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Incheon Metropolitan City



CCMR 2018 Program

Collaborative Conference on Materials Research

25 – 29 June 2018

Songdo Convensia

Incheon/Seoul, South Korea



UNIVERSITY OF
ARKANSAS



Springer

CCMR 2018 Conference Schedule

25 - 28 June	On-site Registration in the Venue, 9:30 - 5:00 PM (Carried on during the conference)
25 June Monday	Full day oral presentations, 9.30 - 5:00 PM Poster Session from 5:30 PM Conference Reception from 6:00 PM - (Buffet & wine with live music show)
26 June Tuesday	Full day oral presentations, 9.30 - 5:00 PM Evening Activity , from 5:30 PM -
27 June Wednesday	Full day oral presentations, 9.30 - 5:00 PM Conference Banquet from 5:30 PM – Welcoming & congratulatory address (Buffet & wine with live music shows)
28 June Thursday	Full day oral presentations, 9.30 - 12:30 AM
29 June Friday	All Day Tour , 8.00 - 7:00 PM (Transportation, tickets & lunch covered)

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DAY 1 (Monday 25 June)

Room 111			
Time	Page	Speaker	Talk Title
Biomaterials and Applications		Chair: Takahiro Kenmotsu	
09:30-10:00	1	Yoshitaka Koseki	Design and Synthesis of Nano-Prodrug for Enhancement of Drug Delivery
10:00-10:30	3	Eileen Fong	Artificial protein-based biomaterials for cell biology and tissue engineering
10:30-10:45	4	Chia-Chi Hsieh	Developing magnetic silver/fibroin thermosensitive hydrogels for application in magnetic hyperthermia and photothermal therapy
10:45-11:00	<i>Session Break</i>		
Biomaterials and Applications		Chair: Yoshitaka Koseki	
11:00-11:30	5	Takahiro Kenmotsu	Constructing stable cellular assembly: Crowding condition provides rich profit
11:30-12:00	8	Shirley Tang	Creation of Bio-Inspired Structures Using Nanocarbon-Bio Hybrid Materials
12:00-12:30	10	Theo Lohmuller	Optothermal Control of Photoswitchable Lipid Bilayers
12:30-14:00	<i>Lunch Break</i>		
Catalytic Materials and Applications		Chair: E. Rusli	
14:00-14:30	11	Xinkui Wang	The preparation and catalytic performance of nano-gold catalyst
14:30-15:00	15	Hadi Razavi-Khosroshahi	Visible-Light-Driven Zinc Oxide Photocatalyst for Water Purification
15:00-15:15	18	Zhiwen Chen	Steric Hindrance in Sulphur Vacancy of Monolayer MoS ₂ Boosts Electrochemical Reduction of Carbon Monoxide to Methane
15:15-15:30	<i>Session Break</i>		
Photovoltaics Photocatalysis Materials		Chair: Xinkui Wang	
15:30-16:00	20	E. Rusli	Electronic Characteristics of Si/Transition Metal Oxide Solar Cell with E-beam Evaporated Molybdenum Oxide
16:00-16:30	21	Dong Jik Kim	Flexo-photovoltaic effect
17:30-18:00	<i>Poster Session (Ballroom in Convensia, 2F)</i>		
18:00- Night	<i>Conference Reception (Ballroom in Convensia, 2F)</i>		

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Time	Page	Speaker	Talk Title
Electronic Materials & Applications		Chair: Verena Zuerbig	
09:30-10:00	23	Masashi Arita	In-situ electron microscopy to investigate resistive RAM operations
10:00-10:30	25	Takafumi Uemura	Low-Noise Signal Amplification Circuits Based on Organic Thin-Film Transistors
10:30-11:00	27	Wen Hsien Huang	Enabling Flexible Electronics via Laser Technology
Electronic Materials & Applications		Chair: Masashi Arita	
11:00-11:30	30	Verena Zuerbig	CVD Diamond for high power electronic devices
11:30-12:00	31	Zheng Cui	Electronic Inks for Printable Electronic Applications
12:00-12:30	33	Zai-xing Yang	High-performance GaSb nanowires: from controllable growth to application
12:30-14:00	<i>Lunch Break</i>		
Electronic Materials & Applications		Chair: Seiji Samukawa	
14:00-14:30	35	Tetsuya Yamamoto	Ultra high Hall mobility In ₂ O ₃ transparent conductive films codoped with Ce and H atoms
14:30-15:00	39	Hanul Moon	Ultra-thin polymer insulating layers by initiated chemical vapor deposition and their applications to highly flexible transistors and flash memories
15:00-15:30	42	Holger Eisele	Surface-Characterization of novel semiconductors
Electronic Materials & Applications		Chair: Tetsuya Yamamoto	
15:30-16:00	43	Seiji Samukawa	Low-Temperature atomic layer defect-free etching, modification and deposition process
16:00-16:30	46	Astri Bjornetun Haugen	Textured lead-free piezoelectric ceramics
16:30-17:00	48	Sarmistha Maity	Magnetic and Electrical Study of Multiferroic Metal Organic Frameworks
17:00-17:15	51	Arreerat Jiamprasertboon	Self-cleaning Transparent Conductive Cl-doped ZnO thin film via Aerosol-Assisted Chemical Vapour Deposition
17:30-18:00	<i>Poster Session (Ballroom in Convensia, 2F)</i>		
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Graphene and Applications		Chair: H. C. Ong	
09:30-10:00	53	Oleg Kononenko	Carbon nanomaterials based on graphene for magnetic field sensors
10:00-10:30	57	Ajit K. Mahapatro	Optimal Bistable Switching in Graphene Oxide Thin Film Devices
10:30-10:45	59	Wan-Xia Huang	rGO Paper with Electromagnetic Interference Shielding for Terahertz Wave
10:45-11:00	<i>Session Break</i>		
Plasmonics and Applications		Chair: Oleg Kononenko	
11:00-11:30	61	Yun Seon Do	Plasmonic chromatic devices based on two dimensional hole-arrays
11:30-12:00	64	H. C. Ong	Study of the angular momentum of light from plasmonic crystals
12:00-12:30	65	Tadaaki Nagao	Infrared Plasmonic Structures and Their Functionalization for Surface-Enhanced Infrared Absorption Spectroscopy
12:30-14:00	<i>Lunch Break</i>		
Energy Materials (fuel cells & batteries)		Chair: Wei Lai	
14:00-14:30	66	Yi-Hung Liu	Development of composite cathodes using carbon fibers as current collectors for rechargeable batteries
14:30-15:00	69	Jonghyun Park	3D Structured Electrodes for Lithium-Ion Batteries
15:00-15:15	70	Chuncheng Yang	A start of the Renaissance for Nickel Metal Hydride Batteries: A Hydrogen Storage Alloy Series with an Ultra-Long Cycle Life
15:15-15:30	<i>Session Break</i>		
Energy Materials (fuel cells & batteries)		Chair: Yi-Hung Liu	
15:30-16:00	72	Wei Lai	Ionic and electronic conduction in bi-functional electrodes for Na-ion batteries
16:00-16:30	73	Eunsang Kwon	Structure and energy storage properties of Lithium-Cation Endohedral [C60] Fullerene
16:30-16:45	76	Rongchao Cui	Enhanced High-Rate Performance of Ball-milled $MmNi_{3.55}Co_{0.75}Mn_{0.4}Al_{0.3}$ Hydrogen Storage Alloys with Graphene Nanoplatelets
17:30-18:00	<i>Poster Session (Ballroom in Convensia, 2F)</i>		
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Light Emitting Materials		Chair: Tomasz J. Ochalski	
09:30-10:00	78	Jian Xu	Persistent Luminescence over 1000 nm in LaAlO ₃ Perovskite
10:00-10:30	82	Shigeyuki Yagi	Control of Excimer Formation of Phosphorescent Organoplatinum(II) Complexes
10:30-10:45	84	Manish Kumar	Effect of cathode on Solution processed high efficient green OLEDs based on thermally activated delayed fluorescence
10:45-11:00	<i>Session Break</i>		
Light Emitting Materials		Chair: Jian Xu	
11:00-11:30	85	Tomasz J. Ochalski	Dynamics of the spontaneous and stimulated emission from core-shell nano-wire and nano-pillar lasers
11:30-12:00	87	Michele Back	Singly-doped Ratiometric Luminescent Thermometers: Design and Challenges in Biological Field
12:00-12:30	89	Dong Wang	Direct band gap electroluminescence and photo detection in asymmetric metal/Ge/metal diodes
12:30-14:00	<i>Lunch Break</i>		
Light Emitting Materials		Chair: Shigeyuki Imura	
14:00-14:30	93	Hsieh-Cheng Han	Disposable UV-OLED excite Quantum Dot with Flat Type Grating device for fluorescence immunoassay
14:30-15:00	94	Handong Sun	High Efficiency Light Emitting Diodes fabricated from Colloidal all –Inorganic Perovskite nanocrystals
15:00-15:30	<i>Session Break</i>		
Light Emitting Materials		Chair: Hsieh-Cheng Han	
15:30-16:00	95	Shigeyuki Imura	High efficiency and low dark current photodiode based on highly (100)-oriented crystalline selenium using high quality tellurium nucleation layer
16:00-16:30	98	Xuelun Wang	Directional micro-LEDs based on evanescent wave coupling
16:30-17:00	101	Luiz F.R. Pereira	Towards high-efficiency electroluminescent devices: new frontiers for Organic Light Emitting Diodes
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Time	Page	Speaker	Talk Title
Optical Materials & Applications			Chair: Hoon Ryu
09:30-10:00	103	Takashige Omatsu	Optical vortex materials processing
10:00-10:30	105	Sang Hun Lee	Realization of Acoustic Luneburg lens using orifice-type metamaterial unit cells
10:30-11:00	<i>Session Break</i>		
Optoelectronic Materials			Chair: Takashige Omatsu
11:00-11:30	108	Hoon Ryu	A Modeling Study on Optical Properties of Finite Perovskite Nanostructures
11:30-12:00	110	Eunsoon Oh	Lead sulfide nanostructures and films for infra-red device applications
12:00-12:30	112	Jiang Tao	High power THz quantum cascade lasers and its application in higher resolution holography
12:30-14:00	<i>Lunch Break</i>		
Magnetism and Magnetic Materials			Chair: Xuechao Zhai
14:00-14:30	115	Jhinhwan Lee	Controlling iron-based superconductivity with spin currents
14:30-15:00	117	Shauna Robbennolt	Magnetic and magnetoelectric properties of Fe-Cu thin films made nanoporous by electrochemical dealloying
15:00-15:30	119	Alexy Karenowska	Magnonic Quantum Circuit Architectures and Measurements
Magnetism and Magnetic Materials			Chair: Shauna Robbennolt
15:30-16:00	122	June-Seo Kim	The correlations among the interfacial Dzyaloshinskii-Moriya interaction and other related interface effects probed by an inelastic light scattering
16:00-16:30	124	Xuechao Zhai	Valley-locked spin Seebeck effect in two-dimensional silicene and germanene
16:30-17:00	125	Antoine Barbier	Epitaxial BaTiO ₃ (001) thin films based artificial multiferroic heterostructures investigated by synchrotron radiation techniques
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Quantum Matters & Materials		Chair: Yudi Darma	
09:30-10:00	127	Gerhard Klimeck	NEMO5: Multi-Scale, Multi-Physics, Atomistic Modeling of Non-Equilibrium Processes in Nanometer-Scaled Compound Materials For Active Devices and Global Impact on nanoHUB.org
10:00-10:30	133	Xiaoyong Wang	Superior Optical Properties of Single Perovskite Nanocrystals
10:30-11:00	<i>Session Break</i>		
Oxide Materials & Applications		Chair: Gerhard Klimeck	
11:00-11:30	135	Yudi Darma	Controlling the excitonic states of zinc oxide based thin films
11:30-12:00	139	Yao Shuai	Fabrication of Y36- and Y128-cut LiNbO ₃ thin films by layer transfer technique
12:00-12:30	140	Richeng Yu	New modulated structures of SrCrO ₃ induced by electron beam irradiation
12:30-14:00	<i>Lunch Break</i>		
Sensors and Applications		Chair: Young Jae Song	
14:00-14:30	141	Tsuyoshi Minami	Molecular Self-Assembled Supramolecular Sensor Arrays
14:30-15:00	143	Seung Ki Moon	A Hybrid Machine Learning Approach for Modeling and Optimization in Aerosol Jet Printing Process
15:00-15:30	<i>Session Break</i>		
Materials Synthesis & Characterizations		Chair: Tsuyoshi Minami	
15:30-16:00	144	Young Jae Song	Synthesis and Characterization of Atomic and Electronic Properties of Graphene-based Heterostructure
16:00-16:30	146	Hyun-Joon Shin	Soft x-ray photoelectron microscopy at the PLS-II for 2D materials application
16:30-17:00	147	Fateme Rezaei	Formulation of CO ₂ Solid Adsorbents into Practical Contactors Using 3D Printing Technique
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Advanced Alloy Materials		Chair: Dan Kaplan	
09:30-10:00	149	Michael Chandross	A Predictive Model of Friction in Metals: Connecting Microstructural Evolution to Macroscale Experiments
10:00-10:30	151	Li Wang	Effect of Secondary Dendrite Orientation on the Tensile Behaviors of a Nickel-base Single Crystal Superalloys
10:30-11:00	<i>Session Break</i>		
Nanotechnology for Defense		Chair: Michael Chandross	
11:00-11:30	153	Dan Kaplan	Materials Science in Two Dimensions
11:30-12:00	154	Damien Voiry	Electrochemical reduction of explosives from doped carbon nanomaterials
12:00-12:30	156	Lauren A. Morris	Impact Sensitivity and Ignition Mechanisms of Nanoaluminum-poly(perfluorinated methacrylate) Nanocomposites
12:30-14:00	<i>Lunch Break</i>		
Nanotechnology for Defense		Chair: Jieun Yang	
14:00-14:30	158	Humberto Terrones	Second Harmonic Generation of 2 Dimensional Alloyed Materials
14:30-15:00	159	Rajen B. Patel	Organic Amorphous and Nano-energetics
15:00-15:30	<i>Session Break</i>		
Nanotechnology for Defense		Chair: Humberto Terrones	
15:30-16:00	160	Jieun Yang	Correlation of atomic scale defects using He ion beam in 2D MoS ₂ with optical, electronic and catalytic activities
16:00-16:30	161	Grzegorz Hader	2D Nanosheet Synthesis and Applications
17:30-18:00	<i>Poster Session (Ballroom in Convensia, 2F)</i>		
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DAY 2 (Tuesday 26 June)

Room 111			
Time	Page	Speaker	Talk Title
Biomaterials and Applications		Chair: Zerihun Assefa	
09:30-10:00	163	Kazuo Umemura	Biological applications of optical responses of DNA wrapped carbon nanotubes
10:00-10:30	164	Hiroshi Watanabe	On possibility that AC can improve the performance of electronic biosensing
10:30-11:00	<i>Session Break</i>		
Biomaterials and Applications		Chair: Kazuo Umemura	
11:00-11:30	169	Zerihun Assefa	Synthesis, x-ray crystallography, spectroscopic and cytotoxicity studies of Au(I)-(methoxy-dimethylphenyl) phosphine and (methoxyphenyl) phosphines
11:30-12:00	171	Pramod Koshy	Nanoceria for Biomedical Applications – Material Characteristics and Functionalisation
12:00-14:00	<i>Lunch Break</i>		
Biomaterials and Applications		Chair: Yuya Ishii	
14:00-14:30	174	Kyung Jae Jeong	Injectable microporous gelatin hydrogel for wound healing and tissue engineering
14:30-15:00	176	Josep Nogues	Simultaneous local nanoheating/thermometry based on plasmonic magnetochromic nanodomains
15:00-15:30	<i>Session Break</i>		
Polymer Materials and Applications		Chair: Yuya Ishii	
15:30-16:00	177	Yuya Ishii	Electrospun polymer fibers and their optoelectronic applications
16:00-16:30	179	Isabelle Royaud	Mechanical properties and microstructure of amide cross-linked isotactic polypropylene grafted maleic anhydride with functionalized graphene/graphite
16:30-17:00	181	Yang Chuan Ke	Intercalation chemistry for nanocomposite materials for oil and gas engineering
17:30-20:30	<i>Walk around & Beer Chicken (In front of Seminar rooms, 1F)</i>		

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Electronic Materials & Applications		Chair: Raul C. Munoz	
09:30-10:00	182	Tae-Hoon Lee	Materials chemistry: a pathway towards an understanding of structurally-complicated chalcogenide materials
10:00-10:30	185	Kena Li	Electrocardiograph and Eye Movements based Evaluation of Visual Comfort in Stereoscopic displays
10:30-11:00	<i>Session Break</i>		
Electronic Materials & Applications		Chair: Raul C. Munoz	
11:00-11:30	187	Raul C. Munoz	IC miniaturization and the break-down of Moore's law: The role of electron scattering by disordered grain boundaries on the resistivity of nanometric metallic interconnects
11:30-12:00	188	Jian Zhang	Reliability and variability of nano-scale MOSFETs
12:00-14:00	<i>Lunch Break</i>		
Optoelectronic Materials		Chair: Yousuke Ooyama	
14:00-14:30	191	Yasufumi Enami	Analysis and demonstration of 130 GHz bandwidth for Mach-Zhender hybrid polymer/solgel modulators
14:30-15:00	193	Judy Wu	Printable Photonic and Plasmonic Graphene Heterojunction Optoelectronics: Towards High Performance and Low Cost
15:00-15:30	<i>Session Break</i>		
Optoelectronic Materials		Chair: Yasufumi Enami	
15:30-16:00	195	Yousuke Ooyama	Synthesis, Photophysical and Electrochemical Properties of Phenanthrodithiophene (Fused-bibenzo[c]thiophene) Derivative for Optoelectronic Devices
16:00-16:30	198	Chih-Jen Yu	Optical Anisotropy of the Gammadion-Shaped Metamaterial
16:30-17:00	200	Hiroaki Matsui	Oxide semiconductor plasmonics for infrared applications
17:30-20:30	<i>Walk around & Beer Chicken (In front of Seminar rooms, 1F)</i>		

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Advanced Alloy Materials		Chair: Zujin Zhao	
09:30-10:00	202	Jiangkun Fan	Formation of nano/ultrafine-trimorphic structure and variant selection mechanism in metastable β titanium alloy processed by dynamic warm deformation
10:00-10:30	204	Bin Tang	Superplastic deformation behaviors of high temperature γ -TiAl-based alloys
10:30-11:00	<i>Session Break</i>		
Light Emitting Materials		Chair: Jiangkun Fan	
11:00-11:30	205	Jeongyong Kim	Dual Roles of Lattice Defects on Light Emission of Two-Dimensional Semiconductors
11:30-12:00	207	Zujin Zhao	Novel Aggregation-Induced Delayed Fluorescence Luminogens for Highly Efficient Nondoped OLEDs
12:00-12:30	209	Kazuo Tanaka	Functional Solid-State Luminescent Materials Based on Flexible “Element-Blocks” with Group 13 Elements
12:30-14:00	<i>Lunch Break</i>		
Magnetism and Magnetic Materials		Chair: Tianyu Ma	
14:00-14:30	211	Claire Baraduc	Large voltage tuning of Dzyalonsinskii-Moriya Interaction: a route towards dynamic control of skyrmion chirality
14:30-15:00	214	Jia-Tao Sun	First principles studies of the two-dimensional magnetic materials
15:00-15:30	215	Shintaro Yasui	Iron-based Ferroelectric Thin Films
Magnetism and Magnetic Materials		Chair: Claire Baraduc	
15:30-16:00	217	Tsuneharu Koide	Electronic and Magnetic States of Correlated Oxides Revealed by X-ray Magnetic Circular Dichroism
16:00-16:30	221	Tianyu Ma	Rare earth permanent magnets with high cost-performance
16:30-17:00	223	Shigemi Mizukami	Manganese alloys and quaternary equiatomic Heusler alloys for advanced magnetic tunnel junctions
17:30-20:30	<i>Walk around & Beer Chicken (In front of Seminar rooms, 1F)</i>		

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Materials Theory and Principles		Chair: Jordi Arbiol	
09:30-10:00	225	Ji-Sang Park	First-principles study of extended defects in multi-component semiconductors
10:00-10:30	227	Geunsik Lee	Role of organic cations in carrier transport of MAPbI ₃ bulk and interface
10:30-10:45	228	Yan Su	Stability and phase diagrams for type II clathrate hydrates from first-principles thermodynamics
10:45-11:00	229	Suwit Suthirakun	First-principles study of polaron-coupled Li cation diffusion in V ₂ O ₅ cathode material for Li-ion batteries
Materials Synthesis & Characterizations		Chair: Ji-Sang Park	
11:00-11:30	231	Jordi Arbiol	Energy nanostructures at atomic scale: from growth mechanisms to properties
11:30-12:00	234	Tomasz Moskalewicz	Electrophoretic deposition and characterisation of composite polyetheretherketone-based coatings to improve the tribological properties of titanium alloys
12:00-12:30	237	Qiuyun Chen	Recent progress on the electronic structure of heavy-fermion Ce115 compounds
12:30-14:00	<i>Lunch Break</i>		
Catalytic Materials and Applications		Chair: Yoshiyuki Suda	
14:00-14:30	239	Su-il In	Smart Materials for CO ₂ Utilization
14:30-15:00	241	Debraj Chandra	Smart architectures of metal and metal oxide based nanomaterials as heterogeneous catalytic system for versatile applications
15:00-15:30	<i>Session Break</i>		
Materials Synthesis & Characterizations		Chair: Su-il In	
15:30-16:00	243	Yoshiyuki Suda	Carbon nanocoils: high-yield synthesis and mechanical and electrical properties of single samples
16:00-16:30	255	Golibjon R. Berdiyrov	Desnity Functional Theory Computations for Structural, Optoelectronic, Transport and Ionic Sieving Properties of T ₁₃ C ₂ X ₂ (X=O, OH and F) MXene
16:30-17:00	257	Iwao Kawayama	Terahertz emission spectroscopy of wide band gap semiconductors
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Photovoltaics Photocatalysis Materials		Chair: Sae Chae Jeoung	
09:30-10:00	258	Yongli Gao	Stability of Perovskite Solar Cell Material at Surface Analytical Level
10:00-10:30	259	Giovanni Fanchini	Plasmonic solar cell design via three-dimensional scanning near-field optical microscopy (3D-SNOM)
10:30-11:00	262	Dahl-Young Khang	High-efficiency Si-organic hybrid solar cells
Photovoltaics Photocatalysis Materials		Chair: Yongli Gao	
11:00-11:30	263	Meng Nan Chong	Effect of Different Positive Cations on Self-Photorechargeability of Pt/MoO ₃ Thin Films
11:30-12:00	265	Sae Chae Jeoung	High-Performance Patterning for CIGS Photovoltaics by utilizing fs-laser “Rail-Roading” Method
12:00-12:30	267	Shao-Wei Wang	Colored and Colorful Solar Selective Absorbers Based on Multilayered Structure
12:30-14:00	<i>Lunch Break</i>		
Sensors and Applications		Chair: Yong Zhang	
14:00-14:30	269	Andrey Chabanov	Nonlinear and Nonreciprocal Effects in Asymmetric Metal-Dielectric Multilayers
14:30-15:00	273	Georgy Fedorov	Graphene based nanostructures for detection of terahertz radiation
15:00-15:30	<i>Session Break</i>		
Sensors and Applications		Chair: Andrey Chabanov	
15:30-16:00	274	Yong Zhang	Sensing Properties of a Novel Temperature Sensor Based on Field Assisted Thermal Emission
16:00-16:30	276	Jin-Woo Park	Wearable physical and chemical sensors for health monitoring
16:30-17:00	277	Samaresh Das	Development of Efficient Room Temperature VOC Gas Sensors: MoS ₂ /Porous Silicon, TiO ₂ : Ethanol
17:30-20:30	<i>Walk around & Beer Chicken (In front of Seminar rooms, 1F)</i>		

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Oxide Materials & Applications		Chair: Ekaterina Chikoidze	
09:30-10:00	279	T. Jean Daou	Space Molecular Decontamination Using Porous Materials
10:00-10:30	282	Shen V. Chong	Molybdenum oxide-based organic-inorganic layered hybrids with electron-rich spacer molecules
10:30-10:45	284	Wentao Jing	Synthesis of Open Helmet-Like Carbon Skeletons for Application in Lithium-Ion Batteries
10:45-11:00	<i>Session Break</i>		
Oxide Materials & Applications		Chair: T. Jean Daou	
11:00-11:30	286	Ekaterina Chikoidze	Electronic properties of Ultra Wide Band Gap Gallium Oxide
11:30-12:00	288	Bo Jin	Facile synthesis and electrochemical performance of metal oxides for lithium-ion batteries
12:00-12:30	289	Qixin Guo	Pure green emission from Er doped gallium oxide
12:30-14:00	<i>Lunch Break</i>		
Oxide Materials & Applications		Chair: Ranjit Kumar Nanda	
14:00-14:30	290	J. F. Pierson	Strategies to improve the functional properties of copper oxide thin films
14:30-15:00	291	Hiroaki Nishikawa	Coating Process of Epitaxial Oxide Thin Films on Flexible Substrate
15:00-15:30	<i>Session Break</i>		
Oxide Materials & Applications		Chair: J. F. Pierson	
15:30-16:00	294	Ranjit Kumar Nanda	Origin of Topologically Invariant Dirac States in Oxide and Halide Perovskites
16:00-16:30	296	Ying-Hao Chu	Van der Waals Oxide Heteroepitaxy
16:30-17:00	298	Keisuke Shibuya	Phase stability and metal-insulator transition of VO ₂ on Si
17:30-20:30	<i>Walk around & Beer Chicken (In front of Seminar rooms, 1F)</i>		

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DAY 2 (Tuesday 26 June)

Room 105			
Time	Page	Speaker	Talk Title
Nanostructures & Nanomaterials		Chair: Jun Song	
09:30-10:00	299	Go Kawamura	Liquid phase fabrication of BaTiO ₃ -CoFe ₂ O ₄ composite with nano periodic structure
10:00-10:30	300	Bassem Salem	Fabrication and characterization of GeSn nanowires using “top-down” and “bottom-up” approaches for nanoelectronics applications
10:30-10:45	302	M. Y. Fakhri	Thickness-dependent Conductivities and Surface-controlled Electronic Transport in ReS ₂ Nanoflakes
10:30-11:00	<i>Session Break</i>		
Nanostructures & Nanomaterials		Chair: Go Kawamura	
11:00-11:30	306	Jun Song	Predictive Curvature and Geometry Engineering of Rolled-up Nanostructures
11:30-12:00	307	Cyril Aymonier	Sustainable, continuous and scalable technology for the controlled production of nanostructured materials
12:00-12:30	309	Pengxun Yan	Mass Production and Application of Metal Nanopowders
12:30-14:00	<i>Lunch Break</i>		
Nanostructures & Nanomaterials		Chair: Christina Graf	
14:00-14:30	312	Roman Anufriev	Surface engineering of nanobeams and nanomembranes for silicon-based thermoelectrics
14:30-15:00	314	Toyo Kazu Yamada	Spin-polarized organic molecules by contacting magnetic atoms
15:00-15:30	<i>Session Break</i>		
Nanostructures & Nanomaterials		Chair: Roman Anufriev	
15:30-16:00	315	Christina Graf	Silica particles with controlled roughness – synthesis, characterization, and use as building blocks for non-close packed arrays
16:00-16:30	317	Jeroen A. van Kan	Focused MeV Proton Beams for 3D Nano-Lithography and 3D Imaging Outlook Towards Next Generation Proton Microscopes
16:30-17:00	319	Hyun Soo Kim	Two-dimensional hole gas formed by aluminum delta-doped silicon
17:30-20:30	<i>Walk around & Beer Chicken (In front of Seminar rooms, 1F)</i>		

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Room 111			
Time	Page	Speaker	Talk Title
Biomaterials and Applications		Chair: Wei-Chen Tu	
09:30-10:00	322	Kremer Kurt	The Puzzle of Smart Polymers in Miscible Solvent Mixtures
10:00-10:30	323	Julia Glaum	Piezoelectric ceramics for biomedical applications
10:30-11:00	<i>Session Break</i>		
Graphene and Applications		Chair: Kremer Kurt	
11:00-11:30	326	Wei-Chen Tu	Applications of Reduced Graphene Oxide Based Optoelectronic Devices
11:30-12:00	327	Jayeeta Lahiri	Two dimensional graphene and hexagonal Boron Nitride films on transition metal surfaces
12:00-12:30	329	Jerzy P. Lukaszewicz	Novel attempts towards 3D structured graphene sheets and the synthesis of CNTs-graphene composites
12:30-12:45	331	Jaewoo Park	Copper nanoparticle-assisted etching of graphene thin films and its applications in water nanofiltration technology
12:45-14:00	<i>Lunch Break</i>		
Electronic Materials & Applications		Chair: Dong Eon Kim	
14:00-14:30	333	Takafumi Kamimura	Characterization of Nitrogen-Doped β -Ga ₂ O ₃ (010) Thin Films Grown by Ozone MBE
14:30-15:00	335	Masaharu Oshima	Local electronic states of field effect transistors revealed by scanning photoelectron microscopy
15:00-15:30	<i>Session Break</i>		
Optoelectronic Materials		Chair: Takafumi Kamimura	
15:30-16:00	337	Masahiko Kondow	Electrical Isolation for Monolithic Photonic Crystal Laser Array Realized by Selective Dry Etching of GaAs/AlO _x Films
16:00-16:30	339	Dong Eon Kim	Ultrafast semi-metallization of dielectrics: PHz device
16:30-17:00	342	Heejae Kim	Mode-specific phonon contributions to semiconductor optical properties
17:00-17:15	343	Wakana Kubo	Photo-thermoelectric Phenomenon Triggered by Plasmon
17:30- Night	<i>Conference Banquet (Ballroom in Convensia, 2F)</i>		

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Room 110			
Time	Page	Speaker	Talk Title
Quantum Matters & Materials		Chair: Xianan Cao	
09:30-10:00	345	Hiroshi Idzuchi	Effect of van der Waals magnetic tunneling layer in Josephson coupling
10:00-10:30	346	Koji Sekiguchi	Generation of fast propagating spin-wave for magnonic logic functions
10:30-11:00	<i>Session Break</i>		
Light Emitting Materials		Chair: Hiroshi Idzuchi	
11:00-11:30	348	Xianan Cao	Light-Emitting Stress Sensors
11:30-12:00	350	Shin-ichiro Inoue	Nanophotonic light-extraction technologies for high-power deep-UV LEDs
12:00-12:30	352	Wengang Bi	Improving the stability of commercial-silicone-compatible colloidal quantum dots for LED lighting and display applications
12:30-14:00	<i>Lunch Break</i>		
Magnetism and Magnetic Materials		Chair: Ruediger-A. Eichel	
14:00-14:30	353	Seda Aksoy Esinoglu	Magnetic correlations in martensitic Heusler alloys under hydrostatic pressure
14:30-15:00	355	Min Hyuk Park	Ferroelectricity in hafnia based thin films
15:00-15:30	<i>Session Break</i>		
Energy Materials (fuel cells & batteries)		Chair: Seda Aksoy Esinoglu	
15:30-16:00	357	Ruediger-A. Eichel	All Solid-State Batteries – high Power Density and long Cycle Life
16:00-16:30	358	Weifeng Wei	Engineering the Multiphase Interfaces in Manganese-based Transition Metal Oxide Cathodes for Na-ion Batteries
16:30-17:00	359	Ghazanfar Abbas	Future Trend in Energy Conversion Technology @ Low Temperature Oxide Fuel Cell
17:00-17:15	361	Lixin Chen	A New Strategy to Improve the High-rate Performance of Hydrogen Storage Alloys with MoS ₂ Nanosheets
17:30- Night	<i>Conference Banquet (Ballroom in Convensia, 2F)</i>		

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Time	Page	Speaker	Talk Title
Materials Theory and Principles		Chair: Takuya Iida	
09:30-10:00	363	Huaming Li	Calculating free volume and entropy contribution in liquid sodium
10:00-10:30	364	Nicolas Perez	Seebeck effect at phase transitions- Order, disorder and entropy
10:30-10:45	366	Damien Caliste	Preferential hydrogen etching on Si(001) explained by surface Density Functional Theory calculations
10:45-11:00	<i>Session Break</i>		
Plasmonics and Applications		Chair: Huaming Li	
11:00-11:30	368	Takuya Iida	Development of Light-induced Acceleration System for Biochemical Reactions Based on Plasmonic Collective Phenomena
11:30-12:00	370	Takuo Tanaka	Metamaterial Absorbers in IR and Visible regions
12:00-12:30	373	Sundar Kunwar	Improved configuration of plasmonic metal nanoparticles via enhanced dewetting by using a sacrificial layer
12:30-14:00	<i>Lunch Break</i>		
Materials Synthesis & Characterizations		Chair: Theeranun Siritanon	
14:00-14:30	375	Hiroshi Fukuoka	Band Structures of Ternary Chromium Sulfides Prepared by High-Pressure Synthesis
14:30-15:00	378	Oleg A. Louchev	Laser-Matter Interaction in Dielectrics: Insights from Pulsed Second-Harmonic Generation in Periodically Poled LiTaO ₃
15:00-15:30	<i>Session Break</i>		
Oxide Materials & Applications		Chair: Hiroshi Fukuoka	
15:30-16:00	380	Theeranun Siritanon	Semiconducting mixed valence tellurium oxide pyrochlores: discovery and investigation
16:00-16:30	382	Shinobu Ohya	Novel spin-related tunneling phenomena in perovskite oxide heterostructures
16:30-17:00	385	Sivacarendran Balendhran	Enhanced transport properties in 2D molybdenum trioxide
17:30- Night	<i>Conference Banquet (Ballroom in Convensia, 2F)</i>		

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Materials Synthesis & Characterizations		Chair: Quanxi Jia	
09:30-10:00	387	Thu Nhi Tran thi	Synchrotron Based Techniques to Study CVD Overgrowth Diamond Layers on HPHT substrates
10:00-10:30	388	Hideki Nakazawa	Preparation and characterization of nitrogen/silicon-incorporated diamond-like carbon films
10:30-11:00	<i>Session Break</i>		
Polymer Materials and Applications		Chair: Thu Nhi Tran thi	
11:00-11:30	390	Quanxi Jia	Synthesis of Electronic Materials via A Chemical Solution Approach
11:30-12:00	392	Varun Vohra	Recent advances in polymer solar cells fabrication using green processes
12:00-12:30	395	Masaru Aniya	Relaxation Behavior in High Temperature Glass-Forming Liquids: Analysis based on the Bond Strength-Coordination Number Fluctuation Model
12:30-14:00	<i>Lunch Break</i>		
Polymer Materials and Applications		Chair: Masayoshi Higuchi	
14:00-14:30	396	Megumi Akai-Kasaya	Complemental Neural Network Built of Growing Polymer Wire
14:30-15:00	399	Hyun-Joong Kim	The Role of Pressure Sensitive Adhesives in Next Generation Display
15:00-15:15	402	Muhammad Ashfaq Ahmad	Interplay of molecular dynamics in tuning optical properties of quantum confined CdS systems
15:15-15:30	<i>Session Break</i>		
Polymer Materials and Applications		Chair: Megumi Akai-Kasaya	
15:30-16:00	403	Masayoshi Higuchi	Gradient-Tint Smart Window with Metallo-Supramolecular Polymer
16:00-16:30	405	Adriaan S. Luyt	Morphology, nucleation, and isothermal crystallization kinetics of poly(-caprolactone) mixed with a polycarbonate/MWCNTs masterbatch
16:30-17:00	406	Tooru Kitagawa	Preferential Orientations of Molecular Planes of Rigid-Rod Polymers along the Radial Direction Normal to the Fiber Axis
17:30- Night	<i>Conference Banquet (Ballroom in Convensia, 2F)</i>		

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Time	Page	Speaker	Talk Title
Nanostructures & Nanomaterials		Chair: Alex Shklyaev	
09:30-10:00	409	Hani E. Elsayed-Ali	Structural dynamics of bismuth nanoparticles near the bulk melting point
10:00-10:30	410	Cengiz Kaya	Novel Boron Carbide (B ₄ C) Structures with Controlled Morphology for Shielding Applications
10:30-10:45	412	Chia-Wei Chang	Tuning Size and Layer Number of Few-Layered Graphene by Direct Exfoliation in Water-Based Green Sonication Process
10:45-11:00	<i>Session Break</i>		
Nanostructures & Nanomaterials		Chair: Hani E. Elsayed-Ali	
11:00-11:30	414	Alex Shklyaev	Various surface morphologies of SiGe films on Si substrates prepared using dewetting
11:30-12:00	418	Li-Qiong Wang	Investigation of Nanoporosity of Carbon Grafted Mesoporous Silicon Sponge Using Hyper-Polarized ¹²⁹ Xe NMR Spectroscopy
12:00-12:30	420	Joong Tark Han	Dispersant-free dispersion of nanocarbon materials in solutions and their applications in flexible electrodes
12:30-14:00	<i>Lunch Break</i>		
Nanostructures & Nanomaterials		Chair: Haim Weissman	
14:00-14:30	422	Amy Walker	Using Surface Chemistry to Direct the Morphology and Deposition of Thin Films and Nanoobjects of Materials for Electronics and Energy
14:30-15:00	424	Chae-Ryong Cho	Synergetically enhanced electrochemical performance of 2D TMD layer on 1D nanofiber for LIB anodes
15:00-15:30	<i>Session Break</i>		
Nanostructures & Nanomaterials		Chair: Amy Walker	
15:30-16:00	426	Haim Weissman	Functional Materials Based on Self-Assembly of Perylene Diimides in Aqueous Media
16:00-16:30	428	Alexander Khmaladze	Raman scanning microscopy for nanofiber characterization
16:30-17:00	431	Ning Han	Catalyst epitaxy: an effective method for growth of high performance III-V nanowires
17:30- Night	<i>Conference Banquet (Ballroom in Convensia, 2F)</i>		

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Room 111			
Time	Page	Speaker	Talk Title
Electronic Materials & Applications		Chair: Masashi Kato	
09:30-10:00	432	Kun Yang	Interfaces and Phase Transitions between Fractional Quantum Hall States
10:00-10:30	433	Dong-Hau Kuo	Gallium-Related Nitride and Nitro-Oxide Thin Films Prepared by Reactive Sputtering with Cermet Targets
10:30-11:00	434	Hyejin Ryu	Charge density wave order in 2D transition metal dichalcogenides
Electronic Materials & Applications		Chair: Kun Yang	
11:00-11:30	435	Chul-Ho Lee	Synaptic barristor based on phase-engineered two-dimensional heterostructures
11:30-12:00	436	Masashi Kato	Carrier lifetime measurements for power semiconductor materials
12:00-12:30	438	Puran Pandey	Influence of sacrificial In layer on the evolution of well-defined Pt NPs on sapphire (0001)
12:30-14:00	<i>Lunch Break</i>		

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Time	Page	Speaker	Talk Title
Photovoltaics Photocatalysis Materials		Chair: Kunio Okimura	
09:30-10:00	440	Meicheng Li	Interfacial Modification and Structure Design of the Novel Hybrid Solar Cells
10:00-10:30	442	Kosuke O. Hara	Composition control of semiconducting BaSi ₂ films fabricated by thermal evaporation
10:30-11:00	<i>Session Break</i>		
Oxide Materials & Applications		Chair: Meicheng Li	
11:00-11:30	445	Kunio Okimura	Self-oscillation of Vanadium Dioxide Films grown on Conductive TiN Layers
11:30-12:00	449	Salvador Ivan Garduno	Study of Thin-Film Transistors Fabricated at Low Temperature with Amorphous Oxide Semiconductors and hafnium oxide
12:00-12:30	454	Seishi Abe	Iron oxide thin films doped with metal elements
12:30-14:00	<i>Lunch Break</i>		

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Time	Page	Speaker	Talk Title
Materials Synthesis & Characterizations		Chair: Lik Hong Wee	
09:30-10:00	455	David S. Citrin	Terahertz Nondestructive Evaluation of Fiber Composites and Coatings
10:00-10:30	457	Damir R. Islamov	How to determine trap density in Hf-based high- κ when standard chemical techniques do not work
10:30-11:00	<i>Session Break</i>		
Materials Synthesis & Characterizations		Chair: David S. Citrin	
11:00-11:30	461	Lik Hong Wee	The fabrication of high-performance gas separation composite membranes via structural transformation in metal-organic frameworks
11:30-12:00	464	Muhammad Bashouti	Electronic Properties of Si–Hx Vibrational Modes at Si Waveguide Interface
12:00-12:30	465	Matteo Amati	Scanning photoemission imaging and spectro-microscopy: a direct approach to spatially resolved XPS for micro- and nano-materials characterization
12:30-14:00	<i>Lunch Break</i>		

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Time	Page	Speaker	Talk Title
Biomaterials and Applications		Chair: Gil Shalev	
09:30-10:00	467	Choon Young Lee	Synthesis and evaluation of potent antioxidant dendrimers
10:00-10:30	468	Yan Li	Fabrication and applications of cell micropattern in biomedical field
10:30-11:00	<i>Session Break</i>		
Optoelectronic Materials		Chair: Yan Li	
11:00-11:30	470	Gil Shalev	Photon management with Arrays of Subwavelength Light Concentrators
11:30-12:00	473	Roland Schiek	Measurement of quadratic and cubic optical nonlinear susceptibilities in glass and lithium niobate
12:00-12:30	477	David J Hagan	Enhanced Nonlinear Optical Response of Transparent Conductive Oxides at Epsilon-Near-Zero
12:30-14:00	<i>Lunch Break</i>		

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Time	Page	Speaker	Talk Title
Nanostructures & Nanomaterials		Chair: Aniruddha Dutta	
09:30-10:00	480	Shlomo Berger	Development of Piezoelectric nano-Crystals Structures for Sensitive Detectors
10:00-10:30	481	Micha Asscher	Buffer Layer Assisted Chemistry as a Tool for Basic Catalysis and Photo-Induced Surface Science Studies
10:30-11:00	482	Zhengtao Zhu	Electrospun Flexible Metal Oxide Nanofibrous Materials for Energy and Environmental Applications
Materials Synthesis & Characterizations		Chair: Shlomo Berger	
11:00-11:30	483	Aniruddha Dutta	Atomic Number Contrast in Transmission Electron Microscopy
11:30-12:00	485	Eiki Niwa	Exploration of a New Structure Family of Oxide-Ion Conductors BaSc ₂ Si ₃ O ₁₀ by the Bond Valence Method and Experiments
12:00-12:30	488	Junichi Kurawaki	Simple synthesis and spectroscopic characterization of gold clusters in water/dodecanethiol systems
12:30-14:00	<i>Lunch Break</i>		