2015

GIST-Caltech Workshop

Gwangju Institute of Science and Technology

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4th GIST-Caltech Workshop

on Innovative Research

Dates : November 12-13, 2015

Venue : Oryong Hall, Room 101, GIST

Thursday, November 12, 2015

Time	Event	Speaker (Collaborator)	Title
13:00~13:05	Opening Address	Prof. Heung-No Lee, GIST	Opening Address, Dean of Research, GIST
Session 1. Chair Prof. Kang Taek Lee			
13:05~13:20	Skype 1	Prof. Raymond J. Deshaies, Caltech (Prof. Chul-Seung Park, GIST)	The thalidomide receptor CRL4CRBN targets an acetylated degron in glutamine synthetase
13:20~13:40	Oral 2	Prof. Chul-Seung Park, GIST (Prof. Raymond J. Deshaies, Caltech)	Cereblon: regulation mechanism of energy metabolism and potential for metabolic syndrome
13:40~13:55	Video Playback 3	Prof. Robert Grubbs, Caltech (Prof. Jae-Suk Lee, GIST)	Brush Block polymers for the creation of complex structures
13:55~14:15	Oral 4	Prof. Jae-Suk Lee, GIST (Prof. Robert Grubbs, Caltech)	Synthesis of novel polymers through combination of living anionic polymerization and metathesis polymerization
14:15~14:30	Video Playback 5	Prof. Viviana Gradinaru, Caltech (Prof. Hyong-Ihl Kim, GIST)	Visualizing the Activity and Anatomy of Brain Circuits: Optogenetic Sensors and Tissue Clearing Approaches
14:30~14:50	Oral 6	Prof. Hyong-Ihl Kim, GIST (Prof. Viviana Gradinaru, Caltech)	Optogenetic stimulation of sensori-parietal cortex to augment motor recovery in chronic capsular stroke
14:50~15:00		Coffee Break	
Session 2. Chair Prof. Chul-Seung Park			
15:00~15:15	Video Playback 7	Prof. Long Cai, Caltech (Prof. Kang Taek Lee, GIST)	In situ profiling in single cells by FISH SCALYS
15:15~15:35	Oral 8	Prof. Kang Taek Lee, GIST (Prof. Long Cai, Caltech)	Fast and background-free 3D imaging of single living cells using upcoverting nanoparticles(UCNPs)
15:35~15:50	Video Playback 9	Prof. David Tirrell, Caltech (Prof. Inchan Kwon, GIST)	Time-resolved and Cell-selective Analysis of Cellular Protein Synthesis
15:50~16:10	Oral 10	Prof. Inchan Kwon, GIST (Prof. David Tirrell, Caltech)	Spatially-controlled bioconjugation of proteins and proteomic analysis of iPS cell generation
16:10~16:30	Oral 11	Prof. Yong-Chul Kim, GIST (Prof. Willam A. Goddard III, Caltech)	Multi-target Strategies for the Synergistic Modulation of Neuropathic Pain Signaling toward Innovative Therapeutic Intervention
16:30~17:00	Oral 12	Prof. Willam A. Goddard III, Caltech (Prof. Yong-Chul Kim, GIST)	Structure-based discovery and experimental validation of novel pain therapeutic agents employing multi-target approach for the synergistic inhibition of pain signals mediated by GPCR and Ion Channel receptor
17:00~17:10		CoffeeBreak	
Session 3. Chair Prof. Inchan Kwon			
17:10~17:30	Oral 13	Prof. Young-Dahl Jho, GIST (Prof. Austin Minnich, Caltech)	Engineering nanoscale heat waves for terahertz information transfer
17:30~17:50	Video Playback 14	Prof. David Hsieh, C altech (Prof. Jong Seok Lee, GIST)	Ultrafast photo-induced electronic phase transition in a perovskite ruthenate
17:50~18:10	Oral 15	Prof. Jong Seok Lee, GIST (Prof. David Hsieh, Caltech)	Spectroscopic investigation on 4d- and 5d-transition metal oxides of ruthenates and iridates
18:10~18:30	Video Playback 16	Prof. SungYang, GIST (Prof. James R. Heath, Caltech)	Caltech-GIST Advances in microchip-based proteomics: Advanced Microchip-based Single Cancer Cell Assay for High-throughput, Multiplexed Proteomics
18:30~		Closing	
18:30~		Dinner	

Friday, November 13, 2015

Time	Event	Speaker (Collaborator)	Title
Session 1. Chair Prof. Sukwon Hong			
09:00~09:20 16:00~16:20	Video1 Caltech (Nov.12)	Prof. James R. Heath, Caltech (Prof. Sung Yang, GIST)	Single Cell Analysis of Tumor Materials
09:20~09:40 16:20~16:40	Video2 Caltech (Nov.12)	Prof. Changhuei Yang, Caltech (Prof. Euiheon Chung, GIST)	Optical time reversal for deep tissue optical focusing
09:40~10:00 16:40~17:00	Video3 Caltech (Nov.12)	Prof. Julia R. Greer, Caltech (Prof. Bong-Joong Kim, GIST)	Quantifying piezo-induced properties of ZnO p-n homojunction nanowires and nano-lattices using in situ electron microscopy techniques
10:00~10:20 17:00~17:20	Oral 4	Prof. Andre Hoelz, Caltech	Building the Nuclear Pore Complex Piece by Piece
10:20~10:40 17:20~17:40	Video5 Caltech (Nov.12)	Prof. Brain M. Stoltz, Caltech (Prof. Sukwon Hong, GIST)	Collaborative Catalysis A GIST-Caltech Initiative in Synthetic Chemistry
10:40~11:00 17:40~18:00		Coffee Break	
Session 2. Chair Prof. Byoung S. Ham			
11:00~11:20 18:00~18:20	Oral 6	Prof. Richard C. Flagan, Caltech	Quantifying the Urban Air Pollution Dose
11:20~11:40 18:20~18:40	Video7 Caltech (Nov.12)	Prof. Andrei Faraon, Caltech (Prof. ByoungS. Ham, GIST)	Nano-photonic quantum light-matter interfaces based on rare-earth doped crystals
11:40~12:00 18:40~19:00	Video8 Caltech (Nov.12)	Prof. Austin Minnich, Caltech (Prof. Young-Dahl Jho, GIST)	Engineering heat dissipation for efficient LEDs
12:00~12:20 19:00~19:20	Video9 Caltech (Nov.12)	Prof. Marco Bernardi, Caltech	Ultrafast Dynamics of Excited Electrons in Materials from First-Principles Calculations
12:20~12:40 19:20~19:40	Video10 Caltech (Nov.12)	Prof. Julie Kornfield, Caltech (Prof. Giyoong Tae, GIST)	Recent Experiences in Science
12:40~13:40 19:40~20:40		Lunch	
Session 3. Chair Prof. Giyoong Tae			
13:40~14:00 20:40~21:00	Video11 Caltech (Nov.12)	Prof. Nai-Chang Yeh, Caltech (Dr. Chul-Sik Kee, GIST)	Spin and Pseudo-spin Dynamics of Dirac Fermions in Graphene and Topological Insulators
14:00~14:20	Oral 12	Prof. Giyoong Tae, GIST (Prof. Julie Kornfield, Caltech)	Delivery of therapetic proteins across epithelial layer using functional nanocarriers
14:20~14:40	Oral 13	Prof. Euiheon Chung (Dr. Taejoong Eom, GIST) (Prof. Changhuei Yang, Caltech)	Scattering Lens capable of variable focusing and 3D patterning for Deep tissue light delivery
14:40~15:00	Oral 14	Dr. Chul-Sik Kee, GIST (Prof. Nai-Chang Yeh, Caltech)	THz Time Domain Spectroscopy for Studying Carrier Dynamics in Graphene and Topological Insulators
15:00~15:20	Oral 15	Prof. Bong-Joong Kim, GIST (Prof. Julia R. Greer, Caltech)	Oxide nanotrusses and nanowires for low k dielectric and sensing applications
15:20~15:40		Coffee Break	
Session 4. Chair Prof. Jong Seok Lee			
15:40~16:00	Oral 16	Prof. Sung-Gyoo Park, GIST	Regulatory T cell-derived TGF- β regulates the Differentiation and Function of Myeloid-Derived Suppressor Cells
16:00~16:20	Oral 17	Prof. Sukwon Hong, GIST (Prof. Brain M. Stoltz, Caltech)	Direct Alkynylation of Carbonyl Compounds by Cooperative Catalysts
16:20~16:40	Oral 18	Prof. Byoung S. Ham, GIST (Prof. Andrei Faraon, Caltech)	Quantum coherence control for measurement-based quantum comp using ultralong solid-state quantum memory
16:40 ~		Closing	