



## Personal information

Surname(s) / First name(s) **Lo Cigno, Renato**  
Address(es) Via Fontanelle 15, 38049, Altopiano della Vigolana (TN), Italy  
Telephone(s) +39 0461 282026 (office) +39 335 166 7458 (personal)  
Email(s) locigno@disi.unitn.it  
Nationality(-ies) Italian  
Date of birth 08/08/1963  
Gender M

## Work history

Nov. 2002 - Ongoing  
Employer Associate Professor  
Department of Information Engineering and Computer Science (DISI), University of Trento

Feb. 2001 - Oct. 2002  
Employer Assistant Professor  
Politecnico di Torino

June 1998 - Feb. 1999  
Research Scholar  
CS Dept. University of California Los Angeles (UCLA)

Jan. 1991 - Jan. 2001  
Employer Research Engineer  
Politecnico di Torino

Sept. 1988 - Dec. 2000  
Employer Consultant  
Olivetti; Studio Torta (Patent Office); Politecnico di Torino

Italian ASN habilitations as Full Professor ("Professore di Prima Fascia")  
01/B1 – INF01: "Informatica"  
09/H1 – ING-INF05: "Sistemi di Elaborazione dell'Informazione"  
09/F2 – ING-INF03: "Telecomunicazioni"

Periods in International Research Centers  
**2001:** Jul-Aug (8 weeks), Computer Science Dept. University of California, Los Angeles (UCLA), USA, invited by Prof. Mario Gerla  
**2006:** Jul-Aug (8 weeks), Computer Science Dept. University of California, Los Angeles (UCLA), USA, invited by Prof. Mario Gerla  
**2013:** Jul-Aug (8 weeks), NEC EU Research Laboratories, Heidelberg, Germany, invited by Dr. Saverio Niccolini

## Academic Services and Roles

- 2016 – Ongoing: Member, for the University of Trento, of the council (“assemblea consortile”) of CINECA, the software house of the Ministry of Education and Research and most Italian public Universities.
- 2009 – Ongoing: “Delegato del Rettore per i servizi e le tecnologie informatiche” Rector ICT Delegate: Responsibility of the University policies in ICT infrastructure and services, including the interface with GARR and control on de-materialization administrative procedures. The delegation was given by Rector Bassi and has been confirmed by Rector de Pretis and Rector Collini.
- 2009 – Ongoing: Dept. ICT Coordinator: Supervision and coordination of the ICT technical staff of the department.
- 2009 – Ongoing: ICT PhD School Executive Committee Member: Elected Member of the Executive Committee of the ICT PhD School to support the coordinator activities.
- 2003-2009 Dept. Representative in the committee for the guidance of the policies in ICT services for the Faculty of Science.
- 2005-2012 Dept. Library Delegate: Coordination and approval of Department library policies and acquisitions.
- 2004-2010 Dept. Seminars Management: Organization and financial management of scientific seminars with general interest for the entire Department given by invited speakers.

## Education & Languages

July 1988 “Laurea in Ingegneria Elettronica con indirizzo Telecomunicazioni”, Politecnico di Torino, Italy

Mother tongue(s)  
Other language(s)  
*Self-assessment  
European level<sup>(\*)</sup>*

**English**  
**German**

### Italian

English, German

Understanding		Speaking				Writing	
Listening		Reading		Spoken interaction		Spoken production	
C2	Proficient user	C2	Proficient user	C2	Proficient user	C2	Proficient user
A1	Basic user	A1	Basic user	A1	Basic user	A1	Basic user

<sup>(\*)</sup>Common European Framework of Reference (CEF) level

I have passed the Cambridge Certificate of Proficiency in English (CPE), the highest certification of the Cambridge exams for non mother tongue; I have passed the ‘Zertifikat Deutsch als Fremdsprache’ of the Goethe Institut

## Institutional Teaching

AA 2018/2019

**Reti:** BSc, CFU 6, in Italian. A basic introductory course (II year, first semester) on Computer Networks featuring the Internet Architecture

**Wireless Mesh and Vehicular Networks:** MSc, CFU6, in English. A course on wireless networks based on 802.11 standards. MAC protocols and PHY level notions constitute the theory. Community Networks and bottom-up broadband initiatives, and Vehicular Networks for Cooperative Driving are the application domains discussed during the course

**Simulation and Performance Evaluation:** MSc, CFU 6, in English. An advanced course on data analysis, system modeling, and discrete event simulation (DES). The course deals with Stochastic Processes, Markov Chains and Queuing Systems from a theoretical point of view. DES is approached from the perspective of a random walk in the state space of a Semi-Markov Chain, with the development of simple Python simulations dealing with networking problems. Synthetic data is analyzed to understand its stochastic properties, e.g., parameters evaluation.

AA 2017/2018

**Reti:** BSc, CFU 6, in Italian. A basic introductory course (II year, first semester) on Computer Networks featuring the Internet Architecture

**Wireless Mesh and Vehicular Networks:** MSc, CFU6, in English. Same program as in 2018/2019

**Simulation and Performance Evaluation:** MSc, CFU 6, in English. Same program as in 2018/2019

AA 2016/2017

**Reti:** BSc, CFU 6, in Italian. A basic introductory course (II year, second semester) on Computer Networks featuring the Internet Architecture

**Nomadic Communications Laboratory:** MSc, CFU6, in English. A course with 50% hands-on work on MAC protocols for short range wireless networks (802.11)

**Simulation and Performance Evaluation:** MSc, CFU 6, in English. Same program as in 2017/2018

AA 2015/2016

**Reti:** BSc, CFU 6, in Italian. A basic introductory course (II year, second semester) on Computer Networks featuring the Internet Architecture

**Nomadic Communications Laboratory:** MSc, CFU6, in English. Same program as in 2016/2017

**Simulation and Performance Evaluation:** MSc, CFU 6, in English. Same program as in 2017/2018

AA 2015/2016

**Reti:** BSc, CFU 6, in Italian. A basic introductory course (II year, second semester) on Computer Networks featuring the Internet Architecture

**Nomadic Communications Laboratory:** MSc, CFU6, in English. Same program as in 2016/2017

**Simulation and Performance Evaluation:** MSc, CFU 6, in English. Same program as in 2017/2018

AA 2014/2015	<p><b>Nomadic Communications Laboratory:</b> MSc, CFU6, in English. Same program as in 2016/2017</p> <p><b>Advanced Networking:</b> MSc, CFU 6, in English. A deep understanding of the Internet as integrated services networks, from routing to congestion control, from reliable protocols to multimedia communications</p> <p>The course on networking (Reti di Calcolatori) was not held because it has been moved from year I to year II, so no there were no students to take it</p>
AA 2013/2014	<p><b>Reti di Calcolatori:</b> BSc, CFU 6, in Italian. A basic introductory course (I year, second semester) on Computer Networks featuring the Internet Architecture</p> <p><b>Nomadic Communications Laboratory:</b> MSc, CFU6, in English. Same program as in 2016/2017</p> <p><b>Advanced Networking:</b> MSc, CFU 6, in English. Same program as in 2014/2015</p>
AA 2012/2013	<p><b>Reti di Calcolatori:</b> BSc, CFU 6, in Italian. A basic introductory course (I year, second semester) on Computer Networks featuring the Internet Architecture; the course was moved from year II to year I, so the number of students were double, with lessons held in parallel in two rooms in teleconferencing</p> <p><b>Nomadic Communications Laboratory:</b> MSc, CFU6, in English. Same program as in 2016/2017</p> <p><b>Advanced Networking:</b> MSc, CFU 6, in English. Same program as in 2014/2015</p>
AA 2011/2012	<p><b>Reti di Calcolatori:</b> BSc, CFU 6, in Italian. A basic introductory course (II year, second semester) on Computer Networks featuring the Internet Architecture</p> <p><b>Nomadic Communications Laboratory:</b> MSc, CFU6, in English. Same program as in 2016/2017</p> <p><b>Advanced Networking:</b> MSc, CFU 6, in English. Same program as in 2014/2015</p>
Previous Years	I have regularly taught two or three courses on networking topic for a total of 18 CFU every academic year
<b>MSc and BCs Theses</b>	I have supervised (at the University of Trento) about 40 theses in MSc programs, 6 of which in double degree programs and about 60 theses in BSc programs
<b>PhD Membership and Courses</b>	I am member of the ICT PhD School of DISI, University of Trento, since the academic year 2002/2003. I have taught the following coursed either at Trento or in other Italian Universities:
Simulation and Performance Evaluation	2015-16 ICT PhD School, University of Trento, in English
P2P Networks	2009-10 ICT PhD School, University of Trento, a joint course with Prof. Alberto Montresor, in English
P2P Networks	2007-08 ICT PhD School, University of Trento, a joint course with Prof. Alberto Montresor, in English
Performance Modeling with Stochastic Processes	2007-08 Università degli Studi di Brescia, in English
QoS nelle WLAN: Lo Standard 802.11e	February 20-24, 2006, Dottorato in Telecomunicazioni Università di Napoli Federico II – Scuola di Dottorato in Ingegneria dell'Informazione, in Italian
<b>PhD Students Supervision</b>	
<b>Thang Le Nat</b>	2001–2006; Thesis title: "QBD Processes in Modeling Telecommunications Networks"

**Damiano Carra**

2003–2007; Thesis title: "Performance Evaluation of Overlay Content Distribution Systems"; Damiano Carra is currently associate professor at the University of Verona

**Viet-Thang Nguyen**

2004–2007; Thesis title: "Fractional Lambda Switching: Node Design and Time-blocking Analysis"

**Zoltaán Zsoóka**

2001–2006; Thesis title: "Performance modelling and analysis of IP over WDM networks." This PhD has been supervised together with Prof. László Jereb at the Department of Telecommunications of the Budapest University of Technology and Economics (BUTE), today the the University is called BME

**Csaba Kiraly**

2005–2012; Thesis title: "Some Performance and Design Aspects of Overlay Networks." This PhD has been supervised together with Prof. Tien Van Do at the Department of Telecommunications of the Budapest University of Technology and Economics (BUTE), today the University is called BME

**Alessandro Russo**

2008–2013; Thesis title: "Cooperative Push/Pull Protocols for Live Peer-assisted Streaming"

**Raihana Ferdous**

2009–2014; Thesis title: "Analysis and Protection of SIP based Services"

**Alexandre Kandalintsev**

2010–2016; Thesis title "Application Interference in Multi-Core Architectures: Analysis and Effects"

**Michele Segata**

2012–2016; Thesis title; "Safe and Efficient Communication Protocols for Platooning Control." This PhD was jointly supervised with Prof. Falko Dressler and lead to a double degree with the University of Innsbruck. Michele Segata received the award for the best PhD Thesis of the ICT school in the years 2015–2016

**Luca Baldesi**

2013–2017; Thesis title; "Distributed live streaming on mesh networks"

**Lorenzo Ghio**

2017–ongoing; Topic "Centrality Metrics in Routing and Blockchain applications to distributed networks"

### **PhD Evaluation Committees (outside Trento)**

**Waqar Hassan**; Politecnico di Torino, Italy

2019; Thesis title: "Smartphone based applications for Road Traffic Telematics." Supervisor: Prof. Guido Albertengo

**Chetan Belagal Math**;

Eindhoven University of Technology, The Netherlands

2019; Thesis title: "Decentralized congestion control for reliable vehicular communication." Supervisor: Prof.dr.ir. Sonia M. Heemstra - de Groot

**Ali Safari Khatouni**;

Politecnico di Torino, Italy

2018; Thesis title: "Experimentation and Characterization of Mobile Broadband Networks." Supervisor: Prof. Marco Mellia

**Bastian Bloessl**; Heinz Nixdorf Institute, Universität Paderborn, Germany

2018; Thesis title: "A Physical Layer Experimentation Framework for Automotive WLAN." Supervisor: Prof. Falko Dressler

**Iñaki Úcar Marqués**;

Universidad Carlos III de Madrid, Spain

2018; Thesis title: "Energy Efficiency in Wireless Communications for Mobile User Devices." Supervisor: Prof. Arturo Azcorra

**Ilias Chatzidrossos**; KTH, Stockholm, Sweden

2012; Thesis title: "Live Streaming Performance of Peer-to-Peer Systems." Supervisors: Prof. György Dán, Prof. Viktória Fodor

**Matti Juutilainen**;

Lappeenranta University of Technology (LUT), Finland

2009; Thesis title: "Towards Open Access Networks – Prototyping with the Lappeenranta Model." Supervisors: Prof. Jari Porras, Prof. Jouni Ikonen

## Research Interests

Wireless Hot-Spots, Meshes,  
and Community Networks

My research interests are in computer and communications networks, with a broad and interdisciplinary approach. I have worked in several different fields, from routing to congestion control, from protocol design to applications architectures and many others, including optical networks and protection mechanisms. Also from the methodological point of view I have used and contributed to different techniques, from simulation to analytic modeling to measures and experimental approaches. The next three paragraphs summarize the three main field of research that I'm currently pursuing more actively.

The support of short range mobility and nomadic computing and communications is one of the enabling factors of the 21st century ICT, overruling the traditional dichotomy between fixed and cellular networks. In this context we can find many different traditional topics interacting one another, but also topics that are entirely new and span across different disciplines. My research here covers several different aspects, from the application of centrality metrics to improve routing protocols and applications placement, to the analysis of the topological properties of networks that evolve following constraints that come both from the environment (propagation, terrain etc.), but also from the socio-economic background of area where they develop. Within this research line, Community Networks are extremely interesting as a novel emerging phenomenon where disciplines as different as communication networks, law, sociology and political economy come together to shape and mold the future evolution of the Internet.

P2P Networks and Systems

Peer-to-Peer communications and systems have entirely changed the scenario of content production and service provisioning in networks. They are mainly known for file sharing and distributed storage (DHTs), but they are indeed contributing also, sometimes with a sort of side-pollution, to the general field of distributed systems as well as technologies like Content Distribution Networks and Content Centric Networking. My activity here has been mainly focused on live P2P streaming, with the realization, through several research projects, of an advanced open-source platform for real-time audio and video communications that is entirely distributed and do not require the support of any centralized ore cloud-based service. More information on this project and the related research can be found at <http://peerstreamer.org/>.

Vehicular Networking for Safety  
Applications

This is the most recent research line of research I opened with an interdisciplinary approach that has brought interesting and important results. The goal and focus is autonomous and cooperative driving, with special attention to techniques and technologies that can improve safety and increase the infrastructure usage, thus reducing fuel consumption and helping to reduce the need for building additional roads. Together with my collaborators, we mix together research on short-range communications (DSRC – Direct Short Range Communications) together with control techniques and finally advanced simulation capabilities and models that allows the joint evaluation of the network performance and its impact on the application, i.e., the capacity to reduce the accidents and casualties, and increase vehicle flows to reduce consumption and increase the infrastructure efficiency. The tool we developed, PLEXE (<http://plexe.car2x.org/>) is one of the most used in the community for research on cooperative driving.

---

## Funding

Only projects won while at the University of Trento since 2003 are reported in the list below, separated between EU, National, and other projects. Working at Politecnico di Torino I participated in several EU and national project too, building the experience that allowed me to propose and coordinate, either as PI or as local coordinator, the projects reported hereafter.

## European Projects

**Internet on FIRE (IoF):  
Experimenting with dynamic  
BGP routing**

UniTN funding:

Role: Experiment Coordinator and PI; a project in Open Call 5 of FED4FIRE+ <https://www.fed4fire.eu/>; 2019–2019, duration 6 Mo.

The Border Gateway Protocol (BGP) is the only Inter-AS (Autonomous System) protocol of the Internet, i.e., it is the glue that binds pieces of the Internet and keeps global communications in tune. BGP has a slow convergence: two configuration parameters (timers) have a high impact on BGP convergence speed, but there is no consensus on how to change their default value to a better one. Centrality-based networking is a new paradigm that exploits graph centrality metrics to improve the scalability of routing protocols, with a technique we called Pop-Routing. The goal of IoF is to use centrality to tune the MRAI parameter to reduce BGP convergence time.

53 kEU

**H2020 Network Infrastructure  
as Commons (netCommons)**

UniTN funding:

Home page

Role: Project Coordinator and PI [https://cordis.europa.eu/project/rcn/199879\\_en.html](https://cordis.europa.eu/project/rcn/199879_en.html); 2015–2018, duration 36 Mo.

netCommons follows a novel transdisciplinary methodology on treating network infrastructure as commons, for resiliency, sustainability, self-determination, and social integration. Project partners have expertise in engineering, computer science, economics, law, political science, urban, media, and social studies; and close links with successful Community Networks like guifi.net, ninux.org, and sarantaporo.gr. Community networks are complex systems that require multiple skills to thrive: technical, legal, socio-economic, and political. They face many challenges and they also need abstractions, models and practical tools to grow and produce a higher beneficial impact on our society.

651 kEU

<https://netcommons.eu/>

**H2020 Pop-Routing On  
WiSHFUL (POPROW)**

UniTN funding:

Role: Coordinator and PI; a project in Open Call 3 of WiSHFUL <http://www.wishful-project.eu/>; 2016–2017; duration 8 Mo.

The goal of POPROW is to test and enhance "Pop-Routing", a technique for wireless mesh link-state routing protocols that tunes the generation frequency of control messages independently for each node of a wireless mesh network as the result of real-time graph analysis performed on the network topology. Pop-Routing is backward-compatible and allows the reduction of the routing tables convergence time after a failure by a factor of up to 60%, or, conversely, it can keep the same convergence speed and reduce the total amount of control messages, thus reducing overhead and increasing the scalability of the protocol.

50 kEU

**EIT Information-aware data  
plane for programmable  
networks**

UniTN funding:

Role: UniTN coordinator. An activity in the Future Networking Solutions (FSN) EIT action line; 2015, duration 12 months

The goal of the activity is to contribute to the deployment of a high-quality/cost-effective network infrastructure via an enhanced data-plane, which is able to serve the increasing traffic demand generated by applications. Carrier Projects have shown that Information Centric Networking (ICN) paradigm is beneficial to achieve this goal, and have proposed a set of ICN mechanisms and algorithms.

80 kEU

**FP7 Open Source P2P  
Streaming (OSPS)**

UniTN funding:

Home page

Role: Coordinator and PI; a project in Open Call 2 of CONFINE <http://confine-project.eu/>; 2013–2014; duration 15 Mo.

The goal of OSPS is demonstrating that Community Networks can support advanced multimedia services such as real-time video and TV distribution. The project will also leave to the community a new service to increase the value of the network and better serve the community.

65 kEU

<http://osps.disi.unitn.it/>

**EIT Smart, Ubiquitous Contents (SmartUC)**

Role: Coordinator and PI; *2013; duration 12 Mo.*

This is a large EIT Activity within the Future Networking Solutions (FNS) action Line. The Activity seeks to create a small ecosystem for the transferring competences among groups and build a fertile soil for novel, efficient and economic systems to store and distribute multimedia contents, with special attention to streaming and real-time delivery.

UniTN funding: 105 kEU

**FP7 Network-Aware P2P-TV Application over Wise Networks (NAPA-WINE)**

Role: Coordinator of Trento Research Unit and WP Leader; *2008–2011, duration 36+3 Mo.*

Focussed on P2P-TV distribution the project provided: i) a careful analysis of the impact that a large deployment of P2P-TV services may have on the Internet; ii) guidelines for P2P-TV developers regarding the design of systems that minimize the impact on the underlying transport network while optimizing the user perceived quality; iii) a road map for Internet Service Providers to better exploit the network bandwidth by showing simple and minimum cost actions that can be taken in presence of P2P-TV traffic.

UniTN funding: 400 kEU

**Discreet Service Provision in Smart Environments (DISCREET)**

Role: Coordinator of Trento Research Unit; *2005-2008, duration 27 Mo.*

The project provided a key contribution to break a false dichotomy, in which systems designers force their users to sacrifice some part of a fundamental right –their privacy– in order to gain some utility –the use of the application. The project paved the road to show that a major leap in terms of societal acceptance of pervasive technologies would come from strict technical guarantees of privacy protection. The project was carried out as CNIT Unit.

UniTN funding: 100 kEU

Home page <http://www.ist-discreet.org/>

**National Projects**

**PRIN 2008, Bandwidth and Energy Saving by sub- $\lambda$  Optical Switching (BESOS)**

Role: Coordinator of Trento Research Unit; *2010–2012, duration 24 Mo.*

The project, coordinated by Politecnico di Milano (Prof. Pattavina), studied a novel switching technique for future packet switching networks achieving high energy savings and high bandwidth efficiency.

UniTN funding: 45 kEU

**PRIN 2006, Peer-to-peer beyOnd FILE Sharing (PROFILES)**

Role: National Coordinator (PI); *2007–2009, duration 24 Mo.*

The project addressed the study of peer-to-peer (P2P) communication systems, considering P2P as a novel communication paradigm that is changing the rules of the communication game in the Internet.

UniTN funding: 93 kEU

Home page <http://profiles.disi.unitn.it/>

**Interlink 2004-2006, Modeling Wireless Heterogeneous Networks**

Role: co-PI together with Prof. Mario Gerla ad CS-UCLA *2006–2009, duration 48 Mo.*

The project supported mobility between the CS Department of UCLA and DISI at UniTN to foster research on modeling complex, heterogeneous wireless networks, at the time a very active research topic at both institutions. The framework was "Internazionalizzazione del Sistema Universitario (Art. 23 - D.M. 05.08.2004 n. 262) Interlink I04CC2G20."

UniTN funding: 54 kEU



**PRIN 2004, ToWard  
Enhancing 802.11  
differentiated service LeVEls  
(TWELVE)**  
UniTN funding:  
Home page

Role: Coordinator of Trento Research Unit *2005–2006, duration 24 Mo.*

The project, coordinated by Prof. Bianchi at University of Roma II (Tor Vergata), addressed service differentiation in complex multi-BSS 802.11 networks.  
95 kEU  
<http://twelve.disi.unitn.it/>

## **Local and Industrial Projects**

**Wireless Community  
Networks: A Novel  
Techno-Legal Approach**

Role: Co-PI with Prof. Roberto Caso (JUS) *2015–2016, duration 18 Mo.*

An interdisciplinary project funded by the University of Trento (Progetti di Ricerca 2014) exploring the relationship between regulations and law on the one hand and technology on the other on the evolution of difference communication networks, with special attention to bottom-up broadband networks and reduction of the digital divide.

Internal UniTN funding:

100 kEU

**Privacy Aware content  
Filtering for Future Pervasive  
Environments (PAF-PFE)**

Role: Scientific Supervisor *2010–2013, duration 36 Mo.*

Trentino/Marie Curie programme of research, training and mobility of post-doctoral researchers, incoming Post-docs 2010, CALL 1, PCOFUND-GA-2008-226070. Grant recipient : Leonardo Maccari. The objective is the design and development of a privacy-aware content filtering platform focused on future pervasive wireless networks like mesh networks or ad-hoc social networks over smartphones.

UniTN funding:

150 kEU

**NEC: Modeling, Analysis and  
Simulation of SIP Traffic  
and Attacks**

Role: Coordinator and PI *2007–2010, duration 48 Mo.*

An industrial project split in three separate contracts on the topics of intrusion detection in SIP-based telephony systems.

UniTN funding:

80 kEU

**Trentino Research &  
Innovation for Tunnel  
Monitoring (TRITon)**

Role: WP Leader *2006–2009, duration 36 Mo.*

Within the TRITon project, a vast and multi-faceted project, I had the responsibility of the development, from research to the installation in a real operational tunnel, of an adaptive illumination system based on a closed feedback loop where sensing is demanded to a dense WSN. The activity lead to the Patent EP2224308.

Funding dedicated to the WP:  
Home page

150 kEU

<http://triton.disi.unitn.it/>

**Feasibility Study for a  
GPS-based tool for Rescue  
Teams Coordination  
(RESCUE)**

Role: Coordinator and PI *2005, duration 6 Mo.*

Contract SPR-PAT DIT-PRJ-05-98. A project in favor of "Soccorso Alpino" and "Protezione Civile" with the goal of showing the possibility of realizing a centralized coordination system for rescue teams searching for lost people in woods and in the mountains. The system was based on a high sensitivity GPS unit locally in connection with a cellular device that would transfer the appropriate location information to an operation unit either in a mobile head quarter or to a centralized operational room (or both). The system was successfully demonstrated, and it can easily be claimed that it was the precursor of systems in use today, like GeoRescue.

UniTN funding:

10 kEU

**VIMAR SpA: Interference and Sensitivity Analysis of ISM Band Radios**

UniTN funding:

**BEA SpA: Illicit UMTS communications suppression**

UniTN funding:

Role: Coordinator and PI *2005, duration 6 Mo.*

A small, focused measure campaign to characterize the performance of standard 802.15.4 radios vs. proprietary systems in typical private housing and office environments.

8 kEU

Role: Coordinator and PI *2004–2005, duration 12 Mo.*

A feasibility study for selectively interfere with illicit and non-authorized voice and data calls within the UTRAN/UMTS radio interface.

30 kEU

---

**Editorial Activity**

Editor

IEEE Transactions on Networking; July 2017–Ongoing

Associate Editor

Computer Networks, Elsevier; 2005–2011

Steering Committee Chair

IEEE/IFIP Conference on Wireless On-demand Network Systems and Services (WONS); 2008–Ongoing

General Chair

- IEEE/IFIP Conference on Wireless On-demand Network Systems and Services (WONS), 2016
- IEEE International Conference on Peer-to-Peer Computing (P2P'13), 2013
- IEEE/IFIP Conference on Wireless On-demand Network Systems and Services (WONS), 2007
- ACM International Workshop on Wireless Mobile Applications and Services on WLAN HotSpots (WMASH), 2006

TPC Chair

- IEEE Vehicular Networking Conference (VNC), 2017
- ACM/IEEE International Symposium on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM), 2006
- ACM International Workshop on Wireless Mobile Applications and Services on WLAN HotSpots (WMASH), 2005
- IFIP Conference on Wireless On-demand Network Systems and Services (WONS), 2004

Publications Chair

- IEEE 32nd International Conference on Computer Communications (INFOCOM), 2013
- ACM 17th International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc), 2016

Technical Societies Membership

- IEEE Senior Member
- ACM Senior Member

## Awards

Best Paper Award	<i>10th IEEE Vehicular Networking Conf. (VNC 2017).</i> "A LiDAR Error Model for Cooperative Driving Simulations," M. Segata, <b>R. Lo Cigno</b> , R.K. Bhadani, M. Bunting, J. Sprinkle
Best Paper Award	<i>12-th IEEE International Conference on Peer-to-Peer Computing (P2P'12).</i> "Experimental comparison of neighborhood filtering strategies in unstructured P2P-TV systems," S. Traverso, L. Abeni, R. Birke, C. Kiraly, E. Leonardi, <b>R. Lo Cigno</b> , M. Mellia
Best Paper Award "SPOTS Track"	<i>10-th ACM/IEEE International Conference on Information Processing in Sensor Networks (IPSN 2011).</i> "Is there light at the ends of the tunnel? Wireless sensor networks for adaptive lighting in road tunnels," M. Ceriotti, M. Corraà, L. D'Orazio, R. Doriguzzi, D. Facchin, S. Guna, G. P. Jesi, <b>R. Lo Cigno</b> , L. Mottola, A. L. Murphy, M. Pescalli, G. P. Picco, D. Pregnotato, C. Torghele
Best Paper Award	<i>3-rd IEEE International Conference on Internet Multimedia Systems Architecture and Applications (IMSAA-2009).</i> "Scheduling P2P Multimedia Streams: Can We Achieve Performance and Robustness?", L. Abeni, C. Kiraly, <b>R. Lo Cigno</b>
Best Paper Award	<i>3-rd IEEE/IFIP Wireless On-Demand Network Systems and Services (WONS 2006).</i> "Scheduling in 802.11e: Open-Loop or Closed-Loop?", P. Larcheri, <b>R. Lo Cigno</b>
Best "Runner-up" Award	<i>IEEE Globecom 2010 (Demo Session).</i> "Demonstrating the Impact of P2P Streaming on Video Quality," L. Abeni, C. Kiraly, <b>R. Lo Cigno</b> , R. Birke, E. Leonardi, S. Traverso
Best Student Paper Award in the category "Communication Services"	<i>IEEE Globecom 2006.</i> "Content Delivery in Overlay Networks: a Stochastic Graph Processes Perspective," D. Carra, <b>R. Lo Cigno</b> , E. W. Biersack

## Invited Talks and Seminars

Panel	UNESCO (7 Place de Fontenoy, Paris), "Network Infrastructure as Commons," January 30, 2018, Moderator: Mr Guy Berger, UNESCO Director for Freedom of Expression and Media Development
Seminar	European Parliament, "Workshop on Community Networks and Telecom Regulation" Brussels, October 17, 2017
Talk	Dagstuhl Seminar 14471 "Towards an Affordable Internet Access for Everyone: The Quest for Enabling Universal Service Commitment," November 18, 2014 "Community Networks: Access to the Internet or a Different Internet Model?"
Talk	Dagstuhl Seminar 13392 "Inter-Vehicular Communication – Quo Vadis," September 24, 2013. "Do We Need ...in IVC?"
Seminar	University of Luxembourg, August 26, 2013. "Vehicles Platoons: Fundamental Protocols and Early Results"
Seminar	Institut für Informatik - Universität Innsbruck (UIBK), Innsbruck, Austria, May 12, 2012. "Optimal and Robust Scheduling for Real Time Streaming in Unstructured Meshes"
Seminar	School of Electrical Engineering, KTH, Stockholm, Sweden, February 10, 2012. "Optimal and Robust Scheduling for Real Time Streaming in Unstructured Meshes"
Challenge Talk	IEEE Wireless On-demand Network Systems and Services (WONS 2011), Bardonecchia, Italy, Jan. 26-28, 2011. "Untethered Local Communications: From Wireless Access to Social Glue"
Keynote Speech	6-th International Workshop on Hot Topics in P2P systems (Hot-P2P 2009), Roma, Italy, May 29, 2009. "Peer-to-Peer Beyond File Sharing: Where are P2P Systems Going?"
Talk	Second International Conference on Communications and Electronics, ICCE 2008, HoiAn, Vietnam, June 6, 2008. "On Some Fundamental Properties of P2P Push/Pull Protocols"

---

## Citation Indexes (end of April 2019)

Google Scholar  
Scopus (Author ID:  
56502415700)  
ORCID identifier

citations 3563; h-index = 34; i10-index = 95  
citations 1757; h-index = 24; i10-index = 53  
<http://orcid.org/0000-0002-4755-2844>

## Publications: 2019 and in Press

1. S. Santini, A. Salvi, A. S. Valente, A. Pescapé, M. Segata, and R. Lo Cigno, "Platooning Maneuvers in Vehicular Networks: a Distributed and Consensus-Based Approach," *IEEE Transactions on Intelligent Vehicles*, vol. 4, pp. 59–72, Mar. 2019
2. L. Baldesi, L. Maccari, and R. Lo Cigno, "On the Properties of Infective Flooding in Low-Duty-Cycle Networks," in *15th IFIP/IEEE Conf. on Wireless On demand Network Systems and Services (WONS 2019)*, Wengen, CH, Jan. 2019, pp. 1–8
3. L. Maccari, G. Gemmi, R. Lo Cigno, M. Karaliopoulos, and L. Navarro, "Assistive Growth: Towards Scalable Community Networks Topologies," *Elsevier Ad-Hoc Networks*, pp. 1–12, 2019, accepted for publication
4. G. Giordano, M. Segata, F. Blanchini, and R. Lo Cigno, "The joint network/control design of platooning algorithms can enforce guaranteed safety constraints," *Elsevier Ad-Hoc Networks*, pp. 1–12, 2019, accepted for publication

## Publications: 2008-2018

### Journals

1. F. Dressler, F. Klingler, M. Segata, and R. Lo Cigno, "Cooperative Driving and the Tactile Internet," *Proceedings of the IEEE*, vol. On-line Early Access, pp. 1–11, 2018
2. L. Maccari and R. Lo Cigno, "Improving Routing Convergence With Centrality: Theory and Implementation of Pop-Routing," *IEEE/ACM Transactions on Networking*, vol. 26, no. 5, pp. 2216–2229, Oct. 2018
3. L. Maccari, M. Maischberger, and R. Lo Cigno, "Where have all the MPRs gone? On the optimal selection of Multi-Point Relays," *Ad Hoc Networks, Elsevier*, vol. 77, pp. 69–83, Aug. 2018
4. L. Maccari, N. Facchi, L. Baldesi, and R. Lo Cigno, "Optimized P2P streaming for wireless distributed networks," *Pervasive and Mobile Computing (PMC), Elsevier*, vol. 2017, pp. 1–12, 2017
5. L. Baldesi, L. Maccari, and R. Lo Cigno, "On the Use of Eigenvector Centrality for Cooperative Streaming," *IEEE Comm. Letters*, vol. 21, pp. 1953–1956, June 2017
6. S. Santini, A. Salvi, A. S. Valente, A. Pescapé, M. Segata, and R. Lo Cigno, "A Consensus-based Approach for Platooning with Inter-Vehicular Communications and its Validation in Realistic Scenarios," *IEEE Trans. on Vehicular Technology*, vol. 66, no. 3, pp. 1985–1999, March 2017
7. F. Pederzoli, D. Siracusa, E. Salvadori, and R. Lo Cigno, "Energy Saving Through Traffic Profiling in Self-Optimizing Optical Networks," *IEEE Systems Journal*, vol. 11, pp. 752–761, June 2017
8. M. Segata, F. Dressler, and R. Lo Cigno, "Let's Talk in Groups: A Distributed Bursting Scheme for Cluster-based Vehicular Applications," *Elsevier Vehicular Communications*, vol. 8, pp. 2–12, April 2017
9. A. Kandalintsev, D. Kliazovich, and R. Lo Cigno, "Freeze'nSense: estimation of performance isolation in cloud environments," *Software: Practice and Experience, John Wiley & Sons*, vol. 47, pp. 831–847, June 2017

10. S. Joerer, B. Bloessl, M. Segata, C. Sommer, R. Lo Cigno, A. Jamalipour, and F. Dressler, "Enabling Situation Awareness at Intersections for IVC Congestion Control Mechanisms," *IEEE Trans. on Mobile Computing*, vol. 15, no. 7, pp. 1674–1685, June 2016
11. L. Baldesi, L. Maccari, and R. Lo Cigno, "Improving P2P streaming in Wireless Community Networks," *Computer Networks*, vol. 93, Part 2, pp. 389–403, Dec. 2015
12. M. Segata, B. Bloessl, S. Joerer, C. Sommer, M. Gerla, R. Lo Cigno, and F. Dressler, "Toward Communication Strategies for Platooning: Simulative and Experimental Evaluation," *IEEE Trans. on Vehicular Technology*, vol. 64, no. 12, pp. 5411–5423, Dec. 2015
13. S. Traverso, L. Abeni, R. Birke, C. Kiraly, E. Leonardi, R. Lo Cigno, and M. Mellia, "Neighborhood Filtering Strategies for Overlay Construction in P2P-TV Systems: Design and Experimental Comparison," *IEEE/ACM Trans. on Networking*, vol. 23, no. 3, pp. 741–754, June 2015
14. C. Sommer, S. Joerer, M. Segata, O. K. Tonguz, R. Lo Cigno, and F. Dressler, "How Shadowing Hurts Vehicular Communications and How Dynamic Beaconing Can Help," *IEEE Trans. on Mobile Computing*, vol. 14, no. 7, pp. 1411–1421, July 2015
15. L. Maccari and R. Lo Cigno, "A week in the life of three large Wireless Community Networks," *Ad Hoc Networks, Elsevier*, vol. 24, Part B, p. 175–190, Jan. 2015
16. S. Joerer, M. Segata, B. Bloessl, R. Lo Cigno, C. Sommer, and F. Dressler, "A Vehicular Networking Perspective on Estimating Vehicle Collision Probability at Intersections," *IEEE Trans. on Vehicular Technology*, vol. 63, no. 4, pp. 1802–1812, May 2014
17. L. Maccari and R. Lo Cigno, "Betweenness estimation in OLSR-based multi-hop networks for distributed filtering," *Journal of Computer and System Sciences*, vol. 80, no. 3, pp. 670–685, May 2014
18. C. S. Kang, T. D. Nguyen, J. Kim, and R. Lo Cigno, "A Downlink Load Control Scheme with a Dynamic Load Threshold and Virtual Coverage Management for Two-Tier Femtocell Networks," *KSII Trans. on Internet and Information Systems (TIIS)*, vol. 7, no. 11, pp. 2597–2615, Nov. 2013
19. M. Segata and R. Lo Cigno, "Automatic Emergency Braking: Realistic Analysis of Car Dynamics and Network Performance," *IEEE Trans. on Vehicular Technology*, vol. 62, no. 9, pp. 4150–4161, Oct. 2013
20. L. Maccari and R. Lo Cigno, "Waterwall: a cooperative, distributed firewall for wireless mesh networks," *EURASIP Journal on Wireless Communications and Networking*, vol. 2013, no. 1, pp. 1–12, Sept. 2013
21. M. Segata, F. Dressler, R. Lo Cigno, and M. Gerla, "A Simulation Tool for Automated Platooning in Mixed Highway Scenarios," *ACM SIGMOBILE Mobile Computing and Communications Review*, vol. 16, no. 4, pp. 46–49, Oct. 2012
22. M. Welponer, L. Abeni, G. Marchetto, and R. Lo Cigno, "Measuring and reducing the impact of the operating system kernel on end-to-end latencies in synchronous packet switched networks," *Software: Practice and Experience, Wiley*, vol. 42, pp. 1315–1330, Nov. 2012
23. K. Munir, R. Lo Cigno, P. P. Vicat-Blanc, and M. Welzl, "Planning data transfers in grids: a multi-service queueing approach," *Concurrency and Computation: Practice and Experience, Wiley*, vol. 24, pp. 407–422, Mar. 2012
24. G. Ciccarelli and R. Lo Cigno, "Collusion in Peer-to-Peer Systems," *Computer Networks, Elsevier*, vol. 55, no. 15, pp. 3517–3532, Oct. 2011
25. R. Birke, E. Leonardi, M. Mellia, A. Bakay, T. Szemethy, C. Kiraly, R. Lo Cigno, F. Mathieu, L. Muscariello, S. Niccolini, J. Seedorf, and G. Tropea, "Architecture of a network-aware P2P-TV application: the NAPA-WINE approach," *IEEE Communications Magazine*, vol. 49, no. 6, pp. 154–163, June 2011
26. G. Gheorghie, R. Lo Cigno, and A. Montresor, "Security and Privacy Issues in P2P Streaming Systems: A Survey," *Peer-to-Peer Networking and Applications, Springer*, vol. 4, pp. 75–91, Apr. 2011
27. D. Carra, R. Lo Cigno, and E. Biersack, "Stochastic graph processes for performance evaluation of content delivery applications in overlay networks," *IEEE Trans. on Parallel and Distributed Systems*, vol. 19, pp. 247–261, Feb. 2008

28. C. Kiraly, S. Teofili, G. Bianchi, R. Lo Cigno, M. Nardelli, and E. Delzeri, *Traffic Flow Confidentiality in IPsec: Protocol and Implementation*, 2008, pp. 311–324
29. V.-T. Nguyen, R. Lo Cigno, and Y. Ofek, “Tunable laser-based design and analysis for fractional lambda switches,” *IEEE Trans. on Communications*, vol. 56, pp. 957–967, June 2008
1. L. Navarro, L. Maccari, and R. Lo Cigno, “At the limits of the internet: Technology options for community networks,” in *Global Information Society Watch 2018: Community Networks*. Association for Progressive Communications, Nov. 2018, vol. 1, pp. 13–20
2. M. Segata, R. Lo Cigno, R. K. Bhadani, M. Bunting, and J. Sprinkle, “A LiDAR Error Model for Cooperative Driving Simulations,” in *10th IEEE Vehicular Networking Conf. (VNC 2018)*, Dec. 2018, p. n/a
3. L. Maccari, M. Karaliopoulos, I. Koutsopoulos, L. Navarro, F. Freitag, and R. Lo Cigno, “5G and the Internet of EveryOne: Motivation, Enablers, and Research Agenda,” in *IEEE European Conference on Networks and Communications (EuCNC)*, June 18–21 2018, pp. 429–433
4. M. Segata, N. Facchi, L. Maccari, G. Gemmi, and R. Lo Cigno, “Centrality-based Route Recovery in Wireless Mesh Networks,” in *IEEE International Conference on Communications (ICC)*, Kansas City, MO, USA, May 20–24 2018, pp. 1–6
5. L. Maccari, Leonardo Ghio, A. Guerrieri, A. Montresor, and R. Lo Cigno, “On the Distributed Computation of Load Centrality and Its Application to DV Routing,” in *37th Annual IEEE International Conference on Computer Communications (INFOCOM)*, Honolulu, HI, USA, Apr. 16–19 2018, pp. 2582–2590
6. L. Ghio, L. Maccari, and R. Lo Cigno, “Proof of Networking: Can Blockchains Boost the Next Generation of Distributed Networks?” in *14th IFIP/IEEE Annual Conf. on Wireless On-demand Network Systems and Services (WONS)*, Isola 2000, France, Jan. 2018, pp. 29–32
7. M. Segata, N. Facchi, L. Maccari, and R. Lo Cigno, “RoRoute: Tools to Experiment with Routing Protocol Robustness in WMN,” in *14th IFIP/IEEE Annual Conf. on Wireless On-demand Network Systems and Services (WONS 2018)*, Isola 2000, France, Jan. 2018, pp. 91–94
8. G. Giordano, M. Segata, F. Blanchini, and R. Lo Cigno, “A Joint Network/Control Design for Cooperative Automatic Driving,” in *9th IEEE Vehicular Networking Conf. (VNC 2017)*, Dec. 2017, pp. 167–174
9. M. Segata, R. Vijeikis, and R. Lo Cigno, “Communication-based Collision Avoidance between Vulnerable Road Users and Cars,” in *2017 IEEE Conf. on Computer Communications Workshops (INFOCOM WKSHPS)*, Atlanta, GA, May 2017, pp. 565–570
10. C. Krupitzer, M. Breitbach, J. Saal, C. Becker, M. Segata, and R. Lo Cigno, “Ro-CoSys: A Framework for Coordination of Mobile IoT Devices,” in *1st Int. Workshop on Mobile and Pervasive Internet of Things (PerIoT 2017)*, Big Island, Hawaii, March 2017
11. M. Segata and R. Lo Cigno, “On the Feasibility of Collision Detection in Full-Duplex 802.11 Radio,” in *13th IEEE/IFIP Conf. on Wireless On demand Network Systems and Services (WONS 2017)*, Jackson Hole, Wyoming, USA, February 2017
12. F. Maturi, F. Gringoli, and R. Lo Cigno, “A dynamic and autonomous channel selection strategy for interference avoidance in 802.11,” in *13th IFIP/IEEE Conf. on Wireless On-Demand Network Systems and Services (WONS)*, Jackson Hole, WY, USA, Feb. 2017, pp. 1–8
13. L. Maccari, Q. Nguyen, and R. Lo Cigno, “On the Computation of Centrality Metrics for Network Security in Mesh Networks,” in *2016 IEEE Global Communications Conf. (GLOBECOM)*, Dec. 2016, pp. 1–6
14. M. Segata, D. Goss, and R. Lo Cigno, “Distributed EDCA Bursting: Improving Cluster-based Communication in IVC,” in *17th ACM Int. Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc 2016)*, *1st Int. Workshop on Internet of Vehicles and Vehicles of Internet (IoV-Vol 2016)*, Paderborn, Germany, July 2016, pp. 13–18

15. L. Maccari and R. Lo Cigno, "Pop-routing: Centrality-based tuning of control messages for faster route convergence," in *35th Annual IEEE Int. Conf. on Computer Communications (INFOCOM)*, San Francisco, CA, USA, Apr. 2016, pp. 1–9
16. M. Segata, R. Lo Cigno, H.-M. Tsai, and F. Dressler, "On Platooning Control using IEEE 802.11p in Conjunction with Visible Light Communications," in *12th IEEE/IFIP Conf. on Wireless On demand Network Systems and Services (WONS 2016)*, Cortina d'Ampezzo, Italy, January 2016, pp. 124–127
17. L. Baldesi, L. Maccari, and R. Lo Cigno, "Optimized Cooperative Streaming in Wireless Mesh Networks," in *15th Int. IFIP TC6 Networking Conf. (NETWORKING)*, Vienna, AT, May 2016, pp. 350–358
18. D. Kirchner, R. Ferdous, R. L. Cigno, L. Maccari, M. Gallo, D. Perino, and L. Saino, "Augustus: A CCN Router for Programmable Networks," in *Proceedings of the 3rd ACM Conf. on Information-Centric Networking*, Kyoto, Japan, Sept. 2016, pp. 31–39
19. M. Segata, F. Dressler, and R. Lo Cigno, "Jerk Beaconing: A Dynamic Approach to Platooning," in *7th IEEE Vehicular Networking Conf. (VNC 2015)*, Kyoto, Japan, Dec. 2015, pp. 1–8
20. L. Maccari, L. Baldesi, R. Lo Cigno, J. Forconi, and A. Caiazza, "Live Video Streaming for Community Networks, Experimenting with PeerStreamer on the Ninux Community," in *2015 Workshop on Do-it-yourself Networking: An Interdisciplinary Approach (DIYNetworking '15)*, Florence, Italy, May, 2015, pp. 1–6
21. S. Santini, A. Salvi, A. S. Valente, A. Pescapè, M. Segata, and R. Lo Cigno, "A Consensus-based Approach for Platooning with Inter-Vehicular Communications," in *34th IEEE Conf. on Computer Communications (INFOCOM 2015)*. Kowloon, Hong Kong: IEEE, April 2015, pp. 1158–1166
22. M. Segata, S. Joerer, B. Bloessl, C. Sommer, F. Dressler, and R. Lo Cigno, "PLEXE: A Platooning Extension for Veins," in *6th IEEE Vehicular Networking Conf. (VNC 2014)*, Paderborn, Germany, Dec. 2014, pp. 53–60
23. M. Segata, B. Bloessl, S. Joerer, C. Sommer, M. Gerla, R. Lo Cigno, and F. Dressler, "Towards Inter-Vehicle Communication Strategies for Platooning Support," in *7th IFIP/IEEE Int. Workshop on Communication Technologies for Vehicles (Nets4Cars 2014-Fall)*, Saint-Petersburg, Russia, Oct. 2014, pp. 1–6
24. L. Baldesi, L. Maccari, and R. Lo Cigno, "Improving P2P Streaming in Community-Lab Through Local Strategies," in *10th IEEE Int. Conf. on Wireless and Mobile Computing, Networking and Communications*, Larnaca, Cyprus, Oct. 2014, pp. 33–39
25. S. Joerer, B. Bloessl, M. Segata, C. Sommer, R. Lo Cigno, and F. Dressler, "Fairness Kills Safety: A Comparative Study for Intersection Assistance Applications," in *25th IEEE Int. Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC 2014)*, Washington, DC, USA, Sept. 2014, pp. 1442–1447
26. R. Lo Cigno and L. Maccari, "Urban Wireless Community Networks: Challenges and Solutions for Smart City Communications," in *ACM Int. Workshop on Wireless and Mobile Technologies for Smart Cities (WiMobCity '14), part of MobiHoc*, Philadelphia, PA, US, Aug. 2014, pp. 49–54
27. D. Siracusa, F. Pederzoli, E. Salvadori, R. Lo Cigno, and I. T. Monroy, "Proactive restoration of slow-failures in optical networks," in *16th Int. Conf. on Transparent Optical Networks (ICTON)*, Graz, Austria, July 2014, pp. 1–4
28. L. Baldesi, L. Maccari, and R. Lo Cigno, "Live P2P streaming in CommunityLab: Experience and Insights," in *13th IEEE Annual Mediterranean Ad Hoc Networking Workshop (MED-HOC-NET)*, Piran, Slovenia, June 2014, pp. 23–30
29. M. Segata, B. Bloessl, S. Joerer, F. Dressler, and R. Lo Cigno, "Supporting platooning maneuvers through IVC: An initial protocol analysis for the JOIN maneuver," in *11th IEEE/IFIP Conf. on Wireless On-demand Network Systems and Services (WONS)*, Obergurgl, Austria, April 2014, pp. 130–137
30. D. Siracusa, F. Pederzoli, R. Lo Cigno, and E. Salvadori, "Energy Saving Through Traffic Profiling and Prediction in Self-Optimizing Optical Networks," in *Optical Fiber Communication Conf. and Exposition (OFC)*, San Francisco, CA, USA, Mar. 2014
31. A. Kandalintsev, R. Lo Cigno, D. Kliazovich, and P. Bouvry, "Profiling Cloud Applications with Hardware Performance Counters," in *KIISE/IEEE 28th Int. Conf. on Information Networking*, Phuket, Thailand, February 2014, pp. 52–57

32. M. Segata, B. Bloessl, S. Joerer, C. Sommer, R. Lo Cigno, and F. Dressler, "Vehicle Shadowing Distribution Depends on Vehicle Type: Results of an Experimental Study," in *5th IEEE Vehicular Networking Conf. (VNC 2013)*, Boston, MA, USA, Dec. 2013, pp. 242–245
33. M. Arumathurai, J. Seedorf, M. Dusi, E. Monticelli, and R. Lo Cigno, "Quality-of-Experience Driven Acceleration of Thin Client Connections," in *12th IEEE Int. Symposium on Network Computing and Applications (NCA 2013)*, Cambridge, MA, USA, August 2013, pp. 203–210
34. C. Sommer, S. Joerer, M. Segata, O. K. Tonguz, R. Lo Cigno, and F. Dressler, "How Shadowing Hurts Vehicular Communications and How Dynamic Beaconing Can Help," in *32nd IEEE Conf. on Computer Communications (INFOCOM 2013), Mini-Conf.*, Turin, Italy, April 2013, pp. 110–114
35. A. Russo and R. Lo Cigno, "PullCast: Peer-assisted Video Multicasting for Wireless Mesh Networks," in *2013 10th Annual Conf. on Wireless On-demand Network Systems and Services (WONS)*, Banff, AB, Canada, March 2013, pp. 60–67
36. A. Russo, R. Lo Cigno, and I. Rubin, "Protocol Independent Multicast: From Wired to Wireless Networks," in *Int. Conf. on Computing, Networking and Communications (ICNC 2013)*, San Diego, CA, USA, January 2013, pp. 610–615
37. R. Ferdous, R. Lo Cigno, and A. Zorat, "Classification of SIP Messages by a Syntax Filter and SVMs," in *IEEE Global Telecommunications Conf. 2012*, Anaheim, CA, USA, Dec. 2012, pp. 1–6
38. R. Ferdous, R. Lo Cigno, and A. Zorat, "On the use of SVMs to Detect Anomalies in a Stream of SIP Messages," in *11th IEEE Int. Conf. on Machine Learning and Applications (ICMLA 2012)*, Boca Raton, FL, USA, Dec. 2012, pp. 1–6
39. S. Joerer, M. Segata, B. Bloessl, R. Lo Cigno, C. Sommer, and F. Dressler, "To Crash or Not to Crash: Estimating its Likelihood and Potentials of Beacon-based IVC Systems," in *4th IEEE Vehicular Networking Conf. (VNC 2012)*, Seoul, Korea, Nov. 2012, pp. 1–8
40. A. Quartulli and R. Lo Cigno, "Improving Mesh-Agnostic Client Announcement in B.A.T.M.A.N.-Advanced," in *8th IEEE Int. Conf. on Wireless and Mobile Comp., Netw. and Comm. (WiMob)*, Barcelona, Spain, Oct. 2012, pp. 667–674
41. L. Maccari and R. Lo Cigno, "How to Reduce and Stabilize MPR sets in OLSR networks," in *2012 IEEE 8th Int. Conf. on Wireless and Mobile Computing, Networking and Communications (WiMob)*, Barcelona, Spain, Oct. 2012, pp. 381–388
42. A. Kandalintsev and R. Lo Cigno, "A Behavioral First Order CPU Performance Model for Clouds' Management," in *4th Int. Congress on Ultra Modern Telecommunications and Control Systems (ICUMT 2012)*, St. Petersburg, Russia, Oct. 2012, pp. 40–48
43. S. Traverso, A. Luca, B. Robert, K. Csaba, L. Emilio, R. Lo Cigno, and M. Mellia, "Experimental comparison of neighborhood filtering strategies in unstructured P2P-TV systems," in *12-th IEEE Int. Conf. on Peer-to-Peer Computing (P2P'12)*, Tarragona, Spain, Sept. 2012, pp. 13–24
44. L. Maccari and R. Lo Cigno, "Privacy in the Pervasive Era: A Distributed Firewall Approach," in *9th Annual on Wireless On-demand Network Systems and Services (WONS 2012)*, Courmayeur, Italy, January 2012, pp. 23–26
45. M. Segata and R. Lo Cigno, "Simulation of 802.11 PHY/MAC: The quest for accuracy and efficiency," in *9th Annual on Wireless On-demand Network Systems and Services (WONS 2012)*, Courmayeur, Italy, January 2012, pp. 99–106
46. M. Segata and R. Lo Cigno, "Emergency braking: a study of network and application performance," in *8th ACM Int. workshop on Vehicular inter-networking (VANET)*, Las Vegas, ND, USA, Sept. 2011, pp. 1–10
47. N. Khademi, M. Welzl, and R. Lo Cigno, "On the Uplink Performance of TCP in Multi-rate 802.11 WLANs," in *IFIP NETWORKING 2011*, ser. Lecture Notes in Computer Science, vol. 6641, Valencia, Spain, May 2011, pp. 368–378
48. M. Ceriotti, M. Corrà, L. D'Orazio, R. Doriguzzi, D. Facchin, S. Guna, G. P. Jesi, R. Lo Cigno, L. Mottola, A. Murphy, M. Pescalli, G. P. Picco, D. Pregolato, and C. Torghele, "Is there light at the ends of the tunnel? Wireless sensor networks for adaptive lighting in road tunnels," in *10th IEEE Int. Conf. on Information Processing in Sensor Networks (IPSN 2011)*, April 2011, pp. 187–198



49. R. Lo Cigno, "Untethered Local Communications: From Wireless Access to Social Glue," in *IEEE Wireless On-demand Network Systems and Services (WONS 2011)*, Bardonecchia, Italy, January 2011, pp. 42–43
50. C. Kiraly, R. Lo Cigno, and L. Abeni, "Deadline-based Differentiation in P2P Streaming," in *IEEE Global Telecommunications Conf. (Globecom)*, Dec. 2010
51. A. Russo and R. Lo Cigno, "Delay-Aware Push/Pull Protocols for Live Video Streaming in P2P Systems," in *IEEE Int. Conf. on Communications (ICC)*, May 2010, pp. 1–5
52. L. Abeni, C. Kiraly, A. Russo, M. Biazzi, and R. Lo Cigno, "Design and Implementation of a Generic Library for P2P Streaming," in *ACM workshop on Advanced video streaming techniques for peer-to-peer networks and social networking*, Oct. 2010, pp. 43–48
53. C. Kiraly, L. Abeni, and R. Lo Cigno, "Effects of P2P Streaming on Video Quality," in *IEEE Int. Conf. on Communications (ICC)*, May 2010, pp. 1–5
54. M. Ajelli, R. Lo Cigno, and A. Montresor, "Modeling botnets and epidemic malware," in *IEEE Int. Conf. on Communications (ICC)*, May 2010, pp. 1–5
55. L. Abeni, A. Bakay, M. Biazzi, R. Birke, E. Leonardi, R. Lo Cigno, C. Kiraly, M. Mellia, S. Niccolini, J. Seedorf, T. Szemethy, and G. Tropea, "Network friendly p2p-tv: The napa-wine approach," in *IEEE Int. Conf. on Peer-to-Peer Computing: (P2P)*, Sept. 2010, pp. 1–2
56. L. Abeni, C. Kiraly, and R. Lo Cigno, "Robust Scheduling of Video Streams in Network-Aware P2P Applications," in *IEEE Int. Conf. on Communications (ICC)*, May 2010, pp. 1–5
57. L. Abeni, C. Kiraly, and R. Lo Cigno, "Scheduling p2p multimedia streams: Can we achieve performance and robustness?" in *3rd IEEE Int. Conf. on Internet Multimedia Services Architecture and Applications*, Dec. 2010, pp. 1–6
58. C. Kiraly and R. Lo Cigno, "IPsec-Based Anonymous Networking: A Working Implementation," in *IEEE Int. Conf. on Communications (ICC)*, 2009, pp. 2235–2239
59. L. Abeni, C. Kiraly, and R. Lo Cigno, "On the Optimal Scheduling of Streaming Applications in Unstructured Meshes," in *8th Int. IFIP-TC 6 Networking Conf. (NET-WORKING)*, May 2009, pp. 117–130
60. R. Lo Cigno, T. Pecorella, M. Sereno, and L. Veltri, "Peer-to-Peer Beyond File Sharing: Where are P2P Systems Going?" in *6-th Int. Workshop on Hot Topics in P2P systems (Hot-P2P 2009)*, May 2009, pp. 1–8
61. A. Russo and R. Lo Cigno, "Push/Pull Protocols for Streaming in P2P Systems," in *IEEE INFOCOM Workshops 2009*, Apr. 2009
62. L. Abeni, C. Kiraly, and R. Lo Cigno, "SSSim: a Simple and Scalable Simulator for P2P Streaming Systems," in *IEEE 14th Int. Workshop on Computer Aided Modeling and Design of Communication Links and Networks (CAMAD)*, June 2009, pp. 1–6
63. Z. Zsoka, R. Lo Cigno, and B. Farkas, "Augmented Grooming in Networks with Elastic Traffic," in *Proceedings of the Int. Symposium on Performance Evaluation of Computer and Telecommunication Systems (SPECTS)*, Feb. 2008, pp. 554–560
64. F. Soldo, R. Lo Cigno, and M. Gerla, "Cooperative Synchronous Broadcasting in Infrastructure-to-Vehicles Networks," in *IFIP/IEEE Wireless on Demand Network Systems and Services (WONS)*, Feb. 2008, pp. 125–132
65. R. Lo Cigno and A. R. D. Carra, "On Some Fundamental Properties of P2P Push/Pull Protocols," in *Int. Conf. on Communications and Electronics (ICCE)*, June 2008, pp. 67–73
66. G. Costanzi, R. Lo Cigno, A. Ghittino, and S. Annesse, "Route Stabilization in Infrastructured Wireless Mesh Networks: an OLSRD Based Solution," in *IFIP/IEEE Wireless on Demand Network Systems and Services (WONS)*, Feb. 2008, pp. 500–505
67. V.-T. Nguyen, R. Lo Cigno, and Y. Ofek, "Time Blocking Analysis in Time-driven Switching Networks," in *IEEE IEEE Conf. on Computer Communications (INFOCOM)*, Phoenix, AZ, USA, April 2008, pp. 1804–1812

## Patents

European Patent No.  
EP2224308

Inventors: A. Bondi, M. Pescalli, G.P. Picco, R. Lo Cigno, M. Nardelli, N. Vernesoni;  
Title: "A system and a method for controlling the light intensity in a tunnel"; Patent No.  
EP2224308, Assigned to SIEMENS SPA, Filing Date: February 26, 2009, Grant Date:  
October 24, 2012

Italian Patent No. 1.245.550

G. Albertengo; F. Borgnonovo; P. Civera; C. D'Orio; L. Fratta; R. Lo Cigno; G. Masera;  
G. Panizzardi; G. Piccinini; M. Ruo Roch; M. Zamboni; Title: "Procedimento per  
l'instradamento di pacchetti da un nodo di una rete di comunicazione a commutazione  
di pacchetto, nodo di rete e rete a commutazione di pacchetto per l'attuazione di tale  
procedimento"; Italian Patent No. 1.245.550, Assigned to CEAT Cavi Industrie and  
CNR, Filing and Grant Date: September 29, 1994

I authorise the use of my personal data in compliance with the Italian Legislative Decree number 196/2003.

The information contained in this document are made pursuant to and for the purposes of articles 46 and 47 of Presidential Decree 455/2000.

Trento, 18/05/2019

Renato Lo Cigno