

AFM-18: Program at Glance

Date: Monday, 27/Aug/2018

8:30am - 6:00pm Reg: Registration

Hotel Lobby

1:50pm - 2:00pm OPC: Opening Ceremony *Dae Joon Kang, Yongbing Xu*

Ballroom 1 +2

2:00pm - 6:00pm Plen: Plenary Session

Ballroom 1 +2

Date: Tuesday, 28/Aug/2018

8:30am - 12:00am ABB: Advances in Biosensors and Biomaterials

Ballroom 2

8:30am - 12:00am AMCM: Advances in Multifunctional Composite materials

Ballroom 1

8:30am - 12:00am WSS-1: WUN Spintronic Symposium

Ballroom 3

2:00pm - 6:00pm WSS-2: WUN Spintronic Symposium & Introduction to time and spin resolved ARPES system

Ballroom 3

2:00pm - 6:00pm AOP&ESCD: Advances in Optics, Photonics, Energy Storage and Conversion Devices

Ballroom 2

2:00pm - 6:30pm ATF: Advances in Thin Films

Ballroom 1

8:30am - 6:00pm

Hotel Lobby

Poster: Poster Presentation

Date: Wednesday, 29/Aug/2018

8:30am - 12:15am AC: Advances in Catalysis, Functional Thin Films, Polymers and Ceramics

Ballroom 2

8:30am - 12:00am WSS-3: WUN Spintronic Symposium

Ballroom 1

2:00pm - 2:30pm EDT: Editorial Session

Ballroom 1

2:30pm - 6:00pm Keynote session

Ballroom 1

Date: Thursday, 30/Aug/2018

8:30am - 11:00am AMCM-2: Advances in Multifunctional Composite materials

Ballroom 1

8:30am - 11:00am LDNM: Low dimensional, nano and 2D materials for optical devices, Flexible Electronics, Sensors & Composites

Ballroom 2

Presentations

Plen: Plenary Session:

Time: Monday, 27/Aug/2018: 2:00pm - 6:00pm · *Location:* Ballroom 1 +2

Session Chair: Wenqing Liu,

2:00pm - 2:45pm

Surface Plasmonic Effect Enhanced Light Emitting and Lasing of Nitride-based Quantum Wells

Rong Zhang

Xiamen University, P.R.China;

2:45pm - 3:30pm

Cluster modification on Dirac quantum materials

Guanghou Wang^{1,2}

¹School of Physics, Nanjing University, Nanjing, China; ²National Laboratory of Solid State Microstructures, Nanjing University, China;
ghwang@nju.edu.cn

3:30pm - 4:15pm

Materials Innovation for Better Living -Some Progresses in Carbon Nanomaterials

Jiaying Huang

Northwestern University, United States of America; jiaying-huang@northwestern.edu

4:15pm - 4:30pm Coffee break

Session Chair: Imran Shakir

4:30pm - 5:15pm

Multi-Functional Nanopatterning Lithography Technology for Fabrication of 3D Nanostructures and Its Applications

JaeJong Lee

Korea Institute of Machinery and Materials, Korea, Republic of (South Korea); jjlee@kimm.re.kr

5:15pm - 6:00pm

Complex magnetic domain structures in oxides: physical origin and device application

Jian Shen

Fudan University, P.R.China

6:00pm-6:05pm

Closing Speech

ABB: Advances in Biosensors and Biomaterials

Time: Tuesday, 28/Aug/2018: 8:30am - 12:00pm · Location: Ballroom 2

Session Chair: Imran Shakir,

8:30am - 8:45am

Engineering protein interfaces yields ferritin disassembly and reassembly under benign experimental conditions

Hai Chen

China Agricultural University, China, People's Republic of; chenhai2509@163.com

8:45am - 9:00am

DNA Nanocomplex Mimics Oncolytic Virus for Cancer Therapy

Maling Gou, Li Luo, Ting Du, Tianyi Kang, Meimei Xiong, Qianqian Zhang, Yuquan Wei

State Key Laboratory of Biotherapy and Cancer Center, West China Hospital, Sichuan University; goumaling@scu.edu.cn

9:00am - 9:15am

A dual Functional Synthetic Starch based Sponge for Hemostatic Application

Yang Xiao¹, Changcan Shi^{2,3}, Yakai Feng^{1,2,3,4}

¹Tianjin University, Tianjin; ²Wenzhou Institute of Biomaterials and Engineering, Wenzhou; ³Wenzhou Medical University, Wenzhou; ⁴Tianjin University-Helmholtz-Zentrum Geesthacht, Tianjin; 18722256576@163.com

9:15am - 9:30am

Preparation of Amphiphilic Nanoparticles Based on PEG-PLLA Incorporated with Protoporphyrin and Their Applications in Cell Imaging and Drug Delivery

Rong Zhang

Changzhou UNiversity, China, People's Republic of; rzhang@cczu.edu.cn

AMCM: Advances in Multifunctional Composite materials

Time: Tuesday, 28/Aug/2018: 8:30am - 12:00am · *Location:* Ballroom 1

Session Chair: Danielle S. Rhen,

8:30am - 8:45am

Functionally Graded Material (FGM): Numerical Evaluation of Mixed-mode Stress Intensity Factors

Jin-Rae Cho

Hongik University, Korea, Republic of (South Korea); jrcho@hongik.ac.kr

8:45am - 9:00am

Intelligent composite materials as actuators and sensors

Xuemin Du

Institute of Biomedical and Health Engineering (IBHE), Shenzhen Institutes of Advanced Technology (SIAT), Chinese Academy of Sciences (CAS), China, People's Republic of; xm.du@siat.ac.cn

9:00am - 9:15am

Study of photocatalytic asset of PbTiO₃ synthesized by eco-friendly mechanochemical method

Vishwas Bhaskar Gaikwad

K.T.H.M. College, Nashik, India; dr.gaikwadvb@rediffmail.com

9:15am - 9:30am

Design of NS@PCE core-shell nanoparticles and its application in cementitious materials

Yue Gu

Hohai university, China, People's Republic of; gubetter@163.com

9:30am - 9:45am

Hydrothermal synthesis of TiO₂ nanoparticles using acid treatment for gas sensing applications

Gotan Jain

Commerce and S.P.H.J. Science College, Chandwad, India; gotanjain@rediffmail.com

9:45am - 10:00am

Ultrabright signal amplification system based on nano spherical polyelectrolyte brushes

Hajar Masoomi, Yao Wang, Xiao Xia Fang, Peirui Wang, Hong Xu, Hong Chen Gu

School of Biomedical Engineering, Med-X Research Institute, Shanghai Jiao Tong University, Shanghai 200030, PR China; h.masoomi@sjtu.edu.cn

10:00am-10:15am

Smart Building Materials by the Incorporation of Thermoregulating Microcapsules

Ana M. Borreguero, Angel Serrano, Manuel Carmona, Daniel Lopez-Pedrajas, Juan F. Rodríguez

University of Castilla, Spain; Juan.RRomero@uclm.es

10:15am-10:35am

Coffee break

WSS-1: WUN Spintronic Symposium

Time: Tuesday, 28/Aug/2018: 8:30am - 12:00am · *Location:* Ballroom 3

Session Chair: Liang He

8:30am - 8:40am

Opening speech

Prof. Youwei Du, The academician of the Chinese Academy of Science, Nanjing University, P.R. China, dyw@nju.edu.cn

8:40am - 9:05am

Ultrafast photo-induced multimode antiferromagnetic spin dynamics in exchange-coupled Fe/RFeO₃ (R=Er or Dy) heterostructures

Zhaohua cheng Institute of Physics, Chinese Academy of Sciences, P.R. China, zhcheng@iphy.ac.cn

9:05am - 9:30am

Advanced Nanoscale Magnetic Tunnel Junctions for Low Power Computing

Weisheng Zhao, Beihang University, P.R. China, weisheng.zhao@buaa.edu.cn

9:30am - 9:55am

When Multiferroics Meets Valleytronics—Emergent Phenomena in Ferrovalley Materials

Chungang Duan, East China Normal University, P.R. China, cgduan@clpm.ecnu.edu.cn

9:55am - 10:20am

Flat bands and emergent ferromagnetic ordering in Fe₃Sn₂ kagome lattices

Changgan Zeng, University of science and technology of China, P.R. China, cgzeng@ustc.edu.cn

10:20am-10:40am coffee break

Session Chair: Chungang Duan

10:40am - 11:05am

Tuning RKKY Effect and Its Application to STT-MRAM

Tai Min, Xi'an jiaotong University, P.R. China, tai.min@xjtu.edu.cn

11:05am-11:30am

Modulated spin orbit torques in ferromagnetic/non-ferromagnetic metals heterojunctions

Kangkang Meng, Yong Jiang, University of Science & Technology Beijing, P.R. China, yjiang@ustb.edu.cn

11:30am-11:55am

Self-consistent determination of spin Hall angle and spin diffusion length in Pt and Pd

Bingfeng Miao Haifeng Ding, Nanjing University, P.R. China, hfding@nju.edu.cn

WSS-2: WUN Spintronic Symposium

Time: Tuesday, 28/Aug/2018: 2:00pm - 6:00pm · *Location:* Ballroom 3

Session Chair: Changgan Zeng

2:00pm - 2:25pm

Robust manipulation of magnetic property in ferromagnetic semiconductor (Ga,Mn)As

Jianhua Zhao, Institute of Semiconductors, CAS, P.R. China jhzhao@red.semi.ac.cn

2:25pm - 2:50pm

Modulation of magnetization dynamics in dual-free-layer system by inserting ultra-thin rare-earth layers

Ya Zhai, Southeast University, P.R. China, yazhai.2009@qq.com

2:50pm-3:15pm

Computational design of two-dimensional ferromagnetic materials

Jinlan Wang, Southeast University, P.R. China, jlwang@seu.edu.cn

3:15pm-3:40pm

Towards ideal topological materials: Comprehensive database searches using symmetry indicators

Xiangqiang Wan, Nanjing University, P.R. China, xgwan@nju.edu.cn

3:40pm-4:05pm

Locally Induced Spin States on Graphene by Chemical Attachment of Boron Atoms

Minghu Pan, Huazhong University of Science & Technology, P.R. China, minghupan@hust.edu.cn

4:05pm-4:25pm coffee break

4:25pm-5:30pm

Introduction to time and spin resolved ARPES system

Yongbing Xu, Nanjing University, P.R. China,

ATF: Advances in Thin Films

Time: Tuesday, 28/Aug/2018: 2:00pm - 6:30pm · Location: Ballroom 1

Session Chair: Gotan Jain,

2:00pm - 2:15pm

Influence of the Source/Drain Material on Oxide Semiconductor Thin Film Transistors

Yi Liang, Wen Yu, Junchen Dong

peking university, China, People's Republic of; eliangyi@pku.edu.cn

2:15pm - 2:30pm

Effect of N₂-purging and N₂-annealing on chemical bath deposited CdS thin films

Buddhika Senarath Dassanayake¹, K.L.G. Sankalpa², R.K.K.G.R.G. Kumarasinghe², W.G.C. Kumarage^{1,2}

¹University of Peradeniya, Sri Lanka, Sri Lanka; ²Postgraduate Institute of Science, University of Peradeniya, Peradeniya, Sri Lanka; buddhid@gmail.com

2:30pm - 2:45pm

Potentiostatically Electrodeposited Lead Telluride films and their Characterizations

Anil Bhanudas Gite^{1,3}, Vishwas B Gaikwad², Sandesh R Jadar³, Gotan Hiralal Jain¹, Habbib M Pathan³

¹SNJB's KKHA Arts SMGL Comm and SPHJ Sci College Chandwad Nashik Maharashtra India, India; ²Principal, KTHM College Nashik, Maharashtra, India; ³Advance Physics Laboratory, Department of Physics, Savitribai Phule Pune University, Pune 411 007 India; gite.anil@gmail.com

2:45pm - 3:00pm

Opto-electric properties of chemical bath deposited CdS films fabricated under variable and steady bath conditions

Rajapaksha Karunadhipathi Kalogaha Gedara Rasika Gavan Kumarasinghe¹, W.G.C. Kumarage^{1,2}, R.P. Wijesundera³, N. Kaur⁴, E. Comini⁴, B.S. Dassanayake^{1,2}

¹Postgraduate Institute of Science, University of Peradeniya, Sri Lanka, Sri Lanka; ²Department of Physics, University of Peradeniya, Peradeniya, Sri Lanka; ³Department of Physics, Faculty of Science, University of Kelaniya, Kelaniya, Sri Lanka; ⁴Department of Information Engineering, Universita Degli Studi Di Brescia, Brescia, Italy; gayanb1988@gmail.com

3:00pm - 3:15pm

Smart Regulation of Interface Adhesion for Multifunctional Applications

Liping Heng

beihang university, China, People's Republic of; henglip@iccas.ac.cn

3:15pm - 3:30pm

Acetylene thin film materials for magneto-optics

Gunther Hennrich

Universidad Autónoma de Madrid, Spain., Spain; gunther.hennrich@uam.es

3:30pm - 3:45pm

Ultra-low Write Current Density and Multi-iresistive State in Fully-patterned All-perovskite Ferroelectric Tunnel Junctions

Weichuan Huang¹, Zhen Luo¹, Yuewei Yin¹, Xiaoguang Li^{1,2}

¹Hefei National Laboratory for Physical Sciences at the Microscale, Department of Physics, and CAS Key Laboratory of Strongly-coupled Quantum Matter Physics, University of Science and Technology of China, Hefei 230026, China; ²Collaborative Innovation Center of Advanced Microstructures, Nanjing, 210093, China; yw@ustc.edu.cn

3:45pm - 4:00pm

Effect of temperature on the characteristics of narrow bandgap Bi₂Te₃/Sb₂Te₃ p-n junction

Xiaojian Li, Chaogang Lou

School of Electronic Science and Engineering, Southeast University, China, People's Republic of; xjlee@seu.edu.cn

4:00pm-4:25pm coffee break

4:25pm - 4:40pm

A Sandwich-like, Breathable and Unperceivable Epidermal Electrode

Yanqiu Li, Bin Hu

Huazhong University of Science and Technology, China, People's Republic of; irjames@hust.edu.cn

4:40pm - 4:55pm

Synthesis of ZnO nanorods by spray pyrolysis for gas sensing application

Ganesh Patil, G. H. Jain

SPHJ Science College, Chandwad, India; ganeshpatil_phy@rediffmail.com

4:55pm - 5:10pm

Effect of precursor concentration on structural, optical, electrical and gas sensing properties of nanostructured tin oxide thin films

Ganesh Eknath Patil

SNJB's KKHA Arts, SMGL Commerce & SPHJ Science College, Chandwad, India; ganeshpatil_phy@rediffmail.com

5:10pm - 5:25pm

Synthesis of ZnO nanorods and tripods by hydrothermal route and their gas sensing properties

Sarika Digambar Shinde

SNJB's KKHA Arts, SMGL Commerce & SPHJ Science College, Chandwad, India; sarikagotan@rediffmail.com

5:25pm - 5:40pm

Adaptive Crystallite Kinetics in Homogenous Bilayer Oxide Memristor for Neuromorphic Computing

Yin, Jun; Zeng, Fei; Wan, Qin; Sun, Yiming; Dong, Yuan; Liu, Jialu; Li, Guoqi

Tsinghua University, Beijing, China.; yinj16@mails.tsinghua.edu.cn

5:40pm - 5:55pm

Shape-programmed actuation of stimuli-responsive polymer composites

Zhang Lidong

East China Normal University, China.; ldzhang@chem.ecnu.edu.cn

5:55pm - 6:10pm

Effect of Metallic buffer layer to modulate Optical and Electrical properties of ZnO: Ga heterostructures

Hassan, Ali; Jin, Yuhua; Chao, Feng; Irfan, M; Jiang, Y

Beijing university of Technology, China.; 15alirao@gmail.com

6:10pm - 6:25pm

The effects of different electrodes on the ferroelectric hysteresis loop of single-crystal LiNbO₃ thin film

Bai, Xiaovuan; Shuai, Yao; Gong, Chaoguan; Wu, Chuangui; Luo, Wenbo; Böttger, Roman; Zhou, Shengqiang; Zhang, Wanli

University of Electronic Science and Technology, China.; 1913492407@qq.com

AOP&ESCD: Advances in Optics, Photonics, Energy Storage and Conversion Devices

Time: Wednesday, 28/Aug/2018: 2:00pm - 6:00pm · *Location:* Ballroom 1

Session Chair: Imran Shakir,

2:00pm - 2:15pm

Microwave-Assisted Molten-Salt Approach: Simple but Robust Platform to Achieve Rapid and Macroscopic Synthesis of High-Performance Graphitic Carbon Nitride Photocatalysts

Huijuan Jing, Huanhuan Liu, Deliang Chen

Zhengzhou University, China, People's Republic of; dlchennano@qq.com

2:15pm - 2:30pm

Concerted ionic diffusion mechanism in K-Birnessite electrode and its excellent K storage performance

Ang Gao, Nannan Guo, Daping Qiu, Senhao Wang, Xia Lu, Feng Wang, Ru Yang

Beijing University of Chemical Technology, China, People's Republic of; anggaobuct@163.com

2:30pm - 2:45pm

Conformal and continuous deposition of bifunctional cobalt phosphide layers on p-silicon nanowire arrays for improved solar hydrogen evolution

Sitaramanjaneva Mouli Thalluri, Lifeng Liu

International Iberian Nanotechnology Laboratory (INL), Braga, Portugal, Portugal; lifeng.liu@inl.int

2:45pm - 3:00pm

Electrochemical properties of Si-polyacrylonitrile composite anode for flexible batteries

Hae-bin Park

Gyoungsang National University, Korea, Republic of (South Korea); phb0121@naver.com

3:00pm - 3:15pm

Ag nanoparticles and Graphitic Carbon Nitrides co-decorated TiO₂ nanocomposites for enhanced photocatalytic activity under visible light

Hongwei Tian, Bo Zhou, Xinyue Cao, Yaxin Li

Jilin University, China, People's Republic of; tianhw@jlu.edu.cn

4:00pm - 4:20pm coffee break

Poster: Poster Presentation

Time: Tuesday, 28/Aug/2018: 2:00pm - 6:00pm · Location: Hotel Lobby

Poster: 1 Formation and Characteristic of Germanium Epitaxial Films through Two Step Processes

Juhyun Bae, Nakjun Choi, Ilsub Chung

School of Electronics and Electrical Engineering, Sungkyunkwan University, Suwon, 16419, Republic of Korea; impressi@skku.edu

Poster: 2 Modelling of graphene thermionic energy devices beyond Dirac approximation: a full-band tight-binding approach

Yueyi Chen^{1,2}, Yee Sin Ang^{1,2}, L. K. Ang^{1,2}

¹Engineering product Development, Singapore University of Technology and Design, Singapore; ²SUTD-MIT International Design Center, Singapore University of Technology and Design, Singapore; yueyi_chen@mymail.sutd.edu.sg

Poster: 3 Forced Electrical Stress based Direct Current Generator Via Triboelectric Effect

Minki Kang, Hong-Joon Yoon, Wanchul Seung, Sang-Woo Kim

School of Advanced Materials Science and Engineering, Sungkyunkwan University; kang0824@skku.edu

Poster: 4 Efficiency Enhancement of Dye Sensitized Solar Cells with Metal-ion-adsorbed ZnO Nonorods

Gun Wook Baek¹, Ji Young Kim², Dae-Hwan Kim², Yoon Soo Han¹

¹Daegu Catholic University, Korea, Republic of (South Korea); ²DGIST, Korea, Republic of (South Korea); yshancu@cu.ac.kr

Poster: 5 Site-Specific Delivery of Hybrid Upconversion Nanoparticles for Photo-Activated Multimodal Therapies of Glioblastoma

Hsin-Cheng Chiu

National Tsing Hua University, Taiwan; hscchiu@mx.nthu.edu.tw

Poster: 6 Antiferromagnetic ordering of lithium deintercalated Fe_{1-x}Zn_xPO₄ by Mössbauer spectroscopy

Hyunkyung Choi, Chul Sung Kim

Kookmin University, Korea, Republic of (South Korea); newton@kookmin.ac.kr

Poster: 7 Tunable Arsenene bandgap in Arsenene-Graphene heterostructures

Zhen Luo¹, Dedong Han¹, Junchen Dong¹, Huijin Li¹, Wen Yu², Yi Liang¹, Shengdong Zhang², Xing Zhang¹, Yi Wang¹

¹Institute of Microelectronics, Peking University, China, People's Republic of; ²Shenzhen Graduate School, Peking University, Shenzhen 518055, China; lzhen@pku.edu.cn

Poster: 8 Crystal structure and magnetic properties of fluorophosphates Na₂Fe_{0.9}Mn_{0.1}PO₄ F cathode material

Jae Yeon Seo, Mun Hwan Kim, Hyunkyung Choi, Chul Sung Kim

Kookmin university, Korea, Republic of (South Korea); libattery@kookmin.ac.kr

Poster: 9 High-Performance Planar Crosslinked Polyaniline Based Microsupercapacitors

Wen He, Dae Joon Kang

SKKU, Korea, Republic of (South Korea); djkang@skku.edu

Poster: 10 Structural color filters with improved color purity by suppressing higher-order resonances

Sung Yong Han¹, Kyu-Tae Lee², Hui Joon Park¹

¹Department of Energy System Research, Ajou university, Korea, Republic of (South Korea); ²Department of Physics, Inha University, Republic of (South Korea); sinceru0z@naver.com

Poster: 11 Enhanced Magnetoresistance Induced by Coherent Magnon Current in Magnon Valve

Long Yange, Xuezhong Ruane, Yongbing Xue

Nanjing University, China; ybxu@nju.edu.cn

Poster: 12 Fabrication of Superhydrophobic Surfaces Using Electrohydrodynamic Lithography

Hyun je Park, Jaeseok Hwang, Jaejong Lee, Dae Joon Kang

SKKU, Korea, Republic of (South Korea); djkang@skku.edu

Poster: 13 Silk Film supported reduced Graphene Oxide Field Effect Transistor

Shihui Hu, Zhongrong Wang, Yunfang Jia

Nankai University, China, People's Republic of; 1120170101@mail.nankai.edu.cn

Poster: 14 The Effect of Talc Concentration on the Peeling Characteristics of UV-curable Acrylic Coating Agent

Chul Woo Lee, Joo Il Park, Seung Han Woo

Hanbat National University, Korea, Republic of (South Korea); cwlee@hanbat.ac.kr

Poster: 15 Growth of nb doped MoS2 using RF sputtering and its physical properties

Jae-Hwan Jung, Ahrum Sohn, Minki Kang, Sang-Woo Kim

Sungkyunkwan Univ., Korea, Republic of (South Korea); jaymilk1@gmail.com

Poster: 16 Supercapacitor performance of carbon nanofiber electrodes derived from 6FDA-based polyimides

Kyung-Hye Jung, So Jeong Kim, Ye Ji Son, Byeongil Jeon

Daegu Catholic University, Korea, Republic of (South Korea); khjung@cu.ac.kr

Poster: 17 High sensitive piezoelectric acoustic sensor based on two dimensional MoS2

Hyoung Taek Kim, Sang-Woo Kim

Sungkyunkwan Univ., Korea, Republic of (South Korea); gudxor@skku.edu

Poster: 18 Growth of Large-Area AB-Stacked Bilayer Graphene on h-BN/Pt Foils by Chemical Vapor Deposition

Yongteng Qian, Dae Joon Kang

SKKU, Korea, Republic of (South Korea); djkang@skku.edu

Poster: 19 Three-dimensional perovskite-type oxide nano-fiber webs for soot oxidation

JOO IL PARK¹, Seung Han Woo¹, Chul Woo Lee¹, Chanmin Lee²

¹Hanbat National University, Korea, Republic of (South Korea); ²Yonsei University, Korea, Republic of (South Korea); jipark94@hanbat.ac.kr

Poster: 20 High photoluminescence properties of transparent nanofiber using C-dots

Dawon Kang¹, Chohye Lee¹, Hak Yong Kim^{1,2}

¹Department of BIN Convergence Technology, Chonbuk National University, Republic of Korea (South Korea); ²Department of Organic Materials & Fiber Engineering, Chonbuk National University, Republic of Korea (South Korea); dw_k1119@naver.com

Poster: 21 Study on the force transfer by external force to a molecular level using spiropyran molecular sensor covalently linked polyurethane

Jae Eun Kim^{1,2}, Jae Woo Kim¹, Hak Yong Kim²

¹Korea Institute of Science and Technology, Korea, Republic of (South Korea); ²Chonbuk National University, Korea, Republic of (South Korea); jenjen@kist.re.kr

Poster: 22 Dopant-free hole transport materials for p-i-n planar perovskite solar cells passivating defect site at the interface

Sang Jin Park¹, Seol hee Jeon², TaeHak Kim¹, Bong Gi Kim², Hui Joon Park¹

¹Ajou university, Korea, Republic of (South Korea); ²Konkuk university, Korea, Republic of (South Korea); goodgo01@naver.com

Poster: 23 p18-4-Conjugated Polymeric Nanohybrids for Enhanced Breast Cancer Targeting in Photodynamic Therapy

Ye-Ji Kim, Young-Jin Kim

Daegu Catholic University, Korea, Republic of (South Korea); yjkim@cu.ac.kr

Poster: 24 Thermal and Mechanical Properties of Porous Polymeric Composites Prepared by UV-Curing Process

Bo Min Kwak, Younghwan Kwon

Daegu University, Korea, Republic of (South Korea); y_kwon@daegu.ac.kr

Poster: 25 Advances in magnetic biochar adsorptive characteristics enhancements: Role of production route and in/ex-situ magnetic-field effect

Seung Han Woo, Divine Damertey Sewu, Joo Il Park, Chul Woo Lee

Hanbat National University, Korea, Republic of (South Korea); shwoo@hanbat.ac.kr

Poster: 26 Electrospun PAN/PAA nanocomposite with high transparency and superfine fibrils

MINJU LEE¹, Yanan Liu¹, Hak yong Kim^{1,2}

¹Department of BIN Convergence Technology, Chonbuk National University, Republic of Korea; ²Department of Organic Materials & Fiber Engineering, Chonbuk National University, Republic of Korea; minju_4@naver.com

Poster: 27 Microcavity-integrated wire-grid polarizers with low reflections

Seung Hu Lee¹, Hui Joon Park¹, Kyu-Tae Lee²

¹Ajou University, Korea, Republic of (South Korea); ²Inha University, Korea, Republic of (South Korea); ws9288@ajou.ac.kr

Poster: 28 One-step Sonophotocatalytic Synthesis of Highly Dispersed AgNPs Anchoring RGO-based Nanocomposite for Plasmonic Enhanced Photocatalytic Performance

Fei Li, Bo Dong

Jiangxi University of Technology, Nanchang, China, People's Republic of; tianxianghunter@126.com

Poster: 29 Oxygen Pressure Control of IGZO Thin Film Transistors with Al₂O₃ Dielectric Layers by Atomic Layer Deposition

Huijin Li, Dedong Han, Yi Liang, Zhen Luo, Yi Wang

Peking University, China, People's Republic of; lihuijin@pku.edu.cn

Poster: 30 The correlations between particular matter (PM_{2.5}) and depression: a study of interactive machine learning and tracking for zebrafish behavior

Tai-Yue Li, Ming-Kung Ho, Ashish C. Gandhi, Sheng Yun Wu

National Dong Hwa University, Taiwan; tim312508@gmail.com

Poster: 31 Controllable and Reversible Doping in Layered MoTe₂ Transistors through Electrothermal Process

Yen-Fu Lin

National Chung Hsing University, Taiwan; yenfulin@nchu.edu.tw

Poster: 32 Highly sensitive Piezoelectric Nanogenerators based on micropatterend of P(VDF-TrFE) film for self-powered pressure sensors

Ali Nawaz, Hong-Joon Yoon, Sang-Woo Kim

Sungkyunkwan University, Korea, Republic of (South Korea); alinawaz1009@gmail.com

Poster: 33 Semitransparent colorful perovskite solar cell integrated with multilayer dielectric mirror

Song Ah Ok¹, Ji-Yun Jang¹, Sang Jin Park¹, Kyu-Tae Lee², Hui Joon Park¹

¹Department of Energy System Research, Ajou University, Republic of (South Korea); ²Department of Physics, Inha University, Republic of (South Korea); oksa4885@gmail.com

Poster: 34 Nanowires of KP15 produced by liquid exfoliation

Nan Tian, Danmin Liu, Bo Zhou, Yanhan Yang, Guoqing Zhang, Dandan Zhang, Yongzhe Zhang

Beijing University of Technology, China, People's Republic of; 837549356@qq.com

Poster: 35 Effective polysulfides trapping by ferroelectric coupled C/S composite cathode for Lithium–Sulfur Battery

Sumair Imtiaz, **Sana Ullah**, Guang-Ping Zheng

The Hong Kong Polytechnic Univeristy, Hong Kong S.A.R. (China); sana.ullah@connect.polyu.hk

Poster: 36 Robust preparation of quantum dots on few-layer MoS₂ by soft hydrogen plasma and post annealing

Di Cai, Shaoqing Xiao, Xiumei Zhang, Haiyan Nan, Xiaofeng Gu, Zhenhua Ni, Kostya {Ken} Ostrikov

Jiangnan University, China, People's Republic of; caidijndx@163.com

Poster: 37 Layer-controllable graphene by plasma thinning and post-annealing

Lufang Zhang, Shaopeng Feng, Shaoqing Xiao, Gang Shen, Xiumei Zhang Zhang, Haiyan Nan, Xiaofeng Gu, Kostya {Ken} Ostrikov

Jiangnan University, China, People's Republic of; 2932467794@qq.com

Poster: 38 Shape-uniform, High-quality Monolayered MoS₂ Crystals for Gate-tuneable Photoluminescence

Xiumei Zhang

Jiangnan University, China, People's Republic of; zxm_010103@163.com

Poster: 39 ACH11 peptides modified vascular biomaterials for improvement of the blood and tissue compatibility

Jing Zhao, Lingchuang Bai, Qian Li, Yakai Feng

University-Helmholtz-Zentrum Geesthacht, China, People's Republic of; 2834734420@qq.com

Poster: 40 Biofunctionalization of Electrospun PCL-PIBMD/SF Vascular Grafts with PEG and Cell-Adhesive Peptides for Endothelialization

Lingchuang Bai, Jing Zhao, Bin Gao, Yakai Feng

University-Helmholtz-Zentrum Geesthacht, China, People's Republic of; lingchuangbai@tju.edu.cn

Poster: 41 Multi-targeting gene delivery system based on POSS and peptides with charge-reversal function for enhanced angiogenesis of HUVECs

Bin Gao, Lingchuang Bai, Jing Zhao, Yakai Feng

University-Helmholtz-Zentrum Geesthacht, China, People's Republic of; gaobin11@tju.edu.cn

Poster: 42 Preparation of iridium and the study of electrolysis water anode catalysis

Wenwen Zou, Wenjuan Cao, Junping Dong, Jiujuan Zhang, Hongbin Zhao Zhao

Shanghai University, China, People's Republic of; zouwenwen95@shu.edu.cn

Poster: 43 Effect of N-doping on AZO Transparent Conducting Films

Junchen Dong, Dedong Han, Huijin Li, Xiaobin Zhou, Xing Zhang, Yi Wang

Peking University, China; junchendong@126.com

Poster: 44 MOF derived porous carbon for high-performance symmetrical supercapacitor

Xuecheng Chen, Shuai Zhang, Ewa Mijowska

Nanomaterials Physicochemistry Department, West Pomeranian University of Technology; xchen@zut.edu.pl

Poster: 45 Double Perovskite-Type Li(Y,Gd,La)MgWO₆ Host Emission Materials: A Structure-Property Relationship

Weiguang Ran, Junpeng Xue, Byung Chun Choi, Jung Hyun Jeong

Pukyong National University, Korea, Republic of (South Korea); weiguangran@gmail.com

Poster: 46 Effect of La³⁺ ion doping on the performance and characteristics of Eu²⁺ ions in novel Sr₃CeNa(PO₄)₂SiO₄ phosphors

Yue Guo, Sung Heum Park, Byung Chun Choi, Byung Kee Moon, Jung Hyun Jeong

Pukyong National University, Korea, Republic of (South Korea); 1216069619@qq.com

Poster: 47 Green Synthesis of Boron Nitride nanorods with amino acid and boric acid

Haixu Wang, Guang Yang, Ning Wang, Rong Sun

shenzhen institutes of advanced technology, CAS, China, People's Republic of; ning.wang@siat.ac.cn

Poster: 48 Mössbauer studies of Ga-doped Ba₂Co_{1.5}Mg_{0.5}(Fe_{0.99}Ga_{0.01})₁₂O₂₂ hexaferrite

Lim, Jung Tae; Kim, Chul Sung

Kookmin University, Korea, Republic of South Korea; hisashi@kookmin.ac.kr

Poster: 49 A Single-crystal Thin Film Infrared Detector with Pillar-array Air Gap Based on Crystal Ion Slicing Technology

Luo, Jiarui; Luo, Wenbo; Shuai, Yao; Wu, Chuangui; Zhang, Wanli

University of Electronic Science and Technology; luojiarui2@163.com

Poster: 50 Composite thin films based on the 2D FRET process: assembly, luminescence properties and its VOC sensing performance

Y.-M. Qine, Z. Lie-, Jun Lue

Beijing University of Chemical Technology, China.; lujun@mail.buct.edu.cn

AC: Advances in Catalysis, Functional Thin Films, Polymers and Ceramics

Time: Wednesday, 29/Aug/2018: 8:30am - 12:15am · *Location:* Ballroom 2

Session Chair: Mengning Ding

8:30am - 8:45am

Solution Combustion Synthesized-Porous Co₃O₄ Nanoparticles as Oxygen Evolution Reaction Catalysts in Alkaline Medium

Rose Anne E. Acedera, Mary Donnabelle L. Balela

Sustainable Electronic Materials Group, Philippines; roseanneacedera@gmail.com

8:45am - 9:00am

Nanostructured MTMO as Electrocatalysts for Water Oxidation in Low Alkaline Medium

Charles Lois Ildesa Flores, Mary Donnabelle Lirio Balela

University of the Philippines Diliman, Philippines; ciflores@up.edu.ph

9:00am - 9:15am

Solution Growth of Nanoparticle Decorated ZnO Nanorods and Applications in Organic Dye Photodegradation and Antibacterial Activity

Heh-Nan Lin, Shang-Ming Yeh, Yu-Ren Chen, Cheng-En Tsai

National Tsing Hua University, Taiwan; hlin@mx.nthu.edu.tw

9:15am - 9:30am

Boosting the Hydrogen Evolution Performance of Ruthenium Clusters Through Synergistic Coupling with Cobalt Phosphide

Junyuan Xu, Tianfu Liu, Junjie Li, Yuefeng Liu, Bingsen Zhang, Lifeng Liu

International Iberian Nanotechnology Laboratory (INL), Braga, Portugal, Portugal; lifeng.liu@inl.int

9:30am - 9:45am

Investigation of Redox Properties of Manganese Oxide Sorbents Based on Birnessite Using Temperature-Programmed Reduction

Arseniy Portnvgagin^{1,2}, Andrey Egorin^{1,2}, Alexey Golikov¹, Eduard Tokar^{1,2}, Nina Didenko¹, Dmitry Mashtalyar¹, Valentin Avramenko^{1,2}

¹Institute of Chemistry, Far Eastern branch of Russian Academy of Sciences, Russian Federation; ²Far Eastern Federal University, Vladivostok, Russian Federation; arsuha@gmail.com

9:45am - 10:00am

Metal-supported Magnetic Nanoparticles as Heterogeneous Catalysts for Quinoline Hydrogenation in Water

M. Nasiruzzaman Shaikh, Abdul Nasar Kalanthoden

King Fahd University of Petroleum and Minerals (KFUPM), Saudi Arabia; mnshaikh@kfupm.edu.sa

10:00am - 10:15am

Microstructural Characterizations and Physical Properties of Ferroelectric Nanostructured Thin Films

Weiren Xia, Heng Wu, Yao Lu, Zhipeng Pei, Xinhua Zhu

Nanjing University, China, People's Republic of; xhzhu@nju.edu.cn

10:15am—10:30am coffee break

10:30am - 10:45am

High-entropy films with gradient compositions for combinatorial high-throughput Screening

Yong Zhang, Qiu Wei Xing, Xue Hui Yan, Rui Xuan Li

USTB, China, People's Republic of; drzhangy@ustb.edu.cn

10:45am - 11:00am

Research on Corrosion Resistance of AZ31B Magnesium Alloy Micro-arc Oxidation Film

zhehui zhang, guoying wei

China Jiliang University, China, People's Republic of; 1161308253@qq.com

11:00am - 11:15am

Resistive switching mechanism of RRAM based on BaxSr1-xTiO3 thin film grown by a hydrothermal method

Jie Zhu, Jing He, Jingjing Lu, Changcheng Ma, Zuoqi Hu

Huazhong University of Science and Technology; M201672049@mail.hust.edu.cn

11:15am - 11:30am

Novel fluorescent hyperbranched aliphatic polyestertriazole as efficient probe for detecting Hg²⁺ in water

Hui-Juan Li¹, Sheng-Qi Chen², Peng-Yun Li¹, Abdul Haleem¹, Chuan-Shan Hu¹, Xi-Chuan Li¹, Wei-Xiang Xie¹, Wei-Dong He¹

¹University of Science and Technology of China, China, People's Republic of; ²Anhui University of Chinese Medicine, China, People's Republic of; lhj2015@mail.ustc.edu.cn

11:30am - 11:45am

Mechanical and Microscopic Analysis of a Structural Concrete Having High Contents of Recycled Aggregate

Zapata-Orduz, Luis E; Camacho, Silvia N ; Suarez, Edwar M ; Sierra, Oscar M

Universidad Industrial de santander, Colombia; luisezap@uis.edu.co

11:450am - 12:00am

Regulation of Coordination Number over Single Co Sites Triggers the Efficient Electroreduction of CO₂

Wang, Xiaoqian; Wu, Yuen

University of Science and Technology of China, ustcw@outlook.com

12:00pm - 12:15pm

Ionic Kinetics through Polymer Semiconductor/Electrolyte Interface and Realization of Diverse Synaptic Plasticity

Zeng Fei, Hu Yuandong, Chiang Jiating, Dong Wenshuai, Liu Jialu

Tsinghua University, Beijing, China, zengfei@mail.tsinghua.edu.cn

12:15pm - 12:30pm

A novel PAN-GO-SiO₂ hybrid membrane for separating oil in water emulsion

N. Naseeb, M. Abdul Azeem, Z. Khan, Tahar Laoui

King Fahd University, Saudi Arabia; taoui@kfupm.edu.sa

WSS-3: WUN Spintronic Symposium

Time: Wednesday, 29/Aug/2018: 8:30am - 12:00am · *Location:* Ballroom 1

Session Chair: Weisheng Zhao

8:30am-8:55am

TRMOKE study of magnetic thin films

Qingyuan Jin, East China Normal University, P.R. China, qyjin@phy.ecnu.edu.cn

8:55am-9:20am

Synchronized spin-photon coupling in a microwave cavity

Ke Xia, Beijing Normal University, P.R. China, kexia@bnu.edu.cn

9:20am-9:45am

Growth and Characterization of single-layer 1T'-WTe₂

Shaochun Li, Nanjing University, P.R. China, scli@nju.edu.cn

9:45am-10:10am

2D spintronic materials and devices

Liang He, Nanjing University, P.R. China, heliang@nju.edu.cn

10:10am—10:30am coffee break

Session Chair: Shaochun Li

10:30am-10:55am

Nano-spintronic devices for temporal information processing

Ronghua Liu, Nanjing University, P.R. China, rhliu@nju.edu.cn

10:55am-11:20am

Pure spin current generation, detection, manipulation and transport

Yong Pu, Nanjing University of posts and telecommunications, P.R. China, yongpu@foxmail.com

10:55am-11:20am

Anomalous in-plane anisotropic negative magnetoresistance in the topological phase transition system

Xuefeng Wang, Nanjing University, P.R. China, xfwang@nju.edu.cn

11:20am-11:45am

Positive and negative magnetoresistances in Co/Cu/Ni spin valves

Wenbo Zhao¹, Yuewei Yin¹, Xiaoguang Li^{1,2}

¹University of Science and Technology of China, Hefei, China, People's Republic of; ²Collaborative Innovation Center of Advanced Microstructures, Nanjing, China, People's Republic of; wzbhao@mail.ustc.edu.cn

Keynote: keynote session

Time: Wednesday, 29/Aug/2018: 2:45pm -6:00pm · **Location:** Ballroom 1

Session Chair: Dae Joon Kang,

2:45pm - 3:15pm

Exploration of Inorganic and Organic Electronic Materials in the Flatland

Jian-Bin Xu^{1,2,3}, Xinran Wang², Yi Shi²

1Chinese University of Hong Kong, Hong Kong S.A.R. (China); 2Nanjing University, Nanjing, China; 3Shenzhen Institutes of Advanced Technology, CAS, China; jbxu@ee.cuhk.edu.hk

3:15pm – 3:45pm

Nanostructured Electrocatalysts for Energy Conversion Processes

Shizhang Qiao

University of Adelaide, Australia; s.qiao@adelaide.edu.au

3:45pm - 4:15pm

Non-Planar Mixed-Dimensional Heterostructures for Conventional and Unconventional Computing

Lauhon, Lincoln

Northwestern University, United States of America; lauhon@northwestern.edu

4:15pm - 4:30pm Coffee break

4:30pm - 5:00pm

Advances in Biosensors - New Sensing and Imaging Platforms for in vivo Application.

Bradley, Mark

University of Edinburgh, United Kingdom; Mark.Bradley@ed.ac.uk

5:00pm - 5:30pm

Triboelectric Nanogenerators for Powering Portable, Wearable and Body-Implantable Devices

Sang-Woo Kim

Sungkyunkwan University (SKKU), Korea, Republic of (South Korea); kimsw1@skku.edu

5:30pm - 6:00pm

Tailoring the optical properties of low-dimensional materials for novel photonics applications

Fengqiu Wang

Nanjing University, Nanjing, China; fwang@nju.edu.cn

AMCM-2: Advances in Multifunctional Composite materials

Time: Thursday, 30/Aug/2018: 8:30am - 11:00am · *Location:* Ballroom 1

Session Chair: Kirsten Severing,

8:30am - 8:45am

Multifunctional Hemostatic Microspheres Crosslinked by a Ubiquitous Compound in Plants for the Application of Rapid Wound Healing

Changcan Shi

Wenzhou Institute of Biomaterials and Engineering, China, People's Republic of; shicc@wibe.ac.cn

8:45am - 9:00am

Organomineral sorbents based on ferrocyanide of transition metals for extraction and concentration of Cs-137 from seawater.

Eduard Tokar^{1,2}, Andrey Egorin^{1,2}, Larisa Zemsikova², Valentin Avramenko^{1,2}, Artur Dran'kov^{1,2}

¹Far Eastern Federal University; ²Institute of Chemistry FEB RAS; d.edd@mail.ru

9:00am - 9:15am

Thermal analyses on the effects of additions of two-dimensional graphitic-C3N4 on phase transitions in ferroelectric copolymers

Sana Ullah, Sumair Imtiaz, Guang-Ping Zheng

The Hong Kong Polytechnic University, Hong Kong S.A.R. (China); sana.ullah@connect.polyu.hk

9:15am - 9:30am

Synergistically plasmon-coupling for WGM lasing and SERS sensing of graphene/metal/ZnO microcavities

Chunxiang Xu, Qiuxiang Zhu, Feifei Qin, Yanjun Liu, Daotong You, Zengliang Shi

Southeast University, China, People's Republic of; xcxseu@seu.edu.cn

9:30am - 9:45am

Monitoring System Based on Permanent-Magnet Self-Power Wireless Sensor Technology

Yihe Zhang, Chul-Hee Lee

Inha University, Korea, Republic of (South Korea); zhangyihe.chn@outlook.com

9:45am-10:00am

Mesoporous silica nanoparticles as carriers for enhancing spirotetramat dose transfer in cucumber plant

Pengyue Zhao, Lidong Cao, Qiliang Huang

Chinese Academy of Agricultural Science, China, People's Republic of; pengyue_8825@163.com

10:15-10:30 coffee break

10:30am - 10:45am

Carbonization of Capping Agent for Stability Improvement of Metal Nanowires Using Electron Beam Irradiation

Beibei Luo, Bin Hu

Huazhong University of Science and Technology, China, People's Republic of; m201672631@hust.edu.cn

10:45am-11:00am

Modulating the optical and electronic properties of TMDs materials by mild plasma treatment

Haiyan Nan, Liu yulu, Xiao shaoqing, Ni zhenhua

Jiangnan University, China, People's Republic of; dongnanhaiyan@163.com

11:00am-11:15am

Phase, microstructure and millimeter wave dielectric properties of Co doped MgSiO₃ ceramics

Atta Ullah

Islamia College Peshawar, Pakistan; attaullah541@yahoo.com

11:15am-11:30am

DAST-Based Functional Materials

Yu Gu, Xiangdong Xu^{*}, Fu Wang, Xinrong Li, Xiaomeng Cheng, Yuxiang Lian, Huaxin Zhou, Yadong Jiang

University of Electronic Science and Technology of China (UESTC), China; xdxu@uestc.edu.cn

LDNM: Low dimensional, nano and 2D materials for optical devices, Flexible Electronics, Sensors & Composites

Time: Thursday, 30/Aug/2018: 8:30am - 11:00am · *Location:* Ballroom 2

Session Chair: Danielle S. Rhen,

8:30am - 9:00am

Probing and Modulating Interface Interactions in 2-Dimensional Materials and Their Heterostructures

Kai Liu

Tsinghua University, China, People's Republic of; liuk@tsinghua.edu.cn

9:00am - 9:15am

Microstructural Characterization and Magnetic Properties of (La_{1-x}Pr_x)_{0.67}Ca_{0.33}MnO₃ Nanoparticles Synthesized by Sol - Gel Process

Weiren Xia, Heng Wu, Piaojie Xue, Xinhua Zhu

Nanjing University, China, People's Republic of; xhzhu@nju.edu.cn

9:15am - 9:30am

Universal scaling laws in the electronic transport of 2D-material-based Schottky heterostructure

Yee Sin Ang, Hui Ying Yang, L. K. Ang

Singapore University of Technology and Design, Singapore; yeesin_ang@sutd.edu.sg

9:30am - 9:45am

Pd-based bimetallic/multimetallic nanosheets

Cheng Xu, Wenya Lu, Si Cheng

Soochow University, China, People's Republic of; chengsi@suda.edu.cn

9:45am - 10:00am

Towards 2D material valleytronic-based reversible computing

Yee Sin Ang, L. K. Ang

SUTD-MIT International Design Center, Singapore University of Technology and Design, Singapore; yeesin_ang@sutd.edu.sg

10:00am - 10:15am

Resistive switching characteristics of polycrystalline Ba_{0.5}Sr_{0.5}TiO₃ films

Jing He

Huazhong University of Science and Technology, China, People's Republic of; D201577534@hust.edu.cn

10:15am—10:30am coffee break

10:30am - 10:45am

Broadband anti-reflection in silicon substrate via Ag nanospheres on silicon nanopillar arrays

Xiaodan Huang, Chaogang Lou, Hao Zhang

Southeast University, China, People's Republic of; hxd@seu.edu.cn

10:45am - 11:00am

Alpha fetoprotein as marker in protective effect of silver nanoparticles against hepatotoxicity by CCL4

Sddiq Ghani Al-Muhanna¹, Murtadha M.Jawad Kadhim²

¹Al-Kafeel University College; ²AL-Furat AL-Awsat Technical University, Iraq; murtadham.alkhafaji@student.uokufa.edu.iq

11:00am - 11:15am

Large area graphene/PMN-PT field effect transistor with interdigitated electrode

Gwanmu Lee^{1,2}, Dongseok Suh^{1,2}

¹Department of Energy Science, Sungkyunkwan University, Suwon 16419, Republic of Korea; ²IBS Center for Integrated Nanostructure Physics, Institute for Basic Science, Suwon 16419, Republic of Korea; gwanmulee@gmail.com

11:30am - 11:45am

Enhancement of Hybrid Perovskite on Stability and Photocatalysis with Aniline

YIDI WANG, BIN FEI

The Hong Kong Polytechnic University, Hong Kong S.A.R. (China); 16903650r@connect.polyu.hk

11:45am - 12:00am

Atomic-layer soft plasma etching of graphene-like 2D materials

Shaoqing Xiao, Haiyan Nan, Xiumei Zhang, Xiaofeng Gu, Kostya Ostrikov

Jiangnan University, China, People's Republic of; Larring0078@hotmail.com

12:00pm - 12:15pm

Amorphous Magnetic Photonic Crystals Based on Fe₃O₄@SiO₂ Nanospheres with Non-iridescent Structural Colors

Ang Zheng, Wei Wang, Jie Zhong, Lin Zhuang

University, Guangzhou, China, People's Republic of; stszhl@mail.sysu.edu.cn