



# Nicola Anselmi

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## ● EDUCATION AND TRAINING

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31/10/2013 – 22/04/2018

**PH.D. DEGREE IN INFORMATION AND COMMUNICATION TECHNOLOGY** University of Trento - Information and Communication Technology Doctoral School – Cycle XXIX

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31/01/2010 – 30/10/2012

**MASTER DEGREE IN TELECOMMUNICATION ENGINEERING** University of Trento

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31/08/2005 – 27/11/2009

**BACHELOR DEGREE IN TELECOMMUNICATION ENGINEERING** University of Padova

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## ● WORK EXPERIENCE

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15/07/2020 – CURRENT

**ASSISTANT PROFESSOR** UNIVERSITY OF TRENTO

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D.R. n. 214 20-03-2020, Settore Concorsuale 09/F1 (Campi Elettromagnetici).

01/11/2012 – CURRENT

**MEMBER OF THE ELEDIA@UNITN**

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The research activity of Dr. Nicola Anselmi is mainly concerned with (a) the development of advanced methodologies for the design and the analysis of unconventional antenna arrays with electronic scanning for advanced sensing and communication systems and (b) the theoretical study and the numerical implementation of innovative methodologies for the solution of inverse problems within the framework of electromagnetic diagnostics.

19/11/2019 – 14/07/2020

**POSTDOCTORAL RESEARCHER (ASSEGNISTA DI RICERCA)** UNIVERSITY OF TRENTO

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SC: 09/F1 “Campi Elettromagnetici”; SSD: ING-INF/02 “Campi Elettromagnetici”. Title of the research activity: “Tecniche innovative per lo studio e sviluppo di antenne a schiera clustered non convenzionali per applicazioni in ambito radar e di comunicazione”.

03/09/2018 – 02/09/2019

**POSTDOCTORAL RESEARCHER (ASSEGNISTA DI RICERCA)** UNIVERSITY OF GENOVA

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SC: 09/F1 “Campi Elettromagnetici”; SSD: ING-INF/02 “Campi Elettromagnetici”. Title of the research activity: “Studio e sviluppo di metodologie innovative per la progettazione, analisi numerica, e sintesi di architetture non convenzionali per antenne a schiera di prossima generazione”.

## ● ADDITIONAL INFORMATION

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### QUALIFICATIONS

08/02/2023 – CURRENT

**Italian National Qualification - Full Professor**

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Abilitazione Scientifica Nazionale (ASN), “I Fascia”, Settore Concorsuale 09/F1 (Campi Elettromagnetici)

09/05/2019 – CURRENT

**Italian National Qualification - Associate Professor**

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Abilitazione Scientifica Nazionale (ASN), "II Fascia", Settore Concorsuale 09/F1 (Campi Elettromagnetici)

24/02/2019 – CURRENT

**French National Qualification - Associate Professor**

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Section 63 Electrical, Electronic, Photonic and Systems Engineering (Qualification aux fonctions de maître de conférences, Section 63 - Génie électrique, électronique, photonique et systèmes)

29/11/2021 – CURRENT

**IEEE Senior Member**

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**TEACHING/ADVISING**

**Teacher of the Course "Elementi di Elettromagnetismo", Dipartimento di Ingegneria Civile, Chimica e Ambientale, University of Genova (a.a. 2023/2024 - 3 CFU)**

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**Teacher of 5 International PhD Summer Schools within the ICAM Doctoral School of the University of Trento**

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- Advanced Sampling and Retrieval Methods - The Compressive Processing Paradigm, 13-17 Jun. 2022, Trento, Italy
- Global Optimization Methods - Theory, Techniques, and Advanced Engineering Applications, 20-24 Jun. 2022, Trento, Italy
- Multiphysics Metamaterials - Theory and Engineering Applications, 27 Jun. – 1 Jul. 2022, Trento, Italy
- Inverse Problems (Ill-Posedness and Regularization): Theory, Techniques, and Engineering Applications, 25-29 Jul. 2022, Trento, Italy
- Scientific and High Performance Computing, 29 Aug. – 2 Sep. 2022, Trento, Italy
- Global Optimization Methods - Theory, Techniques, and Advanced Engineering Applications, 10-14 Jul. 2023, Trento, Italy
- Inverse Problems (Ill-Posedness and Regularization): Theory, Techniques, and Engineering Applications, 28 Aug. - 01 Sep. 2023, Trento, Italy

**Teacher of 5 International PhD courses within the "European School of Antennas (ESoA)"**

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- Compressive Sensing in Electromagnetics, 18-22 Mar. 2019, Riva del Garda, Trento, Italy
- Microwave Imaging and Diagnostic – Theory, Techniques and Applications, 1-5 Feb. 2021, Naples, Italy
- Compressive Sensing in Electromagnetics, 25-29 Oct. 2021, Riva del Garda, Trento, Italy
- Arrays and Reflectarrays, 26-30 Sep. 2022, UCL Louvain La Neuve, Belgium
- Quantum Electromagnetics - Modeling the nanoscale in the real world, 21-25 Nov. 2022, Madonna di Campiglio, Trento, Italy

**Teacher of a Monographic Series of Lectures on "Antenna Array Synthesis - Theory, Fundamentals, and Latest Advances", University of Salento, 8-16 November, 2022, Lecce, Italy**

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**Teacher of 2 Short Courses**

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- Short Course on "Antenna Array Synthesis – Theory, Techniques, and Applications," at the International Conference on Microwaves, Communications, Antennas, Biomedical Engineering & Electronic Systems (IEEE COMCAS 2021), Nov. 1-3, 2021, Tel Aviv, Israel
- Short Course on "Inverse Scattering and EM Imaging – Theory, Techniques, and Applications," at the International Conference on Microwaves, Communications, Antennas, Biomedical Engineering & Electronic Systems (IEEE COMCAS 2021), Nov. 1-3, 2021, Tel Aviv, Israel

**Teaching Assistant of 10 courses in the area of Electromagnetic Fields**

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Bachelor and Master level Courses belonging to the "Settore Concorsuale 09/F1 (Campi Elettromagnetici)" [SSD ING-INF/02 - Campi Elettromagnetici] at the University of Trento, Italy:

- "Electromagnetic Propagation" – 2017/2018 Bachelor Degree in Electronic and Telecommunications Engineering
- "Wired Communication System and Devices" – 2017/2018 Master Degree in Telecommunications Engineering
- "Electromagnetic Propagation" – 2016/2017 Bachelor Degree in Electronic and Telecommunications Engineering
- "Wired Communication System and Devices" – 2016/2017 Master Degree in Telecommunications Engineering

- “Wired Communication System and Devices” – 2015/2016 Master Degree in Telecommunications Engineering
- “Optimization Algorithms and Techniques” – 2015/2016 Master Degree in Telecommunications Engineering
- “Electromagnetic Propagation” – 2014/2015 Bachelor Degree in Electronic and Telecommunications Engineering
- “Wired Communication System and Devices” – 2014/2015 Master Degree in Telecommunications Engineering
- “Wired Communication System and Devices” – 2013/2014 Master Degree in Telecommunications Engineering
- “Wired Communication System and Devices” – 2012/2013 Master Degree in Telecommunications Engineering

### **Teaching Assistant of 3 courses within the “European Institute of Innovation and Technology (EIT)” Master School, University of Trento**

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- EIT – 2017/2018 Master School of the EIT, University of Trento, Italy
- EIT – 2016/2017 Master School of the EIT, University of Trento, Italy
- EIT – 2015/2016 Master School of the EIT, University of Trento, Italy

### **Advisor/Co-Advisor of 8 Master Thesis at the University of Trento**

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- Co-Advisor of Mohammad Abdul Hannan, “Wavelet-Based Compressive Sensing Imaging of 2D Non-Sparse Scatterers”, Master Thesis in Telecommunication Engineering, University of Trento (a. a. 2014/2015)
- Co-Advisor of Marco Califano, “Study and Development of an Innovative Tolerance Analysis Tool for Membrane Reflector Antennas Based on Interval Analysis”, Master Thesis in Telecommunication Engineering, University of Trento (a. a. 2015/2016)
- Co-Advisor of Matteo Fioranzato, “Hexagonal Aperture Phased Array Tiling using an Integer-based Genetic Algorithm Optimization”, Master Thesis in Telecommunication Engineering, University of Trento (a. a. 2017/2018)
- Co-Advisor of Gianluca Zampieri, “Innovative Modular Strategy For Satellite Antenna Array Design,” Master Thesis in Telecommunication Engineering, University of Trento (a. a. 2018/2019)
- Co-Advisor of Benoni Arianna, “ An Innovative Minkowski-Sum Based Methodology for Exact Tolerance Analysis of Continuous and Discrete Antennas,” Master Thesis in Information and Communication Engineering, University of Trento (a. a. 2019/2020)
- Advisor of Tahir Amna, “Innovative Design of Tiled Phased Arrays for Satcoms and CubeSat Applications”, Master Thesis in Information and Communication Engineering, University of Trento (a. a. 2021/2022)
- Advisor of Kapidis Fivos, “Innovative Synthesis of High-Frequency Radar Sensors Through the System-by-Design”, Master Thesis in Information and Communication Engineering, University of Trento (a. a. 2021/2022)
- Advisor of Viviani Nicolò, “Artificial Intelligence-driven Design of Unconventional Antenna Array Architectures For Modern Wireless Communication Systems,” Master Thesis in Information and Communication Engineering, University of Trento (a. a. 2021/2022)

### **Advisor/Co-Advisor of 8 Bachelor Thesis at the University of Trento**

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- Co-Advisor of Niccolò Bisagno, “Testing of a Non-Linear Compressive Sensing Solver for 2D Microwave imaging Applications”, Bachelor Thesis in Telecommunication Engineering, University of Trento (a. a. 2013/2014)
- Co-Advisor of Elia Mantovani, “Half-Space Biomedical Imaging of Sparse Pathologies Using a Wavelet Based Compressive Sensing Technique and a Multi Frequency Strategy”, Bachelor Thesis in Telecommunication Engineering, University of Trento (a. a. 2014/2015)
- Co-Advisor of Alessandro Passarini Alessandro, “Cross-Borehole Imaging of Sparse Buried Objects by Means of a Wavelet Based Compressive Sensing Approach and a Single Frequency Strategy”, Bachelor Thesis in Telecommunication Engineering, University of Trento (a. a. 2015/2016)
- Co-Advisor of Federico Boulos, “A Compressive Sensing Based Multi-Resolution Approach for Microwave Imaging”, Bachelor Thesis in Telecommunication Engineering, University of Trento (a. a. 2016/2017)
- Co-Advisor of Giulia Tabarelli De Fatis, “Half-Space Biomedical Imaging of Sparse Targets by Means of a Compressive Sensing Approach”, Bachelor Thesis in Telecommunication Engineering, University of Trento (a. a. 2016/2017)
- Co-Advisor of Francesco Zardi, “A Graph-based Search Method for Fast Phased Array Tiling Optimization”, Bachelor Thesis in Telecommunication Engineering, University of Trento (a. a. 2016/2017)

- Advisor of Centa Andrea Remo, "Wide-scanning Phased Array Antenna Design for Scan-loss Mitigation", Bachelor Thesis in Computer, Communications and Electronic Engineering, University of Trento (a. a. 2021/2022)
- Advisor of Amadei Emanuele, "Entropy-Driven Optimization of Irregularly Tiled Phased Arrays", Bachelor Thesis in Computer, Communications and Electronic Engineering, University of Trento (a. a. 2021/2022)

## **ABROAD RESEARCH EXPERIENCES**

11/2015 – 12/2015

### **Visiting Scientist at the Laboratoire des Signaux et Systèmes (L2S)**

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CentraleSupélec, Gif-Sur-Yvette, France (contact: Dr. D. Lesselier)

12/2015 – 07/2017

### **Visiting PhD Student at the Laboratoire des Signaux et Systèmes (L2S)**

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CentraleSupélec, Gif-Sur-Yvette, France (contact: Dr. D. Lesselier)

## **TECHNOLOGICAL TRANSFER**

2017 – CURRENT

### **Scientific Coordinator of 5 industrial and institutional projects funded by public and private institutions**

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Main partners: European Space Agency, Agency of Defence Development of the Republic of Korea, Huawei Technologies CO., LTD, Huawei Technologies Dusseldorf GmbH

2011 – CURRENT

### **Participant in 19 industrial and institutional projects funded by public and private institutions**

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Main partners: Huawei Technologies, Leonardo Finmeccanica S.p.A., Selex ES, Elettronica S.p.A., MIUR, DIGITEO, Ministero degli Affari Esteri e della Cooperazione Internazionale, Virtual Institute for Artificial Electromagnetic Materials and Metamaterials, Provincia Autonoma di Trento

## **EDITORIAL ACTIVITIES**

06/2022 – CURRENT

### **Associate Editor of the IEEE Antennas Wireless and Propagation Letters**

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07/2022 – CURRENT

### **Associate Editor of the IEEE Open Journal of Antennas and Propagation**

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## **INVITED CONTRIBUTIONS AND TALKS**

### **25 Invited contributions in scientific sessions**

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- Session "Inversion methods for electromagnetic imaging and applications" EMTS 2013, Hiroshima, Japan, May 20-24, 2013
- Session "Advanced design and optimization techniques for phased arrays" EUCAP 2014, The Hague, The Netherlands, Apr. 6-11, 2014
- Session "Inverse scattering and applications" PIERS 2016 in Shanghai, China, Aug. 8-11, 2016
- Session "Compressed sensing adopted to RF" EUCAP 2016, Davos, Switzerland, Apr. 11-15, 2016
- Session "Computational imaging at microwave, millimeter wave, and terahertz frequencies" IEEE APS/URSI, Fajardo, Puerto Rico, Jun. 26 - Jul. 1, 2016
- Session "Inverse Scattering and Imaging" EMTS 2016, Espoo, Finland, Aug. 14-18, 2016
- Session "Emerging Strategies for the Synthesis of Innovative Array-Antenna Architectures" EUCAP 2017, Paris, France, Mar. 19-24, 2017
- Session "Current Trends and Advances in Computational Inverse Scattering: Theory, Techniques, and Application" APCAP 2017, Xi'an, China, Oct. 16-19, 2017
- Session "Inverse Problems: Theory, Techniques, and Applications" EUCAP 2018, London, United Kingdom, Apr. 9-13, 2018
- Session "Beamforming techniques for information and power transmission" EUCAP 2018, London, United Kingdom, Apr. 9-13, 2018
- Session "Emerging Approaches and Future Trends in Electromagnetic Inverse Problems" IEEE APS/URSI, Boston, Massachusetts, USA, Jul. 8-13, 2018

- Session "Innovative Phased Array Technology and Applications" IEEE AP-S/USNC-URSI, Boston, Massachusetts, USA, Jul. 8-13, 2018
- Session "Circuits & Systems for Compressed Sensing in the Internet of Things Era" ISCAS 2018, Florence, Italy, May 27-30, 2018
- Session "Unconventional techniques and applications for inverse scattering problems" EUCAP 2019, Krakow, Poland, Mar. 31 - Apr. 5, 2019
- Session "Low-Cost Phased Array Technology" IEEE AP-S/USNC-URSI, Atlanta, Georgia, USA, Jul. 7-12, 2019
- Session "Innovative Reconfigurable and Multifunction Antenna Arrays" IEEE APS/URSI, Atlanta, Georgia, USA, Jul. 7-12, 2019
- Session "Array design III" IEEE International Symposium on Phased Array Systems & Technology, Boston, MA, USA, Oct. 15-18, 2019
- Session "Antenna Arrays" IEEE COMCAS 2019, Tel Aviv, Israel, Nov. 4-6, 2019
- Session "Antenna Design and Applications II" IEEE APMC, Singapore, Dec. 10-13, 2019
- Session "Unconventional Design Approaches for Low Cost Antennas" IEEE APS/URSI, Singapore, Dec. 4-10, 2021
- Session "Innovative Trends in Antenna Tolerance Analysis and Robust Design" IEEE APS/URSI, Singapore, Dec. 4-10, 2021
- Session "Towards a Smart EM Environment: Network, Hardware and Electromagnetic Perspectives" IEEE APS/URSI, Denver, Colorado, USA, Jul. 15-07, 2022
- Session "Antenna Design for Wireless Power Transmission/RF Energy Harvesting" EUCAP 2023, Florence, Italy, Mar. 26-31, 2023
- Session "Quantum Electromagnetics - From Photonics to Quantum Computing" EUCAP 2023, Florence, Italy, Mar. 26-31, 2023
- Session "Current Trends and Advances in Antenna Array Synthesis" IEEE COMCAS 2023, Tel Aviv, Israel, Nov. 6-8, 2023

## **7 Invited contributions to International journals and books**

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- In August 2016, he has been invited by Prof. N. Shinohara to contribute with a book chapter to the book "Wireless Power Transfer – Theory, Technology, and Applications" (Springer-Verlag Berlin Heidelberg, ISBN 978-3-642-12869-1)
- In March 2017, he has been invited by Prof. P. K. Choudhury to contribute with a review article on learning-by-examples techniques as applied to electromagnetics on the Journal of Electromagnetic Waves & Applications
- In January 2018, he has been invited by Prof. S. K. Goudos to contribute with a paper at the "Special Issue on Optimization methods for Key Enabling Technologies: 5G, IoT and Big Data" of the EURASIP Journal on Wireless Communications and Networking
- In October 2019, he has been invited to contribute with a book chapter "Optimal trade-off synthesis for future generation phased arrays @ ELEDIA Research Center," CNIT Technical Reports – Technical Report-04 on 'Italian Perspectives on Antennas for Next Generation Communications,' Eds. G. Di Massa and S. Costanzo, pp. 81-98, February 2020 (ISBN: 9788894982312)
- In April 2021 he has been invited by Prof. D. H. Werner to contribute with a book chapter to the book "Advances in Electromagnetic Empowered by Artificial Intelligence and Deep Learning" (Wiley-IEEE Press, Eds. S. D. Campbell and D. Werner)
- In July 2022, he has been invited to contribute with a book chapter "On the Role and the Exploitation of the Information in Inverse Scattering Problems for Microwave Imaging - Theory, Numerical Tools, and Applications," Technical Report-10 on 'Microwave Imaging based on Inverse Scattering: Techniques, Systems and Applications,' Eds. M. Pastorino and A. Randazzo, pp. 1-16, April 2023 (ISBN: 9788894982633)
- In July 2022 he has been invited by Prof. A. Moeness to contribute with a book chapter "Sparse Arrays for Radar, Sonar, and Communications" (Wiley-IEEE Press, Eds. A. Moeness)

2013 – CURRENT

## **23 Presentations as a speaker in national and international conferences**

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24/05/2022

### **Invited lecturer in a Seminar at the University of Salento, Lecce, Italy.**

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Seminar organized within the Master course of Applied Electromagnetics (a.a. 2021-2022), entitled "Antenna Tolerance Analysis: Latest Advances and Innovative Solutions".

## SCIENTIFIC CHAIRING/ORGANIZATION

### Member of the organization committee of 3 Workshops

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- International Workshop on Metamaterials-by-Design (IWMbD 2015), 3-4 Dec. 2015, CentraleSupélec, Paris Saclay, France
- International Workshop on Metamaterials-by-Design (IWMbD 2016), 15-16 Dec. 2016, Riva del Garda, Trento, Italy
- International Workshop on Metamaterials-by-Design (IWMbD 2017), 14-15 Dec. 2017, UC3M Campus de Madrid, Madrid, Spain

### Member of the organization committee of 9 international Short Courses and PhD Schools

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- International Short-Course within the "European School of Antennas (ESoA)" on Compressive Sensing in Electromagnetics, March 18-22 2019, Riva del Garda, Trento, Italy
- Short-course on "Unconventional array design towards new generation sensing and communication systems", 12 Jun. 2019, Xidian University – Xi'an, China
- International Short-Course within the "European School of Antennas (ESoA)" on Compressive Sensing in Electromagnetics, Oct. 25-29 2021, Riva del Garda, Trento, Italy
- International Short-Course within the "ICAM Doctoral School of the University of Trento" on Advanced Sampling and Retrieval Methods - The Compressive Processing Paradigm, 13-17 Jun. 2022, Trento, Italy
- International PhD Course within the "ICAM Doctoral School of the University of Trento" on Global Optimization Methods - Theory, Techniques, and Advanced Engineering Applications, ICAM Doctoral School of the University of Trento, 20-24 Jun. 2022, Trento, Italy
- International PhD Course within the "ICAM Doctoral School of the University of Trento" on Multiphysics Metamaterials - Theory and Engineering Applications, ICAM Doctoral School of the University of Trento, 27 Jun. – 1 Jul. 2022, Trento, Italy
- International PhD Course within the "ICAM Doctoral School of the University of Trento" on Inverse Problems (Ill-Posedness and Regularization): Theory, Techniques, and Engineering Applications, ICAM Doctoral School of the University of Trento, 25-29 Jul. 2022, Trento, Italy
- International PhD Course within the "ICAM Doctoral School of the University of Trento" on Machine Learning & AI Methods - Theory, Techniques, and Advanced Engineering Applications, ICAM Doctoral School of the University of Trento, 29 Aug. - 2 Sep. 2022, Trento, Italy
- International PhD Course within the "European School of Antennas (ESoA)" on Quantum-EM: Modeling the Nanoscale in the Real World, 28 Nov – 2. Dec. 2022, Madonna di Campiglio, Trento, Italy

### Member of the scientific committee in 3 international conferences

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- the 2019 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radi Science Meeting (APS/URSI 2019), Atlanta, Georgia, USA, July 7 - 12, 2019
- the European Conference on Antennas and Propagation 2019 (EuCAP 2019), Krakow, Poland, March 31 - April 5, 2019
- the European Conference on Antennas and Propagation 2020 (EuCAP 2020), Copenhagen, Denmark, March 15 - 20, 2020
- the European Conference on Antennas and Propagation 2023 (EuCAP 2023), Florence, Italy, March 26 - 31, 2023

### Co-Organizer of 9 special sessions in international scientific conferences

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- Co-organizer of a special session titled "Innovative Antenna Synthesis Paradigm for New Generation Telecommunications Systems" *Sixth Asia-Pacific Conference on Antennas and Propagation (APCAP 2017)*, Xi'an, China, October 16-19, 2017
- Co-organizer of a special session titled "Compressive Sensing as Applied to Antennas and Applications" at the *2018 IEEE International Conference on Antennas and Applications (2018 IEEE CAMA)*, Västerås, Sweden, September 3-6, 2018
- Co-organizer of a special session titled "Compressive Sensing in Applied Computational Electromagnetics - Trends and Advances" at the *2018 International Applied Computational Electromagnetics Society (ACES) Symposium*, Beijing, China, July 29 – August 1, 2018
- Co-organizer of a special session titled "Signal Processing Techniques for Advanced Electromagnetics Synthesis, Analysis, and Measurements" at the *13th European Conference on Antennas and Propagation (EuCAP 2019)*, Krakow, Poland, 31 March – 5 April, 2019
- Co-organizer of a special session titled "Innovative Reconfigurable and Multifunction Antenna Arrays" at the *2019 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting (APS/URSI)*, Atlanta, Georgia, USA on July 7–12, 2019

- Co-organizer of a special session titled "Signal Processing Techniques for Advanced Electromagnetics Synthesis, Analysis, and Measurements" at the *14th European Conference on Antennas and Propagation (EuCAP 2020)*, Copenhagen, Denmark, 15 – 20 March, 2020
- Co-organizer of a special session titled "Unconventional Design Approaches for Low Cost Antennas" at the *2021 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting (APS/URSI)*, Singapore, December 4 – 10, 2021
- Co-organizer of a special session titled "Trends and Evolution of Unconventional Antenna Arrays towards 6G Communications and Multifunction Radars" at the *2022 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting (APS/URSI)*, Denver, Colorado, USA, July 10 – 15, 2022
- Co-Organizer of a special session titled "Quantum Electromagnetics - From Photonics to Quantum Computing" at the *17th European Conference on Antennas and Propagation (EuCAP 2023)*, Florence, Italy, 26 – 31 March, 2023

### **Co-Chair of 11 sessions in international scientific conferences**

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- Co-chair of a special session titled "Innovative Antenna Synthesis Paradigm for New Generation Telecommunications Systems" *Sixth Asia-Pacific Conference on Antennas and Propagation (APCAP 2017)*, Xi'An, China, October 16-19, 2017
- Co-chair of a special session titled "Compressive Sensing as Applied to Antennas and Applications" at the *2018 IEEE International Conference on Antennas and Applications (2018 IEEE CAMA)*, Västerås, Sweden, September 3-6, 2018
- Co-chair of a special session titled "Compressive Sensing in Applied Computational Electromagnetics - Trends and Advances" at the *2018 International Applied Computational Electromagnetics Society (ACES) Symposium*, Beijing, China, July 29 – August 1, 2018
- Co-chair of a convened session titled "Signal Processing Techniques for Advanced Electromagnetics Synthesis, Analysis, and Measurements" at the *13th European Conference on Antennas and Propagation (EuCAP 2019)*, Krakow, Poland, 31 March – 5 April, 2019
- Co-chair of a special session titled "Innovative Reconfigurable and Multifunction Antenna Arrays" at the *2019 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting (APS/URSI)*, Atlanta, Georgia, USA on July 7–12, 2019
- Co-chair of a special session titled "Unconventional Design Approaches for Low Cost Antennas" at the *2021 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting (APS/URSI)*, Singapore, December 4 – 10, 2021
- Co-chair of a session titled "Low Cost Antenna Design and Analysis" at the *2021 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting (APS/URSI)*, Singapore, December 4–10, 2021
- Co-chair of a session titled "Adaptive, Reconfigurable and Active Antennas" at the *2021 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting (APS/URSI)*, Singapore, December 4–10, 2021
- Co-chair of a special session titled "Trends and Evolution of Unconventional Antenna Arrays towards 6G Communications and Multifunction Radars" at the *2022 IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting (APS/URSI)*, Denver, Colorado, USA, July 10 – 15, 2022
- Co-chair of a convened session titled "Quantum Electromagnetics - From Photonics to Quantum Computing" at the *17th European Conference on Antennas and Propagation (EuCAP 2023)*, Florence, Italy, 26 – 31 March, 2023
- Co-chair of a session titled "mm-wave Phased Arrays" at the *17th European Conference on Antennas and Propagation (EuCAP 2023)*, Florence, Italy, 26 – 31 March, 2023

### **HONOURS AND AWARDS**

2016

**"Giorgio Barzilai" Prize for Young Researchers – Italian Electromagnetic Society (SIEM)**

2017

**Third Prize of the "Annual Student Poster Competition" – the Quantitative Nondestructive Evaluation (QNDE 2017) Conference**

2018

**"Young Scientist" Prize – Applied Computational Electromagnetics Society (ACES)**

2019

**"Mini-Circuits Harvey Kaylie Best Paper Prize" – IEEE International Conference on Microwaves, Communications, Antennas & Electronic Systems (COMCAS)**

2020

**Outstanding Reviewer Award – IEEE Transactions on Antennas and Propagation**

2021

**Outstanding Reviewer Award – IEEE Transactions on Antennas and Propagation**

## **MEMBERSHIP AND REVIEWER ACTIVITIES**

**Member of 4 scientific institutions (i.e., IEEE, IEEE-AP, CNIT, SIEM)**

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**Reviewer for 20 international journals**

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- IET Microwaves, Antennas and Propagation (since 2013)
- IEEE Antennas and Wireless Propagation Letters (since 2016)
- IEEE Transactions on Antennas and Propagation (since 2017)
- IEEE Transactions on Microwave Theory and Techniques (since 2018)
- IEEE Journal on Multiscale and Multiphysics Computational Techniques (since 2018)
- IEEE Transactions on Aerospace and Electronic Systems (since 2019)
- IEEE Internet of Things Journal (since 2019)
- IEEE Access (since 2020)
- IEEE Open Journal of Antennas and Propagation (since 2022)
- IEEE Transactions on Vehicular Technologies (since 2022)
- Journal of Mechanical Engineering Science (since 2017)
- Signal Processing: Image Communication (since 2019)
- Engineering Structures (since 2019)
- Applied Mathematical Modelling (since 2019)
- EPJ Applied Metamaterials (since 2020)
- International Journal of Antennas and Propagation (since 2021)
- International Journal of Microwave and Wireless Technologies (since 2022)
- Electronics Letters (since 2022)
- Applied Sciences (since 2022)
- The Journal of the Acoustical Society of America (since 2023)

**Reviewer for 11 conferences**

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- International Applied Computational Electromagnetics Society (ACES) Symposium held in Beijing, China, July 29 – August 1, 2018
- 13th European Conference on Antennas and Propagation (EuCAP 2019), Krakow, Poland, 31 March – 5 April, 2019
- IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting (APS/URSI), Atlanta, Georgia, USA, July 7–12, 2019
- International Applied Computational Electromagnetics Society (ACES) Symposium held in Nanjing China, 8 – 11 August, 2019
- 14th European Conference on Antennas and Propagation (EuCAP 2020), Copenhagen, Denmark, 15 – 20 March, 2020
- IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting (APS/URSI), Montréal, Québec, Canada July 5–10, 2020
- 15th European Conference on Antennas and Propagation (EuCAP 2021), Düsseldorf, Germany, 22 – 26 March, 2021
- IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting (APS/URSI), Singapore, Singapore, December 4–10, 2021
- 16th European Conference on Antennas and Propagation (EuCAP 2022), Madrid, Spain, 27 March – 1 April, 2022
- IEEE International Symposium on Antennas and Propagation and USNC-URSI Radio Science Meeting (APS/URSI), Denver, Colorado, USA, July 10–15, 2022
- 17th European Conference on Antennas and Propagation (EuCAP 2023), Florence, Italy, 26 March – 31 March, 2023

## **PUBLICATIONS SUMMARY**

**Scopus Profile: 55749784900**

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<https://www.scopus.com/authid/detail.uri?authorId=55749784900>

**ORCID Profile: 0000-0001-5970-5679**

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<https://orcid.org/0000-0001-5970-5679>



## Citation Metrics in Scopus

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- Papers: 145
- Citations: 2065
- H-index: 25

## Citation Metrics in ISI WoS

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- Papers: 124
- Citations: 1558
- H-index: 22

## Citation Metrics in Google Scholar

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- Papers: 233
- Citations (all): 2781
- Citations (last 5-years): 2054
- H-index: 30
- H-index (last 5-years): 27
- i10-index: 57
- i10-index (last 5-years): 53

## Publication Highlights

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His research activity has yielded to the publication of **166** scientific contributions, among which **66** journal papers, **88** international and **10** national conference papers, and **3** book chapter. The list of international journals includes:

- **43** IEEE Journals
    - **31** IEEE Transactions on Antennas and Propagation
    - **3** IEEE Transactions on Microwave Theory and Techniques
    - **2** IEEE Transactions on Geoscience and Remote Sensing
    - **2** IEEE Antennas and Propagation Magazine
    - **2** IEEE Access
    - **1** IEEE Antennas and Wireless Propagation Letters
    - **1** IEEE Sensors Journal
    - **1** IEEE Journal on Multiscale and Multiphysics Computational Techniques
  - **6** Journal of Electromagnetic Waves and Applications
  - **5** IET Microwaves Antennas and Propagation
  - **3** Journal of Physics
  - **3** Sensors
  - **1** Journal of Optical Society of America A
  - **1** Journal of Imaging
  - **1** IEICE Electronics Express
  - **1** EURASIP Journal on Wireless Communications and Networking
  - **1** Studies in Applied Electromagnetics and Mechanics
  - **1** Progress in Electromagnetics Research
- Co-author of **13** papers appeared in the Top Accessed Articles of IEEE Xplore for a total of **59** times

## ● PUBLICATIONS LIST

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### Refereed Journal Papers

- [R1] P. Rocca, L. Manica, N. Anselmi, and A. Massa, "Analysis of the pattern tolerances in linear arrays with arbitrary amplitude errors," *IEEE Antennas and Wireless Propagation Letters*, vol. 12, no. 1, pp. 639-642, May 2013 (DOI: 10.1109/LAWP.2013.2261912).
- [R2] L. Manica, N. Anselmi, P. Rocca, and A. Massa, "Robust mask-constrained linear array synthesis through an interval-based particle swarm optimisation," *IET Microwaves, Antennas & Propagation*, vol. 7, no. 12, pp. 976-984, 2013 (DOI: 10.1049/IET-MAP.2013.0203).
- [R3] N. Anselmi, L. Manica, P. Rocca, and A. Massa, "Tolerance analysis of antenna arrays through interval arithmetic," *IEEE Transactions on Antennas and Propagation*, vol. 61, no. 11, pp. 5496-5507, Aug. 2013 (DOI: 10.1109/TAP.2013.2276927).
- [R4] P. Rocca, L. Manica, N. Anselmi, and A. Massa, "Optimal synthesis of robust beamformer weights exploiting interval analysis and convex optimization," *IEEE Transactions on Antennas and Propagation*, vol. 62, no. 7, pp. 3603-3612, Jul. 2014 (DOI: 10.1109/TAP.2014.2318071).
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- [R6] G. Oliveri, N. Anselmi, and A. Massa, "Compressive sensing imaging of non-sparse 2D scatterers by a total-variation approach within the born approximation," *IEEE Transactions on Antennas and Propagation*, vol. 62, no. 10, pp. 5157-5170, Oct. 2014 (DOI: 10.1109/TAP.2014.2344673).
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- [R9] L. Poli, P. Rocca, N. Anselmi, and A. Massa, "Dealing with uncertainties on phase weighting of linear antenna arrays by means of interval-based tolerance analysis," *IEEE Transactions on Antennas and Propagation*, vol. 63, no. 7, pp. 3229-3224, Jul. 2015 (DOI: 10.1109/TAP.2015.2421952).
- [R10] N. Anselmi, M. Salucci, G. Oliveri, and A. Massa, "Wavelet-based compressive imaging of sparse targets," *IEEE Transactions on Antennas and Propagation*, vol. 63, no. 11, pp. 4889-4900, Nov. 2015 (DOI: 10.1109/TAP.2015.2444423).
- [R11] N. Anselmi, P. Rocca, M. Salucci, and A. Massa, "Optimisation of excitation tolerances for robust beamforming in linear arrays," *IET Microwaves, Antennas & Propagation*, vol. 10, no. 2, pp. 208-214, Jan. 2016 (DOI: 10.1049/IET-MAP.2015.0508).
- [R12] P. Rocca, L. Poli, N. Anselmi, M. Salucci, and A. Massa, "Predicting antenna pattern degradations in microstrip reflectarrays through interval arithmetic" *IET Microwaves, Antennas & Propagation*, vol. 10, no. 8, pp. 817-826, May 2016 (DOI: 10.1049/IET-MAP.2015.0837).
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- [R15] M. Salucci, N. Anselmi, G. Oliveri, P. Calmon, R. Miorelli, C. Reboud, and A. Massa, "Real-time NDT-NDE through an innovative adaptive partial least squares SVR inversion approach," *IEEE Transactions on Geoscience and Remote Sensing*, vol. 54, no. 11, pp. 6818-6832, Nov. 2016 (DOI: 10.1109/TGRS.2016.2591439).
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- [R17] F. Viani, A. Polo, P. Garofalo, N. Anselmi, M. Salucci, and E. Giarola, "Evolutionary optimization applied to wireless smart lighting in energy-efficient museums," *IEEE Sensors Journal*, vol. 17, no. 5, pp. 1213-1214, Mar. 2017 (DOI: 10.1109/JSEN.2017.2647827).
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- [R22] N. Anselmi, P. Rocca, M. Salucci, and A. Massa, "Irregular phased array tiling by means of analytic schemata-driven optimization," *IEEE Transactions on Antennas and Propagation*, vol. 65, no. 9, pp. 4495-4510, Sep. 2017 (DOI: 10.1109/TAP.2017.2731204).

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- [R57] L. T. P. Bui, N. Anselmi, G. M. Battaglia, T. Isernia, P. Rocca, and A. F. Morabito, Francesco, "Synthesis of wideband reconfigurable array antennas for monopulse radar applications," *Progress in Electromagnetics Research*, vol. 106, p. 179-189 2021 (DOI: 10.2528/PIERM21090905).
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- [R66] N. Anselmi, P. Rocca, and A. Massa, "Tolerance analysis of reconfigurable monopulse linear antenna arrays through interval arithmetic," *Journal of Electromagnetic Waves and Applications*, pp. 1-16, 2023 (DOI: 10.1080/09205071.2023.2224080)

#### Refereed Conference Papers

- [C1] M. Salucci, D. Sartori, N. Anselmi, A. Randazzo, G. Oliveri, and A. Massa, "Imaging buried objects within the

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- [C4] N. Anselmi, L. Manica, P. Rocca and A. Massa, "Synthesis of robust linear antenna arrays exploiting an interval-based particle swarm optimizer," 8th European Conference on Antennas and Propagation (EUCAP 2014) (no. 978-88-907018-4-9/14/\$31.00©2014 IEEE), The Hague, The Netherlands, pp. 2255-2258, April 6-11, 2014 (Invited paper; Session title: "Advanced design and optimization techniques for phased arrays" – P. Rocca, R. Haupt, and O. Quevedo-Teruel) (DOI: 10.1109/EuCAP.2014.6902262).
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- [C6] N. Anselmi, G. Oliveri, and A. Massa, "A total variation compressive sensing technique for imaging large scatterers," 8th European Conference on Antennas and Propagation (EUCAP 2014) (no. 978-88-907018-4- 9/14/\$31.00©2014 IEEE), The Hague, The Netherlands, pp. 1330-1333, April 6-11, 2014 (DOI: 10.1109/EuCAP.2014.6902022).
- [C7] P.P. Ding, G. Oliveri, N. Anselmi, and Massa, "Non-destructive evaluation of anisotropic composites by bayesian compressive sensing," 19th International Workshop on Electromagnetic Nondestructive Evaluation (ENDE'14), Xi'an, China, pp. 88, June 25-28, 2014.
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