COLLEGE OF INFORMATION & COMMUNICATION ENGINEERING

Semiconductor Communications Systems Software
College of Information and Communication Engineering

The college of Information and Communication Engineering covers electrical, electronic and computer engineering which play a pivotal role in today’s global industry. The broad, interrelated research fields of the college of Information and Communication Engineering include electrical energy systems, control measuring and automation telecommunication and signal management, computer systems, VLSI and plan automation, physical electronics and optics. Our college has excellent professors and the latest experimental and practical equipments and facilities. Under these conditions, the highest quality research, in our country is presently in progress. Furthermore, our college has limitless potential to be one of the top research-oriented college in the world.
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Semiconductor

- VLSI Design
- Nano/Semiconductor
System On Chip Design Automation Lab

Jun-Dong Cho  Ph.D.,
Professor, System on Chip Design

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> http://vada.skku.ac.kr

Education

- Ph.D. in Electrical Engineering and Computer Science, Northwestern University (1993)

Experiences

- IBM T.J. Watson Research Center, Scientist (2000–2001)

Research Interests

- Multiprocessor On Chip for SDR and 3D Multimedia
- Mobile Core Low Power Design
- U-Health Monitoring SoC


- H.264 decoder Multiprocessor platform
- FED Image Signal Processing SoC
- Healthcare Monitoring, X-ray Dental Video Processing
- Viterbi Decoder for WiMedia MB-OFDM
- Low Power design for Bio Signal Processor
- Multiprocessor SoC for DVB-T Baseband Receiver
- IEEE 802.15.4 ZigBee Demodulator ASIC
- 3D Camera – Auto Convergence to reduce visual discomfort

Distinctions

- Best Paper Award, IEEE/ACM Design Automation Conf. TX, USA (1993)
- Invention Achievement Award, IBM, USA (2001)
- IEEE Senior Member (1996–)
Byoung D. Choi  Ph.D.,
Professor, Advanced Display & Nano Device Lab

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> http://adnd.skku.ac.kr

Education

• Ph.D. & MSE in Electrical Engineering, Arizona State University

Experiences

• Device Engineer for LTPS Polysilicon TFTs, Samsung Display Institute Kiheung, S. Korea (2002 ~2007)
• Research Associate under Dr. D.K Schroder in Electrical Engineering (1998~2001) at Arizona State Univ.
• Intern at Shin-Etsu Handotai America Co., Ltd.(1999)
• Instructional Aide for the subject of Analog Circuit Design (1998–1999) at Arizona State Univ.

Research Interests

• Display Device (OLED, Thin Film Device on Flexible/Glass Substrate)
• Low Temperature Poly Silicon TFTs
• Device Reliability of Advanced CMOS Submicron Technologies
• Flash Memory Technology
• Characterization of MOS Capacitor, and MOSFET with I-V, Generation and Recombination lifetime, and C-f Dependence
• Generation and Recombination Lifetime Measurement of Epi Wafers and Denuded Wafers
• Gate Oxide Integrity (GOI) Characterization
• Detection of Impurities (Fe, Cu, Pt, Au, Cr, etc) by DLTS
• Silvaco Simulation for extracting spice model parameter

Selected Publications/Patents/Projects

• “Advanced System Display”
• “Poly silicon TFT Reliability”
• “Degradation of Ultra-Thin Oxides by Iron Contamination”
• “Member of IEEE”
• “Member of Gamma Beta Phi” (National Honors Society in USA)
• “Member of SiWEDS (Silicon Wafer Engineering & Defect Science)”
Education


Experiences

- Associate Professor, School of Information and Communication Engineering, Sungkyunkwan University, Suwon, Korea (2008.9~Present)
- Senior Member of Technical Staff, Rambus Inc., Los Altos, CA (2006~2008)
- Circuit Design Engineer, Samsung Electronics, Gi-heung, Korea (2000~2001)

Research Interests

- High-speed link, I/O design
- Memory systems
- Mixed signal/RF circuit design
- ESD protection circuits
- High power devices

Selected Publications

Future Electronic Device Laboratory

Il sub Chung  Ph.D.,
Professor, Semiconductor Processing

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Education

• Ph.D. in Electronic and Electrical Engineering, University of Texas at Austin (1992)

Experiences

• Research Assistant, UT at Austin (09/1986–12/1992)
• Post Doctor, UT at Austin (01/1993–07/1993)
• Samsung advanced institute of technology semiconductor device Lab (11/1993–08/2001)
• Person in charge of researches, Ferroelectric device NRL (08/1999–08/2001)
• Secretary, IEC Technical committee 47 (09/2002)
• Head, Foundation for corporate collaboration of Sungkyunkwan University (03/2005–02/2007)
• Professor, Sungkyunkwan University school of information and communication engineering

Research Interests

• Molecular Device and Organic TFT
• SCM (scanning capacitance microscopy)
• MRAM (Magnetic random access memory)
• FRAM (Ferroelectric random access memory)
• Nanocrystal Memory
• Template Synthesis (Fabrication nanowire using AAO)
• FinFET

Selected Publications/Patents/Projects

• Brain Korea 21
• Region Research Center
• Molecular electronic device research, Samsung advanced institute of technology
• Korea Science and Engineering Foundation
Mobile Electronics System Laboratory

Tae Hee Han  Ph.D.,
Associate Professor, Mobile SoC

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> http://mel.skku.edu

Education

- Ph.D. in Department of Electrical Engineering, KAIST (1999)

Experiences

- Senior Engineer, Samsung Electronics (1999~2006)
- Program Director (Full-time advisor) on System Semiconductor under Ministry of Knowledge Economy, Korea Government (2011~2013)

Research Interests

- Network-on-Chip
- Energy/Power Optimization for Mobile systems
- Mobile System Architecture including
  - 3D Integration
  - Embedded System

Selected Publications/Patents/Projects

- Development of Mobile Communication SoC (CDMA, mobile D-TV, WiBro) – Commercial Products with Papers and Patents
- Mobile Platform & Low Power Design – Papers, Technical Reports, Engineering deployment for commercial Products
- Network-on-Chip – Paper, Patent, Projects

Distinctions

- Award from Minister of Ministry of Trade, Industry, and Energy (2013)
- Award from Minister of Ministry of Information and Communication (2005)
- Best Research Engineer Award of the Year 2002, Telecommunication Business Unit in Samsung Electronics Co. Ltd
Thin Film Processing and Application Laboratory

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Professor, Electronic/Semiconductor Materials

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Education

• Ph. D. in Electrical Engineering, Pennsylvania State University (1995)

Experiences

• 2008-present : Professor, School of Information and Communication Engineering, Sungkyunkwan University.
• 2003-2007 : Associate Professor, School of Information and Communication Engineering, Sungkyunkwan University.
• 1997-2003 : Assistant Professor, School of Electrical and Computer Engineering, Sungkyunkwan University.

Research Interests

• Thin film processing using CVD, PVD and its applications
  - Diamond-like carbon, Diamond, Carbon nanotubes, Silicon carbide
  - Transparent conductive oxide
  - Flexible device and solar cell
• Nanowire synthesis using DNA for the application to nanodevice
• Solar cell : DSSC, Organic

Selected Publications/Patents/Projects

• Excellent Research Center (Korea Science and Engineering Foundation)
• Leading Researcher Assistance (Korea research foundation)
• Brain Korea 21 (Korea research foundation)
• Semiconducting DNA for PN junction device (Ministry of Science and Technology)
• Improvement of Si-based TFT devices (Samsung Advanced Institute of Technology)
• Application for molecular electronic materials and devices project (Samsung Advanced Institute of Technology)
• Interdisciplinary graduate school Program for Photovoltaic specialist (Korea Energy Management Corporation)
RF Microelectronic Design Laboratory

Byung-Sung Kim  Ph.D.,
Associate Professor, RF Circuit Design

Phone: +82-31-290-7143
Email: bskim@ece.skku.ac.kr

> http://rfmd.skku.ac.kr

Education

• Ph.D. in Electronic Engineering, Seoul National University (1997)

Experiences

• Visiting scholar in Georgia Tech. (2005)

Research Interests

• RFIC design
• High speed device characterization and modeling

Selected Publications/Patents/Projects

• Analysis of RF sensitivity reduction due to switching noise of mobile memory
• Development of CMOS phased array system using metal material
• Development of car radar transceiver module
Semiconductor Nano Device Laboratory

Gil-Ho Kim  Ph.D.,
Professor, Semiconductor Nanotechnology

Phone: +82-(0)10-8616-3341
Fax: +82-31-290-7179
Email: ghkim@skku.edu

> http://icc.skku.ac.kr/~nano

Education

- Ph.D. in Semiconductor Physics, University of Cambridge, UK (1998)

Experiences


Research Interests

- Next Generation Semiconductor Device
- Display and Solar Cell Related 2D Semiconductor Materials
- Spintronics (Semiconductor)
- Hybrid Device with Graphene and MoS2
- Gas Sensor

Selected Publications/Projects

- “Graphene passivation method for flexible, wearable and transparent electronics” Nanoscale 6, 3830 (2014)
- Basic Science Research Program through the National Research Foundation of Korea (NRF) funded by the Ministry of Education, Science and Technology
- Quantum functional device with Graphene (Samsung Advanced Institute of Technology)
- Brain Korea 21 (Korea research foundation)
Jong Tae Kim  Ph.D.,
Professor, Embedded System

Phone: +82-31-290-7130
Fax: +82-31-290-7179
Email: jtkim@skku.edu

Embedded Computer System

Education

• Ph.D., Department of Electrical and Computer Engineering, University of California, Irvine, U.S.A. (1992)

Experiences

• Chonbuk National University, Chonju, Korea (1993-1995)

Research Interests

• Embedded Hardware and Software Design
• VLSI and System on a Chip Design
• Intelligent System Design
• Modeling of System-level Embedded System

Selected Publications/Patents/Projects

• Predictive DVS Scheduling for Low Power Real-time Operating System
• Encoding-Based Tamper-Resistant Algorithm for Mobile Device Security
• Soft IP Compiler for a Reed-Solomon Decoder
• IP Compiler for a Soft Input Viterbi Decoder
• Overlapped Semi-parallel LDPC Decoder with Dual-diagonal structure for WiBro Portable Subscriber Station

Distinctions

• Best paper award from the minister of information and communication, Republic of Korea, AP_SOC 2002 by SIPAC and ADA
• Superior paper award – Spring Conference of KFLISS, 2004
Inter-University Display Research Center (IDRC)

Sang Soo Kim  Ph.D.,
Professor, Display Technology
Fellow, Society for Information Display (SID)

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Mobile: +82-10-5345-7695
Email: sskim0703@skku.edu

> http://idrc.skku.ac.kr

Education

• Ph.D. in Physics, North Carolina State University, U.S.A. (1990)

Experiences

• Professor of College of Information and Communication Eng, Sungkyunkwan University, Suwon, Korea (2012.9–Present)
• Executive Vice President & CTO, Samsung Display Co. (2009.1.–2012.8.)
• Executive Vice President, Samsung Electronics Co. (1990.7.–2008.12.)
• Program Committee, Society for Information Display (SID) (2001–Present)

Research Interests

• Display System Architecture
• Process and Driving Technology for TFT-LCD & AMOLED
• LTPS, a-Si:H, Oxide, and Organic TFT Device Technology
• Display Materials for TFT-LCD, AMOLED, Flexible Display, and Touch Screen Panel
• AMOLED Device Structure and Fabrication Technology
• AMOLED Encapsulation Technology
• AMOLED Device Life-Time & Reliability Analysis

Selected Publications/Patents/Projects

• Display Technology (LCD), Textbook (ISBN 89-88247-22-1) Published in 2005
• Patents: Korean Patents (95), US Patents (63)

Distinctions

• Fellow, Society for Information Display (2010)
• Fellow, Samsung Group (2005)
• Top 100 Technology and Scientist Award by National Academy Engineering of Korea (2010)
• Presidential Award, Seoul, Korea (1996, 2004)
• Opening Keynote Speech, Society for Information Display 2010 Conference, Seattle WA, U.S.A.
SoYoung Kim  Ph.D.,
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> http://icds.skku.edu

**Education**


**Experiences**


**Research Interests**

- VLSI interconnect and noise modeling and analysis
- Signal Integrity and Power Integrity (SI and PI)
- Electromagnetic Interference

**Selected Publications/Patents/Projects**

- Models, Algorithms and Software Development for Parasitic Inductance Screening
- EMI in Mobile Systems
 Nano Electronics and Microfluidic Sensors Lab (NEMS)

Yong-Sang Kim  Ph.D.,
Professor, Electronic and Electrical Engineering

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Email: yongsang@skku.edu

> http://wiz.skku.edu/nems1/

**Education**

- Ph.D. (Electrical Eng.), Seoul National University, Mar. 1990–Aug. 1994

**Experiences**

- Professor, School of Electronic and Electrical Engineering, Sungkyunkwan University, March, 2013–
- Distinguished Visiting Professor, Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences, China, 2010–
- Professor, Dept. of Electrical Engineering, Myongji University (Korea), 1995–2013
- Director, Nano-Bio Research Center at Myongji University, 2006–2013
- Director, BK21 Development of Advanced Materials for Nanostructure Construction, 2006–2013
- Director, Nano Electronics and System Lab., National Research Lab. (NRL), 2006–2012
- Visiting Professor, East China University of Science and Technology, Shanghai, China, 2009–2010
- Visiting Associate Researcher, Univ. of California at Berkeley (USA), 1999–2001

**Research Interests**

- Fabrication of oxide TFT and circuit design for OLED display panel
- Analysis for degradation mechanism of LTPS TFT for display panel
- Design and application of organic thin film transistors
- Design and fabrication of organic TFTs for use in memory devices
- Design and characterization of polymer / nanoparticles based solar cells
- Microfluidics (Lab-on-a-chip) for molecular biology, biochemistry, chemistry
- Electrochemical sensor

**Selected Publications**

- Above 100 SCI/E journal publications
- Patents: 8 Korean Patents

**Distinction**

- NRL Project: Development of universal platform with nano probing method in liquid phase and microfluidic system
- Received best paper awards at MRS spring meeting (2009), APCE (2007) and STM (2005)
Integrated Systems Design Laboratory

Bai-Sun Kong  Ph.D.,
Professor, Integrated Circuit and System Design

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> http://home.skku.edu/~isdlab

Education

• Ph.D. in Electrical Engineering, KAIST, Korea. (1996)

Experiences

• Senior Design Engineer, LG Semicon Co. (Currently Hynix Semiconductor Co.), Korea.

Research Interests

• Analog/Digital/Mixed-Signal Integrated Circuit Design
• High-Performance Microprocessor & Memory Architecture Design
• High-Bandwidth Transceiver Subsystem Design
• Low-Power System-on-Chip (SoC) Design

Selected Publications


Distinctions

• Best paper award, IEEE SSCS/EDS Seoul Chapter, Korea, 2002.
• The most excellent design paper award in ASP-DAC, Japan, 1997.
Custom IC Design Laboratory

Kee-Won Kwon  Ph.D.,
Associate Professor, Mixed Signal Design

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> http://iclabs.skku.edu/cicd/

Education

• Ph.D. in Materials Science & Eng., Stanford University (2001)

Experiences

• Samsung Electronics (2001~2006): High Bandwidth DRAM Design
• Samsung Electronics (1990~1995): High-k Capacitor Development

Research Interests

• Emerging New Memory: Architecture and Circuits for Reliability
• High Speed Serial Links and Blind Clock Data Recovery
• 3-D Integrated Circuits

Selected Publications/Patents/Projects

• 6.4-Gb/s Voltage-Mode Near-Ground Receiver, TCAS-I, June 2014
• Inductive Link with Integrating Receiver, JSTS, April 2014
• Reliability and Yield of ReRAM with a-ISPP, JJAP, March 2014
• Power-Efficient Fast Write of ReRAM, TCAS-II, Nov. 2013
• Initialization of Blind Serial Link, ITC-CSIC, July 2014
• Non-Volatile Memory Device, US Patent 8,050,087
**Energy and Nano Photovoltaics Laboratory**

**Jae-Hyeong Lee**  Ph.D.,
Associate Professor, Energy Related Devices and Nano Photovoltaics

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**Email:** jaehyeong@skku.edu

> http://enpl.skku.edu

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**Education**

- Ph.D. in Electrical Engineering, Sungkyunkwan University, Suwon, Korea. (1998)

**Experiences**

- Associate Professor, Kunsan National University, Korea. (2003–2011)
- Visiting Professor, Queensland Microtechnology Facility, Griffith University, Queensland, Australia (2008–2009)
- Research Professor, School of Information and Communication Engineering, Sungkyunkwan University, Korea. (2002–2003)

**Research Interests**

- High efficiency and low cost compound semiconductor thin film solar cells (CdTe, CIGS, CZTS etc.)
- Ultra high efficiency solar cells based on nano-structured semiconductors and multi-junctions
- Photo-sintering or photo-curing technology for low temperature device fabrication
- Thermochromic and electrochromic films for energy saving smart windows
- Multi-tuned nano-scale energy harvesters

**Selected Recent Publications**

Integrated Circuits Laboratory

Kang-Yoon Lee  Ph.D.,
Professor, Analog/RF/Power Integrated Circuit Design

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Email: klee@skku.edu

Education

• Ph.D. in School of Electrical Engineering, Seoul National University, Korea. (2003)

Experiences

• Design Manager of Analog Division, GCT Semiconductor Inc., Korea. (2003~2005)
• Associate Professor, Konkuk Univ., Korea. (2005~2012)

Research Interests

• Analog Integrated Circuit Design
• RF Integrated Circuit Design
• Power Integrated Circuit Design
• Analog/Digital Mixed Circuit Design

Selected Publications


Distinctions

• Best teacher award, Konkuk University, Korea, 2011
• Best paper award, The Institute of Electronics Engineers of Korea, 2010.
• Best teacher award, Konkuk University, Korea, 2008
• Best paper award, SoC Conference, Korea, 2007.
Education

- Ph.D. in Department of Electronical Engineering, The University of Texas at Austin, USA (1990)

Experiences

- LG Communications chief research staff (1982–1985)

Research Interests

- System-On-Chip Design & Test
- VLSI Design & Verification
- Test of VLSI’s
- Fault Tolerant Computing Systems
- VLSI CAD
- Design of Computing Systems

Selected Publications/Patents/Projects

- “A Low Power Scan Design Architecture” International SoC Conference October 25–26, 2004
Advanced Nano Semiconductor Device Laboratory

Jin-Hong Park  Ph.D.,
Assistant Professor, Semiconductor Device Fabrication

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> http://sites.google.com/site/ansdl2013

Education

• Ph.D. in Electrical Engineering, Stanford University, CA, USA. (2004–2009)

Experiences

• Assistant Professor, Kyunghee University, Korea. (2010–2011)
• Postdoctoral Scientist, IBM T. J. Watson Research Center, NY, USA. (2009–2010)

Research Interests

• TMD (MoS2/WSe2) material CVD growth, Doping techniques for 2D Semiconductors (Graphene/MoS2/WSe2/Black P/Bi/TMC) & Applications (2D Graphene Barristors, 2D T-FETs, and 2D Photodetectors)
• Oxide semiconductors (IGZO, ZTO, and ZnO) and their applications (TFTs)
• Si/Si-Ge/Ge/GaAs/GaSb based devices (High performance MOSFETs, Photodetectors, and Graphene Barristors)

Selected Recent Publications (published or under revision)

• “Wide-range Controllable n-Doping of Molybdenum Disulfide (MoS2) through Thermal and Optical Activation,” Nature Communications 2014
• “Controllable and Air-stable Non-degenerate p-type Doping of Tungsten Diselenide (WSe2) by octadecyltrichlorosilane (OTS),” ACS Nano 2014
• “Poly-4-vinylphenol and Poly(melamine-co-formaldehyde)-based Graphene Passivation Method for Flexible, Wearable and Transparent Electronics,” Nanoscale 2014
Microelectronic Devices Laboratory

Yonghan Roh  Ph.D.,
Professor, Nanotechnology

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> http://mdl.skku.ac.kr

Education

• Ph.D. in Electrical and Computer Engineering, University of Houston, USA (1994)

Experiences

• Chairman, SKKU Advanced Institute of Nanotechnology (2006-2010)

Research Interests

• Reliability of Semiconductor Devices
• Oxide Semiconductor Devices: IGZO Thin Film Transistors
• Development of Nano and Molecular Devices
• Formation of Nano and Molecular Integrated Circuits using Nanolithography
• DNA Nanotechnology
• 3D Printed Flexible Devices

Selected Publications/Patents/Projects

• DNA 나노구조물-나노입자 결합에 의한 나노공정 및 나노소자 개발, 충진연구자 혁신후행사업, 미래창조과학부, 2012.9.1~2015.8.31

Distinctions

• Excellent Teaching and Research Professor Award, SKKU, 1998–2012
Display devices and Materials

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Assistant Professor, Display devices & Materials

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> http://wiz.skku.edu/wiz/user/display/

Education

• Ph.D. in Electronics & Electrical Engineering, University of Dublin, Trinity College, Ireland. (2008)

Experiences

• Principal Engineer, Samsung Electronics Co., Korea. (1998~2010)
• Engineer, Samsung SDI Co., Korea. (1996~1998)

Research Interests

• Display Devices : LCD (Optics, LC mode etc.), OLED, e-paper
• Liquid Crystals (LC) Materials : droplets, microfluidics, defect analysis
• Graphene, Graphene-oxide, lyotropic liquid crystals, Colloids
• Image processing and color science based on human-sense
• Layered molecular system : smectics, membranes etc.

Selected Publications


Distinctions

• 2014 ILCC (Dublin, 6.30~7.5), Tutorial session invitation
Education

- Ph.D. in Electronic and Electrical Engineering, Yonsei University, Korea (1981)

Experiences

- 1981 - Present Professor, School of information and Communication Engineering, Sungkyunkwan Univ.
- 1985 - 1986 Post Doc, Rensselaer Polytechnic Institute, U.S.A
- 1997 - 1998 Visiting Professor, University of Surrey, UK
- 2004 - 2005 Visiting Professor, Peking University, CHINA
- 2006 - Vice President, KIEEME (Korean Institute of Electrical and Electronic Material Engineers)

Research Interests

- FBAR (Film Bulk Acoustic Resonator)
- Microstrip Patch Antennas
- Piezoelectric Sensor
- Thin film capacitor for ferroelectrics random access memory (FRAM)
- Ferroelectric material applications

Selected Publications/Patents/Projects

- See http://icc.skku.ac.kr/~edal

Distinctions

- 1981 - The best paper awards, The Korean Institute of Electric Engineers
- 1995 - The best paper awards, The Korean Institute of Electrical and Electronic Material Engineers.
- 2006 - 2008 Included in Marquis Who’s Who in the world
- 2006 - Included in 2000 Outstanding Intellectuals of the 21st Century, International Biographical Centre (IBC)
- 2006 - Included in Great Minds of the 21st century, American Biographical Institute (ABI)
- 2007 - Included in Marquis Who’s Who in science and engineering (9th ed.)
DATES (Design and Test for SOC Systems) Lab

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> http://sites.google.com/site/datesskku/

Education

- Ph. D. in Electrical and Computer Engineering, University of Texas at Austin, USA (2009)

Experiences

- Assistant Professor of Department of Semiconductor Systems Engineering, Sungkyunkwan University, Suwon, Korea (2013–Present)
- Design Engineer, Intel Corporation, TX, USA (2009–2013)
- Internship, Intel Corporation, OR, USA (2008)
- Internship, Qualcomm, CA, USA (2007)
- Design Engineer, Memory Division, Samsung Electronics, Hwasung, Korea (2003–2005)

Research Interests

- SOC Design Issues, Reliable/Fault Tolerant Computing
- Design For Testability, Debug, Validation and Manufacturing
- 3D-IC, TSV Yield and Test

Selected Publications

- Ik Joon Chang, Joon-Sung Yang: Bit-error rate improvement of TLC NAND Flash using state re-ordering. IEICE Electronics Express 9 (23), 1775–1779 (2012)

Distinctions

- Korea Science and Engineering Foundation (KOSEF) Scholarship (2005)
- Best Paper Nomination at IEEE VLSI Test Symposium (2013)
**Education**


**Experiences**

- Chair, Interdisciplinary Graduate School Program for Photovoltaic Specialists, Sungkyunkwan University, Suwon, South Korea, (08/2006–present)

**Research Interests**

- Crystalline Silicon Solar Cell
- Thin Film Silicon Solar Cell
- Heterojunction Solar Cell
- Thin-Film Transistor
- Non-volatile Memory

**Selected Publications/Patents/Projects**


**Distinctions**

- Received several awards in home and abroad
Graphene Nano Device Laboratory

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Assistant Professor, Sungkyunkwan University

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> http://wiz.skku.edu/woojongyu/

Education

- Ph.D. in SAINT, Sungkyunkwan Univ., Suwon, Korea (2011)

Experiences

- Professor of School of ICE, Sungkyunkwan University, Suwon, Korea (2013–present)
- Postdoctoral researcher, UCLA, CA, USA (2011–2013)

Research Interests

- Nanoscale materials, devices and their applications in future electronics, energy technologies and biomedical science.

Selected Publications/Patents/Projects

Biophotonics & Ultrasonics Laboratory

Hyoung Won Baac  Ph.D.,
Assistant Professor, Optics and Ultrasonics

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Email: hwbaac@skku.edu

Education

- Ph.D. in Electrical Engineering and Computer Science, University of Michigan, Ann Arbor (2012)

Experiences

- Research Fellow, Harvard Medical School and Massachusetts General Hospital (2012–2014)
- Postdoctoral Fellow, University of Michigan, Center for Nanoscale Photonics and Spintronics (2012)
- Visiting Scientist, Cornell University, Dept. of Biomedical Engineering (2004–2005)

Research Interests and Further Information

- Optics and Ultrasonics for Diagnosis and Therapy
- Laser-Generated Focused Ultrasound / Photoacoustics
- Optical Sensors and Transducers
- Optical, Thermal, and Mechanical Energy Conversion in Nanostructures
- High-Energy Fiber Lasers for Image-Guided Biopsy and Therapy

Selected Publications


Distinctions

- Distinguished Dissertation Award, Seoul National University (2001)
- Best Paper Award, 8th workshop on Nanobioelectronics, Seoul National University (2004)
- Oversea Collaborative Research Program, KOSEF, Korea (2004–2005)
Next Generation Network Laboratory

Kyuseob Cho  Ph.D.,
Professor, Networks

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Education

• Ph.D. in Electronic Engineering, Sungkyunkwan University (1989)

Experiences

• Electronics and Telecommunications Research Institute, Daejeon, Korea (1977–1992) Senior Research Engineer

Research Interests

• Digital Transmission System
• Next Generation Network Architectures
• Communication Protocols
• Mobility Managements

Selected Publications/Patents/Projects

• Research and Development Engineer for Various Wired and Wireless Networks
• Communication Terminal Design Engineer

> http://ngnl.skku.edu
Education

- Ph.D. in Electrical Engineering, University of Southern California (1982)

Experiences


Research Interests

- Digital Communications (Wired/ Wireless)
- Mobile Communications (CDMA, OFDMA, TDMA)
- MODEM Techniques (Signal Processing & Synchronization)
- Satellite Communications (Digital Broadcasting)
- Multi-antenna Systems (MIMO, AAS)
- Signal Structure Design (SC-FDMA, Digital TV, Military Comm.)

Selected Publications/Patents/Projects

- R&D Engineer for Wireless Communications
- Baseband MODEM Chip Design Engineer

Distinctions

- Member of National Academic of Engineer of Korea (NAEK) (2006–)
- KICS (Korea Institute of Communication Science) Chairman (2009)
Network Technology Laboratory

Min Young Chung  Ph.D.,
Professor

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> http://net.skku.ac.kr

Education

• Ph.D. in Electrical Engineering, Korea Advanced Institute of Science and Technology, Korea (1999)

Experiences

• Professor, College of Information and Communication Engineering, Sungkyunkwan University, Suwon, Korea (2012–Current)
• Associate Professor, College of Information and Communication Engineering, Sungkyunkwan University, Suwon, Korea (2006–2012)
• Assistant Professor, College of Information and Communication Engineering, Sungkyunkwan University, Suwon, Korea (2002–2006)
• Senior Member of Technical Staff with the Electronics and Telecommunications Research Institute (1999–2002)
• Editor, Journal of Communications and Networks (JCN) (2005–2010)

Research Interests

• Performance Evaluation and Design of Communication Networks/Systems
• Next Generation Wireless Communication Networks
• 3GPP LTE, 4G, and B4G Communication Systems
• Cooperative Communications
• Wireless LAN/PAN
• Device-to-Device (D2D) Communications
• Heterogeneous Networks with Small Cells

Selected Publications/Patents/Projects

• Participated in Engineering Research Center (ERC) (Wireless Energy Harvesting and Communications Research Center: 2014.05–Present)
• Brain Korea 21+ (2013.09–Present)
• Future-based Technology Development Program (Mobility Management Technology for Future Converged Networks: 2010.07–Present)
Kwang-Seok Hong  Ph.D.,
Professor, Human-Computer Interaction

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> http://hci.skku.ac.kr

Education

• Ph.D. in Electronics, Sungkyunkwan University (1992)

Experiences

• Jaeye Univ., Korea, (03/1993–02/1995) Fulltime Lecturer
• Seoul Junior College, Korea, (03/1990–02/1993) Fulltime Lecturer

Research Interests

• Color Communication
• Plant Image Recognition
• Human-Computer Interface and Interaction
• Brain-Computer Interface and Interaction
• Human-Smart phone Interface

Selected Publications/Patents/Publications

• Biometric System Using a Set of Teeth Image and Method Thereof and Recording Medium Thereof
• Location Awareness- based Intelligent Multi-Agent Technology
• Interface System between Human and Car
• Novel Acoustic Features for Speech Emotion Recognition
• Person Authentication using Face, Teeth and Voice Modalities for Mobile Device Security

Distinctions

• Best researcher, IICT, Sungkyunkwan Univ., Korea, (2/2011)
• Best paper, KSII and KISPS, Korea, (5/2010, 11/2010)
Byeungwoo Jeon  Ph.D.,
Professor, Image and Video Signal Processing

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> http://media.skku.ac.kr

Education

- Ph.D. in School of Electrical Engineering, Purdue University (1992)

Experiences

- Senior Engineer, Samsung Electronics (1993~1997)
- Visiting Scholar, Massachusetts Institute of Technology (2007)
- Visiting Scientist, Institute Infocomm Research, Singapore (2010)

Research Interests

- Compressed Sensing, Application of Sparse Representation
- Image Signal Processing, Video Coding and Signal Processing
- Statistical pattern recognition and remote sensing

Selected Publications/Patents/Projects

- [Patent] “Distributed video encoder and decoder and distributed video decoding method,” US Patent 8,259,798 B2; and more than 100 other registered patents in video coding and processing area.
- [Project] “Compressed Sensing of Video Signal”, “Distributed Video Coding in Ubiquitous IT Environment”, “Resource-aware Video Coding for Mobile Applications”, and others from industry, government etc.

Distinctions

- Designated as “National Research Lab” by the Ministry of Science and Technology, Korea in Digital Video Technology area (2006)
- “100 experts in IT International Standardization” from Ministry of Information and Communication, Korea (2001 and 2002)
- Associate Editor of IEEE-Trans-Broadcasting, Senior member of IEEE
Education

• Ph.D. in Electrical Engineering, Univ. of Southern California (1990)

Experiences

• Director, MKE ITRC, COOP-Wireless Research Center (2008-)
• Professor (tenured), Simon Fraser University, Canada (2002-2007)
• Co-Editor-in-Chief, Journal of Comm. & Networks (2008-present)
• Editor, IEEE Trans. Wireless Communications (2002-present)
• Editor, IEEE Trans. Communications (2001-present)
• Visiting Professor, Univ. of Victoria, Canada (1999-2000)

Research Interests

• 4G Cellular Systems (WCDMA/OFDM/UWB)
• Cooperative Communications
• Cognitive Radio
• Cross-Layer Design

Selected Publications/Patents/Projects

• CDMA Communications (27 top-notch IEEE journal papers)
• UWB Communications (8 top-notch IEEE journal papers)
• OFDM Communications (2 top-notch IEEE journal papers)
• Cognitive Radio (1 top-notch IEEE journal paper)
• Cell Search for Wideband CDMA (1 US patent)
• UWB Transceiver Design (2 US patents)
• Cooperative Communications (ITRC project, 2008-2011)

Distinctions

• Best Student Paper Award, IEEE CCECE2007 (MS student, Ted Liu, Simon Fraser University, 2007)
• Runner-up, Best Student Paper Award Competition, IEEE ICU2005 (PhD student, Serhat Erkucuk, Simon Fraser University, 2005)
Education

• The University of Michigan, Ann Arbor U.S.A (1989) Ph.D. in Electrical and Computer Engineering

Experiences

• Korea Electrical & Telecom Research Institute (1980~1981)
• The University of Michigan, Ann Arbor (1989~1990)
• Samsung Electronics Corporation, KOREA(1990~1992)

Research Interests

• Detection and Estimation Theory
• Face Recognition/Identification
• 3D Image Processing

Selected Publications/Patents/Projects

• Development of depth-image-based three-dimensional mobile broadcasting system in terrestrial digital media broadcasting, Journal of Electronic Imaging, 2011
• Illumination Normalizing Method and Apparatus, 2008
• Joint Research on Core Technologies for Realization of HD 3DTV Broadcasting Services, NRF (w/ Xidian University) 2014~2016

Distinctions

• The University of Michigan Rackham Fellowship, 1985
• Distinguished Service Award, IEEE Seoul Section, 2001
• The Best Researcher Award, 2004
Communication and Coding Theory Laboratory

Sang-Hyo Kim Ph.D.,
Associate Professor, Coding Theory and Wireless Communications

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Education

• Ph.D., School of Electrical Engineering and Computer Science, Seoul National University (2004)

Experiences

• Associate Professor, College of ICE, Sungkyunkwan Univ. (Since 2011)
• Assistant Professor, School of ICE, Sungkyunkwan Univ., (2007~2011)
• Visiting Scholar, Communication Science Institute, University of Southern California, (Sept. 2006~Aug. 2007)
• Senior Engineer, Telecommunications R&D Center, Samsung Electronics, (Mar. 2004~June 2006)
• Editor, Trans. on Emerging Telecommunications Technology (2013~)
• Editor, Journal of Communications and Networks (2013~)

Research Interests

• Modern coding theory: LDPC codes and polar codes
• Wireless multi-terminal communications, D2D communications, LTE-A
• Signal design and secure communications.
• Code design for distributed source/video coding

Selected Publications/Patents/Projects

• A secure information transmission scheme with a secret key based on polar coding, IEEE Commun. Lett., June 2014.
Optical Communication Laboratory

Kyung Shik Lee Ph.D.,
Professor, Optical Communication and Sensing

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       +82-31-290-7204 (Lab)
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> http://icc.skku.ac.kr/~optics

Education

• Ph.D. in Department of Electrical and Computer Engineering, University of Colorado, Boulder, USA (1985)

Experiences

• Researcher, Electronics and Telecommunication Research Institute, (1978–1980)
• Scientist, National Institute of Standards and Technology, USA, (1986–1988)
• Visiting Prof, College of Optical Sciences, Univ. of Arizona, (2005–2006)

Research Interests

• Optical Communication Devices and Systems
• WDM, SDM and FTTH Technology
• LED Lightening and Display
• Optical Biosensors, Gas Sensors and Other Optical Sensors
• Optical Fiber Gratings and PLC Gratings Technology and their Applications
• Optical Fiber and Optical Fiber Lasers

Latest Selected Publications/Patents

• Ultra-flattened Dispersion selectively liquid filled PCFs, Optics Express, 2006.
• Method and Apparatus for Wireless Optical Communication, patent, 2007.
• LED Display and Lightening Apparatus, patent, 2008.
• Optical SPR Biosensor with Sandwich assay for the detection of PSA, Optics Communications, 2009.
Organic Photonic Device Laboratory

Dr. Myung-Hyun Lee
Associate Professor, Photonic Devices

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Education


Experiences


Research Interests

- Nano surface plasmonic waveguide devices and integration
- Thermo-optic polymeric photonic devices
- Electro-optic polymeric photonic devices
- Flexible optical devices

Selected Publications/Patents/Projects

- Sub-dB/cm propagation loss in silver stripe waveguides, OPTICS EXPRESS Vol. 17, No. 2, 697–702, (2010.02)
- Low bending loss metal waveguide embedded in a free-standing multilayered polymer film, OPTICS EXPRESS Vol. 17, No. 1, 228–234, (2010.01)
- Cascaded wavelength conversion as favorable application of nonlinear optical polymers, OPTICS EXPRESS Vol. 16, No. 13, 9726–9738, (2008.06)

Distinctions

- National Grant from Education Ministry of Korea (1989–2002)
- ORS (Oversea Research Scholarship) University of Oxford, UK
- Best Paper / Citation Award, ETRI Journal, Korea (2003 / 2004)
**Network System Laboratory**

**Tae-Jin Lee** Ph.D.,
Professor, Communication Networks

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**Fax:** +82-31-290-7983  
**Email:** tjlee@skku.edu

> [http://nesl.skku.ac.kr](http://nesl.skku.ac.kr)

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**Education**

- Ph.D., University of Texas at Austin, USA (1999)

**Experiences**

- Senior Engineer, Samsung Electronics (1999~2001)  
- Visiting Professor, Pennsylvania State University, USA (2007~2008)

**Research Interests**

- Performance Evaluation and Design of Communication Networks/Systems  
- Medium Access Control (MAC)  
- Network Resource Allocation  
- Wireless LAN/PAN/MAN (WLAN/ WPAN/WMAN)  
- IEEE 802.11/802.15, LTE, LTE-A  
- IoT, M2M, Ad-hoc/Sensor Networks, RFID/NFC  
- Cooperative/Energy Harvesting Communications

**Selected Publications/Patents/Projects**


**Distinctions**

- IEEE 802.11 Voting Member, IEEE (2004~)  
- Outstanding Paper Award, Samsung Electronics (2000)
Optical Information Systems Lab

Yeon H. Lee  Ph.D.,
Professor, Optics

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> http://icc.skku.ac.kr/~yeonlee

Education

• Ph.D. in Electronic and Electrical Engineering, University of Southern California, U.S.A (1989)

Experiences

• Aura Systems, USA (1989~1992) Senior Optics Engineer

Research Interests

• Photorefractive effects in crystals and polymers
• Holographic optical memories
• LCD and OLED
• 3-D display
• Nonlinear optics

Selected Publications/Patents/Projects

• Researcher in holographic optical memory
• Nonlinear optics
• Various displays
EMC (Electromagnetic Compatibility) Laboratory

Wansoo Nah  Ph.D.,
Professor, Electromagnetic Compatibility

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> http://emc.skku.ac.kr

Education

• Ph. D. in Electrical Engineering Seoul National University, Korea (1991)

Experiences

• March 1993 ~ February 1995 : Senior researcher at Applied Superconductivity Lab. in KERI
  (Korea Electro technology Research Institute)
• July, 1991 ~ February, 1993 : Researcher at Superconducting Super Collider Laboratory, Waxahachie, Texas, USA

Research Interests

• EMI/EMC and Signal/Power Integrity
• High Frequency Characterization of Electronic Packaging
• High Frequency Measurement Techniques of Multi-port System
• Modeling and Simulation for High Frequency Interconnects
• Power Plane and Ground Design for PCB/Packag and MCM

Selected Publications/Patents/Projects

• [Project] Modeling and reduction of EMS in system ICs (Samsung Electronics 2014)
• [Project] Human Education Program for Green Car Electro-technology (KETF 2014)

Distinctions

Microwave and Antenna Laboratory

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Professor, Optics

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Education

- Ph.D. in Electrical and Electronic Eng., KAIST, Daejeon, S Korea (1995)

Experiences

- Assistant Professor, in INJE University, KimHae, Kyung-nam, S Korea (1994~1995)
- CEO, in Wave Electronics, Suwon, Kyung-gi, S Korea (1999~ )

Research Interests

- Linear Power Amplifier Design
- Analysis/Simulation of Nonlinear Circuits
- Efficiency enhancement of Power Amplifiers
- Development of Various Antenna

Selected Publications/Patents/Projects

- Sung-Chan Jung, Cheon-Seok Park, IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES, “A New Envelope Predistorter With Envelope Delay Taps For Memory Effect Compensation”
- Hwangbo Hoon, Cheon-Seok Park, MICROWAVE JOURNAL, “Power Amplifier Linearization Using an Indirect-learning-based Inverse TDNN Mode”
- Sung-Chan Jung, Cheon-Seok Park, MICROWAVE AND OPTICAL TECHNOLOGY LETTERS, “EXPERIMENTAL OPTIMIZATION OF THE 2nd LOO P CONFIGURATION FOR FEEDFORWARD AMPLIFIERS IN TERMS OF THEIR EFFICIENCY AND LINEARITY”

Distinctions

- Kyung-ki Venture CEO Award (2006), Small and Medium Business Administration
- The model of Texpayer Honor (2007), Kyung-Ki Regional National Tax service, Suwon
Medical Image Processing Lab

Hyunjin Park  Ph.D.,
Associate Professor, Medical Imaging

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> http://hyunjinp.blogspot.com

Education

- Ph.D. in Biomedical Engineering, University of Michigan, Ann Arbor, MI, U.S.A. (2003)

Experiences

- Assistant/Associate Prof: School of Electronic Electrical Engineering, Sungkyunkwan University, Korea, (2012–current)
- Assistant Prof: Dept. of Biomedical Engineering, Gachon University, Korea, (2009–2012)
- Assistant Prof (Research): Dept. of Radiology, University of Michigan, Ann Arbor, U.S.A (2007–2009)

Research Interests

- Image processing methods for medical imagery, primarily image registration and segmentation.
- Medical image analysis for histological sections.
- Medical image analysis for cancer management.
- Application of computer vision algorithm to medical imagery.

Selected Publications


Honors and Distinction

- Rotary International Ambassadorial Scholarship, Korea, 1998
Millimeterwave / Terahertz Integrated Circuits Lab

Munkyó Seo  Ph.D.,
Assistant Professor, Millimeterwave circuits/systems

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Email: mkseo@skku.edu

Education

• Ph.D. in Electrical Engineering, University of California, Santa Barbara, USA (2007)

Experiences

• Teledyne Scientific and Imaging, Thousand Oaks, CA, USA (2009~2013)
• Intel Corporation, Hillsboro, OR, USA (summer internship, 2006)
• LG Electronics, Seoul, Korea (1997~2002)

Research Interests

• Millimeterwave / Terahertz IC design in advanced CMOS and HBT technologies.
• Signal-processing / hardware co-design approaches for emerging communication systems and wireless sensor networks.
• Applied signal processing techniques for mixed-signal circuits.

Selected Publications


Distinctions

• Lancaster Ph.D. Dissertation Award, University of California, Santa Barbara (2008)
• Honorary Mention Award, Student Paper Competition, IEEE Int’l Microwave Symposium (2008)
Media System Laboratory

Jitae Shin  Ph.D.,
Professor, Video Communication

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Education

• Ph.D. in Electrical Engineering, University of Southern California, U.S.A. (2001)

Experiences

• Korea Atomic Energy Research Institute, Senior Researcher (~’96)
• Korea Electric Power Corporation, Senior Engineer of the Control & Instrumentation System in Nuclear Power Plant, (’88~’91)

Research Interests

• Video Communication and Signal Processing for compressed 2D, 3D, and multiview video
• Medical Image Processing and System
• Wireless Video Transmission System with Channel and Network Coding
• Mobile TV, High-Bandwidth Network, Future Internet
• Wireless Sensor Networking & Ad Hoc network

Selected Publications/Patents/Projects

• Moving-Object Based Depth Map Estimation Using Re-labeling and Hybrid Matching
• Development of Transmission System Based on H.264 Scalable Video Coding (SVC)-Based Video Streaming
• Cross - layer optimization techniques for ubiquitous multimedia service over IEEE 802.11-based wireless mesh networks
• Development of next generation mobile TV system technology, Information Technology Research Center
NanoPhotonics Laboratory

Bong-Shik Song Ph.D.,
Assistant Professor, Optics

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Education

• Ph.D. in Electronic Science and Engineering, Kyoto University, Kyoto, Japan (2004)

Experiences

• Invitation fellowship of Foreign scholar in Kyoto University (6/2006–9/2006)
• Invitation fellowship of Foreign research in JSPS (3/2010–2/2011)

Research Interests

• Integrated nanophotonics, Silicon Photonics, photonic crystals
• Nanofabrication, Measurement of nanophotoic devices
• Modeling and simulation of Novel photonic devices

Selected Publications/Patents/Projects

• Photonic Devices Based on In-Plane Hetero Photonic Crystals, Science 300, 1537 (2003).

Distinctions

• Young Scientist Award for the Presentation of an Excellent Paper in the Japan Society of Applied Physics (9/2003)
Education

• Ph.D. in Electronic and Electrical Engineering, Postech, Pohang, Korea, (2002)

Experiences


Research Interests

• Linear Power Amplifier ICs or Modules
• Low Power CMOS Analog/RF Integrated Circuit Design
• RF Transmitter/Receiver Systems Design/Integration

Selected Publications/Patents/Projects

• Development of the polar transmitter for UHF RFID readers
• Development of highly linear 1 Watt power amplifier MMIC
• Highly efficient transmitter design for wireless power transmission
• UHF RFID tag IC / reader SoC design

Honors and Distinction

• Outstanding Achievements Award, Student High-Efficiency Power Amplifier Design Competition, 2006 IEEE MTT-S Int. Microwave Symposium. (adviser)
• Honorable Mentions Award, Student Paper Competition, 2002 IEEE MTT-S Int. Microwave Symposium.
Computer Vision Lab

June-Ho Yi  Ph.D.,  
Professor, Computer Vision

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Education

• Ph.D. in Electrical Engineering, Purdue University, U.S.A. (1994)

Experiences

• Distinguished Visiting Professor: 2013-present, North University of China, China  
• Visiting Professor: 2004–2005, 2008, University of California at Santa Barbara, U. S. A.  
• Senior Researcher: 1995–1996, KIST  
• Research Staff: 1994–1995, University of California, Riverside, U. S. A.

Research Interests

• 2D/3D Object Category Recognition  
• 2D/3D Face Processing/Recognition  
• Vision Based Human Computer Interaction Using RGB-D Cameras

Representative Publications

• Effective Representation Using ICA for Face Recognition Robust to Local Distortion and Partial Occlusion, IEEE Transactions on Pattern Analysis and Machine Intelligence, 2005  

Distinctions

• Awardee of the 100 hundred talents program, Shanxi province, China, 2013  
• Best paper award, “Metal Area Segmentation in X-ray CT Images”, MITA, 2012  
• Best paper award, “Depth Edge Based Hand Gesture Recognition Using Curvature Scale Space”, KIPS, 2007  
• Best paper award, “Robust Face Recognition Using Part-based Localized Basis Images”, BERC Biometrics Workshop, 2006
Bioelectronic System Lab

Jae-Chern Yoo  Ph.D.,
Assistant Professor, Bioelectronics

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Education

- Ph.D. in Electrical and Electronic Engineering, POSTECH (2001)

Experiences

- Professor, Samsung Institute of Tech. (1994)
- Adjunct professor, POSTECH Information Research Laboratories and Graduate School for Information Tech. (2002~2006)
- Research Assistant Professor, POSTECH Graduate School for Information Tech. (2006~2008)

Research Interests

- Lab on a Disk
- Bio Signal Processing
- Bio Sensor for U-Health
- Image Processing

Selected Publications/Patents/Projects

- Lancet device and method for sampling and injecting blood using the lancet device (2010-05-19,ZL200680020236.5)
- Bio-Disc, Bio-Driver apparatus, and Assay method using the same (1008309260000)
- A micro valve apparatus using micro bead and method for controlling the same (1005520780000)
- DIGITAL BIO DISC (DBD), DBD DRIVER APPARATUS, AND ASSAY METHOD USING THE SAME (1010033510000)
- liquid barcode and liquid barcode reader (1009414150000)
- Bio Drive Apparatus, and Assay method using the same (1009491140000)
Education

- Ph.D., Electrical Engineering and Computer Science, Korea Advanced Institute of Science and Technology, Korea (2002)

Experiences

- Assistant Professor, School of Information and Communication Engineering, Sungkyunkwan University, Suwon, Korea, March 2003–Present
- Postdoctoral Research Fellow, Division of Engineering and Applied Sciences, Harvard University, Cambridge, MA, July 2002–February 2003
- Postdoctoral Research Fellow, Department of Electrical Engineering and Computer Science, Massachusetts Institute of Technology (MIT), Cambridge, MA, April 2002–June 2002

Research Interests

- Interference Cancellation
- Signal Detection and Estimation
- Multiple Antenna Wireless Communications
- Statistical Signal Processing

Selected Publications/Patents/Projects

- [Project] Wireless transmission technology for BS/MS Cooperation (ITRC) (10 other projects)

Distinctions

- Distinguished Alumni Award, Kyunggi High School of Science, 2003
- Korea’s Youngest-Ever Professor (at the age of 27), Sungkyunkwan University, 2003
- The Youngest Ph.D. of the Year, KAIST, 2002
- Bronze Prize, Samsung Humantech Thesis Prize, 2000
Systems

- Control Systems
- Energy Systems
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Professor, IT Accelerator Engineering Research Center

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Education

- Ph.D. in Electrical Engineering, Sungkyunkwan University

Experiences

- Researcher, Korea Cancer Center Hospital / Korea Atomic Energy Research Institute, Cyclotron Research Lab. (1983–1989)
- Principal Researcher, Research Institute of Radiological and Medical Science, KIRAMS (1990–2007)
- Director General, Research Institute of Radiological and Medical Science, KIRAMS (2006–2007)
- Professor, Electrical Engineering, Sungkyunkwan University (2008–present)
- IAEA Expert (Cyclotron and RI field, 2005–present)

Research Interests

- Accelerator Design and Manufacturing
- RF Resonator and RF Power Generation System Development
- Advanced Accelerator System for Cancer Treatment
- Proton Accelerator for Medical Use
- Research and Development on Detector & ASIC Design

Selected Publications/Patents/Projects

- Detailed measurement of the e+e- pair continuum in p+p and Au+Au collisions at Sqrt(S_NN) = 200 GeV and implications for direct photon production (Physical Review Letters, 2010), and 20 other journals for recent 3 years
- Development of KIRAMS-13, KIRAMS-30
- Principal Researcher, Accelerator Division, Korea Rare Isotopes Accelerator Project (2010–present)
- Development of Labeling Compounds System for Radiopharmaceuticals by Microfluidic Technology Project (2009–present)
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Assistance professor, Systems

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Education

- Ph.D. in Radiation medical Engineering, Amirkabir university of Technology (Tehran Polytechnic), Tehran, Iran (2009)

Experiences

- September (2013~2014) Research Professor, College of Information & Communication Engineering-Sungkyunkwan University-Korea
- March 2013~Sep 2014 Adjunct Professor
- College of Information & Communication Engineering-Sungkyunkwan University-South Korea
- June 2012~Sep 2014 Senior Researcher(Research Fellow) Institute of new paradigm of Energy Science Convergence Research unit-Sungkyunkwan University-South Korea
- November 2010~May 2012 Post-doc Researcher Institute of new paradigm of Energy Science Convergence Research unit-Sungkyunkwan University-South Korea
- February 2009~March 2010 Researcher Design and manufacturing of Magnetic Location Tools (MLT) system for directional drilling-Research intitute for Oil, Gas and petrochemical, Amirkabir university of Technology
- February 2008~October 2010 Assistance professor Department of Industrial Engineering-Ershad University of Damavand, Iran
- August 2007~October 2010 Lecturer Department of Energy Engineering and Physics-Amirkabir University of Technology, Iran

Research Interests

- Accelerator Technology and applications
- Nuclear electronics and radiation measurement.
- Radiation Medical applications
- Nanoparticles Synthesis and Functionalization by Laser Ablation

Selected Publications/Projects

- Design of High Frequency X-band electron accelerator
- Nanoparticles Synthesis and Functionalization by Laser Ablation for Nano-Radioisotope Production
Automation/Robot/Embedded System Laboratory

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Professor, Robotics

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Education

- Ph.D. in Electrical Engineering, Purdue University (1990)

Experiences

- Mechatronics Center of Samsung Electronic Co. (1990~1994)

Research Interests

- Embedded Real Time System
- Architecture of Real Time Vision and Speech System
- Automotive ECU (Electronic Control Unit)
- Intelligent Robot Controller
- Motion Controller

Selected Publications/Patents/Projects

- “A Reliable Gateway for In-Vehicle Networks Based on LIN, CAN, and FlexRay,” ACM Trans. on Embedded Computing Systems
- “An FPGA-Based Multiple Axis Motion Control Chip,” IEEE Trans. on Industrial Electronics
- Rectification System and Method of Stereo Image in Real-time, USA, Patent No. 7,643,067
- Gateway Device, Network System and Data Converting Method Applied to Vehicle Using Plurality of Network Protocol Different from Each Other, USA, Patent No. 7,801,162
- Control System of Flexray and CAN And Method Thereof, Korea Patent 0775516
- Vision/Speech SoC Technology Development
- A Study on Smartphones based on Multi-core Processors
- Communication of ECU with using XCP/CCP protocol
Education

• Ph.D. in Electrical Engineering, Seoul National University, Korea. (1993~2003)

Experiences

• Senior Research Engineer, Hyundai-Motor Company and KIA Corporation, Korea. (2003~2006)

Research Interests

• Electric Propulsion Motor for HEV, EV, HEV (Automobile)
• Electric Propulsion Motor for High Speed Train and MAGLEV
• Power Analysis of Integrated Electric Ship Propulsion System
• Optimal Design and Numerical Analysis of Wind Power Generator
• Optimal Design and Numerical Analysis of Actuator for Home Appliance
• Optimal Design and Numerical Analysis of Motor for UAV
• Automated In-House Design Program and Real-Time Simulator

Selected Recent Publications

Chul-Hwan Kim  Ph.D.,
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Education

• Ph.D. in Electrical Engineering, Sungkyunkwan University (1990)

Experiences

• Director of Center for Power IT (2007–Present)
• Professor, Jeju National University, 1990–1992
• IEEE PSRC Working Group Member (2003–Present)
• Visiting Scholar in University of Bath, UK (1996)

Research Interests

• Analysis of Power System Transient Phenomena
• Modeling of Power System Using EMTP
• Smart Grid (Electrical Vehicle, LVDC Distribution System)
• IT Applications in Power System
• Development of Digital Relay and Protection Algorithms

Selected Publications/Patents/Projects

• International Journal (60) / Domestic Journal (98)
• International Patents (11) / Domestic Patents (23)

Distinctions

• IEEE Senior Member (2004)
• 1st Prof. Young-Moon Park Academic Award (2000)
• KIEE Academic Award (2001)
• Committee Member of IPST (International conference on Power System Transients, 2007–Present) and DPSP (Developments in Power System Protection, 2008–Present)
• Reviewer of the IEEE Transactions and Other Journals (2001–Present)
• Associate Editor of JEET (the Journal of Electrical Engineering & Technology)(SCIE, 2007–2012)
**Control & Robotics Laboratory (Formerly ICon Lab)**

**Tae-Yong Kuc**  Ph.D.
Professor, Intelligent Control & Intelligent Robotics

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**Education**

- Ph.D. in Electronics and Electrical Engineering, POSTECH, Pohang, Korea (1993)

**Experiences**

- Mokpo National Univ., Muan, Korea (1993.9~1995.2) Senior Lecturer  
- SungKyunKwan Univ. (1995.3~Present) Professor  
- Adjunct Researcher of Korea Institute of Industrial Technology (2007.1~2009.9)

**Research Interests**

- Intelligent Robotics and Intelligent Control  
- Learning and Adaptation Algorithms for Intelligent Systems  
- Intelligent Robotic System Architecture & SI  
- Multi-robot Coordination and Control

**Selected Publications/Patents/Projects**

- TDC (Time-to-Digital Converter) Design  
- Performance Evaluation of Robot H/W & S/W Components  
- Adaptive Behavior Control of Cooperative Multi-robot Team  
- Tracking & Capturing Control of Cooperative Multiple Robots
Key Ho Kwon  Ph.D.,
Professor, Neural Networks

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Education

• Ph.D. in Electronic and Electrical Engineering, Seoul National University, Korea (1988)

Experiences

• Visiting Research Professor, Texas A&M University, (1996)
• ETRI (1978-1980)

Research Interests

• Fuzzy Theory, Genetic Algorithm, and Artificial Life

Selected Publications/Patents/Projects

• Research and Development Engineer for Fuzzy Theory, Genetic Algorithm, and Artificial Life
Energy Mechatronics Research Lab

Byoung-Kuk Lee  Ph.D.,
Associate Professor, Power Electronics

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Education

• Ph.D. in Electrical Engineering, Texas A&M University, USA (2001)

Experiences

• Korea Electrotechnology Research Institute, Korea (2003~2005) Senior Researcher
• Technical Advisor, Samsung Electronics DMC Research Center (2013)

Research Interests

• Battery Chargers for xEV
• Design and Control of PCS for Energy Storage System
• Advanced Algorithms for SOC, SOP, SOH for Battery Applications
• High Efficient Power Conversion Units for Home Appliances

Selected Publications/Patents/Projects

• “Method for selecting the optimum number of phases for converter and system using the same“ (US Patent)
• “Power conversion system for eliminating low frequency ripple current and control method thereof” (US Patent)
• Photovoltaic and fuel cell hybrid generation system using single converter and single inverter, and method of controlling the same” (US Patent)

Distinctions

• Best Research Award in 2005, KERI (06/2005)
• Senior, IEEE (09/2004)
• Associate Editor, IEEE Industrial Electronics Society (04/2007)
• Who’s Who in America, Marquis Who’s Who (07/2007)
• General Chair for IEEE VPPC2012
• Tutorial Speaker, IEEE APEC2014
Education

• Ph. D. in Electrical Engineering, Seoul National University, Korea (1990)

Experiences

• Visiting Professor (Dept. of Electrical Engineering and Computer Science at MIT, 2005–2006)
• Assistant/Associate Professor (Dept. of Electrical Engineering at Soongsil University, 1993–1998)
• Researcher (KEESRI, 1992–1993)
• Post-doc (ENSIEG, France, 1991–1992)

Research Interests

• Numerical Analysis of Electromagnetic Fields
• Electrical Machines and Energy Conversion
• Multi-Physics Analysis of EM Coupled Problems
• Optimal Design of Electromagnetic System
• High Voltage Devices and Electric Discharge
• Electric Vehicle, Energy Harvest

Selected Publications/Patents/Projects

• Research and Development for Electrical Machine Design
• S/W Development for Electromagnetic Field Analysis
• Design Tool Development of for EM System
• Interdisciplinary Research of MEMS and NEMS
• Multi-Physics Research of Micro Particle, Ferrofluid, microfluidics and dynamic systems.
Control and Virtual Reality Laboratory

Jong-Koo Park  Ph.D.,
Professor, Automatic Control

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Education

- Ph.D. in Control and Instrumentation Engineering, Seoul National University, Korea (1993)

Experiences

- The Chief of the Game Development Center (GTC), (2002–Present)

Research Interests

- Control Theory and its Application
- Estimation and Filtering Theories
- Robust and Nonlinear Control
- Virtual Reality and Game

Selected Publications/Patents/Projects

- Anti-Windup Method for Linear and Nonlinear Systems
- Dynamic Observer for LTI Systems
- Optimal Control with Dynamic State Feedback

Distinctions

- Outstanding Young Researcher Award, The Institute of Control, Automation and Systems Engineers (ICASE), Korea, (1997)
Kiheon Park  Ph.D.,  
Professor, Automatic Control

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Education

• Ph.D. in System Engineering, Polytechnic University of New York (1987)

Experiences

• Electronics and Telecommunication Research Institute, Dae-Jeon, Korea (1988–1990) Senior Research Engineer
• Visiting scholar, Polytechnic University (1996)

Research Interests

• Linear Multivariable Control
• Networked Control Systems
• Time-optimal Control of BLDC motors
• Kalman filter applications

Selected Publications/Patents/Projects

• [Paper]
  - Kalman filter applications to laser interferometer measurements in position-servo systems
  - Wiener-Hopf design of the optimal decoupling control system with state-space formulas
  - Parameterization of decoupling controllers in the generalized plant model
• [Patent]
  - Error correction system for laser interferometers

Distinctions

• Best paper award; Information and Control Symposium, Seoul, 2006
Education

- Ph.D. in Electrical Engineering, Seoul National University, Korea (1987)

Experiences

- University of Tennessee, Electrical Engineering, Visiting Professor (1991–1992)
- President, Korean Institute Power Electronics (2010–2010)
- Head of Center, Energy Power Research Center (2008–Present)
- Technical advisor, Hyundai Rotem (2006–Present)

Research Interests

- AC/DC converter design for DC distribution system
- DC/DC converter and DC/AC Inverter design and control for fuel cell system
- DC fast battery charger for EV and HEV
- PMSM motor drive system for electric vehicle bus
- 3 kW PV-PCS, 260W photovoltaic module integrated converter

Selected Publications/Patents/Projects

- DC/DC converter, DC/AC inverter control for home appliances
- Converter and inverter design for electric vehicle / solar cell / fuel cell / wind power system
- Soft switching DC/DC converter for transportation and BESS
- AC/DC converter design for regeneration based on DSP
- PMSM sensorless control by back EMF and current model
- PV-PCS algorithm design with Line-Interactive UPS function

Distinctions

- Senior Member of IEEE (Aug. 2005)
- Best Paper Prizes, Korean Federation of Science and Technology Societies (2005)
Applied Optimization Laboratory

Kwanho You Ph.D.,
Professor, Optimization & Control

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Education

• Ph.D., Dept. of Electrical and Computer Engineering, University of Minnesota, U.S.A. (2000)

Experiences

• Assistant Professor, Dept. of Electrical & Computer Engineering, Texas A&M University-
Kingsville, Texas, USA
• Committee Member of Strategic Item Council in KOSTI, Korean Ministry of Trade
• Board of Technology Evaluation in Korean Government Procurement Agency

Research Interests

• Nano Precision Measurement & Positioning
• Precision Actuator for Auto Focus & Optical Image Stabilizer
• Geolocation on Wireless Communication Network
• Optimal and Robust Control
• Adaptive Optimization Methods in Nonlinear Process

Selected Publications/Patents/Projects

• Research and Development in Laser Interferometer
• Development of Nano Positioning System using Hybrid Sensor
• Controller Design for Precision Voce Coil Motor Module
• Designer of Optimal and Nonlinear Control System
• Hybrid Geolocation Approach via. TDOA/AOA Methods
Education

• Ph. D. in Electrical Engineering, School of Electrical Engineering, University of Belgrade, Serbia. (1998)

Experiences

• 2010~Present : Associate Professor, School of Information and Communication Engineering, Sungkyunkwan University.
• 2008-2010 : Associate Professor, School of Electrical Engineering, University of Belgrade, Serbia.
• 2006-2008 : Research Professor, Next-generation Power Technology Center, Myongji University, Yongin.
• 2003-2006 : Associate Professor, Konkuk University, Seoul.
• 1998-2002 : Assistant Professor, School of Electrical Engineering, University of Belgrade, Serbia.

Research Interests

• Power system analysis
• Power system protection
• Power system stability
• Short circuits
• Digital signal processing applications in power systems
• Electric power distribution systems
• High voltage engineering
• Power cables

Selected Publications/Patents/Projects

Software

- Software Foundation
- Distributed Computing
- Intelligent/Interactive Computing
Andrea Bianchi  Ph.D.,
Assistant Professor, Human Computer Interaction (HCI)
Sungkyunkwan University

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Education

• Ph.D. in Culture Technology (Human Computer Interaction), KAIST, Korea (2012)

Experiences

• Assistant Professor, School of Information and Communication Engineering, Sungkyunkwan University, Korea (2013–Present)
• IEEE World Haptics Conference 2013 Art Chair (2013)
• Director of DALSMA conference (Digital Architecture and Large Scale Media Art), Seoul, Korea (2010–2011)
• Visiting researcher at Madeira-ITI, University of Madeira, Portugal (Summer 2010).
• Lead game developer, Rebel Monkey Inc., New York, USA (2008)

Research Interests

• Mobile interfaces and interaction
• Security and usability
• Tangible interfaces and prototyping
• Interfaces for reading

Selected Publications/Patents/Projects

• Bianchi, A., Oakley, I., Kwon, D. S. Counting Clicks and Beeps: Exploring Numerosity Based Haptic and Audio PIN Entry, Interacting with Computers (SCI), July 2012.
Sungkyunkwan Evolutionary Algorithms Lab (SEAL)

Chang Wook Ahn  Ph.D.,
Associate Professor, Natural Computing

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Education

- Ph.D. in Information and Communications Engineering, Gwangju Institute of Science and Technology (GIST) (2005)

Experiences

- Research Staff Member Samsung Advanced Institute of Science and Technology (SAIT) (2005–2006)
- Research Professor Gwangju Institute of Science and Technology (GIST) (2007)

Research Interests

- Nature-Inspired Problem Solving
- Estimation of Distribution Algorithms
- Machine Learning and Computational Intelligence
- Swarm Robotics and Applications to Real-World Problems

Selected Publications/Patents/Projects

- Bayesian Dynamic Optimization Algorithm
- Multiobjective Evolutionary Algorithms
- Evolutionary Digital Water Marking
- Quantum Evolutionary Algorithms
- Self-Assembling Swarm Robots
- Evolutionary Art & Music

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Modeling and Simulation Laboratory

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Professor, Simulation

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Education

• Ph.D. in Computer Engineering, University of Arizona (1993)

Experiences

• Korea Society for Simulation, Academic Director (01/1999–12/2002)
• Transactions of the Society for Modeling and Simulation International, Associate Editor (01/2001–12/2002)
• Korea Society for Simulation, Director (01/2003–Present)

Research Interests

• Ubiquitous Sensor Network (USN)
• Modeling and Simulation
• Intelligent System
• Modeling Methodology
• Network Security Simulation
• Enterprise Resource Planning

Selected Publications/Patents


Distinctions

• Korea Society for Simulation, EIC (01/1999–12/2002)
• AIS 2004 Award for Meritorious Service
Education

• Ph.D. in Electrical Engineering, Georgia Institute of Technology (2001)

Experiences

• Lancope, Inc. Senior Engineer
• Associated Editor, ACM Transaction on Internet Technology
• Adjunct Professor at Georgia Institute of Technology
• Director, Education center for mobile communications, Sungkyunkwan University

Research Interests

• Internet traffic monitoring
• Security issues in wireless networks (3G, 4G, 802.16 and 802.11)
• Next-generation Wireless Service
  - Vehicular Ad Hoc Network
  - Wireless E-Healthcare
• Network / Mobile Network System
  - GPRS / UMTS / WiMax
  - LTE / IMS
  - Wireless LAN

Selected Publications/Patents/Projects

• Effective Discovery of Attacks using Entropy of Packet Dynamics in IEEE Network
Education


Experiences

• Advisory Committee, Samsung Electronics DMC R&D Center, Division of Next Generation Interaction (2013–Present)
• Advisory Committee, MSIP, ICT R&D Long-term Project Planning (2013–Present)
• Director, MOE, Convergence Research Institute (CRI) (2005–Present)
• Vice President, Korean Society for Internet Information (2001–Present)
• Professional Member, NRF, Directorate for the Basic Research in Science and Engineering (2010–2014)
• Director, MKE ITRC, Intelligent HCI Convergence Research Center (2005–2013)
• Chairman, Information Communications Application Technology (ICAT) (2011–2012)
• Professional Member, Presidential Committee on Education Innovation (2004–2006)

Research Interests

• Software Defined Networks: OpenFlow, Floodlight, Mininet, NOX
• Autonomous Networks System
• Human-Computer Interaction and Its Software: Mobile Interaction, UI, UX
• D2D/M2M/IoT/WoT/Future Internet: Wireless Ad-hoc and Sensor Networks Protocols, Network Algorithms, Developing Testbeds
• Embedded System and Networking Software
• Proxy Mobile IPv6 and Virtual IP Mobility

Selected Publications/Patents/Projects

• [Patent] Personal Tracking SW System & Devices, International Patent (US8170581B2), 2012.05.01 (65 other patents)

Distinctions

• Best Paper, IEEE CyberC (2012)
• National R&D 100 Award (MEST, KISTEP) (2010)
• Best ITRC (IITA, MKE) of the year (2007)
• BK21 Honor Team - Deputy Prime Minister Awards of Korea (2006)
• Journal Editor: ① Journal of Supercomputing, ② KSII Transactions on Internet and Information Systems, ③ Journal of Mobile Communication
Tai-Myoung Chung  Ph.D.,
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Internet Management Technology Laboratory

Education

• Ph.D. Electrical and Computer Engineering, Purdue University (1995)

Experiences

• Staff Scientist, BBN Technologies, (1987.12~1990.08)
• Systems Manager, Waldner and Co. (1983.08~1987.12)

Research Interests

• Wired/Wireless Network Management
• Next-generation Mobile Networks
• Security and Privacy

Selected Publications/Patents/Projects

• [Paper] PDT-BI: Proactive Detection Technology based on the Biometric Information for Preventing Internal Information Leakage, IJBSBT, pp197~196, Oct 2013. (100 other refereed journal papers)
• [Patents 2010] key Distribution Methods and Tools using N-Grid in Sensor Network. (27 other patents or pending patents)
• [Projects] Developing a Cyber Quarantine System in SDN Networks 2014~2016 (50 other projects)

Distinctions

• President of Korea Information Processing Society (2011)
• Vice Chair of OECD Working Party on Information Security and Privacy (2005~present)
• Committee Member of Individual Dissension Arbitration Commission, Ministry of Public Administration and Security (2008)
• Chair of Korea Chief Privacy Officers’ Forum (2007~Present)
• Advisory member to the president for e-government (2003~2007)
• Advisory chair of Seoul Cyberspace Conference (2013)
• Advisory member of strategic committee for information and communications (2014~Present).
• Award a Medal, Order of Service Merit, Red Stripes, Government of Korea (2007)
• Award from Director of National Intelligence Service (2001)
• Award from Minister of Ministry of Information and Communication (2000)
• Best Paper Award, International Multi-Conference (2000)
Young Ik Eom  Ph.D.,
Professor, Dept. of Computer Eng.

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> http://dclab.skku.ac.kr

Education

• Ph.D. in Computer Science, Seoul National University (1991)

Experiences

• Vice-chairman (Korean Institute of Information Scientists and Engineers, 2011/2014)
• Vice-chairman (Korean Institute of Information Security and Cryptology, 2010~2014)
• Provost of Info. and Comm. Division (SKKU, 2007~2011)
• Director of System SW Research Group (SKKU, 2006~2007)
• Visiting Professor (Dept. of Information and Communication Science at Univ. of California, Irvine, 2000~2001)
• Visiting Researcher (ETRI, 1996)

Research Interests

• System Software, File Systems, Virtualization, Cloud Computing
• Distributed Computing, Middleware
• System Security

Selected Publications/Patents/Projects

• Dynamic Scheduling of Irregular Stream Programs toward Many-Core Scalability (Paper, IEEE TDPS, 2014)
• SFS: Random Write Considered Harmful in Solid State Drives (Paper, USENIX FAST, 2012)
• Research on Fundamental Element Technology in System Software for Super Mobile (Project)
• SmartTV 2.0 Software Platform (Project)
• Development of UMS architecture and System SW (Project)

Distinctions

• e+ Best Teacher Award (Sungkyunkwan Univ., 2004)
• Deputy Prime Minister’s Citation (MOE, 2005)
• Prime Minister Award (Korea SW Contest, 2010)
ARCS Laboratory

Hwansoo Han  Ph.D.,
Professor, Compiler & System Software

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Education

• Ph.D. in Computer Science, University of Maryland at College Park (2001)

Experiences

• Visiting Technical Advisor, Samsung Electronics Corp. (2008~2009)
• Associate Professor, Dept. of Computer Science, Korea Advanced Institute of Science and Technology (KAIST), Korea. (2003~2008)
• Senior Engineer, Intel Corp., Santa Clara, CA, USA. (2001~2002)

Research Interests

• System Software Design for NVRAM
• Parallel Computing for Multicore / Cluster Systems
• Optimizing Compilers for SIMD / EMM / GPGPU
• Program Analysis for Software Weakness

Selected Publications/Projects

• Efficient SIMD Code Generation for Irregular Kernels. ACM Symposium on Principles and Practice of Parallel Programming (PPoPP), Feb 2012.
• System Software Design for NVRAM. NRF, 2012~2015
• Scalable and Precise Buffer Overrun Analyzer. Microsoft Research Asia, University Grant. (2006~2007, sole PI)
Dae-Joon Hwang  Ph.D.,
Professor, Computer Architecture
Fellow, Sungkyunkwan University

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Education

• Ph.D. in Computer Science, Seoul National University, Seoul, Korea (1986)

Experiences

• Professor of School of ICE, Sungkyunkwan University, Suwon, Korea (1987–Present)
• Visiting Professor, MIT, Boston, USA (1990–1991)
• Visiting Researcher, IBM Thomas J. Research Center, Yorktown Heights, NY, USA (1993–1994)
• Visiting Professor, UC Irvine, CA, USA (2001)
• Chairman of Operation Committee, Open Cyber University, Seoul, Korea (1997–2000)
• Member of Education and Research, World Trade Center Association, USA (1998–2000)
• Executive Strategic Committee Member of IMS GLC, USA (2006–Present)
• Executive Advisory Board Member of Curriki, USA (2005–Present)
• Governing Board Member of UNESCO IITE, Moscow, Russia (2009–Present)

Research Interests

• Ubiquitous Education System & Technology Development
• Future LMS & LCMS Design
• Content Packaging Standard Development & Implementation: CC, Metadata, Collaborative Learning
• Smart innovation in education and learning
• E-Learning quality assurance system

Selected Publications/Patents/Projects

• Computer Architecture, C Programming, Internet Programming
• Patents: Korean Patents (29), US Patents (3)
• Development of Dataflow-Von Neumann Hybrid Machine (DAVRID)
• Development of Common Cartridge Specifications Testing Environment

Distinctions

• Presidential Award, Seoul, Korea (1997)
• UNESCO-ICT 1st Grand Prize, Paris, France (2007)
• IMS GLC Grand Prize, Canada (2007)
• Honorary Doctor Degree from MESI, Moscow, Russia
Cyber-Physical Systems Laboratory

Jaehoon (Paul) Jeong  Ph.D.,
Assistant Professor, Department of Software

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Education

- Ph.D. in Computer Science and Engineering, University of Minnesota - Twin Cities, USA. (2009)

Experiences

- Software Engineer, Brocade Communications Systems, USA. (2010~2012)
- Member of Research Staff, Electronics and Telecommunications Research Institute (ETRI), Korea. (2001~2004)

Research Interests

- Cyber-Physical Systems
- Vehicular Networks
- Wireless Sensor Networks
- Mobile Computing

Selected Publications


Distinctions

**Computer Systems Laboratory**

**Jinkyu Jeong  Ph.D.,**
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**Education**

- Ph.D. in Computer Science, Korea Advanced Institute of Science and Technology (KAIST), Korea. (2013)

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**Experiences**


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**Research Interests**

- Operating Systems, System Software  
- Embedded Systems, Cloud Computing  
- Virtualization, Memory Management  
- Low-Power Computing

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**Selected Publications**


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**Distinctions**

Machine Learning Systems Laboratory

Rhee Man Kil  Ph.D.,
Associate Professor, Machine Learning

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Education

• Ph.D. in Computer Engineering, University of Southern California, U.S.A. (1991)

Experiences

• Associate Professor, College of ICE, Sungkyunkwan Univ., Korea (2012–Present)
• Assistant/Associate Professor, Korea Advanced Institute of Science and Technology (KAIST), Korea (1994–2012)
• Senior Researcher, Electronics and Telecommunication Research Institute (ETRI), Korea (1991–1994)

Research Interests

• Machine Learning
• Artificial Neural Networks
• Data Mining
• Auditory/Speech Processing
• Brain Information Processing

Selected Publications


Distinctions

• Senior Member, IEEE, INNS
• Associate Editor, IEEE Transaction on Neural Networks and Learning Systems
Networking Lab

Dongsoo Stephen Kim  Ph.D.,
Professor, Electrical and Computer Engineering

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Education

• Ph.D in Computer Science and Engineering, University of Minnesota (1998)

Experiences

• Electronics and Telecommunication Research and Institute, Korea (1992)
• Megaxess Inc., Maryland (2000)
• Indiana Univ. Purdue Univ. Indianapolis (Present)
  - Associate Professor, Electrical and Computer Engineering
• Sungkyunkwan University (Present)
  - Inviting Professor, Electrical and Computer Engineering

Research Interests

• e-Healthcare and telemedicine
• Mobile ad-hoc networks, and sensor networks
  - Media access control (MAC) protocols in wireless ad hoc networks for supporting differential services
  - Soft-handover in mobile ad hoc networks for real-time streams
  - Modeling realistic mobility for mobile ad hoc networks
  - Power-aware routing
  - Sensor networks
• Network survivability, protection switching, network planning
• Quality-of-service provisioning in Internet protocols and asynchronous transfer mode
• Multicast switching networks, optical switching

Selected Publications

Security Engineering Lab

Hyoungshick Kim  Ph.D.,
Assistant Professor, Security Engineering
Sungkyunkwan University

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Education

• Ph.D. in Computer Science, University of Cambridge, UK (2012)

Experiences

• Professor of School of ICE, Sungkyunkwan University, Korea (2013–Present)
• Postdoctoral Fellow, University of British Columbia, Canada (2012–2013)
• Senior Engineer, Samsung Electronics (2004–2008)

Research Interests

• Security engineering
• Social network analysis
• Human authentication
• Usable security

Selected Publications

• Efficient Channel Selection Using Hierarchical Clustering, WoWMoM, 2012.

Distinctions

• The 2nd place winner of the Facebook Hackathon at UBC, 2012.
Jin-Soo Kim  Ph.D.,
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> http://csl.skku.edu

**Education**

- Ph.D. in Computer Engineering, Seoul National University, Korea (1999)

**Experiences**

- Associate Professor, Korea Advanced Institute of Science and Technology (KAIST) (2002–2008)
- Senior Member of Research Staff, Electronics and Telecommunications Research Institute (ETRI) (1999–2002)

**Research Interests**

- Storage systems
- Embedded systems
- Operating systems
- Parallel and distributed systems

**Selected Publications/Patents/Projects**


**Distinctions**

- SKKU Teaching Award, 2013
- Best Systems Paper Award, ACM SIGMETRICS Conference, 2000
Artificial Intelligence Laboratory

Moon-Hyun, Kim  Ph.D.,
Professor, Artificial Intelligence

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> http://ailab.skku.ac.kr

Education

- Ph.D. in Computer Engineering, University of Southern California, U.S.A. (1988)

Experiences

- Visiting Scholar, Princeton University, (1998)
- Visiting Scholar, IBM Almaden Research Institute, (1995)
- Research Engineer, Daewoo Heavy Industries Co. (1980~1983)

Research Interests

- Artificial Intelligence
- Pattern Recognition
- Machine Learning

Selected Publications/Patents/Projects

- Estimation of Crowd Density in Public Areas Based on Neural Network, Transaction on Internet and Information Systems (TIIS) (Vol. 6, No. 9, pp. 2170–2190), 2012
- Development of Handwritten Number Image Recognition System, Duzon
- HMM based crowd situation recognition using pedestrian information, National Research Foundation of Korea, 2012–2015
Ung Mo Kim  Ph.D.,
Professor, Database

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Education

• Ph.D. in Computer Science, Northwestern University, U.S.A. (1990)

Experiences

• Visiting Scholar, Dept. of Computer Engineering, University of California, Irvine (1997–1998)
• Visiting Scholar, Dept. of Computer Science, Wayne State University (2004–2005)

Research Interests

• Data Mining
• Web Information Retrieval
• Database Security
• XML Databases
• Spatial Databases

Distinctions

• Meritorious Prize: awarded by Cabinet Minister at Ministry of Information and Communication (2001)
Simulation Laboratory

Chil-giee Lee  Ph.D.,
Professor, Simulation

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Education


Experiences

• Samsung Electronics Co., Suwon, S.Korea, (1990–1995) Senior Research Engineer

Research Interests

• Computer Simulation
• Software Engineering

Selected Publications/Patents/Projects

• Control Software for Cluster Type Equipment (Ministry of Information and Communication) (1997.1–1998.12)
• 200mm Semiconductor Production Simulation (SEC Semi 6, 7, 8 Line 2002.6–2002.9)
• 300mm Semiconductor Production Simulation (SEC Semi 12 Line 2002.9–2003.2)
• Mid-range Line Management System (SEC Memory Business Unit 2003.7–2003.10)
Software Engineering Laboratory

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Professor, Software Engineering

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**Education**

- Ph.D. in Information Engineering, Tohoku University, Japan (1991)

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**Experiences**


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**Expertise and Research Interests**

- Autonomic / Dependable Computing System
- Self-healing and Monitoring System
- Self-reconfigurable SW through Performance Prediction
- Multi-Agents based Intelligent System (Intelligent U-Commerce)

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**Selected Publications**

- KSVTs: Towards Knowledge-Based Self-Adaptive Vehicle Trajectory Service, Information Technology Convergence, 2013
- Schedulability Analysis of Large-Scale Real-Time Systems with Hierarchically Profiled Petri Nets, International Information Institute, 2013
- Intelligent Service Robot and Application Operating in Cyber-Physical Environment, Lecture Notes in Electrical Engineering, 2012

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**Distinctions**

- Best Young Engineer Award by ISPJ, Japan, (1992)
- Best Young Engineer Award by IEICE, Japan, (1994)
Parallel Architecture and Programming Laboratory

Jae W. Lee  Ph.D.,
Assistant Professor, Computer Architecture,
Compilers and Parallel Programming

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> http://icc.skku.ac.kr/~jaewlee

Education

- Ph.D. in Computer Science, Massachusetts Institute of Technology (MIT), Cambridge, MA, U.S.A. (2009)

Experiences


Research Interests

- Computer Architecture
- Compilers and Program Optimization
- Computer Security

Selected Publications


Distinctions

Education

- Ph.D. in Computer Science, Korea Advanced Institute of Science and Technology (KAIST), 1999.

Experiences


Research Interests

- Web Information System
  - Web Usage / Social Media Mining
  - Twitter & Microblog Data Analysis
- User Adaptive System
  - Profile-based Recommendation
  - Collaborative User Modeling
  - Player Adaptive Game AI
- Intelligent System
  - Abnormal Traffic Detection
  - Finger Print Analysis

Selected Publications/Patents

- Representative Path Selection for Goal & Path Prediction
- Web Page Evaluation Using Users’ Behavior
- A Music Recommendation System Using Collaborative Filtering
- Tag clustering Based on the Track-back Mechanism
- A Fast Service Composition Method via Case-Base Numerization and Tree Structure Management

Ongoing Projects

- A Development of Novel Evaluation Method for User-centric Web
- A Development of Human Data Mining Technique for Understanding Users of Intelligent Virtual Agent (IVA)
- ACCEL-Accelerating Writing Skills with Technology-Scaffolded Peer Review
Jinkyu Lee  Ph.D.,
Assistant Professor

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Education

• Ph.D. in Computer Science, Korea Advanced Institute of Science and Technology (KAIST), Republic of Korea, 2011.

Experiences

• Research Fellow/Vising Scholar, University of Michigan, USA, 2011~2014.

Research Interests

• Research areas: Real-time embedded systems and cyber-physical systems.
• Research topics: System design and analysis with timing guarantees, QoS support and resource management

Selected Publications


Distinctions

• Best paper award, the 33rd IEEE real-time systems symposium (RTSS), 2012
• Best student paper award, the 17th IEEE real-time and embedded technology and applications symposium (RTAS), 2011
Computer Systems Lab

Joonwon Lee  Ph.D.,
Dept. of Computer Engineering

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Education

• Ph.D. Georgia Tech, 1991

Experiences

• RSM, IBM Research 1991–1992
• Professor, KAIST 1992–2008

Research Interests

• Operating System
• Embedded Software

Selected Publications/Patents/Projects

Education

- Seoul National University, Korea, (1999) Ph.D. in Department of Computer Science

Experiences

- Samsung San Jose Research Institute, USA, (2013) Visiting Engineer
- University of Arizona, USA, (2006~2007) Visiting Scholar
- Ewha Womans University, Korea, (2001~2002) Research Professor
- Oracle Korea, Korea, (1999~2001) Research Staff

Expertise and Research Interests

- Flash Memory Database Systems

Selected Publications

- Durable write cache in flash memory SSD for relational and NoSQL databases, ACM SIGMOD 2014
- X-FTL: transactional FTL for SQLite databases, ACM SIGMOD 2013
- Flash-based extended cache for higher throughput and faster recovery, VLDB 2012
- B+-tree index optimization by exploiting internal parallelism of flash-based solid state drives, VLDB 2012
- SFS: A File System for Flash Storage, Usenix FAST 2012
Sungkil Lee  Ph.D.,
Assistant Professor

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Education

• Ph.D. in Computer Science and Engineering, POSTECH (2009)

Experiences

• 2011–Present: Assistant Professor, School of Information and Communication Engineering, Sungkyunkwan University.
• 2009–2011: Postdoctoral researcher, Max-Planck-Institut Informatik, Germany.

Research Interests

• GPU-based real-time rendering
• Perception-based Information Visualization
• High-performance GPU computing

Selected Publications

• Perceptually Driven Visibility Optimization for Categorical Data Visualization, IEEE TVCG, 2013.
• Physically-Based Real-Time Lens Flare Rendering, ACM SIGGRAPH 2011.
• Real-Time Lens Blur Effects and Focus Control, ACM SIGGRAPH 2010.
Navrati Saxena  Ph.D.,
Asst. Professor, Mobile Ubiquitous Systems

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Education

• Ph.D. in Computer Engineering, University of Trento, Italy (2005)

Experiences

• Visiting Research Staff, Univ. of Texas, Arlington (2003~2005)
• Assistant Prof, Amity University, India (2005~2006)
• Research Prof, Sungkyunkwan University, (2006~2007)

Research Interests

• Mobile, wireless networks and systems
• Ubiquitous systems and smart environments
• Multimedia sensor networks and applications
• Modeling, optimization and performance analysis

Selected Publications/Patents/Projects/Projects

• Design of Context-aware Heterogeneous Smart Environment
• QoS-aware near-optimal Routing Protocol for Sensor Networks
• VoIP with QoS over 3G Wireless Networks
• Book of Data Scheduling and Transmission in Asymmetric Telecommunication Environments

Distinctions

• Best Masters award, 2001, Agra University, India
• Best BS award, 1998, Kanpur University, India
Euiseong Seo  Ph.D.,
Associate Professor, System Software

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Education

• Ph.D. in Computer Science, Korea Advanced Institute of Science and Technology (KAIST), Korea. (2007)

Experiences

• Research Associate, Penn State University, USA. (2007~2009)
• Assistant Professor, Ulsan National Institute of Science and Technology, Korea. (2009~2012)
• Associate Professor, SungKyunKwan University, Korea. (2012~Currently)

Research Interests

• Power-aware System Software
• Cloud Computing
• Virtualization
• Embedded Systems

Selected Publications


Distinctions

• Samsung Humantech Thesis Award, Bronze Prize, Korea, 2006.
Embedded Software Lab

Dongkun Shin  Ph.D.,
Associate Professor, Embedded Software

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Education

• Seoul National University, Korea (2004) Ph.D. in Computer Science and Engineering

Experiences


Research Interests

• Embedded Storage (Flash Memory Software, SSD, File Systems)
• Architecture and Operating Systems for Multicore and GPU
• Low-Power Systems and Software
• MPSoC (Networks-on-Chip)

Selected Publication/Patents/Projects

Education

• Ph.D. in Electrical Engineering, Georgia Institute of Technology, U.S.A. (1992)

Experiences

• Professor (1994–Present), Sungkyunkwan University,
• Senior Research Engineer (1992–1994), Samsung Data Systems
• Junior Engineer (1982–1986), Daewoo Heavy Industries

Research Interests

• Wireless Communications/Networks
• Ubiquitous Computing
• Mobile Middleware
• E- and M-healthcare
• Industrial Networks and Applications

Selected Publications/Patents/Projects

• Improved Estimation of the number of Competing Stations Using Scaled Unscented Filter in an IEEE 802.11 Network, IEICE, 2008
• Improved Particle Filtering Based Estimation of the Number of Competing Stations in IEEE 802.11 Networks, IEEE Signal Processing Letters, 2008
Dongho Won  Ph.D.,
Professor, School of Information and Communication Engineering

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> http://www.security.re.kr

### Education

- Ph.D. in Electronic Engineering, Sungkyunkwan University, Korea.

### Experiences

- Research Scientist, ETRI (Electronics & Telecommunications Research Institute), Korea (1978~1980)
- Research Scientist, Electrical and Electronic Engineering, Tokyo Institute of Technology, Japan (1985~1986)
- Visiting Professor, UCI (University of California at Irvine), U.S.A. (2004~2005)

### Honors / Awards

- Best Paper Award, KARUS (Korea Association of RFID/USN)
- Award for President of the Republic of Korea
- Award for Minister of Information and Communication
- Award for Director of The National Intelligence Service

### Expertise and Research Interests

- Cryptology
- Radio Frequency Identification Security
- Security Modules for Wireless PKI Environments
- Digital Watermarking System
- Digital Rights Management For Home Network System
- Electronic Voting System

### Career Opportunities

- Research and Development Engineer for IT Security
- IT Security Consultant
- Security Administrator For Financial Institution
- Development Engineer For Security Solutions
Computer Network Lab

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Associate Professor, Computer Network

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Education

• Ph. D in Computer Engineering at Texas A&M University (2001)

Experiences

• Professor, Computer Science Dept., KAIST (2002~2008)

Research Interests

• Internet QoS
• Wireless/Mobile Network
• Cognitive Radio Network
• Delay Tolerant Network

Recent Publications

• Achieving throughput fairness in wireless mesh networks based on IEEE 802.11, IEEE MASS, 2008.
• Analysis of bandwidth efficiency in overlay multicast, Computer Networks, 2008.
• Simulating IEEE 802.16 uplink scheduler using ns-2, Int’l Conf. on Simulation Tools, and Tech. for Communications Networks and Systems, 2008.
Mobile Computing Laboratory

Hee Yong Youn  Ph.D.,
Professor, Mobile computing
Director, Ubiquitous computing Technology Research Institute (UTRI)
Visiting Professor, Samsung DS Software Center

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Education

• Ph.D. in Computer Engineering, University of Massachusetts at Amherst (1988)

Experiences

• Gold Star Precision Co, Central Research Lab. (1979–1983)
• Univ. of North Texas (1988–1990), Assistant Prof.
• Univ. of Texas at Arlington (1991–1999), Associate Prof. (Tenured)

Honors / Awards

• Mobile computing and networking
• Ubiquitous computing theory and application
• System software and middleware
• Cloud computing and virtualization
• Hybrid storage and SSD

Selected Publications/Patents/Projects

• Modeling & processing of streaming linked and big data (2013–2016)
• Development of smartphone-based social network framework (2011–2012)
• Development of convergence service with USN (2010–2012)
• Context-awareness technology for customized service with smartphone (2010)
• Research on IT infra of U-eco city (2008–2010)
• Large scale distributed file system for cloud computing (2008–2010)
• Development of intelligent agent-based middleware for ubiquitous computer systems (2003–2009)
• More than 400 international paper publications and 60 patents

Distinctions

• Best paper award, 1988 IEEE Int’l Conf. on Distributed Computing
• Best paper award, 1992 ACM Supercomputing
• Software technology award in 2010 for agent-based intelligent middleware