



정지훈 Jeehoon Jung

전기전자공학과 / Electrical Engineering

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📍 Engineering BLDG 3. Rm 304, 305

Curriculum Vitae

2017~Present: Associate Professor, Electrical & Computer Eng., UNIST
 2013~2016: Assistant Professor, UNIST
 2011~2012: Senior Researcher, Power Conversion and Control Research Center, Korea Electro technology Research Institute (KERI)
 2009~2010: Postdoctoral Research Associate, School of Electrical and Computer Engineering, Texas A&M University at Qatar (TAMUQ)
 2006~2009: Senior Engineer, Digital Printing Division, Samsung Electronics Co., Ltd.

Academic Credential

2006 : Ph. D. Electronic and Electrical Engineering, Pohang University of Science and Technology (POSTECH)
 2002 : M. S. Electronic and Electrical Engineering, POSTECH
 2000 : B. S. Electronic and Electrical Engineering, POSTECH

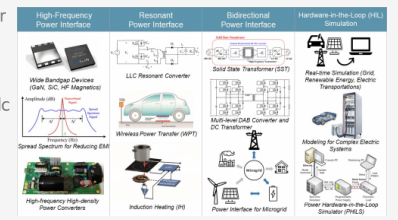
Awards/Honors/Memberships

2014~Present: Senior Member of IEEE Power Electronics, Industrial Electronics, Industry Applications, and Power & Energy Societies
 2014~2017, 2019~Present: Associate Editor of Journal of Power Electronics (JPE)
 2018~Present: Editorial Board Member for Energies in the Multidisciplinary Digital Publishing Institute (MDPI)
 2019~Present: Asian Liason Officer of Industrial Power Converter Committee in the IEEE IAS

Advanced Power Interface & Power Electronics Lab. (APIEL) 전력변환연구실

The research of APIEL is focused on power conversion, power control, and power interface technology for the various industrial applications of consumer electronics, renewable energy, electric vehicles, etc. Particular interests are concerned with power applications of smart grids, wireless power transmission, dc micro/nano grids, real-time & power hardware-in-the-loop simulation using power converter/inverter topologies, power semiconductors, and digital signal processors with intelligent signal processing and digital control algorithms.

APIEL 연구실은 가전, 신재생에너지, 전기 자동차 등의 다양한 산업 분야에 필요한 전력변환, 전력제어 및 전력 인터페이스 기술을 연구하고 있다. 특히 스마트 그리드 및 DC 배전 시스템을 위한 지능형 전력 인터페이스, 무선 전력 전송용 전력변환장치, 고성능 고집적 파워 컨버터 및 인버터, 전력변환장치와 연계하는 실시간 전력 시뮬레이션 시스템 설계에 연구를 집중하고 있다.



관심분야

Power Converters, Wireless Power Transfer, Smart Power Interface, Power HIL System, Induction Heating System

희망분야

AI-based Power Control System, Multi-functional Power Conversion System, Intelligent Power Interface

Research Keywords and Topics

- High frequency power interface for consumer electronics, EV/ES, renewable energy, and EMI reduction
- 고주파 전력 인터페이스: 가전제품, 전기운송체, 신재생 에너지, EMI 저감용 고집적 전력변환
- Resonant power interface for wireless power transfer, resonant converters/inverters, IH applications
- 공진형 전력 인터페이스: 무선전력전송, 공진형 컨버터/인버터, 유도가열 응용 공진형 전력변환
- Bidirectional power interface for smart grid/DC microgrid, grid-interactive converters, ESS applications
- 양방향 전력 인터페이스: 스마트그리드/마이크로그리드, 에너지 저장장치 응용 양방향 전력변환
- Real-time and power hardware-in-the-loop simulation (PHILS) for various power systems
- 실시간 전력 하드웨어 루프 모의시험 기술: 다양한 전력계통, 신재생에너지원, 전력인터페이스 모사

Research Publications

- IEEE Transactions on Power Electronics, "Practical Design Methodology of IH and IPT Dual-Functional Apparatus," Mina Kim / Hwa-Pyeong Park / Jee-Hoon Jung, vol. 35, no. 9, pp. 8897-8901, (2020.09)
- IEEE Transactions on Industrial Electronics, "Single-Stage Voltage Balancer with High-Frequency Isolation for Bipolar LVDC Distribution System," Jun-Young Lee / Young-Pyo Cho / Jee-Hoon Jung, vol. 67, no. 5, pp. 3596-3606, (2020.05)
- IEEE Transactions on Power Electronics, "Spread Spectrum Technique for Decreasing EM Noise in High-Frequency APWM HB Resonant Converter with Reduced EMI Filter Size," Hwa-Pyeong Park / Sangyeong Jeong / Mina Kim / Jingook Kim / Jee-Hoon Jung, vol. 34, no. 11, pp.10845-10855, (2019.11)

Patents

- [국외] INDUCTION HEATING APPARATUS, 정지훈 외, (2018.10)
- [국외] INDUCTION HEAT COOKING APPARATUS TO IMPLEMENT WPT AND PFC POWER CONVERTER, 정지훈 외, (2018.03)