PERSONAL INFORMATION

Stefania Conti

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Institutional WEB Pages: http://www.dicar.unict.it/docenti/stefania.conti
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Sex Female | Nationality Italian

CURRENT POSITION

Associate Professor in Electrical Power Systems.

ACADEMIC POSITIONS AND QUALIFICATIONS

(form 2018 to 2027) National Scientific Qualification of Full Professor
ASN, Italy.

(from 2014 to present) Associate Professor in Electrical Power Systems
University of Catania

(from 2005 to 2014) Aggregate Professor in Electrical Power Systems
University of Catania

(from 2002 to 2014) Assistant Professor in Electrical Power Systems
University of Catania

INSTITUTIONAL APPOINTMENTS

(from 2019 to present) Member of Technical Committee 316
CEI (Comitato Elettrotecnico Italiano), Italy - IEC (International Electrotechnical Commission).

(from 2019 to 2020) Member of IEEE Italy Section - Power & Energy Chapter Executive Committee
IEEE (Institute of Electrical and Electronics Engineers) – Italy Section.

(from 2015 to present) Member of the EnSiEL National Board of Directors as a Representative of the University of Catania
EnSiEL (Consorzio Interuniversitario Nazionale per Energia e Sistemi Elettrici), Italy.

(from 2012 to present) Head of the EnSiEL Section of Catania
DIEEI - University of Catania, Italy.

(from 2010 to present) Member of the Councillors' Board of the AEIT Section of Catania.
AEIT (Association of the Italian Electrical, Electronics, Automation, Information Technology and Telecommunication Engineers), Italy

SCIENTIFIC ASSOCIATIONS MEMBERSHIP AND EDITORIAL SERVICES

(from 2020 to present) Associate Editor for the international journal “IEEE Transactions on Smart Grids”
IEEE (Institute of Electrical and Electronics Engineers), USA.

(from 2019 to 2020) Guest Editor for the Special Issue "Planning and Operation of Distributed Energy Resources in Smart Grids" of the international open access Journal “Energies”
MDPI, Switzerland.

(from 2010 to present) Member of the IEEE IES (Industrial Electronics Society).
IEEE (Institute of Electrical and Electronics Engineers), USA.

(from 2002 to present) Member of AEIT
AEIT (Associazione Italiana di Elettrotecnica, Elettronica, Automazione, Informatica e Telecomunicazioni), Italy.

(from 1997 to 2016) Member of the Association of Engineers of Catania

Catania (Italy).

(from 1997 to present) Member of the IEEE PES (Power and Energy Society).
IEEE The Institute of Electrical and Electronics Engineers (USA).

TEACHING ACTIVITIES

(from 2017-2018 to present) Subject: “Electrical Power Distribution, Utilization and Smart Grids”
II Level Degree Course in "Electrical Engineering", University of Catania, Italy (Course in English).

(2016-2017) Subject: “Distributed Generation and Smart Grids”
II Level Degree Course in "Electrical Engineering", University of Catania, Italy (Course in English).

(from 2012-2013 to 2016-17) Subject: “Dynamics and Control of Electrical Systems”
II Level Degree Course in "Electrical Engineering", University of Catania, Italy. (Course in English).

(2011-2012) Subject: “Electrical Installations I”
I Level Degree Course in Electrical Engineering, University of Catania, Italy.
(Course in Italian).

(from 2005-2006 to 2010-2011) Subject: “Dynamics and Control of Electrical Systems”
II Level Degree Course in Electrical Engineering, University of Catania, Italy.
(Course in Italian).

(2004-2005) Subject: “Electrical Installations II”
I Level Degree Course in Electrical Engineering, University of Catania, Italy.
(Course in Italian).

(from 2002-2003 to 2003-2004) Subject: “Electrical Power Systems”
I Level Degree Course in Energy Engineering, University of Catania, Italy.
(Course in Italian).

ACADEMIC ACTIVITIES FOR LOCAL AND EXTERNAL PH.D. PROGRAMS

Sept. 2019 Member of the Jury for the final examination / Ph.D. Defence
Universidad Carlos III de Madrid, Spain.

(from 2013-2014 to present) Member of the Teaching Board of the International PhD Course in “Systems, Energy, Computer Science and Telecommunications Engineering”,
D.I.E.E.I. – University of Catania.

(from 2009-2010 to the last cycle) Member of the Teaching Board of the International PhD Course in “Energy”, managed by “Scuola Superiore di Catania” – University of Catania and, subsequently, by D.I.E.E.I. – University of Catania.

(from 2002-2003 to 2009-2010) Member of the Teaching Board of the Ph.D. Course in “Electrical Engineering”
University of Catania.

EDUCATION AND QUALIFICATIONS

2001 PhD Degree in Electrical Engineering
University of Catania, Italy.

1997 Qualification of Professional Engineer
University of Catania – Engineers’ Association of Catania, Italy.

1997 Five-years Master Degree in Electrical Engineering
University of Catania, Italy.

PERSONAL SKILLS

Mother tongue: Italian.

Other language

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
ENGLISH *(*)*	C1 Advanced	C1 Advanced	C1 Advanced	C1 Advanced	C1 Advanced

Certificate in Advanced English (CAE)
University of Cambridge, U.K. - English Study Centre (International Examinations), Catania, Italy.

(*) Common European Framework of Reference (CEF) level

ADDITIONAL INFORMATION

RESEARCH ACTIVITIES

Power systems analysis.
Study of electrical energy production from renewable sources: stand-alone and grid-connected generation systems.
Integration of distributed generation with LV and MV electrical distribution networks.
Study of innovative structures and management criteria for “active” distribution networks and Smart Grids;
Analysis of autonomous and non-autonomous operation of Microgrids.
Study of innovative control and protection methods for Smart Grids.
Evaluation of the impact of the e-mobility and V2G paradigms on the electrical networks.
Development of methods and tools for reliability and adequacy analysis in traditional distribution networks and Smart Grids

RELEVANT RESEARCH PROJECTS

Call FAR 2019 (Fondo di Ateneo per la Ricerca) promoted by the University of Camerino (Italy).
Participation to the Project “Enabling Consumer to become Prosumer in the Energy Transition Era” (ECPE).

SCIENTIFIC COORDINATION AND PARTICIPATION

Horizon 2020 Call: H2020-LC-SC3-2018-2019-2020 (Building a Low-Carbon, Climate Resilient Future: Secure, Clean and Efficient Energy, Topic: LC-SC3-EC-1-2018-2019-2020, Type of Action: CSA).
Research Project Submitted Proposal - Title: “Active Citizens for Clean Communities” (Acronym: ACCC) ID Number: 894048.
Local Scientific Coordinator for the research program developed by EnSiEL Branch of Catania: Stefania Conti.
The Project is supported by EnSiEL Consortium and Université Pantheon-Sorbonne, Paris I.
FP7 European Projects 2007-2013, Theme ENERGY.2012.7.2.1, "Planning for European Electricity Highways to ensure the reliable delivery of renewable electricity and pan-European market integration".
Financed Research Project - Title: “e-Highways-2050 Modular Development Plan of the Pan-European Transmission System 2050”.
Project Partner: EnSiEL (involved in the following Work Projects: WP1–Task 1.5 “Research, development and grid deployment conditions”; WP3–Task 3.2.c “Sanity checks".
Local Scientific Coordinator for the research program developed by EnSiEL Branch of Catania: Stefania Conti.
PON01_02582 (National research programs funded by the Italian “Programma Operativo Nazionale” - Ministry of University, Education and Research).
Financed National Research Program - Title: “Command, control, protection and supervision integrated system (integrated SCADA system interfaced with field devices) for electrical processes of production, transmission and distribution of the electrical energy produced by renewable and traditional distributed sources”.
Local Scientific Coordinator for the research program developed by the University of Catania: Stefania Conti.
National Education and Training Program - Title: "SCADA systems for electrical processes of production transmission and distribution operation, control and monitoring in Smart Grids".
Responsible for the National Education and Training Program: Stefania Conti.
Duration: from November 2012 to May 2015.
Electric Power System Research Projects “Progetti di Ricerca di Sistema Elettrico” (Research and development projects of general interest for the power system according to the Decree of the Italian Ministry of Economical Development, December 12, 2008 (D.M. 8 March 2006).
Financed National Research Rrogram Title: Integrated Multi-function Device for Automation, Monitoring, Protection and Current Breaking in Medium Voltage Electrical Networks.
Co-investigator: University of Catania - **Scientific Coordinator**: Stefania Conti.
Research activity carried out by the research group of Catania - Title: “Innovative Equipment and Plants for Distribution Systems Development”.
Duration: from December 2009 to December 2012.
PRIN 2008-2009 (National research programs partially funded by MIUR - Ministry of University, Education and Research)
Financed National Research Program Title: Intelligent Microgrids for DG Integration through ICT.
Local Scientific Coordinator: Stefania Conti (Università degli Studi di Catania, Dipartimento di Ingegneria Elettrica, Elettronica e dei Sistemi).
Research activity carried out by the research group of Catania - Title: “Development of Advanced Network Protection Systems and DG Interface Protections for MV Electrical Distribution Networks with

Autonomous and Non-Autonomous Micro-Grids (with and without energy storage systems)".
Principal Investigator in several 12-months or 24-months internal Financed Research Programs of the University of Catania (called PRA and FIR) from 2003 to present.

Selected Publications (in ascending chronological order)

[1] S. Conti, G. Tina, C. Ragusa, "Optimal Sizing Procedure for Stand-Alone Photovoltaic Systems by Fuzzy Logic", Journal of Solar Energy Engineering, Transactions of ASME, February 2002, Vol. 124, pp. 77-82 (ISSN 0199-6231, Publisher: ASME).

[2] S. Conti, S. Raiti, G. Tina, "Small-Scale Embedded Generation Effect on Voltage Profile: an Analytical Method", IEE Proc. on Generation, Transmission and Distribution, January 2003, Vol. 150, No. 1, pp. 78-86 (ISSN 1350-2360, Publisher: IEE).

[3] S. Conti, S. Raiti, G. Tina, U. Vagliasindi, "Integration of multiple PV units in urban power distribution systems", Solar Energy (2003), Vol. 75, pp. 87-94 (ISSN 0038-092X, Publisher: Pergamon-Elsevier Science).

[4] D. Ardito, S. Conti, N. Messina, S. Nicotra, "Operating Conflicts in Distribution Networks Protection with Distributed Generation", WSEAS Transactions on Circuits and Systems, No.9, Vol.4, September 2005, pp. 1034-1042 (ISSN 1109-2734, Publisher: WSEAS Press).

[5] S. Conti, G. Tina, "Reliability Worth Assessment for Distribution Systems: Automated Versus Traditional Configurations", International Journal of Power and Energy Systems, Vol. 26, No.2, 2006, pp.124-136 (ISSN 1078-3466, Publisher: ACTA Press). DOI 10.2316/Journal.203.2006.2.203-3407

[6] D. Ardito, S. Conti, S. Raiti, U. Vagliasindi, "Storage Systems Reliability in Stand-Alone PV Applications: RFC & URFC", WSEAS Transactions on Power Systems, Vol. 1, No. 2, February 2006, pp. 358 - 365 (ISSN: 1790-5060, Publisher: WSEAS Press).

[7] S. Conti, A. Greco, N. Messina, S. Raiti, "Analytical vs. Numerical Analysis to assess PV Distributed Generation Penetration Limits in LV Distribution Networks", WSEAS Transactions on Power Systems, Vol. 1, No. 2, February 2006, pp. 350-357 (ISSN: 1790-5060, Publisher: WSEAS Press).

[8] S. Conti, A. Greco, S. Raiti, "A Simplified Approach to Voltage Sensitivity Analysis in Radial LV and MV Distribution Networks", WSEAS Transactions on Power Systems, Issue 11, Vol. 1, November 2006, pp. 1837-1843 (ISSN: 1790-5060, Publisher: WSEAS Press).

[9] S. Conti, S. Raiti, "Probabilistic Load Flow using Monte Carlo Techniques for Distribution Networks with Photovoltaic Generators", Solar Energy, December 2007, Vol. 81, No.12, pp.1473-1481 (ISSN 0038-092X, Publisher: Pergamon-Elsevier Science) DOI 10.1016/j.solener.2007.02.007.

[10] S. Conti, A. M. Greco, S. Raiti, "Local Control of Photovoltaic Distributed Generation for Voltage Regulation in LV Distribution Networks and Simulation Tools", European Transactions on Electrical Power, Vol.19, Issue 6, September 2009, pp. 798-813 (Print ISSN: 1430-144X, Publisher: JOHN WILEY & SONS LTD). DOI 10.1002/etep.257.

[11] S. Conti, "Analysis of Distribution Network Protection Issues in presence of Dispersed Generation", Electric Power Systems Research Journal, Vol. 79, Issue 1, January 2009, pp. 49–56 (ISSN: 0378-7796, Publisher: ELSEVIER SCIENCE). DOI 10.1016/j.epsr.2008.05.002.

[12] S. Conti, S. Nicotra, "Procedures for Fault Location and Isolation to solve selectivity problems in MV Distribution Networks with Dispersed Generation", Electric Power Systems Research Journal, Vol. 79, Issue 1, January 2009, pp. 57–64 (ISSN: 0378-7796, Publisher: ELSEVIER SCIENCE). DOI 10.1016/j.epsr.2008.05.003.

[13] H.H. Zeineldin, S. Conti, "Sandia frequency shift parameter selection for multi-inverter systems to eliminate non-detection zone", IET Renewable Power Generation, Vol. 5, Issue 2, March 2011, pp.175–183. DOI: 10.1049/iet-rpg.2010.0096.

[14] Y.M. Atwa, E.F. El-Saadany, M.M.A. Salama, R. Seethapathy, M. Essam, and S. Conti, "Adequacy Evaluation of Distribution System Including Wind/Solar DG during Different Modes of Operation", IEEE Transactions on Power Systems, Vol. 26, No. 4, November 2011 pp. 1945-1952. DOI: 10.1109/TPWRS.2011.2112783.

[15] S. Conti, S. A. Rizzo, "Voltages Sensitivity Analysis in Radial Active Distribution Networks using Novel Closed-Form Approximate Equations", International Review of Electrical Engineering (I.R.E.E.), Vol.6, No. 6 (Special Issue on "Power Quality in Smart Grids"), November 2011, pp. 2785-2795.

[16] S. Conti, R. Nicolosi, S. A. Rizzo, "Generalized Systematic Approach to Assess Distribution System Reliability with Renewable Distributed Generators and Micro-Grids", IEEE Transactions on Power Delivery, Vol. 27, Issue 1, January 2012, pp. 261-270 (DOI: 10.1109/TPWRD.2011.2172641).

[17] S. Conti, R. Nicolosi, S. A. Rizzo, H.H. Zeineldin, "Optimal Dispatching of Distributed Generators

and Storage Systems for MV Islanded Micro-Grids“, IEEE Transactions on Power Delivery, Vol. 27, Issue 3, 2012, pp. 1243 - 1251 (DOI: 10.1109/TPWRD.2012.2194514).

[18] S. Conti, S. A. Rizzo, "DG Modeling Procedure accounting for Power Output Correlation of Renewable Generators", International Review of Electrical Engineering (I.R.E.E.), Vol.7, No.5, October 2012.

[19] S. Conti, S.A. Rizzo, “Modelling of Micro-Grid Renewable Generators accounting for Power Output Correlation", IEEE Transactions on Power Delivery, Vol. 28, No. 4, October 2013, pp. 2124-2133 (DOI:10.1109/TPWRD.2013.2265606).

[20] S. Conti, S. A. Rizzo, M. Essam, E. El-Saadany, Y. Atwa, "Reliability Assessment of Distribution Systems considering Telecontrolled Switches and Microgrids", IEEE Transactions on Power Systems, Vol. 29, No. 2, March 2014, pp. 598-607 (DOI: 10.1109/TPWRS.2013.2287301).

[21] S. Conti, S.A. Rizzo, “Probability of Adequacy Evaluation Considering Power Output Correlation of Renewable Generators in Smart Grids", International Journal of Electrical Power & Energy Systems, Vol. 61, 2014, pp. 145-151, ISSN: 0142-0615 (DOI: 10.1016/j.ijepes.2014.03.042).

[22] S. Conti, S.A. Rizzo, “Monte Carlo Simulation by using a Systematic Approach to Assess Distribution System Reliability considering Intentional Islanding", IEEE Transactions on Power Delivery, Vol. 30, No. 1, February 2015, pp. 64-73 (DOI: 10.1109/TPWRD.2014.2329535).

[23] S. Conti, S.A. Rizzo, "An algorithm for reliability assessment of distribution systems in presence of distributed generators", International Journal on Electrical Engineering and Informatics (IJEEI), Vol. 7, No. 3, 2015, pp. 502-516 (DOI: 10.15676/IJEEI.2015.7.3.12).

[24] S. Conti, G. Faraci, A. La Corte, R. Nicolosi, S.A. Rizzo, G. Schembra, "Effect of Islanding and Telecontrolled Switches on Distribution System Reliability Considering Load and Green-Energy Fluctuations”, Applied Sciences - Special Issue “Smart Grid: Convergence and Interoperability”, Appl. Sci. Vol.6, Issue 5, 2016, Art.n.138 (ISSN 2076-3417) (DOI: 10.3390/app6050138).

[25] S. Conti, A. La Corte, R. Nicolosi, S.A. Rizzo, "Impact of Cyber–Physical System vulnerability, telecontrol system availability and islanding on distribution network reliability", Sustainable Energy, Grids and Networks (SEGAN), Vol.6, June 01, 2016, pp.143-151 (DOI:10.1016/j.segan.2016.03.003).

[26] S. Conti, S.A. Rizzo, H.H. Zeineldin, “Optimal Switch Placement Considering Costs and Annual Reliability Improvement during the Regulatory Period", Int. Trans. on Electrical Energy Systems (John Wiley & Sons, Inc.), Vol.27, Issue 5, May 2017 (DOI: 10.1002/etep.2309).

[27] S. Conti, G. Faraci, R. Nicolosi, S. A. Rizzo, G. Schembra, “Battery Management in a Green Fog-Computing Node: a Reinforcement-Learning Approach”, IEEE Access (Special Section: Green Cloud and Fog Computing: Energy Efficient and Sustainable Infrastructures, Protocols and Applications), Vol. 5, September 2017, pp. 21126-21138 (DOI: 10.1109/ACCESS.2017.2755588).

[28] Yasser M. Atwa, Ehab F. El-Saadany, S. Conti, S.A. Rizzo, Mohammed Essam, "Micro-Grids Reliability Enhancement Under Different Penetration Levels of Hybrid DG Units", Journal of Electrical Engineering & Technology (JEET), July 2018, Vol. 13, No. 4, pp.1407-1418 (DOI: 10.5370/JEET.2018.13.4.1407).

[29] S. Conti, S.A. Rizzo, N. Salerno, G.M. Tina, “Distribution network topology identification based on synchrophasor”, AIMS Energy, Vol. 6, Issue 2, March 2018, pp. 245-260 (DOI: 10.3934/energy.2018.2.245).

[30] S. Conti, S.A. Rizzo, "An open source tool for reliability evaluation of distribution systems with renewable generators", Energy Systems (Springer Berlin Heidelberg), May 2019, Volume 10, Issue 2, pp.385-414 (DOI: 10.1007/s12667-017-0264-6).

[31] Book Chapter: “Case Studies of Microgrid Systems” (Chapter ID: IET_12019201) accepted for the inclusion as a chapter (Chapter No. 14)
of the Book: “Microgrid for Rural Areas: Research and Case Studies” Printed by: IET; Editor: Dr. Rajeev Kumar Chauhan, SMIEEE; Authors: Emilio Ghiani, Fabrizio Pilo, Gian Giuseppe Soma (University of Cagliari, Italy), Enrico De Tuglie, Alessia Cagnano (Politecnico di Bari, Italy), Stefania Conti (University of Catania, Italy). Accepted on 17 June 2019.