

# Industry-Academic Forum on EMC 2020

## Academic Participants and Contributions



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### How Machine Learning Helps with the Design of Electronic Systems

The rise of machine learning (ML) has introduced many opportunities for computer aided design (CAD). Due to their ability to identify complex input-output relationships, deep learning algorithms have set state-of-the-art performance levels for a wide range of applications. The promise that ML can dramatically reduce design times and errors and improve runtime performance of electronic circuits and systems is thus very attractive.

This seminar modestly intends to illustrate some recent advances to the application of existing ML for CAD algorithms as well as use these advances to build new hardware that will further accelerate the application of ML. The feasibility and strengths of the several methods are demonstrated based on benchmarks and on the statistical assessment of realistic examples of digital systems.

**Flavio Canavero** received his electronic engineering degree from Politecnico (Technical University) of Torino, Italy, and the PhD degree from the Georgia Institute of Technology, Atlanta, USA, in 1986. Currently, he is a Professor of Circuit Theory with the Department of Electronics and Telecommunications, Politecnico di Torino. He is an IEEE and URSI Fellow. He received several Industry and IEEE Awards, including the prestigious Richard R. Stoddard Award for Outstanding Performance, and the Honored Member Award of EMC Society. His research interests include modelling and simulation for signal integrity and EMC problems, uncertainty quantification and machine learning techniques for the design of high-performance electronic systems.