PRELIMINARY SCHEDULE AT A GLANCE 11/04/2025

WED 4	8:45- 9.00	9:00 - 10:15	10:15- 10:45	10:45 - 12:15	12:15 - 14:00	14:00 - 15:30	15:30 - 16:00	16:00 - 17:30
	Opening	Keynotes 1 -2		WA1 - Microwave and millimeterwave rectifiers and rectennas	Poster sessions: *PS1A: WPT coils and resonators I* *PS1B: Robotic and biomedical applications* *PS1C: Power converters I* ---------- *Student Design Competition*	Keynote 3 WA2 Innovative WPT solutions for IoT		WA3 - Devices and novel materials for RF energy harvesting
				WB1 - Magnetic couplers I		WB2 - Magnetic couplers II		WB3 - Dynamic WPT systems I
				SS1 - Safety aspects in the exposure assessment of WPT systems		SS2: Computational dosimetry for WPT applications: Human body absorption and electromagnetic interference challenges.		SS3: Wireless information and power transfer links from microwave to terahertz
				Panel - How are we driving adoption of wireless power across sectors. And where are we lagging behind?		Panel - Present & Future high power static and dynamic WPT solutions to enable a true wireless ecosystem		Industry papers
Cloister	Exhibits							

THU 5	8:45- 10:15	10:15- 10:45	10:45 - 12:15	12:15 - 14:00	14:00 - 15:30	15:30 - 16:00	16:00 - 17:30
	Keynote 4 TA1 Rectifiers		TA2 - Wireless power beaming	Poster sessions: *PS2A: Advances in capacitive WPT* *PS2B: Progress in far field WPT I* *PS2C: WPT for electric vehicles* *SSP: Wireless Power transfer meets AI: Exploring new frontiers* ---------- *Student Design Competition*	Keynote 5 TA3 Space solar power		TA4 - Machine-learning-assisted WPT systems
	TB1 - Biomedical applications I		TB2 - Dynamic WPT systems II		TB3 - Power Electronics I		TB4 - Power electronics II
	SS4- Modeling, controls, and identifications in high power inductive charging		SS5 -Capacitive WPT		SS6 - Wireless charging technologies for underwater devices		SS7 -Sustainable wireless technologies enabled by backscattering
	Panel: WPT and sustainability		Panel: RF wireless power: technology, applications, and lessons learned		Panel		IEEE WS
Cloister	Exhibits						

FRI 6	8:45- 10:15	10:15- 10:45	10:45 - 12:15	12:15 - 14:00	14:00 - 15:30	15:30 - 16:00	16:00-17:00	17:00-17:30
	- Keynote 6 FA1 Scalable rectennas and reconfigurable surfaces		FA2 - Simultaneous wireless information and power transfer	Poster sessions: *PS3A: WPT Coils and resonators II* *PS3B: Power converters II* *PS3C: Progress in far field WPT II*	FA3 - Optimized solutions to transmit and receive RF power		FA4 - WPT control	Closing
	FB1 – EMC/EMI		FB2 - High-efficiency compensation strategies		FB3 - Advances in near-field WPT		FB4 - Misalignment & mismatch tolerant WPT	
	SS8: Microwave and RF power rectification.		SS9 -The exploratory application of magnetic material for wireless power transfer.		FC3 - Biomedical applications II		FC4- Advances in near-field WPT II	
	Recently published journal paper presentations in NF WPT		Recently published journal paper presentations in RF WPT		Panel - EU Innovation Council			
Cloister	Exhibits							

PRELIMINARY TECHNICAL PROGRAMME 11/04/2025

Wednesday, June 4

Wednesday, June 4, 8:45- 10:15

Opening

Welcome from Chairs and Institutional Representatives

Keynote Speakers

International Exposure Guidelines for Human Protection from Electromagnetic Field – Application to Wireless Power Transfer Systems

Akimasa Hirata (Nagoya Institute of Technology, Japan)

AI for semiconductor design: Hype or Reality?

Alberto Sangiovanni Vincentelli (University of California, Berkeley, USA)

Wednesday, June 4, 10:45 - 12:15

WA1: Microwave and Millimeterwave Rectifiers and Rectennas

Rectenna Element Module Development for Far-Field Radiative Millimeter Wave Wireless Power Beaming Arrays Hooman Kazemi, Travis Feenstra and Mike Sotello (Raytheon, USA); Paul Pelletier (Leidos, USA); Anthony Baros (AFRL, USA); Keisuke Shinohara (Teledyne Scientific, USA)

A 24 GHz Band Highly Efficient GaAs 1 W Rectenna MMIC Electromagnetically Coupled With an External AlN Antenna for Thermal Dispersion
Kenji Itoh, Ryosuke Sato, Yuya Hirose, Naoki Sakai, Masaomi Tsuru and Keisuke Noguchi (Kanazawa Institute of Technology, Japan)

A Self-Synchronous X-Band GaN MMIC Rectifier
Alexandra Montgomery (University of Colorado, USA); Jack A Molles, Laila F Marzall and Cody Scarborough (University of Colorado Boulder, USA); Zoya Popovic (University of Colorado at Boulder, USA)

Designing RF-Powered Battery-Less Electronic Shelf Labels with COTS Components
Jarne Van Mulders and Gilles Callebaut (KU Leuven, Belgium)

Printed Antenna for Simultaneous Near- and Far-Field Wireless Power Transfer
Hubregt J. Visser (Imec the Netherlands, The Netherlands)

Wednesday, June 4, 10:45 - 12:15

WB1: Magnetic Couplers I

Passive Reactance Compensation for Shape-Reconfigurable Wireless Power Transfer Surfaces
Riku Kobayashi, Yoshihiro Kawahara and Takuya Sasatani (The University of Tokyo, Japan)

Self-Resonant Litz Wire Coil Structure for Wireless Power Transfer Applications
Thomas G Stout II (USA)

Contribution to the Sizing of Circular Coil Assemblies for Class WPT4 of SAE J2954 for Light-Duty Electric Vehicles
Tobias D. Götz, Daniel Fritz, Weizhou Ye, Rinor Krasniqi and Nejila Parspour (University of Stuttgart, Germany)

Impact of Air Gaps in Ferrite on WPT Systems
Cristian Giovanni Colombo, Marco Biasizzo, Alberto Dolara and Michela Longo (Politecnico di Milano, Italy)

Optimization Study of an Highly Coupled IPT System
Madalina Pascaru, Antoine Van Der Laan, Julien Gosteau and Didier Chassaigne (Airbus Central Research and Technology, France); Duleepa J Thrimawithana and Grant A Covic (The University of Auckland, New Zealand); Kai-Yeung Li (University of Auckland & Center for Advanced Materials Manufacturing and Design, New Zealand

Wednesday, June 4, 10:45 - 12:15

SS1: Safety Aspects in the Exposure Assessment of WPT Systems

Vehicle4em: a Collection of Car Models for Electromagnetic Simulation
Fabio Freschi and Luca Giaccone (Politecnico di Torino, Italy); Vincenzo Cirimele (Department of Electrical, Electronic, and Information Engineering & Alma Mater Studiorum University of Bologna, Italy); Luigi Solimene (Politecnico di Torino, Italy)

EMF Safety Assessment of a Dynamic Wireless Power Transfer System for e-Mobility
Wassim Boumerdassi (Università degli studi dell'Aquila, Italy); Valerio De Santis (University of L'Aquila, Italy); Tommaso Campi (University of Rome Sapienza, Italy); Mauro Feliziani (University of L'Aquila, Italy)

Immunity Study of Pacemakers Near Wireless Power Transfer Systems for Automotive Applications: a First Modelling Approach
Chaïma Elharti and Den God Frez Palessonga (GeePs Laboratory and ESME, France); Lionel Pichon (Group of Electrical Engineering Paris, Universite Paris-Saclay & GeePs Laboratory, France); Mohamed Bensetti (Geeps, France)

Designing an Effective Shielding Mechanism for Secure Wireless Power Transfer Systems
Michele Quercio (Università Degli Studi Roma Tre, Italy); Rafiq Asghar (Roma Tre University, Italy); Lorenzo Sabino (Università Degli Studi Roma Tre, Italy); Davide Milillo (University of RomaTre, Italy); Aldo Canova (Politecnico di Torino, Italy); Francesco Riganti Fulginei (Roma TRE University, Italy)

Active Knee-Implant Supplied by Acoustic Waves
Olivier Freychet (CEA, France); Pierre Tacyniak (TIMA, France); Matthieu Coupet (LATIM, France); Nicolas Garraud (CEA, France); Francois Frassati (CEA, LETI, Minatec, France); Martial Defoort (CNRS - TIMA, France); Samuel Guigo (CHU Brest, France); Valérie Burdin (IMT Atlantique, France); Skandar Basrour (University of Grenoble-Alpes France, France); Guillaume Dardenne (LATIM, France); Pierre Gasnier (CEA, France)

Wednesday, June 4, 12:15 - 14:00

POSTER SESSIONS

PS1A: WPT Coils and Resonators I

Primary-Side Estimation of Mutual Inductance in Wireless Power Transfer Under Misalignment of Ferrite Magnetic Couplers
Saidul Alam Chowdhury (University of Auckland, New Zealand); Md Shoaibur Rahman and Pritam Bol (Chittagong University of Engineering and Technology, Bangladesh); Mingdong Edward Han, Aoyang Laurence Li and Aiguo Patrick Hu (The University of Auckland, New Zealand)

Novel Self-Resonant Multilayer on-Board Coil for 85 kHz Wireless Power Transfer
Hayato Nishihata, Naoya Sasa and Takehiro Imura (Tokyo University of Science, Japan); Yoichi Hori (Tokyo University, Japan); Shuntaro Inoue and Yuko Kano (Toyota Central R&D Labs, Japan)

An Interoperability Study of a 10/50 kW Bipolar Vehicle Pad
Lukas Elbracht (University of Stuttgart, Germany); Feiyang Lin (The University of Auckland, New Zealand); Daniel Fritz and Nejila Parspour Parspour (University of Stuttgart, Germany); Grant A Covic and Patrick Lawton (The University of Auckland, New Zealand)

Origami-Inspired PyraCoil for Wireless Power Transfer Systems
Nuvit Ilkin Demirtas and Sampath Jayalath (University of Cape Town, South Africa); Cheng Zhang (University of Manchester, United Kingdom (Great Britain))

Wireless Power Transfer Using an Elliptical Cavity for Automotive Applications
Anushree Dasgupta (Loughborough University, Leicestershire, United Kingdom (Great Britain)); James A. Flint and Stephanos Theodossiades (Loughborough University, United Kingdom (Great Britain))

Design of Qi-Compatible Repeater for Efficient Wireless Power Transfer in Volumetric Resonator
Aigerim Jandaliyeva, Andrey Vdovenko, Mikhail Udrov, Mikhail Siganov, Pavel Seregin, Pavel Belov and Alena Shchelokova (ITMO University, Russia)

A Practical Evaluation of Analytical Resistance Models for Litz Wire
Fraser McDowell, Feiyang Lin, Duleepa J Thrimawithana, Grant A Covic and Patrick Lawton (The University of Auckland, New Zealand)

Dynamic Wireless Power Charger Performance Analysis with Polarized Pads
Abrer Mohsin Samin and Daniela Wolter Ferreira Touma (University of South Alabama, USA); Luiz Lebensztajn (University of Sao Paulo, Brazil)

Effects of Compressive Stress on Ferrites in Inductive Power Transfer
Alexander K Bailey, Jerry Sun, Willsen Wijaya and Seho Kim (The University of Auckland, New Zealand); Tom David Allen (University of Auckland & Centre for Advanced Materials Manufacturing and Design, New Zealand); Grant A Covic (The University of Auckland, New Zealand)

Comparative Analysis of High-Performance Wireless Battery Charging Systems
Giulia Di Capua (University of Cassino and Southern Lazio, Italy); Antonio Maffucci (University of Cassino and Southern Lazio & National Institute of Nuclear Physics, INFN-LNF, Italy); Gennaro Di Mambro (University of Cassino and Southern Lazio, Italy); Femia Nicola (University di Salerno, Italy); Nunzio Oliva and Luca De Guglielmo (EXELING SRL, Italy); Nunzia Fontana, Sami Barmada and Junda Zhu (University of Pisa, Italy)

Wednesday, June 4, 12:15 - 14:00

PS1B: Robotic and Biomedical Applications

Design and Analysis of a 350 W Wireless Charging System for Electric Bike

Sumama Bin Riaz (Information Technology University, Pakistan); Abdullah Baig (Utah State University, USA); Malik Farooq Muhammad, Nahl Adeel, Abdullah Ahmed and Faiza Hamid (Information Technology University, Pakistan); Asif Ali (Information Technology University of the Punjab, Pakistan); Tauseef Tauqeer (ITU, Pakistan); Aakash Hassan (Information Technology University, Pakistan)

Optimized Wireless Power Transfer From Unmanned Aerial Vehicle to Internet of Things Devices

Silvia C Albuquerque and Ursula Resende (Federal Center for Technological Education of Minas Gerais, Brazil); Maurício D Almeida (Centro Federal de Educação Tencológica de Minas Gerais - CEFT-MG, Brazil); Camilla Caroline Moro Carmo (CEFET MG, Brazil); Icaro V Soares (IETR, France & Université de Rennes 1, France)

Wireless Qi-Charged AGV Navigation and Voltage Sensor Fusion for Coil Alignment-Targeted Auto-Parking and Foreign Object Detection

Teodor Cretu, Zachary Molseed, Jonathan Gooch, Girma Tewolde and Chen Duan (Kettering University, USA)

Design of a Wireless Charging System for 300 W-Class Underwater Robots With a 2-Stage Converter for Robustness Against Misalignment

Sungryul Huh (Korea Advanced Institute of Science and Technology (KAIST), Korea (South)); Seongho Woo, Hyunsoo Lee and Seungyoung Ahn (Korea Advanced Institute of Science and Technology, Korea (South))

Advancing Obstructive Sleep Apnea Therapy: a Miniaturized Wireless Implant for Battery-Free Optogenetic Neurostimulation in Mice

Giulia Battistini (University of Bologna, Italy); Elisa Augello (Università di Bologna, Italy); Giacomo Paolini and Diego Masotti (University of Bologna, Italy); Alessandra Costanzo (DEI, University of Bologna, Italy)

Multiobjective Optimization and Thermal Modelling of a Coil System for Transcutaneous Inductive Energy Transfer

Fides Lucia Faber (University of Stuttgart, Germany); Nejila Parspour (Universität Stuttgart, Germany)

Oblique Plane Wave Exposure at 24 GHz of an Advanced Female Anthropomorphic Model

Noemi Dolciotti (Sapienza University of Rome, Italy)

Wednesday, June 4, 12:15 - 14:00

PS1C: Power Converters I

A Novel Primary-Side Control for Integrated Boost Multi-Level Converter in IPT Systems

Zhihao He (University of Auckland, New Zealand); Duleepa J Thrimawithana (The University of Auckland, New Zealand); Bharat Vardani (University of Auckland, New Zealand); Grant A Covic (The University of Auckland, New Zealand); Martin Neuburger (Esslingen, Germany)

A Method for Controlling Desired Power Received by Multiple Buck Converters in Dynamic Wireless Power Transfer of Multiple Power Receiving Systems

Ryota Kojima (Tokyo University of Sciience, Japan); Takehiro Imura (Tokyo University of Science, Japan); Yoichi Hori (Tokyo University, Japan); Yusuke Sato (Tokyo University of Science, Japan)

Simple Identification of Reactive AC-Side Component Values in Resonant Inverters Driving Series RLC Loads in High-Current Applications

Natan Schecter (Ben-Gurion University of the Negev & nT- Tao, Israel); Yael Ditkovich and Alon Kuperman (Ben-Gurion University of the Negev, Israel)

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Segmented Rail Flexible Switching Topology and Fast Control Method in Dynamic Wireless Power Transfer System
Xin Gao, Xiaokai Wang, Chang Liu and Chunbo Zhu (Harbin Institute of Technology, China)

Receiver-Side Power Control of a 230-kW Three-Phase DWPT System for Heavy-Duty Vehicles
Vatan Mehar, Isaac S Abram, Nicholas H Frooninckx, Steven Pekarek, Aaron D Brovont and Dionysios Aliprantis (Purdue University, USA)

A Four-Legged Loop Inverter for Two-Lane Dynamic Wireless Power Transfer
Yusaku Takagi, Osamu Shimizu and Hiroshi Fujimoto (The University of Tokyo, Japan)

Isolated Bidirectional Single-Input Multiple-Output Converter for Peer-to-Peer Wireless Power Transfer
Chuyue Ji (City University of Hong Kong, Hong Kong); Ting Leung Albert Lee (University of Hong Kong, Hong Kong); Jiayang Wu, Siew Chong Tan and Shu Yuen Hui (City University of Hong Kong, Hong Kong)

Explicit Impedance Matching Network Design for High Frequency Power Amplifiers Based on the Möbius Transformation
Yongzhi Zhu and Zhan Liu (Shanghai Jiao Tong University, China); Wei Liu (Shanghai Jiaotong University, China); Ming Liu (Shanghai Jiao Tong University, China)

Matrix Converter-Based Three-Phase Modular High-Power Wireless Charging Systems for Heavy-Duty Electric Vehicles
Zichen Deng, Jianning Dong and Pavol Bauer (Delft University of Technology, The Netherlands)

A Single-Stage Bidirectional AC-DC Converter-Based Vehicle-to-Grid Wireless Power Transfer System With Dual LCL Compensation
Yong Ying and Tomokazu Mishima (Kobe University, Japan); Lai Ching-Ming (National Chung Hsing University, Taiwan)

Ultra-Wideband Based Synchronization Method for Bidirectional Wireless Power Transfer Systems
Weizhou Ye, Pratyush Shukla and Nejila Parspour (University of Stuttgart, Germany)

Inductor-Less Direct AC-DC Conversion for Electromagnetic Vibrational Energy Harvester
Md Mahmudul Hasan (University College Cork, Ireland); Sandipan Patra (Tyndall National Institute, Ireland & University College Cork, Ireland); Shafi Khadem (International Energy Research Centre (IERC), Ireland)

Wednesday, June 4, 14:00 - 15:30

WA2: Innovative WPT Solutions for IoT

Keynote Speaker

Exploring tomorrow’s wireless power transfer technologies

Volker Ziegler (Airbus Central Research and Technology, Germany)

Integrated PV Antenna for Cooperative Light and RF Energy Harvesting in the RFID UHF Band
Khodr Hammoud, Yasser Qaragoez, Vladimir Volski, Dominique Schreurs and Sofie Pollin (KU Leuven, Belgium)

Flexible and Scalable Collinear Rectenna Array for IoT Applications
Yuki Tanaka, Hikaru Hamase and Hiroyuki Tani (Panasonic Holdings Corporation, Japan)

Flexible Antennas for Radio Frequency Energy Harvesting Using SSAIL
Justina Zemgulyte, Paulius Ragulis, Romualdas Trusovas, Šarūnas Mickus, Evaldas Kvietkauskas, Modestas Sadauskas and Karolis Ratautas (Center for Physical Sciences and Technology, Lithuania)

Wednesday, June 4 14:00 - 15:30

WB2: Magnetic Couplers II

Conformal Magnetic Metasurface for Wireless Power Transfer With Multi-Receiver and Multi-Frequency Capabilities
Alessandro Luigi Dellabate and Danilo Brizi (University of Pisa, Italy)

Partial Inductance Analysis for PCB Litz Coils in Wireless Power Transfer Systems
Haris Ahmed and Regan Zane (Utah State University, USA); Abhilash Kamineni (ENRX, USA); Yanghe Liu (Toyota Motor North America, USA)

Parameterized Models of Double-D Coils for DWPT Applications Through Deep Learning Techniques
Jegannathan Srinivasan (Indian Institute of Technology, Jammu, India); Andrea Mancinoni and Daniele Romano (University of L'Aquila, Italy); Sonia Leva and Michela Longo (Politecnico di Milano, Italy); Mauro Parise (Università Campus Bio-Medico di Roma, Italy); Giulio Antonini (University of L'Aquila, Italy)

ANN-Based Heat Optimization for IPT Coil
Xiang Gao (Shanghaitech University, China); Kunxiao Zhou (ShanghaiTech University, China); Xiyuan Lin (Shanghai Tech University, China); Minfan Fu (ShanghaiTech University, China)

Topology Optimization of a VA Plate for SAE-Compliant Wireless Power Transfer System Using Anisotropic SMC Materials Giulio Poggiana and Riccardo Torchio (University of Padova, Italy); Vincenzo Cirimele (Department of Electrical, Electronic, and Information Engineering & Alma Mater Studiorum University of Bologna, Italy); Fabrizio Dughiero (University of Padova, Italy)

Wednesday, June 4, 14:00 - 15:30

SS2: Computational Dosimetry for WPT Applications: Human Body Absorption and Electromagnetic Interference Challenges.

Wireless Power Transfer: Study of the Impact of the Skin Modelling on Human Exposure Assessment at 24 GHz
Silvia Gallucci (CNR Consiglio Nazionale Delle RIcerche, Italy); Martina Benini (CNR - Consiglio Nazionale Delle Ricerche, Italy); Emma Chiaramello and Serena Fiocchi (CNR - Consiglio Nazionale delle Ricerche, Italy); Gabriella Tognola (CNR - Consiglio Nazionale Delle Ricerche, Italy); Marta Parazzini (IEIIT CNR, Italy)

Plane Wave Absorption in Realistic Body Models at mmWaves
Micol Colella (La Sapienza University of Rome, Italy)

Human-Safe Wireless Power Transfer System for Tabletop TV With Hybrid EMF Reduction Methods
Hyunsoo Lee and Seongho Woo (Korea Advanced Institute of Science and Technology, Korea (South)); Sungryul Huh (Korea Advanced Institute of Science and Technology (KAIST), Korea (South)); Youbin Jun, Seungmin Ha and Kangmin Choi (Korea Advanced Institute of Science and Technology, Korea (South)); Jinhaeng Jang and Seunghun Baek (LG Electronics Inc., Korea (South)); Seungyoung Ahn (Korea Advanced Institute of Science and Technology, Korea (South))

A New Perspective on Resonant Circuit Design to Minimize EMF in Wireless Power Transfer Systems for Electric Vehicles
Seongho Woo (Korea Advanced Institute of Science and Technology, Korea (South)); Yujun Shin (Keimyung University); Sungryul Huh (Korea Advanced Institute of Science and Technology (KAIST), Korea (South)); Hyunsoo Lee and Seungyoung Ahn (Korea Advanced Institute of Science and Technology, Korea (South))

Wireless Power Transfer Through Biological Tissue: the Role of the Interface
Constantin Simovski, Nam Ha-Van and Sergei Tretyakov (Aalto University, Finland)

Wednesday, June 4, 16:00 - 17:30

WA3: Devices and Novel Materials for RF Energy Harvesting

A Rectenna for RF Energy Harvesting Using a Voltage-Doubling CMOS Rectifier Fabricated in 180-nm Technology Yoshimori Ryangsu Kaneshiro (Osaka Institute of Technology, Japan & OIT, Japan); Masahiro Hamada (Osaka Institute of Technology, Japan); Shiro Dosho (Tokyo Institute of Technology, Japan)

A High Sensitivity Serial-Path RF Energy Harvester in 65nm CMOS Technology
Shimpei Imoto (Osaka Institute of Technology, Japan); Yoshimori Ryangsu Kaneshiro (Osaka Institute of Technology, Japan & OIT, Japan)

Upper-Bound Performance of Implanted Antennas Made With Laser-Induced Graphene (LIG) for Wireless Power Transfer (WPT) Applications
Francesca Nanni, Alessio Mostaccio and Gaetano Marrocco (University of Rome Tor Vergata, Italy)

Silicon Carbide Photovoltaic Converters: a Revolutionary Technology for Powering Spacecrafts
Javier F. Lozano and N. Seoane (CITIUS, Universidade de Santiago de Compostela, Spain); Enrique Comesaña (Escola Politécnica Superior de Enxeñaría, Campus Terra, Universidade de Santiago, Spain); Florencia Almonacid and Eduardo F. Fernández (Advances in Photovoltaic Technology AdPVTech, University of Jaén, Spain); Antonio Garcia-Loureiro (CITIUS, Universidade de Santiago de Compostela, Spain)

Chip Design for 23.3-dBm Class-E Power Amplifier in 900-MHz Wireless Power Transfer System
Liang Yang (National Chung Hsing University, Taiwan)

Wednesday, June 4, 16:00 - 17:30

WB3: Dynamic WPT Systems I

Durability and Lifecycle Requirements of Encapsulation Materials for Wireless Power Transfer Systems in Electric Road Applications
Sophia Jordan (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany); Maximilian Kneidl and Michael Weigelt (Seamless Energy Technologies GmbH, Germany); Michael Masuch (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany); Joerg Franke (FAPS, Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU), Germany); Florian Risch (Friedrich-Alexander-Universität Erlangen-Nürnberg, Germany)

Implementation and Preliminary Static Tests of a Dynamic Wireless Charger for Interurban Roads
Irene Torres-Alfonso (Circe Technology Center, Spain)

Bench-Scale Experiment of Dynamic Wireless Power Transfer System With Grid-Connected Photovoltaic and DC Bus Voltage Control
Nozomi Murayama and Takehiro Imura (Tokyo University of Science, Japan); Yoichi Hori (Tokyo University, Japan)

Experimental Study on Dynamic Characteristics in DWPT System Using Vertical and Horizontal Magnetic Fields
Harutaka Suzuki and Ryosuke Ota (Tokyo Metropolitan University, Japan)

A Cost-Effective and Misalignment-Tolerant Dynamic Wireless Power Transfer System for AGVs Without Feedback Control
Jun Tanaka (Miraxia Edge Technology Company Limited, Japan & Kobe University, Japan)

Wednesday, June 4 16:00 - 17:30

SS3: Wireless Information and Power Transfer Links from Microwave to Terahertz.

An Alternative Technique for the Evaluation of Wireless-Power-Transfer Efficiency in Near-Field Links Based on Bessel Beams

Luca Del Biondo (Michigan State University, USA); Edoardo Negri, Paolo Burghignoli and Alessandro Galli (Sapienza University of Rome, Italy); Mauro Ettorre (Michigan State University, Electrical and Computer Engineering, USA); Walter Fuscaldo (Consiglio Nazionale delle Ricerche (CNR), Italy)

Beam Shift Effects in Resonant Focusing Devices

Stella Ventucci and Edoardo Negri (Sapienza University of Rome, Italy); Walter Fuscaldo (Consiglio Nazionale delle Ricerche (CNR), Italy); Paolo Burghignoli and Alessandro Galli (Sapienza University of Rome, Italy)

Experimental Comparison of Wireless near-Field Links Based on Gaussian Beams and Bessel Beams

Jérôme Taillieu (Université de Rennes 1, France); Walter Fuscaldo (Consiglio Nazionale delle Ricerche (CNR), Italy); Mauro Ettorre (Michigan State University, Electrical and Computer Engineering, USA); David González-Ovejero (Université de Rennes, France)

Optimal Channels for Power Transfer Between Two Antenna Apertures

Coady K Lewis (University of Michigan, USA); Faris Alsolamy (University of Michigan Ann Arbor, USA); Anthony Grbic (University of Michigan, Ann Arbor, USA)

Agile Microwave WPT Exploiting Circular Array With Optimized Time-Modulated Excitations

Lorenzo Bastia (Università di Bologna, Italy); Tommaso Tiberi (University of Bologna, Italy); Lorenzo Poli (ELEDIA Research Center, University of Trento, Italy); Paolo Rocca (University of Trento & ELEDIA Research Center, Italy); Alessandra Costanzo (DEI, University of Bologna, Italy); Diego Masotti (University of Bologna, Italy)

Thursday, June 5

Thursday, June 5, 8:45 - 10:15

TA1: Rectifiers

Keynote Speaker

High-power bidirectional wireless charging of electric vehicles"

Chris Mi (San Diego State University, USA)

Rectifier Current-Based Mistuned Compensation Network Design for High-Power IPT Systems
Dengke Zheng (University of Auckland, New Zealand); Feiyang Lin and Grant A Covic (The University of Auckland, New Zealand)

A Comparative Study on Synchronous Rectification Techniques With Voltage Sensor and GNSS in Dynamic Wireless Power Transfer Systems
Takachika Hatano (Tokyo Denki University, Japan); Ryosuke Ota (Tokyo Metropolitan University, Japan); Daiki Satou (Tokyo Denki University, Japan); Hiroyasu Kobayashi (Chiba University, Japan)

A High Efficiency Rectifier for a 500W High-Q Inductive Drone Charger at 13.56MHz
Jianguo Wang and Artur M Benedito Nunes (University of Warwick, United Kingdom (Great Britain)); Mike J Taylor and William R Law (Inductive Power Projection Ltd, United Kingdom (Great Britain)); Gary J Milton (Inductive Power Projection, United Kingdom (Great Britain)); Richard McMahon (University of Warwick, United Kingdom (Great Britain))

Thursday, June 5, 8:45- 10:15

TB1: Biomedical Applications I

Analysis of Eddy Current Losses in Wirelessly Charged Implantable Devices
Xiyuan Lin, Siyi Yao and Pengyu Chen (Shanghai Tech University, China); Xiang Gao (Shanghaitech University, China); Minfan Fu (ShanghaiTech University, China)

Frequency-Up Electrodynamic Receiver for Extremely-Low Frequency Wireless Power Transfer for Implanted Devices Rémi Recoquillé (CEA-Leti, Université Grenoble Alpes & SYMME, Université Savoie Mont Blanc, France); Pierre Gasnier and Nicolas Garraud (CEA, France); Adrien Morel (Université Savoie Mont Blanc, France); Adrien Badel (Université de Savoie, France)

Field Shaping for Enhanced Wireless Power Transfer in Misaligned Biomedical Inductive Links
Cian O'Donnell (MCCI, Ireland & Tyndall National Institute, Ireland)

An Equivalent Circuit Model for Designing Wireless Programmable FSS for WPT EMI Suppression and Secure Communication of Implanted Devices
Francesco Lestini and Gaetano Marrocco (University of Rome Tor Vergata, Italy); Cecilia Occhiuzzi (University of Roma Tor Vergata, Italy)

Flexible Implantable Medical Devices With Inductive Power Transfer and Frequency-Shift Keying Communication
Bruno Miguel Gil Rosa and Paul Mitcheson (Imperial College London, United Kingdom (Great Britain))

Thursday, June 5, 8:45- 10:15

SS4: Modeling, Controls, and Identifications in High Power Inductive Charging

Circulating Current Modeling in Multi-Transmitter Inductive Wireless Power Transfer System
Junhui Yang (City University of Hong Kong, Hong Kong); Chaoqiang Jiang (City University of Hong Kong, China); Tianlu Ma (City University of Hong Kong, Hong Kong); Shen Ren (CityU, Hong Kong); Zhaozheng Zhu (City University of Hong Kong, Hong Kong); Chen Chen (Cityu, Hong Kong)

Comparative Analysis of LCC and Series Compensation for Dynamic Wireless Power Transfer Systems
Tianlu Ma and Junhui Yang (City University of Hong Kong, Hong Kong); Yibo Wang and Shen Ren (CityU, Hong Kong); Jiaqi Huang (City University of Hong Kong, Hong Kong); Chaoqiang Jiang (City University of Hong Kong, China)

Critical Design Factors for Inductive Power Transfer Couplers Utilizing Structurally Anisotropic Alloys
Yibo Wang (CityU, Hong Kong); Chaoqiang Jiang (City University of Hong Kong, China); Yue Liu (City University of Hong Kong, Hong Kong); Shen Ren (CityU, Hong Kong); Zhaozheng Zhu, Junhui Yang and Ben Zhang (City University of Hong Kong, Hong Kong)

A Dependable Communication Solution With Enhanced Pairing for Inductive Charging Systems
Jonas Enderlin and Leon Loeser (Delta Energy Systems, Germany)

A Bidirectional IPT EV Charging Power Class Interoperable Wireless Synchronization Controller
Patrick Lawton, Feiyang Lin, Grant A Covic, Shaorong Liu and Andrew Sknar (The University of Auckland, New Zealand)

Thursday, June 5, 10:45 - 12:15

TA2: Wireless Power Beaming

Modeling and Development of a Wireless Power Beaming (WPB) System Achieving >87.4% Beam Collection Efficiency
Adnan Basir Patwary (The University of Texas at Dallas, USA); Ifana Mahbub (University of Texas at Dallas, USA)

Subarraying Strategy in Phased Arrays Using Beamforming With Broad Nulls for Microwave Power Transfer
Zhengdong Lin, Shun Shibuya, Hiroyuki Morikawa and Yoshiaki Narusue (The University of Tokyo, Japan)

Multiport Pi-Network Implementation of Decoupling Network for MIMO Wireless Power Transfer
Allan Jose Mesa, Jr (University of the Philippines Diliman, Philippines); Charleston Dale M Ambatali (University of the Philippines, Philippines)

Automatic Remote Calibration System for Active Arrayed Wireless Power Transmitter
Sang-Hwa Yi (Korea ElectroTechnology Research Institute, Korea (South))

Simplified-Controlled Phased Array System for Wireless Power Transfer
Bo Yang, Naoki Shinohara and Tomohiko Mitani (Kyoto University, Japan); Heng-Ming Hsu (National Chung-Hsing University, Taiwan)

Thursday, June 5 10:45 - 12:15

TB2: Dynamic WPT Systems II

Profitability and Cost-Effectiveness Analysis of Wireless and Conductive Charging Infrastructure for Autonomous Fleets: Insights From Real-World Data

Myrel Tiemann (University of Wuppertal, Germany); Michael Böhm (City Bad Staffelstein, Germany); Norman Haußmann (University of Wuppertal, Germany); Markus Clemens (University of Wuppertal & Chair of Electromagnetic Theory, Germany); Benedikt Schmuelling (University of Wuppertal, Germany)

Design and Optimization of PCB-Based Passive Shielding Leakage Magnetic Suppression for Dynamic Wireless Power Transfer

Junda Zhu, Sami Barmada, Nunzia Fontana and Antonino Musolino (University of Pisa, Italy); Giulia Di Capua and Gennaro Di Mambro (University of Cassino and Southern Lazio, Italy); Antonio Maffucci (University of Cassino and Southern Lazio & National Institute of Nuclear Physics, INFN-LNF, Italy); Femia Nicola (University di Salerno, Italy)

Folded-Coil-Based Output Voltage Stabilization Technique for Dynamic Wireless Power Transfer Systems

Buzhao Niu (CRRC Qingdao Sifang Co. Ltd., China); Kaijun Du (CRRC Qingdao Sifang Co. Ltd., China & Southwest Jiaotong University, China); Chang Peng, Jin Yu, Dongyu Zhao, Pengfei Chi and Miao Wang (CRRC Qingdao Sifang Co. Ltd., China)

Magnetic Field Reduction in Dynamic Wireless Power Transfer Systems Using Passive Cancellation Loops

Wassim Boumerdassi (Università degli studi dell'Aquila, Italy); Tommaso Campi (University of Rome Sapienza, Italy); Silvano Cruciani (Tor Vergata University of Rome, Italy); Francescaromana Maradei (University of Rome La Sapienza, Italy); Mauro Feliziani (University of L'Aquila, Italy)

Vehicle Steering Control with Lateral and Angular Misalignment Estimation Based on Receiver Current in Dynamic Wireless Power Transfer

Ryota Tauchi, Yusaku Takagi, Osamu Shimizu and Hiroshi Fujimoto (The University of Tokyo, Japan)

Thursday, June 5, 10:45 - 12:15

SS5: Capacitive WPT

Frequency Bifurcation for Enhanced Power Output in a Capacitive Wireless Power Transfer System With Two Transmitters and Two Receivers

Aris van Ieperen (University of Antwerp, Belgium); Stijn Derammelaere (University of Antwerp - Flanders Make, Belgium); Ben Minnaert (University of Antwerp, Belgium)

Power Converter for Use in Quasi-Wireless Capacitive Power Robotic Systems With Secondary Side Sensing and Switching

Carson D Pope and Charles W Van Neste (Tennessee Technological University, USA); Darren Boyd (NASA MSFC, USA)

A Novel Wireless Power Transfer System with Capacitive Transmitters and Inductive Receiver for Undersea Applications Huan Wu, Jiang You, Chao Jia, Tiantian Wang, Xin Lv, Mengyao Wang, Longlei Bai and Bo Luo (Harbin Engineering University, China)

Investigating the Use of Lunar Sand to Expand the Area Where Wireless Power Can Be Supplied to Mobility Vehicles Operating on the Lunar Surface

Takanori Washiro, Yohei Toriumi and Madoka Takahashi (Nippon Telegraph and Telephone Corporation, Japan)

Dual-Input Single-Output DC-DC Conversion for Common-Mode Current Suppression in Misaligned Resonant Capacitive Power Transfer Systems

Ethan T Belliveau and Chris D. Rouse (University of New Brunswick, Canada)

Thursday, June 5, 12:15 - 14:00

POSTER SESSIONS

PS2A: Advances in Capacitive WPT

Quantification of Plate-Bending on the Mutual Coupling Capacitance in a Capacitive Power Transfer System
Kiran Peirens, Ben Minnaert and Amélie Chevalier (University of Antwerp, Belgium)

ZPA Tuning Method for LCC-s IPT System Using Two Switch-Controlled Capacitors on the Primary Side
Živadin Despotović, Dejan Reljić and Veran Vasić (University of Novi Sad, Serbia)

High Frequency, Primary Sided, Auto-Tuning Control System for Capacitive Wireless High Power Transfer
Arthur Cloet (KU Leuven, Belgium); Hamed Farbakhsh and Ben Minnaert (University of Antwerp, Belgium); Michael Kleemann (KU Leuven, Belgium)

Comparing the Class E and Phi_2 Inverter Topologies for 13.56MHz Resonant Capacitive Power Transfer
Matthew MacMillan and Chris D. Rouse (University of New Brunswick, Canada)

Modeling and Parameter Identification of Underwater Single Capacitor Coupled WPT System
Chaolai Da (Institute of Electrical Engineering, Chinese Academy of Sciences, China & University of Chinese Academy of Sciences, China); Lifang Wang, Fang Li, Chengxuan Tao and Shufan Li (Institute of Electrical Engineering, Chinese Academy of Sciences)

Power Scaling Architecture for Electric Vehicle Multi-MHz Capacitive Wireless Charging Systems
Dheeraj Etta, Sounak Maji, Syed Saeed Rashid and Khurram K Afridi (Cornell University, USA)

Analytical Study on the Performance of a Hybrid Inductive-Capacitive Wireless Power Transfer System
Baptist Elst and Ben Minnaert (University of Antwerp, Belgium)

Introducing Relay-Repeaters for Hybrid Inductive-Capacitive Wireless Power Transfer
Baptist Elst and Hamed Farbakhsh (University of Antwerp, Belgium); Arthur Cloet and Michael Kleemann (KU Leuven, Belgium); Ben Minnaert (University of Antwerp, Belgium)

Thursday, June 5, 12:15 - 14:00

PS2B: Progress in Far Field WPT I

Energy Efficient SVELM for SWIPT Based WPSN
Berin Shalu (Vellore Institute of Technology, India & None, India)

A Low-Power Rectenna With 1.5 V DC Output for Wirelessly Powering Sensors
Haoming He (Sichuan University, China); Che Dan (Southwest China Research Institute of Electronic Equipment, China); Zhongqi He, Changjun Liu and Liping Yan (Sichuan University, China)

A Loss Calculation Method Considering Diode Characteristics and Mounting Effect
Lu Yili and Qian Sihao (Xidian University, China); Ce Wang (Sichuan University, China)

RF Rectifier With Pixel-Like Network and Inductive Matching Technique
Muh-Dey Wei (RWTH Aachen University & High Frequency Electronics, Germany); Yu-Ting Zhuo (National Chin-Yi University of Technology, Taiwan); Lukas Hüssen (RWTH Aachen University, Germany); Guo-Shiang Lin (National Chin-Yi University of Technology, Taiwan); Renato Negra (RWTH Aachen University, Germany)

Solar Power Based Subsea Docking Station for Wireless Charging of AUVs
Abhishek Singhal and Ashutosh Rai (Indian Institute of Technology Mandi, India); Narsa Reddy Tummuru and G Shrikanth Reddy (IIT Mandi, India)

Performance Analysis of Passive and Active Wireless Sensor Nodes for Energy-Efficient IoT Applications
Paulo Capitão (University of Aveiro, Portugal); Helena Ribeiro (Universidade de Aveiro, Portugal & Instituto de Telecomunicações, Portugal); Pedro Pinho (UA - Universidade de Aveiro & IT - Instituto de Telecomunicações, Portugal); Nuno Borges Carvalho (Universidade de Aveiro, Portugal & InstitutodeTelecomunicacoes, Portugal)

Applications for a Through the Soil System Based on Radial Voltage Distributions
Christopher S Johnson (Tennessee Technological University, USA); Erlind Boraj (Tennessee Tech University, USA); Charles W Van Neste (Tennessee Technological University, USA)

Thursday, June 5, 12:15 - 14:00

PS2C: WPT for Electric Vehicles

Assessment of Single- and Three-Phase Wireless Power Transfer Systems Under Aligned Conditions
Carina Damhuis (Technical University of Munich, Germany); Hans-Georg Herzog (Technical University of Munich (TUM), Germany)

Analysis of a WPT3 11kW Wireless Power Transfer System Based on IEC 61980 and ISO 19363/SAE J2954 Reference Coil and System Designs
Maximilian Hollenbach (Institut für Automation und Kommunikation e. V. Magdeburg, Germany); Leo Anton Hinrichsmeyer (Institut für Automation und Kommunikation e.V., Germany); Christian Koker and Maxim Nesterov (Institut für Automation und Kommunikation e.V., European Union)

Position-Insensitive Wireless Power Transfer System for Long-Range Moving Seat in Autonomous Electric Vehicles
Kye-Seok Yoon (Electronics and Telecommunications Research Institute, Korea (South)); Sang-Won Kim, Gwangzeen Ko, In-Kui Cho and Seong-Min Kim (ETRI, Korea (South))

Foreign Object Detection Using Total Harmonic Distortion of Input Current
Phemelo Maile and Sampath Jayalath (University of Cape Town, South Africa)

Vehicle-to-Vehicle Wireless Power Transfer in Electric Vehicles for Input Supply Outage Scenarios
Ashutosh Rai and Abhishek Singhal (Indian Institute of Technology Mandi, India); Narsa Reddy Tummuru and Venkat Ratnam Vakcharla (IIT Mandi, India)

Automotive Drive Cycle Loss Analysis of a Wireless Power Transfer System for Electric Vehicle Traction Machine Rotor Excitation
Andreas Gneiting, Felix Dominik Burkard and Andreas Baehr (University of Stuttgart, Germany); Nejila Parspour (Universität Stuttgart, Germany)

Double-Sided Voltage-Source Model of an Inductive Wireless Power Transfer System for Electric Vehicles
Carlos Revert Ferrero, Carlos Masia Agullo, Alexis A. Narvaez Acaro, Francisco Gonzalez Espin and Philip Grapherr (MAHLE Electronics, Spain)

Thursday, June 5, 12:15 - 14:00

SSP: Special Session - Wireless Power Transfer Meets AI: Exploring New Frontiers.

Symbolic Regression Method for Estimating Distance Between Two Coils of a Inductive Wireless Power Transfer System
Davide Milillo (University of RomaTre, Italy); Lorenzo Sabino (Università Degli Studi Roma Tre, Italy); Rafiq Asghar (Roma Tre University, Italy); Francesco Riganti Fulginei (Roma TRE University, Italy)

Neural Network Method for Distance Prediction and Impedance Matching of a Wireless Power Transfer System
Lorenzo Sabino (Università Degli Studi Roma Tre, Italy); Davide Milillo (University of RomaTre, Italy); Fabio Crescimbini (Università ROMA TRE, Italy); Francesco Riganti Fulginei (Roma TRE University, Italy)

Optimizing PI Controller Tuning for Frequency Control in Inductive Wireless Power Transfer Systems Using Genetic Algorithms
Gabriele Maria Lozito, Lorenzo Becchi, Marco Bindi, Fabio Corti and Matteo Intravaia (University of Florence, Italy); Lorenzo Sabino (Università Degli Studi Roma Tre, Italy)

Optimizing the Design of a LCC-s Resonant Converter for Wireless Power Transfer Using an Artificial Neural Network
Vittorio Bertolini (Università degli Studi di Perugia, Italy); Lorenzo Sabino (Università Degli Studi Roma Tre, Italy); Davide Milillo (University of RomaTre, Italy); Riccardo Scorretti (University of Perugia, Italy & CNRS, France)

Machine Learning-Based Prediction of Magnetic Field Patterns in Wireless Power Transfer
Rafiq Asghar (Roma Tre University, Italy); Lorenzo Sabino (Università Degli Studi Roma Tre, Italy); Davide Milillo (University of RomaTre, Italy); George Cristian Lazaroiu (University Politehnica of Bucharest, Romania); Francesco Riganti Fulginei (Roma TRE University, Italy)

Thursday, June 5, 14:00 - 15:30

TA3: Space Solar Power

Keynote Speaker

The Sun-chasing project: Innovation, simulation, prototype and experiment

Duan Baoyan (Xidian University, Xi'an, China)

Prediction and Compensation of Position and Attitude Deviation of Ultra-Large Scale Antenna Arrays for Space Solar Power Station

Xinyu Su (China Academy of Space Technology (Xi'an) & National Key Laboratory of Science and Technology on Space Microwave, China)

Phased Demonstration Approach for Microwave Wireless Power Transmission Technology in MW-Level Space Solar Power Stations (SSPS)

ZhengAi Cheng (Qian Xuesen Laboratory or Space Technology, China); Shi-Wei Dong (China Academy of Space Technology (Xi'an), China); Xinbin Hou (China Academay of Space Technology, China)

Beam Pointing Error Mitigation Capabilities of the Cassiopeia Array for Frequency Offset Retrodirective Space Based Solar Power

Neil Buchanan (Queens University Belfast, United Kingdom (Great Britain)); Yat Hin Chan (Queens University Belfast & ECIT, United Kingdom (Great Britain))

Thursday, June 5, 14:00 - 15:30

TB3: Power Electronics I

An Inductive-Capacitive-Split Impedance Matching Approach Based on Two-Port Network in High Frequency Switched Mode Power Amplifier

Wei Liu (Shanghai Jiaotong University, China); Yongzhi Zhu and Ming Liu (Shanghai Jiao Tong University, China)

A 125 kHz Self-Oscillating Inverter for Inductive Power Transfer Applications With Power MOSFET in-Circuit Self-Test Michael Benegiamo (University of Perugia, Italy); Lorenzo Mariani (Università degli Studi di Perugia, Italy); Anil Kumar Behera, Marco Dionigi, Giulia Orecchini and Valentina Palazzi (University of Perugia, Italy); Luca Moriconi (ELES Semiconductor Equipment, Italy); Federico Alimenti (University of Perugia, Italy)

A Wide-Range Decoupled Autonomous Wireless Power Transfer System

Weiceng Zeng, Keyu Hang, Lei Zhao, Xin Dai, Chunsen Tang and Zhihui Wang (Chongqing University, China)

Class Φ2 Inverter Based on a Fully Analytical Model for Wireless Power Transfer System

Le Quang Hieu Nguyen (CEA-Leti, Grenoble Alpes University, France); Nicolas Garraud (CEA, France); Leo Sterna (CEA Leti Grenoble, France); Francois Frassati (CEA, LETI, Minatec, France); Sébastien Boisseau (CEA, France)

Enhancing Conversion Efficiency in Megahertz Wireless Power Transfer Systems with Schottky Freewheeling Diodes

Mingshuo Zhu, Kerui Li, Siew Chong Tan and Shu Yuen Hui (City University of Hong Kong, Hong Kong

Thursday, June 5, 14:00 - 15:30

SS6: Wireless Charging Technologies for Underwater Devices

Large Signal Modeling of LCC-s Power Converter Considering Parasitic Components for UWPT Applications
Vittorio Bertolini (Università degli Studi di Perugia, Italy); Riccardo Scorretti (University of Perugia, Italy & CNRS, France); Antonio Faba and Ermanno Cardelli (University of Perugia, Italy)

Optimizing Wireless Power Transfer for Underwater Vehicles: a Neural Network Method for Distance Prediction and Impedance Matching
Lorenzo Sabino (Università Degli Studi Roma Tre, Italy); Davide Milillo (University of RomaTre, Italy); Fabio Crescimbini (Università ROMA TRE, Italy); Francesco Riganti Fulginei (Roma TRE University, Italy)

Harnessing Symbolic Regression Optimizing Distance Estimation for Wireless Power Transfer in Underwater Vehicles Davide Milillo (University of RomaTre, Italy); Lorenzo Sabino (Università Degli Studi Roma Tre, Italy); Rafiq Asghar (Roma Tre University, Italy); Francesco Riganti Fulginei (Roma TRE University, Italy)

Effects of Salinity in an Inductive Wireless Charger for Autonomous Underwater Vehicles
Inmaculada Casaucao (University of Málaga, Spain); Alicia Triviño (University of Malaga, Spain)

Design of a WPT System With a Cylindrical Repeater Coil for AUVs
Mei-Fang Wang, An-Jie Lan, Cheng-Hao Weng, Bo-Jie Huang and Tzung-Lin Lee (National Sun Yat-sen University, Taiwan)

Thursday, June 5 16:00 - 17:30

TA4: Machine-learning Assisted WPT Systems

Machine Learning Based Accurate Modeling of Rectenna Nonlinear Behavior
Taoning Zhan (HKUST (GZ), China); Shanpu Shen (Univ of Liverpool, United Kingdom (Great Britain)); Danny H.K. Tsang (HKUST, Hong Kong)

Deep Learning and Fine-Tuning for Receiver Position Estimation in Distributed Microwave Power Transfer
Sora Miyazawa, Shun Yamanaka and Zhengdong Lin (The University of Tokyo, Japan); Yuki Tanaka (Panasonic Holdings Corporation, Japan); Tatsuo Yagi (Panasonic, Japan); Hiroshi Sato (Panasonic Corporation, Japan); Yoshio Koyanagi (Panasonic, Japan); Hiroyuki Morikawa and Yoshiaki Narusue (The University of Tokyo, Japan)

Sequential Feedback-Based Phase Optimization Using Hadamard Basis for Wireless Power Transfer
Young-Seok Lee, Jungsuek Oh and Sangwook Nam (Seoul National University, Korea (South))

8x8-Helical Antenna Array WPT Beamforming Using the Deep Learning Method
Yat Hin Chan (Queens University Belfast & ECIT, United Kingdom (Great Britain)); Neil Buchanan (Queens University Belfast, United Kingdom (Great Britain))

Modular Artificial Neural Networks for Wireless Power Transfer Optimization in Sensor-Driven Industrial IoT
Elisa Augello (Università di Bologna, Italy); Diego Masotti (University of Bologna, Italy); Alessandra Costanzo (DEI, University of Bologna, Italy)

Thursday, June 5, 16:00 - 17:30

TB4: Power Electronics II

IPT-Based Snubber Circuit With Virtual Compensation for Voltage Suppression Across WBG Switches Used in Power Converters
Amir Babaki (The University of Southern Denmark, Denmark); Thomas Ebel (CIE SDU, Denmark)

De-Embedding Packaged GaN HEMTs for Highly Efficient PA With the Transmission Matrices
Shi-Wei Dong (China Academy of Space Technology (Xi'an), China)

Proposal of Dual-Side Transient Shaping Pulse Density Modulation for Wireless Power Transfer Systems
Yoshinori Akamine (The University of Tokyo, Japan); Ryo Matsumoto (University of Tokyo, Japan); Hiroshi Fujimoto (The University of Tokyo, Japan)

An Active Front-End Converter with Wide DC-Link Voltage for Inductive Power Transfer Systems
Kunal Kundanam, Udaya Madawala, Grant A Covic and Feiyang Lin (The University of Auckland, New Zealand)

Design of a 13.56 MHz Inductive Power Transfer System With Closed-Loop Output Regulation and Active Soft-Switching Prateek Wagle, Ioannis Nikiforidis and Xianzao Li (Imperial College London, United Kingdom (Great Britain)); Roberto La Rosa (STMicroelectronics, Italy); Paul Mitcheson (Imperial College London, United Kingdom (Great Britain))

Thursday, June 5, 16:00 - 17:30

SS7: Sustainable Wireless Technologies Enabled by Backscattering

Zero-Power Backscattering Through DC-RF Impedance Conversion for Wireless IoT Sensing
Dongchi Zhang and Jiteng Ma (University of Bristol, United Kingdom (Great Britain)); Simon Hemour (University of Bordeaux, France); Xiaoqiang Gu (University of Bristol, United Kingdom (Great Britain))

Backscattering-Based Security in Wireless Power Transfer Applied to Battery-Free BLE Sensors
Taki Eddine Djidjekh (LAAS-CNRS, France); Gaël Loubet (LAAS-CNRS & INSA Toulouse, France); Alexandru Takacs (LAAS-CNRS Université de Toulouse, France)

Passive Wireless Platform for Resistive Sensors
Gonçalo P Martins (IT Aveiro, Portugal); Nuno Borges Carvalho (Universidade de Aveiro, Portugal & InstitutodeTelecomunicacoes, Portugal)

When Light Meets RF: Integrating SWIPT, SLIPT, and Backscattering for Localization
Yasser Qaragoez and Khodr Hammoud (KU Leuven, Belgium); Marja Valimaki (VTT Technical Research Centre of Finland, Finland); Sofie Pollin and Dominique Schreurs (KU Leuven, Belgium)

On the Performance of Harmonic Backscattering for Zero-Energy Devices
Paschalina Foti (Ericsson AB, Sweden); Boules Mouris (Ericsson Research, Sweden); Thiemo Voigt (RISE Computer Science & Uppsala University, Sweden); Mahmoud Zaher (KTH Royal Institute of Technology, Sweden); Mehrnaz Afshang (Ericsson Research, USA)

Friday, June 6, 8:45- 10:15

FA1: Scalable Rectennas and Reconfigurable Surfaces

Keynote Speaker

Scalable X-band Rectenna Arrays for Energy-Denied Environments

Zoya Popovic (University of Colorado, Boulder, USA)

An Energy-Autonomous Reconfigurable Surface With Dual-Polarized Unit Cells for Simultaneous Beam Steering and Energy Harvesting

Sergio Ortiz-Ruiz (University of Granada, Spain); Simone Trovarello (University of Bologna, Italy); Francisco Pasadas Cantos (University of Granada, Spain); Diego Masotti (University of Bologna, Italy); Francisco García Ruiz (University of Granada, Spain); Alessandra Costanzo (DEI, University of Bologna, Italy)

Beamformer Design in RIS-Assisted Multi-Carrier SWIPT System With Sub-THz Transmission

Mateen Ashraf and Taneli Riihonen (Tampere University, Finland)

Simulation Verifications of a Beam Synthesis Method on a Phased Array System in the Radiating Near Field

Yuki Kagata, Bo Yang, Naoki Shinohara and Tomohiko Mitani (Kyoto University, Japan)

Friday, June 6, 8:45- 10:15

FB1: EMC/EMI

Reduction of Reactive Currents in Strongly Coupled Sub-Resonant Inductive Wireless Power Transfer Systems with Uncompensated Receiver

Andrey Vulfovich, Yegal Darhovsky and Alon Kuperman (Ben-Gurion University of the Negev, Israel)

Novel Split Impedance-Matching-Architecture to Reduce EMI and Current in the Interconnection Cable of a Two Box WPT System for EV Charging

Younghun Lee and Alexander Simon (Siemens AG Germany, Germany); Martin Pavlovsky (Siemens AG, Germany)

Derivation of Low-Order Harmonic Leakage Magnetic Fields in Double-LCC Circuit and Its Effectiveness for Their Reduction

Ryoto Kobayashi, Kaito Takashima and Takehiro Imura (Tokyo University of Science, Japan); Yoichi Hori (Tokyo University, Japan)

Shielding Impact on Conducted Emission of a kW-Level WPT System: an Experimental Approach

Mattia Simonazzi (University of Bologna, Italy); Vincenzo Cirimele (Department of Electrical, Electronic, and Information Engineering & Alma Mater Studiorum University of Bologna, Italy); Riccardo Mandrioli and Leonardo Sandrolini (University of Bologna, Italy)

Chaotic PWM Technique for Conducted-EMI Mitigation on High Gain DC DC Converters

Nandhini M (VIT, India); Sudhakar Natarajan (VIT University, India)

Friday, June 6, 8:45- 10:15

SS8: Microwave and RF Power Rectification

Far-Field Wireless Power Transfer Enabled Supercapacitor-Energized IoT Sensor System
Haowen Cai and Wei Lin (The Hong Kong Polytechnic University, Hong Kong)

A Custom C Band High-Power GaN-Based Rectifier for WPT Systems
Xiaochen Yu (National Tsing Hua University, Taiwan & University of Liverpool, United Kingdom (Great Britain)); Haoran Wang, Yeke Liu, Po-Yen Huang, Ta-Jen Yen and Shawn S. H. Hsu (National Tsing Hua University, Taiwan); Yejun He and Chaoyun Song (Shenzhen University, China); Yi Huang and Jiafeng Zhou (University of Liverpool, United Kingdom (Great Britain))

A 5.8 GHz High-Power Reflector Rectenna for Space Based Solar Power
Robert C Jones (Queen Mary University of London, United Kingdom (Great Britain)); Rostyslav Dubrovka (Queen Mary, University of London, United Kingdom (Great Britain)); Clive Parini and Xiaodong Chen (Queen Mary University of London, United Kingdom (Great Britain))

A Self-Powered Reconfigurable Metasurface Enabled by Integrated Compact Rectifying Surface
Fangwei Li, Kai Song and Changjun Liu (Sichuan University, China); Bo Yang and Naoki Shinohara (Kyoto University, Japan); Liping Yan (Sichuan University, China)

Design and Analysis of a 2.45 GHz RF Energy Harvesting Device
Daniel Poehl (Graz University of Technology & NXP Semiconductors Austria, Austria); Ulrich Muehlmann (NXP Semiconductors, Austria); Franz Amtmann (NXP Semiconductors Austria GmbH, Gratkorn, Austria); Peter Thueringer (NXP Semiconductors Austria, Austria); Jasmin Grosinger (Graz University of Technology, Austria)

Friday, June 6, 10:45 - 12:15

SS9: The Exploratory Application of Magnetic Material for Wireless Power Transfer.

10:45 ***Nanocrystalline Shield in Inductive Power Transfer Pads for EV Charging Applications***
Wenting Zhang, Seho Kim and Grant A Covic (The University of Auckland, New Zealand); Zhichao Luo (South China University of Technology, China)

11:03 ***A Novel Multi-Layer Planar Transmitting Coil for Omnidirectional Wireless Charging in Capsule Endoscopy***
Heng Zhang (The University of Hong Kong, Hong Kong); Chi-Kwan Lee (University of Technology Sydney, Australia)

11:21 ***Parity-Time Symmetric Wireless Power Transfer System With Battery Load***
Xianglin Hao and Chi K. Tse (City University of Hong Kong, Hong Kong); Shen Ren (CityU, Hong Kong); Shiqing Cai (Xi'an Jiaotong University, China)

11:39 ***Loss Measurements of CFRP Covers for Inductive Power Transfer Magnetics***
Jerry Sun and Alexander K Bailey (The University of Auckland, New Zealand); Tom David Allen (University of Auckland & Centre for Advanced Materials Manufacturing and Design, New Zealand); Willsen Wijaya, Seho Kim, Maedeh Amirpour and Grant A Covic (The University of Auckland, New Zealand)

11:57 ***Transient Loss Measurement and Simulation in Ferrite Tiles for WPT-Systems***
Leonard Schmidt, Daniel Fritz, Lukas Elbracht and Marco Zimmer (University of Stuttgart, Germany); Nejila Parspour (Universität Stuttgart, Germany)

Friday, June 6, 10:45 - 12:15

FB2: High-Efficiency Compensation Strategies

Bifurcation-Based Coupling Estimation Method for LCC-s or Double LCC Compensated Inductive Power Transfer Systems
Michal Kosik (Czech Technical University in Prague, Czech Republic)

Investigating the Effects of Coil Architecture on the Design of Adaptive Compensation Systems
Artur M Benedito Nunes, Arkadeep Deb and Richard McMahon (University of Warwick, United Kingdom (Great Britain))

Tuning of Compensation Networks for High-Power Wireless Power Transfer Systems
Marco Biasizzo, Alberto Dolara, Delia Guarnaschelli, Sonia Leva and Emanuele Ogliari (Politecnico di Milano, Italy)

Dynamic Modeling of Series-Parallel Compensated Wireless Power Transfer Systems for iEESM Applications Using an LPV Approach
Felix Dominik Burkard, Andreas Baehr and Andreas Gneiting (University of Stuttgart, Germany); Nejila Parspour (Universität Stuttgart, Germany)

Design Considerations for LCC - LCC Wireless Power Transfer Systems Utilizing Passive Rectifiers
Lukas Elbracht, Tobias D. Götz and Nejila Parspour (University of Stuttgart, Germany)

Friday, June 6, 10:45 - 12:15

FA2: Simultaneous Wireless Information and Power Transfer

Reconfigurable Microwave Filter for Simultaneous Wireless Information and Power Transfer
Ruipeng Zhang, Jiteng Ma, Hao Li and Xiaoqiang Gu (University of Bristol, United Kingdom (Great Britain)); Gavin Watkins (Toshiba Research Europe Ltd., United Kingdom (Great Britain)); Andrew C M Austin and Shuping Dang (University of Bristol, United Kingdom (Great Britain))

Wireless Power and Data Transfer System by Decoupled Dipole Coils with Full-Duplex Mode
Peiyue Wang, Tianxu Feng, Jincheng Jiang and Ke Shi (Chongqing University of Posts and Telecommunications, China)

Experiments on a Communication and WPT Integrated System Using UWB-Based Position Estimation
Yuta Nakamoto (Softbank Corp., Japan); Naoki Hasegawa (Softbank, Japan); Takashi Hirakawa (SoftBank Corp., Japan); Yuki Takagi (Softbank corp., Japan); Yoshichika Ohta (Softbank Corp., Japan)

Simultaneous Energy Harvesting and Bidirectional Communication in a Dual-Band Batteryless IoT Node
Yasser Qaragoez, Sofie Pollin and Dominique Schreurs (KU Leuven, Belgium)

High Data-Rate SWIPT System with Adaptive Resonant Frequency Control and FSK Modulation
Shota Kobayashi (Shibaura Institute of Technology, Japan)

Friday, June 6, 12:15 - 14:00

POSTER SESSIONS

PS3A: WPT Coils and Resonators II

A Compact Solenoid Magnetic Coupler for UAV Wireless Charging
Tianxu Feng, Liukang Tang, Junjie Mou, Xi Wang, Qian Tang and Peiyue Wang (Chongqing University of Posts and Telecommunications, China)

Optimization of Ferrite Plate Arrangement for GA Sheet Coils for EV-WPT
Akane Arakawa (Dai Nippon Printing Co., Ltd.); Masato Okabe (Mobility Operations, Japan); Junya Otsuki (Mobility Operations & Dai Nippon Printing Co., Ltd., Japan); Hiroyuki Hase (Dai Nippon Printing Co., Ltd., Japan); Hitoshi Miyagawa (Dai Nippon Printing Co., Ltd.)

Optimisation of Three-Phase Winding for Roadway Inductive Power Transfer to Electric Vehicles
Brian Gu (University of Auckland, New Zealand); Seho Kim, Michael O'Sullivan and Grant A Covic (The University of Auckland, New Zealand)

Ferrite Core Designs for Orthogonal Planar Transmitter Coils for Wireless Charging of UAVs and Drones
Gianluca N Patrizi and Sampath Jayalath (University of Cape Town, South Africa)

Comparative Coreloss and Thermal Analysis of Ferrite Core Under Monoresonant and Multiresonant Compensation Circuits for Wireless Charging
Hassan Pervaiz (KU Leuven & Energyville, Belgium)

Structural Modeling and Assessment of Rigid Pavement With Embedded Dynamic Wireless Power Transfer Components
Oscar Andrés Moncada, Jin Li, Pablo Orosa Iglesias and John E Haddock (Purdue University, USA)

Design of Magnetic Flux Concentrator Plates Using SMC and Ferrite With Topology Optimization for WPT Systems in Industrial Forklifts
Giulio Poggiana, Matteo Zorzetto, Riccardo Torchio and Fabrizio Dughiero (University of Padova, Italy)

Mechanical Reliability of PCB-Based Wireless Power Transfer Coils
Ankush Chohan and Sampath Jayalath (University of Cape Town, South Africa)

Calculation of Eddy Current Losses and System Optimization in Magnetic-Field Coupled Wireless Power Transfer
Ziyuan Lin (Institute of Electrical Engineering, Chinese Academy of Sciences, China); Lifang Wang (IEE of CAS, China); Fang Li (Chinese Academy of Sciences, China); Chaolai Da (Institute of Electrical Engineering, Chinese Academy of Sciences, China & University of Chinese Academy of Sciences, China); Junqiao Huang and Ming Nie (Institute of Electrical Engineering, Chinese Academy of Sciences, China)

Coil Design for Power Stability in WPT Based on Curve-Surfaced Characteristics
Ruihan Ma, Shuang Li, Yu Xiao, Ming Liu and Chengbin Ma (Shanghai Jiao Tong University, China)

Friday, June 6, 12:15 - 14:00

PS3B: Power Converter II

A Comparison of Soft-Switching Active Bridge Converters for Wireless Power Transfer Systems
Ryohei Okada and Ryosuke Ota (Tokyo Metropolitan University, Japan); Nobukazu Hoshi (Tokyo University of Science, Japan)

Dual-Frequency Reconfigurable s/SP WPT System With Multiple Charging Modes Using Pulse Density Modulation
Zhiwei Xue (The University of Hong Kong, Hong Kong); Kt Chau and Wei Liu (The Hong Kong Polytechnic University, Hong Kong); Rui Lyu (The University of Hong Kong, Hong Kong); Yunhe Hou (University of Hong Kong, China)

Load-Independent ZVS Class-E Inverters and Active Rectifiers Using Mobius Transform Filters
Robert A Moffatt (Etherdyne Technologies Inc., USA); Goran Popovic (Etherdyne Technologies, Inc., USA)

Load-Independent Class-E/F2 Topologies for Low-Loss UHF Power Inverters
Laura C. Medina (SENER Aeroespacial, Spain); Jesús Borjas, Yurena Lorenzo and José A García (Universidad de Cantabria, Spain)

An on Board Charger and Wireless Receiver Integrated Topology Based on Decoupled Magnetic Circuit and Multifunction Power Bridge
Wentao Wu and Ming Liu (Shanghai Jiao Tong University, China)

Frequency Control for Improving Power Factor in Dynamic Wireless Power Transfer to Electric Vehicle
Yutaka Shikauchi (The University of Tokyo, Japan & Advanced Energy, Japan); Osamu Shimizu and Hiroshi Fujimoto (The University of Tokyo, Japan); Kenichiro Takahashi (Honda R&D, Japan)

An Impedance Compression Network for a Current Source Based Inductive Power Transfer System
Bharat Vardani (University of Auckland, New Zealand); Duleepa J Thrimawithana and Grant A Covic (The University of Auckland, New Zealand)

Lumped-Element Model Approach to Suppression of Radiation of Resonator-Based Inductive WPT System
Nikita Mikhailov, Marina Abrosimova, Evgenii Maiorov, Alena Shchelokova and Pavel Belov (ITMO University, Russia)

Dual-Receiver Wireless Power Transfer System With Constant Output Voltage Against Resonance Mismatch via Front-End Frequency Control
Saidul Alam Chowdhury (University of Auckland, New Zealand); Angkur Barua (Chittagong University of Engineering and Technology, Bangladesh); Mingdong Edward Han, Aoyang Laurence Li and Aiguo Patrick Hu (The University of Auckland, New Zealand)

Investigation of Maximum Efficiency in WPT in the MHz Band Under Varying Load and Coupling Coefficient While Satisfying ZVS
Kotaro Takayama, Weisen Luo and Takehiro Imura (Tokyo University of Science, Japan); Yoichi Hori (Tokyo University, Japan)

A Non-Linear Model of an Impedance Compression Network for Inductive Charging of Electric Vehicles
Cody Liu (University of Auckland, New Zealand); Duleepa J Thrimawithana, Feiyang Lin and Grant A Covic (The University of Auckland, New Zealand); Morris Kesler (WiTricity Corporation, USA)

Friday, June 6, 12:15 - 14:00

PS3C: Progress in Far Field WPT II

RF Energy Harvester Design Using a Dual-Band Rectenna for Ultra-Low-Power Electronic Systems
Shabnam Parween (National Institute of Technology, Silchar, Assam, India); Banani Basu (NIT Silchar, India); Taimoor Khan (National Institute of Technology Silchar, India)

Rectangular Subarrays Tiling Method for Isophoric Microwave Power Transmit Arrays
Chunhuai Xue (School of Electro-Mechanical Engineering, Xidian University, China); Xun Li and Longfei Liu (Xidian University, China)

The Characteristics of Rectifiers With Frequency Modulated Waves Input
Takashi Hirakawa (SoftBank Corp., Japan); Naoki Hasegawa (Softbank, Japan); Yuta Nakamoto (Softbank Corp., Japan); Yuki Takagi (Softbank corp., Japan); Yoshichika Ohta (Softbank Corp., Japan)

A Bandwidth-Enhanced Metasurface for Wireless Energy Harvesting
Xiangyan Liu, Ning Liu and Xianjun Sheng (Dalian University of Technology, China)

Coexistence Challenges: Analyzing SBSP-Induced Interference in Terrestrial Communication Systems
André Silva Santos (IT Aveiro, Portugal); Nuno Borges Carvalho (Universidade de Aveiro, Portugal & InstitutodeTelecomunicacoes, Portugal); Ricardo Figueiredo (Instituto de Telecomunicações, Portugal); Aidan Cowley (ESA, European Union)

Design of Transmit and Receive Transducers in Ultrasonic Wireless Transmission
Xinyue Man and Chunying Wang (Harbin Engineering University, China)

Enabling SWIPT With Machine Learning-Based Multisine Signal Classification
Petros Stylianou and Elio Faddoul (University of Cyprus, Cyprus); Mohamed Korium (Lappeenranta-Lahti University of Technology, Finland); Ioannis Krikidis (University of Cyprus, Cyprus)

Study on Improvement of Microwave Penetration Through Wall by Applying Resonant-Type Wireless Power Transfer
Yuki Yano, Naoki Shinohara, Tomohiko Mitani and Bo Yang (Kyoto University, Japan)

Friday, June 6, 14:00 - 15:30

FA3: Optimized Solutions to Transmit and Receive RF Power

Broadband Circularly Polarized Antenna With Stable Flat-Top Gain
Nguyen Danh Manh, Man, Le Xuan The Anh, The-Anh and Kyusik Woo (Soongsil University, Korea (South)); Choi Yunsung (Soongsil, Korea (South)); WonHo Jang (Korea Radio Promotion Association, Korea (South)); Chulhun Seo (Soongsil University, Korea (South))

Multi-Directional Energy Focusing for Next-Generation Wireless Power Transmission Networks
Amarnath Kumar (IIT Guwahati, India & Indian Institute of Technology, India); Chayanika Baishya (IIT Guwahati, India); Sisir Kumar Nayak (Indian Institute of Technology Guwahati, India)

Designing of a High Gain Circular Polarization Wireless RF Energy Harvesting System with Non-Dead Zone Region
DucDung Nguyen (University of Soongsil & BWERC, Korea (South)); Choi Yunsung (Soongsil, Korea (South)); Kyusik Woo and Chulhun Seo (Soongsil University, Korea (South))

Experimental Validation of the Transparent Fresnel Zone Lens at 28 GHz
Amit Kumar Baghel (Universidade de Aveiro, Portugal & IT AVEIRO, Portugal); Vítor Sencadas (Universidade de Aveiro, Portugal); Nuno Borges Carvalho (Universidade de Aveiro, Portugal & InstitutodeTelecomunicacoes, Portugal); Pedro Pinho (UA - Universidade de Aveiro & IT - Instituto de Telecomunicações, Portugal)

Interference Study of Power Transmission Microwaves to Pilot Signal Receiving Antenna
Shun Yoshinari and Koutarou Matsumoto, Sr (Kyoto University & Research Institute for Sustainable Humanosphere Shinohara Labratory, Japan); Tomohiko Mitani and Naoki Shinohara (Kyoto University, Japan)

Friday, June 6, 14:00 - 15:30

FB3: Advances in Near-Field WPT I

Meta-Model Based WPT Optimization: UAV Application
Mohammed Terrah (GeePs CentraleSupelec)

Modeling and Performance of a 75 kW Industrial Wireless Charger
Andrew W Green (Delta Energy Systems, Germany)

Investigation of Two Types of Modular WPT Systems for Heavy-Duty Vehicles
Lei Li, Feiyang Lin and Grant A Covic (The University of Auckland, New Zealand)

Multiplexing Wireless Power Transfer System for EV Charging Stations
Shibo Zhang, Jianning Dong and Pavol Bauer (Delft University of Technology, The Netherlands)

Design Considerations and Effects of Different Quality Factors of the Secondary Pad on Efficiency in Wireless Power Transfer Systems
Daniel Fritz and Lukas Elbracht (University of Stuttgart, Germany); Nejila Parspour (Universität Stuttgart, Germany)

Friday, June 6, 14:00 - 15:30

FC3: Biomedical Applications II

Miniaturized Electrodynamic Generator for Wireless Power Transfer and Positionning Control of an Endoscopic Capsule
Nicolas Garraud (CEA, France); Anh-Tuan Vo (CEA-Leti, France)

A Power Efficient LCC-C Compensated Wireless Charging System for Head Mounted Deep Brain Stimulation
Kemal Sahin and Sevilay Cetin (Pamukkale University, Turkey)

A High Power Density Wireless Power Transfer System for Total Artificial Hearts
Jamie Gawith and James Smith (University of Bath, United Kingdom (Great Britain))

Wireless Power Transfer System for Motorized Intramedullary Nail
Adina B. Barba (University of Rome Tor Vergata & Radio6ense Srl, Italy); Carolina Miozzi (University of Rome "Tor Vergata", Italy & Radio6ense Srl, Italy); Sara Amendola (University of Rome Tor Vergata & Radio6ense srl, Italy); Francesco Romoli Venturi (Radio6ense srl, Italy); Piero Tognolatti (University of L'Aquila, Italy); Gaetano Marrocco (University of Rome Tor Vergata, Italy)

Optical Wireless Charging to Deeply Implantable Biomedical Devices Using 810 nm NIR LED: a Feasibility Study Syifaul Fuada (University of Oulu, Finland & Universitas Pendidikan Indonesia, Indonesia); Mariella Särestöniemi (University of Oulu & Research Unit of Health Sciences and Technology and Center for Wireless Communication, Finland); Marcos Katz (University of Oulu, Finland)

Friday, June 6, 16:00 - 17:00

FA4: WPT Control

Online Estimation of Coupling Coefficient and Output Voltage of Wireless Power Transfer System Based on Primary Side Monitoring and Data Processing
Mingdong Edward Han and Aoyang Laurence Li (The University of Auckland, New Zealand); Saidul Alam Chowdhury (University of Auckland, New Zealand); Aiguo Patrick Hu (The University of Auckland, New Zealand)

Switch-Controlled Variable Inductance in Wireless Power Transmitters for Stable Coupling Coefficient
Enrico Alfredo Bottaro (STMicroeletronics, Italy); Giovanni Vinci, Mario Pavone and Davide Auteri (STMicroelectronics, Italy)

A Near-Field Communication Coil Integrated With a Metasurface
Zahra Hamzavi-Zarghani and Jasmin Grosinger (Graz University of Technology, Austria)

Friday, June 6, 16:00 - 17:00

FB4: Misalignment and Mismatch Tolerant WPT

A Misalignment-Insensitive WPT System Using Load Tracking Control Strategy for AGVs
Lai Ching-Ming (National Chung Hsing University, Taiwan); Yu-Feng Chung (National Taitung University, Taiwan); Tomokazu Mishima (Kobe University, Japan)

Optimization of the Wireless Power Transfer Receiver in Electromagnetic Halbach Array System for Enhanced Transmission Uniformity
Ziyi Ran, Xianghe Luo and Dibin Zhu (Shanghai Jiao Tong University, China)

A Misalignment-Tolerant Autonomous Charging-Mode Management for Stationary Wireless EV Charging
Rui Lyu (The University of Hong Kong, Hong Kong); Kt Chau and Wei Liu (The Hong Kong Polytechnic University, Hong Kong); Yunhe Hou (University of Hong Kong, China)

Friday, June 6, 16:00 - 17:00

FC4: Advances in Near-Field WPT II

Performance Evaluation of Carrier Harmonics Self-Excitation Type Three-Phase PCB Rotary Transformer with Varying Air- Gap Length

Masahiro Aoyama and Haruhiko Terada (Shizuoka Institute of Science and Technology, Japan)

Integrated Resonant Track for High-Efficiency Wireless Power Transfer in ISM Bands

Ananth Bharadwaj (Birla Institute of Technology Science Pilani Dubai Campus, United Arab Emirates & Birla Institute of Technology Science Pilani Goa Campus, United Arab Emirates); Molefi Makhetha (Durban University of Technology, South Africa & Central University of Technology, South Africa)

Design of a Room-Sized Volumetric Resonator for Wireless Power Transfer With Enhanced Safety

Aigerim Jandaliyeva, Nikita Mikhailov, Alena Shchelokova and Pavel Belov (ITMO University, Russia)

Friday, June 6, 17:00 - 17:30

Closing