







CCMR 2019 Program

Collaborative Conference on Materials Research

03 – 07 June 2019 KINTEX Goyang/Gyeonggi, South Korea









Collaborative Conference on Materials Research (CCMR) 2019

3 - 7 June 2019, Goyang/Gyeonggi, South Korea

Collaborative Conference on Materials Research (CCMR) 2019

: This collaborative conference series is established to enable technological developments in various fields of materials and to further the goal of unifying materials research in engineering, physics, biology, materials science, as well as chemistry and neuroscience. CCMR 2019, as the ninth conference in this series, offers materials researchers the opportunity to discuss and exchange information with the frontiers in their fields and network with scientists from various other fields for potential interdisciplinary collaborations.

Conference Organizer:

Jihoon Lee, Kwangwoon University, Seoul, South Korea

Honorary Conference Chairs:

Prof. Gregory J. Salamo, University of Arkansas, USA



CCMR Honorary Conference Chair Prof. Dr. Gregory J. Salamo University of Arkansas Fayetteville, AR, USA

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Jihoon Lee - Kwangwoon University, Seoul, South Korea

Host by





Collaborative Conference on Materials Research Kwangwoon University

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Welcome to the CCMR 2019

It is our great pleasure to have you all for the Collaborative Conference on Materials Research 2019 (CCMR 2019) at the KINTEX, Goyang/Gyeonggi, South Korea during the 03th - 07th June 2019.

On behalf of the Organizing Committees of CCMR 2019, I would like to express my sincere welcome to all the participants of this international meeting on diverse materials research fields. Especially, I am very grateful to those distinguished invited, oral and poster speakers for joining from over 25 countries including Australia, Brazil, Canada, China, Colombia, France, Germany, Israel, Japan, Malaysia, Nigeria, Pakistan, Poland, Romania, Russia, Singapore, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Kingdom, United State of America and South Korea.

This international conference of 'CCMR' series was first organized in 2011 and has been annually hosted by the CCMR and Kwangwoon University. The aim of this conference is collaboratively and internationally to discuss the worldwide state-of-the-art of Materials science and technologies. For this purpose, over 200 distinguished experts on the materials research are joined from all over the world. The 'CCMR' has grown up to be a globally renowned meeting on the materials research in both name and reality judging from the numbers of speakers and attending countries as well as the quality of the presented talks and papers.

Welcome to the CCMR 2019

It is an invaluable chance to share and exchange opinions and discuss future directions and strategies for further development of materials science and technology together with the internationally renowned experts. We believe that this international meeting of 'CCMR 2019' will be a very precious opportunity in sharing and exchanging the recent developments on the material research as well as discussing the future trends. We are also confident that this meeting will be most rewarding and will be a good success.

Lastly, I would like to extend my sincere regards to the internationally renowned speakers and participants of this collaborative meeting and all the related personals for preparing this momentous meeting. Especially, I would like to express our deep appreciation to Prof. Jihoon Lee of Kwangwoon University for his continuing volunteer-ship, endeavors and sacrifices for organizing this wonderful international meeting.

Once again, thank you all for your supports and dedications!

Prof. Gregory J. Salamo

Honorary Conference Chair of the CCMR 2019 University of Arkansas, Fayetteville, AR, USA

KINTÉX¹, Goyang Gyeonggi /Seoul, South Korea

CCMR 2019 Conference Schedule

On-site Registration in the Venue, 9:00 - 5:00
PM
(Carried on during the conference,
Monday at 8.00 am)

Full day oral presentations, 9.30 - 5:00PM

Poster Session from 5:30PM

Conference Reception from 6:00PM
(Buffet & wine with live music show)

Full day oral presentations, 9.30 - 5:00PM

Evening Activity, from 6:00 - 09.00PM

(Depending on weather, subject to cancelation)

Full day oral presentations, 9.30 - 5:00PM

Conference Banquet from 6:00PM –

Welcoming & congratulatory address

(Buffet & wine with live music shows)

Full day oral presentations, 9.30 - 12:30AM

All Day Tour, 8.00 - 6:00PM (Transportation, tickets & lunch covered)

7 June Friday

4 June

Tuesday

5 June

Wednesday

5 June

Thursday

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CCMR 2019 Session Program



Room 208-A			
Time	Page	Speaker	Talk Title
Nanostru	ctures a	and Nanomaterials	Chair: Aderemi Oki
09:30-10:00		Karina Morgenstern	Electronically-driven surface damage investigated on the local scale
10:00-10:30		Martin Foldyna	Silicon nanowire radial junction solar cells: from early ideas to large area devices
10:30-11:00			Session Break
Nanostru	ctures a	and Nanomaterials	Karina Morgenstern
11:00-11:30		Fong Wen Mei	Bioinspired strategies for nanomaterial synthesis
11:30-12:00		Aderemi Oki	Plasmonic Cation deficient copper (1) sulfide nanocomposite materials as Photo-thermal agent for Cancer Therapy
12:00-12:30		Gaoling Yang	Band gap engineering improves the efficiency of double quantum dot upconversion nanocrystals
12:30-14:00			Lunch Break
Biomaterials and Applications		and Applications	Chair: Jean-Pierre Leburton
14:00-14:30		Qiaoqin Yang	Synthesis and Characterization of Biocompatible Hard Coatings on Metallic Implant Materials
14:30-15:00		Hyo-Jick Choi	Infection control measures against airborne viruses
15:00-15:30		David Kisailus	Biological Crystallization of Ultrahard Teeth and Translation to Multi-Functional Materials
Biomat	erials a	and Applications	Chair: Qiaoqin Yang
15:30-16:00		Jean-Pierre Leburton	Nanoelectronic membranes for DNA sensing
16:00-16:30		Su-il In	Smart Materials for CO ₂ Utilization: Controllable Transition from C1 to C2 Products
16:30-16:45		Mei-Ling Zheng	Water Soluble Two-photon Initiators and Bioinspired Applications
17:30-18:00 18:00- Night			ession (Grand Ballroom in KINTEX, 3F) eception (Grand Ballroom in KINTEX, 3F)

	Room 208-B			
Time	Page	Speaker	Talk Title	
Adva	nced A	lloy Materials	Chair: Richeng Yu	
09:30-10:00		Konstantin Borodianskiy	Effect of nanoparticles additives in Al-based alloys	
10:00-10:30		Nicolas Argibay	DLC from Thin Air: In Situ Formation of Diamond-like Carbon on Ultralow Wear Metals	
10:30-11:00			Session Break	
	Oxide l	Materials	Chair: Konstantin Borodianskiy	
11:00-11:30		Tohru Higuchi	Structural and Electrical Properties of p-type TiO ₂ Thin Film Realized by Carrier and Lattice Controls	
11:30-12:00		Richeng Yu	Magnetic Anisotropy of La _{2/3} Sr _{1/3} MnO ₃ /LaCoO _{3-d} Heterostructure	
12:00-12:30		Byung-Nam Kim	Spark Plasma Sintering of Transparent Non-Cubic Oxide Ceramics	
12:30-14:00			Lunch Break	
Magnetisr	n and I	Magnetic Materials	Chair: Michael Chandross	
14:00-14:30		Yasuhiro Sugawara	Separation of Atomic-Scale Spin Contrast on NiO(001) by Magnetic Resonance Force Microscopy (MRFM)	
14:30-15:00		Yu-Hui Tang	Noncollinear Spin Torque Effect in Magnetic Heterojunctions: Combined First-Principles Calculation and TB-NEGF Method	
15:00-15:30			Session Break	
Nanostri	ıctures	& Nanomaterials	Chair: Yasuhiro Sugawara	
15:30-16:00		Michael Chandross	A Thermokinetic Model of Friction in MoS ₂	
16:00-16:30		Andreas K. Huettel	Quantum transport measurements of MoS ₂ and WS ₂ nanotubes	
16:30-17:00		Puran Pandey	Synthesis of self-assembled Au, Ag, Pt monometallic and multi-metallic nanostructures on sapphire (0001): Morphological and plasmonic properties analysis	
17:30-18:00		Poster Ses	sion (Grand Ballroom in KINTEX, 3F)	
18:00- Night		Conference Reception (Grand Ballroom in KINTEX, 3F)		

	Room 209-A			
Time	Page	Speaker	Talk Title	
Electronic	Mater	ials & Applications	Chair: Eisuke Tokumitsu	
09:30-10:00		Xavier Castel	Transparent and Conducting Films for Microwave Applications: Towards Transparent Antennas with High Performance	
10:00-10:30		Tetsuya Yamamoto	Materials Design to Achieve Unique Advanced Functional Oxide Films	
10:30-11:00			Session Break	
Electronic	Mater	ials & Applications	Chair: Xavier Castel	
11:00-11:30		Yong Soo Cho	Stress-Driven Optical Modulations in Flexible Semiconducting Thin Films	
11:30-12:00		Eisuke Tokumitsu	Conductive-Oxide-Channel Thin Film Transistor Realized by Ferroelectric Gate Insulator	
12:00-12:30		Chen Ge	Electrolyte-gated synaptic transistors based on functional oxide epitaxial films	
12:30-14:00			Lunch Break	
Electronic Materials & Applications		ials & Applications	Chair: Arend van der Zande	
14:00-14:30		Atsushi Tsurumaki- Fukuchi	Fast and uniform interface reactions of tantalum oxide and their applications into memory devices	
14:30-15:00		Gang Liu	Flexible and Stretchable Resistive Switching Materials and Memory Devices	
15:00-15:30			Session Break	
Grapl	nene an	d Applications	Atsushi Tsurumaki-Fukuchi	
15:30-16:00		Arend van der Zande	Controlled Interfaces and Mechanical Deformation 2D material atomic membranes	
16:00-16:30		Yongyi Zhang	The controllable assembly, properties modulation and functional applications of carbon nanotube/graphene fibers	
16:30-17:00		SR. Eric Yang	Solitons in graphene nanoribbon and polyacetylene: similarities and differences	
17:30-18:00		Poster Ses	rsion (Grand Ballroom in KINTEX, 3F)	
18:00- Night		Conference Reception (Grand Ballroom in KINTEX, 3F)		

	Room 209-B			
Time	Page	Speaker	Talk Title	
Materials Synthesis & Characterizations			Chair: Noelle Gogneau	
09:30-10:00		Humberto Rodriguez Gutierrez	Two-dimensional Multi-junction Heterostructures Based on Transition Metal Dichalcogenides	
10:00-10:30		Sang Hun Lee	Flattened acoustic Luneburg Lens using an orifice type metamaterial	
10:30-11:00			Session Break	
Materia	als Syn	thesis & Theory	Chair: Humberto Rodriguez Gutierrez	
11:00-11:30		Noelle Gogneau	Piezoelectric properties of GaN and Ga(In)N/GaN NW heterostructures for piezo-generator and piezo-sensor applications	
11:30-12:00		Atsutaka Maeda	Synthesis and physical properties of $FeSe_{1-x}Te_x$ and $FeSe_{1-y}S_y$ epitaxial films: What determines superconductivity T_c ?	
12:00-12:30		Weijun Fan	Band Structure and Optical Property of Uniaxial Tensile Strained Ge and Ge Quantum Well	
12:30-14:00	12:30-14:00			
17:30-18:00	17:30-18:00 Poster Session (Grand Ballroom in KINTEX, 3F)			
18:00- Night	18:00- Night Conference Reception (Grand Ballroom in KINTEX, 3F)			

	Room 208-A			
Time	Page	Speaker	Talk Title	
Ligh	t Emitt	ing Materials	Chair: Yasufumi Fujiwara	
09:30-10:00		Xian A. Cao	Quenching Effects in Blue Fluorescent Host-Dopant Emitter Systems	
10:00-10:30		Tae Geun Kim	Highly reflective Ni:AlN/Al Ohmic electrodes for AlGaN-based flip-chip UV-C LEDs	
10:30-10:45		Chan Young Park	Enhanced light extraction from OLEDs by high refractive index nanoparticle scattering layer	
10:45-11:00			Session Break	
Ligh	t Emitt	ing Materials	Chair: Xian A. Cao	
11:00-11:30		Yasufumi Fujiwara	Development of Semiconductors Intra-center Photonics	
11:30-12:00		Junqiao Ding	Solution-processed white organic light-emitting diodes with high power efficiency	
12:00-12:30		Hisao Ishii	High-Sensitivity UV Photoemission Spectroscopy of Organic Films, Interfaces, and Devices: As a Tool to Probe Traps, Carriers, and Excited States	
12:30-14:00			Lunch Break	
Optoeled	ctronics	and Applications	Chair: Masao Sakuraba	
14:00-14:30		Judy Wu	High-performance plasmonic nanostructures/graphene van der Waals Heterojunction Optoelectronics	
14:30-15:00		Masahiko Kondow	CirD photonic crystal laser with high mesa waveguide for light output	
15:00-15:30		Alfred Tok	Thermal Management in Electrochromic Smart Windows for Building Energy Efficiency	
Electronic Materials & Applications		ials & Applications	Chair: Judy Wu	
15:30-16:00		Seungwoo Han	Fabrication and application of flexible thermoelectric devices	
16:00-16:30		Masao Sakuraba	Low-Energy Plasma Enhanced Epitaxy and In-Situ Doping for Group-IV Semiconductor Device Fabrication	
16:30-17:00		Kyeong-Sik Min	Memristive Hierarchical Temporal Memory for Bio- Inspired Cognitive Computing	
17:30-20:30		Walk around	& Beer Chicken (Gather Kintex lobby 1F)	

	Room 208-B			
Time	Page	Speaker	Talk Title	
	2D M	aterials	Chair: Grzegorz Hader	
09:30-10:00		Dan Kaplan	Materials Science in Two Dimensions	
10:00-10:30		Eui-Hyeok Yang	1D and 2D Materials, Flexible Electrodes and Tunable Surfaces	
10:30-10:45		Jing Liu	Thermal conductivity of uranium nitride thermoelectric thin films using the 3ω method	
10:45-11:00			Session Break	
	2D M	aterials	Chair: Dan Kaplan	
11:00-11:30		Grzegorz Hader	Computational Study of Strained Platinum Catalysts for 2D Nanosheet Growth	
11:30-12:00		Aaron Stern	A New Class of Pyrophoric Foam Materials: Synthesis and Characterization	
12:00-12:30		Taiichi Otsuji	Terahertz Current-Driven Lasing and Amplification in Graphene-based vdW Heterostructures	
12:30-14:00			Lunch Break	
Nanostri	uctures	& Nanomaterials	Chair: Franck Bassani	
14:00-14:30		Jerzy P. Lukaszewicz	Electroexfoliation Versus Wet Chemistry Exfoliations as a Preliminary Stage for 3D Functionalization of Graphene Flakes	
14:30-15:00		Herbert Pfnur	Quasi-one dimensional arrays of atomic wires: a new route to nano-optoelectronics?	
Materials Sy	nthesis	& Characterizations	Chair: Jerzy P. Lukaszewicz	
15:00-15:30		Yohei Otoki	Recent GaN material topics for GaN on GaN Power device	
15:30-16:00		Franck Bassani	IV-IV heterostructure nanowires : advances in growth, characterization and applications	
16:00-16:30		Qizhen Li	Recrystallization activation energies in ultrafine grained magnesium during annealing	
16:30-17:00		Satoshi Uda	Partitioning of Mg into Li Site and Nb Site in LiNbO ₃ Crystal during Growth from the Melt	
17:30-20:30	Walk around & Beer Chicken (Gather Kintex lobby 1F)			

	Room 209-A			
Time	Page	Speaker	Talk Title	
	Oxide I	Materials	Chair: Diing Shenp ANG	
09:30-10:00		Takashi Uchida	Fabrication of VO ₂ Thin films by MOD and Their Applications to Bolometer detectors	
10:00-10:30		Ana Cremades	Low Dimensional Structures of SnO ₂ and TiO ₂ Materials: Synthesis, Properties and Applications	
10:30-11:00			Session Break	
Wide Band	lgap Ox	xide Nano-Materials	Chair: Ana Cremades	
11:00-11:30		Diing Shenp ANG	An Ultra-Low-Power Optical Sensing Technology based on Negative Photoconductivity in Soft-Breakdown Wide Bandgap Oxides	
11:30-12:00		Ruben D Costa	Superior hybrid light-emitting diodes and solar cells using organometallo-metal oxide nanoparticles	
12:00-12:30		Bianchi Mendez	Gallium oxide micro- and nanomaterials: Synthesis and optical properties	
12:30-14:00				
	Oxide I	Materials	Chair: Rana Biswas	
14:00-14:30		Daesung Park	Defect Engineering on Functionalization of Oxide Dielectrics and Their Interfaces	
14:30-15:00		Hiroaki Matsui	Infrared Surface Plasmons Based on Oxide Semicondcutors for Biochemical Sensing Platoforms	
15:00-15:30			Session Break	
Nanostri	uctures	& Nanomaterials	Chair: Daesung Park	
15:30-16:00		Rana Biswas	Novel optical and electronic phenomena in nanoplasmonic arrays	
16:00-16:30		Alexander M. Demin	Synthesis of nanocomposites based on Fe ₃ O ₄ magnetic nanoparticles as visualizing and magnetically separable materials for biology and medicine	
16:30-17:00		Kah Hon Leong	Alteration of BiPO ₄ nanomaterial with Ag ₂ S for sustainable photocatalysis	
17:00-17:15		Yi Chu	Growth mechanism of SmB ₆ nanowires synthesized by chemical vapor deposition: catalyst-assisted and catalyst-free	
17:30-20:30	:30-20:30 Walk around & Beer Chicken (Gather Kintex lobby 1F)			

	Room 209-B				
Time	Page	Speaker	Talk Title		
Photovoltai	cs Phot	tocatalysis Materials	Chair: Katsuaki Tanabe		
09:30-10:00		Hideo Ohkita	Metal Halide-Based Perovskites for Highly Efficient Photovoltaics		
10:00-10:30		I-Chun Cheng	Surface Diffusive Dielectric Barrier Discharge Treated MAPbI3 Perovskite Thin Films for Energy Harvesting Devices		
10:30-11:00			Session Break		
Photovoltai	cs Phot	tocatalysis Materials	Chair: I-Chun Cheng		
11:00-11:30		Katsuaki Tanabe	Wafer-Bonded Solar Cells		
11:30-12:00		Tae-Woong Kim	Microstructural analyses of organometal halide perovskite for highly efficient solar cell application		
12:00-12:30		Fang-Chung Chen	Asymmetric thin-plate perovskite single crystals for solar energy applications		
12:30-14:00			Lunch Break		
Magnetisi	n and N	Magnetic Materials	Chair: Meng Nan Chong		
14:00-14:30		Perov Nikolai Sergeevich	Simulation of remagnetization by current in soft magnetic wires		
14:30-15:00		Iriya Muneta	Ferromagnetic tunnel devices with two-dimensional layered material MoS ₂		
15:00-15:30			Session Break		
Photovoltai	cs Phot	tocatalysis Materials	Chair: Perov Nikolai Sergeevic		
15:30-16:00		Akira Ishibashi	Waveguides with Spatial Asymmetry for Concentrator Solar-Cells		
16:00-16:30		Yutaka Ohno	Impact of asymmetric grain boundaries on conversion efficiency in Si solar cells		
16:30-17:00		Meng Nan Chong	Modulation and Characterization of Multi-Electric Field in Heterojunction Photoanode Structures for Enhanced Separation of Photogenerated Charge Carriers		
17:00-17:15		Umar Ibrahim Gaya	Nanoscale Eosin Y-sensitized Ag-TiO ₂ for optimized photocatalytic degradation of aqueous caffeine		
17:30-20:30		Walk around & Beer Chicken (Gather Kintex lobby 1F)			

DAY 2 (Tuesday 04 June)

	Room 210-A			
Time	Page	Speaker	Talk Title	
Sens	ors and	Applications	Chair: Hsiao-Wen Zan	
09:30-10:00		Seung Ki Moon	Multidisciplinary Design Optimization for 3D Printed Sensors and Operating Process Parameters	
10:00-10:30		Liyuan Liu	Terahertz detection and imaging with silicon	
10:30-11:00			Session Break	
Sens	ors and	Applications	Chair: Seung Ki Moon	
11:00-11:30		Sangho Bok	Plasmonic Gratings for Applications in Biosensors	
11:30-12:00		Hsiao-Wen Zan	Portable Sensor System for Noninvasively Monitoring Blood Urea Nitrogen Through Saliva and Breath	
12:00-12:30		Huolin Huang	Improved Wide-bandgap Gallium Nitride Hall Sensors for High Temperature Applications	
12:30-14:00			Lunch Break	
Polymers and Applications Chair: Rolf Lortz			Chair: Rolf Lortz	
14:00-14:30		Maenghyo Cho	Multiscale analysis and design of deforming photo- responsive polymer	
14:30-15:00		Xiang Zheng Kong	Functional Polyurea Materials: Easy Synthesis, Basic Properties and Versatile Applications	
15:00-15:15		Maria-Cristina Popescu	The influence of bio-based nanocomposite materials coated seeds on the plant development	
15:15-15:30			Session Break	
Smart M	aterials	and Applications	Chair: Xiang Zheng Kong	
15:30-16:00		Yen-Ho Chu	Reaction-Based Smart Ionic Liquids	
16:00-16:30		Rolf Lortz	Fingerprint of chiral Majorana modes in resonant Andreev reflection at the edge of a quantum anomalous Hall insulator / superconductor heterostructure	
16:30-17:00		Zhongwu Zhang	Nanoscale precipitation-Strengthening in single and dual phase steels	
17:30-20:30		Walk around	l & Beer Chicken (Gather Kintex lobby 1F)	

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CCMR 2019

DAY 3 (Wednesday 05 June)

Room 208-A			
Time	Page	Speaker	Talk Title
	, in the second		Talk Title
		oscale Microscopy tion Techniques	Chair: Eugenia Eftimie Totu
09:30-10:00		George A. Stanciu	Near field and far field laser microscopy used for nanoscale materials investigations
10:00-10:30		Toru Tomimatsu	A Study of the Incompressible Strip in Quantum Hall System by Scanning Gate Microscopy
10:30-11:00			Session Break
		oscale Microscopy tion Techniques	Chair: George A. Stanciu
11:00-11:30		Radu Hristu	Polarization-resolved second harmonic generation microscopy for the characterization of structural defects in silicon carbide
11:30-12:00		Huailiang Xu	Remote and rapid fabrication of functional material surfaces
12:00-12:30		Eugenia Eftimie Totu	Microscopic investigations of structural and morphological properties of hybrid nanocomposites with applications in 3D printed medical devices
12:30-14:00			Lunch Break
Biomat	terials a	and Applications	Chair: Ghazanfar Abbas
14:00-14:30		Kohei Soga	Biophotonics with cm Level Transparency by the Use of Near Infrared Light
14:30-15:00		Yan Ming	Selective laser melting under the Ar-N2 reactive atmosphere: A convenient and efficient approach to fabricate ultrahigh strength commercially pure titanium without sacrificing ductility
15:00-15:30			Session Break
1	Energy	Materials	Chair: Kohei Soga
15:30-16:00		Jae-Kwang Kim	Polymers for Energy Storage System
16:00-16:30		Ghazanfar Abbas	Electrochemical Investigation of Iron doped Nano- Structured Cathode for SOFC: Synthesized via Sol-gel Route
16:30-17:00		Eunsang Kwon	Structure and Applications of Lithium-Cation Endohedral [C60] Fullerene
17:00-14:15		Yijie Xu	Tuning spinel cobalt nickel sulfides synthesized via Continuous Hydrothermal Flow Synthesis as bifunctional air catalysts for Zinc-air batteries
17:30- Night		Conference l	Banquet (Grand Ballroom in KINTEX, 3F)

DAY 3 (Wednesday 05 June)

	Room 208-B			
Time	Page	Speaker	Talk Title	
Nanostru	ctures a	and Nanomaterials	Chair: Ming-Yu Li	
09:30-10:00		Cengiz Kaya	Processing and Properties of New Generation Radiation Shielding Nano Composites	
10:00-10:30		Weigang Ma	Thermophysical Property Characterization of Individual Nanomaterials	
10:30-11:00			Session Break	
Plasmo	onics aı	nd Applications	Chair: Cengiz Kaya	
11:00-11:30		Ming-Yu Li	Broadband High Sensitivity ZnO Colloidal Quantum Dots / Self-assembled Au Nano-antennas Heterostructures Photodetectors	
11:30-12:00		Chun-Hway Hsueh	Nanoimprint of Au-based Thin Film Metallic Glasses for Surface-enhanced Raman Scattering Applications	
12:00-12:30		Sundar Kunwar	Dynamic plasmonic response of fully alloyed AgPt and pure Pt nanoparticles fabricated with the Ag/Pt bilayer	
12:30-14:00			Lunch Break	
Materials Sy	nthesis	& Characterizations	Chair: Gang Wu	
14:00-14:30		Jiuzhou Zhao	Precipitation of droplets/particles and formation of in situ particulate composite	
14:30-15:00		Zhaoqing Li	Additive manufacturing materials research	
15:00-15:15		Kangwei Zhu	The TEM Studies of Tungsten Irradiated by Helium	
15:15-15:30			Session Break	
Materia	d Theor	ry and Principles	Chair: Jiuzhou Zhao	
15:30-16:00		Xiaoping Yang	Topological evolution of electronic bands in correlated transition-metal materials	
16:00-16:30		Gang Wu	Two-dimensional single-layer π -conjugated nickel bis(dithiolene) complex: a good-electron-poor-phonon thermoelectric material	
16:30-17:00		Yong Yang	γ-Ta ₂ O ₅ : A New Phase of Ta ₂ O ₅ Predicted from First- principles	
17:30- Night		Conference B	Banquet (Grand Ballroom in KINTEX, 3F)	

DAY 3 (Wednesday 05 June)

Room 209-A				
Time	Page	Speaker	Talk Title	
Materials Sy	nthesis	& Characterizations	Chair: Zujin Zhao	
09:30-10:00		Hani E. Elsayed-Ali	Ultrafast electron diffraction of lattice dynamics of femtosecond laser-excited bismuth	
10:00-10:30		Shengqiang Ma	Interfacial structural evolution of directional solidified alloys in liquid zinc	
10:30-11:00			Session Break	
Opt	oelectro	onic Material	Chair: Hani E. Elsayed-Ali	
11:00-11:30		Zujin Zhao	Aggregation-Induced Delayed Fluorescence	
11:30-12:00		Guohua Xie	Some interdisciplinary research on organic optoelectronic materials and devices	
12:00-12:30		Kok Wai Cheah	Enhanced performance of blended OLED through TADF process	
12:30-14:00			Lunch Break	
Materials Synthesis & Characterizations			Chair: David Maestre Varea	
14:00-14:30		Youn-Sang Bae	Metal-organic Frameworks for Industrially Important Gas Separations	
14:30-15:00		Kezhao Liu	Recent Advance in Preparation and Properties of Nitride layer on Metal Uranium Surface	
15:00-15:30		Masaharu Nakayama	Single-Ion Catalyst Isolated in the Interlayer Space of Buserite-Type Layered MnO ₂ for Electrochemical Reactions	
Oxide Materials		Materials	Chair: Kezhao Liu	
15:30-16:00		David Maestre Varea	Low dimensional structures of NiO and Sn doped NiO	
16:00-16:30		Yinlian Zhu	Atomic Mappings of Novel Domain Configurations in Ferroelectric Thin films	
16:30-17:00		Hiroaki Nishikawa	Flexible epitaxial thin films of perovskite type oxides: The fabrication processes and the electronic properties	
17:30- Night	:30- Night Conference Banquet (Grand Ballroom in KINTEX, 3F)			

DAY 3 (Wednesday 05 June)

Room 209-B				
Time	Page	Speaker	Talk Title	
Polyn	ners an	d Applications	Chair: Carmen-Mihaela Popescu	
09:30-10:00		Peng Chen	Effect of SLS processing on the microstructure, crystalline and thermal properties of polyetheretherketone (PEEK)	
10:00-10:30		Toshiki Aoki	In-situ Synthesis and Gas Permeation of Supramolecular Polymer / Polymer Composite Membranes	
10:30-10:45		Xubao Jiang	Preparation of Uniform Polyurea Microspheres and Their Applications	
10:45-11:00			Session Break	
Polyn	ners an	d Applications	Chair: Toshiki Aoki	
11:00-11:30		Masayuki Okoshi	Fabrication of Superhydrophobic Silicone Rubber Operating in Water by 193-nm ArF Excimer Laser- Induced Photodissociation	
11:30-12:00		Sarawut Rimdusit	Bio-Based Shape Memory Polymers Fabricated from Vanillin-Furfurylamine-Containing Benzoxazine/Epoxidized Castor Oil Copolymers	
12:00-12:30		Carmen-Mihaela Popescu	Hydrophobic nanocomposite formulations for organic based surfaces	
12:30-14:00	_			
Molecular Systems & Applications			Chair: Andreas Stein	
14:00-14:30		Yu-Chang Chen	A Microscopic description of Negative Capacitance in Ferroelectric Single-Molecule Junctions from First Principles Approaches	
14:30-15:00		Ryoma Hayakawa	Vertical Resonant Tunneling Devices Brought about by Integration of Attractive Molecules into Current Si devices	
15:00-15:30				
Nanostructures & Nanomaterials			Chair: Ryoma Hayakawa	
15:30-16:00		Andreas Stein	Designing Functional Porous and Nanostructured Materials at Multiple Length Scales	
16:00-16:30		Go Kawamura	Multiferroic BaTiO ₃ -CoFe ₂ O ₄ nanocomposite prepared via affordable liquid phase processes	
16:30-17:00		Huimin Xie	Mechanical Characterization of Soft Substrate-Supported Thin Films Using Optical Techniques	
17:30- Night	Conference Banquet (Grand Ballroom in KINTEX, 3F)			

CCMR 2019

DAY 3 (Wednesday 05 June)

Room 210-A				
Time	Page	Speaker	Talk Title	
Magnetis	m and M	Iagnetic Materials	Chair: Chenglong Jia	
09:30-10:00		Clemens Ulrich	Multiferroic Thin Films: A comprehensive Neutron Diffraction Study	
10:00-10:30		Shinobu Ohya	Anomalous magnetic behavior observed at ferromagnetic perovskite-oxide interfaces and its application to efficient magnetization rotation	
10:30-11:00			Session Break	
Magnetism and Magnetic Materials			Chair: Clemens Ulrich	
11:00-11:30		In-Sang Yang	Magnons in hexagonal RMnO ₃ (R=Y, rare earths)	
11:30-12:00		Chenglong Jia	Room temperature single phase multiferroic Aurivillius compound	
12:00-12:30		Izumi Hase	Flat-Band in Pyrochlore Oxides: A First-Principles Study	
12:30-14:00		Lunch Break		
Smart Materials and Applications Ch			Chair: Katsuaki Tanabe	
14:00-14:30		Wai Kian Tan	Facile design of nanocomposites and its properties by electrostatic adsorption	
14:30-15:00		Kei Noda	Anodized Metal Oxide Nanotube Arrays for Gas Phase Photocatalysis and Photoinduced High-Purity Hydrogen Prodution	
15:00-15:30		Session Break		
Smart Materials and Applications			Chair: Wai Kian Tan	
15:30-16:00		Shumin Wang	Integration of Wafer-Scale III-Vs on Si Substrates	
16:00-16:30		Katsuaki Tanabe	Plasmonics for Photovoltaics and Nuclear Fusion	
16:30-17:00		Hongdoo Kim	Electrospun Piezocapacitive/Piezoelectric Materials for Tactile/Pressure Sensor	
17:30- Night	O- Night Conference Banquet (Grand Ballroom in KINTEX, 3F)			

CCMIR 2019 XXIII

DAY 4 (Thursday 06 June)

Room 208-A			
Time	Page	Speaker	Talk Title
Adva	nced A	lloy Materials	Chair: Alexander Khmaladze
09:30-10:00		Weili Wang	Liquid Phase Separation and Rapid Solidification of High- entropy CoCrFeNiCux alloys
10:00-10:30		Bo Li	Microstructurel and tribological properties of Ni-based high temperature composite coatings from conventional and nanostructured powders
Biomat	Biomaterials and Applications		Chair: Weili Wang
10:30-11:00		Jingan Li	Tailoring of Cardiovascular biomaterials Surface by a series of Techniques for Better Biocompatibility
11:00-11:30		Alexander Khmaladze	Raman Spectroscopic Analysis of Animal Bones and Ivories
11:30-12:00		Yi Wang	A nanoencapsulation suspension biomimetic of milk structure for enhanced maternal and fetal absorptions of DHA to improve early brain development
12:00-12:30		Angeline Poulon	Optimization of the silanization protocols on the adhesion of resin cements to a lithium disilicate glass-ceramic: from chemistry bonding to mechanical properties
12:30-14:00			Lunch Break

DAY 4 (Thursday 06 June)

			Room 208-B
Time	Page	Speaker	Talk Title
I	Energy	Materials	Chair: Byung Hoon Kim
09:30-10:00		Masaru Aniya	A Model for the Non-Arrhenius Ionic Conductivity in Solids
10:00-10:30		Xihong Peng	Computational Study of Lithiation of Ba-Doped Type I Si/Ge Clathrates
10:30-11:00		Teng HE	Metallated Organic Hydrides for Hydrogen Storage
11:00-11:30		Gustavo Doubek	Building on diagnostic characterizations for Li-Air Devices
Smart M	aterials	s and Applications	Chair: Masaru Aniya
11:30-12:00		Byung Hoon Kim	Electronic Textiles for Various Applications
12:00-12:30		Hong Yin	Synthesis and Applications of Boron Nitride Films
12:30-14:00			Lunch Break

DAY 4 (Thursday 06 June)

		Room 209-A	
Time	Page	Speaker	Talk Title
Polymers and Applications			Chair: Kencihi Yamashita
09:30-10:00		Masayuki Yamaguchi	Modification of Polar Plastics by Salt Addition
10:00-10:30		Markus Busch	High-Pressure Polymerization Technology: Recent Developments and Safety Considerations
10:30-11:00		Myunghwan Byun	Hierarchically Ordered Nanostructures on a Chemically Defined Surface via Flow-Enabled Self-Assembly
Polymers and Applications			Chair: Markus Busch
11:00-11:30		Kencihi Yamashita	Organic Single Crystal Microcavities with Strong Light- Matter Coupling
11:30-12:00		Yasuhiro Koike	Proposal of Novel Photonics Polymers toward Ultra-High- Definition and Real-Color Display System
12:00-12:30			Lunch Break

DAY 4 (Thursday 06 June)

Room 209-B			
Time	Page	Speaker	Talk Title
Sens	ors and	l Applications	Chair: Mei Zhang
09:30-10:00		Ivo Stachiv	Phase changeable NiTi shape memory alloy films for actuators and ultrasensitive sensing devices
10:00-10:30		Rahul Purbia	Light-mediated Synthesis of Urchin-like Ag Nanostructures for Enhanced SERS
10:30-11:00		Sung-Wook Nam	Wafer-Scale Fabrication of Nanochannel Ion Transistors for Detecting Single DNA Molecules
Smart M	aterials	s and Applications	Chair: Ivo Stachiv
11:00-11:30		Mei Zhang	Nanocarbon Foam - Properties and Applications
11:30-12:00		Heng Li	Tailoring microstructure evolution for improving shape memory effect of Ni-Ti-Nb shape memory alloy
12:00-12:30		Guangjin Hou	Mechanism of syngas conversion on bifunctional catalysts characterized by solid-state NMR spectroscopy
12:30-14:00			Lunch Break

CCMR 2019

DAY 4 (Thursday 06 June)

			Room 210-A
Time	Page	Speaker	Talk Title
Opto	electro	onic Materials	Chair: Tianxing Ma
09:30-10:00		Gil Shalev	Light trapping beyond the Yablonovitch limit with silicon surface arrays of subwavelength light funnels
10:00-10:30		Juan Carlos Salcedo Reyes	Improving extraction efficiency of OLEDs by a luminescent polymer embedded in a colloidal crystal matrix
Grapl	iene an	d Applications	Chair: Gil Shalev
10:30-11:00		Seiji Sakai	Fabrication and spintronic properties of novel graphene/half-metal heterostructures
11:00-11:30		Soon-Gil Yoon	Transfer-Free, Large-Scale, High-Quality, Monolayer Graphene Synthesized at Lower Temperatures than Boiling Point of Water
11:30-12:00		Tianxing Ma	Magnetic and superconducting correlation in monolayer and twisted bilayer graphene
12:00-12:30		Masao Nagase	Single-Crystal Graphene on SiC Substrate for Future Electronic Devices
12:30-14:00			Lunch Break

CCMR 2019

CCMR 2019 3 - 7 June 2019 I RINTEX: Goyang/Gyeonggi, South Korea

CCMR 2019 Conference Schedule

On-site Registration in the Venue, 9:00 - 5:00
PM
(Carried on during the conference,
Monday at 8.00 am)

Full day oral presentations, 9.30 - 5:00PM

Poster Session from 5:30PM

Conference Reception from 6:00PM
(Buffet & wine with live music show)

Full day oral presentations, 9.30 - 5:00PM

Evening Activity, from 6:00 - 09.00PM

(Depending on weather, subject to cancelation)

Full day oral presentations, 9.30 - 5:00PM

Conference Banquet from 6:00PM —

Welcoming & congratulatory address

(Buffet & wine with live music shows)

Full day oral presentations, 9.30 - 12:30AM

day

All Day Tour, 8.00 - 6:00PM

(Transportation, tickets & lunch covered)

7 June Friday

5 June

Wednesday

5 June

Thursday

CCMR 2019

3 - 7 June 2019

klnTEX. Goyang/Gyeonggi, South Korea

Gyeonggi Korea



Gyeonggi-do:

Gyeonggi-do is the most populous province in South Korea, surrounding the capital, Seoul. Goyang-si is one of the popular cities in Gyeonggi-do. The three jurisdictions including Seoul, Incheon and Gyeonggi-do are collectively referred to as Sudogwon and cover 11,730 km², with a combined population of ~27 million-amounting to over half of the entire population of South Korea.

CCMR 2019
3 - 7 June 2019
FilNTEX; Goyang/Gyeonggi, South Korea

Seoul Korea



Seoul:

Seoul is the capital and largest city of South Korea. A megacity with a population of over 10 million, it is one of the largest cities in the world. The Seoul National Capital Area is home to four UNESCO World Heritage Sites: Changdeokgung, Hwaseong Fortress, Jongmyo Shrine and the Royal Tombs of the Joseon Dynasty.

Things around KINTEX



03 - 07 June

Things around KINTEX

Ilsan Lake Park (~ 20 min walk from KINTEX)





More INFO: http://english.visitkorea.or.kr/enu/ATR/SI EN 3 1 1 1.jsp?cid=1949711

03 - 07 June

Things around KINTEX

Ilsan Lake Park (~ 20 min walk from KINTEX)





More INFO: http://english.visitkorea.or.kr/enu/ATR/SI EN 3 1 1 1.jsp?cid=1949711

Ilsan Lake Park (~ 20 min walk from KINTEX)

Operating Hours: Apr - Oct: 05:00 - 22:00

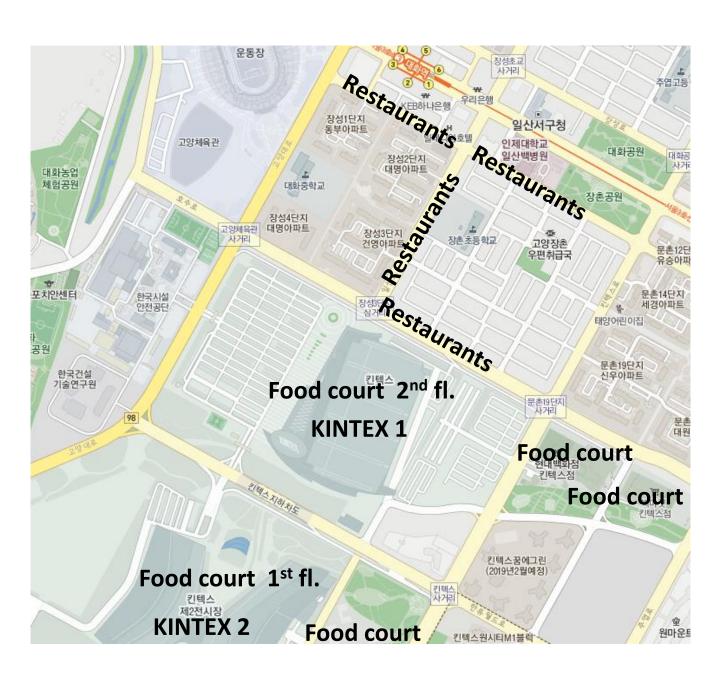
Admission Fees: Free



More INFO: http://english.visitkorea.or.kr/enu/ATR/SI EN 3 1 1 1.jsp?cid=1949711

Restaurants around KINTEX

- 1. Food court KINTEX 1 & 2
- 2. In the **Mega-stores**.
- 3. Restaurants on the streets.



E-marts (mega-mart & food court)

:decent price and everything found

Hours: 10:00 ~ 23:00

Close: 2/4th Wed





Home Plus (mega-mart & food court)

:decent price and everything found

Hours: 10:00 ~ 23:00

Close: 2/4th Wed





Hyundai department Store

:Luxury and premium & food court

Hours: 10:30 ~ 20:00

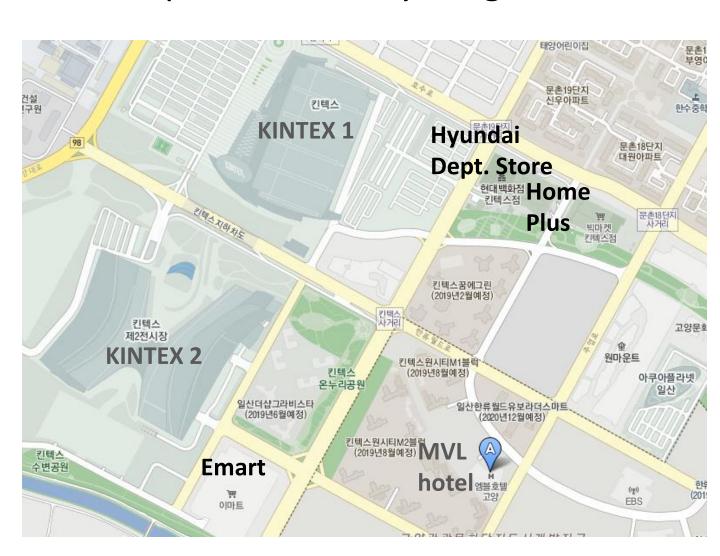
Close: every Monday





Mega-marts (shopping malls)

:decent price and everything found



- 1. Emart
- 2. Home Plus
- 3. Hyundai Dept. Store

03 - 07 June

Things around KINTEX

One Mount

4 season Water Park and Snow Park



ENJOY YOURSELF TO THE MAX AT THE BEST PLAYGROUND ON EARTH

ONEMOUNT



INFO: http://en.onemount.co.kr/

Video: https://youtu.be/OMkZcv0iOfM?list=PL srUjbr1OcAK3SsetGZ9wmEiMSlar00G

03 - 07 June

Things around KINTEX

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One Mount

4 season Water Park and Snow Park



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03 - 07 June

Things around KINTEX

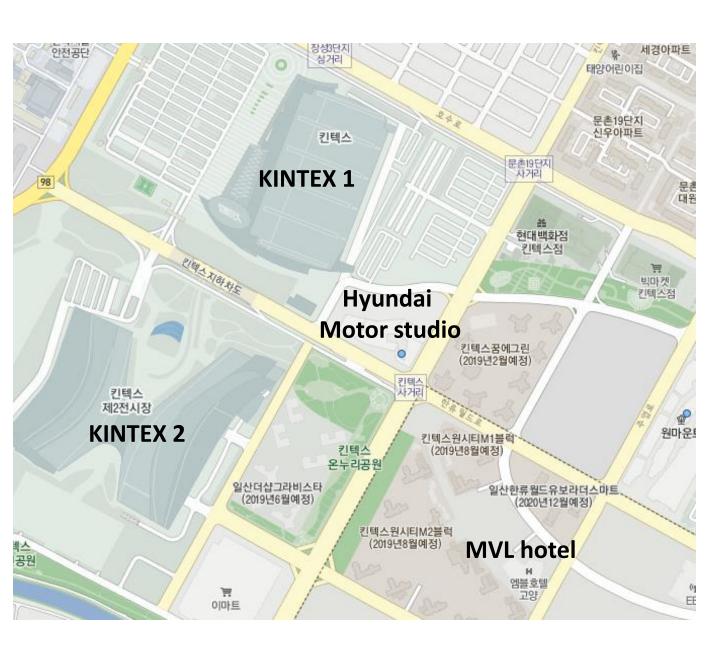
Hyundai Motor studio





More INFO: http://motorstudio.hyundai.com/goyang/en/In/main.do

Hyundai Motor studio



Social Programs



Poster Session

03 June Monday at 5:30: wine served

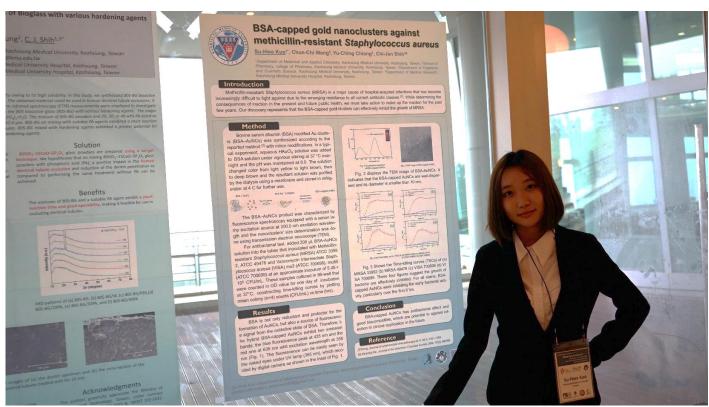




Poster Session

03 June Monday at 5:30: wine served





Conference Reception (Buffet with wine & live music show)















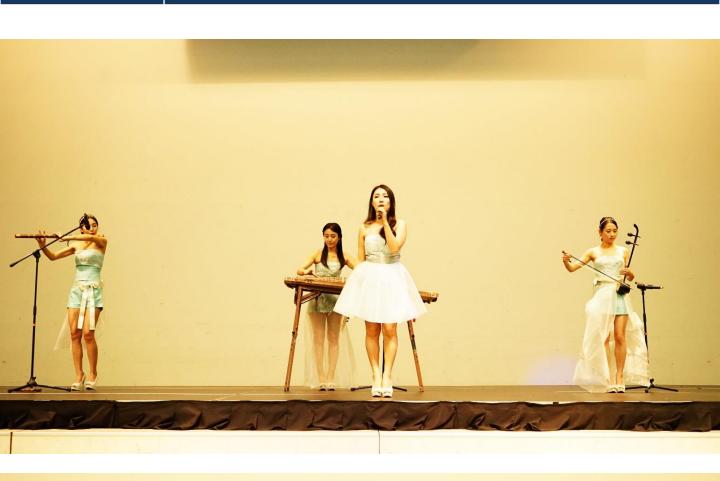


Conference Reception





Conference Reception





Conference Reception (Buffet with wine & live music show)





04 June Tuesday

Suggested evening activity

(transportation & ticket covered by the conference)

Walk around Park and Chicken & Beer





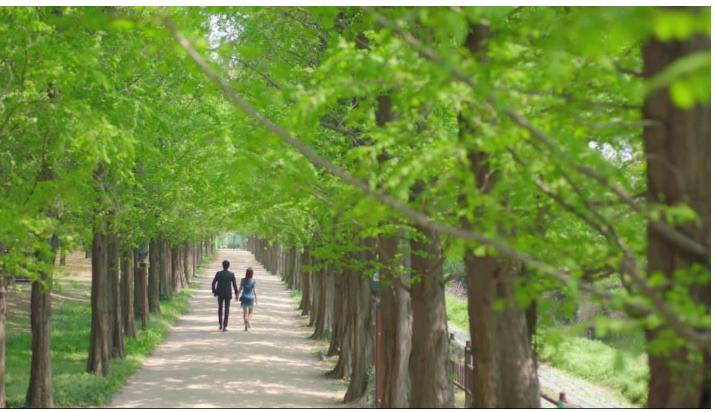
* Depending on the weather condition, subject to cancelation.

04 June Tuesday

Suggested evening activity

(transportation & ticket covered by the conference)

Walk around Park and Chicken & Beer





^{*} Depending on the weather condition, subject to cancelation.

Conference Banquet





Conference Banquet















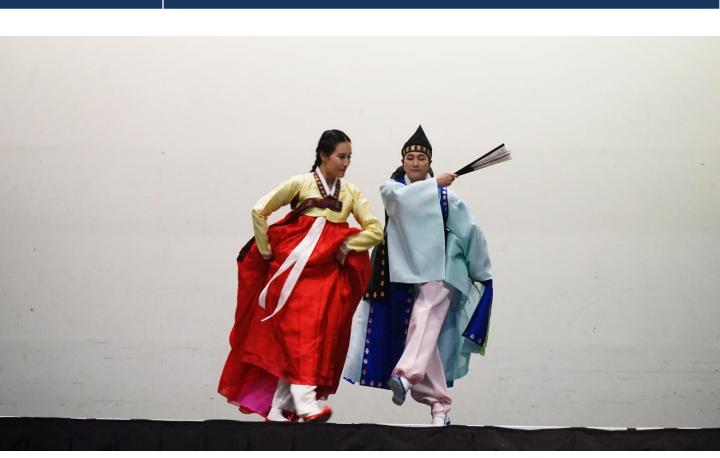


Conference Banquet





Conference Banquet





Conference Banquet





Conference Banquet



Scientific excursion



Scientific excursion

(transportation & tickets covered by the conference)



1. Dora Observatory (of the Military Demarcation Line)
Time – 08:00 ~ 10:00



2. The 3rd infiltration Tunnel
Time - 10:00 ~ 12:00



3. Imjingak or lunch
Time – 12:30 ~15:00
Depending on time left
after the tunnel tour



4. Hyundai Motor studio Time – 15:30 ~ 17:00

- * Must carry <u>passport</u> as entering the de-militarized zone (DMZ)
- * Locations and time subject to change

Scientific excursion

(transportation & tickets covered by the conference)

Dora Observatory (of the Military Demarcation Line)

Situated in Paju-si, Gyeonggi-do and at the northernmost point of the Military Demarcation Line, Dora Observatory replaced the previous Songaksan Observation Post. From the observatory, visitors can overlook North Korea and various locations including Gaeseong, Songaksan, Kim Il-Sung Statue, and Cooperation Farm (Geumamgol). The observatory offers 500 seats, VIP rooms, and abundant parking space. It was first opened to the public in January 1987.

More INFO:

http://english.visitkorea.or.kr/enu/ATR/SI EN 3 1 1 1.jsp?cid=1066062



Scientific excursion

(transportation & tickets covered by the conference)

The 3rd infiltration Tunnel

The 3rd Tunnel was discovered in 1978 by South Korean forces. It spans over 1,635m in length, 2m in width, and 2m in height and is located 52km from Seoul. It is estimated that approximately 30,000 soldiers could move through the tunnel per hour. The scale is similar to the 2nd Tunnel, but it was thought to be more threatening as an invasion tool than the 1st and 2nd Tunnels. Located only 4km away from Imjingak toward the southwest and 3.5km from the Tongilchon area, it is accessible by car in about 45 minutes.

More INFO:

http://english.visitkorea.or.kr/enu/ATR/SI EN 3 1 1 1.jsp?cid=264488



Scientific excursion

(transportation & tickets covered by the conference)

Imjingak

Imjingak Resort, located 7 km from the Military Demarcation Line, is now at the forefront of tourism related to the Korean War. Imjingak was built in 1972 with the hope that someday unification would be possible. The three-storied Imjingak is surrounded by several monuments, Unification Park and North Korea Center.

Over 400 photos and documents showing the stark reality of North Korea are displayed in the North Korea Center of Unification Board. Outside Imjingak, there are 12 unique tanks and warcrafts on display that were used during the war.

More INFO:

http://english.visitkorea.or.kr/enu/ATR/SI EN 3 1 1 1.jsp?cid=264487



Scientific excursion

(transportation & tickets covered by the conference)

Hyundai Motor studio

Hyundai Motor studio offers new ways to experience automotive culture. It's a space that embodies Hyundai Motor Company's journey to enrich daily lives as a companion in the creation of a new kind of car culture. Every automobile made by Hyundai Motor Company is on display, ready for you to experience and Hyundai Motor studio Goyang offers unique artwork embodying the company's philosophy.

More INFO:

http://motorstudio.hyundai.com/goyang/en/ln/main.do



CCMR 2020



CCMR 2020 08 - 12 June 2020 Songdo Convensia, Incheon/Seoul, South Korea

Collaborative Conference on Materials Research (CCMR) 2020

8 - 12 June 2020, Incheon/Seoul, South Korea

Collaborative Conference on Materials Research (CCMR) 2020

: This collaborative conference series is established to enable technological developments in various fields of materials and to further the goal of unifying materials research in engineering, physics, biology, materials science, as well as chemistry and neuroscience. CCMR 2020, as the tenth conference in this series, offers materials researchers the opportunity to discuss and exchange information with the frontiers in their fields and network with scientists from various other fields for potential interdisciplinary collaborations.

Conference Organizer:

Jihoon Lee, Kwangwoon University, Seoul, South Korea

Honorary Conference Chair:

Prof. Gregory J. Salamo, University of Arkansas, USA

CCMR 2020)8 - 12 June 2020 ia, Incheon/Seoul, South Korea

CCMR 2020 Conference Schedule (tentative)

8 - 12 June

Monday

9 June

Tuesday

10 June

Wednesday

On-site Registration in the Venue, 9:30 - 5:00 PM

(Carried on during the conference,

Monday at 8.00 am)

Full day oral presentations, 9.00 - 5:00PM 8 June

Poster Session from 5:30PM Conference **Reception** from 6:00PM -

(Buffet & wine with live music show)

Full day oral presentations, 9.00 - 5:00PM Evening Activity, from 6:00 - 08.00PM

(Transportation and tickets covered)

Full day oral presentations, 9.00 - 5:00PM **Conference Banquet** from 6:00PM – Welcoming & congratulatory address (Buffet & wine with live music shows)

11 June Full day oral presentations, 9.00 - 5:00PM

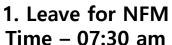
Thursday All Day Tour, 7.30 - 6:00PM 12 June

Friday (Transportation, tickets & lunch covered)

Scientific excursion

(transportation & tickets covered by the conference)







2. National Folk Museum of Korea
Time – 09:00 ~ 11:30



3. Lunch & Insadong Antique street tour Time – 12:00 ~ 14:00



4. Namsan Seoul Tower
Time - 14:30 ~ 17:00



5. Leave for Convensia Time - 17:00 (~ 1hr taking)

^{*} Locations and time subject to change depending the schedule

CCMR 2020

08 - 12 June 2020

Songdo Convensia, Incheon/Seoul, South Korea

Seoul Korea



Seoul:

Seoul is the capital and largest city of South Korea. A megacity with a population of over 10 million, it is one of the largest cities in the world. The Seoul National Capital Area is home to four UNESCO World Heritage Sites: Changdeokgung, Hwaseong Fortress, Jongmyo Shrine and the Royal Tombs of the Joseon Dynasty.