

## Italo Gorini 2018



Contribution ID: 14

Type: **not specified**

## F. Iaccarino

*Monday 10 September 2018 11:00 (1h 30m)*

### Tutorial STMicroelectronics

The LSM6DSR is the new inertial 6-axis sensor from STMicroelectronics, addressing new, growing applications that require measurements with high precision and stability in all conditions. During the presentation, it will be explained how to approach the choice of an inertial sensor, given an application, and which are the most crucial sensor parameters for each selected application.

The LSM6DSR offers new some digital features, embedded into the device itself, that will be described. They are a built-in Finite State Machine and a Decision Tree. These features are very useful to integrate an inertial sensor, as a motion detector, into more complex systems without overloading the main processor with unnecessary computation. During the presentation it will also be explained how these advanced digital features work and what results can be achieved.

The digital features are easily programmed using a development systems using of one STM32 microcontrollers. During the presentation, it will be used a Nucleo development Board based on the STM2L4 series, which is a an ultra-low-power MCU based on ARM® Cortex®-M4. In addition to being very power efficient, the MCU offers 100DMIPS, a Floating Point Unit and DSP instructions, useful to implement more complex algorithms, and 12-bit 5Msps ADC, 12-bit DAC channels for control of other plant devices.

**Presenter:** Mr IACCARINO, Federico (STMicroelectronics)