



Keynote Speaker: Dr. Ioan Tudosa
IEEE Senior Member
Habil. Prof. of Electronic Measurements

Presentation title: Measurements and Instrumentation for Hardware Security in IoT era: challenges and new research opportunities

Short Biography

Ioan Tudosa was born in Dorohoi, Romania, in 1984. He received the B.Eng. degree in 2008, the M.Eng. degree in 2009, and the Ph.D. degree in 2011, all in Electrical Engineering, from the „Gheorghe Asachi” Technical University of Iasi (TUIASI), Faculty of Electrical Engineering, Energetics and Applied Informatics, Romania.

He joined the Department of Engineering, University of Sannio, Benevento, Italy, in May 2012, where, currently, he is a Senior Researcher in field of electrical and electronic instrumentation R&D within the Laboratory of Signal Processing and Measurement Information (LESIM).

He has authored and co-authored more than 100 scientific papers (from which 67 are Scopus indexed, h -index = 12), published on international journals and conference proceedings. He is a reviewer of international journals and conferences. He serves as Guest Editor to the MDPI Metrology, MDPI Sensors, ACTA IMEKO, and he is member of Editorial board of SAGE IJDSN.

He received in 2019 the Award "*Best Research Contribution to the Instrumentation and Measurement field*" from the IEEE Instrumentation and Measurement Society - Romania Chapter.

His current research interests include developing of: (i) new circuit architectures for low-power data acquisition systems (DAQ), (ii) hardware design for front-end/back-end DAQ, (iii) Analog-to-Information Converters (AIC) design and characterization, (iv) jitter measurement and its standardization, (v) design of embedded systems, (vi) distributed measurement systems including wireless sensor networks (WSNs), (vii) digital signal processors (DSPs) systems, and (viii) Hardware Security for Internet-of-Things (IoT) systems.

Presentation abstract:

Broadly, Internet of Things (IoT) paradigm represents an evolving technology which tries to reach its main goal, where each and every '*thing*' (i.e. device) can be: (i) connected through a network and (ii) controllable from any remote station. Activity sectors like intelligent manufacturing, farms, e-agriculture, real-time traffic controls, environment monitoring, camera security systems, health-care, etc., are going to be fully governed by the IoT paradigm as backbone in the near future.

In this context, ensuring security during '*thing*' operation and information exchange becomes a critical task. Therefore, secured IoT applies equally to: (i) IoT device-to-device communication, (ii) IoT sensing/actuating, and (iii) IoT information exchange.

In this talk, a brief survey regarding the research pointing out the Hardware Security (HS) for IoT is presented. Furthermore, a short analysis regarding the existing trends for measurements and instrumentation is reported. As an example, a compressive-sampling based channel estimation method for the physical layer monitoring in communication networks, will be presented.