Greetings!

Hello fellow Young Professionals (YPs)! I am one of the newly appointed EMC YP representatives, Louann Mlekodaj. Caroline Chen graciously handed over the reins of the YP committee to me. I would like to thank Caroline for her years of service as the EMC YP Representative. I look forward to building upon past EMC YP experiences. Please allow me to quickly introduce myself. I live and work in the Chicago, Illinois area for Shure, Incorporated, as a Senior Digital Wireless Engineer designing wireless products for their professional audio equipment. I received a BSEE and MSEE from the University of Illinois at Chicago (UIC) in 2005 and 2010, respectively, and have been an RF engineer for over twelve years in the wireless and electromagnetic Chicago Chapter over the years. I have been an IEEE member for nearly ten years, and active within the IEEE EMC Society! I am looking forward to meeting you at the 2018 EMC+SIPI Symposium in Long Beach from July 30 to August 3, 2018! If you would like to connect before the symposium, please email me at ieeeypemc@gmail.com or louann.mlekodaj_devine@ieee.org.

2018 IEEE EMC+SIPI Symposium in Long Beach

Have you registered for the 2018 EMC/SIPI Symposium yet? If not, do so today! Do not forget that in case you are not able to join us physically in Long Beach, California, you can still join us on the Digital Online Symposium. You will also have the chance to play back the tracks you miss.

YP Activities at the 2018 IEEE EMC+SIPI Symposium in Long Beach

• YPs Co-Chair Technical Committee (TC) Sessions: You may recall that the 2017 EMC/SIPI Symposium in Washington, DC had several invited YP co-chairs. The EMC Society believes that the co-chair experience will allow more YPs to build their network, confidence and knowledge about how the EMC Society and symposiums work behind the scenes with co-chair experiences. You will see several YPs co-chairs at the 2018 EMC+SIPI Symposium, and if you would like to co-chair future TC sessions, please contact me at ieeeypemc@gmail.com.

• YP Speed Networking Social Event, Monday, July 30 at the Yard House, 4:00-6:00 pm. Get to know the other young members of the EMC Society and comingle with the local YP affinity group from Coastal LA and Orange County! All Young Professionals (BS within 15 years) and Undergraduates are invited for some food and socializing. The social event will feature a speed networking event with eight to ten seasoned professionals for the YPs to network with in three-minute sessions. (Space and budget are limited to the first 100 YPs that RSVP!) Register at https://iplanit.swoogo.com/emc2018/sign-in?uid=-1

• YP Luncheon “What Does your Body Language Say about You” on Wednesday, August 1 at Rock Bottom Restaurant, 12:00-1:30 pm.

YPs activities are open to registered and non-registered attendees of the symposium. Contact ieeeypemc@gmail.com or louann.mlekodaj_devine@ieee.org for more information.

Feature YP: Dr. Ying Cao

It is my pleasure to introduce fellow EMC YP, Dr. Ying Cao. She received the B.S. degree in physics from the University of Science and Technology of China, Hefei, China, in 2012 and the Ph.D. degree in electrical and electronic engineering from the University of Hong Kong, Hong Kong, in 2016. Since October 2016, she has been a Visiting Assistant Research Professor at the EMC Laboratory, Missouri University of Science and Technology, Rolla, MO, USA. Her research interests include EMI/PI/SI, computational electromagnetics, and multi-physics modeling.

Dr. Cao has received several awards including:

• The Best SI/PI Paper Award at the 2017 IEEE International Symposium on EMC for her paper titled, “A Novel Z-Directed Embedded Component for the Reduction of Voltage Ripple on the Power Distribution Network for PCBs”.

• The Best Student Paper Award at the 2016 IEEE International Symposium on EMC for an accurate physics based circuit model for PDN top-layer interconnects to overcome the PDN analysis and optimization challenges.

• 2016 ACES Best Student Paper Award (5th place) for work that extends the PEEC method to develop the first derived circuit model of general graphene structures.

• The 2016 IEEE EMC Society President’s Memorial Award for her work developing a novel method to identify the radiation hot spots in electromagnetic interference (EMI) radiation. The paper was titled, “Quantifying EMI: A methodology for determining and quantifying radiating for practical design guidelines.” It was published in the IEEE Transactions on Electromagnetic Compatibility in October 2017. [1]

Dr. Cao explains in [1] that EMI occurs when there is a distur-
bance in the radio frequency spectrum that is generated by an external source, and consequently creates “hot spots.” These hot spots are where the majority of problematic, concentrated radiation comes from; they occur where radiation pools in an electronic device, and can cause devices to radiate excessively or otherwise fail unpredictably, which is harmful to people using the devices and the environment around them and at large. To solve this, Dr. Cao implemented a characteristic mode analysis to identify problems and particularly troublesome areas during the radiation process. Her work provides a guideline for discovering radiation-related geometrical features and representing them explicitly in order to understand how they influence circuit functioning. This way, new design methodologies can also be developed. Previously existing methods did not, and could not, identify geometrical features. Further, with radiation hot spots identified in the way that Dr. Cao enabled, she was also able to propose a new structure to add shielding material to the areas where hot spots created the most negative effect and radiation. By doing this, developers save money by spending less on expensive shielding materials.

In addition to the several awards she has won over the last few years, Dr. Cao was a session co-chair and severed as a volunteer at the 2017 IEEE International Symposium on EMC+SIPI in Washington, DC.

I hope you have the opportunity to review her paper [1] and that you can meet with Dr. Cao in Long Beach this year.

Are You a Future Feature YP?

I am also looking to feature individual YPs in the next several issues of the EMC Magazine. Do you have a paper presented at a past EMC symposium that you would like to republish? Are you working on a project that you would like to share with the YP community? If so, drop me an email at ieeeypemc@gmail.com or louann.mlekodaj_devine@ieee.org.

Reference


SAVE THE DATE:
ROACH Meeting to Convene in Seattle, Washington
October 30-31, 2018  Sponsored by the IEEE Seattle EMC Chapter

Back by popular demand! The Reverberation Chamber, Open Area Test Site and Anechoic Chamber (ROACH) Users Group meeting will reconvene at the NEW Hyatt Regency Lake Washington hotel on October 30-31, 2018.

October 30-31 – Technical Papers - Authors: Practical and theoretical papers are requested on topics related to the design and use of Reverberation Chamber, Open Area Test Site and Anechoic Chamber test and measurement facilities. Please send all technical program inquiries to Vignesh Rajamani of Exponent at vignesh@ieee.org.

October 30 - Exhibition: A one-day tabletop exhibition of EMC test and measurement products and services will be held at the Hyatt Regency Lake Washington hotel. Exhibitors should contact Janet O’Neil of ETS-Lindgren at j.n.oneil@ieee.org to reserve a table.

November 1 - Technical Tour: The meeting will conclude with an optional event. Boeing’s Dennis Lewis will coordinate a special tour for ROACH attendees. Details to be announced!

For more information, visit the IEEE Seattle Section website www.ieee-seattle.org