

IL PRESENTE ALLEGATO COSTITUISCE UNO SCHEMA-TIPO, NEL QUALE SONO INDICATE ALCUNE VOCI A MERO TITOLO ESEMPLIFICATIVO, PERTANTO PUO' ESSERE MODIFICATO/INTEGRATO DAL CANDIDATO ADATTANDOLO ALLE PECULIARITÀ DELLA PROPRIA ATTIVITÀ SCIENTIFICO-PROFESSIONALE

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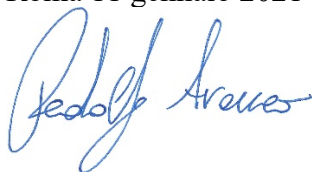
Decreto Rettore Università di Roma "La Sapienza" n. 3341/202 del 29.12.2020

**CURRICULUM**

**Prof. Rodolfo Araneo, PhD**

*Associate professor (qualified as full professor) in  
Electrotechnics (disciplinary sector ING-IND/31)  
University of Rome "La Sapienza"*

In fede  
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## 1. PERSONAL INFORMATION

<b>Name</b>	Rodolfo Araneo
<b>Birthplace</b>	<i>Omissis</i>
<b>Nationality</b>	<i>Omissis</i>
<b>Marital status</b>	<i>Omissis</i>
<b>Compulsory military service</b>	<i>Omissis</i>
<b>Fiscal Code</b>	<i>Omissis</i>
<b>Work address</b>	Department of Electrical Engineering (DIAEE) University of Rome “Sapienza” Via Eudossiana 18 – 00184 Rome – Italy Phone +39-06-44585811 Mobile <i>Omissis</i> Fax. +39-06-4883235 E-mail: <a href="mailto:rodolfo.araneo@uniroma1.it">rodolfo.araneo@uniroma1.it</a>

## 2. ACADEMIC CAREER

- November 12<sup>th</sup>, 2002 He wins the comparative evaluation for a university researcher position for the disciplinary sector ING-IND/31 “Electrotechnics” announced by the School of Engineering of the University of Rome “La Sapienza”.
- January 2<sup>nd</sup>, 2004 He is hired as a University Researcher at the Department of Electrical Engineering of the University of Rome “La Sapienza”.
- August 20<sup>th</sup>, 2007 Upon positive evaluation, he was appointed as a Confirmed Researcher.
- February 3<sup>rd</sup>, 2014 He acquires the National Scientific Qualification in the sector 09/E1 – Electrotechnics with top score, of Associate Professor
- November 1<sup>st</sup>, 2015 He is hired as an Associate Professor at the Department of Electrical Engineering (DIAEE) of the University of Rome “La Sapienza”.
- April 7<sup>th</sup>, 2017 He obtains the National Scientific Qualification with top score to function as Full Professor in the disciplinary sector 09/E1 - Industrial and Information Engineering - Electrotechnics,

## 3. STUDIES

- June 1994 He received the high school diploma “Liceo Scientifico” by the Papal School “Pio IX”, Rome, with the top score 60/60.
- October 1994 He enrolled into the School of Electrical Engineering of the University of Rome “La Sapienza”
- October 1999 After passing 25 examinations with top scores (of which 17 *cum laude*), he obtained the degree in Electrical Engineering at the School of Engineering of the University of Rome “La Sapienza” with final score of 110/110 *cum laude*, with a thesis titled: “Comparative analysis of conventional and innovative techniques for the measurement of the shielding effectiveness of shielded enclosures in the low frequency range”.
- November 1999 He obtains the professional engineering license (PE) with score of 112/120.
- November 1<sup>st</sup>, 1999 He wins the competitive examination for six positions for Ph.D. students, announced by the School of Electrical Engineering of the University of Rome “La Sapienza”, XV Ciclo.

- March 2003 He obtains the Ph.D. in Electrical Engineering, discussing the thesis titled “*Innovative Methodologies for the Analysis of Printed Circuit Boards*”.
- June 13<sup>th</sup> – 14<sup>th</sup>, 2000 He attends the Brief Course titled “*Closed Formulation of the electromagnetism from experimental facts*” held by Prof. Enzo Tonti at the University of Udine.
- October 16<sup>th</sup> – 21<sup>th</sup>, 2000 He attends the Fourth Internship at the Ph.D National School of Electrotechnics “Ferdinando Gasparini”, organized by the Second University of Naples and from the University in Naples Federico II. In such occasion he attends the courses: “*Great, small and negligible in the electromagnetic construction of models*” with by Prof. L. De Menna; “*Introduction to eddy current analysis*” with Prof. Mayergoyz; “*Introduction to the construction of models and to the analysis of the digital circuits*” with Prof. M. Salerno.

#### 4. SCHOLARSHIPS

- October 1994-1998 He was exonerated by the payment of students’ fees for the first four years of the University due to excellent profit at university examinations.
- December 2000 He is awarded the prize “Teresa Gianoli Virgili” of £. 5,000 assigned to the best graduate in Electrical Engineering for the academic year 1998-99.

#### 5. INTERNSHIP AT FOREIGN UNIVERSITIES

- July – August 1999 He develops part of the Master Thesis at the National Institute of Standards and Technology (NIST) in Boulder (Colorado, USA), in the laboratories of the Electromagnetic Fields Division and of the Radio Frequency Technology Division.
- June 29<sup>th</sup> – August 29<sup>th</sup>, 2000 He conducts research activity in the Laboratories of Electromagnetic Compatibility of the Department of Electrical and Computer Engineering, University of Missouri, Rolla, as “visiting student” with professors James L. Drewniak and Todd H. Hubing.

## 6. TEACHING ACTIVITY

### 6.1. Institutional activities

- 2004-08 Teaches the Course of **Electrotechnics**, degree in Environmental Engineering of the University of Rome “La Sapienza”, third year of the Bachelor Degree, 6 credits.
- 2007-09 Teaches the Course of **Electrotechnics**, degree in Aerospace Engineering, second channel, of the University of Rome “La Sapienza”, second year of the Bachelor Degree, 6 credits.
- 2010-today Teaches the Course of **Electrotechnics**, general degree in Mechanical Engineering of the University of Rome “La Sapienza”, second year of the Bachelor Degree, 9 credits.
- 2010-today Teaches the Course of **Sustainable Energy Technologies**, degree in Environmental Engineering of the University of Rome “La Sapienza”, second year of the Master Degree, 6 credits.  
Within this course he is the advisor/tutor of 52 theses on renewable energy.

### 6.2. Other activities

- 2000 Tutor of the Course of Electrotechnics of the bachelor’s degree in Mechanical Engineering of the University of Rome “La Sapienza” with Prof. Mauro Feliziani.
- 2000 Tutor of the Course of Electrotechnics of the bachelor’s degree in Chemical Engineering of the University of Rome “La Sapienza” whose teacher is prof. Saverio Cristina.
- 2001-03 Tutor of the Course of Physics II of the bachelor’s degree in Biomedical Engineering of the “Libera Università Campus Bio-Medico”, with Prof. Corrado Mencuccini.
- 2001 Tutor of the Course of Electrotechnics of the bachelor’s degree in Environmental Engineering of the University of Rome “La Sapienza” with Prof. Salvatore Celozzi.
- 2003-04 Tutor of the Course of Electrotechnics of the master’s degree in Mechanical Engineering of the University of Rome “La Sapienza” with Prof. Giuseppe Maria Veca.
- 2003-07 Tutor for the Course of Physics II of the master’s degree in Biomedical Engineering of the “Libera Università Campus Bio-Medico” with Prof. Corrado Mencuccini.

2003-07	Tutor for the Course of Basic Electromagnetism of the master's degree in Biomedical Engineering of the "Libera Università Campus Bio-Medico" with Prof. Corrado Mencuccini.
2003	Tutor for the Course of Electrotechnics of the master's degree in Environmental Engineering of the University of Rome "La Sapienza" with Prof. Salvatore Celozzi.
2008-2014	Tutor for the Course of Advanced Electromagnetism of the master's degree in Biomedical Engineering of the "Libera Università Campus Bio-Medico" with Prof. Corrado Mencuccini.

### 6.3. Activity as an advisor

2003-07, 2008-today	Member of the Council of the Master Degree in Environmental Engineering of the University of Rome "La Sapienza".
2007-09	Member of the Council of the Master Degree in Aerospace Engineering of the University of Rome "La Sapienza".
2009-today	Member of the Council of the Master Degree in Mechanical Engineering of the University of Rome "La Sapienza".
2018-today	Member of the Council of the Master Degree in Electrical Engineering of the University of Rome "La Sapienza".

### 6.4. Summary of teaching activity in the last five years

Year	CFU	N. exams
2019-2020	21	192
2018-2019	21	239
2017-2018	15	262
2016-2017	15	321
2015-2016	15	248



## 7. INSTITUTIONAL ACADEMIC ACTIVITY

### 7.1. Italian universities

2008 Elected member of the committee for the comparative evaluation for the position of University Researcher at the University of Palermo.

### 7.2. Sapienza

2004-today Member of the Academic Board of the Ph.D. program in Electrical Engineering of the University of Rome, La Sapienza up to 2010 and Electrical, Material and Nanotechnology Engineering from 2010

October 2005 Member of the Committee for the student admissions to the Ph.D. program in Electrical Engineering at the University of Rome, La Sapienza.

2016-today Member of the Department Committee (named Giunta di Dipartimento) of the DIAEE - Department of Astronautical, Electrical and Energy Engineering

2017-today Member of the Faculty Committee (named Giunta di Facoltà) of the Faculty in civil and industrial engineering.

2020-today Coordinator of the Scientific Board of the Ph.D. in “Electrical, materials, raw materials and nanotechnology engineering”.

## 8. ACTIVITY FOR INTERNATIONAL SCIENTIFIC JOURNALS

- 2004-today                    He serves as a reviewer for the following journals:
- Institute of Electrical and Electronics Engineers (IEEE) Transactions on Electromagnetic Compatibility
  - IEEE Transactions on Microwave Theory and Techniques
  - IEEE Transactions on Magnetics
  - IEEE Transactions on Industry Applications
  - IEEE Transactions on Antennas and Propagation
  - IEEE Transactions on Power Delivery
  - Institution of Engineering and Technology (IET) High Voltage
  - COMPEL: The International Journal for Computation and Mathematics in Electrical and Electronic Engineering
  - ACES Journal
  - Journal of Physics and Chemistry of Solid
  - Journal of Electromagnetic Waves and Applications
  - IEEE Transactions on Components, Packaging and Manufacturing Technology
  - MDPI Energies
  - Physica Scripta
  - International Journal of Energy and Environmental Engineering
- 2015-today                    He serves as an Associate Editor for the following journals:
- International Journal of Energy and Environmental Engineering – Springer
  - International Journal of Antennas and Propagation – Hindawi – John Wiley
- 2015-today                    He served as a Guest Editor for the following special issues of MDPI Energies:
1. Selected Papers from 15 IEEE International Conference on Environment and Electrical Engineering  
[http://www.mdpi.com/journal/energies/special\\_issues/eeeic\\_2015](http://www.mdpi.com/journal/energies/special_issues/eeeic_2015)
  2. Selected Papers from 16 IEEE International Conference on Environment and Electrical Engineering  
[http://www.mdpi.com/journal/energies/special\\_issues/eeeic\\_2016](http://www.mdpi.com/journal/energies/special_issues/eeeic_2016)
  3. Selected Papers from 17 IEEE International Conference on Environment and Electrical Engineering  
[http://www.mdpi.com/journal/energies/special\\_issues/eeeic\\_2017](http://www.mdpi.com/journal/energies/special_issues/eeeic_2017)
  4. Selected Papers from 18 IEEE International Conference on Environment and Electrical Engineering  
[https://www.mdpi.com/journal/energies/special\\_issues/eeeic\\_2018](https://www.mdpi.com/journal/energies/special_issues/eeeic_2018)
  5. Selected Papers from 19 IEEE International Conference on Environment and Electrical Engineering  
[https://www.mdpi.com/journal/energies/special\\_issues/eeeic\\_2019](https://www.mdpi.com/journal/energies/special_issues/eeeic_2019)

6. Selected Papers from 20 IEEE International Conference on Environment and Electrical Engineering

[https://www.mdpi.com/journal/energies/special\\_issues/eeeic\\_2020](https://www.mdpi.com/journal/energies/special_issues/eeeic_2020)

7. Power and Signal Transmission Lines Modeling and Large Network Analysis

[https://www.mdpi.com/journal/energies/special\\_issues/PSTLM\\_LNA](https://www.mdpi.com/journal/energies/special_issues/PSTLM_LNA)

8. MV and HV Transmission Lines

[https://www.mdpi.com/journal/energies/special\\_issues/MV\\_HV\\_TL](https://www.mdpi.com/journal/energies/special_issues/MV_HV_TL)

9. Computational Intelligence in Electrical Systems

[https://www.mdpi.com/journal/energies/special\\_issues/CIES](https://www.mdpi.com/journal/energies/special_issues/CIES)

2016

He has been awarded/recognized as “DISTINGUISHED REVIEWER” of the IEEE Transactions on Electromagnetic Compatibility.

## 9. ORGANIZATION, DIRECTION AND COORDINATION OF SCIENTIFIC SEARCH GROUPS

### 9.1. Research projects and funds

2001	Head and scientific coordinator of the Murst “Project Young Researchers” for the Research Project titled “Modeling and design of printed circuits for transmission of high speed signals”.
2007	Head and scientific coordinator of the biennial MIUR-PRIN Research project titled “Development of intelligent circuits for power line communication (PLC) in naval environments”.
2007	Head and scientific coordinator of the AST (“Ateneo Federato della Scienza e della Tecnologia”) Research project titled “Numerical methods of resonant electromagnetic shields”.
2009	Head and scientific coordinator of the AST Research project titled “Artificial shielding for near field sources”.
2010	Head and scientific coordinator of the La Sapienza Unit of the triennial <b>FIRB RESEARCH PROJECT</b> titled “Design and fabrication of ultra-high efficient ZnO nanogenerators”.
2016	Head and scientific coordinator of the La Sapienza Unit of the <b>EUROPEAN PROJECT</b> (H2020-NMBP-2016 – Project ID: 721045) titled “NEXTOWER - Advanced materials solutions for next generation high efficiency concentrated solar power (CSP) tower systems” The project won the prize “ <a href="#">EN-CENELEC Standards plus Innovation Award 2020</a> ”.
2019-Today	Head of the research project titled “Sviluppo di modelli di cavi per posa sottomarina o in galleria” for TERNA.
2021	Head of the research project titled “Incarico studio e analisi guasti cavi MT provocati da potenziale attacco di termiti” for ENEL GREEN POWER.
2002-Today	Participant in 37 Italian research projects in the field of shielding, electromagnetic waves, numerical methods, renewable energies.

## 10. INTERNATIONAL AWARDS AND RECOGNITIONS

- August 2<sup>nd</sup> – 6<sup>th</sup>, 1999 He wins the “**PRESIDENT’S MEMORIAL AWARD**” of the IEEE EMC Society, given every year to the best student in Electromagnetic Compatibility of the IEEE EMC Society.
- 2010 He was elevated to the rank of “**SENIOR MEMBER**” of IEEE
- August 14<sup>th</sup> – 19<sup>th</sup>, 2011 He wins the “**2011 BEST SYMPOSIUM PAPER AWARD**” at the *2011 IEEE International Symposium on Electromagnetic Compatibility* held in Long Beach, California – USA.
- 2016 He received the Recognition as the “**DISTINGUISHED REVIEWER**” of the IEEE Transactions on Electromagnetic Compatibility.
- August 7<sup>th</sup> – 11<sup>th</sup>, 2017 He received the “**CERTIFICATE OF ACKNOWLEDGEMENT**” from the IEEE EMC Society for “*outstanding service as the General Co-Chair of the 16th IEEE International Conference on Environment and Electrical Engineering (EEEIC 2016), Florence, Italy*”.
- November 2018 He was elevated to the rank of “**FELLOW**” of The Applied Computational Electromagnetics Society – ACES.
- October 21<sup>st</sup>, 2019 The **PERSONALITY PROFILE** on IEEE Electromagnetic Compatibility Magazine (Volume: 8, Issue: 3, 3rd Quarter 2019) was dedicated to Dr. Araneo (<https://ieeexplore.ieee.org/abstract/document/8878223>).
- 2020 John Wiley and Sons requested a second edition of the best-selling book “*Electromagnetic Shielding*”.

## 11. ATTENDED CONFERENCES

- August 2<sup>nd</sup> – 6<sup>th</sup>, 1999 He attended the *1999 IEEE International Symposium on Electromagnetic Compatibility*, held in Seattle (Washington, USA) and obtained the President's Memorial Award of IEEE EMC Society, as the best student in Electromagnetic Compatibility of the IEEE EMC Society
- August 21<sup>st</sup> – 25<sup>th</sup>, 2000 He attended the *2000 IEEE International Symposium on Electromagnetic Compatibility*, held in Washington (DC, USA).
- February 20<sup>th</sup> – 22<sup>nd</sup>, 2001 He attended the *14<sup>th</sup> International Zurich Symposium*, held in Zurich.
- May 13<sup>th</sup> – 15<sup>th</sup>, 2001 He attended the *5<sup>th</sup> IEEE Workshop on Signal Propagation on Interconnects*, held in Cavallino, Venice, Italy.
- July 2<sup>nd</sup> – 5<sup>th</sup>, 2001 He attended the *Compumag, 13<sup>th</sup> Conference on the Computation of Electromagnetic Fields*, held in Evian, Lion, France.
- August 13<sup>th</sup> – 17<sup>th</sup>, 2001 He attended the *2001 IEEE International Symposium on Electromagnetic Compatibility* held in Montreal, Canada.
- September 17<sup>th</sup> – 19<sup>th</sup>, 2001 He attended the *4<sup>th</sup> International Workshop on Computational Electromagnetics in the Time-Domain-TLM, FDTD and Related Techniques (CEM-TD)* held in Nottingham, UK.
- May 12<sup>th</sup> – 15<sup>th</sup>, 2002 He attended the *6<sup>th</sup> IEEE Workshop on Signal Propagation on Interconnects*, held in Castelvecchio Pascoli, Lucca, Italy.
- June 16<sup>th</sup> – 19<sup>th</sup>, 2002 He attended the *CEFC, 10<sup>th</sup> Biennial IEEE Conference on Electromagnetic Field Computation*, held in Perugia, Italy
- August 19<sup>th</sup> – 23<sup>rd</sup>, 2002 He attended the *2002 IEEE International Symposium on Electromagnetic Compatibility* held in Minneapolis, Minnesota - USA.
- September 9<sup>th</sup> – 13<sup>th</sup>, 2002 He attended the *EMC Europe 2002 International Symposium on Electromagnetic Compatibility* held in Sorrento, Italy.
- February 18<sup>th</sup> – 20<sup>th</sup>, 2003 He attended the *15<sup>th</sup> International Zurich Symposium*, held in Zurich, Switzerland.
- March 28<sup>th</sup> – 31<sup>st</sup>, 2004 He attended the *PIERS 2004, Progress in Electromagnetics Research Symposium*, held in Pisa, Italy.
- June 20<sup>th</sup> – 25<sup>th</sup>, 2004 He attended the *2004 IEEE AP-S International Symposium and USNC/URSI National Radio Science Meeting*, held in Monterey, California, USA.

August 9 <sup>th</sup> – 13 <sup>th</sup> , 2004	He attended the <i>2004 IEEE International Symposium on Electromagnetic Compatibility</i> held in Santa Clara, California, USA.
September 6 <sup>th</sup> – 10 <sup>th</sup> , 2004	He attended the <i>EMC Europe 2004 International Symposium on Electromagnetic Compatibility</i> held in Eindhoven, Netherlands.
August 8 <sup>th</sup> – 12 <sup>th</sup> , 2005	He attended the <i>2005 IEEE International Symposium on Electromagnetic Compatibility</i> held in Chicago, Illinois, USA.
September 4 <sup>th</sup> – 8 <sup>th</sup> , 2006	He attended the <i>EMC Europe 2006 International Symposium on Electromagnetic Compatibility</i> held in Barcelona, Spain.
August 17 <sup>th</sup> – 21 <sup>st</sup> , 2009	He attended the <i>2009 IEEE International Symposium on Electromagnetic Compatibility</i> held in Austin, Texas, USA.
July 4 <sup>th</sup> – 7 <sup>th</sup> , 2010	He attended the <i>2010 IEEE International Symposium on Industrial Electronics</i> held in Bari, Italy.
April 3 <sup>rd</sup> – 6 <sup>th</sup> , 2011	He attended the <i>IEEE International Symposium on Power Line Communications and its Applications</i> held in Udine, Italy.
August 13 <sup>th</sup> – 20 <sup>th</sup> , 2011	He attended the <i>XXX URSI General Assembly and Scientific Symposium of International Union of Radio Science</i> held in Istanbul, Turkey, where he chaired the Session E11 “EMC and Signal Integrity”.
August 13 <sup>th</sup> – 20 <sup>th</sup> , 2012	He attended the <i>2012 IEEE AP-S International Symposium and USNC/URSI National Radio Science Meeting</i> , held in Chicago, Illinois, USA.
April 1 <sup>st</sup> – 5 <sup>th</sup> , 2013	He attended the <i>2013 MRS Spring Meeting &amp; Exhibit</i> , held in San Francisco, California, USA.
April 8 <sup>th</sup> – 12 <sup>th</sup> , 2013	He attended the <i>EuCAP 2013, the 7th European Conference on Antennas and Propagation</i> , held in Gothenburg, Sweden.
July 6 <sup>th</sup> – 11 <sup>th</sup> , 2014	He attended the <i>2014 IEEE AP-S International Symposium and USNC/URSI National Radio Science Meeting</i> , held in Memphis, Tennessee, USA.
August 3 <sup>rd</sup> – 8 <sup>th</sup> , 2014	He attended the <i>2014 IEEE International Symposium on Electromagnetic Compatibility</i> held in Raleigh, North Carolina, USA.
July 27 <sup>th</sup> – 30 <sup>th</sup> , 2015	He attended the <i>2015 IEEE 15<sup>th</sup> International Conference on Nanotechnology</i> held in Rome (Italy).
September 1 <sup>st</sup> – 11 <sup>th</sup> , 2015	He attended the <i>International Conference on Electromagnetics in Advanced Applications (ICEAA 2015)</i> held in Turin (Italy).

- May 26<sup>th</sup> – 29<sup>th</sup>, 2016 He attended the 20<sup>th</sup> *IEEE Workshop on Signal and Power Integrity*, held in Turin (Italy).
- September 4<sup>th</sup> – 8<sup>th</sup>, 2017 He attended the *EMC Europe 2017 International Symposium on Electromagnetic Compatibility*, Angers, France.
- March 24<sup>th</sup> – 29<sup>th</sup>, 2018 He attended the International Applied Computational Electromagnetics Society (ACES) Symposium, Denver, USA. He gave the **INVITED TALK** at the **PLENARY SESSION** titled “**Recent Advances in Electromagnetic Shielding**”
- July 23<sup>rd</sup> – 26<sup>th</sup>, 2018 He attended the 2018 *IEEE 18<sup>th</sup> International Conference on Nanotechnology*, Cork (Ireland)
- September 23<sup>rd</sup> – 25<sup>th</sup>, 2020 He attended the *EMC Europe 2020 International Symposium on Electromagnetic Compatibility*, Rome, Italy.



## 12. ORGANIZATION OF CONFERENCES

- August 13<sup>th</sup> - 20<sup>th</sup>, 2011 He served as the session chair at the **XXX General Assembly and Scientific Symposium International Union of Radio Science (URSI-GA)**, Session E11 – EMC and Signal Integrity.
- September 17<sup>th</sup> – 21<sup>st</sup>, 2012 He served as the Member of the Local Organizing Committee of the **EMC Europe 2012 – International Symposium on Electromagnetic Compatibility**, held in Rome.
- June 10<sup>th</sup> – 13<sup>th</sup>, 2015 He served as the General Chair and member of the Steering Committee of the **15<sup>th</sup> IEEE International Conference on Environment and Electrical Engineering**, 15<sup>th</sup> edition 2015, Rome, sponsored by IEEE Italy Section, IEEE Poland Section, IEEE EMC International Society, IEEE IA International Society, IEEE PE International Society, EMC Italy Chapter, IEEE IAS Italy Chapter and IEEE PES Italy Chapter.
- March 14<sup>th</sup> – 16<sup>th</sup>, 2016 He served as the symposium chair at the **AIM Conference** sponsored by IEEE Italy Section, IEEE EMC Italy Chapter, IEEE Magnetics Italy Chapter, AIM Italy Chapter.
- June 7<sup>th</sup> – 10<sup>th</sup>, 2016 He served as the General Chair and member of the Steering Committee of the **16<sup>th</sup> IEEE International Conference on Environment and Electrical Engineering**, 16<sup>th</sup> edition 2016, Florence, sponsored by IEEE Italy Section, IEEE Poland Section, IEEE EMC International Society, IEEE IA International Society, IEEE PE International Society, EMC Italy Chapter, IEEE IAS Italy Chapter and IEEE PES Italy Chapter.
- June 6<sup>th</sup> – 9<sup>th</sup>, 2017 He served as the General Chair and member of the Steering Committee of the **17<sup>th</sup> IEEE International Conference on Environment and Electrical Engineering and 1<sup>st</sup> Industrial and Commercial Power Systems Conference**, 2017, Milan, sponsored by IEEE Italy Section, IEEE Poland Section, IEEE EMC International Society, IEEE IA International Society, IEEE PE International Society, EMC Italy Chapter, IEEE IAS Italy Chapter and IEEE PES Italy Chapter.
- June 12<sup>th</sup> – 15<sup>th</sup>, 2018 He served as the General Chair and member of the Steering Committee of the **18<sup>th</sup> IEEE International Conference on Environment and Electrical Engineering and 2<sup>nd</sup> Industrial and Commercial Power Systems Conference**, 2018, Palermo, sponsored by IEEE Italy Section, IEEE Poland Section, IEEE EMC International Society, IEEE IA International Society, IEEE PE International Society, EMC Italy Chapter, IEEE IAS Italy Chapter and IEEE PES Italy Chapter.

- June 11<sup>th</sup> – 14<sup>th</sup>, 2019 He served as the General Chair and member of the Steering Committee of the **19<sup>th</sup> IEEE International Conference on Environment and Electrical Engineering and 3<sup>rd</sup> Industrial and Commercial Power Systems Conference**, 2019, Genova, sponsored by IEEE Italy Section, IEEE Poland Section, IEEE EMC International Society, IEEE IA International Society, IEEE PE International Society, EMC Italy Chapter, IEEE IAS Italy Chapter and IEEE PES Italy Chapter.
- April 14<sup>th</sup> - 18<sup>th</sup>, 2019 He served as the session chair at the **2019 ACES Conference in Miami**, Session 22 – Advances on Time Domain Modeling and Design / 1, and Session 23 – Advances on Time Domain Modeling and Design / 2.
- June 17<sup>th</sup> - 20<sup>th</sup>, 2019 He served as the session chair at the **41<sup>st</sup> PIERS in Rome**, Session SC1: Electromagnetic Shielding.
- June 9<sup>th</sup> – 12<sup>th</sup>, 2020 He served as the General Chair and member of the Steering Committee of the **20<sup>th</sup> IEEE International Conference on Environment and Electrical Engineering and 4<sup>th</sup> Industrial and Commercial Power Systems Conference**, 2020, Madrid, sponsored by IEEE Spain Section, IEEE Poland Section, IEEE EMC International Society, IEEE IA International Society, IEEE PE International Society, EMC Spain Chapter, IEEE IAS Spain Chapter and IEEE PES Spain Chapter.
- June 23<sup>rd</sup> - 25<sup>th</sup>, 2020 He served as the session chair at the **EMC Europe 2020 in Rome**, Session TS05: Transmission Lines & Cables I and as member of the Local Organizing Committee.
- September 7<sup>th</sup> – 10<sup>th</sup>, 2021 He will serve as the General Chair and member of the Steering Committee of the **21<sup>th</sup> IEEE International Conference on Environment and Electrical Engineering and 5<sup>th</sup> Industrial and Commercial Power Systems Conference**, 2021, Bari, sponsored by IEEE Italy Section, IEEE Poland Section, IEEE EMC International Society, IEEE IA International Society, IEEE PE International Society, EMC Italy Chapter, IEEE IAS Italy Chapter and IEEE PES Italy Chapter.

### **13. START-UP AND CULTURAL ASSOCIATION**

- [1] Co-founder of the innovative start-up sponsored by Sapienza named D.R.E.A.M. S.r.l. - Domotic, renewable energy and management <https://www.dream-energy.it/>

### **14. CEI/CENELEC/IEC ACTIVITY**

- [1] Member of the Technical Committee CT-82 “*Sistemi di conversione fotovoltaica dell'energia solare*” of the Italian Electrotechnical Committee (CEI).
- [2] Italian Member in the IEC TC64/TC82 Joint Working Group JWG 32 “*Electrical safety of PV system installation*”.

### **15. PATENT**

- [1] At the end of 2020, he has started the filling of the documents for the grant of a European patent on a new Power Sharing Model conceived with colleague prof. Luigi Martirano.

## 16. PUBLISHED PAPERS

### 16.1. Summary

	<i>N.</i>	<i>Source</i>	<i>From</i>	<i>To</i>
<i>Papers [Articles international]</i>	76	Scopus	2000	today
<i>Papers [Conference papers international]</i>	110	Scopus	2000	today
<i>Reviews [international]</i>	2	Scopus	2000	today
<i>Books [scientific]</i>	1	Scopus	2000	today
<i>Editorial [international]</i>	1	Scopus	2000	today

<i>Total impact factor of papers published on journal with journal-level metric*</i>	156.122	
<i>Average impact factor per paper of papers published on journal with journal-level metric*</i>	2.478	
	<i>Scopus</i>	<i>Google scholar</i>
<i>Total Citations</i>	1967	2609
<i>Average Citations per Product</i>	10.352	
<i>Hirsch (H) index</i>	22	24
<i>Normalized H index</i>	1.047	1.143

\* Data from JCR, Journal of Citation Reports

[http://admin-apps.webofknowledge.com/JCR/help/h\\_jcrabout.htm](http://admin-apps.webofknowledge.com/JCR/help/h_jcrabout.htm)

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- [RI-7] R. Araneo, S. Celozzi, "[Analysis of the shielding performance of ferromagnetic screens](#)", *IEEE Transactions on Magnetics*, vol. 39, no. 2, pp. 1046-1052, March 2003, IF 1.006.
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- [CI-94] A. Rosato, R. Altilio, R. Araneo, M. Panella, “[Embedding of time series for the prediction in photovoltaic power plants](#)”, *16th International Conference on Environment and Electrical Engineering, EEEIC 2016*, Florence, Italy, June 7 – 10, 2016, pp. 1 – 4.
- [CI-95] R. Araneo, S. Celozzi, J. B. Faria, “[Direct TD analysis of PLC channels in HV transmission lines with sectionalized shield wires](#)”, *16th International Conference on Environment and Electrical Engineering, EEEIC 2016*, Florence, Italy, June 7 – 10, 2016, pp. 1–4.
- [CI-96] R. Araneo, M. Maccioni, S. Lauria, A. Geri, F. M. Gatta, S. Celozzi, “[Comparison of corona models for computing the surge propagation in multiconductor power lines](#)”, *16th International Conference on Environment and Electrical Engineering, EEEIC 2016*, Florence, Italy, June 7 – 10, 2016, pp. 1 – 6.
- [CI-97] G. Piantoni, R. Araneo, “[Reliability and maintenance in high-power grid-connected photovoltaic systems: A survey of critical issues and failures](#)” *17th International Conference on Environment and Electrical Engineering, EEEIC 2017*, Milan, Italy, June 6 – 9, 2017, pp. 1 – 6.
- [CI-98] A. Rosato, R. Altilio, R. Araneo, M. Panella, “[Takagi-Sugeno fuzzy systems applied to voltage prediction of photovoltaic plants](#)” *17th International Conference on Environment and Electrical Engineering, EEEIC 2017*, Milan, Italy, June 6 – 9, 2017, pp. 1 – 6.
- [CI-99] R. Araneo, G. Lovat, S. Celozzi, P. Burghignoli, “[Time domain magnetic shielding performance of thin shields](#)” *17th International Conference on Environment and Electrical Engineering, EEEIC 2017*, Milan, Italy, June 6 – 9, 2017, pp. 1 – 6.
- [CI-100] R. Araneo, M. Maccioni, S. Lauria, S. Celozzi, “[Analysis of the lightning transient response of the earthing system of large-scale ground-mounted PV plants](#)”, *2017 IEEE Manchester PowerTech, Powertech 2017*, Manchester; United Kingdom; 18 June 2017.
- [CI-101] R. Araneo, M. Maccioni, S. Lauria, S. Celozzi, J. B. Faria, “[Frequency analysis of PLC over HV transmission lines with segmented shield wires](#)”, *2017 IEEE Manchester PowerTech, Powertech 2017*, Manchester; United Kingdom; 18 June 2017.
- [CI-102] L. Martirano, R. Araneo, A. Ruvio, Z. Leonowicz, J. Rezmer, “[A microgrid with PV production and energy storage for an university building](#)”, *14th IEEE International Conference on Networking, Sensing and Control, ICNSC 2017*, Calabria; Italy; 16 May 2017.
- [CI-103] R. Araneo, S. Celozzi and J. A. B. Faria, “[Frequency-domain analysis of the characteristic impedance matrix of high-voltage transmission lines](#)”, *2017 International Symposium on Electromagnetic Compatibility - EMC EUROPE*, Angers, 2017, pp. 1-6.

- [CI-104] R. Araneo, G. Lovat, S. Celozzi and P. Burghignoli, “[Numerical evaluation of TD shielding performance of thin shields in the presence of vertical dipoles](#)”, *2017 International Symposium on Electromagnetic Compatibility - EMC EUROPE*, Angers, 2017, pp. 1-6.
- [CI-105] R. Araneo, G. Lovat, S. Celozzi and P. Burghignoli, “[Numerical analysis of mutual transient voltages in grounding systems of offshore wind farms](#)”, *2018 International Applied Computational Electromagnetics Society Symposium (ACES)*, Denver, CO, 2018, pp. 1-2.
- [CI-106] R. Araneo, G. Lovat, S. Celozzi and P. Burghignoli, “[Time-domain magnetic shielding effectiveness of planar stratified shields](#)”, *2018 International Applied Computational Electromagnetics Society Symposium (ACES)*, Denver, CO, 2018, pp. 1-2.
- [CI-107] R. Araneo, G. Lovat, S. Celozzi and P. Burghignoli, “[Shielding effectiveness of finite width shields against low-impedance magnetic near-field sources](#)”, *2018 International Applied Computational Electromagnetics Society Symposium (ACES)*, Denver, CO, 2018, pp. 1-2.
- [CI-108] A. Rosato, R. Altilio, R. Araneo, and M. Panella, “[A smart grid in Ponza Island: Battery energy storage management by echo state neural network](#)”, *18th International Conference on Environment and Electrical Engineering, IEEEIC 2018*, Palermo, Italy, June 12 – 15, 2018, pp. 1 – 4.
- [CI-109] A. Rosato, R. Altilio, R. Araneo, and M. Panella, “[Neural network approaches to electricity price forecasting in day-ahead markets](#)”, *18th International Conference on Environment and Electrical Engineering, IEEEIC 2018*, Palermo, Italy, June 12 – 15, 2018, pp. 1 – 5.
- [CI-110] R. Araneo, G. Lovat, S. Celozzi, and P. Burghignoli, “[ELF shielding of finite-size finite-thickness screens against magnetic fields](#)”, *18th International Conference on Environment and Electrical Engineering, IEEEIC 2018*, Palermo, Italy, June 12 – 15, 2018, pp. 1 – 5.
- [CI-111] R. Araneo, G. Lovat, S. Celozzi, J. Brandao Faria, A. Andreotti, and L. Verolino, “[Improvement of lightning performance of overhead power lines by addition of underbuilt ground wires](#)”, *18th International Conference on Environment and Electrical Engineering, IEEEIC 2018*, Palermo, Italy, June 12 – 15, 2018, pp. 1 – 5.
- [CI-112] A. Notargiacomo, L. Laghi, A. Rinaldi, H. Møller, K. K. Hansen, R. Araneo, M. Pea, L. Di Gaspare, M. De Seta, A. Bellucci, M. Girolami, S. Orlando, D. M. Trucchi, “[Femtosecond laser and reactive ion etching based treatments for nanoscale surface texturing of porous silicon carbide](#)”, *2018 IEEE 18th International Conference on Nanotechnology (IEEE-NANO)*, Cork, Ireland, 2018, pp. 1 – 4.
- [CI-113] E. Ferrone, R. Araneo, M. Pea, A. Rinaldi, A. Notargiacomo, M. A. Migliorato, “[Nonlinear elasticity effects in core-shell III-N piezo-semiconductive nanowires](#)”, *2018 IEEE 18th International Conference on Nanotechnology (IEEE-NANO)*, Cork, Ireland, 2018, pp. 1 – 4.
- [CI-114] E. Ferrone, R. Araneo, M. Pea, A. Rinaldi, A. Notargiacomo, M. A. Migliorato, “[Towards a full model of non-linear piezoelectricity in ZnO nanowires](#)”, *2018 IEEE 18th International Conference on Nanotechnology (IEEE-NANO)*, Cork, Ireland, 2018, pp. 1 – 4.

- [CI-115] E. Ferrone, S. Garroni, N. Anton Millan, M. Marty Roda, S. Cuesta-Lopez, M. Pea, A. Notargiacomo, A. Rinaldi, R. Araneo, "[Thermal oxidation of ball-milled ZnO doped powders for synthesis of nanomaterials](#)," *2018 IEEE 18th International Conference on Nanotechnology (IEEE-NANO)*, Cork, Ireland, 2018, pp. 1 – 4.
- [CI-116] E. Stracqualursi, R. Araneo, P. Burghignoli, S. Celozzi, and G. Lovat, "[Offshore wind towers interaction through their grounding systems](#)", *2018 International Symposium on Electromagnetic Compatibility (EMC EUROPE)*, Amsterdam, 2018, pp. 908 – 912.
- [CI-117] G. Lovat, R. Araneo, P. Burghignoli, and S. Celozzi, "[Transient analysis of a conductive screen excited by a pulsed horizontal electrical dipole](#)", *2018 International Symposium on Electromagnetic Compatibility (EMC EUROPE)*, Amsterdam, 2018, pp. 778 – 882.
- [CI-118] R. Araneo, G. Lovat, S. Celozzi, and P. Burghignoli, "[Time-domain magnetic shielding of a thin conducting screen against a small loop](#)", *2019 International Applied Computational Electromagnetics Society Symposium (ACES)*, Miami, FL, USA, 2019, pp. 1-2.
- [CI-119] R. Araneo, S. Celozzi, J. Brandao Faria, A. Andreotti, L. Verolino, "[Lightning performance of overhead distribution lines with underbuilt ground wires](#)", *2019 International Applied Computational Electromagnetics Society Symposium (ACES)*, Miami, FL, USA, 2019, pp. 1-2.
- [CI-120] M. Mitolo, R. Araneo, P. Dehghanian, "[Electrical safety of academic laboratories](#)", *2019 IEEE/IAS 55th Industrial and Commercial Power Systems Technical Conference (I&CPS)*, Calgary, AB, Canada, 2019, pp. 1-7.
- [CI-121] A. Rosato, R. Araneo, A. Andreotti and M. Panella, "[Predictive Analysis of Photovoltaic Power Generation Using Deep Learning](#)," *19th International Conference on Environment and Electrical Engineering, IEEEIC 2019*, Genova, Italy, 2019, pp. 1-4.
- [CI-122] A. Rosato, R. Araneo, A. Andreotti and M. Panella, "[2-D Convolutional Deep Neural Network for Multivariate Energy Time Series Prediction](#)," *19th International Conference on Environment and Electrical Engineering, IEEEIC 2019*, Genova, Italy, 2019, pp. 1-4.
- [CI-123] R. Araneo and M. Mitolo, "[On the Insulation Resistance in High-Power Free-Field Grid-Connected Photovoltaic Plants](#)," *19th International Conference on Environment and Electrical Engineering, IEEEIC 2019*, Genova, Italy, 2019, pp. 1-6.
- [CI-124] M. Carli, M. F. Caso, A. Aurora, L. Seta, A. Rinaldi, E. Ferrone, R. Araneo, P. P. Prosini. "[Electrospinning nanofibers as separators for lithium-ion batteries](#)," *AIP Conference Proceedings*, 2145, 020009. 10.1063/1.5123570, 2019.
- [CI-125] A. Rosato, R. Araneo, M. Panella, "[Decentralized prediction of electrical time series in smart grids using long short-term memory neural networks](#)," *2019 Photonics and Electromagnetics Research Symposium - Spring, PIERS-Spring*, Roma, Italia, June 17<sup>th</sup>-20<sup>th</sup>, 2019, pp. 2899-2907.
- [CI-126] A. Andreotti, R. Araneo, D. Assante, P. Burghignoli, S. Celozzi, G. Lovat, L. Verolino, "[Regularization techniques for the evaluation of the induced currents on a thin disk](#)," *2019*

*Photonics and Electromagnetics Research Symposium - Spring, PIERS-Spring, Roma, Italia, June 17<sup>th</sup>-20<sup>th</sup>, 2019, pp. 2835-2839.*

- [CI-127] A. Rosato, R. Araneo, M. Panella, "[Multivariate prediction in photovoltaic power plants by a stacked deep neural network](#)," *2019 Photonics and Electromagnetics Research Symposium - Fall, PIERS - Fall, Xiamen, Cina, December 17<sup>th</sup>-20<sup>th</sup>, 2019, pp. 451-45.*
- [CI-128] F. Succetti, A. Rosato, R. Araneo, M. Panella, "[Multidimensional feeding of LSTM networks for multivariate prediction of energy time series](#)," *20th International Conference on Environment and Electrical Engineering, IEEEIC 2020, Madrid, Spain, 2020, pp. 1-5.*
- [CI-129] G. Di Lorenzo, L. Martirano, R. Araneo, G. Petrone, "[Modeling and design of a residential energy community with PV sharing](#)," *20th International Conference on Environment and Electrical Engineering, IEEEIC 2020, Madrid, Spain, 2020, pp. 1-5.*
- [CI-130] E. Stracqualursi, R. Araneo, J.B. Faria, A. Andreotti, "[Chain matrix analysis of periodically grounded power lines](#)," *20th International Conference on Environment and Electrical Engineering, IEEEIC 2020, Madrid, Spain, 2020, pp. 1-5.*
- [CI-131] F. De Caro, A. Andreotti, R. Araneo, M. Panella, A. Vaccaro and D. Villacci, "[A review of the enabling methodologies for knowledge discovery from smart grids data](#)," *20th International Conference on Environment and Electrical Engineering, IEEEIC 2020, Madrid, Spain, 2020, pp. 1-5.*
- [CI-132] A. Rosato, F. Succetti, R. Araneo, A. Andreotti, M. Mitolo and M. Panella, "[A combined deep learning approach for time series prediction in energy environments](#)," *2020 IEEE/IAS 56th Industrial and Commercial Power Systems Technical Conference (I&CPS), Las Vegas, NV, USA, 2020, pp. 1-5.*
- [CI-133] G. Lovat, P. Burghignoli, R. Araneo, and L. Verolino, "[A second-kind Fredholm integral-equation approach for simple low- and high-frequency solutions of the perfectly-conducting circular disk](#)," *Proceedings of EMC Europe 2020, International Symposium on Electromagnetic Compatibility, September 23-26, 2020, Rome, pp. 1-4.*
- [CI-134] E. Stracqualursi, R. Araneo, G. Lovat, and P. Burghignoli, "[FDTD Analysis of Metal Oxide Surge Arresters for Protection of Multiconductor Transmission Lines](#)," *Proceedings of EMC Europe 2020, International Symposium on Electromagnetic Compatibility, September 23-26, 2020, Rome, pp. 1-5.*

## **16.5. International conferences without proceedings**

- [CO-1] S. Barmada, M. Raugi, R. Araneo, S. Celozzi, "Modeling interconnects discontinuities in the wavelet domain", *PIERS 2004, Progress in Electromagnetics Research Symposium, March 28-31, 2004, Pisa, Italy.*
- [CO-2] R. Araneo, S. Celozzi, "Crosstalk constraints in interconnects design", **INVITED PAPER**, *Proceedings of the 28<sup>th</sup> General Assembly of the International Union of Radio Science (URSI), New Delhi, India, 23-29 October 2005, paper E05.8(0532).*



[CO-3] R. Araneo, F. Maradei, “ESD coupling to interconnects”, **INVITED PAPER**, *Proceedings of the 28<sup>th</sup> General Assembly of the International Union of Radio Science (URSI)*, New Delhi, India, 23-29 October 2005, paper E05.9(0643).

## 16.6. Books

[BO-1] S. Celozzi, R. Araneo, G. Lovat, *Electromagnetic Shielding*, John Wiley & Sons, Inc., Hoboken, New Jersey, “Wiley Series in Microwave and Optical Engineering”, 2008.  
The book received 387 citations on Google Scholar.

[BO-2] Editorial Advisory Board “*Swarm Intelligence for Electric and Electronic Engineering*”  
Girolamo Fornarelli and Luciano Mescia

[BO-3] S. Celozzi, R. Araneo, G. Lovat, P. Burghignoli, *Electromagnetic Shielding*, Second Edition, John Wiley & Sons, Inc., Hoboken, New Jersey, **to be published in 2021.**

[BO-4] R. Araneo and M. Mitolo, *Electrical Safety Engineering of Renewable Energy Systems*, John Wiley & Sons, Inc., Hoboken, New Jersey, **to be published in 2021.**

[BO-5] R. Araneo (Editor), “*Advanced Time Domain Modelling for Electrical Engineering*”, The Institution of Engineering and Technology (IET), Michael Faraday House, Six Hills Way, Stevenage, Hertfordshire, SG1 2AY, UK, **to be published in 2021.**

## 16.7. Magazines

[MA-1] R. Araneo, “*Joint Meeting of the 17th Edition of the IEEE International Conference on Environment and Electrical Engineering (EEEIC) and the 1st Edition of the IEEE Industrial and Commercial Power Systems Europe (I&CPS Europe)*”, EMC Magazine, vol. 6, no. 4, 2017

## 17. BRIEF DESCRIPTION OF RESEARCH ACTIVITIES

### [1] Electromagnetic Shielding

Dr Araneo focused on a number of aspects: effect of apertures and loading in enclosures, design of absorbers, analytical solutions in frequency and time domain of classical shielding configurations, development of new Greens' functions, periodic shields, metamaterial shields, near field shielding, magnetic shielding, active shielding.

***Main innovative contribution with respect to the existing literature:***

Definition of innovative figures of merits in time domain for enclosures

Analytical solutions of canonical problems in time domain

Investigation of shielding effectiveness of enclosures with apertures and loadings

Investigation of near field shielding with periodic screens and meta-screens

***Individual contribution in multiple author papers:***

Dr Araneo personally contributed to the development of all the numerical codes and the solution of all the numerical aspects of the proposed theories and solutions (MoM, FEM, FDTD, FIT, BEM, hybrid methods, double exponential integration technique, numerical integration of Green functions, extrapolation methods, etc).

### [2] Transmission lines

Dr Araneo investigated the correct simulation of high and low frequency ground losses (Carson and Sunde theories) in time domain, periodic grounding, periodic discontinuities, use of underbuilt shield wires, definition of characteristic impedance with periodic discontinuities, simulation of ground losses for cables in time domain (Pollaczek theory), lightning protection, Corona phenomenon, synthesis of lumped circuits, effect of discontinuities on high-speed printed circuit boards.

***Main innovative contribution with respect to the existing literature:***

Simulation of ground losses in power lines (overhead power lines and cables)

Transfer matrix method with periodic grounding and periodic discontinuities

Assessment of underbuilt shield wires for lightning protection

***Individual contribution in multiple author papers:***

Dr Araneo personally contributed to the development of the theoretical aspects (e.g., definition of the transient ground impedance and definition of frequency domain characteristic impedance) and personally developed the numerical codes.

### [3] Graphene

Dr Araneo investigated the electrodynamics of graphene and the design of graphene sheets for EMC applications

***Main innovative contribution with respect to the existing literature:***

Proposal of new expressions of graphene conductivity

Application of graphene sheets for shielding purposes

***Individual contribution in multiple author papers:***

Dr Araneo personally contributed to the development of the theoretical aspects and personally developed the numerical codes.

[4] **ZnO nanostructures**

Dr Araneo investigated design, numerical characterization and synthesis of ZnO nanostructures (e.g., nanowires) for energy harvesting and sensors applications.

***Main innovative contribution with respect to the existing literature:***

Proposal of new shaped nanowires

Investigation of piezotronics effects

Investigation of nonlinear piezoelectricity

Proposal of new method of synthesis

***Individual contribution in multiple author papers:***

Dr Araneo personally contributed to the theoretical and numerical characterization of nanostructures. Dr Araneo was the leader/reference person of the research group on this topic.

[5] **Renewables**

Dr Araneo investigated several aspects of renewables: EMC issues, lightning protection, power frequency grounding, transient grounding, safety.

***Main innovative contribution with respect to the existing literature:***

Investigation of EMC aspects in high power grid connected PV plants

Investigation of lightning protection and transient ground potential rise

***Individual contribution in multiple author papers:***

Dr Araneo personally contributed to the theoretical and numerical aspects.

[6] **Energy communities**

Dr Araneo investigated concentrated and distributed algorithms for the forecasting of renewable power production and concentrated and distributed algorithms for the optimum management of real and virtual energy communities. He is involved in the development and proposal of innovative power sharing models.

***Main innovative contribution with respect to the existing literature:***

Proposal of innovative algorithms (concentrated and distributed) for the management of renewables in energy communities

***Individual contribution in multiple author papers:***

Dr Araneo is the leader of the research group on this topic.

## 18. SELECTED PUBLICATIONS

List of the publications selected for the evaluation. For each publication is reported title, authors, reference data, journal IF (if applicable), citations, press/media release (if any).

Data from JCR, Journal of Citation Reports and Scopus.

N.	Publication	Year	IF	Citations
1	R. Araneo, "Extraction of broad-band passive lumped equivalent circuits of microwave discontinuities", <i>IEEE Transactions on Microwave Theory and Techniques</i> , vol. 54, no. 1, pp. 393-401, January 2006.	2006	2,027	30
2	S. Celozzi, R. Araneo, G. Lovat, <i>Electromagnetic Shielding</i> , John Wiley & Sons, Inc., Hoboken, New Jersey, nella collana "Wiley Series in Microwave and Optical Engineering".	2008	-	292
3	R. Araneo, G. Lovat, "An efficient MoM formulation for the evaluation of the shielding effectiveness of rectangular enclosures with thin and thick apertures", <i>IEEE Transactions on Electromagnetic Compatibility</i> , vol. 50, no. 2, pp. 294-304, May 2008.	2008	1,083	50
4	R. Araneo, G. Lovat, "Fast MoM analysis of the shielding effectiveness of rectangular enclosures with apertures, metal plates, and conducting objects", <i>IEEE Transactions on Electromagnetic Compatibility</i> , vol. 51, no. 2, pp. 274-283, May 2009.	2009	1,294	87
5	R. Araneo, S. Lammens, M. Grossi, S. Bertone, "EMC issues in high-power grid-connected photovoltaic plants", <i>IEEE Transactions on Electromagnetic Compatibility</i> , vol. 51, no. 3, pp. 639-648, August 2009.	2009	1,294	67
6	R. Araneo, G. Lovat, S. Celozzi, "Shielding effectiveness of periodic screens against finite high-impedance near-field sources", <i>IEEE Transactions on Electromagnetic Compatibility</i> , vol. 53, no. 3, pp. 706-716, August 2011.	2011	1,178	35
7	R. Araneo, G. Lovat, P. Burghignoli, C. Falconi, "Piezo-semiconductive quasi-1D nanodevices with or without anti-symmetry", <i>Advanced Materials</i> , 2012, DOI: 10.1002/adma.201104588.	2012	14,829	86
8	G. Lovat, G. W. Hanson, R. Araneo, P. Burghignoli, "Semiclassical spatially dispersive intraband conductivity tensor and quantum capacitance of graphene", <i>Physical Review B</i> , 87, 115429, 2013.	2013	3,664	98
9	R. Araneo, C. Falconi, "Lateral bending of tapered piezo-semiconductive nanostructures for ultra-sensitive mechanical force to voltage conversion", <i>IOP Nanotechnology</i> , vol. 24, no. 26, 265707, 2013.	2013	3,672	37
10	S. Celozzi, R. Araneo, "Alternative definitions for the time-domain shielding effectiveness of enclosures", <i>IEEE Transactions on Electromagnetic Compatibility</i> , vol. 56, no. 2, pp. 482-485, April 2014.	2014	1,297	40

11	A. Rinaldi, R. Araneo, S. Celozzi, M. Pea, A. Notargiacomo, "The clash of mechanical and electrical size-effects in ZnO nanowires and a double power law design concept for piezoelectric and piezotronic devices", <i>Advanced Materials</i> , DOI: 10.1002/adma.201401026, 2014.	2014	17,493	28
12	R. Araneo, S. Celozzi, A. Tatematsu, F. Rachidi, "Time-domain analysis of building shielding against lightning electromagnetic fields", <i>IEEE Transactions on Electromagnetic Compatibility</i> , vol. 57, n. 3, pp. 397-404, June 2015,	2015	1,146	34
13	R. Araneo, A. Rinaldi, A. Notargiacomo, M. Pea, S. Celozzi, F. Bini, "Thermal-electric model for piezoelectric ZnO nanowires", <i>IOP Nanotechnology</i> , 26, 2015, 265402.	2015	3,573	14
14	J. A. Brandao Faria and R. Araneo, "Computation, properties, and realizability of the characteristic immittance matrices of nonuniform multiconductor transmission lines", <i>IEEE Transactions on Power Delivery</i> , vol. 33, no. 4, pp. 1885-1894, August 2018	2018	4,415	9
15	A. Rosato, M. Panella, R. Araneo, R. "A distributed algorithm for the cooperative prediction of power production in PV plants", <i>IEEE Transactions on Energy Conversion</i> , vol. 34, no. 1, pp. 497-508, October 2018	2018	4,614	14
16	E. Ferrone, R Araneo, A. Notargiacomo, M. Pea, and A. Rinaldi, "ZnO nanostructures and electrospun ZnO-polymeric hybrid nanomaterials in biomedical, health, and sustainability applications," <i>Nanomaterials</i> , 9(10): 1449, Oct. 2019	2019	4,324	5

Total IF: 65.903

Average IF: 4.39 (on 15 impacted publications), 4.12 (on 16 publications)

Total Citations: 926

Average citations: 57.88