
Academic Curriculum Vitae

of Erika Stracqualursi

Ph.D. Student

University of Rome “La Sapienza”

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for public use

Personal Details

Erika Stracqualursi

Ph.D. Student
DIAEE - Electrical Engineering Division
University of Rome “La Sapienza”
Via Eudossiana 18, 00184, Rome (Italy)

Education

- Sep. 2009 - Jul. 2014: **Scientific High School**
Liceo scientifico “Bertrand Russell”, Rome
Final grade: 100/100 summa cum laude.
- Oct. 2014 - Oct. 2017: **Bachelor’s Degree in Electrical Engineering**
University of Rome “La Sapienza”
Dissertation title: “Analysis of the grounding resistance of rods buried in non-homogeneous ground configurations through the method of images”
Final grade: 110/110 summa cum laude.
- Oct. 2017 - Oct. 2019: **Master’s Degree in Electrical Engineering**
University of Rome “La Sapienza”
Dissertation title: “The solution of complex electrical engineering configurations through the method of images”
Final grade: 110/110 summa cum laude with special mention and recommendation for publication.
- Nov. 2019 - *in progress* **Electrical Engineering Ph.D. Student**
University of Rome “La Sapienza”
Current research field: transmission line analysis and modelling in the time domain and in the frequency domain.
Implementation of Finite Difference Time Domain (FDTD) algorithms for the study of propagation phenomena along transmission lines.
- Sept. 2021 – Dec. 2021: **Visiting Ph.D. Student**
High Voltage Laboratory of Aristotle University of Thessaloniki (AUTH)
Experimental investigation on corona discharge in coaxial configuration; simulation of corona discharge along transmission lines; grounding studies.

Teaching activities

Nov. 2019 - *in progress*: Support for the students of the courses of “Electrotechnics - I” and “Electrotechnics - II”; tutoring activity for students writing their Bachelor’s and Master’s Degrees Thesis in Electrical Engineering at the University of Rome “La Sapienza”.

Nov. 2019 - *in progress*: Teaching support for the students of the courses of “Electrotechnics - I” and “Electrotechnics - II” for Bachelor’s and Master’s Degrees in Electrical Engineering at the University of Rome “La Sapienza”.

Languages

Mother tongue: Italian

Other languages: English - Professional fluency
First Certificate in English (2012, level B2) - ESOL Examinations,
University of Cambridge.

Student scholarships and recognitions of merit

Oct. 2014 – Oct. 2017: Three-year scholarship (exemption from the payment of the University fees) due to the valuable academic performance.

October 2019: Recommendation for publication of the Master’s Degree Thesis, entitled: “The solution of complex electrical engineering configurations through the method of images”.

Awards

September 2021: Awarded with the first prize for the best Ph.D. Students Poster presented at IEEEIC/I&CPS Europe 2021, entitled “Transient impedance of grounding grids with different soil models” and based on the paper [C-4].

Professional memberships

Jan. 2020 - *current time*: IEEE Membership - Graduate Student Member.

Jan. 2020 - *current time*: IEEE Young Professionals Membership.

Jan. 2022 - *current time*: IEEE Power & Energy Society Membership.

Professional qualifications

November 2020: Qualification to practice as a chartered electrical engineer.

Conference and Symposium participation

- June 9th-12th, 2020: Attendance to the 2020 IEEE International Conference on Environment and Electrical Engineering and 2020 IEEE Industrial and Commercial Power Systems Europe (EEEIC/I&CPS Europe).
Web Conference - due to the Covid-19 pandemic situation.
Presentation of the paper [C-2].
- Sep. 23rd-25th, 2020: Attendance to the International Symposium on Electromagnetic Compatibility (EMC Europe 2020).
Web Conference - due to the Covid-19 pandemic situation.
Presentation of the paper [C-3].
- Sep. 7th-10th, 2021: Attendance to the 2021 IEEE International Conference on Environment and Electrical Engineering and 2021 IEEE Industrial and Commercial Power Systems Europe (EEEIC/I&CPS Europe), in Bari, Italy.
Presentation of the papers [C-4] and [C-5].
- May 29th-June 1st, 2022: Attendance to the 2022 20th International Conference on Harmonics & Quality of Power (ICHQP), in Naples, Italy.
Presentation of the paper [C-6].
- June 28th-July 1st, 2022: Attendance to the 2022 IEEE International Conference on Environment and Electrical Engineering and 2022 IEEE Industrial and Commercial Power Systems Europe (EEEIC/I&CPS Europe), in Prague, Czech Republic.
Presentation of the papers [C-7] and [C-8].

Administrative experience

- June 9th-12th, 2020: Member of the local Organizing Committee of the 2020 IEEE International Conference on Environment and Electrical Engineering and 2020 IEEE Industrial and Commercial Power Systems Europe (EEEIC/I&CPS Europe).
Web Conference - due to the Covid-19 pandemic situation.
- Sep. 7th-10th, 2021: Support to the organization of the 2021 IEEE International Conference on Environment and Electrical Engineering and 2021 IEEE Industrial and Commercial Power Systems Europe (EEEIC/I&CPS Europe).
Bari, Italy.

June 28th- July 1st, 2022: Member of the local Organizing Committee of the 2022 IEEE International Conference on Environment and Electrical Engineering and 2022 IEEE Industrial and Commercial Power Systems Europe (EEEIC/I&CPS Europe).
Prague, Czech Republic.

Seminars

- 2018: Extremely Low Frequency Fields – ELF, *University of Rome “La Sapienza”*
Lecturer: Romeo Rendina
- 2020: The lightning phenomenon, *EMC society distinguished lectures*
Lecturer: Marcos Rubinstein
- 2020: What is lightning?, *Online webinar*
Lecturer: Marcos Rubinstein
- 2021: Implementation of long AC HV and EHV cable systems, *Online webinar*
CIGRÉ
- 2021: New technical solutions for High-Voltage networks, *Online webinar*
Terna (Italian TSO)
- 2021: Lightning Interaction with transmission and distribution power systems, *Online webinar*
Lecturer: Alexandre Piantini
- 2021: EMTP 101, *Online webinar*
EMTP
- 2021: EMTP transients modeling, *Online webinar*
EMTP
- 2021: Introduction to Python programming, *Online webinar*
Lecturers: Mauro Valorani, Gael Cascioli
- 2021: Introduction to machine learning, *Online webinar*
Lecturer: Fabrizio Silvestri
- 2022: Protection systems for distribution networks, *Online webinar*
Schneider Electric

Publications

Peer reviewed scientific journals

- [J-1] E. **Stracqualursi**, R. Araneo, G. Lovat, A. Andreotti, P. Burghignoli, J. Brandão Faria, and S. Celozzi, “Analysis of metal oxide varistor arresters for protection of multiconductor transmission lines using unconditionally-stable Crank-Nicolson FDTD,” *Energies*, vol. 13, p. 2112, Apr 2020
- [J-2] E. **Stracqualursi**, R. Araneo, P. Burghignoli, G. Lovat, and S. Celozzi, “Unconditionally stable implicit schemes for transient analysis of lossy multiconductor lines,” *IEEE Trans. Electromagn. Compat.*, vol. 63, no. 2, pp. 640–644, 2020
- [J-3] G. Lovat, P. Burghignoli, R. Araneo, E. **Stracqualursi**, and S. Celozzi, “Closed-form LF magnetic shielding effectiveness of thin planar screens in coplanar loops configuration,” *IEEE Trans. Electromagn. Compat.*, vol. 63, no. 2, pp. 631–635, 2020
- [J-4] G. Lovat, P. Burghignoli, R. Araneo, E. **Stracqualursi**, and S. Celozzi, “Analytical evaluation of the low-frequency magnetic shielding of thin planar magnetic and conductive screens,” *IEEE Trans. Electromagn. Compat.*, vol. 63, no. 1, pp. 308–312, 2020
- [J-5] E. **Stracqualursi**, R. Araneo, and S. Celozzi, “The corona phenomenon in overhead lines: Critical overview of most common and reliable available models,” *Energies*, vol. 14, no. 20, p. 6612, 2021
- [J-6] E. **Stracqualursi**, R. Araneo, and A. Andreotti, “The impact of different corona models on FD algorithms for the solution of multiconductor transmission lines equations,” *High Voltage*, vol. 6, no. 5, pp. 822–835, 2021
- [J-7] E. **Stracqualursi**, R. Araneo, J. A. B. Faria, and A. Andreotti, “Application of the transfer matrix approach to direct lightning studies of overhead power lines with underbuilt shield wires part I: Theory,” *IEEE Trans. Power Del.*, vol. 37, no. 2, pp. 1226–1233, 2022
- [J-8] E. **Stracqualursi**, R. Araneo, J. A. B. Faria, and A. Andreotti, “Application of the transfer matrix approach to direct lightning studies of overhead power lines with underbuilt shield wires part II: Simulation results,” *IEEE Trans. Power Del.*, vol. 37, no. 2, pp. 1234–1241, 2022
- [J-9] E. **Stracqualursi**, R. Araneo, J. A. B. Faria, and A. Andreotti, “Protection of distribution overhead power lines against direct lightning strokes by means of underbuilt ground wires,” *Electric Power Systems Research*, vol. 202, p. 107571, 2022
- [J-10] A. Andreotti, R. Araneo, J. A. B. Faria, J. He, E. Petrache, A. Pierno, and E. **Stracqualursi**, “On the role of shield wires in mitigating lightning-induced overvoltages in overhead lines-part I: a critical review and a new analysis,” *IEEE Trans. Power Del.*, pp. 1–10, 2022

- [J-11] A. Andreotti, R. Araneo, J. A. B. Faria, J. He, E. Petrache, A. Pierno, and E. **Stracqualursi**, “On the role of shield wires in mitigating lightning-induced overvoltages in overhead lines-part II: Simulation results for practical configurations,” *IEEE Trans. Power Del.*, pp. 1–9, 2022
- [J-12] E. **Stracqualursi**, G. Pelliccione, S. Celozzi, and R. Araneo, “Tower models for power systems transients: A review,” *Energies*, vol. 15, no. 13, p. 4893, 2022

Peer reviewed proceedings of scientific conferences

- [C-1] E. **Stracqualursi**, R. Araneo, P. Burghignoli, S. Celozzi, and G. Lovat, “Offshore wind towers interaction through their grounding systems,” in *2018 International Symposium on Electromagnetic Compatibility (EMC EUROPE)*, pp. 908–912, IEEE, 2018
- [C-2] E. **Stracqualursi**, R. Araneo, J. A. B. Faria, and A. Andreotti, “Chain matrix analysis of periodically grounded power lines,” in *2020 IEEE International Conference on Environment and Electrical Engineering and 2020 IEEE Industrial and Commercial Power Systems Europe (EEEIC/I&CPS Europe)*, pp. 1–5, IEEE, 2020
- [C-3] E. **Stracqualursi**, R. Araneo, G. Lovat, and P. Burghignoli, “FDTD analysis of metal oxide surge arresters for protection of multiconductor transmission lines,” in *2020 International Symposium on Electromagnetic Compatibility (EMC EUROPE)*, pp. 1–5, IEEE, 2020
- [C-4] E. **Stracqualursi** and R. Araneo, “Transient impedance of grounding grids with different soil models,” in *2021 IEEE International Conference on Environment and Electrical Engineering and 2021 IEEE Industrial and Commercial Power Systems Europe (EEEIC/I&CPS Europe)*, IEEE, 2021
- [C-5] E. **Stracqualursi**, R. Araneo, and M. Mitolo, “On the measuring methods of the soil electrical resistivity,” in *2021 IEEE International Conference on Environment and Electrical Engineering and 2021 IEEE Industrial and Commercial Power Systems Europe (EEEIC/I&CPS Europe)*, IEEE, 2021
- [C-6] E. **Stracqualursi**, R. Araneo, J. A. B. Faria, P. Burghignoli, and A. Andreotti, “The Sommerfeld-Goubau theory for the transient response of towers,” in *2022 20th International Conference on Harmonics & Quality of Power (ICHQP)*, pp. 1–5, IEEE, 2022
- [C-7] Z. G. Datsios, E. **Stracqualursi**, R. Araneo, P. N. Mikropoulos, and T. E. Tsovilis, “Estimation of the minimum backflashover current and backflashover rate of a 150 kV overhead transmission line: Frequency and current-dependent effects of grounding systems,” in *2022 IEEE International Conference on Environment and Electrical Engineering and 2022 IEEE Industrial and Commercial Power Systems Europe (EEEIC/I&CPS Europe)*, IEEE, 2022
- [C-8] E. **Stracqualursi**, R. Araneo, and A. Andreaotti, “Preliminary assessment of protection of distribution lines against direct lightning strokes through multi-chamber arresters and shield wires,” in *2022 IEEE International Conference on Environment and Electrical Engineering*

and 2022 IEEE Industrial and Commercial Power Systems Europe (IEEEIC/ICPS Europe),
IEEE, 2022