



IEEE WPTC 2015

Technologies, Systems and Applications

Industry Panels

May 13-15, 2015
Boulder, CO

<http://www.wptc2015.org/>



WPTC 2015 Industry Panels

Industry Panels Chair and Moderator:

Dr. Kamil A. Grajski (Qualcomm)

- Panel #1: Consumer Electronics Challenges & Opportunities
 - Power range (W-kW) commercialization, manufacturing, deployment, regulatory
 - Confirmed Panelists: EPC Corp., MediaTek, NuVolta Tech., Qualcomm, WiTricity
- Panel #2: Industrial, Scientific and Medical Challenges & Opportunities
 - Wide power range (μ W-GW), commercialization, manufacturing, deployment, regulatory
 - Confirmed Panelists: Escape Dynamics, GE Global R&D, IMA (Italy), Solace Power

Panel #1: Consumer Elect. & Medical

- Wednesday, 13-May-2015, 2:00PM (Local Time)
- Objective
 - Provide a primarily academic and research audience with an appreciation for the technical challenges and opportunities that arise in the commercialization of wireless power technologies for consumer electronics and medical, with focus on 1-100W range
- Moderator: Dr. Kamil A. Grajski
- Panelists – see Appendix for panelist short bios
 - Dr. Michael de Rooij, EPC Corp., Executive Director of Applications Engineering
 - Dr. Patrick Riehl, MediaTek, Senior Technical Manager
 - Dr. Hengchun Mao, NuVolta, CTO
 - Bill von Novak, Qualcomm, Principal Engineer
 - Dr. Morris Kesler, Witricity, CTO

Panel #2: Industrial and Scientific

- Friday, 15-May-2015, 9:30AM (Local Time)
- Objective
 - Provide an academic and research audience with an appreciation for the technical challenges and opportunities that arise in the development of wireless power technologies for industrial and scientific applications with focus on $\ll 1\text{W}$ and $\gg 1\text{kW}$
- Moderator: Dr. Kamil A. Grajski
- Panelists -- see Appendix for panelist short bios
 - Dr. Dmitriy Tseliakovich, Escape Dynamics, CEO & CTO
 - Dr. Suma M N, General Electric, Global R&D, Lead Scientist
 - Daniele Vacchi, IMA (Italy)
 - Magnus Nyberg, Solace Power, VP Engineering



Panelist Biographies

Panel #1

- Dr. Michael de Rooij, EPC Corp., Exec. Dir. Appl. Eng.
 - www.epc-co.com
 - Dr. Michael A. de Rooij is Executive Director of Applications Engineering at Efficient Power Conversion Corporation (EPC). Prior to joining EPC he worked at Windspire Energy where he helped develop the next generation of small vertical-axis wind turbine inverters. In addition, he has worked as a Senior Engineer at the GE Global Research Center. Dr. de Rooij's research interests and activities include, solid-state high-frequency power converters and devices, utility applications of power electronics, uninterruptible power supplies, integration of power electronic converters, power electronic packaging, induction heating, photovoltaic converters, Magnetic Resonance Imaging (MRI) Systems and gate drivers with protection features. Dr. de Rooij is a Senior Member of the IEEE and has been granted over 20 patents. He received his Ph.D. from the Rand Afrikaans University (now called The University of Johannesburg), South Africa.
- Dr. Patrick Riehl, MediaTek, Sr. Technical Manager
 - <http://mediatek.com/>
 - Patrick is the technical program lead for wireless power at MediaTek and the architect of the MT3188 multi-standard wireless power receiver ASIC. Since 2008, he has been a technical manager with Mediatek in Woburn, Massachusetts, specializing in power IC design and wireless power. Prior to joining Mediatek, from 2002 to 2007 he was an analog circuit designer at Analog Devices in Wilmington, MA. He has co-authored 2 IEEE publications on wireless power. Patrick is a Senior Member of IEEE. He received the B. A. in Engineering Sciences from Dartmouth College in 1996 and the M. S. and Ph.D. in Electrical Engineering and Computer Sciences from the University of California, Berkeley in 1999 and 2002, respectively.

Panel #1

- Dr. Hengchun Mao, NuVolta Technologies, CTO
 - <http://www.nuvoltatech.com/>
 - Dr. Hengchun Mao is the CTO and a founder of NuVolta Technologies, a Silicon-Valley start-up specialized in high frequency power management ICs and wireless power transfer technologies. He has more than 30 years' industry experience in power conversion and power management, and was a power researcher in Bell Labs, the principal architect in Huawei's Power Systems division, and a business unit manager for Diodes Inc . Dr. Mao also cofounded NetPower Technologies and NuVolta Technologies, and managed the technology and product development for both companies. He has over 60 US patents awarded or in process, all in high efficiency power conversion, resonant topologies, and power architectures for wireless power and other emerging applications. He received his Ph. D. from Virginia Power Electronics Center (CPES) at Virginia Tech.
- Bill von Novak, Qualcomm, Principal Engineer
 - <https://www.qualcomm.com/products/wipower>
 - Bill von Novak is the system specification lead on Wipower wireless power project at QUALCOMM Technologies Inc. He has been at QUALCOM for 22 years and has worked on projects ranging from satellite data systems to truck tracking and management devices. Qualcomm's WiPower technology has won numerous industry awards include TIME Magazine Top 10 Product Designs 2014 and CES 2015 Innovation Awards: Best of Innovation, among many others.

Panel #1

- Dr. Morris Kesler, WiTricity, CTO

- <http://www.witricity.com>

- Morris joined WiTricity in 2007 as Chief Engineer before being named vice president of research and development in 2013. Prior to joining WiTricity, he was a founder of Wide Net Technologies, Inc., which developed unique optical communication and sensing systems for both government and industry. His work at Wide Net Technologies included the simulation, design and testing of secure high-speed communications systems for fiber and free space applications, and the development of novel nano-photonic devices for communications and sensing. From 2000 to 2003, Morris held the position of Consulting Engineer at PhotonEx Corporation, where he was responsible for transmission engineering and testing and played a key role in the development of the PhotonEx 40 Gb/s optical transport system. Morris spent ten years with the Georgia Tech Research Institute where he led research programs in electromagnetic scattering, antenna arrays, novel antenna structures and photonic band-gap structures. He held the position of Principal Research Engineer when he left. Morris was a post-doctoral fellow at the IBM Zurich Research Laboratory where he studied semiconductor quantum well lasers. He holds over 30 patents and has published over 40 technical journal and conference papers. He holds a B.S. (1984), M.S. (1984), and Ph.D. (1988) from MIT in Electrical Engineering and Computer Science.

Panel #2

- Dr. Dmitriy Tseliakovich, Escape Dynamics, CEO & CTO
 - <http://escapedynamics.com/>
 - Dr. Dmitriy Tseliakhovich is the CEO & CTO of Escape Dynamics – an aerospace research and development company focused on highly efficient space launch and aerospace propulsion systems. Dmitriy is leading the research effort on advanced space launch engines, wireless energy transfer, high power microwaves, and novel high temperature materials. Dmitriy has a Ph.D. in astrophysics from Caltech and a M.Sc. in physics from Carleton University in Ottawa. Dmitriy is also a graduate of a post-graduate program at the Singularity University – an institution founded by Peter Diamandis and Ray Kurzweil to promote leadership and empower the cadre of young leaders to address grand challenges faced by humanity today. Dmitriy has more than 10 years of research experience in physics, astrophysics, and space engineering. His technical expertise includes theoretical and experimental physics, advanced propulsion systems, development of large numerical simulations, CAD and digital prototyping. Dmitriy's life is devoted to opening space for large scale commercial, social and scientific exploration and his work is focused on novel technologies that will allow affordable, sustainable and efficient access to space.
- Dr. Suma M N, General Electric Global R&D, Lead Scientist
 - <http://www.ge.com/about-us/research/>
 - Dr. Suma M N is a Lead Scientist at Global Research Centre, General Electric Bangalore. In over 6 yrs at Global Research Centre, she has worked on different applications of wireless power transfer for industrial, consumer and medical applications in the power range from 100mW to 3 kW. Her other areas of research include microwave sensors, advanced applications of Electromagnetics, Metamaterials, Microwave Antennas, Induction heating etc. She has more than 25 research publications in peer reviewed journals, conferences on microwave antennas and 25 patents on wireless power transfer, microwave sensors to her credit. Dr. Suma earned her Ph.D degree in microwave electronics from Cochin University of Science and Technology.

Panel #2

- Daniele Vacchi, IMA Industries (Italy)
 - <http://www.ima.it>
 - Daniele Vacchi is the Corporate Communications Director of IMA. IMA is a world leader in the design and manufacture of automatic machines for the processing and packaging of pharmaceuticals, cosmetics, food, tea and coffee. Daniele has been member of ISPE (International Society for Pharmaceutical Engineering) since 1991. Since 2003 he has been member of the Governors' Board of the Bologna branch of the Italian Central Bank. He has been member of the Board of UCIMA (Italian Packaging Machinery Manufacturers Association) from 2010 until 2013. He actively collaborates with national and local government agencies on economic and territorial development schemes. Since 2011, he is Secretary General of E.R.-AMIAT, an association based in Belgium and representing the interests of a large cluster of advanced mechanics and automation technologies..

- Magnus Nyberg, Solace Power Corp., VP Engineering
 - <http://www.solace.ca/>
 - Magnus is a highly experienced and accomplished electrical engineer and entrepreneur. Beginning his career in 1983, Magnus has served in various engineering and product management roles at Ericsson and Saab, where he was responsible for technology development, product management, and team leadership. Magnus has a proven track record of successfully commercializing technology solutions in both large and small organizations. He has brought this hands-on experience to Solace Power, where he is responsible for the advancement and commercialization of Solace's technology. Magnus has also been instrumental in expanding the company's patent portfolio. Magnus holds a Bachelor's Degree (B.Sc.) in Electronics and Telecommunications from Fyrisskolan, Uppsala, Sweden, a Masters of Science Degree (M.Sc.) in Electrical Engineering from the Royal Institute of Technology and Art, Stockholm, and has also received training in systems electronics with the Swedish Royal Navy.