

# KYUNG-YOUNG JUNG

Full Professor/ HYU Distinguished Teaching Professor  
Department of Electronic Engineering  
College of Engineering  
Hanyang University  
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## RESEARCH TOPICS

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- Research and development of wave propagation modeling for communication, sensing, and device applications in microwave, THz, and optical bands.
- Research on computational electromagnetics, nano electromagnetics, bio electromagnetics, antennas, and electromagnetic compatibility.

## DEGREES

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- **Doctor of Philosophy**      The Ohio State University, Columbus, Ohio, USA      Aug. 2008  
Major: Electrical and Computer Engineering (**with the perfect GPA**)  
Dissertation: Full-wave modeling and analysis of dispersion-engineered materials and plasmon waveguides.  
Advisors: Dr. Fernando L. Teixeira / Dr. Ronald M. Reano
- **Master of Science**      Hanyang University, Seoul, Korea      Feb. 1998  
Major: Electronic Communication Engineering (**with the perfect GPA**)  
Thesis: Novel absorbing boundary conditions for the analysis of waveguide discontinuities using the finite-difference time-domain method.  
Advisor: Dr. Hyeongdong Kim
- **Bachelor of Science**      Hanyang University, Seoul, Korea      Feb. 1996  
Major: Radio Science and Engineering (**with the highest GPA**)  
Thesis: Mode matching method for analysis of rectangular waveguide discontinuities.  
Advisor: Dr. Hyeongdong Kim

## POSITIONS

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- **Full Professor**      Mar. 2021 – Present  
Department of Electronic Engineering, Hanyang University, Seoul, Korea
- **Associate Professor**      Mar. 2016 – Feb. 2021  
Department of Electronic Engineering, Hanyang University, Seoul, Korea
- **Assistant Professor**      Mar. 2011 – Feb. 2016  
Department of Electronic Engineering, Hanyang University, Seoul, Korea
- **Tenure-Track Full-Time Lecturer**      Mar. 2009 – Feb. 2011  
Division of Electrical and Computer Engineering, Ajou University, Suwon, Korea

- **Post Doctoral Researcher** Oct. 2008 – Feb. 2009  
ElectroScience Lab., The Ohio State University, Columbus, Ohio, USA
- **Graduate Presidential Fellow** Jan. 2008 – Aug. 2008  
The Ohio State University, Columbus, Ohio, USA
- **Graduate Research Associate** Jan. 2006 – Dec. 2007  
ElectroScience Lab., The Ohio State University, Columbus, Ohio, USA
- **Senior Member of Technical Staff** May 2001 – May 2004  
R&D Lab., Pantech, Seoul, Korea
- **Member of Technical Staff** Jan. 1998 – Apr. 2001  
R&D Lab., Hynix, Seoul, Korea
- **Graduate Research Assistant** Mar. 1995 – Dec. 1997  
Microwave Engineering Lab., Hanyang University, Seoul, Korea

## **SELECTED HONORS & AWARDS**

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- **Outstanding Scholarly Achievement Award**, KIEES, Korea Nov. 24, 2023
- **Excellence Paper Award**, SIBC-FDTD algorithm for the efficient EM analysis of dispersive multi-layered radar absorbing materials, Winter Conf. of KIEES, Korea Feb. 17, 2023
- **Excellence Paper Award**, Characteristic study of human body microwave focusing in complex EM environments using time-reversal FDTD, Winter Conf. of KIEES, Korea Feb. 17, 2023
- **Excellence Paper Award**, Unified GSTC-FDTD algorithm for the efficient EM analysis of 2-D dispersive materials, Summer Conf. of KIEES, Korea Aug. 18, 2022
- **Excellent Paper Award for EM Measurement Paper Contest**, Extraction method of dielectric constant of non-destructive material using commercial waveguide adapters, KIEES & EM Measurement Technology Technical Group, Korea Mar. 25, 2022
- **Excellent Paper Award**, Extraction of complex permittivity of non-destructive material using simple waveguide adapters, Winter Conf. of KIEES, Pyeongchang, Korea Feb. 11, 2022
- **Excellent Paper Award**, Compact radar sensor antenna in 60 GHz band, Winter Conf. of KIEES, Korea Feb. 11, 2022
- **Best Paper Award**, GSTC-FDTD algorithm for the ultrafast EM analysis of black phosphorus metasurfaces, Winter Conf. of KIEES, Korea Feb. 11, 2022
- **Excellent Paper Award**, Electromagnetic modeling of the human abdomen for the study on microwave focusing treatment, Fall Conf. of KIEES, Korea Nov. 19, 2021
- **IEEE AP-S Seoul Chapter Award**, GSTC-FDTD algorithm for the ultrafast EM analysis of thin films, Summer Conf. of KIEES, Korea Aug. 20, 2021
- **Excellent Paper Award**, Parallel FDTD method for 3-D chiral metamaterials, Summer Conf. of KIEES, Korea Aug. 20, 2021
- **Excellent Paper Award**, Dielectric material constant extraction techniques in mmWave band, Summer Conf. of KIEES, Korea Aug. 20, 2021
- **HYU Distinguished Teaching Professor Award**, Hanyang University, Korea Jun. 21, 2021
- **Outstanding Teaching Professor Award**, Hanyang University, Korea Jun. 21, 2021
- **IEEE AP-S Seoul Chapter Award**, Accurate and Efficient Electromagnetic Analysis of Graphene Based

- CFS-PML-INBC-FDTD, Winter Conf. of KIEES, Korea
- Feb. 19, 2021
- **Appreciation Plaque Award**, KIEES, Korea
  - **Excellent Paper Award**, Accurate and efficient electromagnetic analysis of THz dusty plasma sheath,  
Summer Conf. of KIEES, Korea
  - **Excellent Paper Award**, Dispersive FDTD algorithm of THz human skin tissues,  
Summer Conf. of KIEES, Korea
  - **Appreciation Letter Award**, KIEES, Korea
  - **Best Teacher Award**, Hanyang University, Korea
  - **Master's Degree Outstanding Thesis Award Advisor**, Hanyang University, Korea
  - **Appreciation Plaque Award**, KIEES, Korea
  - **Participation Prize Award for EM Technology Paper Contest**, Development of accurate and fast  
FDTD method for complex dispersive media, Korea Communications Agency &  
KIEES, Korea
  - **Distinguished Contribution Award**, IEICE Communication Society, Japan
  - **Best Paper Award**, Lorentz-FDTD Electromagnetic Analysis for Moving Objects,  
Summer Conf. of KIEES, Korea
  - **Excellent Paper Award**, Accurate and Efficient Dispersive FDTD,  
Summer Conf. of KIEES, Korea
  - **Best Teacher Award**, Hanyang University, Korea
  - **Excellent Paper Award**, Unified FDTD Dispersive Algorithm Based on a Modified Lorentz Model,  
Winter Conf. of KIEES, Korea
  - **IEEE MTT-S Seoul Chapter Award**, FDTD Analysis of the Human Body in 5G mmWave Band,  
Winter Conf. of KIEES, Korea
  - **Excellent Paper Award**, EM Analysis of Ionosphere,  
Winter Conf. of KIEES, Korea
  - **Excellent Paper Award**, Non-Foster Matching Circuit for Compact Patch GNSS Antennas,  
Summer Conf. of KIEES, Korea
  - **Excellent Paper Award**, Micro-Doppler of Humans Using PO and FDTD Methods,  
Winter Conf. of KIEES, Korea
  - **Excellent Paper Award**, EM Analysis of Collapsed Buildings,  
Winter Conf. of KIEES, Korea
  - **Excellent Paper Award**, GNSS Antennas using Non-Foster Circuit,  
Winter Conf. of KIEES, Korea
  - **Appreciation Plaque Award**, KIEES, Korea
  - **Excellent Paper Award, Paper Contest for EM technology**, New FDTD Dispersive Algorithm,  
Korea Communications Agency & KIEES, Korea
  - **Excellent Paper Award**, FDTD Modeling of Graphene,  
Summer Conf. of KIEES, Korea
  - **Outstanding Researcher Award**, KIEES, Korea
  - **Best Paper Award**, Dispersive ADI-FDTD for Solar Cells,

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| Winter Conf. of KIEES, Korea  | Nov. 21, 2014 |
| ▪ <b>Best Teacher Award</b> , Hanyang University, Korea   | Nov. 7, 2014  |
| ▪ <b>Outstanding Teaching Professor Award</b> , Hanyang University, Korea   | Jun. 21, 2013 |
| ▪ <b>Presidential Fellowship Award</b> , The Ohio State University, Columbus, Ohio, USA   | Dec. 14, 2007 |
| ▪ <b>URSI (International Union of Radio Science) Student Fellowship Grant Award</b> ,<br>U.S. National Science Foundation (NSF) | Nov. 15, 2007 |
| ▪ <b>URSI (International Union of Radio Science) Student Fellowship Grant Award</b> ,<br>U.S. National Science Foundation (NSF) | Apr. 9, 2007  |
| ▪ <b>Graduate Study Abroad Scholarship</b> , NSF of Korea, Daejeon, Korea   | 2004          |
| ▪ <b>Graduate Student Fellowship</b> , Hynix, Seoul, Korea  | 1996 – 1997   |
| ▪ <b>Academic Excellence Award</b> , Hanyang University, Seoul, Korea   | Feb. 23, 1996 |
| ▪ <b>Academic Excellence Scholarship</b> , Hanyang University & SK Telecom, Seoul, Korea  | 1992 – 1995   |

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### **PROFESSIONAL AFFILIATIONS**

- **Life Member**, Korean Institute of Electromagnetic Engineering Society (KIEES)  
Institute of Electronics and Information Engineering (IEIE)
- **Senior Member**, Institute of Electrical and Electronics Engineers (IEEE)
- **Member**, Institute of Electronics, Information, and Communication Engineers (IEICE), Phi Kappa Phi

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### **SELECTED PROFESSIONAL ACTIVITIES (SERVICES)**

- **Executive director**, KIEES (2019-present)
- **Member of board of directors**, IEIE (2012)  
KIEES (2014-present)  
Korea Institute of Electronic Communication Society (KIECS)  
(2016-present)
- **Associate editor**, IEICE Trans. Communications (2015-2019)  
Journal of Electromagnetic Engineering and Science (2020-present)
- **Editorial member**, Journal of Korean Institute of Electromagnetic Engineering Society (2012-present)  
Journal of Electromagnetic Engineering and Science (2012-present)  
Journal of Korea Institute of Electronic Communication Society (2016-present)
- **Chair**, Antenna and Propagation Research Association, KIEES (2020, 2021)  
Summer Conference, KIEES (2021)  
Fall Conference, KIEES (2022)
- **Vice-chair**, Antenna and Propagation Research Association, KIEES (2018, 2019)  
Winter Conference, KIEES (2022)  
Summer Conference, KIEES (2022)  
IEEE AP-S Seoul Chapter (2023)
- **Treasurer**, IEEE AP-S Seoul Chapter (2014, 2018-2022)
- **Secretary**, Antenna and Propagation Research Association, KIEES (2011-2017)  
IEEE AP-S Seoul Chapter (2015-2017)

- **Technical program committee chair**, Summer Conference, KIEES (2015, 2016)  
 Winter Conference, KIEES (2015, 2019, 2021)  
 Asian Workshop on Antennas and Propagation (2019)  
 22th EM New Technology Workshop, KIEES (2020)  
 Workshops on Computational Electromagnetics, KIEES (2020)  
 Antenna Technology Workshop, KIEES (2020, 2021)
- **Technical program committee vice-chair**, 2018 International Symposium on Antennas and Propagation
- **Technical program committee member**, Workshops on Computational Electromagnetics, KIEES (2011-2019)  
 Antenna Technology Workshop, KIEES (2011-2019)  
 Fall Conference, KIEES (2012)
- **Local arrangement chair**, 2015 International Workshop on Antenna Technology (iWAT)
- **Exhibition chair**, 2020 Wireless Power Transfer Conference (WPTC)
- **Review committee chair**, 2013 Asia-Pacific Microwave Conference (APMC)
- **Cooperation committee member**, Dept. of EE., Hanyang University (2011-2018)
- **Faculty search committee member**, Dept. of EE., Hanyang University (2019-present)
- **Student affairs committee chair**, Dept. of EE., Hanyang University (2020-present)
- **Department vice-chair**, Dept. of EE., Hanyang University (2019-present)
- **Curriculum commission member**, Hanyang University (2020-2022)
- **Journal paper reviewer**,  
 Applied Computational Electromagnetics Society (ACES) Journal  
 Chinese Journal of Physics  
 Indian Journal of Physics  
 Electronics Letters (EL)  
 Energies  
 ETRI Journal  
 IEEE Access  
 IEEE Antennas and Wireless Propagation Letters (AWPL)  
 IEEE Journal on Multiscale and Multiphysics Computational Techniques (MMCT)  
 IEEE Microwave Wireless Components Letters (MWCL)  
 IEEE Photonics Technology Letters (PTL)  
 IEEE Trans. Antennas and Propagation (AP)  
 IEEE Trans. Circuits and Systems (CAS)  
 IEEE Trans. Components, Packaging and Manufacturing Technology (CPMT)  
 IEEE Trans. Electromagnetic Compatibility (EMC)  
 IEEE Trans. Magnetics (VT)  
 IEEE Trans. Vehicular Technology (VT)  
 IET Microwaves, Antennas & Propagation (MAP)  
 IEICE Trans. Communications  
 IEICE Trans. Communications Express (ComEX)  
 Indian Journal of Physics  
 International Journal of Antennas and Propagation (IJAP)  
 International Journal of Concrete Structures and Materials (IJCS)  
 International Journal of Electronics Letters (IJEL)  
 International Journal of Numerical Modeling (IJNM)  
 International Journal of RF and Microwave Computer-Aided Engineering

Journal of Computational Physics (JCP)  
 Journal of Electrical Engineering & Technology (JEET)  
 Journal of Electromagnetic Engineering & Science (JEES)  
 Journal of Electromagnetic Waves and Applications (JEMWA)  
 Journal of IEIE  
 Journal of KIEES  
 Journal of Korea Army Academy  
 Journal of Lightwave Technology (JLT)  
 Journal of Microwaves, Optoelectronics and Electromagnetic Applications  
 Journal of Modern Optics (JMO)  
 Journal of Semiconductor Technology and Science (JSTS)  
 Journal of the Korean Physical Society (JKPS)  
 Journal of the Optical Society of America B (JOSAB)  
 Mathematical Problems in Engineering  
 Measurement  
 Microwave and Optical Technology Letter (MOTL)  
 Optica Applicata (OA)  
 Optics Express (OE)  
 Optics Letters (OL)  
 Progress in Electromagnetic Research (PIER)  
 Scientific Reports  
 Sensors  
 Serbian Journal of Electrical Engineering  
 Textile Research Journal

▪ **Conference paper reviewer,**

2006 International Conference on Ground Penetrating Radar (ICGPR)  
 2010 International Conference on Ultra-Wideband (ICUWB)  
 2011 International Symposium on Antennas and Propagation (ISAP)  
 2012 International Symposium on Antennas and Propagation (ISAP)  
 2013 Asia-Pacific Microwave Conference (APMC)  
 2015 International Workshop on Antenna Technology (IWAT)  
 2015 European Conference on Antennas and Propagation (EuCap)  
 2016 International Workshop on Antenna Technology (iWAT)  
 2016 URSI Asia-Pacific Radio Science Conference (AP-RASC)  
 2017 European Conference on Antennas and Propagation (EuCAP)  
 2017 International Conference on Green and Human Information Technology (ICGHIT)  
 2017 International Workshop on Antenna Technology (IWAT)  
 2018 International Workshop on Environment and Geoscience (IWEG)  
 2018 International Applied Computational Electromagnetics Society (ACES) Symposium  
 2018 International Symposium on Antennas and Propagation (ISAP)  
 2019 International Workshop on Antenna Technology (iWAT)  
 2020 European Conference on Antennas and Propagation (EuCAP)  
 2020 Wireless Power Transfer Conference (WPTC)  
 2021 European Conference on Antennas and Propagation (EuCAP)  
 2022 European Conference on Antennas and Propagation (EuCAP)  
 2023 European Conference on Antennas and Propagation (EuCAP)  
 2023 IEEE International Symposium on Radio-Frequency Integration Technology (RFIT)

**GRANTS**

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- **New Faculty Research Fund, Ajou University**, *Time domain electromagnetic analysis of metamaterials*, Apr. 2009 – Mar. 2011 (PI).
- **Basic Science Research Program, National Research Foundation of Korea**, *Design of plasmonic structures for the enhancement in the efficiency of solar cells*, May 2010 – Apr. 2012 (PI).
- **Undergraduate Research Program, Radio Education and Research Center**, *Applied electromagnetic technologies*, Jul. 2010 – Aug. 2010 (PI).
- **New Faculty Research Fund, Hanyang University**, *Fast algorithm for the analysis of plasmonic structures*, Apr. 2011 – Mar. 2012 (PI).
- **Communication Technology Research Program, Korea Communications Agency (KCA)**, *Research on key technologies of antennas for medical applications*, Mar. 2011 – Feb. 2014.
- **Contract Research, National Security Research Institute**, *Electromagnetic analysis of radiated and conduced coupling into a building on ground*, Mar. 2012 – Oct. 2012 (PI).
- **Basic Science Research Program, National Research Foundation of Korea**, *High-performance plasmonic organic solar cells using the numerical modeling of electromagnetic wave and carrier transport*, May 2012 – Apr. 2015 (PI).
- **Outstanding New Faculty Research Fund, Hanyang University**, *Electromagnetic modeling of building structures*, Jun. 2012 – May 2013 (PI).
- **Contract Research, Attached Institute of ETRI**, *Fast computational electromagnetics based on parallel processing*, Mar. 2013 – Oct. 2013 (PI).
- **HPC Research Support Program, KISTI Supercomputing Center**, *Electromagnetic analysis of electrically large structures using parallel-processing FDTD algorithms*, Apr. 2014 – Mar. 2015 (PI).
- **BK21 Plus, National Research Foundation of Korea**, *Fusion IT Education Program for Future Innovation Leaders*, Mar. 2014 – Aug. 2020.
- **Contract Research, Agency for Defense Development (ADD)**, *Analysis of electromagnetic coupling signals of cables exposed to external pulses*, Aug. 2014 – Dec. 2016 (PI).
- **Basic Science Research Program, Attached Institute of ETRI**, *Electromagnetic analysis of humans in the THz band and its application to high-resolution imaging of humans*, Nov. 2014 – Apr. 2017 (PI).
- **Innovative and Challenging Basic Research Program, Civil Military Technology Cooperation Center**, *Miniaturization technique for anti-jamming GPS antenna array using dielectric/magnetic materials and meta structure/active matching*, Dec. 2014 – Dec. 2017.
- **Specialized Research Center, Agency for Defense Development (ADD)**, *Technique for collecting signal intelligence in satellite*, Oct. 2015 – Dec. 2020.
- **Contract Research, Hyundai Heavy Industries**, *Localization of partial discharge inside a transformer using electromagnetic analysis*, Feb. 2016 – Nov. 2016.
- **Contract Research, Electronics and Telecommunications Research Institute (ETRI)**, *Development of a tool kit for dynamic electromagnetic model of vehicle drivers*, Apr. 2016 (PI).
- **Radio Research Center, Institute for Information & Communications Technology Promotions (IITP)**, *Clouding-computing-based SW platform for the RF design and EM analysis*, Apr. 2016 – Dec. 2018.
- **Contract Research, Electronics and Telecommunications Research Institute (ETRI)**, *Electromagnetic wave propagation of collapsed building debris*, May 2016 – Nov. 2016 (PI).

- **Contract Research, Electronics and Telecommunications Research Institute (ETRI),** *Analysis and database of electromagnetic wave characteristics of collapsed building debris*, May 2017 – Nov. 2017 (PI).
- **Basic Science Research Program, National Research Foundation of Korea,** *Electromagnetic modeling of graphene and its application*, Jun. 2017 – May 2020 (PI).
- **Contract Research, Electronics and Telecommunications Research Institute (ETRI),** *Compact micro-Doppler antennas for nearfield sensing*, Apr. 2018 – Nov. 2018 (PI).
- **Contract Research, LG Electronics,** *Two-way coupling modeling of electromagnetic wave analysis and thermal analysis*, Jun. 2018 – Nov. 2018 (PI).
- **Industry-University Cooperation Technology Development Program, Ministry of SMEs and Startups,** *Ultrasensitive candid-camera detector using sensing horizontal frequencies of video signals*, Jun. 2018 – May 2019.
- **Contract Research, Electronics and Telecommunications Research Institute (ETRI),** *Compact antennas for sensing the vital sign of the human body*, May 2019 – Nov. 2019 (PI).
- **Radio Research Center, Institute for Information & Communications Technology Promotions (IITP),** *Advanced and integrated electromagnetic system software*, Apr. 2019 – Dec. 2026.
- **Contract Research, Electronics and Telecommunications Research Institute (ETRI),** *Database of SAR test reports and numerical analysis modeling of cell phones*, Jun. 2019 – Nov. 2019 (PI).
- **Contract Research, LG Electronics,** *Electromagnetic analysis of plasma spark inside clothes drying machines*, Aug. 2019 – Jan. 2020 (PI).
- **Contract Research, Electronics and Telecommunications Research Institute (ETRI),** *Database of SAR test reports and numerical model of tablets and notebooks*, Mar. 2020 – Nov. 2020 (PI).
- **HPC R&D Innovation Program, KISTI Supercomputing Center,** *Parallel-processing electromagnetic analysis of chiral structures*, May 2020 – Apr. 2021 (PI).
- **Basic Science Research Program, National Research Foundation of Korea,** *Electromagnetic technologies for human body nanocommunications*, Jun. 2020 – Feb. 2023 (PI).
- **Contract Research, Korea Communications Agency (KCA),** *Construction plan of an extreme environment test chamber for communication equipment*, Jun. 2020 – Jan. 2021 (PI).
- **Industrial Technology Base Center, Korea Evaluation Institute of Industrial Technology (KEIT),** *Industrial intelligent technology development for manufacturing, processing and logistics*, Sep. 2020 – Feb. 2017.
- **Startup Growth Technology Development Program, Ministry of SMEs and Startups,** *TDD-switchless 5G ICS wireless repeaters*, Dec. 2020 – Dec. 2022 (PI).
- **Specialized Research Laboratory, Agency for Defense Development (ADD),** *Computational electromagnetics for large-scale stealth platforms*, Dec. 2020 – Dec. 2025.
- **Contract Research, LG Innotek,** *60 GHz ROA antennas*, Jan. 2021 – Jan. 2022 (PI).
- **Contract Research, Samsung Electronics,** *Measurement and verification technology for single and composite material characterization in mmWave band*, Mar. 2021 – Nov. 2021 (PI).
- **Contract Research, National Radio Research Agency,** *Evaluation technology of human exposure to electromagnetic waves of new technology devices*, Apr. 2021 – Nov. 2021 (PI).



- **Information, Communication, Broadcasting R&D Program, Institute for Information & Communications Technology Promotions (IITP),** *Non-invasive precision focusing technology of in vivo radio wave energy*, Apr. 2021 – Dec. 2025.
- **Materials, Components Technology Development Program, Korea Evaluation Institute of Industrial Technology (KEIT),** *Co-useable antenna modules and wideband connectors for 5G integrated connected car*, Arp. 2021 – Dec. 2024.
- **Contract Research, Korean Institute of Communication and Information Sciences (KICS),** *High-gain phased array antenna technology for long-distance UHF signal reception*, Feb. 2022 – Nov. 2022 (PI).
- **Contract Research, Samsung Electronics,** *Complex reflector for compact mmWave test environment*, Mar. 2022 – Nov. 2022 (PI).
- **Contract Research, LIG Nex1,** *Research on the frequency characteristics of the earth's atmosphere for space surveillance radar*, Mar. 2022 – Feb. 2023 (PI).
- **Information, Communication, Broadcasting R&D Program, Institute for Information & Communications Technology Promotions (IITP),** *Ultra-precision low-cost sub-THz pulse-based radar chip technology*, Apr. 2022 – Dec. 2025.
- **Contract Research, LG Electronics,** *Electromagnetic wave-thermal multiphysics technology for predicting uniform heating performance*, Nov. 2022 – June 2023 (PI).
- **Contract Research, Hanwha System,** *ASEA radar air-to-ground target detection performance improvement algorithm*, Jan. 2023 – Jan. 2024.
- **Contract Research, Samsung Electronics,** *Measurement and verification technology for electrical properties of complex material*, Mar. 2023 – Nov. 2023 (PI).
- **Contract Research, LaOn Systems,** *High-gain planar quasi-Yagi antenna*, Mar. 2023 – Dec. 2023 (PI).

## **PUBLICATIONS**

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### **International Journal Articles**

1. J. Choi, Y. Oh, J. Choi, and K.-Y. Jung, “Novel CPW-fed Gamma-shaped circularly polarized slot antenna for UWB applications,” *Journal of Electromagnetic Engineering and Science*, Accepted.
2. S. Park, L. Qu, M.-S. Park, and K.-Y. Jung, “Design of circularly polarized planar monopole antenna with simplified radiator structure for UWB applications,” *Journal of Electromagnetic Engineering and Science*, Accepted.
3. J. Choi, J. Kim, Y. Ji, S. Lee, J. Lee, B. Yu, S. Park, M. Kim, and K.-Y. Jung, “SIW-fed patch array filter with significant suppression of adjacent 5G spectrum for radio altimeters,” *IEEE Access*, vol. 11, pp. 135846-135854, Dec. 2023.
4. J. Cho, J. Park, H. Jin, J. Bae, and K.-Y. Jung, “Efficient FDTD simulation for the EM analysis of Faraday rotation in the ionosphere,” *Journal of Electromagnetic Engineering and Science*, vol. 23, no. 6, pp. 530-532, Nov. 2023.
5. J. Jung, J. Ryu, and K.-Y. Jung, “Multi-beam 5G antenna with miniaturized Butler matrix using stacked LTCC,” *IEEE Access*, vol. 11, pp. 125519-125528, Nov. 2023.

6. S. Jang, J.-W. Baek, J. Cho, and K.-Y. Jung, “Unified GSTC-FDTD algorithm for the efficient electromagnetic analysis of 2-D dispersive materials,” *Journal of Electromagnetic Engineering and Science*, vol. 23, no. 5, pp. 423-428, Sep. 2023.
7. M. Hwang, S. Jo, J.-W. Baek, W. Lee K.-Y. Jung, H. Lee, and B. Yeom “Lithography-free fabrication of terahertz chiral metamaterials and their chirality enhancement for enantiomer sensing,” *Advanced Optical Materials*, vol. 11, no. 14, pp. 2300045 (1)- 2300045 (9), Jul. 2023.
8. M.-J. Kang, S. Park, K.-G. Cho, and K.-Y. Jung, “High-isolation 5G repeater antenna using a novel DGS and an EBG,” *Journal of Electromagnetic Engineering and Science*, vol. 23, no. 3, pp. 275-282, May 2023.
9. J. Choi, S. Park, J. Lee, and K.-Y. Jung, “UHF printed monopole filtenna for partial discharge detection with LTE signal suppression,” *Journal of Electromagnetic Engineering and Science*, vol. 23, no. 2, pp. 100-107, Mar. 2023.
10. M.-S. Park, J. Cho, S. Lee, Y. Kwon, and K.-Y. Jung, “New measurement technique for complex permittivity in millimeter-wave band using simple rectangular waveguide adapters,” *Journal of Electromagnetic Engineering and Science*, vol. 22, no. 6, pp. 616-621, Nov. 2022.
11. J. Lee, A.-K. Lee, S.-E. Hong, H.-D. Choi, and K.-Y. Jung, “Development of a numerical tablet model in WLAN band for SAR study,” *Journal of Electromagnetic Engineering and Science*, vol. 22, no. 5, pp. 544-549, Sept. 2022.
12. Y.-J. Kim, J. Cho, and K.-Y. Jung, “Efficient finite-difference time-domain modeling of time-varying dusty plasma,” *Journal of Electromagnetic Engineering and Science*, vol. 22, no. 4, pp. 502-508, Jul. 2022.
13. S. Park and K.-Y. Jung, “Novel compact UWB planar monopole antenna using a ribbon-shaped slot,” *IEEE Access*, vol. 10, pp. 61951-61959, Jun. 2022.
14. S. Jang, J. Cho, and K.-Y. Jung, “Efficient dispersive GSTC-FDTD algorithm using the Drude dispersion model,” *IEEE Access*, vol. 10, pp. 59486-59494, Jun. 2022.
15. J. Cho, M.-S. Park, and K.-Y. Jung, “Numerical accuracy of finite-difference time-domain formulations for magnetized plasma,” *Journal of Electromagnetic Engineering and Science*, vol. 22, no. 3, pp. 195-201, May 2022.
16. J. Park, J.-W. Baek, and K.-Y. Jung, “Accurate and numerically stable FDTD modeling of human skin tissues in THz band,” *IEEE Access*, vol. 10, pp. 41260-41266, Apr. 2022.
17. J. Lee, A.-K. Lee, S.-E. Hong, H.-D. Choi, and K.-Y. Jung, “Numerical modeling of smartphones with WCDMA, LTE, and WLAN bands for epidemiological studies,” *Journal of Electromagnetic Engineering and Science*, vol. 22, no. 1, pp. 41-47, Jan. 2022.
18. Y.-J. Kim and K.-Y. Jung, “Accurate and efficient finite-difference time-domain formulation of dusty plasma,” *IEEE Trans. Antennas and Propagation*, vol. 69, no. 10, pp. 6600-6606, Oct. 2021.
19. S. Jang and K.-Y. Jung, “Perfectly matched layer formulation of the INBC-FDTD algorithm for electromagnetic analysis of thin film materials,” *IEEE Access*, vol. 9, pp. 118099-118106, Aug. 2021.
20. J. Park and K.-Y. Jung, “Numerical stability of modified Lorentz FDTD unified from various dispersion models,” *Optics Express*, vol. 29, no. 14, pp. 21639-21654, Jul. 2021.
21. H. Choi, J.-W. Baek, and K.-Y. Jung, “Numerical stability and accuracy of CCPR-FDTD for dispersive media,” *IEEE Trans. Antennas and Propagation*, vol. 68, no. 11, pp. 7717-7720, Nov. 2020.

22. J. Cho, M.-S. Park, and K.-Y. Jung, "Perfectly matched layer for accurate FDTD for anisotropic magnetized plasma," *Journal of Electromagnetic Engineering and Science*, vol. 20, no. 4, pp. 277-284, Oct. 2020.
23. C. Kim, J. Heo, K.-Y. Jung, H. Choo, and Y. B. Park, "Propagation from geostationary orbit satellite to ground station considering dispersive and inhomogeneous atmospheric environment," *IEEE Access*, vol. 8, pp. 161542-161550, Sept. 2020.
24. J. Lee, S. Park, A.-K. Lee, H.-D. Choi, and K.-Y. Jung, "Numerical study of maximum peak spatial SAR reduction in a mobile phone," *Journal of Electrical Engineering & Technology*, vol. 15, no. 5, pp. 2211-2216, Sept. 2020.
25. S. Park, S. Kim, D. K. Kim, J. Choi, and K.-Y. Jung, "Numerical study on the feasibility of a 24 GHz ISM-band Doppler radar antenna for near-field sensing of human respiration in electromagnetic aspects," *Applied Science*, vol. 10, no. 18, pp. 6159(1)-6159(12), Sept. 2020.
26. Y.-H. Kim, H. Choi, J. Cho, and K.-Y. Jung, "FDTD modeling of the accurate electromagnetic wave analysis of graphene," *Journal of Electrical Engineering & Technology*, vol. 15, no. 3, pp. 1281-1286, May 2020.
27. S. Park and K.-Y. Jung, "Design of a circularly-polarized UHF antenna for partial discharge detection," *IEEE Access*, vol. 8, pp. 81644-81650, Apr. 2020.
28. Z. Cui, S. Park, H. Choo, and K.-Y. Jung, "Wideband UHF antenna for partial discharge detection," *Applied Science*, vol. 10, no. 5, pp. 1698(1)-1698(10), Mar. 2020.
29. S. Yoo, G. Byun, S. Park, H. Ju, H. Shim, M. Chae, K.-Y. Jung, and H. Choo, "Design of a four-element array for accurate direction of arrival estimation in phase interferometry systems," *Microwave and Optical Technology Letters*, vol. 62, no. 1, pp. 379-404, Jan. 2020.
30. H. Choi, J.-W. Baek, and K.-Y. Jung, "Comprehensive study on numerical aspects of modified Lorentz model based dispersive FDTD formulations," *IEEE Trans. Antennas and Propagation*, vol. 67, no. 12, pp. 7643-7648, Dec. 2019.
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## **Domestic Journal Articles (in Korean)**

1. J. Lee, J. Cho, J. Choi, and K.-Y. Jung, "Bow-tie quasi-Yagi antenna with the modified ground structure for bandwidth-enhanced characteristics," *Journal of Korean Institute of Electromagnetic Engineering and Science*, vol. 34, no. 2, pp. 97-102, Feb. 2023.
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### **Conference Papers & Abstracts**

1. J. Lee, M.-J. Kang, J. Choi, J. Park, and K.-Y. Jung, “Wideband quasi-Yagi antennas with high isolation,” *2023 Asia-Pacific Microwave Conference*, International Convention Center, Taipei, Taiwan, p. 220111, Dec. 5-8, 2023.
2. M.-J. Kang, S. Park, D. Park, G. Kim, S. Kim, and K.-Y. Jung, “Mutual coupling reduction of stepped monopole antennas integrated with a dual ground-based decoupling structure,” *2023 Asia-Pacific Microwave Conference*, International Convention Center, Taipei, Taiwan, p. 220096, Dec. 5-8, 2023.
3. M.-S. Park, J. Cho, S. Lee, N. Kim, and K.-Y. Jung, “Complex permittivity extraction technique for non-destructive materials based on commercial waveguides using machine learning method,” *Fall Conference of The Korean Institute of Electromagnetic Engineering and Science*, The K Hotel, Seoul, Korea, p. A-I-03, Nov. 24, 2023.
4. J. Park, J. Cho, K. Lee, Y. Song, and K.-Y. Jung, “Characteristic study of microwave focusing within the human abdomen using time-reversal FDTD,” *Fall Conference of The Korean Institute of Electromagnetic Engineering and Science*, The K Hotel, Seoul, Korea, p. A-I-01, Nov. 24, 2023.
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6. L. Qu, K.-Y. Jung, and H. Chen, “Investigation of decoupling inductors based on characteristic mode analysis,” *2023 IEEE 11<sup>th</sup> Asia-Pacific Conference on Antennas and Propagation (APCAP)*, Sheraton Guangzhou Nansha Hotel, Gunagzhou, China, p. TP1E.6, Nov. 19-22, 2023.
7. Y. Kim, J. Baek, M.-S. Park, J. Ha, and K.-Y. Jung, “New FDTD method for the electromagnetic analysis of curved structures,” *Summer Conference of The Korean Institute of Electromagnetic Engineering and Science*, Del Pino Resort, Goseong, p. 483, Aug. 23-26, 2023.
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15. (**Excellence Paper Award**) Y. Kim, J. Baek, J. Ha, and K.-Y. Jung, "SIBC-FDTD algorithm for the efficient electromagnetic analysis of dispersive multi-layered radar absorbing materials," *Winter Conference of The Korean Institute of Electromagnetic Engineering and Science*, Haevichi Hotel & Resorts, JeJu, Korea, p. 244, Feb. 15-18, 2023.
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