Stefano Lauria

Ricercatore (Assistant Professor), c/o Department of Astronautics, Electrical and Energetics Engineering (formerly Electrical Engineering Dept.), “Sapienza” University of Rome.

M.Sc. in Electrical Engineering in 1996 (Master Thesis on “Overvoltages due to a stuck pole of a circuit breaker in a shunt-series compensated 420 kV transmission line), Ph.D. in Electrical Engineering in 2001 (Doctoral Thesis on “Steady-state and transient analysis of insulated shield wire lines”); both were earned from the former Electrical Engineering Dept. of “Sapienza” University of Rome

Courses taught (University of Rome "Sapienza"):
2004-2007: *Impianti e Sicurezza Elettrica* (Electrical Power Systems and Safety), 5/6 CFU
2005-2009: *Pianificazione dei Sistemi Elettrici* (Power Systems Planning), 5/6 CFU
2009: *Esercizio dei Sistemi Elettrici* (Power Systems Operation), 6 CFU.
2011-2013: *Pianificazione ed Esercizio dei Sistemi Elettrici* (Power Systems Planning and Operation), 9 CFU.
Since 2013: *Sistemi Elettrici per l’Energia* (Bulk Power Systems), 9 CFU

Teaching assistance:
2001-2003: *Sistemi Elettrici per l'Energia* (Bulk Power Systems), 9 CFU.
2000-2014 : *Impianti Elettrici* (Electrical Power Systems), 9 CFU.
Master Thesis supervisor to 20 students (co-supervisor to 15 more), Ph.D. Supervisor (Electrical Engineering) to 2 students.

Research:
Among the subjects of study are:

- Design, network integration, and operation of long HV and EHV AC cable lines and mixed overhead-cable lines, as well as long AC submarine interconnections (submarine cable studies, both preliminary and design, were carried out on behalf of TERNA S.p.A. for the Malta-Italy 245 kV-50 Hz Interconnector):
  - Reactive power/voltage control
  - Shunt compensation design
  - Frequency domain modelling and analysis of harmonic resonances
  - Slow-front overvoltages
- Electromagnetic transient studies of direct lightning strokes to overhead and mixed overhead/cable lines, including backflashover rate assessment and grounding system modelling.
- Temporary overvoltages in MV distribution networks operated with ungrounded neutral or resonant grounding
- Transients studies of long shunt and/or series-compensated EHV AC lines (study of temporary and slow-front overvoltages, overvoltage protection of series capacitor banks and TRV studies, open-phase overvoltages in shunt compensated lines);
- Unconventional distribution systems (Shield Wire lines);

Dr. Lauria has authored or co-authored more than 70 scientific papers presented at international conferences or published in peer-reviewed international journals. He is a member of IEEE Power and Energy Society, CIGRÉ and of the Italian Electrotechnical Association (AEIT). He participated in CIGRE WG C4.502, "Power system technical performance issues related to the application of long HVAC cables”, and is presently involved in CIGRE WG B1.47, “Technical issues related to Long AC EHV Cable Systems”. He is a reviewer for *IEEE Transactions on Power Delivery* and *Electric Power Systems Research.*