CURRICULUM VITAE ET STUDIORUM

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SHORT BIO

I received the B.S. (with honors) and M.S. degrees in computer engineering from the University of Salerno, Fisciano, Italy, in 2017 and 2019, respectively, and the Ph.D. degree (Cum Laude) in information technologies and electrical engineering from the University of Naples Federico II, Naples, Italy, in 2023. From September to November 2021, I was a Visiting Ph.D. Student at Cranfield University, Shrivenham, U.K. From September to December 2022, I was a Visiting Ph.D. Student at the University of Luxembourg, Esch-sur-Alzette, Luxembourg. From June to August 2024, I was a Visiting Researcher at the University of Birmingham, Birmingham, U.K., and from July to August 2025, I was a Visiting Researcher at Cranfield University, Shrivenham, U.K.. I am currently an Assistant Professor with the University of Naples Federico II. My research interests include array signal processing, detection, estimation, and optimization theory, as well as statistical signal processing in the context of radar systems. I ranked 2nd in the Student Contest of the 1st International Virtual School on Radar Signal Processing, in 2020. In 2023, I co-authored the paper winning the SET Panel Best Paper Award (Young Scientist) at the NATO SET-319 Specialists' Meeting on "New Mathematical Frontiers for Multi-Dimensional Radar Systems" and I received the GTTI Ph.D. Award for Ph.D. theses in the field of communication technologies. I am currently serving as Associate Editor of the IEEE AESS Magazine.

Google Scholar profile: https://scholar.google.com/citations?user=bQ-PcrcAAAAJ

EDUCATION

- **January 2023**: Ph.D. in Information Technology and Electrical Engineering, Università degli Studi di Napoli Federico II, Naples, Italy.
- **October 2019**: M.Sc. Degree in Computer Engineering, Università degli Studi di Salerno, Fisciano, Italy.
- **February 2017**: B.Sc. Degree in Computer Engineering, Università degli Studi di Salerno, Fisciano, Italy.

ACADEMIC POSITIONS

- **October 2023 - Present**: Assistant Professor at the Department of Electrical and Information Technology Engineering (DIETI), Università degli Studi di Napoli Federico II
- **January 2023 - October 2023**: Scholarship holder at CNIT (Consorzio Nazionale Interuniversitario per le Telecomunicazioni), Research Unit at Università degli Studi di Napoli Federico II.
- **December 2019 - November 2022**: Recipient of a grant for a Ph.D. position in Electronic and Telecommunications Engineering at Università degli Studi di Napoli Federico II, Naples, Italy. Ph.D. Supervisor: Prof. Antonio De Maio.
- **November 2019 - December 2019**: Scholarship holder at Università degli Studi di Napoli Federico II.

RESEARCH AND STUDY SOJOURNS

- **July 2025 - August 2025**: Visiting Researcher at the Cranfield University, Defence Academy of the United Kingdom, Shrivenham, U.K.
- **June 2024 - August 2024**: Visiting Researcher at the University of Birmingham, in the Microwave Integrated Systems Laboratory (MISL), Edgbaston, Birmingham B15 2TT, U.K.
- **September 2022 - December 2022**: Visiting Ph.D Student at the Interdisciplinary Centre for Security, Reliability and Trust (SnT), University of Luxembourg, Luxembourg. Supervisor: Prof. Bhavani Shankar Mysore.

- **September 2021 - November 2021**: Visiting Ph.D Student in Defence and Security at the Centre for Electronic Warfare, Information and Cyber, Cranfield University, Defence Academy of the United Kingdom, Shrivenham, U.K. Supervisor: Dr. Alessio Balleri.

MAIN COLLABORATIONS

- Prof. Antonio De Maio, Università degli Studi di Napoli Federico II, Naples, Italy;
- Prof. Augusto Aubry, Università degli Studi di Napoli Federico II, Naples, Italy;
- Prof. Vincenzo Carotenuto, Università degli Studi di Napoli Federico II, Naples, Italy;
- Prof. Stefano Marano, Università degli Studi di Salerno, Fisciano, Italy;
- Prof. Alessio Balleri, Cranfield University, Shrivenham, SN6 8LA,
- Prof. Marco Martorella, University of Birmingham, Birmingham B15 2TT, United Kingdom;
- Vittorio Calligaris, Reparto Sperimentale Volo, Aeronautica Militare Pratica di Mare, Italy;
- Prof. Prabhu Babu, Indian Institute of Technology Delhi, Delhi, India;
- Prof. Lan Lan, Xidian University, Xi'an, China;
- Prof. Guisheng Liao, Xidian University, Xi'an, China.

CO-ADVISOR FOR LAUREA

- Co-supervised eight master's students at the University of Naples Federico II, Naples, Italy.

TEACHING ACTIVITIES

- 2026 - present: Professor of the course "Sonar Systems", PhD Program in Information Technology and Electrical Engineering (ITEE) of University of Naples Federico II;
- 2025: Seminar entitled "Cognitive Jamming For Selective Barrage", Electromagnetic Systems Interest Group (EMSIG), U.K.
- 2025: Seminar entitled "Radar Detection Performance Prediction Using Measured UAVs RCS Data", Energy Transfer Technologies Doctoral Training Hub, Cranfield University, U.K.
- 2025 - present: Professor of the course "Cooperative and Non Cooperative Localization Systems", PhD Program in Information Technology and Electrical Engineering (ITEE) of University of Naples Federico II;
- 2025 - present: Professor of the course "Electronic Scan Antennas for Radar Signal Processing Applications", PhD Program in Information Technology and Electrical Engineering (ITEE) of University of Naples Federico II;
- 2024 - present: Professor of the course "Terrestrial and Satellite Radiolocation", Master Degree in Telecommunication Engineering, University of Naples Federico II;
- 2023 - present: Professor of the course "Matrix Analysis for Signal Processing with MATLAB Examples (14 hours)", PhD Program in Information Technology and Electrical Engineering (ITEE) of University of Naples Federico II;
- 2021: Seminar entitled "Phased Array Radar & Beamforming" for the "Radar System" Course, Master Degree in Telecommunication Engineering held by Prof. A. De Maio, University of Naples Federico II;
- 2021: Graduate teaching assistant for the course "Physics 2", Bachelor Degrees in Electronic/Management/ Chemical Engineering, held by Professors G. Piero and M. Taronna, University of Naples Federico II.

PRIZES AND AWARDS

- 2023 GTTI PhD award for PhD Theses in the field of Communication Technologies;
- SET Panel Best Paper Award (Young Scientist) at the NATO SET-319 Specialists' Meeting on New Mathematical Frontiers for Multi-Dimensional Radar Systems, in 2023;

- Student Paper Competition Finalist at the 1st International Virtual School on Radar Signal Processing, with the contribution "Simultaneous Radar Detection and Constrained Target Angle Estimation via Dinkelbach Algorithm", 2020.

MEMBERSHIPS AND EDITORIAL ACTIVITIES

- IEEE Member
- Member of IEEE Signal Processing Society
- Member of IEEE Aerospace and Electronic Systems Society
- Member of the National Inter-University Consortium for Telecommunications - CNIT
- Member of the RESTART Foundation
- Member of the NATO SET-317 RTG on "Multi-dimensional/Multi-platform Radar Imaging"
- Associate Editor for the IEEE Aerospace and Electronic Systems Magazine, "Radar Systems" area and "Interviews" column (2025-present).
- Referee for the following journals:
  - IEEE Transactions on Signal Processing
  - IEEE Transactions on Aerospace and Electronic Systems
  - IEEE Transactions on Geoscience and Remote Sensing
  - IEEE Transactions on Antennas and Propagation
  - IEEE Transactions on Radar Systems
  - IEEE Aerospace and Electronic Systems Magazine
  - IEEE Journal on Selected Areas in Communications
  - IEEE Signal Processing Letters
  - IEEE Sensors Journal
  - Springer Signal, Image and Video Processing
- Referee for the following conferences:
  - IEEE Radar Conf (2020, 2021, 2023)
  - 2024 International Radar Conference
  - 2025 IEEE International Radar Conference (RADAR)
  - IEEE TechDefense (2023, 2024)
  - IEEE MetroAeroSpace 2025
  - 28th European Microwave Week
- External reviewer in the committee to evaluate a paper nominated for the Signal Processing Letters Best Paper (SPLBP) award
- Organizer of the special session "ISaCAGE: Integration and Coexistence of Sensing and Communication Systems that Share the Same Spatial and Spectrum Resources" at the 2024 IEEE International Conference on Technologies for Defense and Security"
- Organizer of the special session "ISaCAGE - FLARE: Integration and coexistence of sensing and communication systems that share the same spatial and spectrum resources", at the 2025 IEEE International Conference on Technologies for Defense and Security"

RESEARCH ACTIVITIES

- **Journal Publications**

[J1] A. Aubry, A. De Maio, S. Marano, and M. Rosamilia, "Single-Pulse Simultaneous Target Detection and Angle Estimation in a Multichannel Phased Array Radar," IEEE Transactions on Signal Processing, vol. 68, pp. 6649-6664, 2020.

[J2] L. Lan, M. Rosamilia, A. Aubry, A. De Maio, and G. Liao, "Single-Snapshot Angle and Incremental Range Estimation for FDA-MIMO Radar," IEEE Transactions on Aerospace and Electronic Systems, 2021.

[J3] A. Aubry, A. De Maio, and M. Rosamilia, "Reconfigurable Intelligent Surfaces for N-LOS Radar Surveillance," IEEE Transactions on Vehicular Technology, 2021.

[J4] A. Aubry, A. De Maio, S. Marano, and M. Rosamilia, "Structured Covariance Matrix Estimation with Missing-(complex) Data for Radar Applications via Expectation-Maximization," IEEE Transactions on Signal Processing, 2021.

[J5] A. Aubry, V. Carotenuto, A. De Maio, M. Rosamilia, and S. Marano, "Adaptive Radar Detection in the Presence of Missing-Data," IEEE Transactions on Aerospace and Electronic Systems, vol. 58, no. 4, pp. 3283-3296, Aug. 2022.

[J6] L. Lan, M. Rosamilia, A. Aubry, A. De Maio, G. Liao, and J. Xu, "Adaptive Target Detection with Polarimetric FDA-MIMO Radar," IEEE Transactions on Aerospace and Electronic Systems, vol. 59, no. 3, pp. 2204-2220, June 2023.

[J7] M. Rosamilia, A. Balleri, A. De Maio, A. Aubry, and V. Carotenuto, "Radar Detection Performance Prediction using Measured UAVs RCS Data," IEEE Transactions on Aerospace and Electronic Systems, vol. 59, no. 4, pp. 3550-3565, Aug. 2023.

[J8] A. Aubry, A. De Maio, L. Lan, and M. Rosamilia, "Adaptive Radar Detection and Bearing Estimation in the Presence of Unknown Mutual Coupling," IEEE Transactions on Signal Processing, vol. 71, pp. 1248-1262, 2023.

[J9] L. Lan, M. Rosamilia, A. Aubry, A. De Maio, and G. Liao, "Adaptive Target Detection and DOA Estimation with Uniform Rectangular Arrays in the Presence of Unknown Mutual Coupling," IEEE Transactions on Radar Systems, vol. 1, pp. 325-338, 2023.

[J10] M. Rosamilia, A. Aubry, A. Balleri, V. Carotenuto, and A. De Maio, "Radar Detection Performance Via Frequency Agility Using Measured UAVs RCS Data," IEEE Sensors, 2023.

[J11] L. Lan, M. Rosamilia, A. Aubry, A. De Maio, and G. Liao, "FDA-MIMO Transmitter and Receiver Optimization," IEEE Transactions on Signal Processing, 2024.

[J12] L. Lan, M. Rosamilia, A. Aubry, A. De Maio, and G. Liao, "FDA-MIMO Transceiver Design Under the Uniform Frequency Increment Constraint," IEEE Transactions on Radar Systems, vol. 2, pp. 446-459, 2024.

[J13] M. Boddi, M. Rosamilia, A. Aubry, and A. De Maio, "Iterative Calibration and Direction-of-Arrival Estimation for Uniform Circular Arrays affected by Mutual Coupling," IEEE Sensors Letters, 2024.

[J14] A. Aubry, M. Boddi, A. De Maio, and M. Rosamilia, "Sparse DOA Estimation With Polarimetric Arrays," IEEE Open Journal of Signal Processing, 2024.

[J15] A. Aubry, P. Babu, A. De Maio, and M. Rosamilia, "Advanced Methods for MLE of Toeplitz Structured Covariance Matrices with Applications to Radar Problems," IEEE Transactions on Information Theory, 2024.

[J16] L. Lan, J. Zhu, M. Rosamilia, J. Xu, and G. Liao, "Simultaneous Target Detection and Parameters Estimation With FDA-MIMO Radar Exploiting Centro-Hermitian Array Manifold," IEEE Signal Processing Letters, vol. 32, pp. 2204-2208, 2025.

[J17] M. Rosamilia, A. Aubry, V. Carotenuto, and A. De Maio, "Cognitive Noncoherent Jamming Techniques for Frequency Selective Attacks," IEEE Transactions on Aerospace and Electronic Systems, vol. 61, no. 5, pp. 14330-14343, Oct. 2025.

[J18] M. Rosamilia, A. Aubry, A. Balleri, A. De Maio, and M. Martorella, "Exploiting Cognition in ISAR Processing for Spectral Compatibility Applications," IEEE Transactions on Radar Systems, vol. 4, pp. 194-206, 2026.

[J19] S. Li, M. Rosamilia, C. Ma, Y. Liang, and A. De Maio, "Hierarchical Trustworthy Inference for UAV/bird Classification Under Track Data Imprecision," IEEE Transactions on Aerospace and Electronic Systems, pp. 1-17, 2026, Early Access.

- **Conference Publications**

[C1] M. Rosamilia, A. Aubry, A. De Maio, and S. Marano, "Simultaneous Radar Detection and Constrained Target Angle Estimation via Dinkelbach Algorithm," 2020 IEEE Radar Conference (RadarConf20), Florence, Italy, 2020, pp. 1-6.

[C2] M. Rosamilia, A. Aubry, V. Carotenuto, and A. De Maio, "Experimental Analysis of Structured Covariance Estimators with Missing data," 2021 IEEE 8th International Workshop on Metrology for AeroSpace (MetroAeroSpace), 2021, pp. 271-276.

[C3] A. Aubry, A. De Maio, and M. Rosamilia, "RIS-Aided Radar Sensing in N-LOS Environment," 2021 IEEE 8th International Workshop on Metrology for AeroSpace (MetroAeroSpace), 2021, pp. 277-282.

[C4] L. Lan, M. Rosamilia, A. Aubry, A. De Maio, J. Xu, and G. Liao, "Adaptive Monopulse Based Estimation in FDA-MIMO radar," 2021 CIE International Conference on Radar (Radar), 2021, pp. 1744-1748.

[C5] M. Rosamilia, L. Lan, A. Aubry, and A. De Maio, "Polarimetric FDA-MIMO Radar Detection," 2022 IEEE Radar Conference, 2022, New York City, USA.

[C6] M. Rosamilia, A. Aubry, A. Balleri, V. Carotenuto, and A. De Maio, "RCS Measurements of UAVs and Their Statistical Analysis," 2022 IEEE 9th International Workshop on Metrology for AeroSpace (MetroAeroSpace), 2022.

[C7] M. Rosamilia, A. Aubry, A. Balleri, V. Carotenuto, and A. De Maio, "Performance Prediction of the Coherent Radar Detector on Measured UAVs Data," IET Radar 2022 International Conference on Radar Systems, 2022.

[C8] M. Rosamilia, A. Aubry, A. De Maio, L. Lan, "Simultaneous Radar Detection and DOA Estimation in the Presence of Unknown Mutual Coupling," 2023 IEEE Radar Conference (RadarConf23), pp.1-6, 2023.

[C9] M. Rosamilia, M. Boddi, A. Aubry, A. De Maio, "Polarimetric Sparse Iterative Procedures for DOA Estimation," 2023 IEEE International Workshop on Technologies for Defense and Security (TechDefense), pp. 279-284, 2023.

[C10] A. Aubry, V. Carotenuto, A. De Maio, and M. Rosamilia, "Quantization Effects on Cognitive Waveforms for Spectral Coexistence," 2024 IEEE International Symposium on Systems Engineering (ISSE), Perugia, Italy, 2024.

[C11] M. Rosamilia, A. Aubry, A. Balleri, A. De Maio, and M. Martorella, "A Cognitive-Based ISAR System for Spectral Compatibility Applications," 2024 IEEE International Workshop on Technologies for Defense and Security (TechDefense), Naples, Italy, 2024.

[C12] M. Rosamilia, A. Aubry, V. Carotenuto, and A. De Maio, "Non-coherent Cognitive Technique For Frequency Selective Jamming," 2024 International Radar Conference (RADAR), Rennes, France, 2024, pp. 1-6.

[C13] M. Rosamilia, V. Calligaris, D. Gabutti, A. Manfredi, and V. Carotenuto, "Cooperative Cross-Eye Jamming Against Advanced Radars: Effectiveness and Countermeasures," 2025 IEEE 12th International Workshop on Metrology for AeroSpace (MetroAeroSpace), Naples, Italy, 2025, pp. 110-115.

[C14] M. Rosamilia, A. Aubry, A. Balleri, A. De Maio, and M. Martorella, "Cognitive ISAR for Congested RF Environments via Waveform Design and Data Recovery Strategies," 2025 IEEE Radar Conference (RadarConf25), Krakow, Poland, 2025, pp. 1564-1569.

ADDITIONAL QUALIFICATIONS

- Language skills (according to the Common European Framework of Reference for Languages): Italian (mother tongue); English (proficient user, C1/C1).
- Computer skills: knowledge of Mathworks Matlab, LaTeX, Python, Java, C, PHP, MySQL, Postgres, Docker, Microsoft Office, Linux, GNURadio.

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The undersigned is aware that, pursuant to art. 76 of Presidential Decree 445/2000, false declarations, false documents and the use of false deeds are punished according to the Penal Code and special laws. All this stated states the following facts and personal qualities.

Massimo Rosamilia