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Dr. Nicolas Mora

Directorate of Research and Extension,
National University of Colombia, Bogotá, CO

“Protection of Critical Infrastructures Against IEMI”

Date: 28th Sep. 2023

Time: 16:00 -17:00 (UTC+2, GE)

Location: [Wissenschaftliche Kommunikationszentrum](#)

(**Wikom**, Room 0053/54, inside building I)

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Hints: Online participation is possible upon request. Please **sign up in advance** (E-mail: cheng.yang@tuhh.de)

Joint DL-Event
(09.26 - 09.28 - 10.02)





EMC Distinguished Lecture by Dr. Nicolas Mora Protection of Critical Infrastructures Against IEMI

Abstract: The progress of high power electromagnetic (HPEM) sources during the late 1990s raised concern in the EMC community that they could be deployed for criminal purposes to interfere with the operation of modern electronic systems. It is well established that sufficiently intense electromagnetic fields can cause upset or damage in electronic systems and, therefore, can affect almost every critical infrastructure (CI) based on information and communication technologies (ICT). Protection against Intentional Electromagnetic Interferences (IEMI) threats can be acknowledged as a reminiscence of the cold war period and the research programs on protection against HEMP. This talk reviews the assessment techniques of the vulnerability of CI against IEMI. To quantify their impact, the IEMI environments need to be characterized, the susceptible components and subsystems of the CI should be identified, and the expected disturbances have to be evaluated.

Biography: Nicolas Mora (M'07 - SM '18) received a B. S. degree in Electronics Engineering in 2007, and a M.Sc. degree in Electrical Engineering with a major in High Voltage Engineering in 2009, both from the National University of Colombia. He joined the EMC Research Group of the National University of Colombia in 2007. In 2009 he joined the EMC Lab at the Swiss Federal Institute of Technology (EPFL). He received his Ph. D degree in Electrical Engineering from EPFL in 2016. From 2015 to 2019 he worked as an R & D Engineer for montena technology. In 2020 he joined the Directed Energy Research Center of the Technology Innovation Institute in Abu Dhabi, where he was the Senior Director of Electromagnetic Effects. In 2023 he joined the Research and Extension Directorate of the National University of Colombia. In 2011, he received the Frank Gunther Award of the Radio Club of America and the Young Scientist Award from URSI. From 2013-2016, he was the president of the Colombian Association of Researchers in Switzerland. In 2015 he received the Young Scientist Award from the Summa Foundation. He was appointed as a Distinguished Reviewer of the IEEE Transactions on Electromagnetic Compatibility in 2015, 2016, 2018, 2019, and 2020. He was the chair of the joint EMC / AP / MTT chapter of IEEE in Switzerland between 2016 and 2019. In 2016, he received the Best Paper Award from the EMC Europe 2016 Wroclaw Symposium. In 2018, he received the HPEM Fellow award from the Summa Foundation, and in 2019 the Motohisa Kanda Most Cited IEEE Transactions in EMC Paper Award. Since 2021 he has served as Associate Editor of the IEEE Letters on Electromagnetic Compatibility Practice and Application. Since 2022 he has been an Associate Editor of the IEEE Transactions on Electromagnetic Compatibility. He was elected IEEE EMC Distinguished Lecturer for the period 2022-2023. In 2023 he joined the Board of Directors of the IEEE EMC Society as a representative of R9.