



## MAIN PUBLICATIONS **Journal papers** :

- Nestor, M., Prior, R., D. Lucani, **Phulpin Y.**, and Barros J., “Network Coding Protocols for Smart Grid Communications,” IEEE Trans on Smart Grids, In press
- Sarlette A., Dai J., **Phulpin Y.**, and Ernst D., “Cooperative frequency control with a multi-terminal high-voltage DC network,” Automatica, Vol. 48, No. 12, Dec 2012, pp. 3128-3134
- Silva, B., Moreira C., Seca L., **Phulpin Y.**, Peças Lopes, J.A., “Provision of Inertial and Primary Frequency Control Services using Offshore Multi-terminal HVDC Networks,” IEEE Trans on Sustainable Energy, Vol. 3, No. 4, Oct 2012, pp. 800-808
- **Phulpin Y.**, “Communication-free Inertia and Frequency Control for Wind Generators Connected by an HVDC-Link,” IEEE Trans on Power Systems, Vol. 27, No. 2, May 2012, pp. 1136-1137
- Dai J., **Phulpin Y.**, Sarlette A., and Ernst D., “Coordinated Primary Frequency Control among Non-Synchronous Systems Connected by a Multi-Terminal HVDC Grid,” IET Generation Transmission Distribution, Vol. 6, No. 2, Feb 2012, pp. 99-108
- **Phulpin Y.**, Begovic M., Petit M., and Ernst D., “A fair method for centralized optimization of multi-TSO power systems,” Int Journal of Electrical Power and Energy Systems, Vol. 31, No. 9, Sep 2009, pp. 482-488
- **Phulpin Y.**, Begovic M., Petit M., Heyberger J.B., and Ernst D., “Evaluation of network equivalents for voltage optimization in multi-area power systems,” IEEE Trans on Power Systems, Vol. 24, No. 2, May 2009, pp. 729-743

## **Conference papers** :

- **Phulpin Y.**, and Ernst D., “Ancillary services and operation of multi-terminal HVDC grids,” in Proc. of the Wind Integration Workshop, Oct 2011, pp. 1-6
- **Phulpin Y.**, Lucani D., and Barros J., “Network coding in smart grids,” in Proc. of the IEEE Smart Grid Communication, Oct 2011, pp. 37-42
- **Phulpin Y.**, Hazra J., and Ernst D., “Model predictive control of HVDC power flow to improve transient stability in power systems,” in Proc. of the IEEE Smart Grid Communication, Oct 2011, pp. 564-569
- Dai J., **Phulpin Y.**, Sarlette A., and Ernst D., “Voltage control in an HVDC system to share frequency reserves between non-synchronous areas,” in Proc. of the PSCC, Aug 2011, pp. 1-8
- Dai J., **Phulpin Y.**, Sarlette A., and Ernst D., “Impact of delays on a consensus-based primary frequency control scheme for AC systems connected by a multi-terminal HVDC grid,” in Proc. of the IREP Symposium VIII, Aug 2010, pp. 1-10
- **Phulpin Y.**, Begovic M., and Ernst D., “Coordination of voltage control in a power system operated by multiple transmission utilities,” in Proc. of the IREP Symposium VIII, Aug 2010, pp. 1-8
- Berard A., Veillerobe N., Hennebel M., and **Phulpin Y.**, “Strategies for demand load control to reduce balancing costs,” in Proc. of the EEM 2010, Jun 2010, pp. 1-6
- Ali M., **Phulpin Y.**, Buisson J., “Improved control strategy to mitigate electromechanical wave propagation using PSS,” in Proc. of the IEEE MELECON, Apr 2010, pp. 1-6
- Dai J., **Phulpin Y.**, Vannier J.C., and Ernst D., “Apprentissage par renforcement appliqué à la commande des systèmes électriques,” in Proc. of EF 2009, Sep 2009, pp. 1-5
- Hazra J., **Phulpin Y.**, and Ernst D., “HVDC control strategies to improve transient stability in interconnected power systems,” in Proc. of the Powertech 2009, Jul 2009, pp. 1-6
- **Phulpin Y.**, Begovic M., Petit M., and Ernst D., “Decentralized reactive power dispatch for a time-varying multi-TSO system,” Proc. of the HICSS, Jan 2009, pp. 1-8
- **Phulpin Y.**, Begovic M., Petit M., and Ernst D., “On the fairness of centralised decision-making strategies in multi-TSO power systems,” Proc. of the PSCC 2008, Jul 2008, pp. 1-7
- Dai J., **Phulpin Y.**, Rioux V., and Ernst D., “How compatible is perfect competition with transmission loss allocation methods?”, Proc. of the EEM08, May 2008, pp. 1-6
- Rioux V., **Phulpin Y.**, Petit F., Dessante Ph., and Saguan M., “A contribution in experimental economics to classify market power behaviors in an oligopolistic power market,” Proc. of the EEM08, May 2008, pp. 1-6
- Bayem H., **Phulpin Y.**, Dessante Ph., and Bect J., “Probabilistic computation of wind farm power generation based on wind turbine dynamic modelling,” Proc. of the PMAPS 2008, May 2008, pp. 1-6
- **Phulpin Y.**, Begovic M., and Petit M., “External network modeling for MVar scheduling in multi area power systems,” in Proc. of the Powertech 2007, Jul 2007, pp. 1-5
- **Phulpin Y.**, Begovic M., and Petit M., “Impact of non coordinated MVar scheduling strategies in multi area power systems,” Proc. of the IEEE PES GM 2007, Jun 2007, pp. 1-6
- **Phulpin Y.**, Hennebel M., and Plumel S., “A market-based approach to evaluate the efficiency of transmission loss allocation,” Proc. of the MEPS06, Sep 2006, pp. 57-61
- Bect J., **Phulpin Y.**, Baili H., Fleury G., “On the Fokker Planck-equation for stochastic hybrid systems : application to a wind turbine model,” Proc. of the PMAPS 2006, Jun 2006, pp. 1-6
- **Phulpin Y.**, Hennebel M., and Plumel S., “La tracabilité de l’électricité : une méthode équitable pour l’allocation des couts de transmission,” Proc. of the EF 2005, Sep 2005, pp.1-5

INVITED TALKS

*Economic assessment of smart grid alternatives to network reinforcement* , EDF - Univ. de Liège workshop on tools for active management of power distribution networks, Mar 2014  
*EDF R&D's view on the value and cost of the integrated grid*, Plenary session of the Electric Power Research Institute (EPRI) Council Meeting , Feb 2014  
*Economic assessment of smart grids technologies and services* , Univ. of Luxembourg, Mar 2013  
*Economic assessment in distribution network planning : a practical approach* , Institut Montefiore, Univ. de Liège, Feb 2013  
*Échange d'information pour les réseaux intelligents*, LIED, Univ. Paris-Diderot, Dec 2012  
*Offshore power systems : operation challenges and opportunities* , Back-to-Basics Seminar, FEUP, Univ. de Porto, Jun 2011  
*Intégration des énergies renouvelables dans les réseaux électriques*, 2<sup>ème</sup> École de Physique Avancée au Maghreb, EPAM, Sidi Fredj, Algérie, Jun 2010  
*Coordination of interconnected utilities in power systems*, Department of Technology and Policy Management, TU Delft, Jan 2010

AWARDS

IEEE Senior Member (Nov 2013)  
 Selection among the best papers of *PSCC 2008* (top 18 papers over 537 submissions)

SCIENTIFIC RESPONSIBILITIES

Co-Chair of the EDF - Univ. de Liège workshop on tools for active management of power distribution networks, Mar 2014  
 Co-Chair for the Symposium "The whole picture : sense, communicate, compute, control" of the IEEE SmartGridComm conference 2013  
 Member of the International Scientific Committee of the EEM Conference 2012, 2013, 2014  
 Reviewer for the BeIPD program of the Univ. de Liège, 2014  
 Reviewer for the French "Agence Nationale de la Recherche" (ANR), 2012  
 Reviewer of *IEEE Transactions on Power Systems* 2011-2014  
 Reviewer of *Electric Power Systems Research* 2011-2014  
 Reviewer of *IET Generation, Transmission, Distribution* 2013  
 Reviewer of *IEEE Transactions on Sustainable Energy* 2011-2012  
 Reviewer of *Wind Energy* 2011  
 Reviewer of *Energies* 2011  
 Reviewer of *Engineering Applications of Artificial Intelligence* 2010  
 Reviewer of *International Journal of Electrical Power and Energy Systems* 2010  
 Reviewer of *Mathematics and Computers in Simulations* 2009  
 Reviewer of the *Powertech Conference* 2007-2013  
 Reviewer of the *PSCC Conference* 2005-2008-2011  
 Reviewer of the *IEEE ISGT Europe Conference* 2011  
 Reviewer of the *MELECON Conference* 2009  
 Reviewer of the *ISCAS Conference* 2009

SUPERVISION EXPERIENCE

**EDF R&D,**

- PhD thesis supervisor of J.M. Schertzer on short-term market design and interconnection management, with the University of Liège (Oct 2014 - )
- PhD thesis supervisor of N. Astier on impact assessment of energy policies for smart grids, with the Toulouse School of Economics (Mar 2013 - )

**INESC Porto,**

- Supervisor of N. Fonseca, research engineer on Iberian electricity market modeling for long-term electricity price forecasting (Apr 2011 - Nov 2011)
- Supervisor of L.F. Pereira et M. Couto, research engineers on multi-energy system simulation (Oct 2011 - Nov 2011)

**Supélec,**

- Postdoc advisor of J. Hazra on model predictive control for HVDC links (Oct 2008 - Mar 2010)
- Ph.D. thesis advisor of J. Dai on control schemes for multi-terminal HVDC systems to provide ancillary services (Oct 2008 - Oct 2011)
- Ph.D. thesis advisor of M. Ali on electro-mechanical oscillation mitigation in power systems (Jun 2008 - Nov 2010)
- Advisor for master theses on power transmission tariffication (2005), voltage stability (2007), power electronics modeling (2008), and pumped hydro storage (2009)

**EDF,**

- Continuing education program for EDF Commerce (Mar 2014 - )  
Understanding electricity markets
- short courses series at EDF R&D (Nov 2013 - )  
Economics and regulation of smart grids

**Suplec, France,**

- 1<sup>st</sup> and 2<sup>nd</sup> year graduate courses (Oct 2004 - Dec 2010) : teaching exercise classes in electrical and control engineering, included demonstrating laboratory practicals
- 3<sup>rd</sup> year graduate in electric energy systems (Oct 2004 - Dec 2010) : teaching classes in electric power systems
- Advising industry-driven six month development projects (1-5 projects each year)
- In charge of a three-day training course on electricity markets (Nov 2006 - Dec 2010) : organization of the course and teaching transmission loss cost allocation
- In charge of a 8 day training course (May-Jun 2010) : course on technological and economic challenges for battery storage integration in power systems
- In charge of a 11-hour course for a specialized master program (Nov 2008 - Dec 2010) : course on power system control and economics
- Corresponding member of the EES-UETP at Suplec (Nov 2006 - Dec 2010) : organization of an international course in 2009 entitled “new challenges of electricity markets”

**École Centrale de Paris,**

- 3<sup>rd</sup> year graduate courses (Mar 2012 - ) : teaching economics and regulation of smart grids
- 2<sup>nd</sup> year graduate courses (Avril 2009 - Dec 2010) : teaching classes on technical issues related with decentralized generation in power systems

**Georgia Institute of Technology,**

- Undergraduate (Sep 2012) : teaching the main differences between US and European technologies and market designs in the power industry

**Université de Paris XI - Orsay,**

- 1<sup>st</sup> year of the master “Nuclear Energy” (Nov 2009 - Dec 2010) : teaching classes in electrical engineering