laboratory, Uppsala Univ. - Uppsala (SE)

16:10 **#193** - Optimization of scandium oxide thin film deposition by magnetron sputtering
N. Merghem, D. Pilloud, J.F. Pierson
Univ. Lorraine, CNRS, Institut Jean Lamour - Nancy (FR)

16:30 **#085** - MAX based Ti-A-C (A = Si, Ge) thin films by High Power Impulse Magnetron Sputtering
P. Dörflinger[1], A. Gitschthaler[1], R. Hahn[1], J. Ramm[2], K. Boebel[2], S. Kolozsvári[3], P. Polcik[3], E. Ntemou[4], D. Primetzhofer[4], A. Davydok[5], C. Krywka[5], H. Riedl-Tragenreif[1]
[1] Christian Doppler Lab., TU Wien, Vienna (AT)
[2] Oerlikon Balzers, Oerlikon Surface Solutions AG - Balzers (LI)
[3] Plansee Composite Materials GmbH - Lechbruck Am See (DE)
[4] Department of Physics and Astronomy, Uppsala Univ. - Uppsala (SE)
[5] Institute of Materials Physics, Helmholtz Zentrum Hereon - Hamburg (DE)

16:50 **#109** - PtSn electrocatalysts synthesized by sputtering into heated polyethylene glycol for deshydrogenation of polyol
A. Caillard[1], A. Diop[1], E. Millon[1], L. Gimenez[1], N. Semmar[1], D.K. Tagueu[1], A. Sauldubois[2]
[1] GREMI, Univ. Orléans, CNRS - Orléans (FR)
[2] MACLE / GREMI, Univ. Orléans, CNRS - Orléans (FR)

17:10 **Poster session I** *(from 17:10 until 18:40)*

TUESDAY, JUNE 9TH – AFTERNOON

OPTO 1 / Thin films for optics & electronics **Rhune 1**

14:00 **#129** - Optimized deposition and annealing of high-quality VO_2 thin films using V and V_2O_5 sputtering targets
N. Divoux, D. Pilloud, F. Capon
Univ. Lorraine - Institut Jean Lamour - UMR 7198 - Nancy (FR)

14:20 **#122** - Phase-controlled synthesis of $BaCu_4S_3$ thin films by sputtering–sulfurization
Y. Lablali[1], O. Donzel-Gargand[2], J. J. S. Scragg[2], M. Makha[1]
[1] CCSE, MSN, Mohammed VI Polytechnic University (UM6P), Ben Guerir (MA)
[2] Division of Solar Cell Technology, Dpt. Materials Science and Engineering, Uppsala Univ. (SE)

14:40 **#149** - Enhanced electrochromic properties for Li-Ni-O thin films produced by reactive magnetron co-sputtering using a combinatorial synthesis approach
T. Pomone[1], P. Bras[1], M. Brousse[2], S. Lakhloufi[1], L. Teulé-Gay[1], T. Chommaux[3], D. Thiaudière[3], V. Motto-Ros[4], S. Pechev[1], G. Yildirim[2], M. Maglione[1], F. Le Cras[2], H. Le Poche[2], A. Rougier[1]
[1] Univ. Bordeaux, CNRS, Bordeaux INP, ICMCB, UMR 5026, Pessac (FR)
[2] CEA, CEA Tech Nouvelle Aquitaine, Pessac (FR)
[3] Synchrotron SOLEIL, L'Orme des Merisiers, Saint-Aubin (FR)
[4] Institut Lumière Matière, Univ. Lyon, Univ. Claude Bernard Lyon 1, CNRS, Villeurbanne (FR)

15:00 **#151** - Interplay between morphology and plasmonics response of encapsulated Ag nanoparticles produced by magnetron sputtering
M. Schmetterer[1], H. Montigaud[1], M. Balestrieri[1], C. Fourmental[2], R. Lazzari[3]
[1] Surface du Verre et Interfaces, Saint Gobain Research Paris / CNRS - Aubervilliers (FR)
[2] Thin Film Department, Saint Gobain Research Paris - Aubervilliers (FR)
[3] Institut des NanoSciences de Paris (INSP), Sorbonne Univ. / CNRS - Paris (FR)

15:20 ***Break 40'***

TUESDAY, JUNE 9TH – AFTERNOON

OPTO 2 / Thin films for optics & electronics **Rhune 1**

15:50 **#103** - Controlling photochromism in rare-earth oxyhydride thin films via magnetron sputtering and upscaling
M. Zubkins[1], E. Strods[1], V. Vibornijs[1], E. Letko[1], A. Sarakovskis[1], K. Kundzins[1], I. Aulika[1], J. Gabrusenoks[1], D. Moldarev[2], A. Fedotovs[1], M. Salari Mehr[1], J. Purans[1]
[1] Institute of Solid State Physics - Riga (LV)
[2] Univ. Helsinki (FI)

16:10 **#216** - High-throughput comprehensive characterisation of two- and three-component thin layer systems
G. Sáfrán[1], D. Olasz[1], M. Gajdics[1], M. Serényi[1], N.Q. Chinh[2]
[1] Inst. for Technical Physics & Materials Science, HUN-REN Centre for Energy Research - Budapest (HU)
[2] Department of Materials Physics, Eötvös Loránd Univ. - Budapest (HU)

16:30 **#202** - Operando X-Ray analysis of power semiconductors: probing dynamic processes in thin films
M. Reisinger[1], C. Corley-Wiciak[2], L. Neumann[3], S. Moser[1], B. Butej[1], N.T. Sammler[1], M. Petersmann[1], N. Prabhu[4], M. Sarkis[2], A. Corley-Wiciak[2], J. Ball[2], C. Detlefs[2], T. Schulli[2], J. Keckes[5]
[1] Kompetenzzentrum fuer Automobil und Industrieelektronik GmbH - Villach (AT)
[2] European Synchrotron Radiation Facility - Grenoble (FR)
[3] IKTS Frauenhofer - Dresden (DE)
[4] KU Leuven - Leuven (BE)
[5] Technical Univ. Leoben - Leoben (AT)

16:50 **#120** - Dielectric-field–driven Li^+ diffusion and redox-buffered interfacial transport in amorphous TiO_x films prepared by mist CVD
H. Shirai[1], F. Kobayashi[2], H. Kurihara[3], Y. Yamamoto[4], H. Oono[4]
[1] Saitama Univ. - Saitama (JP)
[2] Kanagawa Univ. - Yokohama (JP)
[3] Saitama Prefecture Industrial Technology Center - Saitama (JP)
[4] Amaya Co., Ltd - Koshigaya (JP)

17:10 **Poster session I** *(from 17:10 until 18:40)*

TUESDAY, JUNE 9TH – AFTERNOON

DEVO 2 / Thin films for sustainable development **Rhune 2**

14:00 **#153** - Advances in operando and in situ cross-sectional characterization of thin films for battery and hydrogen applications
J. Todt[1], F. Lienard[2], M. Burghammer[2], H.R. Bratlie[3], D. Rettenwander[3], T. Huber[4], M. Alfreider[5], M. Tkadletz[5], R. Daniel[5], A. Pundt[6], J. Keckes[5]
[1] Austrian Academy of Sciences - Leoben (AT)
[2] ESRF, The European Synchrotron - Grenoble (FR)
[3] NTNU, Norwegian Univ. Science and Technology - Trondheim (NO)
[4] Huber Scientific - Vienna (AT)
[5] Technical Univ. Leoben - Leoben (AT)
[6] KIT, Karlsruhe Institute of Technology - Karlsruhe (DE)

14:20 **#060** - $LaSrCoFeO_3$ thin films deposited by sputtering for battery electrodes
C. Tavares[1], J. Vidal[1], F. Cerqueira[2], C. Costa[2], A. Telfah[3]
[1] Physics Centre of Minho and Porto Universities (CF-UM-UP), Univ. Minho, Guimaraes (PT)
[2] Physics Centre of Minho and Porto Universities (CF-UM-UP), Univ. Minho, Braga (PT)
[3] Univ. Applied Science and Arts Dortmund, Fachhochschule Dortmund, Dortmund (DE)

14:40 **#130** - Electrocatalysts for energy and environment applications
F. Yubero, J.M. Luque-Centeno, M. Martínez-Olaizola, A.R. González-Elipe, J. Gil-Rostra
ICMS-CSIC - Seville (ES)

15:00 **#185** - Thin-film lithium metal electrodes prepared by thermal evaporation for next-generation lithium batteries: advantages and challenges
H. Le Poche[1], C. Marcucci[1], M. Legallais[1], M. Brousse[1], E. De Vito[2], T. David[2], N. Ladrat[2], D. Mariolle[3], T. Dussart[4], L. Singh[5], G. Yildirim[1], F. Le Cras[2]
[1] CEA, CEA Tech Nouvelle Aquitaine - Pessac (FR)
[2] Univ. Grenoble Alpes, CEA, LITEN - Grenoble (FR)
[3] Univ. Grenoble Alpes, CEA, LETI - Grenoble (FR)
[4] SAFT - Bordeaux (FR)
[5] ACC - Bruges (FR)

15:20 ***Break 40'***

TUESDAY, JUNE 9TH – AFTERNOON

DEVO 3 / Thin films for sustainable development **Rhune 2**

15:50 **#192** - Probing the phase diagram of oxide thin films by precise control of oxygen non-stoichiometry
A. Riaz[1], M. Mermoux[2], A. Stangl[1], M. Burriel[1]
[1] Univ. Grenoble Alpes, CNRS, Grenoble INP, LMGP - Grenoble (FR)
[2] Univ. Grenoble Alpes, Univ. Savoie Mont Blanc, CNRS, Grenoble INP, LEPMI - Grenoble (FR)

16:10 **#143** - Innovative Nb-doped SnO_2 thin film layers prepared by Atomic Layer Deposition for high-performance perovskite-based solar cell devices
N. Schneider[1], G.D. Gesesse[2], D. Coutancier[1], R. Mendez[2], M.N. Mouhamadsiradjoudine[2], M. Al Katrib[2], N. Harada[2], K. Medjoubi[2], D. Ory[3], M. Bouttemy[4], M. Provost[2]
[1] IPVF-CNRS - Palaiseau (FR)
[2] IPVF - Palaiseau (FR)
[3] EDF - Palaiseau (FR)
[4] ILV-CNRS - Versailles (FR)

16:30 **#045** - Bi-Based nanostructures obtained by reactive sputtering for the CO_2 photoconversion
A. Bousquet[1], A. Kabouia[1], J.M. Andanson[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)

16:50 **#095** - On the stability upon atmospheric exposure of Ag nanoparticle solutions obtained by sputtering onto rapeseed oil
C. Azina[1], H. Lasfargues[2], J. Ramesh[2], L. Freynmann[2], J. Schneider[2]
[1] Laboratoire des Composites Thermostructuraux - Pessac (FR)
[2] Chair of Materials Chemistry, RWTH Aachen - Aachen (DE)

17:10 **Poster session I** *(from 17:10 until 18:40)*

WEDNESDAY, JUNE 10TH – MORNING

Auditorium

08:40 Epitaxial High-Entropy Alloy thin films for surface investigations
Plenary speaker
T. Seyller – *TU Chemnitz (DE)*

GROM 4 / Thin film growth & modelling — Auditorium

09:30 **#127** - Formation of fire-resistant carbon fibers by single-step multilayer carbide coatings in a molten salt
J-F. Silvain[1], **Y. Lu**[2]
[1] *ICMCB-CNRS - Pessac (FR)*
[2] *UNL - Lincoln (US)*

09:50 **#094** - Ionic liquid-assisted vapor deposition for high-crystallinity organic semiconductor films
J. Costa, A. Farinha, S. Silva, L. Santos
CIQUP / IMS, Dpt. Química e Bioquímica, Faculdade de Ciências, Univ. Porto (PT)

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

GROM 5 / Thin film growth & modelling — Auditorium

10:40 **#054** - Understanding film growth and accelerating PVD process development: efficient simulation approaches linking foundational insights to industrial utilisation
Keynote lecture
S. Lucas[1,2], **J. Müller**[2]
[1] *Univ. Namur, Namur (BE)*
[2] *Innovative Coating Solutions - Namur (BE)*

11:10 **#063** - Ab Initio guided prediction of metastable phase formation in PVD thin films
C. Gutschka[1], **H. David**[2], **S. Jochen M.**[3], **R. Helmut**[1]
[1] *TU Wien - Vienna (AT)*
[2] *Montantuniv. Leoben - Leoben (AT)*
[3] *RWTH Aachen Univ. - Aachen (DE)*

11:30 **#030** - Modelling of thin film PVD deposition on complex objects. From ball bearings to battery powder
J. Muller[1], **F. Tayefi Ardebili**[2], **P. Moskovkin**[1], **C. Vandenabeele**[1], **S. Lucas**[1]
[1] *Innovative Coating Solutions - Isnes (BE)*
[2] *Univ. Namur - Namur (BE)*

11:50 **#044** - Comparison of SRIM and SDTrimSP for thin-film sputtering simulations
M. Panjan, D. Korbar
Jozef Stefan Institute - Ljubljana (SI)

12:10 ***Lunch break***

WEDNESDAY, JUNE 10TH – MORNING

Auditorium

08:40 Epitaxial High-Entropy Alloy thin films for surface investigations
Plenary speaker
T. Seyller – *TU Chemnitz (DE)*

SURF 1 / Ultra-thin films in surface science — Rhune 1

09:30 **#133** - Thermomigration as a tool for surface engineering in thin-film systems
N. Abu Dahech, F. Leroy, F. Cheynis, P. Muller, S. Curiotto
Aix Marseille Univ., CNRS, CINAM, Marseille (FR)

09:50 **#053** - Material properties of titanium nitride deposited by reactive sputtering at nanometric scale
E. Le Cun, J. Patouillard, R. Gassilloud, M. Bernard, P. Gergaud, O. Renault
CEA, LETI, CAMPUS Minatec, Grenoble (FR)

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

SURF 2 / Ultra-thin films in surface science — Rhune 1

10:40 **#089** – Silverene as an ultra-thin epitaxial silver Xene
Keynote lecture
G. Le Lay
Aix-Marseille Univ., PIIM-CNRS - Marseille (FR)

11:10 **#067** - Micropatterning of APCVD graphene using laser irradiation
P. Calta[1], V. Vavruňková[1], Š. Jansová[1], Z. Jansa[1], R. Medlín[1], A. Benediktová[1], M. Procházka[1], J. Minár[1], P. Kožmín[2], J. Syrovátka[2], Š. Syrovátka[2], V. Kudrna[2], P. Zeman[3], A. Čermák[3], L. Dvořák[4]
[1] Univ. West Bohemia, New Technologies-Research Centre, Plzeň (CZ)
[2] HOFMEISTER s.r.o., Plzeň (CZ)
[3] RCMT, Faculty of Mechanical Engineering, Czech Technical Univ. in Prague, Praha (CZ)
[4] VÚTS, a.s., Liberec (CZ)

11:30 **#010** - Structure of $Co_xCu_{1-x}O(001)$ thin films grown on $SrTiO_3(001)$ by oxygen plasma assisted molecular beam epitaxy
A. Yadav[1], M. De Santis[1], G. Cabailh[2], Y. Joly[1], V. Langlais[3], L. Martinelli[1], X. Torrelles[4]
[1] Institut Néel, CNRS, Univ. Grenoble Alpes, Grenoble INP, Grenoble (FR)
[2] CNRS, Sorbonne Univ., Institut des NanoSciences de Paris, Paris (FR)
[3] CNRS, CEMES, Toulouse (FR)
[4] Institut de Ciència de Materials de Barcelona, ICMAB-CSIC, Bellaterra, Barcelona (ES)

11:50 **#042** – Evolution of strontium based oxide perovskite thin films probed by photoemission
D. Aureau[1], R. Alfonzo[1], B. Berini[2], Y. Dumont[2], M. Fregnaux[1]
[1] Institut Lavoisier de Versailles UMR 8180 - Versailles (FR)
[2] Groupe d'Etude de la Matière Condensée UMR 8635 - Versailles (FR)

12:10 ***Lunch break***

WEDNESDAY, JUNE 10TH – MORNING

Auditorium

08:40 Epitaxial High-Entropy Alloy thin films for surface investigations
Plenary speaker
T. Seyller – *TU Chemnitz (DE)*

DEVO 4 / Thin films for sustainable development — Rhune 2

09:30 **#140** - Tailoring the growth of dense and nano-porous Pr_6O_{11} thin films by MOCVD
M. Collard[1], A. Riaz[1], C. Jiménez[1], M. Burriel[1,2]
[1] Laboratoire des Matériaux et du Génie Physique - Grenoble (FR)
[2] Instituto de Nanociencia y Materiales de Aragon (INMA) - Zaragoza (ES)

09:50 **#165** - Magnetron sputtering strategies for porous electroactive thin films on nanorough substrates
B. Vigolo[1], E. Haye[2], J. Muller[3], Z.H. Ibupoto[4], S.E. Benrazzouq[1], M. Pavía[1], A.C. García-Wong[1], A. Tahira[5], U. Aftab[6], P. Moskovkin[3], A.R. Mohamed[7], A. Besnard[8], D. Pilloud[1], S. Migot[1], J. Ghanbaja[1], M. Emo[1], N. Watiez[9], A. Achour[3], C. Douard[10], S. Vizireanu[11], G. Dinescu[11], S. Lucas[3], T. Brousse[10], J.F. Pierson[1]

[1] Institut Jean Lamour - Nancy (FR)
[2] ICS S.A. - Gembloux (BE)
[3] UNamur, NISM - Namur (BE)
[4] Univ. Sindh Jamshoro - Sindh (PK)
[5] Shah Abdul Latif Univ. - Khairpur (PK)
[6] Mehran Univ., Sindh (PK)
[7] Univ. Sains Malaysia - P. Pinang (MY)
[8] Institut FEMTO-ST - Besançon (FR)
[9] Arts et Métiers Institute of Technology - Cluny (FR)
[10] Institut des Matériaux Jean Rouxel - Nantes (FR)
[11] National Institute for Laser - Magurele (RO)

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

HELI 1 / Thin films for health & life science — Rhune 2

10:40 **#177** - Ti-Cu-O photocatalytic thin films deposited via AA-MOCVD for marine antifouling applications
Keynote lecture
C. Jiménez[1], S. Ghazi[1], L. Fellah[2], C. Hellio[3], M. Weidenhaupt[1], F. Faÿ[2]
[1] Univ. Grenoble Alpes, CNRS, Grenoble INP-UGA, LMGP - Grenoble (FR)
[2] LBCM- Laboratoire de Biotechnologie et Chimie Marines, Univ. Bretagne Sud, - Lorient (FR)
[3] LEMAR - Laboratoire des sciences de l'environnement marin, UBO - Grenoble (FR)

11:10 **#114** - Engineering low-fouling thin film composite nanoporous membranes for sustainable plasticizers removal from water
V. Kochkodan[1], A. Naija[2]
[1] QEERI/HBKU - Doha (QA) – [2] Qatar University - Doha (QA)

11:30 **#220** - Mind the gap! Plasmonic nanocavity for trapping of local molecular rearrangements in lipid monolayers
E. Lipiec
Jagiellonian Univ. - Krakow (PL)

11:50 **#113** - Plasma assisted conformal surface engineering: application to biodegradable implants
A. Sarkissian[1], N. Oudini[1], C. Côté[1], E. Loreto[1], P. Chevallier[2], D. Mantovani[2], R. Porter[1]
[1] Plasmionique Inc - Ste-Julie,QC (CA) – [2] LBB-Laval Univ. - Québec City (CA)

12:10 ***Lunch break***

WEDNESDAY, JUNE 10TH – AFTERNOON

SENCA 2 / Thin films for sensing & capture — Auditorium

14:00 **#021** - Porous films of Zeolitic Imidazolate Frameworks (ZIF) as filter layers for selective H_2 sensing
M. Tiemann, D. Baier, S. Voth
Paderborn Univ. - Paderborn (DE)

14:20 **#154** - Cr-Ta Janus-like thin film nanocolumns for gas sensing
G. Vilar[1], A. Jesus Santos[2], F. Miguel Morales[2], N. Martin[1], V. Potin[3], J.B. Sanchez[1]
[1] FEMTO-ST Institute - Besançon (FR)
[2] IMEYMAT: Institute of Research on Electron Microscopy and Materials, Univ. Cádiz (ES)
[3] Laboratoire ICB - Dijon (FR)

14:40 **#090** - High performance photodetector based on DC magnetron sputtered WS_2 thin films
A. Dhanda[1,2]
[1] CSIR-National Physical Laboratory, New Delhi (IN)
[2] Academy of Scientific and Innovative Research (AcSIR), New Delhi (IN)

15:00 **#226** - Transparent conducting oxides: from synthesis to applications
M. Ghamnia
Laboratoire des Sciences de la Matière Condensée (LSMC), Univ. Oran 1 - Oran (DZ)

15:20 ***Break 40'***

GROM 6 / Thin film growth & modelling — Auditorium

15:50 **#052** - Wafer-level extraction of thin film residual stress for mems applications via cantilever analysis
A. Todeschini[1], F. Capra[2], R. Tacchini[2], M. Birondi[2], M.C. Turi[2], C. Carra[2], A. Baldini[2], M. Dosi[2], L. Lamagna[2], A.F. Ghisi[1]
[1] Politecnico di Milano - Milano (IT)
[2] STMicroelectronics - Milano (IT)

16:10 **#169** - Bipolar HiPIMS pulse configurations for energy-flux-controlled growth of AlN semiconductor thin films
M. Farahani[1], N. Behravan[2,3], J. Čapek[1], D. Lundin[3], T. Kozák[1]
[1] Univ. West Bohemia in Pilsen - Pilsen (CZ)
[2] Silicon Austria Labs (SAL) - Villach (AT)
[3] Linköping Univ. - Linköping (SE)

16:30 **#115** - Model-based optical critical dimension metrology of anamorphic distortion in high-aspect ratio holes
J. Szenka[1,2], B. Dikó[2], R.Z. Kiss[2], E. Balogh[2], T. Szarvas[2], P. Koppa[1]
[1] Dpt. Atomic Physics, Institute of Physics, Budapest Univ. Technology and Economics; Budapest (HU)
[2] Semilab Co. Ltd. - Budapest (HU)

16:50 **Poster session II** *(from 16:50 until 18:20)*

WEDNESDAY, JUNE 10TH – AFTERNOON

ITEC 1 / Innovative applications, solutions and technologies **Rhune 1**

14:00 **#024** - Advanced thin film characterization with StrataPHI: a new non-destructive approach
K. Artyushkova, N. Biderman
Physical Electronics - Chanhassen (US)

14:20 **#200** - Plasma-enhanced thin film growth by ICPECVD and PEALD: the future of optical and electronic coatings
X. Wang
SENTECH Instruments GmbH - Berlin (DE)

14:40 **#017** - Multidimensional optical, elemental and molecular analysis for surface & interface studies
P. Chapon, S. Lee, A. Stankova
HORIBA - Palaiseau (FR)

15:00 **#026** - Improving PIC manufacturing by the structuring of thin-film waveguide materials
M. Lötsch, M. Nestler
scia Systems GmbH - Chemnitz (DE)

15:20 ***Break 40'***

ITEC 2 / Innovative applications, solutions and technologies **Rhune 1**

15:50 **#152** - Enhancing corrosion resistance of lightweight aluminum and magnesium alloys via plasmaplus silane-based nanocoatings
D. Bensalem[1], R. Robinson[2], D. Pappas[2], M. Buske[1]
[1] Plasmatreat GmbH - Steinhagen (DE)
[2] Plasmatreat USA - Hayward (US)

16:10 **#214** - Thermochemical characterization of protective and tribological coatings by high temp effusion MS - sector field / quad / triple quad
B. Johns
SpectrometerExperts USA / MSInstruments.us - Cayce (US)

16:30 **#111** - Innovative Fast Atomic Sequential Technology deposition for wafer packaging, improved by using High density radical flux for surface pretreatment
M. Segers[1], P. Szkutnik[1], T. Lazerand[1], Y. Kawamura[2]
[1] Plasma-Therm Europe - Bernin (FR)
[2] Plasma-Therm Japan - Yokohama (JP)

16:50 **Poster session II** *(from 16:50 until 18:20)*

WEDNESDAY, JUNE 10TH – AFTERNOON

HELI 2 / Thin films for health & life science — **Rhune 2**

14:00 **#217** - Investigation of the antibacterial and antiviral properties of carbon-based and nitride-based coatings doped with silver and copper
V. Job[1], S. Lucas[1,2]
[1] Univ. Namur - NISM/NARILIS - Namur (BE)
[2] Innovative Coating Solution - Namur (BE)

14:20 **#059** - Antimicrobial nanocomposite films incorporating plasma coated MWCNTs dispersed in polyurethane
P-L. Girard-Lauriault, S. Blais
McGill Univ. - Montréal (Canada)

14:40 **#110** - Antimicrobial properties of surgical sutures decorated with PtAu/Pd nanoparticles prepared by sputtering on liquids
A. Caillard[1], A. Diop[1], E. Robert[1], A.L. Thomann[1], A. Sauldubois[2], T. Passeti[3], L. Almeida[4], E. Cipriano Rangel[5]
[1] GREMI, Univ. Orléans, CNRS - Orléans (FR)
[2] GREMI / MACLE, Univ. Orléans, CNRS - Orléans (FR)
[3] Municipal Univ. São Caetano do Sul, - São Caetano do Sul (BR)
[4] Federal Univ. São Carlos (UFSCar) - Sorocaba (BR)
[5] São Paulo State Univ. (UNESP), Institute of Science and Technology - Sorocaba (BR)

15:00 **#196** - Elucidating the antimicrobial properties of Layered Double Hydroxide (LDH) films
S. Sharma, S. Soulé, F. Quilès
LCPME, UMR 7564, Univ. Lorraine-CNRS - Nancy (FR)

15:20 ***Break 40'***

HELI 3 / Thin films for health & life science — **Rhune 2**

15:50 **#032** - Long-term stability of antibacterial TiN-Ag PVD coatings
S. Behrangi[1], R. Drevet[2], J. Klusoň[3], P. Ondračka[1], H. Bolvardi[4], A. Lümkemann[4], P. Vašina[1]
[1] Masaryk Univ. - Brno (CZ)
[2] Univ. Reims Champagne-Ardenne - Reims (FR)
[3] PLATIT a.s. - Šumperk (CZ)
[4] PLATIT AG - Selzach (CH)

16:10 **#125** - Thin films of β Ti-Nb-Zr alloy through Compositional library of sputtered coatings for biomedical implants
C. Afonso, A.L. Castro, P.A.D.P. Nascente
DEMa, Univ. Federal de São Carlos (UFSCar) - São Carlos (BR)

16:30 **#096** - Plasma polymer thin films for immobilization of extracellular matrix proteins to enhance cell proliferation
L. Janů[1], B. Kavcová[1], M. Janůšová[1], J. Medalová[2], V. Santana[1], D. Nečas[1], L. Zajíčková[1]
[1] CEITEC, Brno Univ. Technology - Brno (CZ)
[2] Department of Experimental Biology, Faculty of Science, Masaryk Univ. - Brno (CZ)

16:50 **Poster session II** *(from 16:50 until 18:20)*

THURSDAY, JUNE 11TH – MORNING

Auditorium

08:40 The research and development of High Entropy Alloy coatings applied in harsh environments
Plenary speaker
J-W. Lee[1], B.S. Lou[2]
[1] Department of Materials Engineering, Ming Chi Univ. Technology - New Taipei (TW)
[2] Chemistry Division, Center for General Education, Chang Gung Univ. - Taoyuan (TW)

SURF 1 / Ultra-thin films in surface science — Auditorium

09:30 **#041** - Epitaxial thin film growth of High Entropy Alloys: a new avenue for surface and bulk properties investigations
J. Ledieu[1], K. Dumesnil[1], M. Emo[1], S. Migot[1], S. Semsari Parapari[2], S. Šturm[2,3], P. Koželj[5], V. Fournée[1]
[1] Institut Jean Lamour, Univ. Lorraine, CNRS UMR7198, Nancy (FR)
[2] Dpt. for Nanostructured Materials, Jožef Stefan Institute, Ljubljana (SI)
[3] Jožef Stefan International Postgraduate School, Ljubljana (SI)
[4] Dpt. of Geology, Faculty of Natural Sciences and Engineering, Univ. Ljubljana (SI)
[5] Dpt. of Condensed Matter Physics, JSI, Faculty of Mathematics and Physics, Univ. Ljubljana (SI)

09:50 **#0107** - Formation of ultrathin and highly stable aromatic monolayers on metal substrate – three legs are better than one
P. Cyganik[1], A. Rojek[1], D. Cegiełka[1], M. Wróbel[1], M. Stępień[1], Y. Shoji[2], T. Fukushima[2], M. Zharnikov[3]
[1] Jagiellonian Univ. - Kraków (PL) *[2] Institute of Science Tokyo - Yokohama (JP)*
[3] Univ. Heidelberg - Heidelberg (DE)

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

TRIBO 1 / Protective & tribological coatings — Auditorium

10:40 **#141** - Hydrogen-barrier coatings applied by magnetron sputtering for advanced compressors in water electrolysis systems
Keynote lecture
C. Zubizarreta, O. Hernández-Rodríguez, B. Pinedo, M. Garitano, E.G. Berasategui
TEKNIKER, Basque Research and Technology Alliance (BRTA) - Eibar (ES)

11:10 **#093** - Nitriding behavior of super-austenitic, duplex and precipitation hardening steel observed by in-situ x-ray diffraction
S. Mändl, J. Gerlach, D. Manova
Leibniz Institute of Surface Engineering (IOM) - Leipzig (DE)

11:30 **#223** - Streamlined optimization of sustainable CrN-based hard coatings
M. Tkadletz[1], G. Alexander[1], V. Terziyska[2], J. Keckes[2], J. Todt[2], C. Cui[1], L. Kölbl[1], F. Konstantiniuk[1]
[1] C. Doppler Lab. for Sustainable Hard Coatings, Dpt. Materials Science, Montanuniv. Leoben (AT)
[2] Dpt. of Materials Science, Montanuniv. Leoben (AT)

11:50 **#092** - Nitrocarburizing of duplex steel using a solid carbon active screen in afterglow conditions
D. Manova[1], A. Dalke[2], S. Mändl[1]
[1] Leibniz Institute of Surface Engineering (IOM) - Leipzig (DE)
[2] Technische Univ. Bergakademie Freiberg - Freiberg (DE)

12:10 ***Lunch break***

THURSDAY, JUNE 11TH – MORNING

Auditorium

08:40 The research and development of High Entropy Alloy coatings applied in harsh environments
Plenary speaker
J-W. Lee[1], B.S. Lou[2]
[1] Department of Materials Engineering, Ming Chi Univ. Technology - New Taipei (TW)
[2] Chemistry Division, Center for General Education, Chang Gung Univ. - Taoyuan (TW)

OPTO 3 / Thin films for optics & electronics — Rhune 1

09:30 **#188** - Towards multifunctional TiO_2 polarimetric filters: tailoring anisotropy, birefringence and wettability via OAD and thermal processing
B. Lacroix[1], E. Panchout[2], J. Hernández-Saz[3], C. Dupeyrat[4], F. Paumier[5]
[1] Univ. Sevilla - Departamento de Física Aplicada I - Sevilla (ES) *[2] CEA Le Ripault - Monts (FR)*
[3] Univ. Sevilla - Departamento de Ingeniería y Ciencia de los Materiales y del Transporte - Sevilla (ES)
[4] Safran Electronics & Defense - Saint-Benoît (FR) *[5] Institut Pprime - Chasseneuil du Poitou (FR)*

09:50 **#058** - The origine of IBS mirror birefringence: characteristic and prospects
B. Letourneur[1], J. Agil[2], R. Battesti[3], J. Lumeau[4], L. Gallais[4], M. Soulier[4], L. Pinard[5], H. Krol[6], C. Rizzo[3]
[1] Safran Electronics & Defense, Montluçon (FR)
[2] Helmholtz-Institut Mainz, GSI Helmholtzzentrum für Schwerionenforschung, - Mainz (DE)
[3] Univ. Toulouse III - Paul Sabatier, LNCMI, CNRS, UGA, INSA-T, EMFL - Toulouse (FR)
[4] Aix Marseille Univ, CNRS, Centrale Med, Institut Fresnel - Marseille (FR)
[5] LMA- IP2I, CNRS, Univ. Claude Bernard Lyon 1 – Villeurbanne (FR)
[6] CILAS, Aubagne (FR)

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

OPTO 4 / Thin films for optics & electronics — Rhune 1

10:40 **#051** – Ultrathin aluminum film heterostructures for nanoelectronics
Keynote lecture
A. Lugstein[1], M. Mayrhofer[1], F. Maraspini[1], J. Mayr[1], J. Bratu[1], M. David[1], M. Brehm[2], W. Weber[1]
[1] Technical Univ. Vienna (AT) *[2] Johannes Kepler Univ. Linz (AT)*

11:10 **#175** - Optical and structural properties of combinatorial deposition of gallium oxynitride thin films
M. Gajdics, I. Cora, T. Kolonits, G. Sáfrán, B. Pécz
HUN-REN Centre for Energy Research - Budapest (HU)

11:30 **#228** - Structural, morphological and optical characterization of pure and Mg-doped Al_2O_3 nanometric films
S. Kerroum[1], M. Ghamnia[1], C. Fauquet[2], V. Heresanu[2]
[1] LSMC - Oran1 Univ. - Oran (DZ) *[2] CINaM - Aix Marseille Univ. - Marseille (FR)*

11:50 **#128** – VO_2 - based thin films for high-tunability optical platforms
S. Konstantinidis[1], G. Savorianakis[1], C. Rousseau[1], Y. Battie[2], A. En Naciri[2], N. Martin[3], B. Maes[1], M. Voué[1]
[1] Univ. Mons (BE) *[2] Univ. Lorraine - Nancy (FR)* *[3] FEMTO-ST Institute - Besançon (FR)*

12:10 Lunch break

THURSDAY, JUNE 11TH – MORNING

Auditorium

08:40 The research and development of High Entropy Alloy coatings applied in harsh environments
Plenary speaker
J-W. Lee[1], B.S. Lou[2]
[1] Department of Materials Engineering, Ming Chi Univ. Technology - New Taipei (TW)
[2] Chemistry Division, Center for General Education, Chang Gung Univ. - Taoyuan (TW)

DEVO 5 / Thin films for sustainable development — Rhune 2

09:30 **#225** - On the energy efficiency of sputtering of elemental targets by inert gas ions Ne, Ar, Kr, and Xe
I. Petrov[1], M. Fečík[2], S. Mráz[2], J. Schneider[2]
[1] Univ. Illinois - New York (US)
[2] RWTH Aachen Univ. - Aachen (DE)

09:50 **#206** - MnN thin films deposited via controlled reactive magnetron sputtering
G. Nkamuhebwa, D. Pilloud, J.F. Pierson, B. Vigolo
Univ. Lorraine, CNRS, IJL - Nancy (FR)

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

DEVO 6 / Thin films for sustainable development — Rhune 2

10:40 **#191** - Nitrides and High-Entropy Alloy coatings deposited via magnetron sputtering for hydrogen-related applications
Keynote lecture
S. Deambrosis[1], A. Fasan[1], F. Montagner[1], E. Miorin[1], V. Zin[1], C. Mortalò[1], G. Poppi[2], F. Catanzaro[2], R. Pedicini[3], L. Lusvarghi[2]
[1] CNR, Institute of Condensed Matter Chemistry and Technologies for Energy (ICMATE), Padova (IT)
[2] Dpt. Engineering "Enzo Ferrari", Univ. Modena and Reggio Emilia, Modena (IT)
[3] CNR, Institute of Advanced Technologies for Energy "Nicola Giordano" (ITAE), Messina (IT)

11:10 **#187** - In situ characterization of the hydrogen permeation barrier performance of MoNbTaWZr high entropy alloy coatings
M. Kirchmair, S. Zeiler, V. Maier-Kiener, N. Schalk
Dpt. Materials Science, Montanuniv. Leoben - Leoben (AT)

11:30 **#101** - Innovative PECVD for the development of Ni:DLC films: a hybrid catalytic material for hydrogen release from ammonia-borane
H. Klein[1], V. Colliére[2], O. Heintz[3], A. Krystianiak[3], H. Jean-Cyrille[4], K. Myrtil L.[2], S. Luc[5], C. Richard[6]
[1] LAPLACE-LCC-PPHARE - Toulouse (FR)
[2] CNRS-LCC - Toulouse (FR)
[3] ICB - Dijon (FR)
[4] ICMUB - Dijon (FR)
[5] Département de Physique – Univ. Montréal (CA)
[6] LAPLACE - Toulouse (FR)

11:50 **#034** - Replacing PFAS by plasma coatings considering safe and sustainable by design aspects
D. Hegemann
EMPA, Plasma & Coating Group - St. Gallen (CH)

12:10 Lunch break

THURSDAY, JUNE 11TH – AFTERNOON

TRIBO 2 / Protective & tribological coatings **Auditorium**

14:00 **#182** - Multilayered W/SiC Coatings designed as tritium permeation barriers in fusion environments
O. Hernandez-Rodriguez, M. Garitano
TEKNIKER, Basque Research and Technology Alliance (BRTA) - Eibar (ES)

14:20 **#148** - Superior mechanical properties in thin CrN coatings via optimized HiPIMS pulse synchronization
M. El Garah[1], G. Chettouh[1], L. Gueye[1], S. Achache[1], F. Sanchette[1], C. Nouveau[2]
[1] LASMIS, Univ. Technologie de Troyes - Nogent (FR)
[2] LABOMAP, Institut des Arts et Métiers de Technologie - Cluny (FR)

14:40 **#007** - Structure and mechanical properties of non-reactively sputtered NbC/TiB_x and ZrN/TiB_x superlattice thin films
T. Pinter, P.H. Mayrhofer
TU Wien - Vienna (AT)

15:00 **#023** - Chemical vapor deposition of chromium nitride thin films by in-situ generation of chromium chlorides
S. Baserga[1], L. Adams[1], L. Souqui[1], E. Sadek[1], L. Von Fieandt[2], P. Eklund[1]
[1] Department of Chemistry, Uppsala Univ. - Uppsala (SE)
[2] AB Sandvik Coromant - Hägersten (SE)

15:20 **#055** - Pulsed laser-arc deposition of high-hardness Diamond-Like Carbon coatings: plasma characteristics and performance optimization
G. Ma
AVIC Manufacturing Technology Institute - Beijing (CN)

15:40 ***Break 40'***

THURSDAY, JUNE 11TH – AFTERNOON

OPTO 5 / Thin films for optics & electronics **Rhune 1**

14:00 **#210** - Vanadium dioxide radiative thermal transistor
F. Dumas-Bouchiat[1], I. Alonzo-Zapata[1], C. Champeaux[1], J. Ordonez-Miranda[2], F. Enguehard[3]
[1] Institut de Recherche sur les Céramiques, Univ. Limoges (FR)
[2] Institut des Nanosciences de Paris, Sorbonne Univ. - Paris (FR)
[3] Pprime, Univ. Poitiers - (FR)

14:20 **#082** - Dependence of the work function and the Schottky barrier height as a function of the polar discontinuity in functional oxide heterostructures
E. Haber[1], E.A. Fodeke[1], M. El Rami[1], M. Dallocchio[2], W. Prellier[1], A. David[1], B. Negulescu[3], J. Wolfman[3], M. Upadhyay[3], A. Fouchet[1], U. Luders[1], A. Ruyter[1]
[1] LCSM, Univ. Caen Normandie, ENSICAEN, CNRS, Normandie Univ, CRISMAT UMR6508, Caen (FR)
[2] CIMAP, Normandie Univ., CNRS, ENSICAEN, UNICAEN, Caen (FR)
[3] Laboratoire GREMAN, UMR CNRS 7347, Univ. Tours (FR)

14:40 **#102** - Structural evolution and defect formation in CuO nanostructures under He+ ion irradiation
S. Fortuné Fábregas[1], S.F. Samedov[2], O. Orlov[2], A. Sidorin[2], A. Iribarren[1], L. Vaillant-Roca[1]
[1] Institute of Materials Science and Technology, Univ. Havana (CU)
[2] Joint Institute for Nuclear Research (JINR) - Dubna (RU)

15:00 **#183** - Modulated photocurrent spectroscopy of ZnMgO and Cu_2O thin films and heterostructures toward all-oxide photovoltaic devices
K. Lone, V. Colas, W. El Berjali, S. Ould Saad Hamady
Univ. Lorraine, CentraleSupélec, LMOPS, Metz (FR)

15:20 **#134** - Facile fabrication of nanostructured Zinc Oxide thin films using diverse electrolytes employing SILAR method applied for photocatalytic degradation
M. Patwary[1], F.T. Zuhora[2], M.M. Billah[3], J.F. Pierson[1]
[1] Univ. Lorraine - Nancy (FR)
[2] Comilla Univ. - Cumilla (BD)
[3] Toyohashi Univ. Technology - Toyohashi (JP)

15:40 ***Break 40'***

THURSDAY, JUNE 11TH – AFTERNOON

DEVO 7 / Thin films for sustainable development **Rhune 2**

14:00 **#006** - Strongly thermochromic coatings with W-doped VO_2 nanoparticles in SiO_2 matrix for energy efficient smart windows
E. Mohammadi Nia, J. Vlcek, J. Houska
Department of Physics and NTIS – European Centre of Excellence, Univ. West Bohemia, Pilsen (CZ)

14:20 **#097** - Thermochromic solar selective absorber coatings
L. Rebouta, S. Magalhães, S. Inácio, A. Ferreira
Centre of Physics, Univ. Minho, Guimarães (PT)

14:40 **#018** - Strain engineering of ScN thin films and its effect on optical, electrical, and thermoelectric properties
A. Le Febvrier[1], S.K. Honnali[1], C. Poterie[2], T.V. Fernandes[1], R. Frost[1], V. Rogoz[3], M. Magnuson[3], F. Giovannelli[4], J.P. Leitão[5], J.F. Barbot[2], P. Eklund[1]
[1] Uppsala Univ. - Uppsala (SE)
[2] Univ. Poitiers-CNRS - Poitiers (FR)
[3] Linköping Univ. - Linköping (SE)
[4] Univ. Tours - Tours (FR)
[5] Univ. Aveiro - Aveiro (PT)

15:00 **#079** - Deposition parameter dependent structural, optical, and electrical characteristics of Cu_3N thin films prepared by RF magnetron sputtering for sustainable energy
S. Majumder[1], K. Saito[2], Q. Guo[2], M.A.M. Patwary[3], T. Tanaka[2]
[1] Bangladesh Army International Univ. Science and Technology - Cumilla (BD)
[2] Saga Univ. - Saga (JP)
[3] Comilla Univ. - Comilla (BD)

15:20 **#131** - Highly photoactive Cu_2O films with enhanced crystallinity for PEC water splitting
J. Vosejpka[1], C. Robles[2], R. Čerstvý[1], S. Giménez[2], P. Zeman[1], J. Čapek[1]
[1] Department of Physics and NTIS – European Centre of Excellence, Univ. West Bohemia, Pilsen (CZ)
[2] Institute of Advanced Materials (INAM), Univ. Jaume I, Castellón (ES)

15:40 ***Break 40'***

THURSDAY, JUNE 11TH – AFTERNOON

TRIBO 3 / Protective & tribological coatings **Auditorium**

16:10 **#173** - Metastable W–Zr thin-film alloys: effect of composition on properties, thermal stability and oxidation resistance
M. Červená, J. Houška, S. Haviar, J. Rezek, Š. Zuzjaková, P. Zeman
Univ. West Bohemia, Department of Physics and NTIS - European Centre of Excellence - Pilsen (CZ)

16:30 **#074** - Novel structure-property relationships in nanocrystalline thin films on non-planar substrate geometries
K. Kutlesa[1], M. Meindlhumer[1], J. Todt[1], P. Kunnas[1], A. Köpf[2], M. Burghammer[3], J. Keckes[1]
[1] Montanuniv. Leoben - Leoben (AT)
[2] Boehlerit GmbH & Co.KG - Kapfenberg (AT)
[3] European Synchrotron Radiation Facility - Grenoble (FR)

16:50 **#014** - Comparative study of metal atom, metal ion and argon ion fluxes in industrial and laboratory magnetron sputtering with single-element and compound targets to control growth of protective coatings
P. Vasina[1], P. Klein[1], M. Ondryas[1], G. Lelovics[1], V. Sochora[2], M. Jilek[2], K. Mayur[3], A. Mackova[3], J. Hnilica[1]
[1] Masaryk Univ. - Brno (CZ)
[2] SHM - Sumperk (CZ)
[3] Nuclear Physics Institute - Prague (CZ)

17:10 **#172** - Processing–structure–property mapping of RF-PECVD DLC: hydrocarbon precursors and substrate bias
M. Zhang[1], M. Niewczas[1], M. Chesaux[2], J. Wojcik[2]
[1] McMaster Univ. - Hamilton (CA)
[2] Intlvac Thin Film Inc. - Halton Hills (CA)

17:30 **#050** - Bilayer period-dependent structure and mechanical properties of TiN/TaN superlattices
K. Weiss, P.H. Mayrhofer
Institute of Materials Science and Technology, TU Wien - Vienna (AT)

17:50 **#179** - A promising Al_2O_3/Fe-Al coating for lead-cooled fast reactor
L. Pang, Z. Wang
Institute of Modern physics, Chinese Academy of Sciences - Lanzhou (CN)

THURSDAY, JUNE 11TH – AFTERNOON

OPTO 6 / Thin films for optics & electronics **Rhune 1**

16:10 **#020** - Towards high efficiency and high durability antireflection infrared coating
M. Dewynter[1], C. Dupeyrat[1], F. Paumier[2], É. Le Bourhis[2]
[1] *Safran Electronics & Defense - Poitiers (FR)*
[2] *Univ. Poitiers - Institut Pprime - Poitiers (FR)*

16:30 **#104** - Tuned vapor deposition parameters for controlling pentacene and perovskite crystallinity in planar inverted solar cells
A. Farinha, L. Santos, J. Costa
CIQUP, IMS, Dpt. Chemistry and Biochemistry, Faculty of Science, Univ. Porto (PT)

16:50 **#077** - Plasmonic properties of high entropy nitride $(TiVZrNbTa)N_x$ thin films
M. Pineiro Sales[1], S.E. Benrazzouq[1], V. Milichko[1], G. Steciuk[1], C. Clément[1], D. Pilloud[1], T. Easwarakhanthan[1], A.A. Pinto[2], K. Lizárraga[3], P. Venezuela[3], F. Mücklich[4], J.F. Pierson[1]
[1] *Institut Jean Lamour – Univ. Lorraine - Nancy (FR)*
[2] *Centro Nacional de Pesquisas em Energia e Materiais LNNano - Campinas (BR)*
[3] *Univ. Federal Fluminense - Rio de Janeiro (BR)*
[4] *Saarland Univ. - Saarbrücken (DE)*

17:10 **#106** - Architected alternating-handedness ensemble of chiral sculptured thin films for dual-band bandstop filter
A. Rehman, A. Lakhtakia
The Pennsylvania State Univ. – Univ. Park (US)

17:30 **#184** - Engineering altermagnetic Mn_5Si_3 thin films: strategies for growth and phase stabilization
L. Michez[1], M. Petit[1], I. Kounta[1], V. Heresanu[1], H. Reichlova[2], D. Kriegner[2], M. Leiviska[2], A. Badura[2], L. Smejkal[3], S. Goennenwein[4], A. Thomas[5], J. Rial[6], V. Baltz[6]
[1] *Aix Marseille Univ, CNRS, CINaM, AMUtech - Marseille (FR)*
[2] *Institute of Physics, Czech Academy of Sciences - Prague (CZ)*
[3] *Max-Institüt für Physik komplexer Systeeme - Dresden (DE)*
[4] *Univ. Konstanz, Fachbereich Physik - Konstanz (DE)*
[5] *Leibniz-Institut für Festkörper- und Werkstoffforschung - Dresden (DE)*
[6] *Univ. Grenoble Alpes, CNRS, CEA, Grenoble INP, Spintec - Grenoble (FR)*

17:50 **#137** - High-quality piezoelectric $LiNbO_3$ and $KNbO_3$ thin films grown by DLI-CVD enabled by patented fluorinated precursors
A. Tacnet[1], S. Daniele[1], A. Bartasyte[2], J.M. Decams[3], V. Astie[3]
[1] *CP2M CPE Lyon, Univ. Claude Bernard Lyon 1 - Villeurbanne (FR)*
[2] *FEMTO-ST Institute, Univ. Bourgogne-Franche-Comté - Besançon (FR)*
[3] *Annealsys - Montpellier (FR)*

THURSDAY, JUNE 11TH – AFTERNOON

GROM 7 / Thin films growth & modelling **Rhune 2**

16:10 **#084** - Nitrogen doped TiO_2: a one step crystallization using a low power DBD at atmospheric pressure
N. Fosseur[1,2], S. Godet[2], F. Reniers[1]
[1] CSIN, Faculty of Sciences, Univ. Libre Bruxelles - Bruxelles (BE)
[2] 4MAT, Engineering Faculty, Univ. Libre Bruxelles - Bruxelles (BE)

16:30 **#087** - Exploring the Ti-A-C (A = Si or Ge) phase space: Ion-driven low-temperature crystallization pathways to MAX based materials
A. Gitschthaler[1], P. Dörflinger[1], R. Hahn[1], P. Švec[2], E. Ntemou[3], D. Primetzhofer[3], D. Fuchs[4], A. Limbeck[4], A. Davydok[5], C. Krywka[5], J. Ramm[6], K. Boebel[6], S. Kolozsvari[7], P. Polcik[7], H. Riedl[1]
[1] C. Doppler Lab. for Surface Engineering of high-performance Components, TU Wien, Vienna (AT)
[2] Institute of Physics, Slovak Academy of Sciences - Bratislava (SK)
[3] Department of Physics and Astronomy, Uppsala Univ. - Uppsala (SE)
[4] Institute of Chemical Technologies and Analytics, TU Wien - Vienna (AT)
[5] Institute of Materials Physics, Helmholtz Zentrum Hereon - Hamburg (DE)
[6] Oerlikon Balzers, Oerlikon Surface Solutions AG - Balzers (LI)
[7] Plansee Composite Materials GmbH - Lechbruck Am See (DE)

16:50 **#098** - Nanostructure formation on metal nanolayers by slow highly charged ions at arbitrary angles of incidence
M. Majkić[1], D. Majkić[2]
[1] Univ. Pristina-Kosovska Mitrovica, Faculty of Technical Sciences, Kosovska Mitrovica (RS)
[2] School of Electrical and Computer Engineering, ATUSS, Belgrade (RS)

17:10 **#036** - Multiscale study of interface reactivity on Cu thin film growth
A. Muriel[1], C. Mastail[1], A.S. Michel[1], A. Jay[2], A. Hemeryck[2], G. Abadias[1]
[1] Institut Pprime, Univ. Poitiers, CNRS - Poitiers (FR)
[2] LAAS-CNRS, Univ. Toulouse, CNRS, Toulouse (FR)

17:30 **#048** - HiPIMS-enabled metal ion irradiation for low-temperature epitaxy: from binary to multicomponent nitride thin films
S. Honnali[1], A. Le Febvrier[1], T. Shimizu[2], D. Lundin[3], G. Greczynski[3], P. Eklund[1]
[1] Uppsala Univ. - Uppsala (SE)
[2] Tokyo Metropolitan Univ. - Tokyo (JP)
[3] Linköping Univ. - Linköping (SE)

17:50 **#144** - Combining atomic layer deposition routes and solvothermal conversion: towards access to layer stacking of porphyrin-based MOFs
C. Marichy, B. Gikonyo, S. Forel, A. Fateeva
Univ. Claude Bernard Lyon 1, CNRS, LMI UMR 5615, Villeurbanne (FR)

FRIDAY, JUNE 12TH – MORNING

Auditorium

08:40 Plasma surface engineering of materials derived from woody biomass
Plenary speaker
L. Stafford – *Univ. Montréal / Québec (CA)*

TRIBO 4 / Protective & tribological coatings — Auditorium

09:30 **#168** - Adapting the properties in TiSiN coatings with gas modulation
C. Cui[1], L. Kölbl[1], M. Pohler[2], C. Czettl[2], N. Schalk[3], M. Tkadletz[1]
[1] C. Doppler Laboratory for Sustainable Hard Coatings, Dpt. Materials Science, Montanuniv. Leoben (AT)
[2] CERATIZIT Austria GmbH, Reutte (AT)
[3] Dpt. Materials Science, Montanuniv. Leoben (AT)

09:50 **#117** - HiPIMS deposition of thick tantalum films: real-time stress monitoring, simulation, and characterization
G. Arnoult[1], A. Bagherpour[2], E. Haye[1], P. Moskovkin[2], J. Muller[2], S. Lucas[1]
[1] Innovative Coating Solutions (ICS) - Isnes (BE)
[2] Laboratoire d'Analyse par Réaction Nucléaires (LARN) - Namur (BE)

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

TRIBO 5 / Protective & tribological coatings — Auditorium

10:40 **#069** - Strong and plastic thin film metallic glasses via atomic and microstructural engineering
Keynote lecture
M. Ghidelli[1], F. Bignoli[1], A. Brognara[2], P. Djemia[1], A. Li Bassi[3], G. Dehm[2]
[1] LSPM-CNRS - Villetaneuse (FR)
[2] MPI for Sustainable Materials - Dusseldorf (DE)
[3] Polytechnic of Milan - Milan (IT)

11:10 **#189** - Effects of Ta alloying on the structure and properties of nanocrystalline Cu-Ta films
M. Zhadko[1], A. Benediktova[2], J. Houska[1], R. Cerstvy[1], P. Baroch[1], P. Zeman[1]
[1] Department of Physics and NTIS - European Centre of Excellence, Univ. West Bohemia, Pilsen (CZ)
[2] New Technologies Research Centre, Univ. West Bohemia, Pilsen (CZ)

11:30 **#040** - Tribological and mechano-chemical characterization of advanced coatings under harsh environments
A. Bichler[1], H. Rojacz[2], P.H. Mayrhofer[1], A. Kirnbauer[1]
[1] TU Wien - Vienna (AT)
[2] AC2T Research GmbH - Wiener Neustadt (AT)

11:50 **#155** - Study of oxidation behavior of combinatorial Ni–Cr–Al–(La) coatings elaborated by DC magnetron sputtering
S. Achache, I. Toumi, A. Alhussein, B. Panicaud
UTT - Nogent (FR)

12:20 Closing ceremony

FRIDAY, JUNE 12TH – MORNING

Auditorium

08:40 Plasma surface engineering of materials derived from woody biomass
Plenary speaker
L. Stafford – *Univ. Montréal / Québec (CA)*

OPTO 7 / Thin films for optics & electronics — Rhune 1

09:30 **#224** - From colloidal ZnO nanoparticles to functional nanocomposites: PECVD deposition for advanced light emitting devices
M. Kahn[1], M. Feron[1,2], J. Chevet[3], V. Collière[1], P. Raynaud[2], A. Goulet[3], A. Granier[3], N. Gautier[3], R. Clergereaux[2], M. Richard-Plouet[3]
[1] LCC-CNRS UPR8241 - Toulouse (FR) *[2] LAPLACE UMR5002 - Toulouse (FR)*
[3] IMN UMR6502 - Nantes (FR)

09:50 **#088** - Nanocomposite thin films prepared at low pressure by a hybrid process coupling aerosol and Plasma Enhanced Chemical Vapour Deposition
M. Richard-Plouet[1], A. Goullet[1], A. Granier[1], C. Maheu[1], R. Clergereaux[2], M. Kahn[3], L. Stafford[4]
[1] IMN, Nantes Univ., CNRS - Nantes (FR) *[2] Laplace, Univ. Toulouse, CNRS, UPS, INPT, Toulouse (FR)*
[3] LCC UPR8241, CNRS, Toulouse (FR) *[4] Département de Physique, Univ. Montréal, Québec (CA)*

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

OPTO 8 / Thin films for optics & electronics — Rhune 1

10:40 **#043** – New opportunities for active structurally controlled optical coatings for energy, eyewear and sensor applications
Keynote lecture
L. Martinu, B. Baloukas, M. Crouan, B. Faceira, A. Pajak, P. Rumsby, O. Zabeida, J. Klemberg-Sapieha
Polytechnique Montréal - Montréal (CA)

11:10 **#078** - Boltzmann transport equation vs quantum modelling of electrical resistivity of metallic thin films: an application to Ag-based thermal control coatings
R. Lazzari[1], F. Corbella[2], V. Haspot[1], Y. Zheng[1], L. Largeau[3], D. Guimard[4], H. Montigaud[5]
[1] Institut des NanoSciences de Paris, CNRS/Sorbonne Univ., Paris (FR)
[2] Surface du Verre et Interfaces, CNRS/Saint-Gobain, Paris (FR)
[3] Centre de Nanosciences et Nanotechnologies, CNRS/Univ. Paris-Saclay, Palaiseau (FR)
[4] Saint-Gobain Recherche Paris, Aubervilliers (FR)
[5] Surface du Verre et Interfaces, CNRS/Saint-Gobain, Aubervilliers (FR)

11:30 **#222** - Nanoscale design of metal-polymer interfaces for flexible electronics applications
J. Byloff[1,2], V. Devulapalli[1], S. Gerstl[3], R. Jahnknecht[1], C. Trost[4], P. Barbara[2]
[1] EMPA, Mechanics of Materials - Thun (CH) *[2] ETH Zurich: Laboratory for Nanometallurgy - Zurich (CH)*
[3] ETH Zurich: ScopeM - Zurich (CH) *[4] Erich Schmidt Inst. for Materials Science - Leoben (AT)*

11:50 **#123** – Qualifying single-step non-reactive sputtering of γ-CuI thin films via cross-validated optoelectronic characterization for transparent electronics
S. Khan[1,2], S. Migot[1], G. Steciuk[1], P. Boulet[1], T. Fix[2], J.F. Pierson[1]
[1] Univ. Lorraine, CNRS, IJL - Nancy (FR)
[2] Univ. Strasbourg, CNRS, ICube - Strasbourg (FR)

12:20 Closing ceremony (*Auditorium*)