



ASIASense 2011

The 5th International Conference on Sensors

October 23 - 26, 2011 The Shilla Jeju, Jeju, Korea

Technical Program

October 24, 2011 (Monday)

October 24, 2011 (Monday) 09:30-10:20

Halla 1+2 (5F)

[Keynote] Keynote Session I

Session Chair: Eun Kyu Lee (Kyungwon University, Korea)

KEY1 09:30-10:20 Making Perfect Sense: Biosensors 50 Years On
Anthony P F Turner (Linköping University, Sweden)

October 24, 2011 (Monday) 10:40-11:20

Halla 1 (5F)

[Plenary] Plenary Session I

Session Chair: Hyun Gyu Park (KAIST, Korea)

PLE1 10:40-11:20 Emerging DNA Nanotechnology for Biosensing and Therapeutic Applications
Chunhai Fan (Chinese Academy of Sciences, China)

October 24, 2011 (Monday) 10:40-11:20

Halla 3 (5F)

[Plenary] Plenary Session II

Session Chair: Daewon Moon (KRISS, Korea)

PLE2 10:40-11:20 Emerging DNA Nanotechnology for Biosensing and Therapeutic Applications
Sang Hun Lee, Hyun Seok Song, and Tai Hyun Park (Seoul National University, Korea)



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October 24, 2011 (Monday) 14:00-15:40

Weolla (5F)

[MoA1] [Satellite Session 1] Biochip Platform

Session Chair Ferial Terki (Université Montpellier, France)
CheolGi Kim (Chungnam National University, Korea)

- MoA1-1 14:00-14:20 Focused Magnetic Stem Cell Targeting to the Retina Using Magnetic Nanoparticles**
Urs O. Häfeli, Anat Yanai, Andrew L. Metcalfe, Peter Soema, Lois Addo, Cheryl Y. Gregory-Evans, Kelvin Po, Xianghong Shana, Orson L. Moritz, and Kevin Gregory-Evans (University of British Columbia, Canada)
- MoA1-2 14:20-14:40 Expectations and Restrictions of in-vivo Application of Magnetic Beads**
Wolfgang Scheuett (University of Applied Sciences, Austria) and Urs O. Häfeli (University of British Columbia, Canada)
- MoA1-3 14:40-15:00 Smart Magnetophoresis for Protein/Cell Translocation**
S. Anandakumar, R. Venu, Byunghwa Lim, Ilkyo Jeong, CheolGi Kim (Chungnam National University, Korea)
- MoA1-4 15:00-15:20 Constrained Domain Walls in Magnetic Nanostructures for the Manipulation and Detection of Individual Nano-particles in Bio-compatible Environments**
Paolo Vavassori (The Basque Foundation for Science, Spain), M. Donolato (CIC Nano GUNE Consolider, Spain), A. Torti, E. Sogne, R. Bertacco (LNESS, Italy), N. Kostasheva, M. Deryabina, M. F. Hansen (Technical University of Denmark, Denmark), V. Metlushko (University of Illinois, USA), and B. Ilic (Cornell University, USA)
- MoA1-5 15:20-15:40 Heterogeneous Viral Vector Transduction with Encoded Micropatch for High-Content Screening Assay**
Wook Park, Sangkwon Han, Hyungjong Bae, and Sunghoon Kwon (Seoul National University, Korea)



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Sara (5F)

[MoB1] [Satellite Session 2] Biomolecular Engineering and Sensing I

Session Chair Jungbae Kim (Korea University, Korea)

MoB1-1 14:00-14:20 Neural Cell Chip to Detect Environmental Toxicants

Jeong-Woo Choi (Sogang University, Korea)

MoB1-2 14:20-14:40 In-vitro Diagnostic Platform Based on Surface Engineered Protein Nanoparticles and 3-dimensional Nanostructures

Jeewon Lee (Korea University, Korea)

MoB1-3 14:40-15:00 Digitized Nanobiomedical Device toward Nontoxic Diagnostics

HeaYeon Lee (Northeastern University, USA)

MoB1-4 15:00-15:20 Illusionary Polymerase Activity Triggered by Metal Ions: Use for Molecular Logic-Gate Operations

Hyun Gyu Park (KAIST, Korea)



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Lotus 1 (3F)

[MoC1] DNA/Protein/Cell Biosensor I

Session Chair Hiroshi Ueda (University Tokyo, Japan)
Tae Seok Seo (KAIST, Korea)

- MoC1-1 14:00-14:20 Proteoliposomes for Biosensing and Targeting**
S. Y. Hwang (Hanyang University, Korea) and E. K. Lee (Kyungwon University, Korea)
- MoC1-2 14:20-14:40 “Quenchbodies” : Quench-based Antibody Probes that Show Antigen-dependent Fluorescence**
Hiroshi Ueda (The University of Tokyo, Japan), Ryoji Abe (JAIST, Japan), Hiroyuki Ohashi (The University of Tokyo, Japan), Issei Iijima (JAIST, Japan), Fuyuki Ohsawa (The University of Tokyo, Japan), Hiroaki Takagi (Protein Express Co. Ltd., Japan), and Takahiro Hoshida (JAIST, Japan)
- MoC1-3 14:40-15:00 A Novel Immunosensor Based on Microcantilever Arrays and Magnetic-photocatalytic Hybrid Nanoparticles**
Jinmyoung Joo, Donghun Kwon, Changyong Yim (POSTECH, Korea), Myung-Sub Chung (Chung Ang University, Korea), and Sangmin Jeon (POSTECH, Korea)
- MoC1-4 15:00-15:20 Development Sensor by Surface Plasmon Resonance (SPR) for the Detection of IgE Antibody on Cow's Milk Allergy Disease**
Wanida Tangkawsakul, Thidarat Wangkam, Chokchai Puttharugsa, Nongluck Hounkamhang, Patjaree Peunghthum, Krisda Sudprasert (Mahidol University, Thailand), Suwat Benjaponpitak, Raweerat Sitcharungsi, Sirasuda Sommanus, Cherapat Sisisakulporn, Mongkol Kunakorn, Apirom Vongsakulyanon (Ramathibodi Hospital Mahidol University, Thailand), Armote Somboonkaew, Ratthasart Amarit, Boonsong Sutapun (NECTEC, Thailand), and Toemsak Sriksirin (Mahidol University, Thailand)
- MoC1-5 15:20-15:40 Rapid Detection of Dysfunctional High-Density Lipoproteins using Isoelectric Focusing based Microfluidic Device to Diagnose Senescence-related Disease**
Wookju Jang, Jaesool Shim, and Kyung-Hyun Cho (Yeungnam University, Korea)
- MoC1-6 15:40-16:00 A Novel Visual Sticker Sensor for Fish Spoilage based on Polyaniline Film**
B. Kuswandi, Jayus, A. Restyana (University of Jember, Indonesia), A. Abdullah, L. Y. Heng, and M. Ahmad (UKM, Malaysia)



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Lotus 3 (3F)

[MoC1] DNA/Protein/Cell Biosensor I

Session Chair Jitapa Sumranjit (National Nanotechnology Center, Thailand)
Woo-Dong Jang (Yonsei University, Korea)

- MoD1-1 14:00-14:20 Interactions between the Immobilization Tag and a Fluorescent Label in an Engineered Binding Protein**
Shafinaz Shahir (Universiti Teknologi Malaysia, Malaysia) and
Anthony E.G. Cass (Imperial College London, UK)
- MoD1-2 14:20-14:40 Porphyrin-based Host Compounds for Anionic Guest Bindings**
Woo-Dong Jang and Chi-Hwa Lee (Yonsei University, Korea)
- MoD1-3 14:40-15:00 Diffentiation of Metal-Ion Species by using Principle Component Analysis**
Jitapa Sumranjit, Pratoomrat Tongkate, and Rungroj Maolanon
(National Nanotechnology Center, Thailand)
- MoD1-4 15:00-15:20 Establishment of Home Stress Monitoring System Combined with Physical Activity Monitor: a Useful Application for Ubiquitous Health Care System for Chronic Diseases**
Jae Hyoung Cho, Hun-Sung Kim (The Catholic University of Korea, Korea), Hun Suk Byun (TaeWoong Medical, Co. Ltd., Korea), Jeong Hwan Kim (Life Science Technology Inc., Korea), Yoon Hee Choi, and Kun Ho Yoon (The Catholic University of Korea, Korea)
- MoD1-5 15:20-15:40 Patch Clamp Arrays for Electro-Physiological Neural Network Studies**
Joon Hyeong Park, Amani Salim, and D. Marshall Porterfield
(Purdue University, USA)
- MoD1-6 15:40-16:00 Photocatalytic Silver - Enhancement for Gravimetric Biosensors**
Wooree Ko, Hyejung Seo, Jinmyoung Joo, Namchul Jung, and Sangmin Jeon (POSTECH, Korea)



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Weolla (5F)

[MoA2] [Satellite Session 1] Biosensor and Biocarrier

Session Chair Anada Kumar (Chungnam National University, Korea)
Urs Hafeli (University of British Columbia, Canada)

MoA2-1 16:20-16:40 Biosensors and Drug Delivery

Marc Madou (University of California, USA)

MoA2-2 16:40-17:00 Synthesis of Multifunctional Nanocomposite by Self-Assembly for Sensor Application

Kyongja Woo, Wooyoung Park, Kipil Lim, and Ho seong Jang
(KIST, Korea)

MoA2-3 17:00-17:20 Nanoparticles for Targeted Drug Delivery and Bioimaging Applications

B. Parvatheeswara Rao (Andhra University, India) and CheolGi Kim
(Chungnam National University, Korea)

MoA2-4 17:20-17:40 Current Perspective on Low Temperature Synthesis of Fe-based Nanoparticles and their Magnetism

Tomoyuki Ogawa and Migaku Takahashi (Tohoku University, Japan)

MoA2-5 17:40-18:00 Recent Achievement on Diluted Magnetic Semiconductor and New Perspective of Magnetoresistive Sensor

Férial Terki, Quang Hung Tran, Souleymane Kamara, Mourad Dehbaoui, Richard Dumas, and Salam Charar (Université Montpellier 2, France)



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[MoB2] [Satellite Session 2] Biomolecular Engineering and Sensing II

Session Chair Jungbae Kim (Korea University, Korea)

- MoB2-1 16:20-16:40 Dendrimer Porphyrin-Immobilized Surface for Protein Microarray**
Won-Gun Koh, Woo-Dong Jang, Joo-Ho Kim, and Yeol Lee (Yonsei University, Korea)
- MoB2-2 16:40-17:00 Development of Protein NanoplatForms for Targeted Delivery and Molecular Imaging**
Sebyung Kang, Young Ji Kang (UNIST, Korea), and Trevor Douglas (Montana State University, USA)
- MoB2-3 17:00-17:20 Imprinted Microfluidics for Detection of Influenza Virus Using Nanowires and Gold Nanohybrids**
Tae Jung Park, Kyoung G. Lee, Tae Jae Lee, Byeong Il Kim, and Seok Jae Lee (National Nanofab Center, Korea)



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Lotus 1 (3F)

[MoC2] DNA/Protein/Cell Biosensor II

Session Chair Ruslinda A. Rahim (Waseda University, Japan)

Kwon-Soo Ha (Kangwon National University School of Medicine, Korea)

- MoC2-1 16:20-16:40 AFM/Raman Microspectroscopy for Characterization of Living Bacterial Cells in Near Physiological Conditions**
Nuttapun Supaka, Onuma Ketchart, Preyawit Na Ubon, and Alongkot Treetong (NANOTEC, Thailand)
- MoC2-2 16:40-17:00 Non-invasive Blood Cells Sensor using Terahertz Waves**
Kiyong Jeong, Yong-Min Huh, Sang-Hoon Kim, Yeonji Park (Yonsei University, Korea), Joo-Hiuk Son (University of Seoul, Korea), Seung Jae Oh, and Jin-Suck Suh (Yonsei University, Korea)
- MoC2-3 17:00-17:20 Aptamer-based Diamond Solution-gate Field Effect Transistor for HIV 1 tat Protein Detection**
A. Rahim Ruslinda, Kyosuke Tanabe, Shoji Ibori, and Hiroshi Kawarada (Waseda University, Japan)
- MoC2-4 17:20-17:40 Study of DNA Biosensor Development by Alkaline Phosphatase / PbSe Nanoparticles : CaMV35S Detection**
Pariya Na Nakorn (Thammasat University, Thailand)
- MoC2-5 17:40-18:00 Quantitative Kinetics of Proteolytic Enzymes using Peptide Arrays**
Se-Hui Jung, Deok-Hoon Kong, Young-Myeong Kim, and Kwon-Soo Ha (Kangwon National University School of Medicine, Korea)



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Lotus 3 (3F)

[MoD2] Emerging Technology for Biosensor II

Session Chair Aulanni'am Aulani (Brawijaya University, Indonesia)
Sunghoon Kwon (Seoul National University, Korea)

- MoD2-1 16:20-16:40 Mental Stress-Induced Hyperglycemia in Diabetes Mellitus: Establishment of a Continuous Stress Monitoring System**
Hun-Sung Kim, Jae-Hoon Han, Kun Ho Yoon, and Jae Hyoung Cho (The Catholic University of Korea, Korea)
- MoD2-2 16:40-17:00 Effect of Polystyrene Coating on Disposable QCM Sensor Performance and Its Affectivity for BSA Immobilization**
Setyawan P. Sakti, Dionysius J. D. H. Santjojo, and Aulani'am (Brawijaya University, Indonesia)
- MoD2-3 17:00-17:20 Development of Partipetting based Bioassay PlatForm**
Su Eun Chung, Sung Hoon Lee, Younghoon Song, Jiyun Kim, and Sunghoon Kwon (Seoul National University, Korea)
- MoD2-4 17:20-17:40 Arthritis Detection Test : Early Detection Kit Development Effort for Rheumatoid Arthritis Patient in Indonesia based on Autoimmune Marker Matrix Metalloproteinase-3 (MMP-3)**
Aulanni'am and Zulvikar Syam Bani Ulhaq (Brawijaya University, Indonesia)
- MoD2-5 17:40-18:00 A Thermal Peripheral Blood Flowmeter with Contact Force Compensation**
Jai Kyoung Sim, Sechan Youn, and Young-Ho Cho (KAIST, Korea)
- MoD2-6 18:00-18:20 Tear Glucose Monitoring by Soft Contact Lens Type Biosensor Using Biocompatible Polymers for Non-Invasive Blood Sugar Evaluation**
Hiranuma Y (Nihon University, Japan), Chu MX, Miyajima K, Arakawa T, Kudo H (Tokyo Medical and Dental University, Japan), Hiramatsu H (Nihon University, Japan), and Mitsubayashi K (Tokyo Medical and Dental University, Japan)



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[MoP] Poster Session I



MoP001 A Preliminary Study on Colorimetric Detection of Vitellogenin; a Biomarker for Endocrine Disrupting Compounds in Fish

Hamidah Sidek, Samsulida Abdul Rahman, Jaafar Abdullah, Nur Ellina Azmi, Rafidah Saadun, Suzaini Badrudin, and Hamidah Burham (SIRIM Berhad, Malaysia)

MoP002 Preliminary Study on Quantum Dots Fluorescence as a Sensing Probes

Nur Ellina Azmi, Noor Izaanin Ramli, Jaafar Abdullah (SIRIM Berhad, Malaysia), Mohammad Azmi Abdul Hamid (Universiti Kebangsaan Malaysia, Malaysia), Hamidah Sidek, Samsulida Abd Rahman, and Suzaini Badrudin (SIRIM Berhad, Malaysia)

MoP003 Investigation of Redox Properties in Nanoscale Bilayers Composed of Metalloproteins for Bioelectronic Device

Yong-Ho Chung, Taek Lee (Sogang University, Korea), Junhong Min (Kyungwon University, Korea), and Jeong-Woo Choi (Sogang University, Korea)

MoP004 Polysaccharide Functionalized Impedimetric Biosensor for Monitoring Bacterial Adhesion

A-Young Kim, Cho-Kyung Joung, and Young-Rok Kim (Kyung Hee University, Korea)

MoP005 Nanoscale Biodiode Fabrication Composed of Recombinant Azurin on Au Nanogap Junction

Si-Youl Yoo, Taek Lee, Yong-Ho Chung (Sogang University, Korea), Junhong Min (Kyungwon University, Korea), and Jeong-Woo Choi (Sogang University, Korea)



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- MoP006 Basic Matrix Assisted Kinetic Control of Perhydrolytic Reaction in Fluorescent Nanoprobes for Hydrogen Peroxide Imaging**
Jeongyun Heo, Chang-Keun Lim, and Sehoon Kim (KIST, Korea)
- MoP007 Simultaneous Detection of Dual Lung Cancer Markers using SERS-based Immunoassay Technique**
Hyangah Chon, Sangyeop Lee (Hanyang University, Korea), Soo-Young Yoon (Korea University Hospital, Korea), and Jaebum Choo (Hanyang University, Korea)
- MoP008 Electrochemical Sensors based on Redox-Active Gold Nanoparticles for the Selective Determination of Dopamine**
Kyuju Kwak, S. Senthil Kumar, and Dongil Lee (Yonsei University, Korea)
- MoP009 Nano-Surface Analysis for Biosensors Development Based on Bio-combinatorial Technique**
Hyun Kyong Shon, Hyunung Yu, Changwoo Lee (Korea University, Korea), Dae Won Moon (KRISS, Korea), Yangeon Kim (Korea University, Korea), and Tae Geol Lee (KRISS, Korea)
- MoP010 Fabrication and Characterization of Microarray for Biochips and Biosensors by Using Plasma-polymerized Polyethylene Glycol Thin Film and Its Modification**
Changrok Choi (KRISS, Korea), Kun Oh Choi, Donggeun Jung (Sungkyunkwan University, Korea), Dae Won Moon, Tae Geol Lee (KRISS, Korea)
- MoP011 Quantitative Analysis of Mixed Silane Self-Assembled Monolayers for Biochips Using Nano-Surface Analysis Techniques**
Jin Gyeong Son (KRISS, Korea), Hyegeun Min (KAIST, Korea), Hyunung Yu, Kyung Joong Kim, Dae Won Moon, and Tae Geol Lee (KRISS, Korea)
- MoP013 A Novel Method for Enzyme Activity Evaluation using TOF-SIMS**
Young-Lai Cho, Mi Young Son, Junyoung Jung, and Tae Geol Lee (KRISS, Korea)



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MoP014 DNA Detection Using a Light-Emitting Polymer Single Nanowire

C. Cui, D. H. Park, J. Joo, and D. J. Ahn (Korea University, Korea)

MoP015 Quartz Crystal Microbalance (QCM) based Prototype Device for Human Lung Function Tests

Roman Selyanchyn, Serhiy Korposh, Do-Hyeon Yang (The University of Kitakyushu, Japan), Shunichi Wakamatsu (Nihon Dempa Kogyo Co. Ltd., Japan), and Seungwoo Lee (The University of Kitakyushu, Japan)

MoP016 Pneumatic Valve Assisted Sol-Gel Microfluidic PlatForm for Multiplex SELEX on a Chip

SangWook Lee (Lund University, Sweden), Ji-Young Ahn (Dongguk University, Korea), Thomas Laurell (Lund University, Sweden), Ok Chan Jeong (Inje University, Korea), and Soyoun Kim (Dongguk University, Korea)

MoP017 Biosensor using Newly Selected Aptamers for Detection of Dopamine and Cortisol Hormones

Heynjoung Bae and Soyoun Kim (Dongguk University, Korea)

MoP018 Cell-SELEX-on-a-chip Generates Aptamers for Biomarker Discovery

Eunkyung Kim, Jee-hye Kang, and Soyoun Kim (Dongguk University, Korea)

MoP019 Water Pollutant Aptamer Selection for Toxicological Monitoring

Shou Ren and Soyoun Kim (Dongguk University, Korea)

MoP020 A Novel Gas Sensing based on 30 MHz Quartz Crystal Microbalance Twin Electrodes

Do-Hyeon Yang, Roman Selyanchyn, Naoki Mizutani (The University of Kitakyushu, Japan), Shunichi Wakamatsu (Nihon Dempa Kogyo Co. Ltd., Japan), and Seung-Woo Lee (The University of Kitakyushu, Japan)



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- MoP021 Inkjet-Printed Graphene-based Electrochemical Sensing in Paper-based Devices**
C. Karuwan, A. Wisitsoraat, C. Sriprachuabwong, D. Phokharatkul, and A. Tuantranont (NECTEC, Thailand)
- MoP022 Droplet based Microfluidic Chip with Carbon Nanotube Electrode for Electrochemical Analysis of Glutathione**
C. Karuwan, A. Wisitsoraat, D. Phokharatkul, A. Jomphoak, T. Matusros, and A. Tuantranont (NECTEC, Thailand)
- MoP023 Cell Dynamics Study using Bio-Friendly Photoresponsive Polymer Thin Films**
Jongcheol Choi, Miju Kim, Hong-Ryul Jung, and Junsang Doh (POSTECH, Korea)
- MoP024 Vertical ZnO Nanorods Grown on Various Substrates and their Application to Electrochemical Detection**
Myeongsoon Lee, Green Baek, and Dongil Lee (Yonsei University, Korea)
- MoP025 Direct Electrochemistry of Cholesterol Oxidase Functionalized Multi-walled Carbon Nanotubes Modified Screen Printed Electrode for Determination of Cholesterol**
Saithip Pakapongpan (NECTEC, Thailand), Pornpimol Sritongkham (University of Mahidol, Thailand), and Adisorn Tuantranont (NECTEC, Thailand)
- MoP026 A Novel Analytical Technique for the Photocatalytic Activities of Nanoparticles by using the Multiplexed Assay Platform**
No Ah Lee, Soo Jin Kim, Bong-Jae Park, Hyun Min Park (KRISS, Korea), Bong Hyun Chung (KRIBB, Korea), Minjoong Yoon (Chungnam National University, Korea), and Nam Woong Song (KRISS, Korea)
- MoP027 Fabrication of a Structure-Specific RNA Binder for Array Detection of Label-Free MicroRNA**
Jeong Min Lee, Hyun Min Cho, and Yongwon Jung (UST, Korea)



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- MoP028 Development of Electrochemical Biosensor for Methyltransferase Activity Assay Utilizing Quantum Dot**
Songyi Baek, Byoung Yeon Won, Ki Soo Park, and Hyun Gyu Park (KAIST, Korea)
- MoP029 A Novel Platform for Custom-designed SNPs Assay on DNA Microarray**
Sung Chul Shin, Gahee Kim (KAIST, Korea), Hee-Bum Yang, Byoung-Cheorl Kang (Seoul National University, Korea), and Hyun Gyu Park (KAIST, Korea)
- MoP030 Colorimetric SNP Genotyping Utilizing Allele-specific PCR With a Thiol-Labeled Primer**
Ye Lim Jung, Cheulhee Jung, Jung Hun Park (KAIST, Korea), Dae-Yeon Cho (LabGenomics Co., Ltd., Korea), and Hyun Gyu Park (KAIST, Korea)
- MoP031 Homocysteine Quantification on Bioluminescent Escherichia Coli Auxotroph Array for the Determination of Hyperhomocysteinemia**
Min-Ah Woo, Moon Il Kim, and Hyun Gyu Park (KAIST, Korea)
- MoP032 Selection of Specific Metal Ions Binding DNA Sequence toward a Point-of-Care Type Detection of Blood Pb²⁺ or Hg²⁺**
Chan Ho Chung, Joong Hyun Kim, and Bong Hyun Chung (KRIBB, Korea)
- MoP033 Development of Piroxicam Sensor based on Molecular Imprinted Polymer-Modified Carbon Paste Electrode**
Mohammad Bagher Gholivand and Nashmil Karimian (Azad University, Iran)
- MoP034 Signal Enhancement of Surface Plasmon Resonance Immunoassays using Carbon Nanotube-Antibody Complex**
Kyung Mi Park, Jin Young Jeong, Eun Gyo Lee, and Bong Hyun Chung (KRIBB, Korea)
- MoP035 Magnetic Bead based Immunoassay for Autonomous Detection of Toxins**
Youngeun Kwon (Dongguk University, Korea), Christine Hara, and Chris Bailey (Lawrence Livermore National Laboratory, USA)



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MoP036 Preparation of Fluorescent Polymer-Silica- Core/Shell Nanoparticles and their Application

Hee Hyun Jang, Chang-Soo Lee, and Bong Hyun Chung (KRIBB, Korea)

MoP037 Use of Gold Nanoprobe Combined with Loop-Mediated Isothermal Amplification for Detection of Shrimp Yellow-Head Virus

Wansika Kiatpathomchai (BIOTEC, Thailand), Wansadaj Jaroenram (Mahidol University, Thailand), Narong Arunrut, Yortyot Seetang-Nun (BIOTEC, Thailand), Orawan Khunthong, Photchanathorn Prombun, and Jurairat Promjai (Mahidol University, Thailand)

MoP038 A Rapid and Ultrasensitive Lateral Flow Biosensor for the Detection of Nucleic Acid based on Isothermal Strand-displacement Polymerase Reaction

Puchang Lie, Jie Liu, Zhiyuan Fang, Boying Dun, and Lingwen Zeng (Chinese Academy of Sciences, China)

MoP039 Microfluidic Analysis of Alzheimer'S Amyloid β -Peptide Clearance and Dissociation by Metal Chelators

Joon Seok Lee and Chan Beum Park (KAIST, Korea)

MoP040 Microarray-based SNP Detection using RecA Protein

Gahee Kim, Sung Chul Shin, Yun Kyung Jung, and Hyun Gyu Park (KAIST, Korea)

MoP041 FRET-based Molecular Sensors for Sugar Analysis

Seung-Goo Lee, Jae-Seok Ha, and Sang Jun Lee (KRIBB, Korea)

MoP042 Real-Time Characterization of Protein Interactions and Aggregation using Quartz Crystal Microbalance with Dissipation Monitoring

Fredrik Andersson (Q-Sense, Sweden)



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MoP043 A CMOS DNA Sensor based on the Direct Monitoring of Surface Potential Induced by Molecular Charges

Kang-Ho Lee, Jeong Oen Lee, Sukhwan Choi, Jun-Bo Yoon, and Gyu-Hyeong Cho (KAIST, Korea)

MoP044 α -CD Self-Assembled Monolayers for Simple and Efficient Antibody Immobilization

Juyeon Jung, Soyeon Yi, and Bong Hyun Chung (KRIBB, Korea)

MoP045 Construction of a Semi-synthetic Antibody Library

Hye Ran Kim, Juyeon Jung, and Bong Hyun Chung (KRIBB, Korea)

MoP046 Homogeneous Noncompetitive Sandwich Immunoassay based on Luminescence Resonance Energy Transfer

Young-mi Lee, Hyo Jin Kang, and Sang J. Chung (KRIBB, Korea)

MoP047 A Highly Selective Probe for Dual-Specific Protein Tyrosine Phosphatases

Myeong Seon Jeong (KRIBB, Korea), Tae-Il Kim (Dankook University, Korea), Sang J. Chung (KRIBB, Korea), and Youngmi Kim (Dankook University, Korea)

MoP048 Antibody Mimicking Peptides from Phage Display Screening: Potential Applications in Immuno Separation and Biomarker Diagnostics

Thai Bao Dieu Hien, Joon-Ho Maeng, and E. K. Lee (Kyungwon University, Korea)

MoP049 Simultaneous Determination of Dopamine and Ascorbic Acid using Functionalized Carbon Nanotube-Modified Electrodes

Yeoun Kyoung Kim, Chanmi Bae, Chang-Seuk Lee, Yujin Lee, Jisoo Yoon (Soonchunhyang University, Korea), Jeong-Wook Oh (Seoul National University, Korea), and Tae Hyun Kim (Soonchunhyang University, Korea)



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- MoP050 Enhanced Stability of Fluorescent Protein Nanoparticles (FPNPs) using Lyophilization**
Li-na Yoo, Hyun-jin Kim, Kyung Rim Kim, and Jeewon Lee (University of Korea, Korea)
- MoP051 ZnO Nanorods-enhanced Fluorescence for a Sensitive Diagnostic Assay of Rheumatoid Arthritis**
Koochul Kwon, Jong-hwan Lee, Keum-Young Ahn, and Jeewon Lee (Korea University, Korea)
- MoP052 Aptamer Sensor System based on Fluorescent Protein Nanoparticles**
Jin-Seung Park, Seong-Eun Kim, and Jeewon Lee (Korea University, Korea)
- MoP053 A Sensitive and Quantitative Analysis Method of Thrombin using Enzyme Precipitate Coatings-Linked Aptamer Assay (EPC-LAA)**
Hye-Jin Lee, Min-Kyu Oh, and Jungbae Kim (Korea University, Korea)
- MoP054 Escherichia Coli Phosphoglycerate Kinase Is a Novel Fusion Expression Partner To Improve Solubility of Aggregation-Prone Heterologous Proteins**
Jong-Am Song, Eun-Jung Lee, Huong Tra Nguyen, and Jeewon Lee (Korea University, Korea)
- MoP055 Versatile Bonding Method for Micro/Nanofluidic Biosensor Devices**
Vijaya Sunkara, Dong-Kyu Park, and Yoon-Kyoung Cho (UNIST, Korea)
- MoP056 Capillary Electrophoresis Separation Coupled With in-Channel Detection of Triazine Herbicides on a Microfluidic Chip**
Kamrul Islam, Rohit Chand, Dawoon Han, Sandeep Kumar Jha, and Yong-Sang Kim (Myongji University, Korea)
- MoP057 Monoclonal Antibodies Specific to Pro402 and Asn803 Hydroxylated HIF-1 α Peptides for Screening inhibitors for PHD2 and FIH, Respectively**
Myung Kyu Kee, Hyun Kyung Song, Eun A Cho, Jong Min Choi (KRIBB, Korea), and Sang-Hyup Lee (Catholic University of Daegu, Korea)



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MoP058 Simultaneous Detection of Multiple Mutations in EGFR using the Fluorescence Quenching of CdSe Quantum Dots

Taegyeong Kang, Hosub Lee, Ahreum Kim, Hee Young Ahn (Yonsei University, Korea), Sang-Woo Joo (Soongsil University, Korea), So Yeong Lee (Seoul National University, Korea), Kyong-Ah Yoon (National Cancer Center, Korea), and Kangtaek Lee (Yonsei University, Korea)

MoP059 Non-Collapsible PDMS Nanoslit Fabrication using Self-Assembled Surface Treatment

Chang-Beom Kim (ETRI, Korea), Honggu Chun (Korea University, Korea), Ki-Bong Song (ETRI, Korea), and Sanghoon Lee (Korea University, Korea)

MoP060 Electrical and Gas Sensing Properties of Nano-Structured Zinc Oxide Prepared by Sonochemical Method

Daec Chang and Soo-Keun Lee (Daegu Gyeongbuk Institute of Science and Technology, Korea)

MoP061 Measurements of Nitric Oxide (NO) Release using Multiple Microelectrode Array Cell Chip

Hee-Ju Ko and Soo-Ik Chang (Chungbuk National University, Korea)

MoP062 Lactate Biosensor based on Graphene/PEDOT/PSS/LDH Nanocomposite Modified Screen Printed Electrode via Inkjet Printing

Saithip Pakapongpan, Chakrit Sriprachuabwong (NECTEC, Thailand), Pornpimol Sritongkham (University of Mahidol, Thailand), and Adisorn Tuantranont (NECTEC, Thailand)

MoP063 Detection of Cotinine using a Chemiluminescence-based Lateral Flow Immunoassay (LFA) Sensor

Eun-Jung Jo, Hyou-Arm Joung, Youngkyoung Oh, and Min-Gon Kim (GIST, Korea)



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MoP064 A Colorimetric Detection of DNA for Biosensor Applications

Tran Hong Hanh and Nae Yoon Lee (Kyungwon University, Korea)

MoP065 A Novel Detection Method of PCR Amplicon for Biosensor Application

Kieu The Loan Trinh and Nae Yoon Lee (Kyungwon University, Korea)

MoP066 Sequential Injection of Liquid into Microchannel based on the Combination of Centrifugal and Capillary Forces

Hainan Zhang and Nae Yoon Lee (Kyungwon University, Korea)

MoP067 Development and Evaluation of Bacteria based Microrobot using Biocompatible Materials

Jaehee Kim, Sungjun Park, Daecheol Park, Youngjin Choi, Jongoh Park, Sukho Park (Chonnam National University, Korea)

MoP068 Microarray-based Identification of Anthocyanin-specific Transcription Factors in Chinese Cabbage

Changkug Kim, Dongsuk Park, Youngjoo Seol and Jangho Hahn (NAAS, Korea)

MoP069 Modified Nanodiamonds in Design of Biosensor Systems

V. S. Bondar, A. P. Puzyr, A. E. Burov (SB RAS, Russia), and C. K. Rhee (KAERI, Korea)

MoP070 Temperature Insensitive Electrochemical Biosensor based on Glass Epoxy

Jaekyu Choi (KAIST, Korea), Jinwoo Lee (CERAGEM Medisys, Korea), and Je-Kyun Park (KAIST, Korea)

MoP071 Gold Nanoparticle-Modified Polymer Platform for Controlling Metastatic Cancer Cell Phenotypes

Hyojin Lee, Yeongseon Jang, Jinhwa Seo, Kookheon Char, and Jwa-Min Nam (Seoul National University, Korea)



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MoP072 Electrochemical Detection of DNA Mutations on a PNA-Modified Electrode Utilizing a Single-stranded DNA Specific Endonuclease

Sujeong Shin, Byoung Yeon Won, Cheulhee Jung, Sung Chul Shin (KAIST, Korea), Dae Yeon Cho (Labgenomics Co., Ltd., Korea), Soo Suk Lee (Samsung Advanced Institute of Technology, Korea), and Hyun Gyu Park (KAIST, Korea)

MoP073 Membrane Protein Detection on Electrically Engineerable Lipid Bilayer

Young Kwang Lee and Jwa-Min Nam (Seoul National University, Korea)

MoP074 Vertically Aligned Carbon Nanotube Electrodes Directly Grown on a Glassy Carbon Electrode

Cheol-Soo Yang (KRICT, Korea), Serin Park (Chungbuk National University, Korea), Dong-Won Park, Kwang-Rok Kim, Jun-Hyuk Kwak (KRICT, Korea), Hye-Mi So, Chi Won Ahn (National NanoFab Center, Korea), Beom Soo Kim (Chungbuk National University, Korea), Hyunju Chang, and Jeong-O Lee (KRICT, Korea)

MoP075 Herbicide Specificity of Plant Glutathione S-transferases for the Detection of Xenobiotics

Jin-Joo Lee, Hyun-Joo Cho, Dong-Hyeun Jo, Hyun-Dong Do, and Kwang-Hoon Kong (Chung-Ang University, Korea)

MoP076 Magneto Resistive Sensor for Magnetic Bead Binding and Biosensing Application

Hoon Song and Duck-gun Park (KAERI, Korea)

MoP077 Homogeneous Fluorescent Immuno-sensor for Rapid and Sensitive Detection of slgA in Saliva Samples

Dan Wang and Meiping Zhao (Peking University, China)

MoP078 Hybrid Monolithic 3D Carbon Suspended Nanowires for the Application of Electrochemical Sending PlatForms

Yeongjin Lim, Jeong-Il Heo (UNIST, Korea), Marc Madou (University of California, USA), and Heungjoo Shin (UNIST, Korea)



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- MoP079 The Beta-amyloid Peptide Detection Method in the NIH3T3 Cell using the Photo Field Effect Transistor**
Cheol-Joo Chae, Chang-Beom Kim, Kwan-Su Kim, Hye-Rim Shin, and Ki-Bong Song (ETRI, Korea)
- MoP080 Electrochemical Aptasensors Fabricated with Vertically Aligned Carbon Nanotubes**
Du-Won Jeong, Dong-Won Park, Serin Park (KRICT, Korea), Ju-Jin Kim (Chonbuk National University, Korea), and Jeong-O Lee (KRICT, Korea)
- MoP081 Developement of MEMS Acoustic Sensor based on Mechanical Frequency Analyzer**
Youngdo Jung, Young Hwa Lee, and Shin Hur (KIMM, Korea)
- MoP082 Detection of 2,4,6-Trinitrotoluene (TNT) using Quantum Dots-based Optical Sensors**
Nayoun Won, Jungheon Kwag, Ho Jin, and Sungjee Kim (POSTECH, Korea)
- MoP083 ph Controlled Aggregation of Gold Nanoparticles for Sensitive Detection of Cotinine using Surface Enhanced Raman Scattering (SERS)**
Sungwook Jung, Jutaeck Nam, and Sungjee Kim (POSTECH, Korea)
- MoP084 Highly Sensitive and Multiplexed Bioassays by Signal Amplifications of Targets using QD Biological Self-assemblies**
Joonhyuck Park and Sungjee Kim (POSTECH, Korea)
- MoP085 Development of a Real Time Assay using Aptamers on Nanometalic Substrates**
Sang Hui Park, In Hae Chung, and Sang Kyung Kim (KIST, Korea)
- MoP086 Single Channel Ion Concentration Polarization for Biomolecule Preconcentration**
Minseok Kim and Taesung Kim (UNIST, Korea)



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- MoP087 Photoluminescent Peptide Nanotubes for Selective Detection of Neurotoxins**
Jae Hong Kim and Chan Beum Park (KAIST, Korea)
- MoP088 Hydrogel-encapsulated Bacterial Cell Patterning Methods for Whole Cell based Biosensor Applications**
Woon Sun Choi, Minseok Kim, Seongyong Park, and Taesung Kim (UNIST, Korea)
- MoP089 SPR Sensor for CRP Assay using Gold Nanoparticles Immobilized with Cell-Free Synthesized Single-chain Variable Fragment**
Ju-Young Byun (Chungnam National University, Korea), Yong-Beom Shin (KRIBB, Korea), Dong-Myung Kim (Chungnam National University, Korea) and Min-Gon Kim (GIST, Korea)
- MoP090 A Design and Fabrication of Si One-chip Micro Platform for Micro 32 Gas Sensor Array using MEMS Technique**
Joon-Shik Park, Kwang-Bum Park, Hyo-Derk Park, and Seong-Dong Kim (KETI, Korea)
- MoP091 Optimization of Biotin Labeling of Antibodies using Mouse IgG and Goat Anti-mouse IgG-conjugated Fluorescent Beads and their Application as Capture Probes on Protein Chip**
Jin Hyung Lee and Jeong Ho Chang (KICET, Korea)
- MoP092 Nanoplasmonic Biosensor for Clinical Diagnosis**
Won Joo Im, Ju Young Byun (UST, Korea), Seung Woo Lee (KRIBB, Korea), Min-Gon Kim, and Yong-Beom Shin (UST, Korea)
- MoP093 Preparation of His-tagged Enzyme-Conjugated Heterogeneous Magnetic Mesoporous Silica for the Elimination of Catechol**
Jiho Lee, Soo Youn Lee, and Jeong Ho Chang (KICET, Korea)



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- MoP094** **Diadnostic System Development based on Miniaturized-SPR (MiCo SPR nano) for Diagnosis of Prostate Cancer Marker**
Do-Kyun Kim, Buil Jeon, Yongkyu Kim, Chulho Ham, and Hyun Kyu Park (MiCoBioMed Ltd., Korea)
- MoP095** **Detection of Foodborne Pathgenes based on Miniaturized-SPR (MiCo SPR nano) for Its Application to Food Hygiene**
Buil Jeon, Do-Kyun Kim, Yongkyu Kim, Chulho Ham, and Hyun Kyu Park (MiCoBioMed Ltd., Korea)
- MoP096** **Improved SEM Image Observation of λ -DNA with UHR FE-SEM and Staining Method**
Eunjeong Shin (KBSI, Korea), Jae-Hoon Lee, Ah-Rang Son, Sujin Kim (Digital Genomics Inc., Korea), Eun-Soo Jeong (ETRI, Korea), and Tae-Sung Bae (KBSI, Korea)
- MoP097** **Enhancing the Performance of Carbon Fiber based Glucose Sensors by Improving the Porosity and Electrical Properties**
Tae-Sung Bae, Eunjeong Shin (KBSI, Korea), Ji Sun Im, Jong Gu Kim, and Young-Seak Lee (Chungnam National University, Korea)
- MoP098** **Enhancement of DNA Detection in Microarray by Hybridization under Piezoelectric Microagitation through a Liquid Coupling Medium**
T. Maturos, T. Pogfay, K. Rodaree (NECTEC, Thailand), S. ChaoTiang (National Center for Genetic Engineering and Biotechnology, Thailand), A. Wisitorsaat, K. Jaruwongrungrunsee, and A. Tuantranont (NECTEC, Thailand)
- MoP099** **Fabrication of Highly Ordered Silver Nanodot Patterns and LSPR Application for Biomolecular Sensing**
Hae-Wook Yoo, Jin-Mi Jung, and Hee-Tae Jung (KAIST, Korea)
- MoP100** **Transcription Factor (MITF) and DNA (E-Box) Binding Analysis for Pigment Control in Skin by Surface Plasmon Resonance**
Manki Son and Eunki Kim (Inha University, Korea)



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- MoP101 Homogeneous Fluorescent Immuno-sensor for Rapid and Sensitive Detection of sIgA in Saliva Samples**
Daecheol Park, Sungjun Park, Jaehee Kim, Youngjin Choi, Jongoh Park, and Sukho Park (Chonnam National University, Korea)
- MoP102 Functionalized 3D Organic Molecular Architecture by the Self-assembly of β -Peptide Foldamer**
Sung Hyun Yoo and Hee-Seung Lee (KAIST, Korea)
- MoP103 Production of Recombinant L-glutamate Oxidase for GOT/GPT Sensing**
Jungsun Kwon and Bong Hyun Chung (KRIBB, Korea)
- MoP104 Polyhedral Molecular Architectures by the Self-Assembly of α/β -Peptide Foldamer**
Jaehoon Eom and Hee-Seung Lee (KAIST, Korea)
- MoP105 Multidimensional Nanoplasmonic Hotspot Arrays for Ultrasensitive SERS**
Young-Jae Oh and Ki-Hun Jeong (KAIST, Korea)



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Halla 1+2 (5F)

[Keynote] Keynote Session II

Session Chair Sirirung Songsivilai (National Nanotechnology Center, Thailand)

KEY2 09:30-10:20 Nanotechnology and its Convergence

Eun Hong Lee and Jong Min Kim (Samsung Electronics Co., Ltd., Korea)

October 25, 2011 (Tuesday) 10:40-11:20

Halla 1 (5F)

[Plenary] Plenary Session III

Session Chair Yoon Sik Lee (Seoul National University, Korea)

PLE3 10:40-11:20 Challenges in the Development of Diagnostics for Tropical Infectious Diseases

Sirirung Songsivilai (National Nanotechnology Center, Thailand)

October 25, 2011 (Tuesday) 10:40-11:20

Halla 3 (5F)

[Plenary] Plenary Session IV

Session Chair Yong-Min Huh (Yonsei Univ., Korea)

PLE4 10:40-11:20 Hypoxic Metabolism of Tumor : a Target for PET Imaging / Radiotherapy

Yasuhisa Fujibayashi (NIRS, Japan)



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October 25, 2011 (Tuesday) 13:00-14:00

Weolla (5F)

[TuA1] U-healthcare and Emerging Technologies

Session Chair Wan Soo Yoon (KRISS, Korea)

- TuA1-1 13:00-13:20 The Systems of Logic Gates and Secure Communication using Enzyme Reactions with Mimicking of Digital Signal Processing (DSP)**
Kyung-Woo Kim, Jungbae Kim (Korea University, Korea), Evgeny Katz (Clarkson University, USA), and Min-Kyu Oh (Korea University, Korea)
- TuA1-2 13:20-13:40 Ethanol Gas Visualization System for Breath Alcohol Analysis after Drinking**
Wang X (Tokyo Medical and Dental University, Japan), Kajiro T (Tokyo University of Technology, Japan), Hatayama K, Kita K, Miyajima K, Arakawa T, Kudo H (Tokyo Medical and Dental University, Japan), Yano K (Tokyo University of Technology, Japan), and Mitsubayashi K (Tokyo Medical and Dental University, Japan)
- TuA1-3 13:40-14:00 Epoxy-Clay Nanocomposite for Biocompatible Material Encapsulation the Implanted Electronic Device**
Nithima Nakthong, Zeng Leartmanorat, and Toemsak Sriksirin (Mahidol University, Thailand)



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Sara (5F)

[TuB1] Molecular Imaging

Session Chair Jin-Suck Suh (Yonsei University, Korea)

TuB1-1 13:00-13:20 Development of Single-Molecule Four-color FRET

Jinwoo Lee, Sanghwa Lee (Seoul National University, Korea), Kaushik Ragunathan (University of Illinois, USA), Chirlmin Joo (Seoul National University, Korea), Taekjip Ha (University of Illinois, USA), Sungchul Hohng (Seoul National University, Korea)

TuB1-2 13:20-13:40 In Vitro and In Vivo Confocal Microscopy of Hyaluronic Acid Derivatives

Ki Su Kim (POSTECH, Korea), Seonghoon Kim (KAIST, Korea), Eun Ji Goh (POSTECH, Korea), Yi Rang Kim (KAIST, Korea), Hyemin Kim (POSTECH, Korea), Seok Hyun Yun (KAIST, Korea), and Sei Kwang Hahn (POSTECH, Korea)

TuB1-3 13:40-14:00 Biomedical Imaging Platform Technology based on Poly(amino acids)

Yong Taik Lim (Chungnam National University, Korea)

TuB1-4 14:00-14:20 Visualizaing Single Protein-Protein Interactions in Native Proteome

Hong-Won Lee, Kipom Kim, Taeyoon Kyoung, Won Do Heo, and Tae-Young Yoon (KAIST, Korea)

TuB1-5 14:20-14:40 Synthesis and Characterization of Photoluminescent, Water-soluble Fullerene Nanoparticle and their Photodynamic Effects

Jinyoung Jeong, Mijin Choi, Ju Whan Kim, Sang J. Chung, Sujin Lim, Han Lee, and Bong Hyun Chung (KRIBB, Korea)



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Lotus 1 (3F)

[TuC1] Microarray/Microdevice

Session Chair Yoon-Kyoung Cho (UNIST, Korea)
Wonhee Lee (KAIST, Korea)

- TuC1-1 13:00-13:20 An Integrated DNA Barcode Assay Microdevice for Rapid, Multiplex, and Highly Sensitive Pathogen Detection**
Jae Hwan Jung and Tae Seok Seo (KAIST, Korea)
- TuC1-2 13:20-13:40 High-Sensitivity Microfluidic Calorimeters using Vacuum-Insulated Microfluidics: State of the Art and Improvement**
Wonhee Lee (KAIST, Korea)
- TuC1-3 13:40-14:00 Lab-on-a-Disc for Fully Integrated Multiplex Immunoassays**
Vijaya Sunkara, Jiwoon Park, Tae-Hyeong Kim, Hyundoo Hwang, and Yoon-Kyoung Cho (UNIST, Korea)
- TuC1-4 14:00-14:20 Disposable Microfluidic Electrochemical Chip for Microvoltammetric Analysis**
Rohit Chand, Kamrul Islam, Dawoon Han, Sandeep Kumar Jha, and Yong-Sang Kim (Myongji University, Korea)
- TuC1-5 14:20-14:40 Structural Design for Improving Surface Plasmon Resonance (SPR) Sensing Performance**
Hyunjun Soh, Jeonghoon Yoo, and Hee Sung Lim (Yonsei University, Korea)



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Lotus 3 (3F)

[TuD1] Nanostructured Bio/Chemical Sensor I

Session Chair Duangporn Polpanich (National Science and Technology Development Agency, Thailand)
Dong Ha Kim (Ewha Womans University, Korea)

- TuD1-1 13:00-13:20 Surface Modified Magnetic Nanoparticles for Quantitative Detection of Escherichia Coli based on PCR-Colorimetry Technique**
Raweewan Thiramanas (National Nanotec Center, Thailand), Kulachart Jangpatarapongsa, Pramuan Tangboriboonrat (Mahidol University, Thailand), and Duangporn Polpanich (National Nanotec Center, Thailand)
- TuD1-2 13:20-13:40 Target Specific and Sensitive Signal Generation on Gold Nanoparticles using Nucleic Acids**
Joong Hyun Kim and Bong Hyun Chung (KRIBB, Korea)
- TuD1-3 13:40-14:00 Fast, Local Heating with Nano/Micro Wires for Single Cell Heat Shock Response**
Ryohei Ueno, Patrick Ginet, Kenta Yamada, Kevin Montagne, Yasuyuki Sakai, Dominique Fourmy, Teruo Fujii (The University of Tokyo, Japan), Sebastian Volz (Ecole Centrale Paris, France), and Beomjoon Kim (The University of Tokyo, Japan)
- TuD1-4 14:00-14:20 Nanoscale Enzyme Reactors in Mesoporous Carbon and Its Application for Biosensors and Biofuel Cells**
Chulmin Jeon (Korea University, Korea), Ki Young Kwon, Hee-Tae Jung (KAIST, Korea), and Jungbae Kim (Korea University, Korea)
- TuD1-5 14:20-14:40 Tailored Plasmonic Nanostructures for Efficient SPR Sensing**
Dong Ha Kim, Kyungwha Chung, Ji-Eun Lee, and Yoon Hee Jang (Ewha Womans University, Korea)



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Sara (5F)

[TuB2] Imaging Technologies in Bioimaging

Session Chair Kwang Myung Kim (KIST, Korea)

- TuB2-1 15:20-15:40 Label-Free Nanobio Imaging for Cardiovascular Applications**
Dae Won Moon (KRISS, Korea)
- TuB2-2 15:40-16:00 Development of Aptamers for Pancreatic Cancer using Cell- Selex**
Pooja Dua, Soyoun Kim (Dongguk University, Korea), and Dong-ki Lee (Sungkyunkwan University, Korea)
- TuB2-3 16:00-16:20 Co-transcriptional Analysis of Thiamine Pyrophosphate Binding in the thiM TPP Riboswitch**
Heesoo Uhm and Sungchul Hohng (Seoul National University, Korea)
- TuB2-4 16:20-16:40 siRNA Nanovector for Targeted Gene Silencing and Cytotoxic Effect in Cancer Cells**
Hyejung Mok (KRIBB, Korea), Omid Veisheh, Chen Fang, Forrest M. Kievit, Freddy Y. Wang, James O. Park, and Miqin Zhang (University of Washington, USA)
- TuB2-5 16:40-17:00 Coordination of DNA Bending, Cleavage, and Gate Opening by Human Topoisomerase II α**
Sanghwa Lee, Seung-Ryoung Jung, Kang Heo (Seoul National University, Korea), Jo Ann W. Byl, Joseph E. Deweese, Neil Osheroff (Vanderbilt University, USA), and Sungchul Hohng (Seoul National University, Korea)
- TuB2-6 17:00-17:20 Label-Free ToF-SIMS Imaging Study for Direct Disease Metabolomics**
Tae Geol Lee, Ji-Won Park (KRISS, Korea), Sojeong Yun (POSTECH, Korea), Heesang Song, Ki-Chul Hwang (Yonsei University, Korea), Hark Kyun Kim (National Cancer Center, Korea), Daehee Hwang (POSTECH, Korea), and Dae Won Moon (KRISS, Korea)



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Lotus 1 (3F)

[TuC2] Small Molecule/Hormone Bio&Chemical Sensor

Session Chair Emel Musluoglu (Tubitak Marmara Research Center, Turkey)
Soyoun Kim (Dongguk University, Korea)

- | | | |
|--------|-------------|--|
| TuC2-1 | 15:20-15:40 | <p>Comparison and Evaluation of Low Concentration Detection of Explosives in Gas and Liquid Media</p> <p>Emel Musluoglu, Dilek Erbahar, Mika Harbeck, Ilke Gürol, and Zafer Öztürk (TÜBITAK Marmara Research Center, Turkey)</p> |
| TuC2-2 | 15:40-16:00 | <p>Human Parathyroid Hormone Receptor-Functionalized Polypyrrole Nanoparticle-FET as a High-Performance Human Parathyroid Hormone Sensor</p> <p>Sae Ryun Ahn, Hyun Seok Song, Oh Seok Kwon, Sang Hun Lee, Jyongsik Jang, and Tai Hyun Park (Seoul National University, Korea)</p> |
| TuC2-3 | 16:00-16:20 | <p>Small Molecule Sensing : Sol-gel Derived Nanoporous Compositions for Entrapping Small Molecules and Its Outlook towards Aptamer Screening</p> <p>Ji-Young Ahn (Dongguk University, Korea), Sangwook Lee (Lund University, Sweden), Minjoung Jo, Minjoung Kim, Heynjoung Bae (Dongguk University, Korea), Thomas Laurell (Lund University, Sweden), Ok Chan Jeong (Inje University, Korea), and Soyoun Kim (Dongguk University, Korea)</p> |
| TuC2-4 | 16:20-16:40 | <p>The Comparison for the Detection of Whole and Lysed Red Blood Cells by using Surface Plasmon Resonance Imaging</p> <p>Patjaree Peunghthum, Krisda Sudprasert, Nongluck Hounkamhang, Apirom Vongsakulyanon, Chokchai Puttharugsa, Thidarat Wangkam, Wanida Tangkawsakul, Mongkol Kunakorn, Pimpun Kitpoka (Mahidol University, Thailand), Boonsong Sutapun, Ratthasart Amarit, Armote Somboonkaew (NECTEC, Thailand), and Toemsak Srihirin (Mahidol University, Thailand)</p> |
| TuC2-5 | 16:40-17:00 | <p>Electrochemically Self-organized Vertically Grown Silver Nanograss and Enzyme-less Hydrogen Peroxide Sensor Application</p> <p>Doyeon Bang, Young Wook Chang, Jaemoon Yang, Kyung-Hwa Yoo, and Seungjoo Haam (Yonsei University, Korea)</p> |
| TuC2-6 | 17:00-17:20 | <p>High Sensitive Formaldehyde Bio-sniffer (Biochemical Gas Sensor) based on NADH Fluorometry with UV-LED Excitation</p> <p>Yamashita T., Itabashi G., Suzuki Y., Miyajima K., Arakawa T., Kudo H. (Tokyo Medical and Dental University, Japan), Yano K. (Tokyo University of Technology, Japan), and Mitsubayashi K. (Tokyo Medical and Dental University, Japan)</p> |



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Lotus 3 (3F)

[TuD2] Nanostructured Bio/Chemical Sensor II

Session Chair Kohji Mitsubayashi (Tokyo Medical Dental University, Japan)
Dongil Lee (Yonsei University, Korea)

- TuD2-1 15:20-15:40 Amperometric Sensors Based on Quantum-Sized Au₂₅ Nanoclusters**
S. Senthil Kumar, Kyuju Kwak, Green Baek, and Dongil Lee (Yonsei University, Korea)
- TuD2-2 15:40-16:00 Photostable Fluorescent Core/Shell Nanoparticles Composed of a Fluorene Copolymer and Silica**
Chang-Soo Lee, Hee Hyun Jang, and Bong Hyun Chung (KRIBB, Korea)
- TuD2-3 16:00-16:20 Immunosensor based on Silver Enhancement of Magnetic-latex Biobarcode for Salmonella Typhimurium Detection**
Feby Wijaya Pratiwi (King Mongkut's University of Technology, Thailand), Patsamon Rijiravanich, Mithran Sumasundrum (National Science and Technology Development Agency, Thailand), and Werasak Surareungchai (King Mongkut's University of Technology, Thailand)
- TuD2-4 16:20-16:40 Silica Coated Au Nanorod Nanohybrid Preparation and Characterization**
Mohan Kandhasamy and Dong Kee Yi (Kyungwon University, Korea)
- TuD2-5 16:40-17:00 Structural Color Encoded Magnetic Microparticles for Multiplexed Bio-assay**
Howon Lee, Junhoi Kim, Hyoki Kim, Jiyun Kim, and Sunghoon Kwon (Seoul National University, Korea)
- TuD2-6 17:00-17:20 Tailored Plasmonic Nanostructures for Efficient SPR Sensing**
Dong Ha Kim, Kyungwha Chung, Ji-Eun Lee, and Yoon Hee Jang (Ewha Womans University, Korea)



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October 26, 2011 (Wednesday) 09:00-09:50

Halla 1+2 (5F)

[Keynote] Keynote Session III

Session Chair CheolGi Kim (Chungnam National University, Korea)

KEY3 09:00-09:50 Innovative Nano-Biodevices for DNA and Related Molecules:
STM and Gating Nanopore

Tomoji Kawai (Osaka University, Japan)

October 26, 2011 (Wednesday) 09:50-10:30

Halla 1 (5F)

[Plenary] Plenary Session V

Session Chair Wan Soo Yoon (KRISS, Korea)

PLE5 09:50-10:30 Patient Centered Medical Home: New Platform for Integrating
Sensors

Seong K. Mun (Virginia Tech, USA)

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Halla 3 (5F)

[Plenary] Plenary Session VI

Session Chair Wolfgang Schuett (University of Applied Sciences, Austria)

PLE6 09:50-10:30 Sensoring, Monitoring and Control of Protease Activities in
Theragnosis

Ick Chan Kwon (KIST, Korea)



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[WeP] Poster Session II

- WeP001 Electric Detection of Target DNA by Fabricating Gold Nanowire Bridges on Nanogap Electrodes**
Hyunmin Cho, Sang Kyu Kim, Yongwon Jung, Juyeon Jung, and Bong Hyun Chung (KRIBB, Korea)
- WeP002 Label-Free Electrochemical Detection of Human α -Thrombin in Blood Serum**
Dohyoung Kwon, Hyunkyung Jeong, and Bong Hyun Chung (KRIBB, Korea)
- WeP003 Computational Investigation and Preparation of an Electrochemical Sensor based on Molecularly Imprinted Polymer for Determination of Cyanazine in Food Samples**
Mohammad Bagher Gholivand, Maryam Torkashvand, and Ghodratollah Malekzadeh (Azad University, Iran)
- WeP004 Specific Colorimetric Detection of Proteins using Bidentate Aptamer-Conjugated Polydiacetylene (PDA) Liposomes**
Yun Kyung Jung, Tae Won Kim, Hyun Gyu Park (KAIST, Korea), and H. Tom Soh (University of California, USA)
- WeP005 Colorimetric Quantification of Galactose using Nanostructured Multi-catalyst System Entrapping Galactose Oxidase and Magnetic Nanoparticles as Peroxidase Mimetics**
Moon Il Kim (KAIST, Korea), Jongmin Shim (POSTECH, Korea), Kwan Woo Park, Taihua Li, Min-Ah Woo (KAIST, Korea), Daeyeon Cho (LabGenomics Co.,Ltd., Korea), Jinwoo Lee (POSTECH, Korea), and Hyun Gyu Park (KAIST, Korea)
- WeP006 Label-Free Colorimetric Detection of Nucleic Acids based on Target-Induced Shielding against the Peroxidase-Mimicking Activity of Magnetic Nanoparticles**
Ki Soo Park, Moon Il Kim, Joon Young Lee, and Hyun Gyu Park (KAIST, Korea)



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- WeP007 Multimeric Protein G-based Immunosensors for an Enhanced Detection of Antigens**
Jin Hyung Lee, Hong Kyung Choi, Soo Youn Lee (KICET, Korea), Myung-Woon Lim (Joong Kyeom Co., Korea), and Jeong Ho Chang (KICET, Korea)
- WeP008 Caspase Activity Detection using Fluorescent Protein-Conjugated Gold Nanoparticles**
Kyoungsook Park, Jinyoung Jeong, and Bong Hyun Chung (KRIBB, Korea)
- WeP009 Quantitative Analysis of VEGF using Aptamer Conjugated Silica Hollow Gold Nanopores**
Juhui Ko, Sangyeop Lee, Moonkwon Lee, Junki Hwang, Jiyeon Yoon, and Jaebum Choo (Hanyang University, Korea)
- WeP010 Fabrication of Large Scale Single Cell Capture Array**
Jong Seob Choi and Tae Seok Seo (KAIST, Korea)
- WeP011 Gold Patterned Biochips for on Chip Immuno-MALDI-TOF MS: SPR Imaging Coupled Multi-Protein MS analysis**
Young Eun Kim, So Yeon Yi, Chang-Soo Lee, Yongwon Jung, and Bong Hyun Chung (KRIBB, Korea)
- WeP012 Graphene Oxide / DNA Nanocomplex for Diagnostic Applications**
Ho Sang Jung, Won Ho Kong, Ki Su Kim, and Sei Kwang Hanh (POSTECH, Korea)
- WeP013 Effect of the Extracellular Matrix on Endothelial Cell Differentiation of the Uniform-sized Embryoid Body**
Ji-eun Kim, Jong Min Lee, and Bong Geun Chung (Hanyang University, Korea)
- WeP014 A Label-Free, Direct and Noncompetitive FRET Immunoassay for Ochratoxin a Based on Intrinsic Fluorescence of an Antigen and Antibody Complex**
Taihua Li and Min-Gon Kim (KRIBB, Korea)



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WeP016 Imaging of Polymerization Reactions using Liquid Crystals

Gyeo-Re Han and Chang-Hyun Jang (Kyungwon University, Korea)

WeP017 Using Liquid Crystal to Report Interactions between Poly-lysine and Phospholipids at the Aqueous/Liquid Crystal Interface

Qiong-Zheng Hu, Kyu-Sik Yun, and Chang-Hyun Jang (Kyungwon University, Korea)

WeP018 Collagen-AGE Protein Chip for High-Throughput Screening of Drug for Diabetic Retinopathy Candidates

So Yeon Yi, Ui Jin Lee, Moon Il Kim, and Bong Hyun Chung (KRIBB, Korea)

WeP019 Analysis of Gas Sensing Characteristics of the Free-Standing Rugate PSi Film

Seon Hwa Park (KRISS, Korea), Ki Won Lee, Youngyou Kim (Kongju National University, Korea), and Nam Woong Song (KRISS, Korea)

WeP020 Monitoring Muscarinic Acetylcholine Receptor Activity using Single Walled-carbon Nanotube-FET as a High-performance Acetylcholine Sensor

Hyun Seok Song, Sang Hun Lee, Byeongju Kim, Sae Ryun Ahn, Seunghun Hong, and Tai Hyun Park (Seoul National University, Korea)

WeP021 H2O2 Redox-Assisted Ostwald Ripening of Au Nanoparticles

Eunji Jang, Eun-Kyung Lim, Jihye Choi, and Seungjoo Haam (Yonsei University, Korea)

WeP022 Electrochemical Detection of Cell Cycle Progression using Neural Cell Chip

Jeong-Woo Choi, Md. Abdul Kafi, and Tae-Hyung Kim (Sogang University, Korea)

WeP023 Development of Multi-functional Smart Nanocarriers based on Calcium Phosphate Coated Gold Nanoparticles

Eui-Joon Cha (Seoul National University, Korea), In-Cheol Sun (KIST, Korea), Young Il Kim (Seoul National University Hospital, Korea), Kwangmeyung Kim, Ick Chan Kwon (KIST, Korea), and Cheol-Hee Ahn (Seoul National University, Korea)



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- WeP024 Electrical PNA Chip Interface: Genetic Polymorphism of Cytochrome P450 2C19**
Dae Keun Park, Hyung Ju Park, Cho Yeon Lee (KRISS, Korea), Daewha Hong (KAIST, Korea), Young Lee (Panagene Inc., Korea), Insung S. Choi (KAIST, Korea), and Wan Soo Yun (KRISS, Korea)
- WeP025 Impedimetric Immunosensors for the Detection of Food Pathogen**
Cho-Kyung Joung (Kyung Hee University, Korea), Tae-Joon Jeon (Inha University, Korea), and Young-Rok Kim (Kyung Hee University, Korea)
- WeP026 Nanoprism Amplified SPR Biosensors for Heavy Metal Ion Detection**
Eum Ji Kim and Hye Jin Lee (Kyungpook National University, Korea)
- WeP027 Amplified SPR Sensing for Proteins with Biofunctionalized Gold Nanomaterials**
Min Jeong Kwon, Eun Ji Nam, and Hye Jin Lee (Kyungpook National University, Korea)
- WeP028 Immobilization of Dendrimer-Encapsulated Nanoparticles on Glassy Carbon Surfaces and its Application in Sensing**
Heeyoung Ju and Joohoon Kim (Kyung Hee University, Korea)
- WeP029 Protein Detection using Aptamer Functionalized P3MT Nanowires**
H. Choi, D. H. Park, C. Cui, G. S. Lee, J. Joo, and D. J. Ahn (Korea University, Korea)
- WeP030 In Vivo Multimodal Imaging with Nanoparticles**
Kwangmeyung Kim (KIST, Korea)
- WeP031 Photochrome-conjugated Fullerene-Silica Nanoparticle for Photoreversible Cellular Imaging**
Jinyoung Jeong, Eunju Yun, Hye-youn Jung, Sang Jeon Chung (KRIBB, Korea), Nam Woong Song (KRISS, Korea), and Bong Hyun Chung (KRIBB, Korea)



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- WeP032 pH-sensitive Drug Delivering Magnetic Nanoparticles for Cancer Therapy Guided by Molecular Imaging by MRI**
Eun-Kyung Lim, Yong-Min Huh, Jin-Suck Suh, and Seungjoo Haam (Yonsei University, Korea)
- WeP033 Photostable Magnetic-Fluorescent Silica Nanotube With High r_2/r_1 Relaxivity Ratio**
Yuhai Zhang (Kyungwon University, Korea), Dae Hong Kim (National Cancer Center, Korea), and Sang Jun Son (Kyungwon University, Korea)
- WeP034 Sequential Targetable Nanocontainers for Imaging of intracellular miR-34a in Metastatic Breast Cancer**
Eunjung Kim, Jaemoon Yang, Joseph Park (Yonsei University, Korea), Soonhag Kim (Cha University, Korea), Jong-In Yook, Jin-Suck Suh, Seungjoo Haam, and Yong-Min Huh (Yonsei University, Korea)
- WeP035 Cross-linked Polymeric Nanoparticles using Poly(Ethylene Glycol) Grafted Poly(Amino Acid) for Magnetic and Optical Imaging Probe**
Hee-Man Yang, Chan Woo Park (KAIST, Korea), Sujin Lim, Bong Hyun Chung (KRIBB, Korea), and Jong-Duk Kim (KAIST, Korea)
- WeP036 Bio-imaging for Target Specific Delivery of Hyaluronic Acid Derivatives using Carbon Dots**
Eun Ji Goh, Ki Su Kim, and Sei Kwang Hahn (POSTECH, Korea)
- WeP037 Development of Novel Fluorescent Probes for Label Free Protein Detection.**
Elena Ruchkina, Hyo Jin Kang, and sang J. Chung (KRIBB, Korea)
- WeP038 Real-Time Detection of Caspase by a Novel Intrinsic FRET Method**
Hyo Jin Kang and Sang J. Chung (UST, Korea)



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WeP039 Enhancement of the Photostability and Retention Time of Indocyanine Green in Sentinel Lymph Node Mapping by Anionic Polyelectrolytes

Young-Woock Noh, Hye sun Park, and Young Taik Lim (Chungnam National University, Korea)

WeP040 Novel Nanoparticle for T1-T2 Dual Modal MRI Imaging

Taekhoon Kim, Minsik Kim (Korea University, Korea), Eung-Kyung Lim, Yong-Min Huh (Yonsei University, Korea), and Kwangyeol Lee (Korea University, Korea)

WeP041 pH-activatable Nanoparticle Driven Tumor Bioimaging

Taekhoon Kim (Korea University, Korea), Eun-Jin Cho (Yonsei University, Korea), Youngjoo Chae, Minsik Kim, Aram Oh, Juhong Jin (Korea University, Korea), Eun-Sook Lee, Jin-Suck Suh, Seungjoo Haam, Yong-Min Huh (Yonsei University, Korea), and Kwangyeol Lee (Korea University, Korea)

WeP042 Stability of Thiolate Ligands on Gold Nanoparticle in Cell Culture Medium

Soo Jin Kim (KRISS, Korea), Jung Hwan Hwang, Chul-Ho Lee (KRIBB, Korea), and Nam Woong Song (KRISS, Korea)

WeP043 Cancer Specific Sentinel Lymph Node Mapping Using [Tc-99m]Tc-ICG-Folate Human Serum Albumin

Se Hun Kang, Nam Suk Baek, Seo-il Kim, Young Sang Kim, Jin Hee Noh, and Seok-ki Kim (National Cancer Center, Korea)

WeP044 Development of Novel Probes for Intrinsic Fluorescence Resonance Energy Transfer (IFRET)

Ju Hwan Kim, Hyo Jin Kang, Sang J. Chung (KRIBB, Korea)

WeP045 Hybrid Polyelectrolyte Nanogels for High Performance Magnetic Resonance and Near-Infrared Imaging of Cancer Cells

Hyung Min Kim, Mi Young Cho, Jung Eun Lee (Chungnam National University, Korea), Hyungseung Lee (Korea Basic Science Institute, Korea), Kwan Soo Hong, and Yong Taik Lim (Chungnam National University, Korea)



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- WeP046 Hyaluronan-Modified Magnetic Nanoclusters for Targeted Detection of CD44-Overexpressing Breast Cancer by MR Imaging**
Hyung-Ouk Kim, Eun-Kyung Lim, Eunji Jang, Yong-Min, and Seungjoo Haam (Yonsei University, Korea)
- WeP047 High Resolution Image Analysis of the Langerhans Islet Model System for Applying Sericine Nanoparticle**
Kyung Eun Lee (KIST, Korea), Jong Yeon Lim (Korea University, Korea), Hyesung Jeon (KIST, Korea), and Sung Sik Han (Korea University)
- WeP048 Double-action Agent; Self-directed Gold Nanorods for Imaging-guided Photothermal Cancer Therapy**
Jihye Choi, Jaemoon Yang, Joseph Park, Doyeon Bang, Jin-Sunk Suh, Yong-Min Huh, and Seungjoo Haam (Yonsei University, Korea)
- WeP049 A Targetable Two-Photon Fluorescent Probe for Mitochondrial Zinc Ion**
Goutam Masanta, Hyung Joong Kim, and Hwan Myung Kim (Ajou University, Korea)
- WeP050 PEI Coordinated Gadolinium (III) Nanogel: A New Platform for Multimodal Imaging**
Chang-Keun Lim, Jiyoung Shin, Jeongyun Heo, Daejong Kim, Yongdoo Choi, and Sehoon Kim (KIST, Korea)
- WeP051 Dual-Color Bio-Imaging of Na⁺/Ca²⁺ Activities with Two-Photon Fluorescent Probes**
Hyung Joong Kim and Hwan Myung Kim (Ajou University, Korea)
- WeP052 Development of Multi-mode (SIMS-MALDI) Mass Chemical Microscopic Molecular Imaging System with Ar Cluster Ion Beam**
Sohee Yoon (KRISS, Korea), Jeong Hee Moon (KRIBB, Korea), Ju Hwang Kim (KRISS, Korea), Sangjin Yun (Samsung Techwin R&D Center, Korea), Hae Sung Lee, Tae Beol Lee (KRISS, Korea), and Dae Won Moon (KRIBB, Korea)



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WeP053 Fabrication of Si-encapsulated Nanoprobes for SERS Imaging of Multiple Protein Markers Expressed in Live Cells

Sangyeop Lee, Hyangah Chon, Jiyoung Lee (Hanyang University, Korea), Pan Kee Bae, Bong Hyung Chung (KRIBB, Korea), and Jaebum Choo (Hanyang University, Korea)

WeP054 A Web-based Platform for Analysis of Large-scale TOF-SIMS Data from Gastric Cancer Tissues

Ji-Won Park (KRISS, Korea), Sojeong Yun (POSTECH, Korea), Su Jin Kim (KRISS, Korea), Il Ju Choi (National Cancer Center, Korea), Byeongsoo Kang (POSTECH, Korea), Hark Kyun Kim (National Cancer Center, Korea), Dae Won Moon (KRISS, Korea), Daejee Hwang (POSTECH, Korea), and Tae Geol Lee (KRISS, Korea)

WeP055 Synthesis and Characterization of Novel Fluorescent Chitosan for Bioimaging Agent

Warayuth Sajomsang, Pattarapond Gonil, Uracha Rungsardthong Ruktanonchai, Nuttaporn Pimpha (NSTDA, Thailand), and Satit Puttipipatkachorn (Mahidol University, Thailand)

WeP056 Quantitative Profiling of Biomarker Expression from Functionalized QD-Labelled Images of Pancreatic Cancer Cells

Jong-wook Lee, Yu Chan Kim, Hyun Kwang Seok (KIST, Korea), Anirban Maitra, Peter Searson (Johns Hopkins University, USA), and Kwan Hyi Lee (KIST, Korea)

WeP057 Construction of Self-assembled Multifunctional Protein Nanostructure for Pancreatic Cancer Imaging and Targeting

Seong-Eun Kim, Hoyoung Park, Jong-wook Lee, Yu Chan Kim, Hyun Kwang Seok (KIST, Korea), Anirban Maitra, Peter Searson (Johns Hopkins University, USA), and Kwan Hyi Lee (KIST, Korea)



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WeP058 Hollow/Rattle Type-Magnetite Gold Nanoshell Structure for Multifunctional Probes

Joseph Park, Byunghoon Kang (Yonsei University, Korea), Kwang-eun Park (Western Reserve Academy, Korea), Yongmin Huh, and Seungjoo Haam (Yonsei University, Korea)

WeP059 Unmodified Hyaluronic Acid Stabilized Magnetic Network for CD44 Targeting Contrast Agent via Magnetic Resonance Imaging.

Jaemin Lee, Jaemoon Yang, and Seungjoo Haam (Yonsei University, Korea)

WeP060 NIR-sensitive Hydrogels for Targeted Optical Imaging of CD44-expressed Gastric Cancer Cells

Jungmin Park, Jaemoon Yang, Eunjung Kim, Yeonji Park (Yonsei University, Korea), Jae-Ho Cheong, Park, Eun Sung (YUHS-KRIBB Medical Convergence Research Institute, Korea), Seungjoo Haam, Yong-Min Huh, and Jin-Suck Suh (Yonsei University, Korea)

WeP061 Sensing the Nanoprobes by using Terahertz Imaging Technique

Seung Jae Oh, Jihye Choi, Yong-Min Huh, Seungjoo Haam (Yonsei University, Korea), Joo-Hiuk Son (University of Seoul, Korea), and Jin-Suck Suh (Yonsei University, Korea)

WeP062 Terahertz Spectroscopic Imaging of Brain Cancer

Seung Jae Oh, Yong-Min Huh, Sang-Hoon Kim, Jaemoon Yang, Kiyoun Jeong, Yeonji Park (Yonsei University, Korea), Joo-Hiuk Son (University of Seoul, Korea), and Jin-Suck Suh (Yonsei University, Korea)

WeP063 Image-aided Anti-tumor Efficacy Monitoring of Refined Adenovirus Containing Multi-Targeting Devices in Hepatocellular Carcinoma

Yun-Hee Kim, Sang-Jin Lee, Ju Young Moon, Eun Ok Kim, Se Hun Kang, Seok Ki Kim, Dae Hong Kim (National Cancer Center, Korea), Seong-Wook Lee (Dankook University, Korea), and In-Hoo Kim (National Cancer Center, Korea)



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WeP064 Oleic Acid Optimization of Magnetic Nanoclusters for Enhancement of Magnetic Resonance Relaxivity

Bongjune Kim, Jaemoon Yang, Jin-Suck Suh, Yong-Min Huh, and Seungjoo Haam (Yonsei University, Korea)

WeP065 Perfluorocarbon/Quantum Dot Nanoemulsions Conjugated with Antibodies for Targeted Imaging of Various Breast Cancer Cells

Su-jin Lim, Pan kee Bae, and Bong Hyun Chung (KRIBB, Korea)

WeP066 19F-Magnetic Resonance and Optical Imaging of Tumours Using Perfluorocarbon Nanoemulsions

Pan Kee Bae, Su Jin Lim, and Bong Hyung Chung (KRIBB, Korea)

WeP067 In Vivo Tumor Targeting and Imaging using Cyclic RGD-PEGylated Gold Nanoparticle Probes with Densely Functionalized Iodine-125

Young-Hwa Kim, Su Hyun Hong, Hyewon Youn, Yun-Sang Lee, June-Key Chung, Dong Soo Lee, Jwa-Min Nam, and Keon Wook Kang (Seoul National University, Korea)

WeP068 Development of Portable Small Animal Imaging Equipment with Vis./NIR Merged Image

Nyeon-Sik Eum (Kyungpook National University, Korea), Jin-Yong Jung (School of Medicine Catholic University of Daeju, Korea), Sung-Hoon Lim, Jung-Hyun Han, Suck-Jae Lee, Byoung-Ho Kang, and Shin-Won Kang (Kyungpook National University, Korea)

WeP069 Identification of Protein-Protein Interaction in Bacterial Cells by Fluorescence Colocalization on Inclusion Bodies

Su-Lim Choi, Sang Jun Lee, Kim Hyun Ju, and Seung-Goo Lee (KRIBB, Korea)

WeP070 Splitting and Self-Assembling of Far-Red Fluorescent Protein with an Engineered Beta Strand Peptide : Application for Peptide Tag Detection of Alpha-Synuclein in Mammalian Cells

Joo Oak Keem, In-Hwan Lee, Sun Young Kim, Yongwon Jung, and Bong Hyun Chung (KRIBB, Korea)



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- WeP071 Characteristics of PLGA/ICG/Fe3O4 Nano-Particles for Biomedical Imaging**
Jung-Hyun Han (Kyungpook National University, Korea), Junghun Ku (Keimyung University, Korea), Nyeon-Sik Eum, Hyung-Kyung Kim, Eun-Yoon Jang, and Shin-Won Kang (Kyungpook National University, Korea)
- WeP072 Direct Monitoring of Protein-Protein Interactions in Cells by Translocation**
Jung Me Hwang, Zee-Won Lee, and Soohyun Kim (Korea Basic Science Institute, Korea)
- WeP073 Annexin A4 Interacts with the NF-Kb p50 Subunit and Modulates NF-Kb Transcriptional Activity in a Ca2+-dependent Manner**
Do-Hyung Kim, Young-Joo Jeon, Sang J. Chung, Bong Hyun Chung, Sang Chul Lee, and Kwang-Hee Bae (KRIBB, Korea)
- WeP074 Detection of Vimentin Serine Phosphorylation by Quenchbodies**
Hee-Jin Jeong, Hiroyuki Ohashi, Yuki Ohmuro-Matsuyama (The University of Tokyo, Japan), Masaki Inagaki (Aichi Cancer Center Research Institute, Japan), and Hiroshi Ueda (The University of Tokyo)
- WeP075 Real-Time Imaging of Nuclear Translocation of Proteins**
Mi-Hyang Nam, Kyu Wan Kim, and Soo-Ik Chang (Chungbuk National University, Korea)
- WeP076 In Vivo Specific Tumor Targeting and Imaging using HA Conjugated T80/MNP with UTE MR Sequence in Nude Mice**
Hwunjae Lee, Jaemoon Yang, and Yongmin Huh (Yonsei University, Korea)
- WeP077 Integrated Optical Molecular Imaging System for Four Dimensional Real-Time Detection in Live Single Cells**
Seungah Lee and Seong Ho Kang (Kyung Hee University, Korea)



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WeP078 New Design of Dual Tuned RF Coil for Fluorine MR Molecular Imaging

Soyeon Jeon, Cheongsoo Park, Joo-Hyuk Lee (National Cancer Center, Korea), Eunju Kim (Korea Food & Drug Administration, Korea), and Daehong Kim (National Cancer Center, Korea)

WeP079 Facile Preparation of Zwitterions-Stabilized Superparamagnetic Iron Oxide Nanoparticles (ZSPION)s as MR Contrast Agent for in Vivo Application

Dongkyu Kim, Min Kyung Chae, Hyun Jung Joo, Jee-Hyun Cho, and Chulhyun Lee (KBSI, Korea)

WeP080 In Vivo Tumor-Targeted SPECT/CT Imaging using 125I-Conjugated Gold Nanoprobes

Won-Kyu Rhim, Young-Hwa Kim, Jongho Jeon, Su Hyun Hong, Yung-Sang Lee, Hyewon Youn, June-Key Chung, Myung Chul Lee, Dong Soo Lee, Keon Wook Kang, and Jwa-Min Nam (Seoul National University, Korea)

WeP081 Fluorescent Probes for the Detection of Fucosylated N-Glycans using an Aspergillus Oryzae Lectin

Ji-Young Mun, Kyung Jin Lee, Yu Jin Kim, Ohsuk Kwon, Su-Jin Kim, Seung-Goo Lee (KRIBB, Korea), Wei Sun Park, Won Do Heo (KAIST, Korea), and Doo-Byoung Oh (KRIBB, Korea)

WeP082 GSH-Sensitive Delivery of Anti-Cancer Drugs using Core-stabilized Nanovesicles

Chan Woo Park, Hee-Man Yang, Hyun Jin Lee (KAIST, Korea), Su Jin Lim, Bong Hyun Chung (KRIBB, Korea), and Jong-Duk Kim (KAIST, Korea)

WeP083 An Integrated Diagnostic Microdevice of Polymerase Chain Reaction and Immunochromatographic Strip for Colorimetric Influenza H1N1 Virus Detection

Yong Tae Kim, Yuchao Chen, Jong Young Choi, and Tae Seok Seo (KAIST, Korea)



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- WeP084 Microfluidic Pillar System to Control Embryonic Stem Cell-derived Neuronal Differentiation**
Jong Min Lee, Ji-eun Kim, and Bong Geun Chung (Hanyang University, Korea)
- WeP085 Non-Magnetic Separation of CD4+ T Lymphocyte using Streptavidin Functionalized Silicon Nanowire Arrays (SiNWs)**
D. J. Kim, J. K. Seol, G. S. Kim, J. H. Hyung, C. Y. Lee, M. R. Lee, and S. K. Lee (Chonbuk National University, Korea)
- WeP086 Fabrication of Streptavidin Functionalized NiSi NWs for Magnetic Separation of CD4+ T Lymphocyte**
J. K. Seol, D. J. Kim, G. S. Kim, S. Y. Lee, J. H. Hyung, and S. K. Lee (Chonbuk National University, Korea)
- WeP087 Gliadin-gelatin Composite Nanoparticles for the Delivery and Controlled Release of Anti-Cancer Drugs**
Muhammad Gulfam, Jong Min Lee, Ji-eun Kim, and Bong Geun Chung (Hanyang University, Korea)
- WeP088 The Binding Stability of Citrate Ligands on Gold Nanoparticles in an Aqueous Suspension**
Young Ju Ryu, Eun Jin Choi (KRISS, Korea), Soo Jin Lee (Chungnam National University, Korea), and Nam Woong Song (KRISS, Korea)
- WeP089 Flexible Dry Electrodes based Compositing CNT/PDMs for Long-Term ECG Monitoring**
Ha chul Jung, Dong Hyun Back (Korea University, Korea), Joung Sook Hong (Soongsil University, Korea), and Sang-Hoon Lee (Korea University, Korea)
- WeP090 Cocktail Drug Assay with Volume Controllable Dispenser**
Sungjun Lee, Chang-Hyuk Yoo, Misun Cha, and Junghoon Lee (Seoul National University, Korea)



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WeP091 Dielectrophoretic Focusing of Bacterial Cells on a Wettability-Patterned Surface

Hyungsang Joo, Yosep Choi, Misun Cha, and Junghoon Lee (Seoul National University, Korea)

WeP092 Development of the De-Differentiation Strategies via Study of Regeneration Mechanisms in Lizard

Kil Soo Bae, Hye Jin Kim, Song Choi, and Jin Woong Chung (Dona-A University, Korea)

WeP093 Study on Biofilm Formation using Microstructure Stainless Steel

Sungho Lee, Dohoon Lee (KIIT, Korea), Jingoo Park (Hanyang University, Korea), and Sumin Lee (LG Display Company, Korea)

WeP094 Application of Micro Total Analysis Systems on Biology

Hyun Park, Jae-Won Choi, and Soo-Ik Chang (Chungbuk National University, Korea)

WeP095 Differential Expression Profiling of Phosphoproteins using Protein Chips

Kyong-Mi Min, Sang-Kyung Byun, and Soo-Ik Chang (Chungbuk National University, Korea)

WeP096 Integrated Electro-Microneedle for Cutaneous Gene Transfer

Kwang Lee, Chang Yoel Lee, and Hyungil Jung (Yonsei University, Korea)

WeP097 Magnetic Bead Detection using Bio Sensor and Surface Plasmon Resonance

Duck-Gun Park and Hoon Song (KAERI, Korea)

WeP098 Single Conducting Polymer Nanowire Sensor

Hyuneui Lim and Gyoung-Rin Choi (KIMM, Korea)



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WeP099 Production of Aluminium Oxide and Hydroxide Nanopowders

Sudnik L. (Powder Metallurgy Institute, Belarus) and Niss V. (Bellarussian National Technical University, Belarus)

WeP100 Isolation and Characterization of Thermostable Cellulase Producing Bacteria From Soil Samples

Joydeep Chakraborty, Neha Arora, Neha Chetlangia, Pradip Saha, Rahul Chandran, and Nandan Kumar Jana (Heritage Institute of Technology, India)

WeP101 Self-Assembly Principles in Nanoscale and Applications in Nanosensing and PDT (Bulk Measurements and Single Objects Detection)

E. I. Zenkevich (National Technical University of Belarus, Belarus), C. von Borczyskowski (Chemnitz University of Technology, Germany), Bong Hyun Chung, and Jin Young Jeong (KRIBB, Korea)

WeP102 Structure, Energy Transfer and Singlet Oxygen Generation by Bioconjugates based on Semiconductor CdSe/ZnS Nanocrystals and Porphyrin Photosensitizers (Possible PDT Applications)

E. I. Zenkevich (National Technical University of Belarus, Belarus), E. I. Sagun, V. N. Knyukshto, A. S. Stasheuski, V. A. Galievsky, A. P. Stupak (National Academy Science of Belarus, Belaruse), T. Blaudeck (Linköping University, Sweden), and C. von Borczyskowski (Chemnitz University of Technology, Germany)

WeP103 Polydiacetylene Coated-Quantum Dots Embedded Silica Nanoparticles as Dual-mode Nano Sensor

San Kyeong, Homan Kang, Hong-Jun Cho, Ji-Young Kim, Bong-Hyun Jun, Yoon-Sik Lee (Seoul National University, Korea)

WeP104 SERS Nanoparticle based Encoding Method for on Bead Screening

Homan Kang, Sinyoung Jeong, Yul Koh, Jaehi Kim, San Kyeong, Jiyoung Kim, Joonhyuk Yim, Jong-Ho Kim (Hanyang University, Korea), Bong-Hyun Jun, Yongkown Kim, Dae Hong Jeong, and Yoon-Sik Lee (Seoul National University, Korea)



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October 26, 2011 (Wednesday) 10:30-12:30

Lotus Lobby (3F)

WeP105 Neural Stem Cell Chip to Detect Cytotoxicity of Graphene Oxide

Se-Mi Kang, Tae-Hyung Kim, and Jeong-Woo Choi (Sogang University, Korea)

WeP106 Effect of Peptide/Carbon Nanotube Composites on Electrochemical Detection of Cell Chip

Hyeon-Yeol Cho, Tae-Hyung Kim, and Jeong-Woo Choi (Sogang University, Korea)

WeP107 Sensitive Detection of Dopamine using Localized Surface Plasmon Resonance

Jee-Hyun Choi, Jin-Ho Lee, Byung-Keun Oh, and Jeong-Woo Choi (Sogang University, Korea)