IEEE RFID 2021 Tutorials and Workshops, Call for Participation

IEEE RFID 2021 Workshop on ID+!

Organizers: Prof. Mohammad Alhassoun (KFUPM, Saudi Arabia) and Prof. Gregory D. Durgin (Georgia Tech, USA)

RFID technology has been mostly used for *identification*. Devices, manufacturing technologies, materials, algorithms, wireless technologies, and all aspects of RFID have evolved in unprecedented fashion. Yet, identification still dominates. This workshop and the associated technical track focus on the use of RFID and its enabling technologies beyond identification.

Topics Included

- Smart RFID materials

- Decentralization of RFID systems

- Advanced communication techniques: modulation, coding, multi-antenna systems

- Microwave, millimeter-wave, and terahertz backscatter systems

- Cryptography and security

- Ambient backscatter communications

How to submit?

There are three avenues of submission.

1. *Peer-Reviewed Conference Paper*

   For presentation of a peer-reviewed conference paper, submit a manuscript (4-6 pages) through the IEEE RFID 2021 Workshop on **ID+** track on EDAS. Paper submission deadline, notification of acceptance, and camera-ready version are the same as the general paper track in the conference.

2. *Abstract-Based Presentation*

   For an abstract-based presentation or demonstration, please e-mail a title, half-page abstract, short biography of presenter(s), and any other requirements (e.g. logistics of a hardware demo) to Prof. Mohammad Alhassoun (malhassoun@kfupm.edu.sa). The deadline is March 26 at 11:59 PM Eastern time.

3. *Number-Resolution Competition*

   At the 2020 IEEE RFID conference, Dr. Chris Diorio, the CEO and co-founder of Impinj, presented a major dilemma in RAIN RFID. As he stated, if you take any tag and read the numbers on it, it associates a number with an item you are holding and tells you nothing more! So, as a user, you gained no knowledge by reading the number on the tag. He articulated this issue in the following short video https://youtu.be/yLgxYtSgsTc. We consulted Dr. Diorio on the best way to stimulate research and innovation that tackles such a barrier. He gave us the following question that must be addressed: **Given the myriad encoding formats used on RAIN RFID tags, how do we (as item owners) resolve the numbers? And how do we build a distributed (non-centralized) resolver, to obviate political or geographic impediments?** The impact of addressing this question would revolutionize RAIN RFID industry. A simple implication of resolving the numbers on tags is that RFID reader could be easily (and usefully) embedded within smart phones.

   To apply for this competition, please submit a poster abstract and send an email to Prof. Mohammad Alhassoun (malhassoun@kfupm.edu.sa). The deadline for submitting the abstract is June 25 at 11:59 PM Eastern time. The winning proposal will be announced on July 25.

   The winner of the competition will be awarded a ... and will present his/her poster in the trade show of RFID Journal LIVE.