

# Gonzalo Bustos Turu

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## Experiencia académica y profesional

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- 2021 - Presente** **Universidad de Chile, Santiago, Chile**  
Investigador Postdoctoral, Proyecto Fondecyt 2021
- 2018 - 2021** **Imperial College London, Reino Unido**  
Investigador Postdoctoral, proyecto: "Singapore Smart Sensing"
- 2016 - 2020** **Imperial Consultants (ICON), Reino Unido**  
Consultor en investigación y desarrollo
- 2015 - 2017** **Imperial College London, Reino Unido**  
Profesor asistente, MSc Sustainable Energy Futures
- 2015** **Organización para la Cooperación y el Desarrollo Económicos (OCDE), Francia**  
Consultor externo, estudio: "Climate Finance in 2013-14 and the USD 100 billion goal"
- 2013 - 2017** **Imperial College London, UK**  
Profesor asistente y supervisor de proyectos, MSc Sustainable Energy Futures
- 2013** **Centro de Modelamiento Matemático (CMM), Universidad de Chile**  
Asistente de investigación, estudio: "Integración energía solar en sistemas de transporte urbano"
- 2012** **Instituto Sistemas Complejos de Ingeniería (ISCI), Universidad de Chile**  
Asistente de investigación, estudio: "Integración energía eólica en redes eléctricas"
- 2010 - 2012** **Centro de Energía, Facultad de Ciencias Físicas y Matemáticas (FCFM), Universidad de Chile**  
Ingeniero de Investigación y Desarrollo
- 2009 - 2011** **Empresa de Ingeniería INGENDESA S.A., Chile**  
Ingeniero de proyectos, diseño y especificación de sistemas de control de subestaciones eléctricas asociadas a proyectos de generación

## Educación

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- 2014 - 2018** **Imperial College London, UK**  
PhD Chemical Engineering
- 2012 - 2013** **Imperial College London, UK**  
MSc Sustainable Energy Futures
- 2007 - 2009** **Universidad de Chile, Chile**  
MSc Ingeniería Eléctrica
- 2002 - 2007** **Universidad de Chile, Chile**  
Ingeniería Civil Electricista
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## Publicaciones y Conferencias

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- Gonzato, S., Chimento, J., O'Dwyer, E., **Bustos-Turu, G.**, Acha, S., & Shah, N. (2019). Hierarchical price coordination of heat pumps in a building network controlled using model predictive control. *Energy and Buildings*, 202.
- Auyon Chakrabarti, Rafael Proeglhoeft, **Gonzalo Bustos Turu**, Romain Lambert, Arthur Mariaud, Salvador Acha, Christos N. Markides, Nilay Shah, (2019) *Optimisation and analysis of system integration between electric vehicles and UK decentralised energy schemes*, *Energy*, Volume 176, 2019, Pages 805-815, ISSN 0360-5442, <https://doi.org/10.1016/j.energy.2019.03.184>.
- Chimento, J., Gonzato, S., O'Dwyer, E., **Bustos Turu, G.**, Acha, S., Shah, N., (2018). *District-level coordination of predictive control strategies for urban residential heating networks*. In: 31st International Conference on Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems. Guimarães.
- **Bustos Turu, G.** (2018) *Integrated modelling framework for the analysis of demand side management strategies in urban energy systems*. PhD Thesis, Imperial College London, UK.
- Ralitera T., Ferard M., **Bustos-Turu G.**, H. van Dam K. and Courdier R. (2017) *Steps Towards Simulating Smart Cities and Smart Islands with a Shared Generic Framework - A Case Study of London and Reunion Island*. In Proceedings of the 6th International Conference on Smart Cities and Green ICT Systems - Volume 1: SMARTGREENS, ISBN 978-989-758-241-7, pages 329-336. DOI: 10.5220/0006371203290336.
- van Dam, K.H., **Bustos-Turu, G.** & Shah, N. (2017) *A Methodology for Simulating Synthetic Populations for the Analysis of Socio-technical Infrastructures*. In: Jager W., Verbrugge R., Flache A., de Roo G., Hoogduin L., Hemelrijk C. (eds) *Advances in Social Simulation 2015*. *Advances in Intelligent Systems and Computing*, vol 528. Springer, Cham.
- Riveros, M., Guo, M., Van Dam, K. H., **Bustos-Turu, G.** & Brandon, N. (2017) *Carbon Arbitrage with Stationary Batteries in the City of London*. In: Espuña, A., Graells, M. & Puigjaner, L. (eds.) *Computer Aided Chemical Engineering*. Elsevier.
- Crémel, S., Guo, M., **Bustos-Turu, G.**, Van Dam, K. H. & Shah, N. (2017) *Optimal design of urban energy systems with demand side management and distributed generation*. In: Espuña, A., Graells, M. & Puigjaner, L. (eds.) *Computer Aided Chemical Engineering*. Elsevier.
- Hayden Dahmm, **Gonzalo Bustos-Turu**, Maria Anna Chatzopoulou, Salvador Acha and Nilay Shah (2017) *Techno-Economic Analysis and Trade-Offs of Cooperative Community Energy Planning Schemes in the UK*. Proceedings of ECOS 2017 – The 30th International Conference On Efficiency, Cost, Optimization, Simulation and Environmental Impact of Energy Systems, July 2 - July 6, 2017, San Diego, California, USA.
- Soler, A., Acha, S., **Bustos-Turu, G.** & Shah, N. (2017) *Half-Hourly Regional Electricity Price Modelling for Commercial End Users in the UK*. ASHRAE Annual Conference, Long Beach, USA, June 24 – 28 2017.
- **Bustos-Turu, G.**, van Dam, K.H. & Shah, N. (2016) *Exploring the influence of household behaviour on energy demands with an agent-based model*, Social Simulation Conference (SSC2016), 19-23 September, 2016, Rome, Italy.
- Clifford, M., van Dam, K., **Bustos-Turu, G.** & Watson, S. (2016) *Decision support for the evaluation of sustainable urban masterplans*, Energy Systems Conference, London, UK, 14-15 June 2016.
- **Bustos-Turu, G.**, Guo, M., van Dam, K.H., Acha, S. & Shah, N. (2016) *Incorporating life cycle assessment indicators into optimal electric vehicle charging strategies: An integrated modelling approach*, Proceedings of the 26th European Symposium on Computer Aided Process Engineering (ESCAPE 26), 12-15 June, 2016, Portoroz, Slovenia.
- **Bustos-Turu, G.**, van Dam, K.H., Acha, S., Markides, C.N. & Shah, N. (2016) *Simulating residential electricity and heat demand in urban areas using an agent-based modelling approach*, IEEE International Energy Conference (EnergyCon16), 4-8 April, 2016, Leuven, Belgium.
- Acha, S., **Bustos-Turu, G.** & Shah, N. (2015) *Modelling the Business Case to Run on-Site Generators in UK Commercial Buildings through Real-Time Electricity Pricing*, 2015 ASHRAE Energy Modeling Conference, 30 September- 2 October, 2015, Atlanta, GA.
- van Dam, K.H., **Bustos-Turu, G.** & Shah, N. (2015) *A methodology for simulating synthetic populations for the analysis of socio-technical infrastructures*. The Eleventh Conference of the European Social Simulation Association (ESSA), 14-18 September, 2015, Groningen, NL.
- **Bustos-Turu, G.**, van Dam, K.H., Acha, S. & Shah, N. (2015) *Integrated planning of distribution networks: interactions between land use, transport and electric vehicle charging demand*. 23rd International Conference on Electricity Distribution (CIRED), 15-18 June, 2015, Lyon, France.
- **Bustos-Turu, G.**, Acha, S., van Dam, K.H. & Shah, N. (2015) *Assessing trade-offs in electric vehicle*

*smart charging strategies through agent-based simulation and multi-objective optimisation*. 17th British-French-German Conference on Optimization, 15-17 June, 2015, London, UK.

- Vargas, L. S., **Bustos-Turu, G.** & Larraín, F. (2014) *Wind power curtailment and energy storage in transmission congestion management considering power plants ramp rates*. IEEE Transactions on Power Systems.
  - van Dam, K.H., Koering, D., **Bustos-Turu, G.** & Jones, H. (2014) *Agent-based simulation as an urban design tool: Iterative evaluation of a smart city masterplan*. Fifth Annual Digital Economy All Hands Meeting, 3-5 December, 2014, London, UK.
  - **Bustos-Turu, G.**, van Dam, K.H., Acha, S. & Shah, N. (2014) *Estimating plug-in electric vehicle demand flexibility through an agent-based simulation model*. 5th IEEE PES Innovative Smart Grid Technologies (ISGT) European 2014 Conference, 12-15 October, 2014, Istanbul, Turkey.
  - **Bustos-Turu, G.**, van Dam, K.H., Acha, S., Shah, N. (2014) *A systems approach to understanding the impact of electric vehicle charging infrastructure on grid services*. Energy Systems Conference, Jun 2014, London, UK.
  - **Bustos-Turu, G.**, van Dam, K.H., Acha, S. & Shah, N. (2014) *Integration of plug-in electric vehicles into urban energy systems: an agent-based modelling approach*. Sino-German Symposium: Smart City Processes, 22-26 June 2014, Xiamen, China.
  - Matus, M., **Bustos-Turu, G.** (2014) *Renewable energy integration into the planning and operation of urban transport systems*. 1st Workshop in Strategies for Solar Energy and Basic Sciences Research, Jan 2014, Santiago, Chile.
  - **Bustos-Turu, G.**, van Dam, K.H., Acha, S., Shah, N. (2013) *A Review of Agent-Based Modelling for Transport Electrification Analysis*. Conference on Agent-Based Modeling in Transportation Planning and Operations, Sept 2013, Virginia, USA.
  - **Bustos, G.**, Vargas, L. S., Milla, F., Sáez, D., Zareipour, H., Nuñez, A. (2012) *Comparison of Fixed Speed Wind Turbines Models: A Case Study*. 38th Annual Conference of the IEEE Industrial Electronics Society (IECON), Oct 2012, Montreal, Canada.
  - Vargas, L. S., Paredes, G., **Bustos, G.** (2010) *Data Mining Techniques for Very Short Term Prediction of Wind Power*. IREP Symposium - Bulk Power System Dynamics and Control – VIII, Feb 2010, Rio de Janeiro, Brasil.
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