Alessandra Parisio
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CURRICULUM VITAE

Dr Alessandra Parisio received the PhD degree in Automatic Control from the University of Sannio, Italy, with the following PhD thesis: *Handling Uncertainty with Application to Indoor Climate Control and Resource Allocation Planning*. A substantial part of her doctoral studies was carried out at the Swiss Federal Institute of Technology (ETH), Switzerland, where she worked on the research project "Use of weather and occupancy forecasts for optimal building climate control (OptiControl)". She was Post Doc Research fellow within the Automatic Control Laboratory at the Royal Institute of Technology (KTH), Sweden. Currently she is a Lecturer in the School of Electrical and Electronic Engineering at The University of Manchester, UK. She is currently Co-Chair of the IFAC TC 9.3 - Control of Smart Cities and member of the IEEE CSS Technical Committee on Smart Grids. Her research interests include the areas of manufacturing system simulation and scheduling, optimization of energy systems and stochastic constrained control.

Research projects

- *Pump-priming project: Intelligent Energy Management*, EPSRC Institutional Sponsorship 2016-2017: Connected Nation Theme (role: Principal-Investigator).
- *CityVerve: IoT cities demonstrator*, Innovate UK Technology Strategy Board (TSB), 2016-2018 (role: Co-Investigator).
- *Microgrid Operation and ICT Solutions* (action line Smart Energy Systems), EIT ICT Labs, 2014 (role: Principal Investigator).
- *Multi-objective Stochastic Predictive Control for MicroGrids* (MSCP-Microgrids), DERRI - Distributed Energy Resources Research Infrastructure - a collaborative research project under the European FP7 programme, March 2012 (role: Principal Investigator).
- *Stochastic Optimal Predictive Control for MicroGrids* (SOCP-Microgrids), DERRI - Distributed Energy Resources Research Infrastructure - a collaborative research project under the European FP7 programme, April-May 2011 (role: Principal Investigator).
- *Sustainable Smart Grid Open System for THe Aggregated Control, Monitoring and Management of Energy* (e-GOTHAM)- Embedded technology for sustainable urban life, EU FP7 - European Artemis program, 2012 - 2015 (role: proposal co-author).
- *ICT-based Intelligent management of Integrated RES for the smart grid optimal operation* (I3RES), EU FP7, 2012-2015 (role: proposal co-author).

Selected invited talks

- *Predictive Control Strategies Implemented in Experimental Microgrids*, National Instruments Symposium on Technologies for Smart Distribution Networks, Aachen, Germany, September 2016
- *The role and challenges of coordinating energy endpoints under uncertainty*, ENERGYCON 2016, IEEE International Energy Conference, Leuven, Belgium, April 2016.
- *The role and challenges of coordinating and controlling energy endpoints in smart cities*, Workshop on System and Control Perspectives for Smart City (SCPSC), Hiroshima, Japan, December 2015.
- *Decision making under uncertainty in energy systems*, EPFL, Lausanne, Switzerland, March 2015 (Prof. Colin Jones).
- *ICT for Smart Buildings and Microgrids*, ICT Platform Day, Stockholm, Sweden, September 2013.
- *Smart Cities: Some Activities at the KTH ACCESS Center*, Future Cities 2013, Porto, Portugal, January 2013.

Current teaching activities

- **Control Fundamentals**, MSc, Semester 1, School of Electrical and Electronic Engineering, The University of Manchester, UK.

- **Smart Grids & Sustainable Electricity Systems**, MSc, Semester 2, School of Electrical and Electronic Engineering, The University of Manchester, UK.
- **Energy Transport and Conversion**, MEng, Year 1, Semester 2, Electrical and Electronic Engineering, The University of Manchester, UK.

List of 10 selected journal publications

1) A. Parisio, C. Wiezorek, T. Kyntäjä, J. Elo, K. Strunz, K.H. Johansson, *Cooperative MPC-based Energy Management for Networked Microgrids*, IEEE Transactions on Smart Grid, Special section on *Distributed Control and Efficient Optimization Methods for Smart Grid*, 2017, accepted for publication.

2) C. Wiezorek, A. Parisio, T. Kyntäjä, J. Elo, M. Gronau, K.H. Johansson, and K. Strunz, *Multi-location Virtual Smart Grid Laboratory Based on Secure and Reliable Communication Platform: Concept and Application to Berlin-Stockholm-Helsinki*, IET Generation, Transmission & Distribution, 2017, accepted for publication.

3) A. Parisio, E. Rikos and L. Glielmo, *Stochastic model predictive control for economic/environmental operation management of microgrids: An experimental case study*, Journal of Process Control, vol. 43, pp. 24-37, July 2016.

4) K. Paridari, A. Parisio, H. Sandberg and K.H. Johansson, *Robust scheduling of smart appliances in active apartments with user behavior uncertainty*, IEEE Transactions on Automation Science and Engineering, IEEE CASE 2014 Special Issue, vol. 13, pp. 247-259, January 2016.

5) A. Parisio and C.N. Jones, *A Two-Stage Stochastic Programming Approach to Employee Scheduling in Retail Outlets with Uncertain Demand*, Omega The International Journal of Management Science, vol. 53, pp. 97-103, June 2015.

6) A. Parisio, E. Rikos and L. Glielmo, *A Model Predictive Control Approach to Microgrid Operation Optimization*, IEEE Transactions on Control System Technology, vol. 22, issue 5, pp. 1813-1827, September 2014.

7) A. Parisio, E. Rikos, G. Tzamalis and L. Glielmo, *Use of Model Predictive Control for Experimental Microgrid Optimization*, Applied Energy, vol. 115, pp. 37-46, February 2014.

8) F. Oldewurtel, C.N. Jones, A. Parisio and M. Morari, *Stochastic Model Predictive Control for Energy Efficient Building Climate Control*, IEEE Transactions on Control System Technology, vol. PP, issue 99, August 2013.

9) A. Parisio, C. Del Vecchio and A. Vaccaro, *A Robust Optimization Approach to Energy Hub Management*, International Journal of Electrical Power and Energy Systems, vol. 42, issue 1, pp. 98-104, November 2012.

10) F. Oldewurtel, A. Parisio, C.N. Jones, D. Gyalistras, M. Gwerder, V. Stauch, B. Lehmann and M. Morari, *Use of Model Predictive Control and Weather Forecasts for Energy Efficient Building Climate Control*, Energy & Buildings, 45C, pp 15-27, September 2011.