

## PERSONAL INFORMATION

## Luca Caviglione



Sex | Date of birth 27/05/1978 | Nationality

## WORK EXPERIENCE

1/6/2020 - Today

**Senior Research Scientist**

National Research Council of Italy (CNR)

Institute for Applied Mathematics and Information Technologies (IMATI)

- Research activities and project coordination in the fields of information hiding, network security, and networking.

1/1/2020 - Today

**Member of the Board of Directors**

Istituto Internazionale delle Comunicazioni di Genova (IIC)

- CNR representative within the Board of Directors.

1/12/2019 - Today

**Head of the IMATI – CNIT Research Unit**

National Inter-University Consortium for Telecommunications (CNIT)

- Head of the IMATI – CNIT Research Unit. The Unit performs research in cloud/edge computing architectures, network virtualization and security.

1/05/2020 - Today

**PhD Course in Security, Risk and Vulnerability**

University of Genova, Italy

- Member of the board of the PhD Course “Security, Risk and Vulnerability” for the curriculum in cybersecurity and reliable AI.
- Contract professor for the course “Information Hiding” delivered to PhD Students.

2/10/2008 – 30/5/2020

**Research Scientist**

National Research Council of Italy

Institute for Applied Mathematics and Information Technologies

Institute for Intelligent Systems for Automation

- Research activities and project coordination in the fields of wireless/heterogenous networks, optimization of large-scale data centers, and security & privacy.

1/1/2006 – 30/9/2008

**Research Fellow/Senior Research Assistant**

National Inter-University Consortium for Telecommunications

Institute for Intelligent Systems for Automation

- Research activities in the fields of satellite communications and peer-to-peer networking.

EDUCATION AND TRAINING

- 2003 – 2006 **PhD in Electronic and Computer Engineering** EQF Level 8  
 University of Genova, Italy

  - Main research topics: peer-to-peer networking, traffic analysis, scalability issues of application-layer frameworks, and resource management.
  - PhD Dissertation title: “*Traffic Analysis and Resource Allocation for Peer-to-Peer Systems in Wireless and Cabled Networks*”
- 1997 – 2002 **Laurea degree in Telecommunications Engineering** EQF Level 7  
 University of Genova, Italy

  - Thesis title: “*Design and Performance Evaluation of a Dedicated Protocol Architecture for Satellite Environments*” (in Italian)
  - Final grade: 108/110 and “Dignità di Stampa”.
- 1991 – 1997 **Perito Industriale in Elettronica e Telecomunicazioni** EQF Level 4  
 Istituto Tecnico Industriale Statale, Enrico Fermi, Mantova, Italy

PERSONAL SKILLS

Mother tongue(s) Italian

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C1	C1	C1	C1	C1

Levels: A1/2: Basic user - B1/2: Independent user - C1/2 Proficient user  
 Common European Framework of Reference for Languages

Communication skills Very good communication skills, especially in live talks and presentations. Keen to work with people and establish new relationships.

Organisational / managerial skills Good organizational skills gained during coordination of projects, PhD/MSc students, research units and laboratory infrastructures.

- Job-related skills
- Ability of performing independent research and coordinate international teams.
  - Writing funding and project proposals and evaluating research projects (both at national and international level).
  - Previous experiences in standardization activities.

Computer skills LaTeX, macOS/Linux, C/Objective-C, Python, TCP/IP networking.

Other skills Bass player and writer.

Driving licence B

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**PUBLICATIONS****Selected International Journals**

- L. Caviglione, W. Mazurczyk, M. Repetto, A. Schaffhauser, M. Zuppelli, "Kernel-level Tracing for Detecting Stegomalware and Covert Channels in Linux Environments", *Computer Networks*, Vol. 191, March 2021. DBLP: <https://dblp.org/rec/journals/cn/CaviglioneMRSZ21>
- W. Mazurczyk, L. Caviglione, "Cyber Reconnaissance Techniques: Evolution and Countermeasures", *Communications of the ACM*, Vol. 64, N. 3, pp. 86 - 95, March 2021. DBLP: <https://dblp.org/rec/journals/cacm/MazurczykC21>
- L. Caviglione, M. Gaggero, "Multiobjective Placement for Secure and Dependable Smart Industrial Environments", *IEEE Transactions on Industrial Informatics*, Vol. 17, No. 2, pp. 1298-1306, February 2021. DBLP: <https://dblp.org/rec/journals/tii/CaviglioneG21>
- M. Gaggero, L. Caviglione, "Model Predictive Control for Energy-Efficient, Quality-Aware, and Secure Virtual Machine Placement", *IEEE Transactions on Automation Science and Engineering*, Vol. 16, No. 1, pp. 420-432, June 2019. DBLP: <https://dblp.org/rec/journals/tase/GaggeroC19>
- L. Caviglione, M. Gaggero, J.-F. Lalande, W. Mazurczyk, M. Urbanski, "Seeing the Unseen: Revealing Mobile Malware Hidden Communications via Energy Consumption and Artificial Intelligence", *IEEE Transactions on Information Forensics & Security*, IEEE, Vol. 11, No. 4, April 2016, pp. 799-810. DBLP: <https://dblp.org/rec/journals/tifs/CaviglioneGLMU16>

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**PROJECTS****Principal Investigator**

- SIMARGL - Secure Intelligent Methods for Advanced RecoGnition of malware and stegomalware, Grant Agreement N. 833042, H2020-SU-ICT-2018. Total cost: 6,076,050€. EU contribution: 4,984,260€. Development of detection and mitigation techniques against steganographic threats and covert channels. Managed funding: 250,000€. Project duration: 2019 – 2022.
- START-ECO – Soluzioni e Tecnologie Avanzate per Reti di Telecomunicazioni ECOsostenibili, DM62554, Evaluation of energy consumption of security algorithms. Total cost: 1,795,860€. Managed funding: 47,000€. Project duration: 2014 – 2017.

**Project Evaluator**

- Project Evaluator for the Second NGI POINTER Open Call (within the framework of the H2020 Project NGI POINTER - Grant Agreement No: 871528). Reference period: April 2021.
- Project Evaluator for the First NGI POINTER Open Call (within the framework of the H2020 Project NGI POINTER - Grant Agreement No: 871528). Reference period: July 2020.
- Project Evaluator for the Objective ICT-2013.1.5 Trustworthy ICT within the 7th Framework Programme (Appointment Letter: AL00117568). Reference period: February – March 2013.

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**PATENTS****EP Patent**

- L. Caviglione, A. Pisano, "Method and system for regulating in real time the clock frequencies of at least one cluster of electronic machines", 8/5/2020, EP3161586B1.
- F.-U. Andersen, L. Caviglione, F. Davoli, T. Hossfeld, S. Oechsner, P. Tran-Gia, K. Tutschku, "Mobile terminal assisted peer-to-peer based self organisation of attachment points", 19/9/2007, EP1835661A1.
- F.-U. Andersen, L. Caviglione, F. Davoli, T. Hossfeld, "Method and node enabling the construction of an overlay network within a communications system", 19/9/2007, EP1835769A1.
- F.-U. Andersen, L. Caviglione, F. Davoli, T. Hossfeld, "Method and node for distributing information to a plurality of nodes in a communications network", 19/9/2007, EP1835774A.

**WO Patent**

- F.-U. Andersen, L. Caviglione, F. Davoli, T. Hossfeld, S. Oechsner, P. Tran-Gia, K. Tutschku, "Method and node for providing handover information to a requestor in a communications system", 21/9/2007, WO2007104718A1.

## ADDITIONAL INFORMATION

- Memberships**
- EURASIP Special Area Team on Biometrics, Data Forensics, and Security (January 2018, today).
  - Steering Committee of the “Criminal Use of Information Hiding” initiative within the European Cybercrime Centre – Europol (2016, today).
  - WG-Leader of the “Private Sector” for the Italian Task Force for IPv6 (2005, today).
- Conferences**
- Member of the Technical Program of more than 110 International Conferences.
  - Organization of several International Workshops (e.g., GEAS and IWSMR).
- Editorial Activity**
- Conference Chair, Program Chair and Session Organizers of many conferences (e.g., EICC2020, INGRID 2010, CoCoNet 2015, AINA 2017, and IWSMR 2019).
  - Organization of several special issues in top-ranked journals and magazines. Among the others: IEEE Security and Privacy Magazine, Future Generation Computer Systems, and Journal of Wireless Mobile Networks, Ubiquitous Computing, and Dependable Applications.
  - Associate Editor of the “Transactions on Emerging Communications Technologies”, Wiley (April 2011, September 2017).
  - Associate Editor of the “International Journal of Computers and Applications”, Taylor&Francis (June 2016, today).
- Bibliometrics**
- Included in the Stanford List of Top 2% Scientists for 2020, see the work of Ioannidis and colleagues: <https://elsevier.digitalcommonsdata.com/datasets/btchxktzyw/3>.
  - Scholar – citations: 1793, h-index: 23. Scopus – citations: 1133, h-index: 18.
- Others**
- Speakers in many seminars, keynotes, schools and master/specialization courses.
  - Professional Engineer (No. 9140A, 14 May 2007).

According to law 679/2016 of the Regulation of the European Parliament of 27th April 2016, I hereby express my consent to process and use my data provided in this CV.

Luca Caviglione