

# Short Course on Selected Topics in Data Converter Design

By **Boris Murmann**

**Date:** 27<sup>th</sup> & 28<sup>th</sup> June, 2016

**Venue:** University of Limerick



**UNIVERSITY of LIMERICK**

OLLSCOIL LUIMNIGH

This course will cover advanced topics related to integrated CMOS circuit design for data converters. Focus is placed on topics that are rarely taught or haven't received an up-to-date treatment in commonly-used textbooks. The specific subjects include fundamentals on offset/flicker noise mitigation and distortion analysis, a review of DAC topologies used across a wide range of speeds and resolutions, as well as techniques designed to overcome circuit imperfections in both D/A and A/D converters via calibration.

## **Monday, 27th June, 2016**

08:30-10:30 Offset and 1/f Noise Reduction Techniques  
11:00-12:30 Low-frequency distortion analysis  
14:00-15:30 High-frequency distortion analysis  
16:00-17:30 D/A converter design

## **Tuesday, 28<sup>th</sup> June, 2016**

09:00-10:30 D/A converter design  
11:00-12:30 D/A converter design  
14:00-15:30 Data converter calibration techniques (D/A & A/D)  
16:00-17:30 Data converter calibration techniques (D/A & A/D)

## **Biography**

Boris Murmann is a Professor of Electrical Engineering at Stanford University. He received the Ph.D. degree in electrical engineering from the University of California at Berkeley in 2003. From 1994 to 1997, he was with Neutron Microelectronics, Germany, where he developed low-power and smart-power ASICs in automotive CMOS technology. Dr. Murmann's research interests are in the area of mixed-signal integrated circuit design, with special emphasis on data converters and sensor interfaces. In 2008, he was a co-recipient of the Best Student Paper Award at the VLSI Circuits Symposium in 2008 and a recipient of the Best Invited Paper Award at the IEEE Custom Integrated Circuits Conference (CICC). He received the Agilent Early Career Professor Award in 2009 and the Friedrich Wilhelm Bessel Research Award in 2012. He has served as an Associate Editor of the IEEE Journal of Solid-State Circuits and as the Data Converter Subcommittee Chair of the IEEE International Solid-State Circuits Conference (ISSCC). He is the program chair for the ISSCC 2017 and a Fellow of the IEEE.