



## Optical Fibers for a Sustainable Future

Thursday, May 15<sup>th</sup>, 2025, 10:30-12:30

Room B, Aule delle Scienze - Campus, University of Parma

### **“Towards greener networks and processors: exploiting light as the energy saving enabler”**

Piero Castoldi, *Full Professor in Telecommunications, Director of the TeCIP Institute at Scuola Superiore Sant’Anna, Pisa, Italy*

The seminar presents the role of photonics and optical networks in reducing energy consumption, with special focus on the reduction of power consumption in different network segments and in artificial intelligence processing. It will further outline perspectives for the telecommunication engineers.



**Piero Castoldi** (IEEE Senior Member) is Full Professor in Telecommunications and Director of the Telecommunications, Computer Engineering, and Photonics Institute (TeCIP) at Scuola Superiore Sant’Anna (Pisa, Italy), and Responsible for the "Networks and Services" area. He has been involved with various responsibilities in several national and EU FP7, H2020 and HE projects, and he has managed several corporate-sponsored projects with the Italian Railway Infrastructure Company, Ericsson, Telecom Italia and other companies. He is currently principal investigator of a large project on optical communication infrastructures of the future within the PNRR RESTART program. His most recent research interests lie in the areas of optical network architectures, network management and control, interconnection networks for Data Centers, 5G/6G networking. He is author of more than 500 technical papers published in international journals and international conference proceedings and he has filed more than 20 patents.

### **“The switching decade. The fiber promise for the resilience and the digital transformation”**

Sara Mazzarella, *Executive MBA at the Politecnico di Milano, Senior Advisor for technical regulation and radio spectrum, Open Fiber S.p.A.*

The seminar is focused on the role of optical fiber for the digital transformation of the economy, through the switch-off of the outdated technologies and the adoption of innovative solutions based on the principles of resilience, ethics and sustainability of infrastructures. It will offer insights on the role of fiber as an enabler for vertical services, focusing on some empirical applications (fiber sensing, smart cities, telemedicine). Concluding reflections on the future challenges for the industry and the role of the telecommunications engineers to drive the digital revolution will be provided.



**Sara Mazzarella** is Executive MBA at the Politecnico di Milano and Senior Advisor with specific commitment in technical regulation and radio spectrum in Open Fiber, the company responsible for deploying a nationwide ultra-broadband network in Italy. As ambassador for Open Fiber, in the RESTART program she is project manager for the issues related to the market analysis, the regulatory challenges and the deployment of future proof architectures and services. At the same time, she holds a role of Adjunct Professor in LUISS University and LUISS Business School of Rome.

For more information: Prof. Federica Poli, [federica.poli@unipr.it](mailto:federica.poli@unipr.it)