

Symposium F : Thin Films and Surface Engineering

November 20 (Mon.), 2023

Session Title : Thin Films and Surface Engineering 1

Time : 10:50 - 12:30, Nov. 20

Room # : 202A, 2F

Session Chair : Min Hyuk Park, Seoul National University

Cheng WANG, Tohoku University

10:50 – 11:20 Keynote **K-F0446**

Silica-based Hybrid Aerogel Films: Synthesis, Properties, and Application to Low Dielectrics

Hyung-Ho Park, Yonsei University, Korea

11:20 – 11:40 Invited **I-F0807**

Atomic layer deposition of two-dimensional materials

Seong Keun Kim, Korea Institute of Science and Technology, Korea

11:40 – 11:55 **O-F0716**

Microstructure and Properties of Diamond/Copper Composite by Supersonic Laser

Qunli Zhang, Zhejiang University of Technology, China

11:55 – 12:10 **O-F0407**

Microstructure and mechanical properties of laser clad WC-Co-Ni composite coatings for application to continuous caster roll

Gibeom Kim, Pohang University of Science and Technology, Korea

Session Title : Thin Films and Surface Engineering 2

Time : 14:00 - 15:10, Nov. 20

Room # : 202A, 2F

Session Chair : Sanghan Lee, Gwangju Institute of Science and Technology

Thierry Grosdidier, Université de Lorraine

14:00 – 14:20 Invited **I-F1093**

Advancing Ferroelectric Properties in Hafnia-Based Ferroelectrics through Interface Engineering

Min Hyuk Park, Seoul National University, Korea

14:20 – 14:40 Invited **I-F0250**

Advancements in Tunneling Magneto-Dielectric Effect through Additive Elements

Cheng WANG, Tohoku University, Japan

14:40 – 14:55 O-F0285

Hydrogen in Electrolessly Deposited Copper Films

Shinji Yae, University of Hyogo, Japan

14:55 – 15:10 O-F0628

Origin of Grain Refinement in Tribology

Wenzhen Xia, Anhui University of Technology, China

Session Title : Thin Films and Surface Engineering 3

Time : 16:00 - 18:00, Nov. 20

Room # : 202A, 2F

Session Chair : Seong Keun Kim, Korea Institute of Science and Technology

TBD

16:00 – 16:20 Invited I-F0178

Unassisted Solar water splitting via Organometal Halide Perovskite-Based dual Photoelectrodes

Sanghan Lee, Gwangju Institute of Science and Technology, Korea

16:20 – 16:40 Invited I-F0902

Enhanced surface reactivity by severe plastic deformation: application to the hydrogen and biomedical sectors

Thierry Grosdidier, Université de Lorraine, France

16:40 – 16:55 O-F0906

Modulating the structure and properties of NbMoTaW high-entropy thin films by interatomic interactions

Xiao Wang, Dalian University of Technology, China

16:55 – 17:10 O-F0512

Insights into effects of O-mediated sputtering toward improving Ag wetting on oxides

Jungheum Yun, Korea Institute of Materials Science, Korea

17:10 – 17:25 O-F0908

Resistivity behavior and magnetic properties of CoCrFeNi-based high-entropy thin films

Xiaona Li, Dalian University of Technology, China

17:25 – 17:40 O-F0804

Large Area Freestanding Single-Crystalline Perovskite Membranes for Low dimensional Photodetector

Yang Liu, University of New South Wales, Australia

November 21 (Tue.), 2023

Session Title : Thin Films and Surface Engineering 4

Time : 10:50 - 12:30, Nov. 21

Room # : 202A, 2F

Session Chair : Nan Li, Los Alamos National Laboratory

Surinder Singh, Swinburne University of Technology

10:50 – 11:20 **Keynote** **K-F1120**

Organic – Inorganic Metal Halide Materials for Photovoltaics

Hyunjung Shin, Sungkyunkwan University, Korea

11:20 – 11:40 **Invited** **I-F0891**

High-entropy alloy films: a review

Qing Wang, Dalian University of Technology, China

11:40 – 12:00 **Invited** **I-F0360**

Enhancement of coercivity for Sm(Fe-Co)-based thin films through the infiltration of the elements

Toshiyuki SHIMA, Tohoku Gakuin University, Japan

12:00 – 12:15 **O-F0020**

Effects of Surface Modification on Primary Water Stress Corrosion Cracking Initiation Behaviour of Nickel-based Alloy

Seunghyun Kim, Korea Institute of Materials Science, Korea

12:15 – 12:30 **O-F0893**

Fuzz evolution of NbMoTaW series multi-principal element alloy films by high-flux He ions irradiation

Xianxiu Mei, Dalian University of Technology, China

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Time : 14:30 - 15:30, Nov. 21

Room # : 202A, 2F

Session Chair : Michihisa FUKUMOTO, Akita University

Toshiyuki SHIMA, Tohoku Gakuin University

14:30 – 14:45 **O-F0341**

Changes in Existing States of Hydrogen in Electrodeposited Palladium Films by Bath Temperature

Tomoya Hashimoto, University of Hyogo, Japan

14:45 – 15:00 **O-F0746**

Self-organized nanohole: formation, characterization, and properties

Hiroaki Tsuchiya, Osaka University, Japan

15:00 – 15:15

O-F0578

Laser assisted electrochemical surface modification of titanium alloys

Guolong WU, Zhejiang University of Technology, China

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Session Chair : Hyunjung Shin, Sungkyunkwan University

Qing Wang, Dalian University of Technology

16:00 – 16:30 **Keynote**

K-F0548

Characterization of a Cobalt-Chromium-Molybdenum Alloy Subjected to Surface Mechanical Attrition Treatment

Gwénaëlle Proust, The University of Sydney, Australia

16:30 – 16:50 **Invited**

I-F0159

Formation of Porous Ni-Pt Alloy using the Molten Salt Treatment

Michihisa FUKUMOTO, Akita University, Japan

16:50 – 17:10 **Invited**

I-F0483

In Situ Micro Cantilever Beam Bending Tests to Explore the Adhesion Strength of Cr Coatings on Zry – 4

Nan Li, Los Alamos National Laboratory, USA

17:10 – 17:30 **Invited**

I-F0946

Innovative Manufacturing for Clean Energy Applications by Thermal Spray Technology

Surinder Singh, Swinburne University of Technology, Australia

November 22 (Wed.), 2023

Session Title : Thin Films and Surface Engineering 7

Time : 10:50 - 12:30, Nov. 22

Room # : 202A, 2F

Session Chair : Tingting Song, RMIT University

Qiyang Tan, Architecture and Information Technology

10:50 – 11:20 **Keynote** **K-F0269**

3D microstructural analysis of electroless Ni-P-plated Al-Zn-Mg alloys

Keitaro HORIKAWA, Osaka University, Japan

11:20 – 11:40 **Invited** **I-F0871**

Nano-pyramid metallic coating for ultraselective and ultrapermeable separation membranes for oil/water emulsions

Jinn P. Chu, National Taiwan University of Science and Technology, Taiwan

11:40 – 12:00 **Invited** **I-F1028**

Novel thermal environmental barrier coatings used at ultra-high temperatures

Jian He, Beihang University, China

12:00 – 12:15 **O-F0010**

Study on the cause and mechanism of the stripe color difference defects of cold-rolled duplex steel galvanized strip

Wang Chang, Shougang Research Institute of Technology, China

12:15 – 12:30 **O-F0010**

Surface Engineering of Metal Nanocrystal Thin Films for flexible and high-performance electromagnetic interference shielding materials

Seoyeon Park, Korea University, Korea

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Time : 14:00 - 15:30, Nov. 22

Room # : 202A, 2F

Session Chair : Soo-Hyun Kim, Ulsan National Institute of Science and Technology

Jianhua Yao, Zhejiang University of Technology

14:00 – 14:30 **Keynote** **K-F0759**

A patient-centric framework for developing safer 3D printed personalised medical implants

Peter Vee Sin Lee, University of Melbourne, Australia

14:30 – 14:50 **Invited** **I-F0685**

Micro-nano hierarchical metal surfaces for high-performance biomedical applications

Tingting Song, RMIT University, Australia

14:50 – 15:10 **Invited**

I-F0785

Additive manufacturing of corrosion and wear resistant steel

Qiyang Tan, The University of Queensland, Australia

15:10 – 15:30 **Invited**

I-F0621

Surface modification of laser deposited materials through ball burnishing

Anthony Roccisano, University of South Australia, Australia

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Time : 16:00 - 16:55, Nov. 22

Room # : 202A, 2F

Session Chair : Jinn P. Chu, National Taiwan University of Science and Technology

Jian He, Beihang University

16:00 – 16:20 **Invited**

I-F0579

Research Progress of Laser Hybrid Surface Engineering

Jianhua Yao, Zhejiang University of Technology, China

16:20 – 16:35

O-F1113

Research on Surface Coating Technology of Zirconium Alloy Cladding for Nuclear Fuel Elements

ZHANG RUIQIAN, Nuclear Power Institute of China, China

16:35 – 16:55 **Invited**

I-F1163

Advanced Metallization Technologies using atomic layer deposition (ALD) and area-selective ALD (AS-ALD)

Soo-Hyun Kim, Ulsan National Institute of Science and Technology, Korea