



AVVISO DI SEMINARIO

Il giorno 12 Febbraio 2019

alle ore 15.00 presso l'Università degli Studi di Roma TOR VERGATA
Facoltà di Ingegneria – Via del Politecnico, 1 – Aula B15 - Edificio Didattico

Il Dr. Luca Callegaro

dell'Istituto Nazionale di Ricerca Metrologica (INRIM) terrà un seminario organizzato dal Prof. Gaspare Galati per la Ph.D. School in Electronic Engineering - DIE - Tor Vergata University su:

The Redefinition of the International System of Units

Abstract: The International System of units (SI) is the basis of modern day measurements. In the SI currently in force, base units are defined in very different ways; the kilogram is defined as the mass of a single object, the international prototype - a cylinder of platinum-iridium alloy manufactured in 1889. The prototype is unique, at risk of damaging, nearly inaccessible (only about every 40 years) and there is some evidence of a change in its mass. On 16 November 2018 the General Conference of Weights and Measures has approved a major redefinition of the SI. All the seven base units will be defined in terms of a fundamental constant of nature, which will have an exact value. It will be possible to realize the units everywhere and everytime, by probing with experiments these fundamental constants. Electrical units will be defined in terms of the elementary charge e and the Planck constant h ; it will be possible to realize the volt, ohm and ampere by quantum experiments in solid-state devices. The kilogram, redefined in terms of h , will be realized by counting atoms in a silicon sphere, or linking it to the quantum realization of the electrical power unit, the watt. The redefinition will enter into force on the implementation day: May 20, 2019.

Luca Callegaro:

Luca Callegaro (1967) holds a degree in Electronic Engineering (1992) and a Ph. D. in Physics (1996), both from Politecnico di Milano. He joined the Istituto Nazionale di Ricerca Metrologica, INRIM in Torino in 1996. His research interests are focused on electrical impedance; he is responsible of the Italian National standards of electrical impedance. He is chairman of the Technical Committee for Electricity and Magnetism (TC-EM) of EURAMET, the European Association of National Metrology Institutes. He is author of about 90 papers on international reviews and of the book *Electrical impedance: principles, measurement and applications*.

La S.V. è gentilmente inviata a partecipare.
Inoltre è gradita la diffusione di questo invito a chiunque possa essere interessato alla manifestazione.

Il Presidente di
"Aerospace and Electronic Systems" Chapter
IEEE Italy Section
Ing. Alfonso Farina.