Mario Marchese

Full professor

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Education and training

1986

'Liceo Scientifico' Degree

60/60

Liceo scientifico statale L. Lanfranconi - Genova - IT

1992

Laurea in Electronic Engineering

Design and performance analysis of strategies for resource allocation in ATM networks - 110/110 cum laude

University of Genoa - Genova - IT

1997

PhD in Telecommunications

Study and performance analisys of Call Admission Control and Routing Schemes in ATM Networks

Evalution Committee of Telecommunications Ministery of Research - Roma - IT

Academic experience

1993 - 1996

PhD Student

University of Genoa - Genova - IT

Research software design

1996 - 1999

Reaserch Assistant

University of Genoa / Polythecnic of Milan - Genova/Milano - IT

Research Software design Thesis Coordination

1999 - 2001

Research Scientist

CNIT - National Consortium for Telecommunications - Genova/Parma - IT

Research research project financial and technical proposal

2001 - 2005

Head of Research - Senior Scientist

CNIT - Italian National COnsortium for Telecommunications - Genova/Parma

- IT
Research Financial and Tecnical Management of Research Projects
Management of Research Scientists

2005 - 2016
Associate Professor
University of Genoa - Genova - IT
Research Teaching Managing of Reserch Projects and Research Personnel

2016 - ONGOING
Full Professor
University of Genoa - Genova - IT
Research Teaching Managing of Reserch Projects and Research Personnel

Work experience

1992
Software Designer
Marconi SpA - Genova - IT
Software design

1993 - 1997
Consultant
SIRTI S.p.A. ELEA S.p.A. Sciro Electra - Mialano/Ivrea/Genova - IT
Telecommunications consultant

Language skills

English	**French**	**German**
Proficient	Basic	Basic
TRINITY COLLEGE - Llv. 9		

Research interests
The most important contribution of Mario Marchese's scientific activity wasin the field of satellite, space and heterogeneous telecommunications. Hewas among the first to understand the problems of TCP and transport levelson satellite routes providing, at the same time, algorithmic solutions andarchitectures to solve them. He devised and applied control strategiesin telecommunications for the dynamic assignment of thechannel bandwidth in satellite communications and heterogeneous networksobtaining scientific results that have been published in some of themost prestigious journals in the sector. He published the book 'Quality of Service over Heterogeneous Networks ', Wiley, in 2007, which contains a new vision of Quality of Service in telecommunications networks composed ofsatellite, radio and wired sections. Research topics treated and resultsobtained have had and have a significant impact both on the topics of the Academic Courses which Mario Marchese holds, and on the teaching methodology,

allowing to highlight in the lesson practical and experimental aspects.Research activity has always tended to maintain a high scientific level but it has always been developed within topics of great application and industrial interest, as certified both from the list of projects on which Mario Marchese has worked and from the filed patents.The main reference of the research activity carried out is the management of theQuality of Service (QoS) in heterogeneous telecommunications networks, which often involve portions of satellite and wireless networks, and interplanetary sections in the deep space for which appropriate schemes for data transmission were elaborated during the scientific activity.Quality of Service management in a heterogeneous network requiresthe introduction of network control solutions at both the architectural leveland at strictly algorithmic level. The results and the related conclusions are direct consequences of the research activity developed by the author throughout his scientific career. Indeed, the conducted research activity represents both temporally and scientifically the evolution of the research developed since 1992 and initially dedicated to the control of admission and routing in multi-service ATM networks. The studied control techniques have represented the scientific-cultural basis of departure for all subsequent scientific activities and, in particular, for the allocation and control of resources in integrated networks. Subsequently, the schemes elaborated for ATM have been used as background for the development of control mechanisms in TCP / IP networks. In this last case, the research, which began on the wired and wireless networks, was then focusedparticularly, from 1998-1999, on satellite and space systems, where mechanisms have been specifically studied, on the one hand to offer a certain level ofquality in networks intrinsically best-effort, if possible, and on the other hand to improve the quality offered by the network through protocol actions.The research carried out previously and the acquired experience has led topropose an extended view of the Internet (within the already existing concept of Future Internet) that also includes portions in the deep space in order to create a global communication network. The natural extension of the studies in interplanetary networks has been the application of the DTN solutions (Delay and Disruption Tolerant Networks). Research activity in this context continued with the analysis of specific problems such as the use of a node model for Intermittently Connected Networks (ICN) and the evaluation of theaverage delay, related to the delivery of packets, in networks where there is no guarantee that the source and destination are constantly connected. Furthermore, this activity gave rise to an international initiative dedicated to information routing in DTN networks, with particular reference to nanosatellites.The extension of satellite networks to the 5G domain, based on SDN andNFV paradigms, is the latest evolution of the research activity described above. The common scientific element of the activity carried out is the study,design and performance analysis of solutions that allow thedata transmission, voice and video at guaranteed quality in amulti-service telecommunications network. Therefore every topic canbe interpreted as a contribution to achieving the goal,which is the quality of service in heterogeneous networks for data, voice andvideo, including application terminals.