

A nighttime photograph of the San Diego skyline, featuring several illuminated skyscrapers and buildings. The lights from the buildings are reflected in the water in the foreground. The sky is a deep blue, and the overall scene is vibrant and modern.

WPTCE 2023

WIRELESS POWER TECHNOLOGY
CONFERENCE & EXPO

JUNE 4-8, 2023 | SAN DIEGO, CALIFORNIA

AGENDA | Sunday June 4th

Be in the know.
Use this link to
access our detailed
event schedule.



<https://wptce2023.exordo.com/programme/at-a-glance>

Follow us on LinkedIn @WPTCE
and use our hashtag #WPTCE

7:30 - 8:30

Registration

8:30 - 10:30

WPT School (Topaz)
Basics of Coupled WPT
Fundamental theory and Electronics

10:30 - 11:00

Break

11:00 - 12:30

WPT School (Topaz)
Basics of Coupled WPT
Magnetics

12:30 - 1:30

WPT School
Lunch

1:30 - 3:30

WPT School (Topaz)
Basics of Radiative WPT

3:30 - 4:00

Break

4:00 - 5:30

WPT School (Topaz)
Basics of Radiative WPT

AGENDA | Monday June 5th

7:30 - 8:00	Registration	
8:00 - 9:00 9:00 - 10:00 10:00 - 10:30 10:30 - 11:30 11:30 - 12:30	WPT School (Topaz) WPT Project Work Choice of Coupled or Radiative WPT Duleepa Thrimawithana and Huib Visser	WPT Workshop 1 (Diamond) MIMO WPT
		WPT Workshop 2 (Diamond) MIMO WPT
		Break
		WPT Workshop 3 (Diamond) MHZ Inductive WPT
		WPT Workshop 4 (Diamond) MHZ Capacitive WPT
12:30 - 1:30	WPT School & Workshop Lunch	
1:30 - 2:30	WPT Workshop 5 (Diamond) ZVS MHZ Converters	
	WPT Workshop 6 (Diamond) WPT for IoT	
3:30 - 4:00	Break	
4:00 - 4:45	Workshop (Diamond): EMROD	
4:45 - 5:30	Workshop (Diamond): WiTricity	
7:00 - 9:00	Welcome Reception at the USS Midway Museum Sponsored by Ossia	

AGENDA | Tuesday June 6th

7:30 - 8:00	Registration		
8:00 - 9:30	PLENARY SESSION (Emerald Ballroom) The Future of Sustainably Powering IoT: Hatem Zeine, Ossia WPT: A Paradigm Shift for the Next Gen Prof. Ron Hui, Nanyang Tech. University Industry Keynotes: Powercast, NFC Forum		
	Break		
	Session 1A (Topaz): EV Charging	Session 1B (Topaz): RF Electronics	Expo Setup
Panel Discussion (Topaz) Three-Phase WPT	Panel Discussion (Topaz) Long Distance WPT		
11:00 - 12:00	Industry Expo Lunch		
1:00 - 2:30	Session 2A (Topaz): WPT in Complex Environments	Session 2B (Diamond): EMI/EMC & CPT	Industry Expo (Crystal Ballroom)
	Poster Session & Student Competition in Expo Hall/Lobby		
4:00 - 5:30	Session 3A (Topaz): Detection and Parameter Estimation	Session 3B (Diamond): Evaluation of WPT Systems	
	PLENARY SESSION (Emerald Ballroom) Women in (Wireless) Power Valentina Palazzi (University of Perugia), Jennifer Grenz (Ossia), Jasmin Grosinger (Graz University of Technology), Amy Barzdukas (WiTricity)		
5:30 - 6:30			

AGENDA | Wednesday June 7th

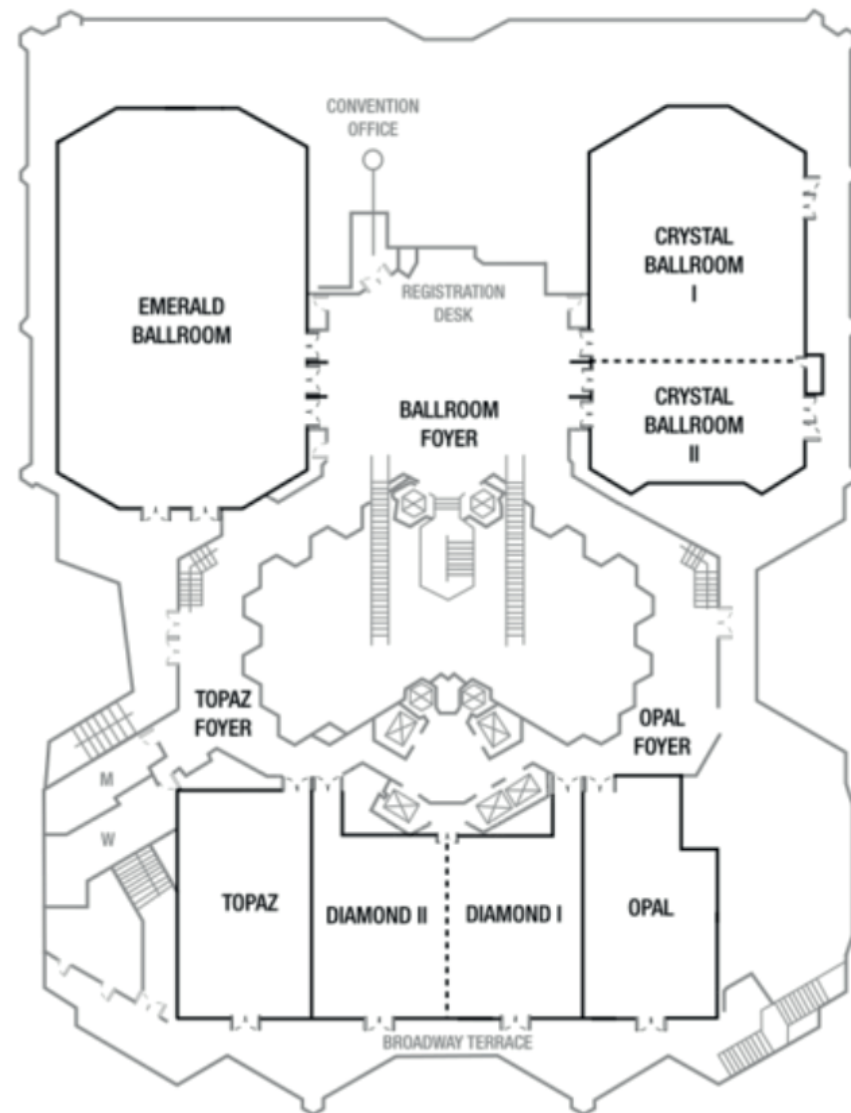
7:30 - 8:00	Registration	
8:00 - 10:30	PLENARY SESSION (Emerald Ballroom) The Future of Wireless EV Charging Panel ASPIRE, Electreon, Kenworth, SANDAG, SAE Standards Equity in Wireless Power Panel Discussion Sandra Cruz-Pol (NSF), Ivonne Santiago (UTEP), and Nuno Carvalho (MTT-S) Industry Keynotes: WITricity	
10:30 - 10:45	Break	
10:45 - 12:00	Session 4A (Topaz): IPT Magnetics	Session 4B (Diamond): Antennas
	Industry Expo (Crystal Ballroom)	
12:00 - 1:00	Industry Expo Lunch	
1:00 - 2:30	Session 5A (Topaz): In-motion WPT	Session 5B (Diamond): Far Field Technology
2:30 - 4:00	Poster Session in Expo Hall/Lobby	
	Industry Expo (Crystal Ballroom)	
4:00 - 5:30	Session 6A (Topaz): Controls and Converters	Session 6B (Diamond): Sensor Technology
5:30 - 6:30		
6:30 - 8:00	Conference Banquet at the Westin Bayview (Emerald Ballroom) Sponsored by WiGL	

AGENDA | Thursday June 8th

7:30 - 8:00	Registration	
8:00 - 9:30	PLENARY SESSION (Emerald Ballroom) WPT based on Mobile-Base Station for Beyond-5G/6G Dr. Naoki Hasegawa, Softbank DARPA's Pathway to Energy Web Dominance Dr. Paul Jaffe, Col. Paul Calhoun, Robert Winsor Industry Keynotes: Aeterlink, AirFuel	
9:30 - 9:45	Break	
9:45 - 12:30	Session 7A (Topaz): IPT System Design and Optimization	Session 7B (Diamond): Biomedical & Wearables
	Expo Breakdown	
12:30 - 1:30	Awards Luncheon & Conference Conclusion (Emerald Ballroom)	
1:30 - 3:00	AirFuel RF Workshop (Topaz) Extra Registration	
3:00 - 3:30	Break	
3:30 - 5:00	AirFuel RF Workshop (Topaz) Extra Registration	

VENUE MAP

LEVEL 2



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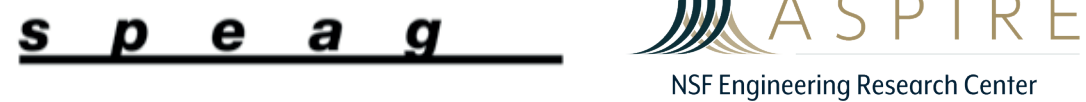
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EXHIBITORS

PLATINUM EXHIBITORS



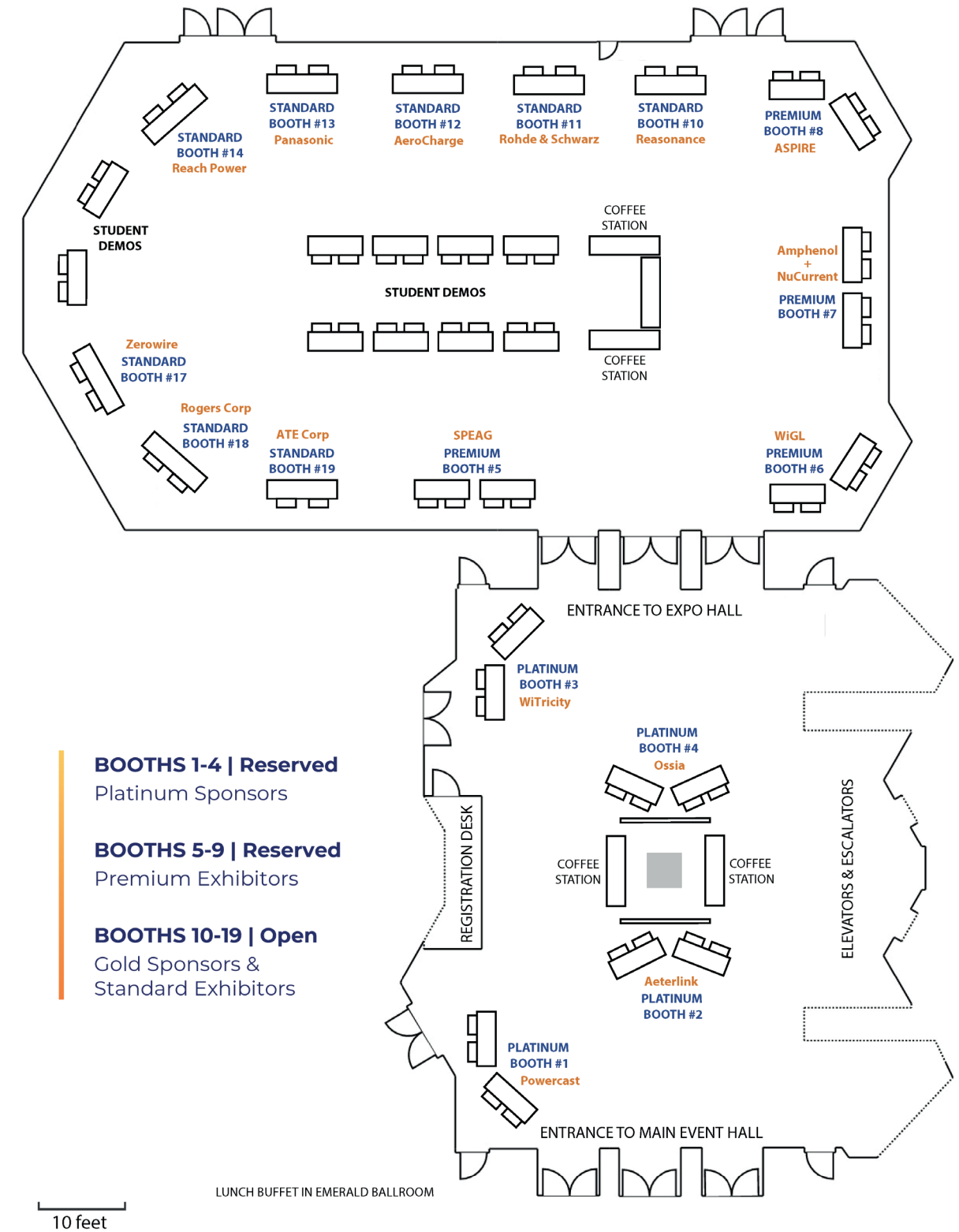
PREMIUM EXHIBITORS



STANDARD EXHIBITORS



EXPO FLOOR MAP



CRYSTAL BALLROOM EXPO FLOOR PLAN

LOCATION



VENUE

The Westin San Diego Bayview

The Westin San Diego Bayview hotel is in the heart of downtown San Diego near the Gaslamp Quarter and a variety of shopping and dining options. The hotel is 3 miles (5 km) from the San Diego International Airport and a short walk or trolley ride to top area attractions such as Little Italy and the San Diego Zoo.

400 West Broadway, San Diego CA 92101 USA

HOST CITY

San Diego, California

With picture perfect weather, miles of sandy beaches, cool ocean breezes, dozens of fun and educational attractions, and a laid-back attitude, San Diego attracts more than 30 million visitors annually. The city retains an intimate charm with charismatic neighborhoods and communities such as Carlsbad, Coronado, Del Mar, the Gaslamp Quarter, Point Loma, Chula Vista, Old Town, La Jolla, North Park, and many others. Visitors enjoy popular destinations, including LEGOLAND, the San Diego Zoo, PETCO Park, Scripps Aquarium, Sea World, USS Midway Museum, and cultural attractions that dot the city, including 18 museums spanning 1,200 acres in world-class Balboa Park. Whether you want to play, relax, explore, or go on unique adventures, world-class beaches and attractions are here waiting for you.



SPEAKERS



Amy Barzdukas

Consumers Want Wireless Charging

WiTricity, CMO

Amy Barzdukas is the Chief Marketing Officer at WiTricity, responsible for leading global marketing for WiTricity and driving the company through its next wave of growth as EVs with WiTricity's patented wireless charging solutions become commercially available. Barzdukas has more than 25 years of B2B and consumer marketing, communications, and product management experience. Prior to WiTricity, Barzdukas was CMO of Omnitracs, the global pioneer of fleet management solutions to transportation and logistics companies. Before Omnitracs, Barzdukas was CMO and Executive Vice President at Poly, Inc. and Polycom, Inc., Vice President, Worldwide Marketing, Business Personal Systems at Hewlett Packard, Inc., and held various positions at Microsoft.



Col. Paul J. Calhoun

POWER: Persistent Optical Wireless Energy Relay, and DARPA's pathway to Energy Web Dominance

Defense Advanced Projects Research Agency (DARPA), Program Manager

Col. Paul J. Calhoun is a program manager at the Defense Advanced Projects Research Agency (DARPA) leading research in distributed air operations and resilient energy networks. He is also an Air Force experimental test pilot and combat veteran with over 3,400 hours in the C-17, KC-46, T-38, F-16, F/A-18, F-15 and 30 other aircraft.



Dr. Ahmad Glover

Working Together to Build the Integrated tWPT Networks to Harvest Meaningful Power

WiGL, President & Founder

Dr. Glover is CEO and Founder of WiGL and the inventor of WiGL technology. He has successfully directed and managed large-scale energy transfer programs for the U.S. military for over 30+ years. He served as a strategic technical advisor for the Federal Aviation Administration, numerous municipal governments, and private industry companies. Dr. Glover served 23 years in the U.S. Air Force, where he led high-tech acquisitions programs overseeing multi-billion-dollar space and special operations programs.

SPEAKERS

**Charles Goetz**

Wireless Power: Unleashing AI's Full Potential

Powercast, CEO

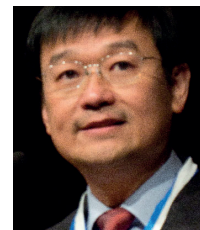
Charles Goetz is the CEO of Powercast Corporation, the leading provider of far-field RF-based wireless power technology. He has more than 30 years of professional management, financial and startup experience. Charles was the VP of Theta Fund from 2003 to 2010 and is a former Goldman Sachs managing director. He can be reached at cgoetz@powercastco.com.

**Sanjay Gupta**

The Future of Wireless Power

Chairman and President, AirFuel Alliance

Dr. Gupta is an entrepreneurial technology executive with expertise in conceptualizing and launching innovative hardware, firmware, and software systems solutions. He has broad experience identifying market opportunities to create revenue-generating products, developing and implementing product strategy, and establishing market leadership. At Motorola Mobility, Dr. Gupta developed and delivered multi-generation product and system solutions for a \$1B USD business bringing 80+ new products to market every year. Dr. Gupta has a track record of 'industry firsts', such as mixed signal wireless charging ASIC, Dell Laptop with wireless charging, Android smartwatch and fitness monitoring ecosystem, and the first smartphone with Wi-Fi and Voice Over IP.

**Professor Ron Hui**

WPT: A Paradigm Shift for the Next Generation

Nanyang Tech. University

Professor Ron Hui received his Ph.D degree at Imperial College London in 1988. Previously he held academic positions at the University of Nottingham, University of Sydney, and University of Hong Kong. Presently, he is the MediaTek Endowed Professor at Nanyang Technological University and Chair Professor of Power Electronics at Imperial College London. His research covers power electronics, wireless power, smart grid and lighting technology. He has over 120 patents adopted by industry and published over 320 refereed journal papers with five IEEE Transactions Prize Paper Awards. His inventions underpin the key dimensions of the world's first wireless charging standard "Qi" launched in 2010 by the Wireless Power Consortium.

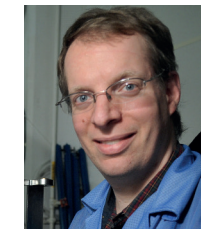
SPEAKERS

**Dr. Naoki Hasegawa**

WPT Based on Mobile-Base Station for Beyond-5G/6G

Softbank

Naoki Hasegawa received the M.E. and Ph.D. (Eng.) degrees in electrical engineering from Kyoto University, Kyoto, Japan, in 2013, and 2018. He was a Research Associate with The Japan Aerospace Exploration Agency from 2013 to 2015. He is now a system design R&D department researcher in the technology research laboratory at SoftBank Corp., Tokyo, Japan. His current research interests include integration of wireless power transfer to mobile communication systems. Dr. Hasegawa is a member of the IEEE MTT-S, an assistant secretary of the technical committee on IEICE microwave, a member of the international committee on IEICE wireless power transfer.

**Dr. Paul Jaffe**

POWER: Persistent Optical Wireless Energy Relay, and DARPA's pathway to Energy Web Dominance

Engineer and Researcher at the U.S. Naval Research Laboratory

Dr. Paul Jaffe's nearly 30-year tenure as an engineer and researcher at the U.S. Naval Research Laboratory has included electronics development for space missions and research in power beaming and space solar.

**Mike McCamon**

The NFC Forum Wireless Charging Specification's Impact on Society and the Wireless Power Industry

NFC Forum

Mike McCamon is a seasoned technology executive with over 30 years of experience in the tech industry. He is currently the Executive Director of the NFC Forum, an industry association dedicated to advancing NFC, standards and use cases. Under his leadership, the NFC Forum has grown to include over 300 member companies from all over the world. Demonstrating a wide range of skills and passions he has been both the inaugural executive director of the Bluetooth Special Interest Group and later on the executive team that launched Water.org. He also led high-growth teams at Apple, Iomega, Intel and several startups.

SPEAKERS



Doug Stovall

Welcome Reception Introduction

Ossia, CEO

Doug Stovall is a wireless industry veteran, executive, board member, and strategic advisor. His experience is rooted in both public and private telecommunications, Cloud/SaaS, Mobile and Integrated Circuit companies. As a strategic executive, he has a proven track record of successfully guiding leading-edge technology startups and growth stage companies to exits. This includes nine successful exits, acquisitions, and numerous IPOs. Previous to Ossia, Doug held executive positions with Mobivity, Hipcricket, Inc., Acuity Mobile, Inc., TeleCommunications Systems, Inc., Aether Systems, Inc. and Xpedior, Inc. Doug's passion for technology has established him as a respected leader within the technology startup world. From proven track record of delivering significant value to his motivating leadership style, Doug is a global visionary and entrepreneur.



Yuji Tanabe

Wireless Power Transfer Applications for Carbon Neutrality and Healthcare Solutions

Aeterlink, CEO

Yuji Tanabe received a Ph.D. degree in Engineering from Waseda University in 2011. He joined Prof. Ada Poon's group at Stanford University from 2011 to 2019 as a research scientist. His research interests include the design and development of wireless powering systems for IoE (Internet of Everything), Factory Automation, and medical applications. In 2020, he co-founded Aeterlink Corp with Ryo Iwasa, a startup that develops and provides long-range wireless power transfer technologies and solutions to realize a wire-free digital world.



Robert Winsor

POWER: Persistent Optical Wireless Energy Relay, and DARPA's pathway to Energy Web Dominance

Optics, Photonics and RF Systems Expert

Mr. Robert Winsor has been working in fields of optics, photonics and RF systems for over 30 years, with heavy emphasis on the topics of Free-Space Optical Communications, Optical Wireless Power Beaming, and related systems.

SPEAKERS



Hatem Zeine

The Future of Wireless Power and the Adoption Path

Ossia, President & CTO

Hatem Zeine, Founder and President at Ossia, is an avid inventor and proven technologist with more than three decades of technical development experience and expertise. Hatem founded Ossia in 2008, invented and developed Cota in stealth mode, launched the company in 2013 at TechCrunch Disrupt, and now closely manages Ossia's global team of engineers and product members who are responsible for both the vision and execution of Cota.

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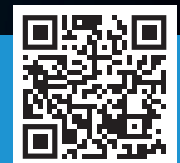
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DETAILED SCHEDULE - Sunday, June 4, 2023

7:30am | Registration

8:30am | Topaz Room

WPT School Session 1: Basics of Coupled WPT
 Dr. Duleepa Thrimawithana (New Zealand) - The University of Auckland
 Prof. Grant Covic (New Zealand) - The University of Auckland

10:30am | Topaz Foyer | Break

11:00am | Topaz Room

WPT School Session 2: Basics of Coupled WPT
 Prof. Grant Covic (New Zealand) - The University of Auckland
 Dr. Duleepa Thrimawithana (New Zealand) - The University of Auckland

12:30pm | Topaz Foyer | Lunch

2:00pm | Topaz Room

WPT School Session 3: Basics of Radiative WPT
 Prof. Hubregt Visser (Netherlands) - imec Netherlands

4:00pm | Topaz Foyer | Break

4:30pm | Topaz Room

WPT School Session 4: Basics of Radiative WPT
 Prof. Hubregt Visser (Netherlands) - imec Netherlands

DETAILED SCHEDULE - Monday, June 5, 2023



7:30am | Registration

WPT School Morning Session

8:00am | Topaz Room

WPT School Project Work

Prof. Hubregt Visser (Netherlands) - imec Netherlands
 Dr. Duleepa Thrimawithana (New Zealand) - The University of Auckland
 Prof. Grant Covic (New Zealand) - The University of Auckland

WPT Workshop Morning Session

8:00am | Diamond Room

WPT Workshop Session 1: MIMO WPT Theory from Inductive to radiative

9:00am | Diamond Room

WPT Workshop Session 2: Millimeter Wave WPT

10:00am | Diamond Foyer | Break

10:30am | Diamond Room

WPT Workshop Session 3: MHZ Inductive WPT

11:30am | Diamond Room

WPT Workshop Session 4: State of Art MHZ Capacitive Wireless Power

12:30pm | Diamond Foyer | Lunch (Combined WPT School and WPT Workshop)

WPT School and WPT Workshop Combined Afternoon Session

1:30pm | Diamond Room

WPT Workshop Session 5: Design and ZVS tuning of power electronic converters in MHZ WPT systems

2:30pm | Diamond Room

WPT Workshop Session 6: Emerging Topics in WPT for IoT

3:30pm | Diamond Foyer | Break

4:00pm | Diamond Room

WPT Workshop Industry Speaker: Greg Kushnir, EMROD

4:45pm | Diamond Room

WPT Workshop Industry Speaker: Justin Scalzi, WiTricity

MONDAY, JUNE 5TH SPECIAL EVENT

7:00pm | USS Midway Museum

Welcome Reception

Sponsored by Ossia



DETAILED SCHEDULE - Tuesday, June 6, 2023

7:30am | Registration

8:00am | Emerald Ballroom

Plenary Session

- **Opening Keynote Presentation**
Dr. Regan Zane (United States) - Utah State University
- **The Future of Sustainably Powering IoT**
Hatem Zeine (United States)1 (I. Ossia Inc.)
- **WPT: A Paradigm Shift for the Next Generation**
Dr. Ron Hui (Singapore)1 (I. Nanyang Technological University)
- **Powercast Industry Keynote Presentation**
Charlie Goetz (United States)1 (I. Powercast)
- **NFC Forum Industry Keynote Presentation**
Mike McCamon (United States)1 (I. NFC Forum)

9:30am | Foyer | Break

9:45am | Diamond Room

1A: EV Charging

- **Are Markets and WPT Ready for Each Other?**
Marina Dobrinchuk (Italy)1 (I. Reasonance)
- **A High-Power Large Air-Gap Multi-MHz dc-dc Capacitive Wireless Power Transfer System for Electric Vehicle Charging**
Sounak Maji (United States)1, Dheeraj Etta (United States)1, Khurram Afridi (United States)1 (I. Cornell University)
- **The Influence of the Compensation Network on the Radiated Emission of an Automotive WPT System**
Tommaso Campi (Italy)1, Silvano Cruciani (Italy)2, Francesca Maradei (Italy)3, Mauro Feliziani (Italy)1 (I. University of L'Aquila, 2. Tor Vergata University of Rome, 3. Sapienza University of Rome)
- **A Novel Active Impedance Compression Network for IPT EV Charging**
Cody Liu (New Zealand)1, Duleepa Thrimawithana (New Zealand)1, Grant Covic (New Zealand)1, Morris Kesler (United States)4 (I. The University of Auckland, 2. WiTricity Corporation)
- **Impedance Plane Based Interoperability Assessment of Two High-Power 50 kW WPT Systems for EV Charging**

Carina Damhuis (Germany)1, Denis Kraus (Germany)1, Grant Covic (New Zealand)3, Hans-Georg Herzog (Germany)1, Patrick Lawton (New Zealand)3, Feiyang Lin (New Zealand)3 (I. Technical University of Munich, 2. The University of Auckland)

9:45am | Topaz Room

1B: RF Electronics

- **Study on 920MHz band FSK demodulation circuit using SAW filters for SWIPT realization**
Hikaru Hamase (Japan)1, Yuki Tanaka (Japan)2, Takuma Ikeda (Japan)1, Manabu Gokan (Japan)1, Hiroyuki Tani (Japan)1, Hiroshi Sato (Japan)2, Yoshio Koyanagi (Japan)2 (I. Panasonic Holdings Corporation, 2. Panasonic System Networks R&D Co., Ltd.)
- **A Compact Triple-Band Rectifier and Dual-Band Rectenna for IoT Applications**
Alassane SIDIBE (France)1, Alexandru Takacs (France)1, Taki Eddine DJIDJEKH (France)1 (I. LAAS-CNRS)
- **A Modular Wireless Power Source Consisting of Injection-Locked RF Generators**
Robert Moffatt (United States)1, Goran Popovic (United States)1 (I. Etherdyne Technologies, Inc.)
- **Harvesting Watts at Ultra-High Frequencies**
Shanti Garman (United States)1, Vanessa Affandy (United States)1, Joshua Smith (United States)1 (I. University of Washington)
- **A Programmatic Method For Selecting Transistors For High-Frequency Class-E Amplifiers**
Billie O'Connor (Canada)1, Chris Rouse (Canada)1, Brent Petersen (Canada)1 (I. University of New Brunswick)

11:00am | Diamond Room

Panel: 3-phase WPT Systems

<NEED PANELISTS?>

DETAILED SCHEDULE - Tuesday, June 6, 2023

11:00am | Topaz Room

Panel: Long Distance Charging

- *Dinesh Kithany, WAWT, Founder and Chief Analyst - Moderator*
- *Greg Kushnir, CEO, EMROD - Panelist*
- *Bob Xu, Energous, Head of Marketing and Business Development - Panelist*
- *Prof. Nuno Calbarho, President of IEEE MTTTS - Panelist*
- *Yuki Tanaka, Panasonic System Network Laboratory Corporation - Panelist*
- *Chris Davlantes, CEO, Reach - Panelist*
- *Ori Mor, Founder and CBO, Wi-Charge - Panelist*
- *Dr. Ahmad Glover, President and Founder, WiGL - Panelist*

12:00pm | Crystal Ballroom | Industry Expo Lunch

1:00pm | Diamond Room

2A: WPT in Complex Environments

- **Electrifying the Sky: The Role of Wireless Power Transfer Technologies**
Didier CHASSAIGNE (France)1, cecile weulersse (France)1, Olivier CREPEL (France)1 (I. airbus)
- **Present and Near-Future of Long-Distance Laser Power Beaming**
Tom Nugent (United States)1 (I. PowerLight Technologies)
- **Parameter Optimization for Capacitance of Multi-Receiver Wireless Power Transfer System with Power Constraint**
Zhendong Wu (China)1, Mi Dong (China)1, Mengxuan Li (China)1, Li Li (China)1 (I. Central South University)
- **Preliminary Design of a Small Satellite for In-Orbit Demonstration of a Space Solar Power System**
TADASHI TAKANO (Japan)1, Kozo Hashimoto (Japan)2, Hiroyuki Nagayama (Japan)3, Yasuyuki Miyazaki (Japan)4, Osamu Mori (Japan)4, Yoshiyuki Fujino (Japan)6 (I. Nihon University, 2. kyoto university, 3. Mitsubishi Research Institute, 4. Institute of Space and Astronautical Sciences, 5. toyo university)

- **Highly Misalignment-Tolerant Series-Series IPT System with Overcurrent and Overpower Protection for Underwater Manta Robot**
Yao Wang (United States)1, Amr Mostafa (United States)1, Zilong Zheng (United States)1, Hua Zhang (United States)4, Jianzhong Zhu (United States)5, Fei Lu (United States)1 (I. Drexel University, 2. Rowan University, 3. University of Virginia)

1:00pm | Topaz Room

2B: EMI/EMC & CPT

- **Over-/Underestimation of Tier-2 and Tier-3 Compliance Evaluation for Electric Vehicle WPT Applications**
Jingtian Xi (Switzerland)1, Niels Kuster (Switzerland)1 (I. IT'IS Foundation)
- **Self-Tuning LCC Receiver for Improved Efficiency and EMI Mitigation in Spread-Spectrum Wireless Power Transfer**
Saidul Alam Chowdhury (Korea, Republic of)1, Dukju Ahn (Korea, Republic of)1 (I. Department of Electrical Engineering, Incheon National University)
- **A State Space Representation Model for Parasitic Losses in MIMO Capacitive Wireless Power Systems**
Aris van-Ieperen (Belgium)1, Stijn Derammelaere (Belgium)1, Ben Minnaert (Belgium)1 (I. University of Antwerp)
- **Pulse Frequency Modulation Control for Capacitive Power Transfer System with Flexible Output Voltage**
Zhiwei XUE (Hong Kong)1, K.T. Chau (Hong Kong)1, Wei Liu (Hong Kong)1, Tengbo Yang (Hong Kong)1, T.W. Ching (Hong Kong)1 (I. The University of Hong Kong)
- **Lateral Misalignment and Foreign Object Detection in Resonant Capacitive Power Transfer**
Christian Herpers (Canada)1, Chris Rouse (Canada)1 (I. University of New Brunswick)

2:30pm | Crystal Ballroom and Foyer

Poster Session #1 & Student Competition (Poster Presentations Listed at End of Program)

DETAILED SCHEDULE - Tuesday, June 6, 2023

4:00pm | Diamond Room

3A: Detection and Parameter Estimation

- **A Misalignment Tolerant Foreign Object Detection for EV Wireless Charging Applications**
Ali Ramezani (Canada)1, Sitan Wang (Canada)1, Matthew Perry (Canada)1 (1. eLeapPower)
- **High-Order Harmonic Currents Analysis for Accurate Coupling Coefficient Extraction in Multi-Transmitter Wireless Power Transfer System**
Sungryul Huh (Korea, Republic of)1, Seongho Woo (Korea, Republic of)1, Haerim Kim (Korea, Republic of)1, Jangyong Ahn (Korea, Republic of)1, Changyeob Chu (Korea, Republic of)1, Youngseok Lee (Korea, Republic of)1, Seungyoung Ahn (Korea, Republic of)1 (1. Cho Chun Shik Graduate School of Mobility KAIST)
- **Induced Voltage Estimation for IPT Applications with Reduced Characterisation Requirements**
Nunzio Pucci (United Kingdom)1, Juan Arteaga (United Kingdom)2, Paul Mitcheson (United Kingdom)1 (1. Imperial College London, 2. NewOrbit Space)
- **A New Receiver Detection and Fast System Activation Method for Wireless Power Transfer**
Shamsul Al-Mahmud (Finland)1, Yining Liu (Finland)1, Prasad Jayathurathnage (Finland)1, Jorma Kyrrä (Finland)1, Sergei Tretyakov (Finland)1 (1. Aalto University)
- **Bifurcation-Based Parameter Extraction Method for IPT Systems with Sensorless Metal Object Detection**
Aaron Scher (United States)1, Michal Košík (Czech Republic)2 (1. Oregon Institute of Technology, 2. Czech Technical University)

4:00pm | Topaz Room

3B: Evaluation of WPT Systems

- **Wireless Power Technology - Landscape, Size, Trends and Insights**
Dinesh Kithany (United Kingdom)1 (1. WAWT - Wired and Wireless Technologies)

• WPT RF Exposure Testing and Certification Challenges

Kaitlin O'Keefe (United States)1, Steve Liu (United States)1, Steve Hayes (United States)1 (1. Element Materials Technology)

• Effects of Coil Geometries on the Performance of Electromagnetic Halbach Array Wireless Power Transfer Systems

Tamuno-omie Gogo (United Kingdom)1, Dibin Zhu (China)2 (1. Univeristy of Exeter, 2. Shanghai Jiao Tong University)

• Efficiency—Throughput Trade-off of Pulsed RF Waveforms in Simultaneous Wireless Information and Power Transfer

Nachiket Ayir (Finland)1, Taneli Riihonen (Finland)1 (1. Tampere University)

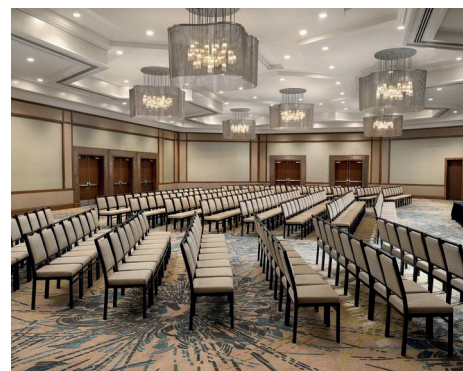
• Figures-of-Merit for Wireless Power Transfer

Ricardo Pereira (Portugal)1, Nuno Carvalho (Portugal)2 (1. Instituto de Telecomunicações, 2. UNIVERSITY OF AVEIRO AND IT)

5:30pm | Emerald Ballroom

Women in (Wireless) Power

- Valentina Palazzi (Italy)1 (1. Università degli Studi di Perugia)
- Jennifer Grenz (United States)1 (1. Ossia Inc.)
- Jasmin Grosinger (Austria)1 (1. Graz University of Technology)
- Amy Barzdukas (United States)1 (1. WiTricity Corporation)



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DETAILED SCHEDULE - Weds., June 7, 2023

7:30am | Registration

8:00am | Emerald Ballroom

Plenary Session**Panel: Future of Wireless EV Charging**

- Michael Masquelier, ASPIRE (Utah State University) – Moderator
- Stefan Tongur, Electreon – Panelist
- Jeff Spaulding, Kenworth – Panelist
- Jeff Hoyos, SANDAG - Panelist
- Jesse Schneider, ZEV Station – Panelist
- Sergio Perez, ENRX - Panelist

9:30am | Emerald Ballroom

Industry Keynote: WiTricity

Amy Barzdukas (United States)1 (1. WiTricity Corporation)

9:40am | Emerald Ballroom

Panel: Equity in Wireless Power

- Valentina Palazzi (Italy)1 (1. Università degli Studi di Perugia) – Moderator
- Sandra Cruz-Pol, NSF – Panelist
- Ivonne Santiago, University of Texas El Paso – Panelist
- Nuno Carvalho, MTT-S - Panelist

10:30am | Foyer | Break

10:45am | Diamond Room

4A: IPT Magnetics

- **Interoperability between Three-Phase and Single-Phase WPT Systems**
Gui-Jia Su (United States)1, Mostak Mohammad (United States)2, Veda Galigekere (United States)2 (1. Oak Ridge National Lab, 2. Oak Ridge National Laboratory)
- **A Novel B-field-shaping Method via Mutual Inductance Tracking and Analysis**
Ruihan Ma (China)1, Yaoxia Shao (China)1, Huan Zhang (China)1, Ming Liu (China)1, Chengbin Ma (China)1 (1. Shanghai Jiao Tong University)
- **Effects of EV Steel Floor on Leakage Flux for High Power Wireless Charging Systems**
Patrick Lawton (New Zealand)1, Feiyang Lin (New Zealand)1, Seho Kim (New Zealand)1, Grant Covic (New Zealand)1 (1. The University of Auckland)

- **Multi-layer Design and Power Transfer Test of PCB-Based Coil for Electric Vehicle Wireless Charging**

Yanghe Liu (United States)1, Abhilash Kamineni (United States)2, Hiroshi Ukegawa (United States)1, Ercan Dede (United States)1, Jae Lee (United States)1 (1. Toyota Research Institute North America, 2. Utah State University)

- **A Study of a Novel Optimization Method for IPT Systems with Variable Frequency**

Michal Kosik (Czech Republic)1, Aaron Scher (United States)2, Adam Pesek (Czech Republic)1, Pavel Skarolek (Czech Republic)1 (1. Czech Technical University in Prague, 2. Oregon Institute of Technology)

10:45am | Topaz Room

4B: Antennas

- **Wireless Power Network for Home Security and Safety Sensors**
Marko Vukovic, CEO, AeroCharge
- **Comparison of MM-Wave WPT with Single and Multiple Fresnel Zone Lens Using High Density Polyethylene**
Amit Baghel (Portugal)1, Nuno Carvalho (Portugal)2, Pedro Pinho (Portugal)3, Ricardo Pereira (Portugal)1 (1. Instituto de Telecomunicações, 2. UNIVERSITY OF AVEIRO AND IT, 3. UNIVERSITY OF AVEIRO and IT)
- **Integration of Solar Power and Microwave WPT Exploiting Transparent Antennas**
A. Baris Gok (Italy)1, Diego Masotti (Italy)2, Alessandra Costanzo (Italy)2 (1. DEI "Guglielmo Marconi", University of Bologna, 2. DEI- "Guglielmo Marconi" University of Bologna)
- **Deployable Origami Coils for Wireless UAV in-Flight Powering**
Aline Eid (United States)1, Nia Rich (United States)2, Ashton Hattori (United States)2, I-Ting Chen (United States)2, Jimmy Hester (United States)5, Manos Tentzeris (United States)2 (1. University of Michigan/Georgia Institute of Technology, 2. Georgia Institute of Technology, 3. Atheraxon Inc)
- **Quasioptical Double-Lens Wireless Power Transfer System with Patch Array Antennas**
Ricardo Pereira (Portugal)1, Diogo Matos

DETAILED SCHEDULE - Weds., June 7, 2023

(Portugal)1, Ricardo Figueiredo (Portugal)1, Bernardo Mendes (Portugal)1, Henrique Chaves (Portugal)1, Helena Ribeiro (Portugal)1, Helder Costa (Portugal)7, Daniel Belo (Sweden)8, Martinho Oliveira (Portugal)7, Arnaldo Oliveira (Portugal)1, Nuno Carvalho (Portugal)11 (1. UNIVERSITY OF AVEIRO and IT, 2. Universidade de Aveiro and CICECO, 3. Huawei Technologies Sweden AB, 4. UNIVERSITY OF AVEIRO AND IT)

12:00pm | Crystal Ballroom | Industry Expo Lunch

1:00pm | Diamond Room

5A: In-motion WPT

- **Magnetic Design for Three-Phase Dynamic Wireless Power Transfer with Constant Output Power**
Aaron Brovont (United States)1, Steven Pekarek (United States)1, Dionysios Aliprantis (United States)1, Connor Vickers (United States)1, Vatan Mehar (United States)1 (1. Purdue University)
- **Eliminating Dead Zone in Wireless Power Transfer with Repeater Coil by Power Factor Control**
Yutaka Shikauchi (Japan)1, Ryo Matsumoto (Japan)1, Sakahisa Nagai (Japan)1, Toshiyuki Fujita (Japan)1, Osamu Shimizu (Japan)1, Hiroshi Fujimoto (Japan)1 (1. The University of Tokyo)
- **Verification of Electrical Characteristics by Coils Embedded in Asphalt Pavement and 100,000 Wheel Traveling Test of a Heavy-Duty Vehicle in Dynamic Wireless Power Transfer**
Takahiro Yamahara (Japan)1, Koki Hanawa (Japan)1, Takehiro Imura (Japan)1, Yoichi Hori (Japan)1, Hiroyuki Mashito (Japan)5, Nagato Abe (Japan)5 (1. Faculty of Science and Technology, Tokyo University of Science, 2. Toa road corporation)
- **Comparative Life Cycle and Techno-economic Assessment of Dynamic Wireless Power Transfer and Direct Current Fast Charging**
Noah Horesh (United States)1, Jason Quinn (United States)1 (1. Colorado State University)
- **Investigation of Commercial Viability and Public Perception of Electrified Roadways with Dynamic Wireless Charging**

Sophia Openshaw (United States)1, Dheeraj Etta (United States)1, Sounak Maji (United States)1, TAO RUAN (United States)4, Khurram Afridi (United States)1 (1. Cornell University, 2. University of Colorado Boulder)

1:00pm | Topaz Room

5B: Far Field Technology

- **Self-synchronized Interference Avoidance Method for Far-field WPT System**
Yuki Tanaka (Japan)1, Hiroshi Sato (Japan)1, Hikaru Hamase (Japan)3, Takuma Ikeda (Japan)4, Hiroyuki Tani (Japan)4, Manabu Gokan (Japan)4, Yoshio Koyanagi (Japan)1 (1. Panasonic System Networks R&D Co., Ltd., 2. Panasonic Connect Co., Ltd., 3. Panasonic Holdings Corporation)
- **Dual-Band UHF & ISM Wireless Power Transfer Systems for Practical 5G Applications**
Symeon Nikolaou (Cyprus)1, David Chatzichristodoulou (Cyprus)1, Abdul Quddious (Germany)3, Dimitris Anagnostou (United Kingdom)4, Phtotos Vrionides (Cyprus)1 (1. Frederick Research Center, 2. Universität Dresden, 3. Institute of Signals, Sensors and Systems, Heriot Watt University Edinburgh, UK)
- **Application of a Multiple Folding Array Antenna to a Solar Power Satellite and Its Radiation Characteristics**
Daiki HOSAKA (Japan)1, TADASHI TAKANO (Japan)1, Kenji SAEGUSA (Japan)1 (1. Nihon University)
- **Simplified Class E Inverter for 13.56MHz Low Power Wireless Power Transfer Applications**
Guilherme Buchmeier (France)1, Alexandru Takacs (France)1, Daniela Dragomirescu (France)1, Amaia Fortes-Montilla (France)4, Juvenal Alarcon-Ramos (France)4 (1. LAAS-CNRS, 2. Continental Automotive France)
- **Automatically Reconfigurable Metasurface for Free-Positioning Wireless Power Transfer**
Xiaodong Ye (United States)1, Hanwei Wang (United States)1, Joshua Yu (United States)1, Yun-Sheng Chen (United States)1, Yang Zhao (United States)1 (1. University of Illinois at Urbana-Champaign)

DETAILED SCHEDULE - Weds., June 7, 2023

2:30pm | Crystal Ballroom and Foyer
Poster Session #2 (Poster Presentations Listed at End of Program)

4:00pm | Diamond Room
6A: Controls and Converters

• **A 3 kW 3.39 MHz DC/DC Inductive Power Transfer System with Power Combining Converters**

Ioannis Nikiforidis (United Kingdom)¹, Christopher Kwan (United Kingdom)², David Yates (United Kingdom)², Konstantinos Bampouras (United Kingdom)², James Gawith (United Kingdom)², Nunzio Pucci (United Kingdom)⁶, Paul Mitcheson (United Kingdom)⁶ (1. Imperial College London, Bumblebee Power Ltd., 2. Bumblebee Power Ltd., 3. Imperial College London)

• **Reactance Compensation Control for Multiple-Receiver Wireless Power Transfer System with Coil Inductance Variations**

Ryo Matsumoto (Japan)¹, Hiroshi Fujimoto (Japan)¹ (1. The University of Tokyo)

• **A novel three-phase primary-side vcontrol topology for high-power IPT system**

Zhihao He (New Zealand)¹, Duleepa Thrimawithana (New Zealand)¹, Martin Neuburger (Germany)³, Grant Covic (New Zealand)¹ (1. The University of Auckland, 2. Esslingen University of Applied Sciences)

• **Suppression of Leakage Current in Wireless Charging Systems Using n-legged Inverters**

Yusaku Takagi (Japan)¹, Tatsuya Yanagi (Japan)², Hiroshi Fujimoto (Japan)¹ (1. The University of Tokyo, 2. ROHM Co., Ltd.)

• **Soft Start and Overload Protection of a 2 MHz Wireless Power Transfer System without Communication between Transmitter and Receiver**

Tim Krigar (Germany)¹, Martin Pfost (Germany)¹ (1. TU Dortmund University)

4:00pm | Topaz Room
6B: Sensor Technologies

• **Ambient IoT - Scaling to Trillions of Connected Things using Wireless Energy Harvesting**

Stephen Statler (United States)¹ (1. Williot Inc.)

• **Design and Demonstration of LED Array Based Optical Wireless Power Transmission for IoT Sensors**

Mingzhi Zhao (Japan)¹, Tomoyuki Miyamoto (Japan)¹ (1. Tokyo Institute of Technology)

• **An Improved Synchronous Charge Extraction (SCE) Rectifier for Energy-harvesting from Capacitive Power Sources**

Paul Kathol (Canada)¹, Rushi Vyas (Canada)¹ (1. University of Calgary)

• **Wireless Communication of Buried IoT Sensors Utilizing Through the Soil Wireless Power Transfer for Precision Agriculture**

Michael Tidwell (United States)¹, Christian Swindell (United States)¹, Christopher Johnson (United States)¹, Maanak Gupta (United States)¹, Charles Van-Neste (United States)¹ (1. Tennessee Technological University)

• **Single-Ended Reconfigurable Wireless Power Harvesting and Harmonic Backscattering**

Xiaoqiang Gu (Canada)¹, Roni Khazaka (Canada)¹, Ke Wu (Canada)³ (1. McGill University, 2. Polytechnique Montreal)

WEDNESDAY, JUNE 7TH SPECIAL EVENT

7:00pm | Emerald Ballroom

Conference Banquet

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DETAILED SCHEDULE - Thursday, June 8, 2023

7:30am | Registration

8:00am | Emerald Ballroom

Plenary Session

- **WPT Based on Mobile-Base Station for Beyond 5G/6G**

Naoki Hasegawa (Japan)¹ (1. Softbank)

- **DARPA's Pathway to Energy Web Dominance**

Col. Paul J. Calhoun, Program Manager, Defense

Advanced Projects Research Agency (DARPA)

| Dr. Paul Jaffe, Engineer and Researcher (U.S.

Naval Research Laboratory) | Robert Winsor,

Optics, Photonics and RF Systems Expert (DARPA)

- **Airfuel Industry Keynote Presentation**

Sanjay Gupta (United States)¹ (1. AirFuel)

- **Aeterlink Industry Keynote Presentation**

Yuji Tanabe (Japan)¹ (1. Aeterlink)

9:30am | Foyer | Break

9:45am | Diamond Room

7A: IPT System Design and Optimization

- **Design and optimization of PCB-type planar inductors for high-power wireless power transfer**

Davide Auteri (Italy)¹, Mario Pavone (Italy)¹,Enrico-Alfredo Bottaro (Italy)¹, Giovanni Vinci(Italy)¹ (1. STMicroelectronics)

- **Generative Neural Network Approach to Designing Dynamic Inductive Power Transfer Systems**

Andrew Curtis (United States)¹, Md Shain ShahidChowdhury Oni (United States)¹, Shuntaro Inoue(Japan)³, Abhilash Kamineni (United States)¹,Regan Zane (United States)¹, Nicholas Flann(United States)¹ (1. Utah State University, 2. Toyota

Central R&D Labs. Inc.)

- **An Integrated Electric Vehicle Drive Motor and Wireless Charger**

Vandana Rallabandi (United States)¹, MostakMohammad (United States)¹, Veda Galigekere(United States)¹, Vincent Molina (United States)⁴

(1. Oak Ridge National Laboratory, 2. BMW of

North America)

- **Discretely Variable Capacitance in Multi-receiver Wireless Power Transfer Systems**

Mingi Kim (Korea, Republic of)¹, Minseok Kang(Korea, Republic of)¹, In-Gwun Jang (Korea,Republic of)¹ (1. KAIST)

- **An Online Metal Object Detection Method for Inductive Power Transfer by Improved Dual Frequency Tuning Design**

Bo Long (New Zealand)¹, Mingdong Han (NewZealand)¹, Qi Zhu (China)³, Aiguo Hu (NewZealand)¹ (1. The University of Auckland, 2. Beijing

Xiaomi Mobile Software Co., Ltd.)

- **High Frequency Induction Heating of Non-magnetic Metals with 24 VDC for a Terrestrial Antenna**

Daniel Dell (Germany)¹, Jan Hückelheim(Germany)¹, Laura Manoliu (Germany)¹, IngmarKallfass (Germany)¹ (1. Institut of Robust Power

Semiconductor Systems University of Stuttgart)

- **Current Distribution in Multifilar Wireless Charging Pads**

Jaron Bono (United States)¹, Haris Ahmed(United States)¹, Reebal Nimri (United States)¹,Abhilash Kamineni (United States)¹ (1. Utah State

University)

- **A New Power Converter Design for Electrical Vehicle Inductive Wireless Power Transfer Charging With Zero Common-Mode Current**

Mohammad Ali Hosseinzadeh (Germany)¹,Maryam Sarebanzadeh (Germany)¹, MojtabaKhalilian (Germany)³, Kennel Ralph (Germany)¹,Ebrahim Babaei (Iran, Islamic Republic of)⁵,Cristian Garcia (Chile)⁶, Jose Rodriguez (Chile)⁷

(1. Technical University of Munich, 2. Brusa GmbH

München, 3. University of Tabriz, 4. University of

Talca, 5. University of San Sebastian)

- **Simultaneous Design of Double-D Pad Coil and Core Geometry by Neural Network Optimisation**

Brian Gu (New Zealand)¹, Seho Kim (NewZealand)¹, Michael O'Sullivan (New Zealand)¹,Abhilash Kamineni (United States)⁴, Grant Covic(New Zealand)¹ (1. The University of Auckland, 2.

Utah State University)

DETAILED SCHEDULE - Thursday, June 8, 2023

9:45am | Topaz Room

7B: Biomedical, Wearables, and Qi

- **Printed Spiral Coils for Wireless power Transfer: Design Guidelines and Characterization**

Hubregt Visser (Netherlands)¹ (1. imec

Netherlands)

- **The Power of Collaboration: Uniting Industries for a Wireless Revolution**

Alberto Peralta (United States)¹ (1. NuCurrent)

- **Innovative Receiving Coil for the Wireless Power Transfer System of a Left Ventricular Assist Device**

Tommaso Campi (Italy)¹, Silvano Cruciani (Italy)²,Francesca Maradei (Italy)³, Mauro Feliziani (Italy)¹

(1. University of L'Aquila, 2. Tor Vergata University

of Rome, 3. Sapienza University of Rome)

- **Safety Analysis of Metasurface-Based Near-field Wireless Power Transfer System for Deep Implants**

Maoyuan Li (Norway)¹, Ali Khaleghi (Norway)¹,Ilango Balasingham (Norway)¹ (1. Dept.

Electronic Systems, Norwegian University of

Science and Technology)

- **Impact of a Titanium Tibial Implant on the Wireless Charging of a Biomedical Knee Sensor**

Nikhil Bejrajh (South Africa)¹, Sampath Jayalath(South Africa)¹ (1. University of Cape Town)

- **StimRec: A Wireless, Battery-free Stimulator and Recorder Fabricated on a Flexible Substrate**

Ahmed Abed Benbuk (United States)¹, Shiyi Liu(United States)¹, Daniel Gulick (United States)¹,Diogo Moniz-Garcia (United States)⁴, AlfredoQuinones-Hinojosa (United States)⁴, JenniferBlain Christen (United States)¹ (1. Arizona State

University, 2. Mayo Clinic)

- **Alignment of Wireless Power Transfer System for Implantable Medical Device using Permanent Magnet**

Haerim Kim (Korea, Republic of)¹, JangyongAhn (Korea, Republic of)¹, Seongho Woo (Korea,Republic of)³, Sungryul Huh (Korea, Republic of)³,Seungyoung Ahn (Korea, Republic of)¹ (1. Cho

Chun Shik Graduate School of Mobility KAIST, 2.

KAIST)

- **A Phase-shift Switching Scheme of Charger Inverter to Improve In-band Communication Reliability in Qi Wireless Charging System**

YIRUI YANG (United States)¹, Qinghui Huang(United States)¹, Zhedong Ma (United States)¹,SHUO WANG (United States)¹, Zhenxue Xu (UnitedStates)⁵, Liang Jia (United States)⁵, SrikanthLakshmikanthan (United States)⁵ (1. University of

Florida, 2. Hardware Team Google Inc.)

- **Qi Standard Compatible Metasurface for Multi-Device Wireless Power Transfer with Tunable Power Division**

Joshua Yu (United States)¹, Hanwei Wang (UnitedStates)¹, Xiaodong Ye (United States)¹, Yun-ShengChen (United States)¹, Yang Zhao (United States)¹

(1. University of Illinois at Urbana-Champaign)

- **A Novel Approach Real Time Alignment Correction for Enhancing Wireless Power Transfer Efficiency using Quadrant Sensing Coil in Mobile**

Jeonggyun Park (Korea, Republic of)¹, YoonmyungLee (Korea, Republic of)¹ (1. Sungkyunkwan

University)

**THURSDAY, JUNE 8TH
SPECIAL EVENT**

12:30pm | Emerald Ballroom

Awards Luncheon & Conference Conclusion

POSTER SESSION #1

- **Modular Test Platform for Inductive Wireless Power Transfer**
Kiran Peirens (Belgium), Ben Naets (Belgium), Ben Minnaert (Belgium)3 (1. Odisee, 2. University of Antwerp)
- **An Outdoor Demonstrator of Building-Integrated Photovoltaics Applying Wireless Power Transfer**
Maxim De Donder (Belgium), Kiran Peirens (Belgium), Pieter Van-Hijfte (Belgium), Simon Ravyts (Belgium)4, Ben Naets (Belgium), Ben Minnaert (Belgium)6 (1. Odisee, 2. KU Leuven, 3. University of Antwerp)
- **Proposal of Coil Embedding Method in Asphalt Road Surface for Dynamic Wireless Power Transfer**
Koki Hanawa (Japan), Takehiro Imura (Japan), Yoichi Hori (Japan), Hiroyuki Mashito (Japan)4, Nagato Abe (Japan)4 (1. Faculty of Science and Technology, Tokyo University of Science, 2. Toa road corporation)
- **Reducing Coil Characteristic Deterioration by Using Insulated Rebar Test Body in Dynamic Wireless Power Transfer**
Kaito Matsuo (Japan), Takehiro Imura (Japan), Yoichi Hori (Japan), Megumu Kunigou (Japan)4, Shun Shimizu (Japan)5, Shunsuke Maki (Japan)5 (1. Faculty of Science and Technology, Tokyo University of Science, 2. GAERT Co.,Ltd., 3. Kumagai Gumi Co.,Ltd.)
- **Characteristic Comparison of 16 Circuits for Inductive Power Transfer**
Hirono Namiki (Japan), Takehiro Imura (Japan), Yoichi Hori (Japan)1 (1. Faculty of Science and Technology, Tokyo University of Science)
- **Large Space Wireless Power Transfer System that Meets Human Electromagnetic Safety Limits**
Tong Li (China), Yaju Yuan (China)2, Zhuangsheng Xiao (China), Yanzhao Fang (China), Yu Xingpeng (China), Siqi Li (China)6 (1. Kunming University of Science and Technology, 2. Kunming University of Science and Technology)
- **Research on Characteristics of Wireless Power Transfer Systems Running in Parallel Mode**
Yuwang Zhang (China), Chengxuan Tao (China), Lifang Wang (China)3, Fang Li (China)3, Yuan Yue (China)5, Chaolai Da (China)6 (1. Key Laboratory of Power Electronics and Electric Drive Institute of Electrical Engineering Chinese Academy of Sciences, 2. Key Laboratory of Power Electronics and Electric Drive Institute of Electrical Engineering Chinese Academy of Sciences, University of Chinese Academy of Sciences, 3. Institute of Electrical Engineering, Chinese Academy of Sciences, 4. Key Laboratory of Power Electronics and Electric Drive Institute of Electrical Engineering Chinese Academy of Sciences, University of Chinese Academy of Sciences)
- **Selection of Receiver Capacitor for Minimizing Leakage Magnetic Field in Wireless Power Transfer Systems**
Seongho Woo (Korea, Republic of), Sungryul Huh (Korea, Republic of), Haerim Kim (Korea, Republic of), Jangyong Ahn (Korea, Republic of), Yujun Shin (Korea, Republic of), Seungyoung Ahn (Korea, Republic of)1 (1. Cho Chun Shik Graduate School of Mobility KAIST)
- **Accurate Steady State Analysis of High Frequency Class E Rectifier for Inductive Power Transfer by Iterative Calculation of the Output Inductor ESR**
Guoxing Wang (New Zealand), Dai Bui (New Zealand), Lei Zhao (China)3, Qi Zhu (China)4, Aiguo Hu (New Zealand)1 (1. The University of Auckland, 2. The University of Chongqing, 3. Beijing Xiaomi Mobile Software Co., Ltd.)
- **Design and Control of a Series-Parallel Compensation Topology for Wireless Power Transfer System Applications**

- **Power Injection Compensation for PSK Modulation in IPT Systems**
Rui Jin (New Zealand), Robert Gallichan (New Zealand), David Budgett (New Zealand), Daniel McCormick (New Zealand)1 (1. The University of Auckland)
- **Suppression of Receiver Harmonic Currents in Wireless Power Transfer Systems**
Daisuke Kobuchi (Japan), Gregory Moore (United States)2, Yoshiaki Narusue (Japan), Joshua Smith (United States)2 (1. The University of Tokyo, 2. University of Washington)
- **Dynamic Wireless Charging Readiness Tool for Power Distribution Systems**
Majid Majidi (United States), Mohammad Amin Mirzaei (United States), Masood Parvania (United States)1 (1. University of Utah)
- **Comparative Analysis of Physics and Finite Element Method Based Multi-objective Optimization of High-Frequency Transformer For Electric Vehicle**
Abiodun Olatunji (United States), Indranil Bhattacharya (United States), Webster Adepoju (United States), Ebrahim Nasr Esfahani (United States), Trapa Banik (United States)1 (1. Tennessee Technological University)
- **Volumetric Resonator with Uniform Magnetic Field Distribution for Wireless Charging**
Aigerim Jandaliyeva (Russian Federation), Andrey Vdovenko (Russian Federation)2, Mikhail Siganov (Russian Federation)2, Leila Suleiman (Russian Federation)2, Pavel Seregin (Russian Federation)2, Mikhail Udov (Russian Federation)2, Alena Shchelokova (Russian Federation)2, Pavel Belov (Russian Federation)2 (1. Department of Physics, ITMO University, 2. Department of Physics, ITMO University)
- **ASPIRE's Perspectives on Wireless Power Transfer for Electric Vehicles: Opportunities and Challenges**
rana moeini (United States), Regan Zane (United States), Michael Masquelier (United States)1 (1. Utah State University)
- **A Bridgeless Single-Stage Single-Inductor Multiple-Output (SIMO) AC-AC Converter for Wireless Power Transfer Applications**
Jiayang Wu (Singapore), Albert T.L. Lee (Hong Kong)2, Siew-Chong Tan (Hong Kong)2, Shu Yuen Ron Hui (Singapore)1 (1. Nanyang Technological University, 2. The University of Hong Kong)
- **Synchronous Rectification Controller for In Motion Wireless Charging**
Joshua Larsen (United States), Abhilash Kamineni (United States)1 (1. Utah State University)
- **Frequency Switching Dual Power Band Rectifier with Load-Modulation Technique**
Babita Gyawali (Japan), Samundra Kumar Thapa (Japan), Mohamed Aboualalaa (Egypt), Adel Barakat (Japan), Ramesh Kumar Pokharel (Japan)1 (1. Kyushu University)
- **Nearly Constant Power Tuning Network for Wireless Inductive Power Transfer Systems**
Mayank Chawla (United States), Dragan Maksimovic (United States)2, Abhilash Kamineni (United States)1 (1. Utah State University, 2. University of Colorado Boulder)
- **Efficiency and Power Compatibility Visualization Methodology for Dynamic Wireless Power Transfer**
Ryotetsu Sakurai (Japan), Takehiro Imura (Japan), Yoichi Hori (Japan)1 (1. Faculty of Science and Technology, Tokyo University of Science)

POSTER SESSION #1

- **Receiver Position Detection based on a Self-selective Stacking Regression Model in a Three-dimensional Wireless Power Transmission System with Sensing Intermediate Coils**
Mengxuan Li (China), Mi Dong (China), Zhendong Wu (China), Li Li (China)1 (1. Central South University)
- **A Primary-Side Monitoring Method for Coupling Coefficient and Receiver Resonant Frequency in SS-Compensated Wireless Charging Systems with Relay Coil**
Zeng Junming (Singapore), Shuxin Chen (Singapore), Kerui Li (Singapore), Shu Yuen Ron Hui (Singapore)1 (1. Nanyang Technological University)
- **Real-time Front-end Monitoring of Load, Mutual Inductance, and SOC in SS-Compensated Wireless Charging Systems**
Zeng Junming (Singapore), Jiayang Wu (Singapore), Kerui Li (Singapore), Yun Yang (Singapore), Shu Yuen Ron Hui (Singapore)1 (1. Nanyang Technological University)
- **Intensity-Modulation and Direct-Detection Model for Simultaneous Terahertz Information and Power Transfer in 6G Network**
Adnan Hanif (United States), Milos Doroslovacki (United States)1 (1. The George Washington University)
- **Ka band Radial-waveguide Slots Antenna Array with Flat-top Beam Radiation**
Yazhou Dong (China), Shi-Wei DONG (China)1 (1. China Academy of Space Technology Xi'an)
- **Bayesian Optimization based Fast and Accurate Wireless Power Transfer System Coil Optimization for High Efficiency**
Boogyo Sim (Korea, Republic of), Taein Shin (Korea, Republic of), Hyunwook Park (Korea, Republic of), Keeyoung Son (Korea, Republic of), Keunwoo Kim (Korea, Republic of), Daehwan Lho (Korea, Republic of), Hyungmin Kang (Korea, Republic of), Joonsang Park (Korea, Republic of), Haeyeon Kim (Korea, Republic of), Jihun Kim (Korea, Republic of), Seonguk Choi (Korea, Republic of), Joungho Kim (Korea, Republic of)1 (1. KAIST)
- **Analysis of Simultaneous Wireless Power and High-Speed Data Transfer System Based on ASK Modulation**
Chaolai Da (China), Lifang Wang (China), Fang Li (China), Rong Zhang (China)4, Yuwang Zhang (China)4, Chengxuan Tao (China)4 (1. Key Laboratory of Power Electronics and Electric Drive Institute of Electrical Engineering Chinese Academy of Sciences, University of Chinese Academy of Sciences, 2. Key Laboratory of Power Electronics and Electric Drive Institute of Electrical Engineering Chinese Academy of Sciences)
- **Compact High-Gain Circularly Polarized Rx Antenna using G-Shape and Metamaterial-Loaded for Biomedical Implant Applications**
DUCDUNG NGUYEN (Korea, Republic of), Seo Chulhun (Korea, Republic of)1 (1. Soongsil university)
- **A Design Of Wideband Midfield Transmitter for Wireless Power Transfer To Biomedical Implants**
Hoang Le-Huu (Korea, Republic of), Seo Chulhun (Korea, Republic of)1 (1. Soongsil university)
- **Design of a Scalable Multicoil Wireless Power Transfer System for Low Voltage Applications**
Lukas Elbracht (Germany), Jannis Noeren (Germany), Nejila Parspour (Germany)1 (1. Institute of Electrical Energy Conversion, University of Stuttgart)
- **A #-shaped Auxiliary Coil Array for Location Detection in Inductive Power Transfer Systems**
Chen Shuxin (Singapore), Yaohua Li (Singapore), Zeng Junming (Singapore), Kerui Li (Singapore), Shu Yuen Ron Hui (Singapore), Yi Tang (Singapore)1 (1. Nanyang Technological University)

- **Enhanced-Wireless Power Transfer for Medical Micro-Implants with a Wearable Metasurface**
Hanwei Wang (United States), Xiaodong Ye (United States), Joshua Yu (United States), Yun-Sheng Chen (United States), Yang Zhao (United States)1 (1. University of Illinois at Urbana-Champaign)
- **Microwave Power Transmission System for Smartphone**
Katsumi Kawai (Japan), Tsuyoshi Kajiwara (Japan), Kento Suzuki (Japan), Baku Takahara (Japan), Shimpei Katsuta (Japan), Ryuki Hoshikawa (Japan)1 (1. Kyoto university)
- **Discretely Tuned Compensation for Guaranteeing the Optimal Voltage Regulation of Multi-receiver Wireless Power Transfer Systems under a Time-varying Charging Configuration**
Mingi Kim (Korea, Republic of), Minseok Kang (Korea, Republic of)2, In-Gwun Jang (Korea, Republic of)2 (1. Cho Chun Shik Graduate School of Mobility KAIST, 2. KAIST)
- **Large space Wireless Charging System that Complies with Human Electromagnetic Safety Standard Limits**
Tong Li (China), Yaju Yuan (China)2, Zhuangsheng Xiao (China), Yanzhao Fang (China), Yu Xingpeng (China), Zeeshan Shafiq (China)1 (1. Kunming University of Science and Technology, 2. Kunming University of Science and Technology)
- **Metal Object Detection for Inductive Power Transfer by Detecting Third-order Harmonic Variation**
Bo Long (New Zealand), Mingdong Han (New Zealand), Guoxing Wang (New Zealand), Anglin Li (New Zealand), Aiguo Hu (New Zealand)1 (1. The University of Auckland)
- **A Qi Inspired Wireless Charger for a Rocket**
Adam Pesek (Czech Republic), Pavel Skarolek (Czech Republic), Michal Kosik (Czech Republic)1 (1. Czech Technical University in Prague)
- **Wireless Energy Harvesting from Induction Cooktops to Power Kitchen Appliances**
Matteo Rotellini (Italy), Wassim Boumerdassi (Italy), Giorgio Tatangelo (Italy)1 (1. University of L'Aquila)
- **Self-generated Wireless Power Transfer Link System**
ss H (China), Xiaomin Wang (China), Xue Bai (China), KaiZhe Qiao (China), ZhaoJie Chu (China), Lei Zhao (China)6, Xin Dai (China)1 (1. Chongqing University, 2. The University of Chongqing)
- **Condition of Minimizing Leakage Magnetic Field in Wireless Power Transfer Systems**
Seongho Woo (Korea, Republic of), Sungryul Huh (Korea, Republic of), Seunghun Ryu (Korea, Republic of), Hyunsoo Lee (Korea, Republic of), Haerim Kim (Korea, Republic of), Jangyong Ahn (Korea, Republic of), Seungyoung Ahn (Korea, Republic of)7 (1. Cho Chun Shik Graduate School of Mobility KAIST, 2. Cho Chun Shik Graduate School of Mobility, KAIST)
- **A Novel Detuning-Based Dynamic Wireless Charging System for Automated Guided Vehicles**
Fangnan Jiang (China), Jiawei Tan (China), Qihui Yu (China)1 (1. Central South University)
- **Electric Vehicle Wireless Charging Prototype**
Sarah Grace Young (United States), Mohammed Al-Abdullah (United States), Abrer Mohsin Samin (United States), Daniela Wolter Ferreira Touma (United States)1 (1. University of South Alabama)
- **Wirelessly Charged Mantabot for Underwater Environment Exploration**
Yao Wang (United States), Zilong Zheng (United States), Fei Lu (United States)1 (1. Drexel University)

POSTER SESSION #2

• **Wireless Power Transfer for Shaded-Pole Induction Motor with Secondary Self-Drive Half-Bridge Inverter**
Hui Wang (Hong Kong)¹, K.T. Chau (Hong Kong)¹, Wei Liu (Hong Kong)¹, Chaoqiang Jiang (Hong Kong)⁴ (1. The University of Hong Kong, 2. City University of Hong Kong)

• **Novel Control Method With Five-Phase Interleaved Boost Converter to Reduce Power Pulsation in Dynamic Charging of Electric Vehicle**
Milad Behnamfar (United States)¹, Mohd Tariq (United States)¹, Arif Sarwat (United States)¹ (1. florida international university)

• **Unfolding-Based Single-Stage AC-DC Conversion System for Wireless Charging Applications**
Aditya Zade (United States)¹, Chakridhar Reddy Teeneti (United States)², Mahmoud Mansour (United States)¹, Bryce Hesterman (United States)¹, Hongjie Wang (United States)¹, Regan Zane (United States)¹ (1. Utah State University, 2. Lucid Motors)

• **Research on Planner Circular Coupler Misalignment Tolerance Evaluation Method of Inductive Power Transfer**
pengcheng cao (China)¹ (1. Harbin Engineering University)

• **Coupling factor analysis for an inductive power transfer system using a quasi-Helmholtz primary coil**
Miguel Rodriguez-Carrillo (Germany)¹, Ulrike Wallrabe (Germany)¹ (1. University of Freiburg)

• **Estimation of the Mutual Inductance in Multi-receiver Wireless Power Transfer Systems**
Mingi Kim (Korea, Republic of)¹, Minseok Kang (Korea, Republic of)², In-Gwon Jang (Korea, Republic of)² (1. Cho Chun Shik Graduate School of Mobility KAIST, 2. KAIST)

• **Novel analytical calculation method of a wireless power transfer system for an inductive electrically excited synchronous machine**
Andreas Baehr (Germany)¹, Nejila Parspour (Germany)¹ (1. Institute of Electrical Energy Conversion, University of Stuttgart)

• **Interoperability of a Decoupled Three-Phase Coil Array**
Osama Almulla (New Zealand)¹, Duleepa Thrimawithana (New Zealand)¹, Grant Covic (New Zealand)¹ (1. The University of Auckland)

• **A Slightly Detuned Inductive Power Transfer System with High-misalignment Tolerance via Simple Modulation**

Chen Chen (Hong Kong)¹, Chaoqiang Jiang (Hong Kong)², Yibo Wang (Hong Kong)¹, Tianlu Ma (Hong Kong)¹, Xiaosheng wang (Hong Kong)¹, Wei Liu (Hong Kong)⁶ (1. City university of Hong Kong, 2. City University of Hong Kong, 3. The University of Hong Kong)

• **Artificial Neural Network Modeling of WPT Magnetic Fields in an EV Application**
Matt Hansen (United States)¹, Sanat Poddar (United States)¹, Haris Ahmed (United States)¹, Seho Kim (New Zealand)⁴, Abhilash Kamineni (United States)¹ (1. Utah State University, 2. The University of Auckland)

• **Adaptive Capacitive Power Transfer System utilizing Switch-Controlled Capacitor and DC-DC Converter**
Tarek Mostafa (Saudi Arabia)¹, Moutazbellah Khater (Saudi Arabia)¹, Shehab Ahmed (Saudi Arabia)¹ (1. King Abdullah University of Science and Technology)

• **Investigation of Split LCCL Tuning Network for High Power WPT Systems**
Abdullah Baig (United States)¹, Azmeer Zahid (United States)¹, Joshua Larsen (United States)¹, Abhilash Kamineni (United States)¹, Regan Zane (United States)¹ (1. Utah State University)

• **Comparing Magnetorheological Material with other Cores in Wireless Power Transfer**
Sarah Grace Young (United States)¹, Abrer Mohsin Samin (United States)¹, Daniela Wolter Ferreira Touma (United States)¹ (1. University of South Alabama)

• **Optimal Metamaterial Configuration for Magnetic Field Shielding in Wireless Power Transfer Systems**
Mattia Simonazzi (Italy)¹, Leonardo Sandrolini (Italy)¹, Sami Barmada (Italy)³, Nunzia Fontana (Italy)³ (1. DEI- "Guglielmo Marconi" University of Bologna, 2. University of Pisa)

• **Manufacturing influences on transmission efficiency and thermal integration of resonant circuit modules of inductive power transmission systems for electric vehicles**
Michael Weigelt (Germany)¹, Sophia Jordan (Germany)¹, Johanna Manger (Germany)¹, Maximilian Kneidl (Germany)¹, Michael Masuch (Germany)¹, Alexander Kühl (Germany)¹, Joerg Franke (Germany)¹ (1. Institute for Factory Automation and Production Systems)

• **Initial Development of Sustainable Semi-Transparent Printed Rectenna**
Kacper Skarżyński (Poland)¹, Marcin Słoma (Poland)¹ (1.

POSTER SESSION #2

Warsaw University of Technology, Faculty of Mechatronics, Institute of Metrology and Biomedical Engineering, Micro- and Nanotechnology Division, 8 sw. A. Boboli St., 02-525 Warsaw, Poland)

• **A Method for Reducing Standby Losses by Vehicle Detection and Switching Control in a System Configuration for Multiple Vehicles in Dynamic Wireless Power Transfer**
Kanta Kobayashi (Japan)¹, Takehiro Imura (Japan)¹, Yoichi Hori (Japan)¹ (1. Faculty of Science and Technology, Tokyo University of Science)

• **Analysis of Production Influences on the Transmission Efficiency of Wireless Power Transfer Systems**
Maximilian Kneidl (Germany)¹, Tobias Fuss (Germany)¹, Michael Weigelt (Germany)¹, Michael Masuch (Germany)¹, Alexander Kühl (Germany)¹, Joerg Franke (Germany)¹ (1. Institute for Factory Automation and Production Systems)

• **A Novel Foreign Object Detection and Classification Algorithm for Capacitive Wireless Charging Systems**
Raquel Sarabia Soto (United States)¹, Sounak Maji (United States)¹, Dheeraj Etta (United States)¹, Khurram Afridi (United States)¹ (1. Cornell University)

• **Comparator-less ASK-PWM CDR Circuit for Forward Data Communication Over A Single Channel Wireless Power and Data Transfer System**
Adel Barakat (Japan)¹, Mohd Khairi Bin Zulkalnain (Japan)¹, Ramesh Kumar Pokharel (Japan)¹ (1. Kyushu University)

• **A Miniaturized Wearable Two-Port Loop Rectenna for Energy Harvesting at Millimeter Waves**
Elisa Augello (Italy)¹, Enrico Fazzini (Italy)¹, Francesca Benassi (Italy)¹, Diego Masotti (Italy)¹, Alessandra Costanzo (Italy)¹ (1. DEI- "Guglielmo Marconi" University of Bologna)

• **28GHz High Efficiency Rectifier Design utilizing Second Harmonic Signal Control**
Masahiro Nakagawa (Japan)¹, Ren Furumoto (Japan)¹, Satoshi Yoshida (Japan)¹, Kenjiro Nishikawa (Japan)¹ (1. Kagoshima University)

• **Impedance Matching a Quarter Wave Resonant Receiver to Improve Efficiency in Unipolar Capacitive Wireless Power Transfer**
Tyler Marcrum (United States)¹, John Caleb Williams (United States)¹, Christopher Johnson (United States)¹, Matthew Pearce (New Zealand)⁴, Charles Van-Neste (United States)¹,

Darren Boyd (United States)⁶, Charles Vaughan (United States)⁶ (1. Tennessee Technological University, 2. The University of Auckland, 3. NASA)

• **Wireless Battery Charging for Implantable Medical Devices Using a Wideband Antenna with a Small Elliptic Reflector**
Noha Hassan (Egypt)¹, Mohamed Sanad (Egypt)¹ (1. Cairo University)

• **Curved Coil Design of an IPT System Based on Analytical Analysis of Inductances**
Anglin Li (New Zealand)¹, Dariusz Kacprzak (New Zealand)¹, Aiguo Hu (New Zealand)¹ (1. The University of Auckland)

• **Self-Resonant Coil Design for High-frequency High-Power Inductive Wireless Power Transfer**
Mostak Mohammad (United States)¹, Vandana Rallabandi (United States)¹, Lincoln Xue (United States)¹, Gui-Jia Su (United States)⁴, Veda Galigekere (United States)¹, Shajjad Chowdhury (United States)¹, Jonathan Wilkins (United States)¹ (1. Oak Ridge National Laboratory, 2. Oak Ridge National Lab)

• **Partial-Inductance Analysis of Double-D Coupler for IPT Applications**
Tharindu Dharmakeerthi (New Zealand)¹, Brian Gu (New Zealand)¹, Seho Kim (New Zealand)¹, Duleepa Thrimawithana (New Zealand)¹, Grant Covic (New Zealand)¹ (1. The University of Auckland)

• **Characterization and Validation of a Rectangular Three-Phase Dynamic Wireless Power Transfer System with Low Output-Power Ripple**
Aaron Brovont (United States)¹, Dionysios Aliprantis (United States)¹, Steven Pekarek (United States)¹, Vatan Mehar (United States)¹, Connor Vickers (United States)¹, Robert Swanson (United States)¹ (1. Purdue University)

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