



2024 IEEE

INTERNATIONAL SYMPOSIUM ON

**M&N** Measurements  
and Networking

July 2-5, 2024 - Rome, Italy

## COME PARTICIPATE IN THE HANDS-ON LAB AT IEEE M&N 2024!

The IEEE 1451 family of standards ensures seamless integration and interoperability of devices within the same ecosystem addressing IoT and CPS needs. The standard is the focus of the hands-on lab that includes theoretical and experimental sessions. The IEEE 1451 is a collaboration between the IEEE Instrumentation and Measurement Society and the IEEE Industrial Electronics Society.

This session will consist of a 1-hour theoretical class and a 2-hour laboratorial class.

### Conceptual background- 1 hour

- » Introduction and Motivation
- » IEEE 1451 Family Reference Model
- » Transducer Electronic Data Sheets
- » TIM TransducerChannels Structure and Organization
- » TransducerChannels Attributes and operating modes
- » Triggering, Synchronization and Status
- » Message Structures and Commands TIM/NCAP
- » How to use the IEEE 1451 in my product

### Hands-on Application Lab – 2 hours

- » The laboratory explores how to develop a Transducer Interface Module (TIM).
- » A Low-Power Temperature Smart Sensor's source code is provided to be executed in a MSP430.
- » First, the TIM internal structure is explored. Afterwards, the attendees will be guided in adding a new transducer channel.

Participants will receive the following support documentation free of charge:

- PowerPoint presentation used in the two lectures
- TIM source code (MSP430 version)
- Access to online tools
- Laboratorial protocol

Participation will be limited, so please sign up now!  
Students are especially encouraged to join.

This Hands-on-Lab will be a session in parallel with the Workshop on the second day of the conference, July 3, 2024. For more information on the Workshop, please visit the **M&N 2024 Website**.

**GOOGLE FORM**

