



# Practical Design of Data Converters

**ON-LINE CLASS by Microsoft TEAMS**

**March 1-12, 2021**

<b>WEEK 1</b>	<b>MARCH 1-5</b>	10 Modules (1:30hr each), 2 Modules per day		
<b>WEEK 2</b>	<b>MARCH 8-12</b>	10 Modules (1:30hr each), 2 Modules per day		
<b>DAILY</b>	Central European Time <b>CET (Lausanne)</b>	Eastern Standard Time <b>EST (New York)</b>	Pacific Standard Time <b>PST (California)</b>	India Standard Time <b>IST (India)</b>
Module 1	3:00-4:30 pm	9:00-10:30 am	6:00-7:30 am	7:30-9:00 pm
Module 2	5:00-6:30 pm	11:00-12:30 pm	8:00-9:30 am	9:30-11:00 pm
Module 3 (Wed. March 10)	6:45-7:30 pm	12:45-01:30 pm	09:45-10:30 am	11:15 pm-12:00 am
<b>WEEK 1</b>	Module			
Monday, March 1	1	Basic ADC Topologies: Overview		Marcel Pelgrom
	2	Specifications Overview: INL, DNL, THD, SFDR, SNR, DR, ENOB, Jitter		Marcel Pelgrom
Tuesday, March 2	1	Simulating ADCs: Frequency Domain: FFT, Bin Choice, Windowing, Noise Level, kT/C Noise		Shanthi Pavan
	2	Oversampling ADCs : Discrete-and-Continuous-Time Delta-Sigma Converters		Shanthi Pavan
Wednesday, March 3	1	Nyquist ADC Architectural Accuracy-Speed-Power Limits in Deep-Scaled CMOS		Filip Tavernier
	2	ADC Comparators		Marcel Pelgrom
Thursday, March 4	1&2	Mismatch-Shaping Multi-Bit DACs		Ian Galton
Friday, March 5	1&2	Time Interleaved ADCs		Marcel Pelgrom
<b>WEEK 2</b>	Module			
Monday, March 8	1	ADC Comparators and Reference		Marcel Pelgrom
	2	SAR Versus Pipeline		Marcel Pelgrom
Tuesday, March 9	1	Case Study: Low-Power Data Converters (1)		Kofi Makinwa
	2	Case Study: Low-Power Data Converters (2)		Kofi Makinwa
Wednesday, March 10	1	Case Study: Interleaved ADCs		Filip Tavernier
	2	Hybrid Time-Voltage Based Converters with or without Noise Shaping		Filip Tavernier
	3	Noise-Shaping SAR ADC		Gabor Temes
Thursday, March 11	1	Simulating Sigma-Delta Converters: Part 1		Shanthi Pavan
	2	Simulating Sigma-Delta Converters: Part 2		Shanthi Pavan
Friday, March 12	1	Case Study: Low-Speed Delta-Sigma Converter		Shanthi Pavan
	2	Case Study: High-Speed Delta-Sigma Converter		Shanthi Pavan