

Marco Lops

Curriculum vitae et studiorum

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Contacts
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Personal Data

Citizenship Italian

Education

1986 5-years "Laurea" degree in Electronic Engineering (Federico II, Naples)
1992 Ph. D. degree in Electronic and Computer Engineering (Federico II, Naples)

Grants and Fellowships

1987 Research grant from ELSAG (Federico II, Napoli - Tutor E. Conte)
1990/91 Research grant from National Research Council (spent at University of Connecticut, Storrs, USA)
1998 Research grant from National Research Council (spent at Rice University, Texas, USA)
1998 NATO Fellowship (spent at Rice University, Texas, USA)

Academic positions

2018- Full professor (Federico II, Naples)
2000- Full professor (University of Cassino and Southern Latium, UNICALM) (2009-2010 on leave of absence)
2009-2010 Full professor (ENSEEIH, Université de Toulouse, France)
1991-2000 Associate Professor (Federico II, Napoli)
1989-1991 Assistant Professor (Federico II, Napoli)
1986-1987 Radar System Engineer, Selenia, now Leonardo, (Rome).

Temporary Academic positions at foreign institutions

March-September 1991	Visiting Research Scholar - University of Connecticut (Storrs, Connecticut, USA)
June-December 1998	Visiting Research Scholar - Rice University (Houston, Texas, USA)
October-December 2000	Visiting Research Scholar - Princeton University (New Jersey, USA)
August-December 2008	Visiting Professor - University of Minnesota (Minnesota, USA) (course taught: <i>Digital Communications, Graduate</i>)
January-July 2009	Visiting Professor - Columbia University (NYC, NY, USA) (course taught: <i>Information Theory, Graduate</i>)
September 2010-March 2011	Visiting Professor - ENSEEIHT, Université de Toulouse (Toulouse, France) (corsi insegnati: <i>Information Theory, Digital Communications, Telecom. Systems</i>)
September 2011-March 2012	Visiting Professor - ENSEEIHT, Université de Toulouse (Toulouse, France) (corsi insegnati: <i>Information Theory, Digital Communications, Telecom. Systems</i>)

Some former students advised or co-advised by M. Lops

<i>Name and Surname</i>	<i>Institution and period</i>	<i>Current position</i>
Giuseppe Ricci (30 %)	Federico II (1990-1993) (Conte)	Full Professor, University of Salento
Stefano Buzzi (100 %)	Federico II (1995-1998)	Full Professor and <i>IEEE Fellow</i> UNICALM
Antonia M. Tulino (70 %)	SUN (1995-1998)	Full Professor and <i>IEEE Fellow</i> , Federico II
Antonio Pauciullo (80 %)	Federico II (1999-2002) (Conte)	Researcher with National Research Council
Stefania Sardellitti (80 %)	UNICALM (2001-2004)	Associate Professor, "Mercatorum University"
Emanuele Grossi (100 %)	UNICALM (2002-2005)	Associate Professor UNICALM UNICALM
Luca Venturino (100 %)	UNICALM (2002-2005)	Full Professor , UNICALM
Goffredo Foglia (20 %)	UNICALM (2003-2006)	Engineer with "Elettronica" (Roma)
Daniele Angelosante (100 %)	UNICALM (2005-2008)	Senior Scientist with ABB Research Center - Zurich
Nil Garcia (50 %)	ENSEEIHT e New Jersey Institute of Technology (2009-2014)	Post-doctoral fellow with Chalmers University of Technology (Svezia)

Research

Main Interest

Topic	Period
Detection and Estimation	1988-
Clutter models for Radar	1988-1995
Adaptive Radar detection schemes	1988-2000
Multi-User Detection for wireless networks	1995-2018
Dynamic programming algorithms for Radar detection	2003-2018
Application of "Random Set Theory" to wireless communications	2005-2018
Integrated Sensing And Communications (ISAC)	2016-
Reconfigurable Intelligent Surfaces (RIS's)	2021-

Editorial Activity

Journal	Activity
IEEE Transactions on Signal Processing	Associate Editor (two terms)
IEEE Transactions on Signal Processing	Area Editor (two terms)
IEEE Signal Processing Letters	Associate Editor
IEEE Transactions on Information Theory	Associate Editor (two terms)
Journal of Communications and Networks	Associate Editor

Awards and Recognition

Marco Lops is an *IEEE Fellow* who received the following awards

Year	Award
2017	IEEE Signal Processing Society Distinguished Lecturer (2018-2020).
2014	Best Paper Award da Journal of Communications and Networks (with Ezio Biglieri, University Pompeu Fabra, Barcellona)
2010	Prime d'Excellence Scientifique (PES) , Ministry of Research of French Republic (France)
2025	Best paper award at Globecom 2025 ¹
2025	Best paper award from the IEEE Signal Processing Society ²

¹: Awarded paper: "Masked Modulation for Long-Range Half-duplex ISAC", with Yifeng Xiong, Fan Liu *et alii*

²: Awarded paper: "Foundations of MIMO radar detection aided by Reconfigurable Intelligent Surfaces", *IEEE Transactions on Signal Processing*, 2022, with Stefano Buzzi, Emanuele Grossi and Luca Venturino

Research funding and contracts

Marco Lops has been Principal Investigator for the *European-Union funded project* "Integrating Sensing And Communications for a Greener Environment (ISACAGE)": **Funding: 1.3 MEuros, 2023-2025**

Responsible for UNICALM

Funding Institution	Title	P.I.	Funding	Duration
Research Ministry	Code Division Multiple Access cellular Systems with terrestrial/satellite Integration	M. Ruggieri (Tor Vergata)	70,000 €	2001-2003
Research Ministry	Innovative Radar Detection and Tracking Algorithms	G. Ricci (Salento)	60,000 €	2004-2006
Research Ministry	ARSEL: lead partner FINMECCANICA/FIAR	P. F. Lombardo (La Sapienza)	300,000 €	2007-2011

Research Contracts

Title	Funding	Responsible	Period	Comment
Feasibility study and performance analysis of innovative techniques for target detection in radars with electronically scanned antennas	30,000	Marco Lops (UNICALM)	2004	Generated ARSEL
Target detection range increase through threshold lowering and multi-scan alarm analysis: Early Target Detection (ETD)	65,000	Grossi/Venturino (UNICALM)	2011-2012	Continuation ARSEL
Radar systems performance improvement through multi-scan plot-lists analysis: Scan-to-Scan Along Track Integration (SATI)	65,000	Grossi/Venturino (UNICALM)	2012	Participant
Radar systems performance improvement through a two-step scanning policy: Alert-Confirm Detection (ACD)	40,000	Grossi/Venturino (UNICALM)	2013	Participant
Innovative signal processing techniques for radar system with multiple receive beams: Multi-Beam on Receive (MBR) - pt. 1	65,000	Grossi/Venturino (UNICALM)	2014-2015	Participant
Innovative signal processing techniques for radar system with multiple receive beams: Multi-Beam on Receive (MBR) - pt. 2	80,000	Grossi/Venturino (UNICALM)	2016-2017	Participant

FACTS ABOUT PUBLICATIONS

- Google Scholar : **cites 10058, h-index 48** (December 2025);
- Scopus: **cites 7427, h-index 42** (December 2025).

Some representative papers

1. S. Buzzi, E. Grossi, M. Lops, L. Venturino, "Foundations of MIMO Radar Detection Aided by Reconfigurable Intelligent Surfaces", *IEEE Transactions on Signal Processing*, 2022, pp. 1749 - 1763, *awarded the SPS Best Paper Award*, 255 cites;
2. Le Zheng, M. Lops, Y. Eldar, X. Wang, "Radar and Communication Coexistence: An Overview A review of recent methods", *IEEE Signal Processing Magazine*, 2019, pp. 85-99, 742 cites;
3. Le Zheng, M. Lops, X. Wang, E. Grossi, "Joint design of overlaid communication systems and pulsed radars", *IEEE Transactions on Signal Processing*, 2018, pp. 139-154, 191 cites.
4. J. Qian, M. Lops, L. Zheng, X. Wang, Z. He, "Joint System Design for Co-existence of MIMO Radar and MIMO Communication", *IEEE Transactions on Signal Processing*, 2018, pp. 3504-3519, 283 cites.
5. E. Grossi, M. Lops, L. Venturino, "A novel dynamic programming algorithm for track-before-detect in radar systems", *IEEE Transactions on Signal Processing*, 2013, pp. 2608 - 2619, 258 cites.
6. A. De Maio, M. Lops, "Design principles of MIMO radar detectors", *IEEE Transactions on Aerospace and Electronic Systems*, 2008, pp. 886 - 898, 354 cites.
7. E. Biglieri, M. Lops, "Multiuser detection in a dynamic environment? Part I: User identification and data detection" *IEEE Transactions on Information Theory*, pp. 3158-3170, 95 cites.
8. S. Buzzi, M. Lops, L. Venturino, "Track-before-detect procedures for early detection of moving target from airborne radars", *IEEE Transactions on Aerospace and Electronic Systems*, 2005, pp. 937 - 954, 282 cites.
9. S. Buzzi, M. Lops, A. M. Tulino, "A new family of MMSE multiuser receivers for interference suppression in DS/CDMA systems employing BPSK modulation", *IEEE Transactions on Communications*, 2001, pp. 154 - 167, 132 cites.
10. E. Conte, M. Lops, G. Ricci, "Asymptotically optimum radar detection in compound-Gaussian clutter", *IEEE Transactions on Aerospace and Electronic Systems*, 1995, pp. 617-625, 618 cites.
11. E. Conte, M. Longo, M. Lops, "Modelling and simulation of non-Rayleigh radar clutter", *IEE Proceedings Pt. F*, 1991, pp. 121-130, 311 cites.