

ANGELA RUSSO

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EDUCATION

- Università degli Studi di Cassino 1996-2000
- **Doctor of Philosophy**, Industrial Engineering (Advisor: Prof. G. Carpinelli)
 - Dissertation: Inherent structure theory of networks for the analysis of power systems
- Università degli Studi di Cassino 1990-1996
- **Master of Science**, Electrical Engineering (Advisor: Prof. G. Carpinelli)
 - Graduated with honors

APPOINTMENTS

- Politecnico di Torino, Energy Department Oct 2014 to present
Associate Professor in Power Systems
- Politecnico di Torino, Energy Department Nov 2005 - Sept 2014
Assistant Professor in Power Systems
- Università degli Studi di Cassino, Faculty of Engineering Oct 1999- Oct 2005
Assistant Professor in Power Systems
- Fermi National Accelerator Laboratory, Technical Division (Chicago, USA) Dec 1997-Feb 1998
Guest Scientist

JOURNAL PAPERS

- G. Carpinelli, F. Mottola, D. Proto, A. Russo: "A Multi-Objective Approach for Microgrid Scheduling", *IEEE Transactions on Smart Grid*, in press, (published on line on January 25, 2016), doi: 10.1109/TSG.2016.2516256.
- G. Carpinelli, D. Proto, A. Russo: "Optimal planning of active power filters in a distribution system using trade off/risk method", *IEEE Transactions on Power Delivery*, in press, (published on line on July 7, 2016), doi: 10.1109/TPWRD.2016.2587063.
- D. Enescu, A. Ciocia, A. Mazza, A. Russo: "Solutions based on thermoelectric refrigerators in humanitarian contexts", *Journal of Sustainable Energy Technologies and Assessments*, Special Issue on Energy and Food Security in a Humanitarian Context, in press (published on line from 6 March 2017), doi: 10.1016/j.seta.2017.02.016.
- G. Chicco, E. Pons, A. Russo, F. Spertino, R. Porumb, P. Postolache, C. Toader: "Assessment of unbalance and distortion components in three-phase systems with harmonics and interharmonics", *Electric Power System Research*, Vol 147, June 2017, pp. 201-212, doi: 10.1016/j.epsr.2017.02.016.
- A. Mazza, G. Chicco, A. Russo, E. O. Virjoghe: "Optimal Multi-Objective Distribution Network Reconfiguration Based on Pareto Front Ranking", *Intelligent Industrial Systems*, Vol. 2, no. 4, 2016, doi: 10.1007/s40903-016-0065-6.
- A. Bracale, G. Carpinelli, P. De Falco, R. Rizzo, A. Russo: "New advanced method and cost-based indices applied to probabilistic forecasting of photovoltaic generation", *Journal of Renewable and Sustainable Energy*, Vol. 8, no. 2, March 2016 (published on line on April 12, 2016), doi: 10.1063/1.4946798.
- G. Ferruzzi, F. Rossi, A. Russo: "Determination of the Prosumer's Optimal Bids", *International Journal of Emerging Electric Power Systems*, Vol. 16, no. 6, December 2015, pp. 537-548, doi: 10.1515/ijeeps-2015-0093.
- G. Ferruzzi, G. Graditi, F. Rossi, A. Russo, "Optimal Operation of a Residential Microgrid: The Role of Demand Side Management", *Intelligent Industrial Systems*, Vol. 1, no. 1, June 2015, pp. 61-82, doi: 10.1007/s40903-015-0012-y.

- P. Caramia, G. Carpinelli, A Russo, P. Varilone: “Voltage stability in unbalanced power systems: a new complementarity constraints-based approach”, *IET Generation, Transmission & Distribution*, Vol. 9, no. 14, 2015, pp. 2014-2023, doi: 10.1049/iet-gtd.2014.0990.
- G. Carpinelli, C. Noce, A Russo, P. Varilone: “Allocation of capacitors and voltage regulators in unbalanced distribution systems: a multi-objective problem in probabilistic frameworks”, *International Journal of Emerging Electric Power Systems*, Vol. 15, no. 6, November 2014, pp. 557-568, doi: 10.1515/ijeeps-2014-0106.
- G. Carpinelli, A. Russo: “Behavioral perspective of power systems’ decision makers”, *International Journal of Electrical Power and Energy Systems*, Vol. 58, June 2014, pp. 111-119, doi: 10.1016/j.ijepes.2014.01.002.
- A. Mazza, G. Chicco, A. Russo: “Optimal multi-objective distribution system reconfiguration with multi criteria decision making-based solution ranking and enhanced genetic operators”, *International Journal of Electrical Power and Energy Systems*, Vol. 54, January 2014, pp. 255-267, doi: 10.1016/j.ijepes.2013.07.006.
- G. Carpinelli, G. Ferruzzi, A. Russo: “Trade-Off Analysis to Solve a Probabilistic Multi-Objective Problem for Passive Filtering System Planning”, *International Journal of Emerging Electric Power Systems*, Vol. 14, no. 3, June 2013, pp. 275-284, doi: 10.1515/ijeeps-2013-0011.
- I. Coroamă, G. Chicco, M. Gavrițaș, A. Russo: “Distribution system optimisation with intra-day network reconfiguration and demand reduction procurement”, *Electric Power Systems Research*, Vol. 98, May 2013, pp. 29-38, doi: 10.1016/j.epsr.2013.01.004
- G. Carpinelli, C. Noce, D. Proto, A. Russo, P. Varilone: “Single-objective probabilistic optimal allocation of capacitors in unbalanced distribution systems”, *Electric Power System Research*, Vol. 87, June 2012, pp. 47-57, doi: 10.1016/j.epsr.2012.01.008.
- A. Bracale, P. Caramia, G. Carpinelli, A. Russo, P. Verde: “Site and System Indices for Power Quality Characterization of Distribution Networks with Distributed Generation”, *IEEE Transactions on Power Delivery*, Vol. 26, no. 3, July 2011, pp. 1304-1316, doi: 10.1109/TPWRD.2011.2112381.
- E. Carpaneto, G. Chicco, P. Mancarella, A. Russo: “Cogeneration Planning under Uncertainty. Part I: Multiple Time Frame Approach”, *Applied Energy*, Vol. 88, No. 4, April 2011, pp. 1059-1067, doi: 10.1016/j.apenergy.2010.10.014.
- E. Carpaneto, G. Chicco, P. Mancarella, A. Russo: “Cogeneration Planning under Uncertainty. Part II: Decision theory-based assessment of planning alternatives”, *Applied Energy*, Vol. 88, No. 4, April 2011, pp. 1075–1083, doi: 10.1016/j.apenergy.2010.08.019.
- G. Carpinelli, D. Proto, C. Noce, A. Russo, P. Varilone: “Optimal allocation of capacitors in unbalanced multi-converter distribution systems: A comparison of some fast techniques based on genetic algorithms”, *Electric Power System Research*, Vol. 80, No. 6, June 2010, pp. 642-650, doi: 10.1016/j.epsr.2009.10.029.
- A. Bracale, G. Carpinelli, D. Proto, A. Russo, P. Varilone, “New Approaches for Very Short-term Steady-State Analysis of an Electrical Distribution System with Wind Farms”, *Energies* (invited paper for the Special Issue “Wind Energy”, edited by Prof. Dr. Frede Blaabjerg), Vol. 3, No. 4, April 2010, pp. 650-670, doi: 10.3390/en3040650.
- E. Bompard, C. Gao, R. Napoli, A. Russo, M. Masera, A. Stefanini: “Risk Assessment of Malicious Attacks Against Power Systems”, *IEEE Transactions on Systems, Man, and Cybernetics—Part A: Systems and Humans*, Vol. 39, No. 5, September 2009, pp. 1074- 1085, doi: 10.1109/TSMCA.2009.2020687.
- G. Carpinelli, A. Griffo, D. Lauria, A. Russo: “An Optimal Control Strategy for Power Quality Enhancement in a Competitive Environment”, *International Journal on Electrical Power & Energy Systems*, Vol. 9, n. 27, September 2007, pp. 514-525, doi: 10.1016/j.ijepes.2007.01.002.
- G. Carpinelli, G. Celli, F. Pilo, S. Mocci, A. Russo: “Optimization of Embedded Generation Sizing and Siting by using a Double Trade-off Method”, *IEE Proceedings – Generation, Transmission and Distribution*, Vol. 152, no. 4, July 2005, pp. 503-513, doi: 10.1049/ip-gtd:20045129.
- G. Carpinelli, F. Iacovone, A. Russo, P. Varilone: “Chaos-based Modelling of DC Arc Furnaces for Power Quality Issues”, *IEEE Transactions on Power Delivery*, Vol. 19, no. 4, October 2004, pp. 1869-1876, doi: 10.1109/TPWRD.2003.822972.
- G. Carpinelli, F. Iacovone, A. Russo, P. Varilone, P. Verde: “Analytical Modelling for Harmonic Analysis of Line Current of VSI-Fed Drives”, *IEEE Transactions on Power Delivery*, Vol. 19, no. 3, July 2004, pp. 1212-1224, doi: 10.1109/TPWRD.2003.822951.
- G. Carpinelli, G. Celli, F. Pilo, A. Russo: “Embedded Generation Planning under Uncertainty including Power Quality Issues”, *European Transactions on Electrical Power*, Vol. 13, no. 6, November/December 2003, pp.381-389.
- A. Russo, P. Varilone: “Discussion of “Time-varying harmonics: part II – harmonic summation and propagation””, *IEEE Transactions on Power Delivery*, Vol. 18, no. 2, April 2003, pp. 656-657, doi: 10.1109/TPWRD.2003.809876.
- P. Caramia, G. Carpinelli, A. Russo, P. Verde: “Decision theory criteria for medium voltage cable sizing in presence of non linear loads”, *International Journal of Electrical Power & Energy Systems*, Vol. 23, October 2001, pp. 507-516, doi: 10.1002/etep.4450130607.
- G. Carpinelli, A. Russo, M. Russo, P. Verde: “Inherent structure theory of networks and power system harmonics”, *IEE Proceedings – Generation, Transmission and Distribution*, Vol. 145, March 1998, pp. 123-132, doi: 10.1049/ip-gtd:19981663

BOOK CHAPTERS

- G. Chicco, A. Mazza, A. Russo, V. Cocina, F. Spertino, “Probabilistic harmonic power flow calculations with uncertain and correlated data”, (chapter 3) in J. P. S. Catalão (ed.), “Smart and Sustainable Power Systems: Operations, Planning, and Economics of Insular Electricity Grids”, CRC Press, Taylor & Francis Group, 2015, pp. 95–154, doi: 10.1201/b18605-4.
- A. Bracale, G. Carpinelli, A. Di Fazio, A. Russo: “Probabilistic Approaches for the Steady-State Analysis of Distribution Systems with Wind Farms”, in P.M. Pardalos et al. (eds.), “Handbook of Wind Power Systems”, Energy Systems, Springer-Verlag, Berlin Heidelberg, 2013, pp. 245 – 282, doi: 10.1007/978-3-642-41080-2_8.
- P. Caramia, G. Carpinelli, A. Russo, P. Verde, P. Varilone: “Probabilistic harmonic indices”, in: “Time-varying waveform distortions in power systems”, edited by P. Ribeiro, John Wiley & Sons, Ltd, 2009.

MAIN AREAS OF EXPERTISE

- Power quality
- Integration of distributed generation in distribution networks
- Decision making under uncertainty

PROFESSIONAL ASSOCIATIONS

- Association of Engineers
- IEEE
- IEEE Power and Energy Society
- Chapter Executive Committee of IEEE, Power & Energy Society, Italy Section.
- AEIT