

## Dr. Luigi Atzori

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CONTACT INFORMATION Full Professor  
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BIOGRAPHICAL SKETCH Luigi Atzori is Full Professor at the Department of Electrical and Electronic Engineering, University of Cagliari (Italy) and Research Associate at the Multimedia Communications Laboratory of CNIT (Consorzio Nazionale Inter-universitario per le Telecomunicazioni). Dr. Atzori received his Ph.D. degree in electronic engineering and computer science from the University of Cagliari in 2000. He spent the seven months from November 2003 to May 2004 at the Department of Electrical and Computer Engineering, University of Arizona, as Fulbright Visiting Scholar. He was Visiting Professor at Telecom SudParis, in Evry, France, in August-October 2016.

L. Atzori research interests are in multimedia communications and computer networking, with emphasis on multimedia QoE, multimedia streaming, NGN service management, service management in wireless sensor networks, architecture and services in the Internet of Things. Recently, he has been involved in projects related to QoS management in NGN networks, context-aware multimedia information provisioning, commissioning and monitoring in wireless sensor networks, architecture for adaptive networked embedded systems. He has been the coordinator of the Marie Curie Initial Training Network on QoE for multimedia services (qoenet-itn.eu), which involved ten European Institutions in Europe and one in South Korea. He has published around 150 journal articles and peer-reviewed conference papers. His research has been funded by European, national, regional and industrial grants.

L. Atzori is senior member of IEEE (since 2009) and has been the Steering Committee Chair of the IEEE Multimedia Communications Committee (MMTC) for the years 2014-2016. He has been the associate and guest editor for several journals, included: ACM/Springer Wireless Networks Journal, IEEE IoT journal, IEEE Comm. Magazine, the Springer Monet Journal, Elsevier Ad Hoc Networks, and the Elsevier Signal Processing: Image Communications Journal. Currently he serves in the editorial board of the following journals: Elsevier Digital Communications and Networks and IEEE Open Journal of the Communications Society. He served as a technical program chair for various international conferences and workshops, including ICC and Globecom workshops, ACM MobiMedia and VLBV. He served as a reviewer and panelist for many funding agencies, including FP7, Horizon2020, Cost Actions, Italian MIUR and Regional funding agency.

EMPLOYMENT HISTORY **Professor** October 2019 to present  
Department of Electrical and Electronic Engineering, University of Cagliari

**Associate Professor** October 2014 - September 2019  
Department of Electrical and Electronic Engineering, University of Cagliari

**Researcher** November 2000 to present  
Department of Electrical and Electronic Engineering, University of Cagliari

**Project Technical Coordinator** January 2000 - December 2002  
CNIT - Consorzio Nazionale Interuniversitario per le Telecomunicazioni

**Postdoctoral Research Associate** August 2000 - October 2000  
Department of Electrical and Electronic Engineering, University of Cagliari

VISITING PERIODS **Visiting Professor** August 2016 - October 2016  
Dept. Telecommunications Networks and Services, Telecom SudParis Grand École

**Fulbright Visiting Scholar** November 2003 - June 2004  
Department of Electrical and Computer Engineering, The University of Arizona

**Visiting Student** Summer 1995  
Telecom Italia Group training center in L'Aquila

**Erasmus Visiting Student** Summer 1994  
Institut fuer Technische Mechanik in Braunschweig (De)

EDUCATION **University of Cagliari**, Cagliari, Italy

Ph.D., Electronic and Computer Engineering, February 2000

- Thesis title: *Post-processing and error control for high-quality visual communications*
- Advisors: Prof. Gianni Vernazza and Prof. Francesco De Natale
- Area of study: Multimedia Communications

M.Sc., Electronic Engineering, April 2006

- Dissertation title: *A new system for the transmission of multimedia-hypertextual information using MPEG-2 transport stream private data*
- Advisors: Prof. Gianni Vernazza and Prof. Daniele Giusto
- Area of study: Multimedia Communications

AWARDS AND HONORS

**Scientific papers awards**

- 2017 IEEE MMTTC (Multimedia Technical Committee) Best Conference Paper Award, for the paper *QoE-aware Service Delivery: A Joint-Venture Approach for Content and Network Providers*, in Proc. IEEE International Conference on Quality of Multimedia Experience (QoMEX 2016), Lisbon, Portugal, June 2016, pp.1-6 (co-authored with Arslan Ahmad and Alessandro Floris)
- Best paper award at the conference International IEEE/IFIP Workshop on QoE Management 2017, jointly with IEEE/IFIP IM Conference, for the paper *OTT-ISP joint service management: a Customer Lifetime Value based approach* (co-authored with Alessandro Floris, Arslan Ahmad)
- Best paper award at the conference International Conference on Telecommunications (ICT) 2016, for the paper *IoT-D2D Task Allocation: an Award-Driven Game Theory Approach* (co-authored with Emad Abd-Elrahman, Hossam Afifi, Makhlof Hadji and Virginia Pilloni)
- Best paper award runner-up at the conference Innovation in Cloud, Internet and Networks (ICIN) 2016, for the paper *Resource Allocation Using Virtual Objects in the Internet of Things: a QoI Oriented Consensus Algorithm* (co-authored with Andrea Carta and Virginia Pilloni)
- Best paper award runner-up at the IEEE World Forum on IoT 2015 for the paper *Taking the SIoT down from the Cloud: Integrating the Social Internet of Things in the INPUT Architecture* (co-authored with Ivan Farris, Roberto Girau, Michele Nitti, Roberto Bruschi, Antonio Iera and Giacomo Morabito)
- Nominated for the best paper award of the ITU-T Kalidoscope 2011 conference for the paper *Making things socialize in the Internet - Does it help our lives?* (co-authored with Antonio Iera and Giacomo Morabito)

### **Sardinian StartCup Competition**

- First prize for the startup idea GreenShare (together with Giuseppe Colistra, Michele Nitti and Virginia Pilloni), a system for real-time carpooling - 2012
- First prize for the startup idea BreadCrump (together with Matteo Cantarelli, Giovanni Idilli and Daniele Giusto), a service for object and people localization based on smartphones' sensors and QR/RFID tags - 2010

### **NoAE - Network of Automotive Excellence**

- Winner of the Innovations Champions Award (Jury with members from Airbus, Audi, Boeing, Bombardier, GM/Opel, Porsche, Volkswagen, Skoda, Siemens - 30 members from 10 different countries) for the project Vanet2Grid - 2012

### **IEEE**

- Steering Committee Chair of the Multimedia Communications Technical Committee (MMTC) of the Communications Society, 2014-2016
- ViceChair of the Multimedia Communications Technical Committee (MMTC) of the Communications Society, 2012-2014
- CoChair of the MMTC Interest Group on Quality of Experience, 2010-2012
- Senior Member, since 2009
- Member of the Multimedia Communications Technical Committee (MMTC), since 2005

### **Fulbright**

- Awarded a Fulbright Scholarship (category: Visiting Scholar) to work on *video streaming* at the Department of Electrical and Computer Engineering, University of Arizona (Tucson, AZ, USA) - 11/2003-05/2004

### **Telecom Italia**

- Award for outstanding thesis in telecommunications, 1996

### PROFESSIONAL SERVICE

### **Project Referee**

- Evaluator for several H2020 RIA/IA open calls from 2016
- Evaluator for the Science Foundation Ireland, TIDA calls 2013, 2016, 2019
- Evaluator for Tuscan Regional calls for Research&Development projects, 2014-15
- Evaluator for the first FI-WARE call, 2014
- Evaluator for the Romanian National Council for Research and Development, Funding Application for Joint Applied Research Projects PN-II-PT-PCCA-2011-3, 2011
- Evaluator for the State Secretariat for Education and Research SER, Swiss Confederation, COST Action, 2011
- Evaluator for the Sardinian Research Agency, funding scheme for PMI research and development projects, since 2008
- Evaluator for the European Commission within the Seventh Research Framework Programme (FP7), since 2007 (FP7-ICT-2007-1, FP7-ICT-2011-7 and FP7-ICT-2013-10)
- Reviewer for FP7-funded (NOE and IP) projects in 2013, 2014 and 2015
- Evaluator of National Research Projects for the MIUR (Italian Ministry of Scientific Research and Education), since 2005 (PRIN program in 2005, EUREKA program since 2010, FAR 297 since 2012)
- Member of the commission for the competitive tender for the Sardinian Regional Telecommunication Network (budget around 10MEuro), in 2005

### **Editorial board**

- Associate Editor, IEEE Open Journal of the Communications Society, 2019 - present
- Associate Editor, Elsevier Digital Communications and Networks, 2015 - present
- Editor of the Infocommunications Journal, 2012 - present
- Associate Editor, IEEE IoT Journal, 2013 - 2018
- Associate Editor, Elsevier Ad Hoc Networks Journal, 2013 - 2018
- Associate Editor, Hindawi Advances on Multimedia Journal, November 2010 - 2016
- Guest Editor (with Luigi Patrono, Aitor Almeida, Cosimo Distanto), MDPI Sensors, special issue on *Emerging IoT Technologies for Smart Environments*, 2019
- Guest Editor (with Luigi Patrono, Marina Mongiello, Petar Solic, Aitor Almeida), Elsevier Future Generation Computer Systems, special issue on *Smart Technologies and Architectures enabling the Internet of Things*, 2018
- Guest Editor (with Ejaz Ahmed, Ibrar Yaqoob, Muhammad Imran, Rajkumar Buyya, Michael Devetsikiotis), IEEE Access Journal, special issue on *Real-Time Edge Analytics for Big Data in Internet of Things*, 2018
- Guest Editor (with Raimund Schatz, Tasos Dagiuklas, Pedro Assuncao), Springer Journal on Multimedia Tools and Applications, special issue on *QoE Monitoring and Management for Future Internet Media Services*, April 2017
- Guest Editor (with Chang Wen Chen, Tasos Dagiuklas, Hong Ren Wu), IEEE Communications Magazine, feature topic on *QoE management in emerging multimedia services*, April 2012
- Guest Editor (with Periklis Chatzimisios, Chang Wen Chen, Tasos Dagiuklas, and Weisi Lin), Elsevier Visual Communication and Representation Journal, *Special Issue on QoE in 2D/3D Video Systems*, September 2012
- Editor (with Daniel D. Giusto, A. Iera and G. Morabito) of the book *The Internet of Things*, Springer, New York, ISBN: 978-1-4419-1673-0, 2010
- Editor of the ACM/Springer Wireless Networks Journal, 2007-2010
- Guest Editor (with Tasos Dagiuklas and Christos Politis), ACM/Springer Mobile Networks and Applications (MONET), special issue on *Multimedia over Ad-Hoc and Sensor Networks*, 2008
- Guest Editor (with Ebroul Izquierdo, Pascal Frossard, Ozgur Akan), Elsevier Image Communication Journal, special issue on *Mobile Video*, 2007
- Editor (with Daniel D. Giusto, Riccardo Leonardi, Fernando Pereira) of LNCS Visual Content Processing and Representation (Springer LNCS 3893) - *Proceedings of 9th International VLBV workshop*, 2005

### **Steering Committee**

- Co-chair of the Steering Committee of the MobiMedia International Conference ([www.mobimedia.org](http://www.mobimedia.org)), 2007-2011

### **General conference chair**

- IEEE IoT Vertical and Topical Summit on Tourism, Cagliari, Sardinia, Italy, September, 2020
- CNIT Tyrrhenian Workshop on Digital Communications, Sardinia, Italy, September, 2020
- QoMEX - International Conference on Quality of Multimedia Experience, technically sponsored by IEEE, Pula, Sardinia, Italy, June, 2018

- MobiMedia - Mobile Multimedia Communications, technically sponsored by ACM, Alghero, Sardinia, Italy, September 18-20, 2006

#### **Workshop chair**

- IEEE Globecom, Quality of Experience for Multimedia Communications, Washington, USA, 8 December 2016
- IEEE ICC, Quality of Experience-based Management for Future Internet Applications and Services, London, UK, June 2015
- IEEE ICC, QoE-centric Network and Service Management, Sydney, Australia, June 2014
- IEEE Globecom, Quality of Experience for Multimedia Communications Workshop, Atlanta, GA, USA, December 2013
- IEEE ICC, Immersive and Interactive Multimedia Communications over the Future Internet, Budapest, Hungary, June 2013
- IEEE Globecom, Quality of Experience for Multimedia Communications Workshop, Anaheim, CA, USA, December 2012
- IEEE ICME, Streaming and Media Communications Workshop, Barcelona, Spain, July 2011

#### **Technical Program chair**

- Area Chair for the IEEE International Conference on Multimedia and Expo (ICME), London, UK, 2020
- IEEE ICC, Workshop on Quality of Experience-based Management for Future Internet Applications and Services (QoE-FI), Kuala Lumpur, Malaysia, 27 May, 2016
- ICC, Symposium on Communication Software, Services and Multimedia Applications, London, UK, 8-12 June 2015
- 9th International Wireless Communications and Mobile Computing Conference (IWCMC, sponsored by IEEE), Cagliari, Italy, 1-5 July 2013
- Track Chair for the track Multimedia networking and communications in IEEE ICME, San Jose, California, USA, 2013
- MobiMedia, Cagliari, Italy, September 5-7, 2011
- VLBV Workshop, Cagliari, Italy, September 15-16, 2005

#### **Event and Satellites chair**

- QoMEX - International Conference on Quality of Multimedia Experience, technically sponsored by IEEE, Erfurt, Germany, June, 2017

#### **Publication chair**

- International Symposium on Pervasive Systems, Algorithms, and Networks (I-SPAN 2017), sponsored by IEEE, Exeter, England, UK, 21-23 June 2017
- Tyrrhenian Workshop on The Internet of Things, Pula, Italy, September 2-4, 2009
- MSAN - Multimedia Services Access Networks, Orlando, Florida (USA), April 18-25, 2005
- Packet Video, Cagliari, Italy, May 1-2, 2000

#### **Session Chair**

- EUVIP 2019, 8-th European Workshop on Visual Information Processing, Rome, 2019
- QoMEX, 6th International Workshop on Multimedia Quality of Experience (QoMEX), Singapore, 2014

#### **TUTORIALS AND INVITED SPEECHES**

- Keynote: *The Great Potentials of Objects Collaborations in the IoT*, Splitech, Split, Croatia, June 2019
- Keynote: *Future challenges in IoT*, ICIN, Paris, France, 7 March 2017
- Keynote: *Trustworthiness and navigability in the Internet of Things*, MoWNet, Cairo, Egypt, 13 April 2016

- Tutorial: *The Internet of Things moves into the Cloud*, IEEE IC2E conference, Berlin, 4 April 2016
- Tutorial: *Defining and analysing the Internet of Things in the age of Social, Networks, Clouds, and Future Internet*, IEEE CCNC 2016, Las Vegas, USA, 9 January 2016
- Seminarial talk: *Trustworthiness and navigability in the Internet of Things*, ParisSaclay, Paris, 25 September 2015
- Tutorial: *Understanding the IoT evolution to master the IoT revolution*, European Wireless 2015, Budapest, Ungheria, 20 May 2015
- Tutorial: *The Social Internet of Things*, IC2E 2015, Tempe (AZ), USA, 9 March 2015
- Invited speech: *The IoT in the era of social networks*, ICOSST, International Conference on Open Source Systems and Technologies, Lahore, Pakistan, 19 December 2014
- Invited speech: *The SIoT platform*, R.I.O.T., Revolutionizing the Internet Of Things, Pisa, Italy, 10 October 2014
- Invited speech: *IoT, SIoT and SIoT-cast*, 19 Maggio, IEEE BTS Gold, Brasov, Romania, 10 May 2014
- Tutorial: *The Convergence of Social and Sensor Networks in the Internet of Things: From Theory to Practice*, IEEE WCNC 2014 Conference, Istanbul, Turkey, 6 April 2014
- Invited speech: *Architecture for the Social Internet of Things*, Chung-Ang University, Seoul, South Korea, 8 March 2014
- Tutorial: *The Convergence of Social Networks and the Internet of Things: Opportunities Technologies and Challenges*, IEEE IoT World Forum, Seoul, South Korea, 7 March 2014
- Invited talk: *E2E QoE management strategies: status of standards and unsatisfied needs*, 12 Marzo, Qualinet Cost Action General Assembly, Novi Sad, Serbia, 12 March 2013
- Tutorial: *When Social Networks meet the Internet of Things: new communication paradigms for the Future Internet of trillions of objects*, IWCMC2013 conference, Cagliari, Italy, 1 July 2013
- Invited speech: *Advances in multimedia communications*, Delaware State University, USA, 8 October 2007
- Invited speech: *Concealment techniques for multimedia communications*, The University of Arizona, USA, 15 March 2004

RESEARCH  
GRANTS AND  
CONTRACTS

- Principal investigator for the MISE project Monifive on the deployment of a 5G network for the monitoring of people mobility in urban areas. <http://www.moni5g.info>. Budget: 1MEuro. February 2020 - January 2022
- Local principal investigator for the UniCA Research Unit at CNIT, *COG-LO - COGNITIVE Logistics Operations through secure, dynamic and ad-hoc collaborative networks*, funded within the H2020 workprogramme. <http://www.cog-lo.eu>. Budget: 365KEuro. June 2018 - May 2021
- Principal Investigator, *Netergit - Network for energy and Internet of things*, funded by the Italian Ministry of Research and Education. Partners: Telit Communications, CNR-IOM, Consorzio Mosaico, Universit degli Studi di Cagliari. Budget: 6MEuro (1.4MEuro for the University of Cagliari). April 2017 - February 2020
- Network Coordinator, *QoE-Net: innovative Quality of Experience management in emerging multimedia services*, funded within the H2020 workprogramme. <http://qoenet->

itn.eu. Budget: 3MEuro. January 2015 - December 2018

- Scientific consultant, *INPUT: In-Network Programmability for next-generation personal cloud service support*, funded within the H2020 workprogramme. Budget: 3MEuro. January 2015 - December 2017
- Principal Investigator, *Cloud-based ERP for small companies*, funded by Sardinia Research Agency. Partners: University of Cagliari, Dababank Srl. Budget: 280KEuro. April 2013 - December 2014
- Principal Investigator, *Smarticket - a smart mobile payment platform*, funded by Sardinia Research Agency. Partners: University of Cagliari, Zetesis Srl. Budget: 300KEuro. April 2013 - December 2014
- Local co-Principal Investigator, *ACCUS - Adaptive Cooperative Control of Urban Subsystems*, funded by the European Commission. Budget for the University of Cagliari: 190KEuro. May 2013 - May 2016
- Local Principal Investigator, *DEMANES - Design, Monitoring and Operation of Adaptive Networked Embedded Systems*, funded by the European Commission. Coordinator: Akhela Srl. Budget for the University of Cagliari: 540KEuro. May 2012 - May 2015
- Member of the Management Committee for the Cost Action IC-9728 *3D-ConTourNet - 3D Content Creation, Coding and Transmission over Future Media Networks*, funded by the European Commission. 2012 - 2016
- Principal Investigator, *MobiUser - a mobile platform for visitors and citizens*, funded by Sardinia Research Agency. Partners: University of Cagliari, Agiletec Srl, Zetesis Srl. Budget: 550KEuro. September 2010 - June 2012
- Principal Investigator, *Short Range Networks: Tools and Methodologies for Monitoring and Commissioning*, funded by Telit Communications SpA. Budget: 15KEuro. 2011 - 2012
- Principal Investigator, *IKNOS - Quality of Service Management in Multiservice, Multidomain, Multivendor IP networks*, funded by the Italian Ministry of Research and Education. Partners: Tiscali SpA, University of Cagliari, CNIT. Budget: 5.688MEuro (1.3MEuro for the University of Cagliari). January 2005 - January 2009
- Principal Investigator, *Design and development of a distributed architecture for the storage and exchange of clinical data*, funded by Zetesis Srl and SBC Srl. Budget: 60KEuro. October 2008 - July 2009
- Principal Investigator, *Multimedia interactive communications through the DTT channel*, funded by Zetesis Srl. Budget: 30KEuro. May 2008 - November 2008
- Principal Investigator, research activity on the development of network performance improvement services for ATM multi-service solutions, funded by Ericsson Italia SpA for activities carried out by CNIT:
  - *Network Performance Review for Engine networks (NPR)*. Budget: 60Keuro. January 2001 - October 2002
  - *Switch Performance Improvement for AXD-301 switches (SPI)*. Budget: 30KEuro. December 2001 - June 2002
  - *NETwork Quarterly Benchmark for Engine networks (NetQB)*, Budget: 30KEuro. February 2002 - October 2002
  - *Performance Impact Analysis Model for multi-service networks (PIAM)*. Budget: 20KEuro. June 2002 - April 2004

- Director of Studies for the MSc course on Internet Technologies, University of Cagliari, from 2018
- Member of the Enlarged Academic Senate, University of Cagliari (representing the researchers category), 2001 - 2007
- Member of the CNIT Scientific Committee (representing the research Unit of Cagliari), 2005 - 2010
- Member of the board for the selection for five ICT technicians at the University of Cagliari, 2007
- Member of the board for the selection of the head of the network services office at the University of Cagliari, 2005

TEACHING DUTIES *Advanced Technologies for Internet Communications* - 6ECTS from 2015 to present  
MSc course on Telecommunication Engineering, Faculty of Engineering

*Internet* - 6ECTS from 2004 to present  
MSc course on Telecommunication Engineering, Faculty of Engineering

*Telecommunication networks* - 5ECTS from 2000 to 2010  
MSc course on Electronic Engineering, Faculty of Engineering

*Multiservice networks* - 6ECTS from 2005 to 2010  
MSc course on Telecommunication Engineering, Faculty of Engineering

*Communication systems* - 6ECTS from 2000 to 2005  
MSc course on Electrical Engineering, Faculty of Engineering

*Didactics of telecommunications* - 2ECTS from 2000 to 2005  
School for Secondary Education Teachers, Center for Education and Culture

#### **Tutor of the following PhD students**

- Francesca Marcello, started in 2019 (co-tutor)
- Claudio Marche, started in 2019 (co-tutor)
- Sima Ahmadpour, started in 2019
- Marco Uras, started in 2018
- Simone Porcu, started in 2017
- Elisavet Grigoriou, started in 2016

#### **Past tutor of the following PhD students**

- Arslan Ahmad, 2015-2018 (Senior RD Engineer at IS-Wireless, Poland)
- Alessandro Floris, 2012-2015, (Researcher at the University of Cagliari)
- Roberto Girau, 2012-2015, (Researcher at the University of Cagliari)
- Giuseppe Colistra, 2011-2014 (CEO of GreenShare Srl, [www.green-share.it](http://www.green-share.it))
- Michele Nitti, started in 2010-2013 (post-doct at Un. of Cagliari)
- Virginia Piloni, 2009-2012 (post-doct at Un. of Cagliari)
- Giovanni Branca, 2008-2011 (telecommunication Senior Engineer at Sielte SpA)
- Bernardo Alfonso Leal Perdomo, 2007-2010 (professor at the Universidad Simn Bolvar, Caracas, Venezuela)
- Fabrizio Boi, 2006- 2009 (research fellow at DIEE, University of Cagliari)
- Paolo Anedda, 2005-2008 (senior researcher at CRS4, Italy, and CEO of Zetesis Srl)
- Tatiana Onali, 2004-2007 (telecommunication Senior Engineer at Tiscali Italia SpA)
- Nicola Aste, 2002-2005 (telecommunication Senior Engineer at Tiscali Italia SpA)
- Mirko Lobina, 2001-2004 (telecommunication Senior Engineer at Tiscali Italia SpA)
- Alessio Raccis, 2000-2003 (telecommunication Senior Engineer at Tiscali Italia SpA)

PUBLICATIONS  
AND CITATION  
INDEXES

The list of publications is available at: [Luigi Atzori's Google Scholar profile](#)

h-index (Google Scholar): 35

total number of citations (Google Scholar): more than 22.000

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