



# Practical Aspects of Mixed-Signal IC Design

**ON-LINE CLASS by MS TEAMS**

**AUGUST 30 - SEPTEMBER 10, 2021**

| WEEK 1                        |        | AUG 30 - SEPT 3   |   |   |                                    |
|-------------------------------|--------|---|---|---|------------------------------------|
| WEEK 2                        |        | SEPT 6-10   |   |   |                                    |
| <i>DAILY (August 30-31)</i>   |        | Central European Time<br>CET (Lausanne)                         | Eastern Standard Time<br>EST (New York) | Pacific Standard Time<br>PST (California) | India Standard Time<br>IST (India) |
| Module 1                      |        | 4:00-5:30 pm  | 10:00-11:30 am                          | 7:00-8:30 am                              | 7:30-9:00 pm                       |
| Module 2                      |        | 6:00-7:30 pm  | 12:00 am-1:30 pm                        | 9:00-10:30 am                             | 9:30-11:00 pm                      |
| WEEK 1                        | Module |   |   |   |                                    |
| Monday, August 30             | 1      | The Analog-Digital Trade-off - The Impact of Technology Scaling |   |   | Jan Rabaey                         |
|                               | 2      | ULP Mixed-Signal Design for IoT and Biomedical Interfaces       |   |   | Jan Rabaey                         |
| Tuesday, August 31            | 1&2    | ULP Mixed-Signal Design for IoT and Biomedical Interfaces       |   |   | Jan Rabaey                         |
| <i>DAILY (September 1-10)</i> |        | Central European Time<br>CET (Lausanne)                         | Eastern Standard Time<br>EST (New York) | Pacific Standard Time<br>PST (California) | India Standard Time<br>IST (India) |
| Module 1                      |        | 3:00-4:30 pm  | 9:00-10:30 am                           | 6:00-7:30 am                              | 6:30-8:00 pm                       |
| Module 2                      |        | 5:00-6:30 pm  | 11:00-12:30 am                          | 8:00-9:30 am                              | 8:30-10:00 pm                      |
| Wednesday, Sept 1             | 1      | Offset and CMRR: Random and Systematic                          |   |   | Willy Sansen                       |
|                               | 2      | Fully-Differential Amplifiers                                   |   |   | Willy Sansen                       |
| Thursday, Sept 2              | 1      | Interference Effects: CMRR/PSRR                                 |   |   | Michiel Steyaert                   |
|                               | 2      | Circuit Design for EMC  |   |   | Michiel Steyaert                   |
| Friday, Sept 3                | 1      | Noise Calculation and Simulation in SC & CT ICs                 |   |   | Christian Enz                      |
|                               | 2      | Noise and Offset Reduction Techniques                           |   |   | Christian Enz                      |
| WEEK 2                        | Module |   |   |   |                                    |
| Monday, Sept 6                | 1      | Noise Coupling in Mixed-Mode ICs:                               |   |   | Tim Schmerbeck                     |
|                               | 2      | Mechanisms, Simulation, Measurement                             |   |   | Tim Schmerbeck                     |
| Tuesday, Sept 7               | 1      | Design Strategy/Hardware Example                                |   |   | Tim Schmerbeck                     |
|                               | 2      | Design for (ESD) Robustness in Silicon ICs                      |   |   | Tim Schmerbeck                     |
| Wednesday, Sept 8             | 1&2    | Matching Impairments in Mixed-Mode ICs                          |   |   | Herman Casier                      |
| Thursday, Sept 9              | 1      | Modeling and Simulation, Design Methodology                     |   |   | Pavan Hanumolu                     |
|                               | 2      | Practical Techniques of Frequency Compensation                  |   |   | Vadim Ivanov                       |
| Friday, Sept 10               | 1&2    | Circuit Techniques for OpAmp Speed and Accuracy                 |   |   | Vadim Ivanov                       |