



The 18th Annual South-Western Regional Technology Conference

“Green Earth and Beyond”

Saturday, February 9, 2008

Conference Location:

California Institute of Technology

Beckman Institute Auditorium is on Wilson Ave. just south of Del Mar Ave (across from the parking garages) you will see a large plot of grass. Behind the grass area is a large building with arches and Beckman Institute written at the top of the building. Walk through the arches into a courtyard and Beckman Institute Auditorium is the building on the north side of the courtyard.



Free parking available on campus: 2 garages and 2 parking lots located on Wilson Ave. between Del Mar Ave. and California Ave. Park in unmarked spots only. There should be parking on the 3rd floor of each parking garage on Wilson.

Conference Schedule

8:30 AM – 7:30 PM

8:30 – 9:20	Registration & Breakfast Beckman Institute Classrooms 115 & 121			
9:20 – 12:00	General Session Beckman Institute Auditorium (Room 134)			
12:00 – 1:00	Lunch Beckman Institute Courtyard & Classrooms 115 & 121			
1:00 – 5:20	Career Session Beckman Institute Auditorium (Room 134)			
1:00 – 5:20	Parallel Sessions			
	Baxter 125	Baxter 315	Baxter 218	Baxter 25
	CEE	ACC	BME	WLS
	MEAT	EPS	CSIT	MLS
		PMS		
	ACC:	Applied Chemistry and Chemical Engineering		
	BME:	Biomedical Engineering		
	CEE:	Civil and Environmental Engineering		
	CSIT:	Computer and Information Technologies		
	EPS:	Earth and Planetary Science		
	MEAT:	Mechanical Engineering and Aerospace Technology		
	MLS:	Medical and Life Sciences		
	PMS:	Physical and Materials Science		
	WLS:	Women in Life Science		
5:30 – 7:30	Dinner Recreation Room			

General Session

9:20 AM – 12:00 PM

- 9:20 – 9:25 **Opening Remarks**
Dr. Jane Oh, President of KSEA-SC, JPL/NASA, Caltech
- 9:25 – 9:30 **Welcoming Remarks**
Dr. Thomas H. Hahn, Professor, University of California, LA
- 9:30 – 10:20 **"Building a 21st Century Research University"**
Keynote Speaker: Dr. Sung-Mo Steve Kang
Chancellor, University of California, Merced
- 10:20 – 11:10 **"Recent Studies on Emerging Pollutants of Concern: Advanced Oxidation as a Preferred Treatment Option"**
Invited Speaker: Dr. William J. Cooper
Professor and Director, University of California, Irvine
- 11:10 – 12:00 **"California Climate Ain't What It Used to Be!"**
Invited Speaker: Dr. William Patzert
Climatologist, JPL /NASA, California Institute of Technology

Career Session

1:00 PM – 5:20 PM

Moderator: Alice Oh, JP Morgan Chase

- 1:00 – 1:15 **"Current and Future Opportunity in Biomedical Field"**
Dr. Jae Jung, Professor and Chair, USC Medical School
- 1:15 – 1:30 **"Making Decision on Career Choice"**
Dr. Jungyeol Oh, Psychologist, Counseling
- 1:30 – 1:45 **"20 Different Specialties in Veterinary Medicine"**
Dr. Lyon Lee, Professor, W. Univ. of Health Science
- 1:45 – 2:00 **"The Path of a Scientist Lawyer"**
Dr. Joseph Kim, Attorney at Law, Biotechnology Patent
- 2:00 – 2:15 **"Career as a Government Employee"**
Mr. Steve J Lee, PE, Dept. of Transportation, State of California
- 2:15 – 2:30 **"Finding a Job After College--Or Better Yet, During"**
Mr. Josh Choi, MS, Computer Scientist, JPL/NASA, Caltech
- 2:30 – 2:45 **"Cardiology opportunity for the 21st Century"**
Dr. Greg Hong, Cardiologist, Good Heart Cardiology
- 2:45 – 3:00 **"Personal Reflection on My Career and KSEA"**
Dr. Chueng Ji, Professor, NCSU, KSEA Vice President
- 3:00 – 3:20 **BREAK**
- 3:20 – 3:30 **"KSEA-SC Mentor / Mentee Program"**
Mr. Sun Yu, BT, KSEA-SC Mentor Program Director
- 3:30 – 5:20 **Career Panel Discussion and Q&A**
Moderator: Mr. Josh Choi, JPL/NASA, Caltech

1:00 PM – 5:20 PM

ACC: Applied Chemistry and Chemical Engineering

Chair: Dr. Chan S. Park, University of California, Riverside

Co-Chair: Dr. Kyung Woon Jung, USC & Dr. Ray Won, Fluor Enterprises, Inc.

- 1:00 – 1:20 **"NMR Study of Metal Hydrides for Hydrogen Storage"**
Dr. Chul Kim, Division of Chemistry and Chemical Engineering, Caltech
- 1:20 – 1:40 **"Investigation of diesel-powered engine emissions: Effect of fuel types and control technology"**
Dr. Kwangsam Na, Center for Environmental Research and Technology at UC Riverside
- 1:40 – 2:00 **"Chemistry at the Interface of Academia and Industry"**
Dr. Kyung Woon Jung and Dr. Kyung Soo Yoo Loker Hydrocarbon Research Institute at Department of Chemistry, USC
- 2:00 – 2:20 **"Theoretical Study of Xe Clathrate Hydrate Structure I by ab initio Calculations for the 129Xe Chemical Shifts and the Dissociation Potential Energy Surface"**
Mr. Myongho Jeong, Dept. of Chemistry and Biochemistry, CSU, LA

EPS: Earth and Planetary Science

Chair: Dr. Jason Hyon, JPL/NASA, Caltech

- 2:20 – 2:40 **"Sensor Web for Earth Science"**
Dr. Meemong Lee, JPL/NASA, Caltech
- 2:40 – 3:00 **"Laboratory Spectroscopy and Atmospheric Remote Sensing using Fourier Transform Spectrometers"**
Dr. Keeyoon Sung, JPL/NASA, Caltech
- 3:00 – 3:20 **BREAK**
- 3:20 – 3:40 **"Reducing the Uncertainties of Global Soil Moisture Retrieval Using Passive Microwave Remote Sensing"**
Dr. Kyoung Wook Jin, JPL/NASA, Caltech
- 3:40 – 4:00 **"Characterizing Mega-city Pollution and Its Regional Impact with TES Measurements"**
Dr. Changsub Shim, JPL/NASA, Caltech
- 4:00 – 4:20 **"NASA Earth Science Decadal Survey results"**
Dr. Jason Hyun, JPL/NASA, Caltech

PMS: Physical and Materials Science

Chair: Dr. Jeong Sun Moon, HRL

Co-Chair: Dr. Joon Hyun Park, CERES & Dr. Hyung Jin Choi, KCSE Inc.

- 4:20 – 4:40 **"Bioenergy project - A visionary, yet realistic, approach"**
Dr. Jun-Hyun Park, CERES
- 4:40 – 5:00 **"Survey of Photolithography Industry - A Physicist's View"**
Dr. Peter Oh, Cymer
- 5:00 – 5:20 **"Membrane-less Glucose/O₂ biofuel cell based on CNT electrode"**
Dr. Jongeun Ryu, Mechanical and Aerospace Engineering Dept, UCLA

1:00 PM – 4:40 PM

BME: Biomedical Engineering**Chair: Dr. Dongwoo Kang, Pfizer Inc.****Co-Chair: Dr. Seik Oh, Baxter Inc. & Mr. Sungwook Woo, Cal Tech**

- 1:00 – 1:20 **“Development of acoustic tweezers using high frequency ultrasonic transducers”**
Dr. Jungwoo Lee, Univ. of Southern California
- 1:20 – 1:40 **“Ubiquitous health monitoring: implantable sensors and data reduction scheme”**
Dr. Steve Koh, St. Jude Medical, Inc.
- 1:40 – 2:00 **“Validation of nonlinear mixed effects model”**
Dr. Kyun Seop Bae, Asan Medical Center, University of Ulsan
- 2:00 – 2:20 **“Considerations for modeling FDG SUV from oncology trials”**
Dr. Dongwoo Kang, Pfizer Inc.

CSIT: Computer Science and Information Technologies**Chair: Dr. Jongwook Woo, CSU, Los Angeles****Co-Chair: Dr. Taehyung Wang, CSU, Northridge & Dr. Jihie Kim, USC**

- 2:20 – 2:40 **“A Computer Simulation for Modeling the Content of the Universe through Observations of High-Redshift Supernovae”**
Drs. Eun-Young Kang, M. Mijic, and T. Longson, CSU, LA
- 2:40 – 3:00 **“A New Resource Management Paradigm for High Performance Distributed Computing”**
Dr. Yang-Suk Kee, Information Sciences Institute, USC
- 3:00 – 3:20 **BREAK**
- 3:20 – 3:40 **“An Intelligent Discussion-Bot for Guiding Student Interactions in Threaded Discussions”**
Dr. Jihie Kim, Information Sciences Institute, USC
- 3:40 – 4:00 **“Open Source and Web 2.0”**
Dr. Taehyung Wang, Department of Computer Science, CSU, Northridge
- 4:00 – 4:20 **“Geographic routing for wireless networks”**
Dr. Young-Jin Kim, Embedded Networks Lab, USC
- 4:20 – 4:40 **“CMS in e-Business architecture”**
Dr. Jongwook Woo, Computer Information Systems Dept, CSU, Los Angeles

1:00 PM – 5:00 PM

CEE: Civil and Environmental Engineering**Chair: Dr. Youn Sim, County of Los Angeles****Co-Chair: Mr. Jason Choi & Mr. Lee Yoo, Orange County**

- 1:00 – 1:20 **“Development and application of low-cost biopolymer-based adsorptive media for arsenic, chromium, and selenium removal”**
Dr. Joon Min, Carollo Engineers
- 1:20 – 1:40 **“Cable-stayed bridge – Cable Vibrations: Design code interpretation of a cable-stayed bridge”**
Dr. Kookjoon Ahn, California Department of Transportation
- 1:40 – 2:00 **“Ground improvement of embankment over highly compressible soft clay and muck”**
Dr. Seungwoon Han, California Department of Transportation
- 2:00 – 2:20 **“Occurrence of endocrine - Disrupting chemicals in indoor dust and exposure risk assessment”**
Dr. Hyun Min Hwang, University of California, Davis
- 2:20 – 2:40 **“Amazing – the rebuilding of the MacArthur maze: Video of the sequence of events and rebuilding of the 580-880 interchange”**
Mr. Jun K. Jung, California Department of Transportation
- 2:40 – 3:00 **“CA4PRS, a design-construction-traffic integration tool for urban highway projects”**
Dr. Eul-Bum Lee, University of California, Berkeley
- 3:00 – 3:20 **BREAK**
- 3:20 – 3:40 **“Use of Bubble Curtain during large pile driving”**
Mr. Sung-Kwon Moon, California Department of Transportation
- 3:40 – 4:00 **“When it rains, where does it go and why do we care?”**
Dr. Youn Sim, County of Los Angeles
- 4:00 – 4:20 **“Vibration due to pile driving”**
Mr. Yeo Hoon Yoon, California Department of Transportation
- MEAT: Mechanical Engineering/Aerospace Technology**
Chair: Mr. Chanho Lee, Boeing
- 4:20 – 4:40 **“Towards Development of a Self-Healing Composite using a Mendable Polymer and Resistive Heating”**
Mr. Jong Se Park, Dept. of Mechanical Engineering and Aerospace engineering, University of California, Los Angeles
- 4:40 – 5:00 **“The effect of the addition of a dielectric nanoparticle on microwave properties of magnetic polymer composites”**
Mr. Sang Eui Lee, Dept. of Mechanical Engineering and Aerospace engineering, University of California, Los Angeles
- 5:00 – 5:20 **“Thin Film NiTi Biomedical Applications”**
Mr. Young Jae Chun, Dept. of Mechanical Engineering and Aerospace engineering, University of California, Los Angeles

1:00 PM – 5:20 PM

WLS: Women in Life Sciences**Chair: Dr. Sanghee Yoo, Vertex Pharmaceuticals Inc.; Co-Chair: Dr. Haejung An, USC**

- 1:00 – 1:20 **“A MAP kinase cascade required for fungal development and secondary metabolism”**
Dr. Kyungsoon Park, Dept. of Plant Pathology, U of Calif., Riverside
- 1:20 – 1:40 **“Opportunities and obstacles using small non-coding RNAs as drug discovery tools”**
Dr. Nansook Lee, Div. of Molecular Medicine, City of Hope Beckman Research Institute
- 1:40 – 2:00 **“Overcoming drug resistance in leukemia by targeting Bcl-2 family proteins”**
Dr. Min Hui Kang, USC Childrens Hospital LA
- 2:00 – 2:20 **“Target validation using adeno-associated viral vectors”**
Dr. Kijeong Lee, Amgen
- 2:20 – 2:40 **“Identification of subtype selective agonists for muscarinic receptors”**
Dr. Sanghee Yoo, Vertex Pharmaceuticals Inc.

2:40 – 3:00 **BREAK****MLS: Medical and Life Sciences****Chair: Dr. Kwang Jin Kim, USC; Co-Chair: Dr. Woojin An, USC & Dr. Jae Jung, USC**

- 3:00 – 3:20 **“Preclinical Evaluation of CBP/β-catenin Inhibition as a New Strategy for Drug Resistant Acute Lymphoblastic Leukemia”**
Dr. Yong Mi Kim, USC Childrens Hospital LA
- 3:20 – 3:40 **“Isolation and Characterization of a Novel H1.2 Complex That Acts as a Repressor of p53-Mediated Transcription”**
Mr. Kyung Hwan Kim, Dept. of Biochemistry and Molecular Biology, USC
- 3:40 – 4:00 **“Toll-like receptor 2-dependent NFB activation is involved in nontypeable Haemophilus influenzae-induced MCP-1 up-regulation in the spiral ligament fibrocytes of the inner ear”**
Dr. Sung-Kyun Moon, Dept. of Cell & Molecular Biology, House Ear Institute
- 4:00 – 4:20 **“Wnt signaling in the degeneration of mouse hippocampal neuron”**
Dr. Eekhoon Jho, Dept. of Life Science, Univ. of Seoul
- 4:20 – 4:40 **“Non-human primate model of Kaposi’s sarcoma-associated herpes virus infection”**
Dr. Hee Soon Chang, Dept. of Molecular Microbiology and Immunology, USC
- 4:40 – 5:00 **“Pathological arterialization of developing lymphatics in Down syndrome fetus”**
Dr. Young-Kwon Hong, Norris Cancer Research, USC School of Medicine
- 5:00 – 5:20 **“The Rad9-Hus1-Rad1 Checkpoint Clamp Regulates Interaction of TopBP1 with ATR”**
Dr. Joon Lee, Div. of Biology, California Institute of Technology

We would like to recognize and thank our sponsors:<http://www.kusco.org>**Korea-US Science Cooperation Center**<http://www.ksea.org> and <http://www.ksea-sc.org>

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