

Biography of Prof. Giovanni Giambene

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Giovanni Giambene (S'94–M'97–SM'99) was born in Florence, Italy, in 1966. He received the Ph.D. degree in Telecommunications and Informatics in 1997, both from the University of Florence, Italy. In 1999, he joined the Department of Information Engineering and Mathematical Sciences of the University of Siena, Italy. At present, he is an associate professor, teaching the first-level course on Fundamentals on Telecommunications and the advanced course on Networking at the University of Siena.

From 2000 to 2003, he contributed to the EU FP5 "Personalised Access to Local Information and services for tourists" (PALIO) IST Project. He was vice-Chair of the COST 290 Action (2004-2008), entitled "Traffic and QoS Management in Wireless Multimedia Networks" (Wi-QoS). He participated in the projects: (i) the SatNEx I & II network of excellence (EU FP6, 2004-2009) and SatNEx III&IV (ESA 2010-2018) as work package leader on radio access techniques, cross-layer air interface design, and network coding techniques for satellite systems; (ii) the EU FP7 Coordination Action "Road mapping technology for enhancing security to protect medical & genetic data" (RADICAL) as work package leader on security and privacy; (iii) the COST Action IC0906 (2010-2014) "Wireless Networking for Moving Objects" (WiNeMO) as national representative; (iv) the EU FP7 Coordination Action RESPONSIBILITY coordination action (see the video). At present, he is involved in the ESA IIT ROMANTICA project and the ESA SatNEX V project. Giambene is IEEE senior member and has been nominated IEEE Comsoc distinguished lecturer for the period 2021-2022. Since 2015, he has been an editor of IEEE Transactions on Vehicular Technology. Since 2019, he has been an editor of IEEE Wireless Communications Magazine. Since 2018, Giambene is co-chair of the IEEE Future Network Initiative Working group on satellite communications, grouping dozens of researchers around the world (<https://futurenetworks.ieee.org/>)

Research interests are as follows: satellite networking, mobile and wireless networking, 5G, 6G, NB-IoT, DVB-Sx/-RCS2, satellite networking, network coding and packet-level FEC, acceleration of TCP performance, satellite-terrestrial integration, queuing theory, satellite and IoT applications to environmental monitoring and smart agriculture, mobile edge computing.

List of publications in international journals

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Giovanni Giambene, Motivation letter

I am an associate professor at the University of Siena, Department of Information Engineering and Mathematics, working in my university since 1999.

I have been doing research on satellite networking since my Ph.D. studies completed in 1997. Then I continued working on this subject through several projects over the years, like COST 227, COST 252, the SatNEx projects in 5 different frameworks from 2004 (1st framework in EU FP6) to nowadays (5th framework, funded by ESA), as well as other research grants financed by industries (e.g., Airbus, Inmarsat, OQ-Technology, etc.).

I have been IEEE ComSoc Member since 1997 (Member number 40065540). I have been active in the IEEE ComSoc Satellite and Space Committee (SSC) for more than 15 years, organizing many events including: a satellite systems summer school in Siena for Ph.D. students in 2011 with the support of many industries, Globecom 2005 Workshop on “Advances in Satellite communications”, and several other International Workshops on Satellite and Space Communications (technically endorsed by IEEE ComSoc) in years 2005, 2006, 2007, 2008, and 2009. At present, I am co-chairing a research team under the IEEE Future Networks Initiative (FNI), investigating future satellite systems to highlight challenges and potential solutions.

I believe I have acquired experience in the field of satellite systems and networks over the years and constantly followed the activities of the ComSoc SSC. Therefore, I believe I have the experience to propose myself for the role of chair of this prestigious team. If I am elected, I will continue my intense activity by providing all my efforts to make ComSoc SSC a successful committee, contributing to flagship conferences and special issues for top-level journals.

In the last years, we have seen an incredible spread of new satellite systems with complex orbital deployment, making the Internet from the Sky a definite possibility, as demonstrated by the many operational systems like Starlink, OneWeb, and Telesat, to name a few. The next years will see the consolidation of these systems and technologies encompassing even more efficient satellite communications systems with active beamforming, the pervasive use of AI/ML to optimize the system on the fly, innovative network management, system virtualization, novel security schemes, and the progress of the standardization (e.g., the 3GPP standardization of satellite 6G).

If I am elected, I will continue the work of my predecessors, assuring that SSC will be able to lead the innovation of future satellite communications systems in this incredible time of new opportunities.

Thank you very much.

Sincerely,



Giovanni Giambene

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