

# Sungrae Cho

PROFESSOR, SCHOOL OF SOFTWARE  
CHUNG-ANG UNIVERSITY

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## Research Interest

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Wireless Network, Mobile Computing, Internet of Things, 5G/6G Wireless Communication Systems, Fog Computing, Block Chain, Artificial Intelligence, Demand and Response for Smart Grid Network, Cognitive Radio Network, Quantum Computing, Nano Networks, Military Networks, Wireless Body Area Network, Wireless Mesh Network, Satellite Networks, and Wireless Sensor Network.

## Brief Bio

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Sungrae Cho is a professor with the school of software, Chung-Ang University (CAU), Seoul. Prior to joining CAU, he was an assistant professor with the department of computer sciences, Georgia Southern University, Statesboro, GA, USA, from 2003 to 2006, and a senior member of technical staff with the Samsung Advanced Institute of Technology (SAIT), Kiheung, South Korea, in 2003. From 1994 to 1996, he was a research staff member with electronics and telecommunications research institute (ETRI), Daejeon, South Korea. From 2012 to 2013, he held a visiting professorship with the national institute of standards and technology (NIST), Gaithersburg, MD, USA. He received the B.S. and M.S. degrees in electronics engineering from Korea University, Seoul, South Korea, in 1992 and 1994, respectively, and the Ph.D. degree in electrical and computer engineering from the Georgia Institute of Technology, Atlanta, GA, USA, in 2002.

His current research interests include wireless networking, ubiquitous computing, and ICT convergence. He has been a subject editor of IET Electronics Letter since 2018 and an area editor of Ad Hoc Networks Journal (Elsevier) from 2012 to 2017. He has served numerous international conferences as an organizing committee chair, such as IEEE SECON, ICOIN, ICTC, ICUFN, TridentCom, and the IEEE MASS, and as a program committee member, such as IEEE ICC, MobiApps, SENSORNETS, and WINSYS.

## Education

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### Georgia Institute of Technology

Atlanta, GA, USA

PH.D. IN ELECTRICAL AND COMPUTER ENGINEERING

Jan. 1998 - Dec. 2002

- Thesis: Resource Allocation and Error Control Protocols for Real-Time Communications in Satellite Networks  
Advisor: Prof. Ian F. Akyildiz

### Korea University

Seoul, South Korea

M.S. IN ELECTRONICS ENGINEERING

Mar. 1992 - Feb. 1994

- Thesis: Performance Analysis of Service Switching Point for Advanced Intelligent Network  
Advisor: *Emeritus* Professor Dukjin Kim

### Korea University

Seoul, South Korea

B.S. IN ELECTRONICS AND COMPUTER ENGINEERING

Mar. 1988 - Feb. 1992

## Employment

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### Chung-Ang University

Seoul, South Korea

FULL PROFESSOR, SCHOOL OF SOFTWARE

Mar. 2018 -- Present

<b>Chung-Ang University</b> FULL PROFESSOR, SCHOOL OF COMPUTER SCIENCE AND ENGINEERING	<i>Seoul, South Korea</i> <i>Sep. 2012 -- Feb. 2018</i>
<b>Chung-Ang University</b> SCHOOL HEAD, SCHOOL OF COMPUTER SCIENCE AND ENGINEERING	<i>Seoul, South Korea</i> <i>Sep. 2013 - Jul. 2015</i>
<b>National Institute of Standards and Technology (NIST)</b> GUEST RESEARCHER	<i>Gaithersburg, MD, USA</i> <i>Jul. 2012 - Jun. 2013</i>
<b>Chung-Ang University</b> ASSOCIATE PROFESSOR, SCHOOL OF COMPUTER SCIENCE AND ENGINEERING	<i>Seoul, South Korea</i> <i>Sep. 2006 -- Aug. 2012</i>
<b>Georgia Southern University</b> ASSISTANT PROFESSOR, DEPT. OF COMPUTER SCIENCE	<i>Statesboro, GA, USA</i> <i>Aug. 2003 -- Jul. 2006</i>
<b>Korea Electronics Technology Institute (KETI)</b> VISITING SCIENTIST	<i>Seongnam, South Korea</i> <i>Jun. 2005 -- Jul. 2005</i>
<b>Samsung Advanced Institute of Technology (SAIT)</b> PRINCIPAL RESEARCHER	<i>Giheung, South Korea</i> <i>Jan. 2003 -- Jul. 2003</i>
<b>Georgia Institute of Technology</b> GRADUATE RESEARCH ASSISTANT	<i>Atlanta, GA, USA</i> <i>Jan. 1998 -- Dec. 2002</i>
<b>Electronics and Telecommunications Research Institute (ETRI)</b> MEMBER OF RESEARCH STAFF	<i>Daejeon, South Korea</i> <i>Feb. 1994-Aug. 1996</i>

## Teaching Experience

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### Instructor for

- Wireless and Mobile Communications (undergraduate), CAU Spring 2019, 2018, 2017, 2016, 2015, 2014, 2012, 2011, Fall 2010, 2009, 2008, 2007.
- Computer Programming Design (undergraduate), CAU Spring 2012, 2011, 2010, 2009, 2008, 2007.
- Logic Circuits (undergraduate), CAU Fall 2018, 2017, 2016, 2015, 2014, 2013, 2011, 2010, 2009, 2008, 2007, 2006.
- Home Networks and Systems (graduate), CAU Fall 2011.
- Special Topics on Networking (graduate), CAU Spring 2018, 2015, 2011, Fall 2013.
- Special Topics on Operating Systems (graduate), CAU Spring 2019, 2017.
- Special Topics on Computer Engineering (graduate), CAU Fall 2016, Spring 2014.
- Special Topics on Algorithm (graduate), CAU Fall 2018, 2017.
- Cloud Computing (graduate), CAU Fall 2015.
- Graph Theory (graduate), CAU Fall 2014.
- Digital Communications (graduate), CAU Fall 2010
- Queueing Theory and Applications (graduate), CAU Spring 2016, 2012, 2010, 2008.
- Ubiquitous Computing (graduate), CAU Fall 2008, 2007.

- Probability and Statistics (undergraduate), CAU Fall 2006.
- Programming Principles I (undergraduate), GSU Spring 2006, 2005, 2004.
- Logic Circuits and Microprocessors (undergraduate), GSU Spring 2006.
- Data Communication and Networking (undergraduate), GSU Spring 2006, 2005, 2004.
- Data Structures (undergraduate), GSU Fall 2005, 2004.
- Wireless Networks (graduate), GSU Spring 2006, 2004.
- Ad Hoc Networking (graduate), GSU Spring 2005.
- Research Projects in CSC (graduate), GSU Fall 2004.
- Broadband Technology (graduate), GSU Fall 2003.

### Student Advising

- Kalyani Kanuri, M.S. July 2005. (Boston Bank, USA)
- Wonsuk Choi, M.S. February 2009. (Principle Researcher, Telecommunications Technology Association (TTA), South Korea)
- Dong Dong, M.S. February 2010. (China National Petroleum Co., China)
- Dr. Laihyuk Park, Ph.D. August 2017. (Assistant Professor, Chung-Ang University, South Korea)
- Gunwoo Lee, M.S. February 2012. (KAIST, South Korea)
- Dr. Woongsoo Na, Ph.D. February 2017. (Adjunct Professor, Sungshin Womans University, South Korea)
- Jeongsuk Yu, M.S. February 2014. (Inno Wireless Inc., South Korea)
- Hyungchul Bae, M.S. February 2014. (Hyundai Mobis Co., South Korea)
- Taejin Kim, M.S. August 2014. (IB Leaders Co., South Korea)
- Juho Lee, M.S. February 2015. (Hyundai Mobis Co., South Korea)
- Zeynep Vatandas, M.S. February 2015. (Research Associate, Hamburg Technology University, Germany)
- Yunseong Lee, M.S. August 2015. (Ph.D. Student, Chung-Ang University, South Korea)
- Joohyub Baek, B.S. August 2015. (LG Electronics, South Korea)
- Jongha Yoon, M.S. February 2016. (Assistant Professor, Republic of Korea Air Force Academy, South Korea)
- Junho Park, M.S. February 2016. (Inno Wireless Inc., South Korea)
- Dao Nhu Ngoc, M.S. February 2016. (Ph.D. Student, Chung-Ang University, South Korea)
- Jae Hyeon Eom, M.S. February 2016. (Inno Wireless Inc., South Korea)
- Seon Min Jang, M.S. February 2016. (Samsung Electronics, South Korea)
- Kyoungjun Park, B.S. February 2017. (KAIST, South Korea)
- Yonghun Kim, M.S. February 2018. (Major, Republic of Korea Army, South Korea)
- Junwook Lee, M.S. February 2018. (Captin, Republic of Korea Army, South Korea)
- Yeonseok Kim, B.S. February 2018. (Qualcomm, Korea, South Korea)
- Duc Nghia Vu, M.S. August 2018. (Inno Wireless Inc., South Korea)

- Seohyeon Jeong, M.S. expected February 2019.
- Umar Sa'ad, Ph.D. expected February 2021.
- Demeke Shumeye, Ph.D. expected February 2020.
- Arooj Masood, Ph.D. expected February 2020.
- Chunghyun Lee, Ph.D. expected February 2020.
- Anh Tien Tran, Ph.D. expected August 2023.
- Cheol Lee, M.S. expected February 2020.
- Namkyu Kim, M.S. expected February 2021.
- Gunhee Jang, M.S. expected February 2021.
- The Vi Nguyen, M.S. expected February 2022.
- Van Dat Tuong, M.S. expected February 2022.

## Professional Activities

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### Editorial Board

- Subject Editor, IET Electronics Letter, 2018 – Present.
- Guest Editor, Wireless Communications and Mobile Computing, Special Issue "Edge-based Mobile Social Media Computing and Analysis," January 2019 – June 7, 2019.
- Editor-in-Chief (EIC), Journal of Korea Institute of Communication and Information Sciences (J-KICS), 2016 – 2018.
- Editor, Journal of Korea Institute of Communication and Information Sciences (J-KICS), 2008 – Present.
- Editor, Journal of KIISE (Korean Institute of Information Scientists and Engineers), 2009 – Present.
- Vice Editor-in-Chief (EIC), Journal of KIISE (Korean Institute of Information Scientists and Engineers), 2018 – Present.
- Area Editor, Ad Hoc Network Journal (Elsevier), 2012 – 2017.
- Guest Editor, Sensors, Special Issue "Selected Papers from International Conference on Ubiquitous and Future Networks (ICUFN 2016)," September 1, 2016 – January 31, 2017.

### Organizing/Program Committee

- TPC Chair, ICOIN 2018.
- TPC Chair, ICUFN 2016.
- Organizing Committee (Co-)Chair of IEEE CAMAD 2018, IEEE SECON 2012, IEEE MASS 2009, Tridentcom 2007, ICOIN 2018, 2017, 2016, 2015, 2014, 2012, 2011, 2010, ICUFN 2019, 2018, 2017, 2016, 2015, 2014, 2013, 2012, 2011, 2010, ICTC 2019, 2018, 2017, 2016, 2015, 2014, 2013, 2012, 2011.
- Technical Program Committee Member, IEEE VTCSpring 2019, IEEE ICC'19 SPC, IEEE ICC'19 MWN, IEEE ICC'18 SPC, IEEE COMNETSAT 2014, CSIE 2009, WICON 2007, IEEE MADWH2005, MobiApps 2018, 2017, 2015, 2014, APMediaCast 2016, 2015, APWiMoB 2015, 2014, SENSORNETS 2015, 2014, 2013, WINSYS 2019, 2014, 2013, APCC 2016, 2013, ATC 2018, 2015, 2014, 2013, ComManTel 2014, DPNOC 2018, 2015, 2014, ICACCI 2015, ICCE 2018, 2014, ICMSAO 2019, ICoICT 2014, ICEPIT 2014, ICGHIT 2014, ICC2013-QRS Workshop, IWIV 2014, ICOIN 2018, 2017, 2016, 2015, 2014, 2012, 2011, 2010, ICUFN 2018, 2017, 2016,

2015, 2014, 2013, 2012, 2011, 2010, ICTC 2018, 2017, 2016, 2015, 2014, 2013, 2012, 2011, IJCDS 2018, JCCI 2017, 2016, TELSATECH 2013, UCN 2013.

### Technical Membership

- Voting Member of IEEE 802.15 Standard Committee, 2003 – Present.
- Life Member of KICS, KIISE, IWIT.

### **External Funding (Since 2006)**

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- Development of Power Control Technology of IoT Device using Wi-Fi and Small Cell and Building of Testbed, KEPCO, KEPCO, 2019.01.01 – 2022.12.31.
- PI, A study on core technology of 5G mobile communication using millimeter wave band, IITP, 2018.07.01 – 2022.12.31.
- PI, Development of Reliable Data Transmission Scheme for Deep Space Communications, NRF, 2018.07.01 – 2021.06.30.
- PI, Research on Resource Management of mmWave based Fog Radio Access Network for Big Data/IoT, NRF, 2017.4.01 – 2020.3.30.
- co-PI, Network Engineering: Development and Application of Novel Data Science Driven Framework for Efficient Network Design, NRF, 2017.06.01 – 2020.02.29.
- PI, Development of social network based demand side management optimization for residential buildings, KEPCO, 2016.12.01 – 2019.11.30.
- PI, Performance Analysis and Evaluation of Block Chain Platform, ETRI, 2018.08.01 – 2018.11.30.
- co-PI, Electro-acupuncture using natural current stimulation of Music, KIAT, 2017.07.01 – 2018.06.30.
- PI, Energy Efficient Automatic Control System, COMPA, 2017.05.04 – 2018.05.03.
- co-PI, Feasibility Research on 60GHz IEEE802.11ad for Virtual Reality Platform), IITP, 2017.04.01 – 2017.12.31.
- co-PI, Research and development of u-Office service based on high-speed wireless network, NIPA, 2016.1.1 – 2017.12.31.
- PI, Pioneering Research for Efficient Multi-Edge Computing, Samsung Electronics, 2017.06.01 – 2017.12.29.
- PI, A Study on the Optimization for Edge Cloud and Internet Cloud Interworking, ETRI, 2017.03.01 – 2017.11.30.
- co-PI, Development of LCBS system with minimal blood loss, SMBA, 2015.10.1 – 2017.10.11.
- PI, Development and Optimization of Core Technologies for Directional Antennas based Cognitive Radio Network using Four Dimensional Wireless Resources, NRF, 2016.11.1 – 2017.10.31.
- PI, Development of Fully Distributed Energy Management Platform using Game Theory, KEPRI, 2015.10.1 – 2017.9.30.
- PI, A Study on Sensor Networking Protocol for Emergency Data Collection, ETRI, 2016.6.1 – 2016.12.10.
- co-PI, Development of Ultra High Speed Centrifuges for Global Target Market, SMBA, 2014.7.1 – 2016.5.31.
- co-PI, BK21+ Next Generation Big Data Research Team, NRF, 2013.3.1 – 2020.2.29.
- PI, A Development of Distributed IoT Energy Management System using Game Theory, KOFAC, 2015.6.1 – 2015.11.30.

- PI, Research on Geographical Information-based MANET Routing using Separated Physical Channels, ETRI, 2015.7.1 – 2015.11.30.
- PI, Development and Standardization of IEEE 802.15.8 Peer-Aware Communication Protocols), ATS, 2012.10.1 – 2015.5.31.
- co-PI, Development of Next Generation CO2 Incubator Monitoring and Integrated Admission Management System using Smart Device, KAIARI, 2013.12.1 – 2014.11.30.
- PI, Development of Smart Grid Energy Scheduling Algorithms using Four Elements, KESRI, 2013.12.1 – 2014.11.30.
- PI, Association for Research on Development of Social Digital Signage Platform with Interactive Element), TIPA, 2014.7.1 – 2014.11.30.
- PI, A development of intelligent service to take care of second-class citizen using IoT(Internet of Things), KOFAC, 2014.6.1 – 2014.11.30.
- PI, Development of Social Digital Signage Platform based on WiFi-Direct, NIPA, 2013.9.1 – 2014.8.31.
- PI, Development of Smart Phone Application to Take Care of Senior Citizens who Live Alone, KOFAC, 2013.9.1 – 2014.2.28.
- PI, Development of Energy Management Software and Smart Phone Application on Smart Grid, KOFAC, 2013.6.1 – 2013.12.31.
- PI, Contention based Directional MAC Protocol for 60GHz Wireless LAN, NRF, 2010.09 – 2013.08.
- PI, Test and Measurement of UWB based Ad Hoc Routing for Military Communication), LIG NEX1, 2012.6.1 – 2013.3.31.
- PI, SW Development of Demand/Response based on Composite Context Awareness for Smart Grid, NIPA, 2012.6.1 – 2013.3.31.
- PI, Big Data Contents Delivery Technique for Smart Device using Device-to-Device Communication, NIPA, 2012.5.1 – 2012.12.20.
- PI, A Study on the Service Platform of Demand Side Management based on Composite Context Awareness for Smart Grid Systems, MKE, 2012.09 – 2013.02.
- co-PI, Next Generation Vehicular Mobile Service System based on Embedded Antenna Array, KCC, 2009.03 – 2012.02.
- PI, Event Simulation for Virtual Composite Context, ETRI, 2011.06 – 2012.01.
- PI, Personalized Service Platform for Vehicular Services using Smart Phone, KAIARI, 2010.06 – 2011.05.
- PI, Modeling and Architecture of Composite Context, ETRI, 2010.06 – 2011.01.
- PI, Performance Evaluation of Binary CDMA Protocol, KETI, 2010.06 – 2010.07.
- PI, Cooperative Communication for High Speed Local Area Network, ETRI, 2009.05 – 2009.11.
- PI, A Cognitive Radio based Mesh Routing Algorithm, KRF, 2007.08 – 2009.07.
- PI, A Performance-based Cooperative Device Management Technique, ETRI, 2008.07 – 2009.01.
- co-PI, An Energy-Efficient Wireless Body Area Networks (WBANs), IITA, 2006.09 – 2008.12.
- PI, Design of Cognitive Radio MAC, Samsung, 2007.05.01 – 2008.02.
- PI, An Energy-Efficient Data Delivery Protocol for WSNs, ETRI, 2007.06 – 2007.12.
- PI, A Scale-free Low-Power Routing Algorithm, KETI, 2007.04 – 2007.11.

- PI, A Research on The Efficient Mesh Routing Algorithm in Wireless Sensor Networks (WSNs), ETRI, 2006.09 – 2007.01.

## Book

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- Computational Thinking and Problem Solving, *Life and Power Press*, 2016.
- Introduction to Java Programming, *Hongrungsang Publication Company*, 2011.

## Publication in Refereed International Journals (Since 2008)

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- H. Kim, J. Ben-Othman, S. Cho, and L. Mokdad, "A Framework for IoT-enabled Virtual Emotion Detection in Advanced Smart Cities," to appear in *IEEE Network Magazine*, 2019.
- W. Na, S. Jang, Y. Lee, L. Park, N.-N. Dao, and S. Cho, "Frequency Resource Allocation and Interference Management in Mobile Edge Computing for an Internet of Things System," to appear in *IEEE Internet of Things Journal*, 2019.
- L. Park, S. Jeong, D. S. Lakew, J. Kim, and S. Cho, "New Challenges of Wireless Power Transfer and Secured Billing for Internet of Electric Vehicles," to appear in *IEEE Communications Magazine*, 2019.
- N.-N. Dao, M. Park, J. Kim, J. Paek, S. Cho, "Resource-Aware Relay Selection for Inter-Cell Interference Avoidance in 5G Heterogeneous Network for Internet of Things Systems," to appear in *Future Generation Computer Systems*, 2019.
- L. Park, S. Joeng, J. Kim, and S. Cho, "Joint Geometric Unsupervised Learning and Truthful Auction for Local Energy Market," *IEEE Transactions on Industrial Electronics*, vol. 66, no. 2, 2019.
- S. Jeong, W. Na, J. Kim, and S. Cho, "Internet of Things for Smart Manufacturing System: Trust Issues in Resource Allocation," *IEEE Internet of Things Journal*, vol. 5, no. 6, December 2018.
- N.-N. Dao, U. Sa'ad, V.-C. Vu, Q. D. Tran, E.-S. Ryu, and S. Cho, "A Softwarized Paradigm for Mobile Virtual Networks: Overcoming a Lack of Access Infrastructure," *IEEE Vehicular Technology*, vol. 13, no. 4, December 2018.
- N.-N. Dao, D.-N. Vu, W. Na, J. Kim, and S. Cho, "SGCO: Stabilized Green Crosshaul Orchestration for Dense IoT Offloading Services," *IEEE Journal on Selected Areas in Communications*, vol. 36, no. 11, November 2018.
- W. Na, Y. Lee, N.-N. Dao, D.-N. Vu, A. Masood, and S. Cho, "Directional Link Scheduling for Real-time Data Processing in Smart manufacturing System," *IEEE Internet of Things Journal*, vol. 5, no. 5, October 2018.
- K.-H. Nam Bui, S. Cho, J. J. Jung, J. Kim, O.-J. Lee, and W. Na, "A Novel Network Virtualization Based on Data Analytics in Connected Environment," *Springer Journal of Ambient Intelligence and Humanized Computing*, October 2018.
- D.-N. Vu, N.-N. Dao, Y. Jang, W. Na, Y.-B. Kwon, H. Kang, J. J. Jung, and S. Cho, "Joint Energy and Latency Optimization for Upstream IoT Offloading Services in Fog Radio Access Networks," *Wiley Transactions on Emerging Telecommunications Technologies*, August 2018.
- H. C. Pham, N.-N. Dao, A. Pedro, R. Hussain, Q.T. Le, S. Cho, and C.S. Park, "Virtual Field Trip for Mobile Construction Safety Education using 360-degree Panoramic Virtual Reality," *International Journal of Engineering Education*, vol. 34, no. 4, pp. 1174–1191, July 2018.
- H. C. Pham, N.-N. Dao, J.-U. Kim, S. Cho, and C.-S. Park, "Energy-Efficient Learning System using Web-based Panoramic Virtual Photoreality for Interactive Construction Safety Education," *Sustainability*, July 2018.

- W. Na, J. Yoon, S. Cho, D. Griffith, and N. Golmie, "Centralized Cooperative Directional Spectrum Sensing for Cognitive Radio Networks," *IEEE Transactions on Mobile Computing*, vol. 17, no. 6, pp. 1260–1274, June 2018.
- C. Lee, L. Park, and S. Cho, "Light-Weight Stackelberg Game Theoretic Demand Response Scheme for Massive Smart Manufacturing Systems," *IEEE Access*, vol. 6, no. 1, pp. 23316–23324, April 2018.
- N.-N. Dao, D.-N. Vu, Y. Lee, S. Cho, C. Cho, and H. Kim, "Pattern-Identified Online Task Scheduling in Multi-tier Edge Computing for Industrial IoT Services," *Mobile Information Systems*, vol. 2018, Article ID 2101206, April 2018.
- W. Na, J. Park, C. Lee, K. Park, J. Kim, S. Cho, "Energy-Efficient Mobile Charging for Wireless Power Transfer in Internet of Things Networks," *IEEE Internet of Things Journal*, vol. 5, no. 1, February 2018.
- L. Park, Y. Jang, S. Cho, and J. Kim, "Residential Demand Response for Renewable Energy Resources in Smart Grid Systems," *IEEE Transactions on Industrial Informatics*, vol. 13, no. 6, pp. 3165-3173, December 2017.
- N.-N. Dao, Y. Kim, S. Jeong, M. Park, S. Cho, "Achievable Multi-Security Levels for Lightweight IoT-enabled Devices in Infrastructureless Peer-Aware Communications," *IEEE Access*, vol. 5, pp. 26743-26753, November 2017.
- L. Park, Y. Jang, H. Bae, J. Lee, C. Park, and S. Cho, "Automated Energy Scheduling Schemes for Residential Smart Grid Networks," *Energies*, vol. 10, September 2017.
- N.-N. Dao, M. Park, J. Kim, and S. Cho, "Adaptive MCS Selection and Resource Planning for Energy-Efficient Communication in LTE-M based IoT Sensing Platform," *PLoS ONE*, vol. 12, no. 8, August 2017.
- N.-N. Dao, J. Lee, D.-N. Vu, J. Paek, J. Kim, S. Cho, K.-S. Chung, and C. Keum, "Adaptive Resource Balancing for Serviceability Maximization in Fog Radio Access Networks," *IEEE Access*, vol. 5, pp. 14548-14559, August 2017.
- W. Na, Y. Lee, J. Eom, S. Cho, and H.-H. Park, "Coexistence Scheme of Licensed-Assisted Access Using Long-Term Evolution and Wireless Local Area Network for Wireless Sensor Networks," *International Journal of Distributed Sensor Networks*, vol. 13, no. 6, June 2017.
- N.-N. Dao, J. Kim, M. Park, and S. Cho, "Adaptive Suspicious Prevention for Defending DoS Attacks in SDN-based Convergent Networks," *PLoS ONE*, vol. 11, no. 8, August 2016.
- C. Lee, N.-N. Dao, S. Jang, D. Kim, Y. Kim, and S. Cho, "Gyro Drift Correction for An Indirect Kalman Filter Based Sensor Fusion Driver," *Sensors*, vol. 16, June 2016.
- J. Yu, L. Park, J. Park, S. Cho, and C. Keum, "CoR-MAC: Contention over Reservation MAC Protocol for Time-Critical Services in Wireless Body Area Sensor Networks," *Sensors*, vol. 16, May 2016.
- W. Na, N.-N. Dao, and S. Cho, "Mitigating WiFi Interference to Improve Throughput for In-Vehicular Infotainment Networks," *IEEE Wireless Communications Magazine*, vol. 23, no.1, pp. 22-28, March 2016.
- W. Na, Y. Lee, J. Yoon, J. Park, and S. Cho, "Fully-Distributed Multicast Routing Protocol for IEEE 802.15.8 Peer-Aware Communication," *International Journal of Distributed Sensor Networks*, vol. 11, no. 8, August 2015.
- W. Na, N.-N. Dao, and S. Cho, "Reliable Multicasting Service for Densely Deployed Military Sensor Networks," *International Journal of Distributed Sensor Networks*, vol. 2015, no. 6, August 2015.



- W. Na, L. Park, and S. Cho, "Deafness-aware MAC Protocol for Directional Antennas in Wireless Ad Hoc Networks," *Elsevier Ad Hoc Networks Journal*, vol. 24, Part A, pp. 121-134, January 2015.
- J. Lee, W. Na, and S. Cho, "Energy-Efficient Reliable Broadcast Protocol for WSNs Based on IEEE 802.15.5," *International Journal of Distributed Sensor Networks*, vol. 10, no. 5, May 2014.
- M. Kim, K. Lee, Y. Kim, T. Kim, Y. Lee, S. Cho, and C.-G. Lee, "RETE-ADH: An Improvement to RETE for Composite Context-Aware Service," *International Journal of Distributed Sensor Networks*, vol. 2014, Article ID 507160, 11 pages, April 2014.
- L. Park, C.-G. Lee, and S. Cho, "SPARM: Spatially Pipelined ACK Aggregation for Reliable Multicast in Directional MAC," *IEEE Communications Letters*, vol. 17, no. 3, pp. 596-599, March 2013.
- J. Lee, S. Cho, and D. Kim, "Device Mobility Management in Content Centric Networking (CCN)," *IEEE Communications Magazine*, vol. 50, no. 12, pp. 28-34, December 2012.
- L. Park, J. Yu, C.-G. Lee, and S. Cho, "BTRB: Beam Table-based Reliable Broadcast for Directional Antennas," *IEICE Transactions on Communications*, vol. E95-B, no. 10, pp. 3307-3311 October 2012.
- H. Yang, S. Cho, and C. Park, "Improving Performance of Remote TCP in Cognitive Radio Networks," *KSII Transactions on Internet and Information Systems*, vol. 6, no. 9, pp. 2323-2340, September 2012.
- W. Na, G. Lee, H. Bae, J. Yu, and S. Cho, "Reliable Broadcast Scheme for IEEE 802.15.5 Low-Rate WPAN Mesh Networks," *IEICE Transactions on Communications*, vol. E95-B, no. 09, pp. 2700-2707, September 2012.
- L. Park, G. Lee, W. Na, C. Lee, C. Park, Y. Cho, and S. Cho, "Mobility-Aware Interference Avoidance Scheme for Vehicular WLANs," *KSII Transactions on Internet and Information Systems*, vol. 5, no. 12, pp. 2272-2293, December 2011.
- W. Na, and S. Cho, "Log-based Admission Control Scheme for Dynamic Spectrum Access Networks," *IEICE Transactions on Communications*, vol. E94-B, no. 10, pp. 2933-2936, October 2011.
- S. Cho, "Adaptive Forward Error Correction Scheme for Real-Time Communication in Satellite IP Networks," *KSII Transactions on Internet and Information Systems*, vol. 4, no. 6, pp. 1116-1132, December 2010
- C. Lee, Y. Ji, H. Park, J. Park, and S. Cho, "Patching with a Variable Segment VOD Scheduling," *IEICE Transactions on Communications*, vol. E.93-B, no. 12, pp. 3660-3663, December 2010.
- M. Lee, L. Zhang, J. Zheng, G. Ahn, C. Zhu, T. Park, S. Cho, C. Shin, and J. Ryu, "IEEE 802.15.5 WPAN Mesh Standard-Low Rate Part: Meshing the Wireless Sensor Networks," *IEEE Journal on Selected Areas in Communications*, vol. 28, no. 7, pp. 973-983, September 2010.
- S. Cho, "Proactive Data Filtering Algorithm for Aggregation in Wireless Sensor Networks," *IEICE Transactions on Communications*, vol. E91-B, no. 3, pp. 742-749, March 2008.

## **Publication in Refereed International Conferences (Since 2007)** \_\_\_\_\_

- N. Kim, S. Cho, and J.-S. Park, "Data Collection Protocol for Sensors Networks based on Molecular Communications," in *Proc. of International Conference on Electronics, Information, and Communication (ICEIC)*, New Zealand, January, 2019.
- N.-N. Dao and S. Cho, "Security Analysis of Social Networking based Authentication in Infrastructureless PAC Networks," in *Proc. of ICCNE*, Paris, France, December, 2018.
- N.-N. Dao, W. Na, Y. Lee, D.-N. Vu, and S. Cho, "Prefetched asymmetric authentication for infrastructureless D2D communications: Feasibility study and analysis," in *Proc. of ICTC*, Jeju,

Korea, October, 2018. [PDF]

- S. Jeong, N.-N. Dao, Y. Lee, C. Lee and S. Cho, "Blockchain based Billing System for Electric Vehicle and Charging Station," in *Proc. of ICUFN*, Prague, Czech Republic, July 2018.
- Y. Jang, L. Park, W. Na, C. Lee and S. Cho, "Appliance Type Constraint Design for Demand Response Smart Grid Systems," in *Proc. of ICUFN*, Prague, Czech Republic, July 2018.
- H. Kim, J. Ben-Othman, S. Cho and L. Mokdad, "On Virtual Emotion Barrier in Internet of Thing," in *Proc. of IEEE ICC Next Generation Networking and Internet Symposium*, Kansas City, MO, USA, May 20-24, 2018.
- N.-N. Dao, D.-N. Vu, Y. Lee, M. Park, and S. Cho, "MAEC-X: DDoS prevention leveraging multi-access edge computing," in *Proc. of ICOIN*, Chiang Mai, Thailand, January 2018.
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