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DOTTORATO DI RICERCA / PHD PROGRAM IN  
INFORMATION TECHNOLOGY AND ELECTRICAL ENGINEERING

## Seminar announcement

Friday, 22<sup>nd</sup> October 2021, Time: 10:30 - 12:30  
Via Teams (Code: 39a8bp5)



### Dr. Antonio Manzalini

TIM, Turin, Italy

Department of Innovation

<https://www.gruppotim.it/it.html>

Email: [antonio.manzalini@telecomitalia.it](mailto:antonio.manzalini@telecomitalia.it)

# Second Quantum Revolution: innovation trends and expected industrial impacts

**Abstract:** The transformative role of Telecommunications and Information Communication Technologies (ICT) has long been witnessed as a precursor of the scientific progress, industrial impact and economic growth. Today, like never before, we are witnessing a pervasive diffusion of ultra-broadband fixed-mobile connectivity, the deployment of Cloud-native 5G network and service platforms and a wide adoption of Artificial Intelligence. This is the so-called Digital Transformation of Telecommunications. Nevertheless, this transformation is still laying its foundations on Electronics and the potential ending of

the Moore's Law: therefore, a rethinking of the ways of doing computation and communications have been already started. Will quantum technologies be the next breakthrough? As a matter of fact, a first quantum revolution started decades ago and has already brought quantum technologies in our everyday life. Today, a second quantum revolution is underway: significant developments are still needed, but in light of the potential opportunities generated by its expected industrial impacts, several investments are made worldwide across the public and private organizations.

**Lecturer short bio:** Antonio Manzalini received the M. Sc. Degree in Electronic Engineering from the Politecnico of Turin (Italy) and the PhD (cum Laude) on Computer Networks from Sorbonne Universités (France). In 1990 he joined Telecom Italia Lab (formerly CSELT). He started his job with RT&D activities on technologies and architectures for transport optical networks. Then, he was actively engaged (1996-2000) in the ITU-T standardization as Rapporteur. He was involved in several EURESCOM and European Project playing responsibility roles. He was Chair of the IEEE initiative on SDN, and currently is joining the Board of IEEE Comsoc Industry Committee. He was General Chair of the several IEEE Conferences. He owns seven patents on methods and systems for Telecommunications. His results have been published in more than 130 of technical papers and publications. Currently, his activities in TIM includes Cloud-Edge Computing, 5G and Quantum Communications. He is Chair of IG GSMA work-item on Quantum Networking and Services.

For information: Prof.ssa A. S. Cacciapuoti (DIETI, UniNA) –[angelasara.cacciapuoti@unina.it](mailto:angelasara.cacciapuoti@unina.it) (organizer)