

Contact Information

33 Saripolou str (Ttofis Building),
Cyprus University of Technology,
3036 Limassol, Cyprus

Tel: +357 25 002618
E-mail: petros.aristidou@cut.ac.cy
Webpage: <https://sps.cut.ac.cy>

Positions

- Jun. 2023–present **Cyprus University of Technology, Limassol, Cyprus.**
Assistant Professor in Sustainable Power Systems, Director of Sustainable Power Systems Lab
- Jan. 2020–May 2023 **Cyprus University of Technology, Limassol, Cyprus.**
Lecturer in Sustainable Power Systems, Director of Sustainable Power Systems Lab
- Sept. 2016–Dec. 2019 **University of Leeds, Leeds, UK.**
Lecturer in Smart Energy Systems
- Sept. 2015–Aug. 2016 **Swiss Federal Institute of Technology (ETH Zürich), Zürich, Switzerland.**
Postdoctoral Researcher
- April 2014–July 2015 **University of Liège, Liège, Belgium.**
Research Engineer
- Oct. 2010–March 2014 **University of Liège, Liège, Belgium.**
Graduate Researcher

Education

- June 2015 **PhD in Engineering Sciences (DEng),**
University of Liège, Liège, Belgium.
 - **Thesis title:** Time-domain simulation of large electric power systems using domain-decomposition and parallel processing methods
 - **Advisor:** Prof. Thierry Van Cutsem
- July 2010 **Diploma in Electrical and Computer Engineering (5 year curriculum),**
National Technical University of Athens, Athens, Greece.
 - **Thesis title:** Microgrid Modeling and Analysis using Game Theory Methods
 - **Advisor:** Prof. Nikolaos Hatziaargyriou
 - **GPA:** 9.74/10.00 (top 1% of the class and 1st in the Energy speciality)

Selected Honors and Awards

- 2021 **TPWRS Best Paper Award** for the paper 'Improving dynamic performance of low-inertia systems through eigensensitivity optimization', TPWRS editorial board (honorary diploma)
Best Paper award for the paper 'Comparison of AC Optimal Power Flow Methods in Low-Voltage Distribution Networks', IEEE PES ISGT-Europe 2021 conference (honorary diploma)
High Quality Paper award for paper 'Microgrid Operational Optimization with Dynamic Voltage Security Constraints', IEEE PES 2021 PowerTech, Madrid (honorary diploma)
- 2020 **Best Paper Award** for paper 'Enhanced MPC for Fast Frequency Control in Inverter-Dominated Power Systems', IEEE SEST 2020 (honorary diploma)
- 2019 **High Quality Paper awards (two)** for papers 'Interval-Based Adaptive Inertia and Damping Control of a Virtual Synchronous Machine' and 'Data-driven Control Design Schemes in Active Distribution Grids: Capabilities and Challenges', IEEE PES 2019 PowerTech, Milan (honorary diploma)

- 2018 **Outstanding Technical Report Award** for the IEEE report on 'Contribution to Bulk System Control and Stability by Distributed Energy Resources Connected at Distribution Network', IEEE PES 2018 GM (honorary diploma)
- 2017 **High Quality Paper award** for paper 'Stability Performance of Power Electronic Devices with Time Delays', IEEE PES 2017 PowerTech, Manchester (honorary diploma)
- 2014 **Best Paper student award** for paper 'Parallel Computing and Localization Techniques for Faster Power System Dynamic Simulations', CIGRE 2014 Conference, Brussels (honorary diploma)
- 2013 **High Quality Paper award** for paper 'Dynamic Simulations of Combined Transmission and Distribution Systems using Decomposition and Localization', IEEE PES 2013 PowerTech, Grenoble (honorary diploma)
- 2012 **Technical Chamber of Greece award**, granted to the top students graduated from all Engineering schools in Greece (honorary diploma)
- 2010-2014 **Bourse de Doctorat**, research grant by the University of Liège
- 2010-2014 **Bodossaki Scholarship**, selected based on academic performance, granted to graduate students from Greek universities to pursue a PhD
- 2010 **Thomaideion award**, granted to the top 3 students graduating from the School of Electrical and Computer Engineering at the National Technical University of Athens (honorary diploma)
- 2010 **Grigoris Farakos award**, granted to the top 3 students in Energy, graduating from the School of Electrical and Computer Engineering and the School of Mechanical Engineering at the National Technical University of Athens (honorary diploma)
- 2005-2010 **Greek State Scholarships Foundation (IKYE)** for ranking in the top 3 among the students of the School of Electrical and Computer Engineering at the National Technical University of Athens
- 2005-2010 **Cyprus State Scholarships Foundation (IKYK)** for excellent performance of Cypriot students abroad
- 2009, 2006 **Karydogianni award** for excellent performance, awarded to students of the School of Electrical and Computer Engineering and the School of Mechanical Engineering at the National Technical University of Athens (also nominated for the award in 2007 and 2008) (honorary diploma)
- 2006 **Christos Papakyriakopoulos Maths award** for ranking in the top 3 in Mathematics among the students of the School of Electrical and Computer Engineering at the National Technical University of Athens (honorary diploma)

Grants

- 2024-2027 Dependable Energy Systems (DENSE), Horizon Europe MSCA ITN, PI
- 2021-2025 Modern methods for discrete event handling in power system dynamic simulations, Industrial Funding, PI
- 2020-2025 Electrification and system integration of High Speed Railway, Industrial Funding, Co-I - Resigned due to move to Cyprus
- 2019 Towards resilience and sustainability in islanded energy systems, EPSRC IAA, PI
- 2018-2021 Creating Resilient Sustainable Microgrids through Hybrid Renewable Energy Systems, EPSRC GCRF, Co-I
- 2018-2020 E4R-Education for Renewables, Royal Society of Engineering, Higher Education Partnerships Sub-Saharan Africa, Co-I
- 2018-2021 Data-driven anomaly detection techniques in electric power systems, University of Leeds Global Challenges scholarship, PI
- 2018-2019 Optimal Dispatch of Virtual Power Plant using Cyber-Physical Controller for Real-Time EMS, Royal Society Institutional Links, Co-I
- 2016 Acquired funding from the University of Leeds through a competitive procedure to set up a Smart Grid laboratory, University of Leeds, Co-I

Consultations

| | |
|-----------|---|
| 2025–now | Development of new methodology for Must Run Unit selection in the Cyprus system, TSOC |
| 2024–2025 | Revision of technical requirements for the installation of storage units in the Cyprus system (including grid forming technologies), TSOC |
| 2022–2023 | Revision of frequency reserve services for the TSOC, TSOC |
| 2018–2019 | Investigation of anti-islanding techniques in a low-inertia system, EAC Cyprus |
| 2016–2018 | Development of real-time Dynamic Security Assessment platform, Hydro-Québec |
| 2014–2015 | Power system modeling and dynamic security assessment for Hydro-Quebec system, ULg, Research Engineer |

Professional Associations

| | |
|--------------|---|
| 2022–present | Secretary, CIGRE Cyprus National Committee |
| 2011–present | Member, Cyprus Scientific and Technical Chamber (ETEK) |
| 2010–present | Senior Member, IEEE Power and Energy Society Member, Society for Industrial and Applied Mathematics (SIAM) |

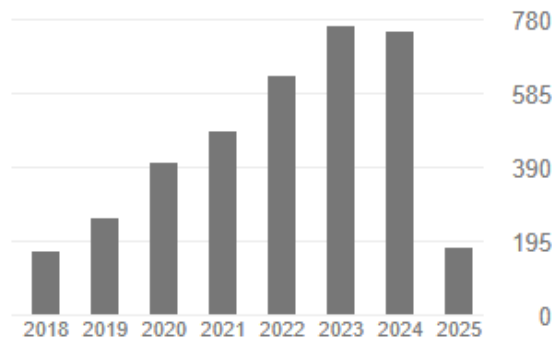
Service

| | |
|-------------|--|
| Committees | CIGRE Cyprus National Committee , Secretary (elected), 2022–now PSCC , member of Technical Programming Committee, 2022–now MEDPOWER Conference , member of International Scientific Committee, 2020–now IEEE PowerTech Conference , member of International Advisory Committee, 2017–now |
| Work-groups | Voltage Control and Reactive Power Optimization in Transmission Systems , <i>IEEE</i> , Member, 2021–present. Impact of Low Inertia Network on Protection and Control , <i>CIGRÉ JWG B5/C4.61</i> , Member, 2018–present. Modelling and dynamic performance of inverter-based generation in power system transmission and distribution studies , <i>CIGRÉ C4-C6.35/CIRED Joint Work-Group</i> , Chapter leader, 2014–2018. Contribution to Bulk System Control and Stability by Distributed Energy Resources connected at Distribution Networks , <i>IEEE PES Power System Dynamic Performance Committee</i> , Member, 2014–2016. |
| Editorial | Special issue on Grid-Friendly Power Electronics Systems , <i>CPSS Transactions on Power Electronics and Applications</i> , Guest Associate Editor, 2020. Special issue on Integration of Renewable Energy Technologies , <i>Energies</i> , Guest Associate Editor, 2020. |
| Reviewer | Regular reviewer at many major journals and conferences. For instance, <i>IEEE Trans. on Power Systems</i> , <i>IEEE Trans. on Smart Grids</i> , <i>IEEE Systems Journal</i> , <i>IEEE Trans. on Parallel and Distributed Systems</i> , <i>IEEE Trans. on Sustainable Energy</i> . International Assessment Board member for Government of Ireland (GOI) Postdoctoral Fellowship Scheme, Irish Research Council |

Output summary

| | |
|---------------|--|
| Publications | 39 peer-reviewed journal articles (1 awarded), 2 technical brochures (1 awarded), 5 book chapters, 46 peer-reviewed conf. papers (9 awarded) |
| Presentations | > 7 invited presentations/panel sessions at leading international conferences, organisation of 2 tutorial workshops, 5 invited keynote speeches. |


Citations Citations: 3895. h-index: 31. (Google scholar - Apr. 2025).



Publications

Refereed Journal Articles






- 2025 Savvas Panagi and **Petros Aristidou**. Sizing of fast frequency response reserves for improving frequency security in low-inertia power systems. *Sustainable Energy, Grids and Networks*, 42:101699, 2025.
- Mehran Jafari, Gautier Bureau, Marco Chiaramello, Adrien Guironnet, Patrick Panciatichi, and **Petros Aristidou**. Fast and accurate simulation of smart digital controllers in power system dynamic studies. *Sustainable Energy, Grids and Networks*, page 101665, 2025.
- 2024 S. Karagiannopoulos, **P. Aristidou**, G. Hug, and A. Botterud. Decentralized control in active distribution grids via supervised and reinforcement learning. *Energy and AI*, page 100342, 2024.
- Mehran Jafari, Gautier Bureau, Marco Chiaramello, Adrien Guironnet, Patrick Panciatichi, and **Petros Aristidou**. Methods for incorporating digital controllers in power system dynamic simulations. *Electric Power Systems Research*, 235:110827, 2024.
- 2023 Jesús Sánchez Cortés, Mohammad Rezaei Jegarluei, **Petros Aristidou**, Kang Li, and Sadegh Azizi. Size/location estimation for loss of generation events in power systems with high penetration of renewables. *Electric Power Systems Research*, 219:109242, 2023.
- M. Rezaei Jegarluei, **P. Aristidou**, W. Fernandes, and S. Azizi. Wide-area backup protection using sparse synchronized/unsynchronized pmu measurements. *IEEE Transactions on Power Delivery*, 38(4):2630–2640, Aug 2023.
- M. Rezaei Jegarluei, **P. Aristidou**, and S. Azizi. Wide-area backup protection against asymmetrical faults in the presence of renewable energy sources. *International Journal of Electrical Power & Energy Systems*, 144:108528, Jan 2023.
- N. Rangel, H. Li, and **P. Aristidou**. An optimisation tool for minimising fuel consumption, costs and emissions from diesel-pv-battery hybrid microgrids. *Applied Energy*, 335:120748, 2023.
- S. Chatzivasileiadis, **P. Aristidou**, I. Dassios, T. Dragicevic, D. Gebbran, F. Milano, C. Rahmann, and D. Ramasubramanian. Micro-flexibility: Challenges for power system modeling and control. *Electric Power Systems Research*, 216:109002, 2023.
- 2022 J. Vorwerk, U. Markovic, **P. Aristidou**, and G. Hug. Quantifying the uncertainty imposed by inaccurate modeling of active distribution grids. *Electric Power Systems Research*, 211:108426, Jul 2022.
- O. Stanojev, U. Markovic, **P. Aristidou**, and G. Hug. Improving stability of low-inertia systems using virtual induction machine synchronization for grid-following converters. *IEEE Transactions on Power Systems*, pages 1–14, Jul 2022.
- A. M. Nakiganda and **P. Aristidou**. Resilient microgrid scheduling with secure frequency and voltage transient response. *IEEE Transactions on Power Systems*, pages 1–13, Dec 2022.

- A. Nakiganda, S. Dehghan, U. Markovic, G. Hug, and **P. Aristidou**. A stochastic-robust approach for resilient microgrid investment planning under static and transient islanding security constraints. *IEEE Transactions on Smart Grid*, pages 1-1, Jan 2022.
- L. Koutsoloukas, N. Nikitas, and **P. Aristidou**. Robust structural control of a real high-rise tower equipped with a hybrid mass damper. *The Structural Design of Tall and Special Buildings*, 31(12):e1941, Jul 2022.
- L. Koutsoloukas, N. Nikitas, and **P. Aristidou**. Passive, semi-active, active and hybrid mass dampers: A literature review with associated applications on building-like structures. *Developments in the Built Environment*, 12:100094, 2022.
- A. Khurram, A. Gusnanto, and **P. Aristidou**. A feature-subspace-based ensemble method for estimating long-term voltage stability margins. *Electric Power Systems Research*, 212:108481, Jul 2022.
- F. Escobar, J. M. Viquez, J. Garcia, **P. Aristidou**, and G. Valverde. Coordination of ders and flexible loads to support transmission voltages in emergency conditions. *IEEE Transactions on Sustainable Energy*, 13(3):1344-1355, Jul 2022.
- 2021  A. Venkatraman, U. Markovic, D. Shchetinin, E. Vrettos, **P. Aristidou**, and G. Hug. Improving dynamic performance of low-inertia systems through eigensensitivity optimization. *IEEE Transactions on Power Systems*, pages 1-1, Jan 2021. **(TPRWS Best Paper Award)**.
- U. Markovic, O. Stanojev, **P. Aristidou**, E. Vrettos, D. S. Callaway, and G. Hug. Understanding small-signal stability of low-inertia systems. *IEEE Transactions on Power Systems*, pages 1-1, Jan 2021.
- U. Markovic, D. Chrysostomou, **P. Aristidou**, and G. Hug. Impact of inverter-based generation on islanding detection schemes in distribution networks. *Electric Power Systems Research*, 190:106610, 2021.
- S. Karagiannopoulos, A. Vasilakis, P. Kotsampopoulos, N. Hatziaargyriou, **P. Aristidou**, and G. Hug. Experimental verification of self-adapting data-driven controllers in active distribution grids. *Energies*, 14(10), 2021.
- S. Karagiannopoulos, C. Mylonas, **P. Aristidou**, and G. Hug. Active distribution grids providing voltage support: The swiss case. *IEEE Transactions on Smart Grid*, 12(1):268-278, Jan 2021.
- Shahab Dehghan, **Petros Aristidou**, Nima Amjady, and Antonio J. Conejo. A distributionally robust ac network-constrained unit commitment. *IEEE Transactions on Power Systems*, 36(6):5258-5270, Nov 2021.
- 2020 O. Stanojev, U. Markovic, **P. Aristidou**, G. Hug, D.S. Callaway, and E. Vrettos. Mpc-based fast frequency control of voltage source converters in low-inertia power systems. *IEEE Transactions on Power Systems*, Jun 2020.
- C. Spanias, **P. Aristidou**, and M. Michaelides. A passivity-based framework for stability analysis and control including power network dynamics. *IEEE Systems Journal*, pages 1-11, Sep 2020.
- M. Paturet, U. Markovic, S. Delikaraoglou, E. Vrettos, **P. Aristidou**, and G. Hug. Stochastic unit commitment in low-inertia grids. *IEEE Transactions on Power Systems*, 35(5):3448-3458, Sep. 2020.
- S. Karagiannopoulos, G. Valverde, **P. Aristidou**, and G. Hug. Clustering data-driven local control schemes in active distribution grids. *IEEE Systems Journal*, May 2020.
- S. Karagiannopoulos, J. Gallmann, M. G. Vayá, **P. Aristidou**, and G. Hug. Active distribution grids offering ancillary services in islanded and grid-connected mode. *IEEE Transactions on Smart Grid*, 11(1):623-633, Jan 2020.
- F. Escobar, J. García, J. M. Viquez, G. Valverde, and **P. Aristidou**. A combined high-, medium-, and low-voltage test system for stability studies with ders. *Electric Power Systems Research*, 189:106671, 2020.

- S. Dehghan, N. Amjady, and **P. Aristidou**. A robust coordinated expansion planning model for wind farm-integrated power systems with flexibility sources using affine policies. *IEEE Systems Journal*, 14(3):4110–4118, Sep. 2020.
- S. Alghamdi, U. Markovic, O. Stanojev, J. Schiffer, G. Hug, and **P. Aristidou**. Wide-area oscillation damping in low-inertia grids under time-varying communication delays. *Electric Power Systems Research*, 189:106629, 2020.
- 2019 J. Schiffer, **P. Aristidou**, and R. Ortega. Online estimation of power system inertia using dynamic regressor extension and mixing. *IEEE Transactions on Power Systems*, 34(6):4993–5001, Nov 2019.
- N. Pilatte, **P. Aristidou**, and G. Hug. Tdnetgen: An open-source, parametrizable, large-scale, transmission, and distribution test system. *IEEE Systems Journal*, 13(1):729–737, March 2019.
- U. Markovic, Z. Chu, **P. Aristidou**, and G. Hug. Lqr-based adaptive virtual synchronous machine for power systems with high inverter penetration. *IEEE Transactions on Sustainable Energy*, 10(3):1501–1512, July 2019.
- S. Karagiannopoulos, **P. Aristidou**, and G. Hug. Data-driven local control design for active distribution grids using off-line optimal power flow and machine learning techniques. *IEEE Transactions on Smart Grid*, 10(6):6461–6471, Nov 2019.
- E. Ekomwenrenren, H. Alharbi, T. Elgorashi, J. Elmirghani, and **P. Aristidou**. Stabilising control strategy for cyber-physical power systems. *IET Cyber-Physical Systems: Theory Applications*, 4(3):265–275, Sep 2019.
- 2018 K. Yamashita, H. Renner, S. Martinez Villanueva, G. Lammert, **P. Aristidou**, J. Carvalho Martins, L. Zhu, L. David Pabon Ospina, and T. Van Cutsem. Industrial recommendation of modeling of inverter-based generators for power system dynamic studies with focus on photovoltaic. *IEEE Power and Energy Technology Systems Journal*, 5(1):1–10, March 2018.
- 2017 S. Karagiannopoulos, **P. Aristidou**, and G. Hug. Hybrid approach for planning and operating active distribution grids. *IET Generation, Transmission & Distribution*, 11(3):685–695, 2017.
- P. Aristidou**, G. Valverde, and T. Van Cutsem. Contribution of distribution network control to voltage stability: A case study. *IEEE Transactions on Smart Grid*, 8(1):106–116, Jan 2017.
- 2016 F. Plumier, **P. Aristidou**, C. Geuzaine, and T. Van Cutsem. Co-simulation of electromagnetic transients and phasor models: A relaxation approach. *IEEE Transactions on Power Delivery*, 31(5):2360–2369, Oct 2016.
- F. Olivier, **P. Aristidou**, D. Ernst, and T. Van Cutsem. Active management of low-voltage networks for mitigating overvoltages due to photovoltaic units. *IEEE Transactions on Smart Grid*, 7(2):926–936, March 2016.
- P. Aristidou**, S. Lebeau, L. Loud, and T. Van Cutsem. Prospects of a new dynamic simulation software for real-time applications on the hydro-quebec system. *CIGRE Science & Engineering*, 4(1):88–95, February 2016.
- P. Aristidou**, S. Lebeau, and T. Van Cutsem. Power system dynamic simulations using a parallel two-level schur-complement decomposition. *IEEE Transactions on Power Systems*, 31(5):3984–3995, Sept 2016.
- 2015 **P. Aristidou** and T. Van Cutsem. A parallel processing approach to dynamic simulations of combined transmission and distribution systems. *International Journal of Electrical Power & Energy Systems*, 72:58–65, Nov 2015.
- 2014 **P. Aristidou**, D. Fabozzi, and T. Van Cutsem. Dynamic simulation of large-scale power systems using a parallel schur-complement-based decomposition method. *IEEE Transactions on Parallel and Distributed Systems*, 25(10):2561–2570, Oct 2014.

Refereed Conference Papers

- 2024 Phivos Therapontos, Rafail Konstantinou, Charalambos A. Charalambous, and **Petros Aristidou**. Increasing the res hosting capacity of the cyprus distribution system. *IET Conference Proceedings*, 2024:67–70, 2024.
- Savvas Panagi, Antonis Lazari, Vrahimis Koutsoloukas, and **Petros Aristidou**. Impact of fast frequency response on renewable energy source curtailment and load shedding. *IET Conference Proceedings*, 2024:505–508, 2024.
- Mehran Jafari, Gautier Bureau, Marco Chiaramello, Adrien Guironnet, Patrick Panciatici, and **Petros Aristidou**. A modelica ibm implementation for fast simulation of digital controllers in power systems. In *2024 Open Source Modelling and Simulation of Energy Systems (OSMSES)*, Sep. 2024.
- Andreas Argyrou, Savvas Panagi, and **Petros Aristidou**. Comparison of fast frequency response methods in the low-inertia grid of cyprus. In *2024 3rd International Conference on Energy Transition in the Mediterranean Area (SyNERGY MED)*, pages 1–5, 2024.
- 2023 Phivos Therapontos, Rogiros Tapakis, and **Petros Aristidou**. Assessing the impact of primary frequency support from ibrs in low inertia isolated power systems. In *2023 IEEE PES General Meeting (PESGM)*, Jul 2023.
- Phivos Therapontos, Andreas Stavrou, and **Petros Aristidou**. Increasing hosting capacity of uncontrollable distributed energy resources in isolated power systems. In *2023 IEEE PES Innovative Smart Grid Technologies Europe (ISGT EUROPE)*, pages 1–5, Oct 2023.
- Phivos Therapontos and **Petros Aristidou**. The impact of res curtailment strategies for congestion avoidance on the dynamic frequency performance of low-inertia systems. In *2023 IEEE Belgrade PowerTech*, June 2023.
- Mehran Jafari, Gautier Bureau, Marco Chiaramello, Adrien Guironnet, Patrick Panciatici, and **Petros Aristidou**. Modeling of digital controllers in electric power system dynamic simulations. In *2023 IEEE Belgrade PowerTech*, pages 1–6, June 2023.
- 2022 Johanna Vorwerk, Thierry Zufferey, **Petros Aristidou**, and Gabriela Hug. Using quantile forecasts for dynamic equivalents of active distribution grids under uncertainty. In *11th Bulk Power Systems Dynamics and Control Symposium (IREP 2022)*, Jul 2022.
- Phivos Therapontos, Charalambos A. Charalambous, and **Petros Aristidou**. Impact of distributed energy resources capabilities and protections on islanded power system frequency stability. In *2022 IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT-Europe)*, pages 1–5, Oct 2022.
- P. Therapontos, R. Tapakis, A. Nikolaidis, and **P. Aristidou**. Increasing res penetration in the cyprus power system: current and future challenges. In *13th Mediterranean Conference on Power Generation, Transmission, Distribution and Energy Conversion (MEDPOWER 2022)*, volume 2022, pages 313–318, Nov 2022.
- Ognjen Stanojev, Yi Guo, **Petros Aristidou**, and Gabriela Hug. Multiple ancillary services provision by distributed energy resources in active distribution networks. In *11th Bulk Power Systems Dynamics and Control Symposium (IREP 2022)*, Jul 2022.
- Alice Patig, Ognjen Stanojev, **Petros Aristidou**, Aristides Kiprakis, and Gabriela Hug. Fast mapping of flexibility regions at tso-dso interfaces under uncertainty. In *2022 IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT-Europe)*, pages 1–6, Oct 2022.
- Agnes M Nakiganda, Shahab Dehghan, and **Petros Aristidou**. A data-driven optimisation model for designing islanded microgrids. In *2022 17th International Conference on Probabilistic Methods Applied to Power Systems (PMAPS)*, pages 1–6, June 2022. **(Roy Billington best student paper award)**.
- 2021 O. Stanojev, J. Russli-Kueh, U. Markovic, **P. Aristidou**, and G. Hug. Primary frequency control provision by distributed energy resources in active distribution networks. In *Proc. of the 2021 PowerTech conf.*, April 2021.

- 
 A. Nakiganda, T. Van Cutsem, and **P. Aristidou**. Microgrid operational optimization with dynamic voltage security constraints. In *Proc. of the 2021 PowerTech conf.*, April 2021. **(High Quality Paper Award)**.
- 
 A. Nakiganda, S. Dehghan, and **P. Aristidou**. Comparison of ac optimal power flow methods in low-voltage distribution networks. In *Proc. of the 2021 ISGT conf.*, November 2021. **(Best Paper Award)**.
- A. Khurram, A. Gusnanto, and **P. Aristidou**. Detection of oscillatory modes in power systems using empirical wavelet transform. In *Proc. of the 2021 PowerTech conf.*, April 2021.
- 2020 
 O. Stanojev, U. Markovic, E. Vrettos, **P. Aristidou**, D. Callaway, and G. Hug. Enhanced mpc for fast frequency control in inverter-dominated power systems. In *Proc. of the 2020 International Conference on Smart Energy Systems and Technologies (SEST)*, September 2020. **(Best Paper Award)**.
- I. Onugha, S. Dehghan, and **P. Aristidou**. Rethinking consumer-centric markets under uncertainty: A robust approach to community-based energy trades. In *Proc. of the 2020 IEEE General Meeting, Montreal*, August 2020.
- A. Nakiganda, S. Dehghan, and **P. Aristidou**. Enhancing microgrid resilience and survivability under static and dynamic islanding constraints. In *Proc. of the 2020 IEEE PES ISGT Europe, The Hague*, October 2020.
- C. Mylonas, S. Karagiannopoulos, **P. Aristidou**, D. Shchetinin, and G. Hug. Comparison of optimal power flow formulations in active distribution grids. In *Proc. of the 2020 MEDPOWER*, Nov 2020.
- U. Markovic, D. Chrysostomou, **P. Aristidou**, and G. Hug. Impact of inverter-based generation on islanding detection schemes in distribution networks. In *Proc. of the 2020 PSCC, Porto*, June 2020.
- F. Escobar, J. García, J. M. Viquez, G. Valverde, and **P. Aristidou**. A combined high-, medium-, and low-voltage test system for stability studies with ders. In *Proc. of the 2020 PSCC, Porto*, June 2020.
- S. Dehghan, A. Nakiganda, J. Lancaster, and **P. Aristidou**. Towards a sustainable microgrid on alderney island using a python-based energy planning tool. In *Proc. of the 2020 MEDPOWER*, Nov 2020.
- S. Dehghan, A. Nakiganda, and **P. Aristidou**. A data-driven two-stage distributionally robust planning tool for sustainable microgrids. In *Proc. of the 2020 IEEE General Meeting, Montreal*, August 2020.
- S. Alghamdi, U. Markovic, O. Stanojev, J. Schiffer, G. Hug, and **P. Aristidou**. Wide-area oscillation damping in low-inertia grids under time-varying communication delays. In *Proc. of the 2020 PSCC, Porto*, June 2020.
- 2019 
 U. Markovic, N. Fruh, **P. Aristidou**, and G. Hug. Interval-based adaptive inertia and damping control of a virtual synchronous machine. In *Proc. of the IEEE PES PowerTech Conf., Milano*, June 2019. **(High Quality Paper award)**.
- 
 S. Karagiannopoulos, R. Dobbe, P. Aristidou, D. Callaway, and G. Hug. Data-driven control design schemes in active distribution grids: Capabilities and challenges. In *2019 IEEE Milan PowerTech*, pages 1–6, June 2019. **(High Quality Paper award)**.
- D.R. Flores, U. Markovic, N. Fruh, **P. Aristidou**, and G. Hug. Robust converter control design under time-delay uncertainty. In *Proc. of the IEEE PES PowerTech Conf., Milano*, June 2019.
- S. Alghamdi, N. Smith, J. Schiffer, and **P. Aristidou**. Delay-robust distributed secondary frequency control: A case study. In *Proc. of the IEEE PES PowerTech Conf., Milano*, June 2019.
- 2018 C. Spanias, **P. Aristidou**, M. Michaelides, and I. Lestas. Power system stability enhancement through the optimal, passivity-based, placement of svcs. In *Proc. of the 2018 PSCC*, June 2018.

- R. Ofir, U. Markovic, **P. Aristidou**, and G. Hug. Droop vs. virtual inertia: Comparison from the perspective of converter operation mode. In *Proc. of the 2018 Energycon conf.*, June 2018.
- U. Markovic, J. Vorwerk, **P. Aristidou**, and G. Hug. Stability analysis of converter control modes in low-inertia power systems. In *Proc. of the 2018 ISGT Europe conf.*, October 2018.
- U. Markovic, O. Stanojev, **P. Aristidou**, and G. Hug. Partial grid forming concept for 100% inverter-based transmission systems. In *Proc. of the 2018 IEEE PES General Meeting*, August 2018. **(Best Conference Papers on Power System Stability, Control, and Protection)**.
- U. Markovic, Z. Chu, **P. Aristidou**, and G. Hug. Fast frequency control scheme through adaptive virtual inertia emulation. In *Proc. of the 2018 ISGT Asia conf.*, 2018.
- S. Karagiannopoulos, **P. Aristidou**, and G. Hug. A centralised control method for tackling unbalances in active distribution grids. In *Proc. of the 2018 PSCC*, June 2018.
- F. Bellizio, S. Karagiannopoulos, **P. Aristidou**, and G. Hug. Optimized local control schemes for active distribution grids using machine learning techniques. In *Proc. of the 2018 IEEE PES General Meeting*, August 2018.
- 2017 S. Martinez Villanueva, K Yamashita, H. Renner, J. Carvalho Martins, **P. Aristidou**, T. Van Cutsem, G Lammert, and L. D. Pabon Ospina. Current status of joint working group cigre c4/c6.35/cired: Modeling and dynamic performance of inverter based generation in power system transmission and distribution studies. In *XVII Encuentro Regional Iberoamericano del CIGRE (ERIAC)*, May 2017.
- U. Markovic, **P. Aristidou**, and G. Hug. Virtual induction machine strategy for converters in power systems with low rotational inertia. In *Proc. of 2017 IREP Conf., Espinho*, Aug 2017.
- U. Markovic, **P. Aristidou**, and G. Hug. Stability performance of power electronic devices with time delays. In *Proc. of IEEE PES Powertech Conf., Manchester*, June 2017. **(High Quality Paper award)**.
- G Lammert, K Yamashita, H. Renner, S. Martínez Villanueva, J. Carvalho Martins, **P. Aristidou**, T. Van Cutsem, L. D. Pabón Ospina, M. Braun, and J Boemer. Activities of the joint working group cigre c4/c6.35/cired: Modelling and dynamic performance of inverter based generation in power system transmission and distribution studies. In *1st International Conference on Large-Scale Grid Integration of Renewable Energy in India*, September 2017.
- S. Karagiannopoulos, L. Roald, **P. Aristidou**, and G. Hug. Operational planning of active distribution grids under uncertainty. In *Proc. of 2017 IREP Conf., Espinho*, Aug 2017.
- S. Karagiannopoulos, **P. Aristidou**, and G. Hug. Co-optimisation of planning and operation for active distribution grids. In *Proc. of IEEE PES Powertech Conf., Manchester*, June 2017.
- 2016 S. Karagiannopoulos, **P. Aristidou**, A. Ulbig, S. Koch, and G. Hug. Optimal planning of distribution grids considering active power curtailment and reactive power control. In *Proc. of 2016 General Meeting*, July 2016.
- P. Aristidou** and G. Hug-Glanzmann. Accelerating the computation of critical eigenvalues with parallel computing techniques. In *Proc. of 2016 PSCC*, June 2016.
- 2015 **P. Aristidou**, L. Papangelis, X. Guillaud, and T. Van Cutsem. Modular modelling of combined AC and DC systems in dynamic simulations. In *Proc. of IEEE PES 2015 PowerTech Conf.*, July 2015.
- P. Aristidou**, S. Lebeau, L. Loud, and T. Van Cutsem. Prospects of a new dynamic simulation software for real-time applications on the Hydro-Québec system. In *CIGRÉ 2015 Canada Conf.*, 2015.

- 2014 F. Plumier, **P. Aristidou**, C. Geuzaine, and T. Van Cutsem. A relaxation scheme to combine phasor-mode and electromagnetic transients simulations. In *Proc. of the 18th PSCC, Wroclaw*, August 2014.
- ▼ **P. Aristidou** and T. Van Cutsem. Parallel computing and localization techniques for faster power system dynamic simulations. In *Proc. of Cigre Belgium Conf., Brussels*, March 2014. **(Best Paper student award)**.
- P. Aristidou** and T. Van Cutsem. Dynamic simulations of combined transmission and distribution systems using parallel processing techniques. In *Proc. of the 18th PSCC, Wroclaw*, August 2014.
- P. Aristidou** and T. Van Cutsem. Algorithmic and computational advances for fast power system dynamic simulations. In *Proc. of the IEEE PES General Meeting, Washington DC*, July 2014.
- P. Aristidou**, F. Olivier, D. Ernst, and T. Van Cutsem. Distributed model-free control of photovoltaic units for mitigating overvoltages in low-voltage networks. In *Proc. of CIRED Workshop, Rome*, June 2014.
- 2013 ▼ **P. Aristidou** and T. Van Cutsem. Dynamic simulations of combined transmission and distribution systems using decomposition and localization. In *Proc. of IEEE PES PowerTech Conf., Grenoble*, June 2013. **(High Quality Paper award)**.
- P. Aristidou**, D. Fabozzi, and T. Van Cutsem. Exploiting localization for faster power system dynamic simulations. In *Proc. of IEEE PES PowerTech Conf., Grenoble*, June 2013.

Book Chapters

- 2018 G. Valverde, **P. Aristidou**, and T. Van Cutsem. Enhancement of transmission system voltage stability through local control of distribution networks. In *Dynamic Vulnerability Assessment and Intelligent Control for Sustainable Power Systems*. John Wiley & Sons, 2018.
- H. Soleimani, G. Valverde, **P. Aristidou**, M. Glavic, and T. Van Cutsem. Operation of distribution systems within secure limits using real-time model predictive control. In *Dynamic Vulnerability Assessment and Intelligent Control for Sustainable Power Systems*. John Wiley & Sons, 2018.
- 2012 **P. Aristidou**, D. Fabozzi, and T. Van Cutsem. A Schur complement method for DAE systems in power system dynamic simulations. In *Domain Decomposition Methods in Science and Engineering XXI*, volume 98 of *Lecture Notes in Computational Science and Engineering*. Springer International Publishing, 2012.
- 2011 G. Asimakopoulou, Y. Papagrigrakis, A. L. Dimeas, **P. Aristidou**, and N. Hatziargyriou. A review of customer management tools: The energy industry. In *Energy-Efficient Computing and Networking*, volume 54 of *Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering*, pages 64–72. Springer Berlin Heidelberg, 2011.
- P. Aristidou**, A. Dimeas, and N. Hatziargyriou. Microgrid modelling and analysis using game theory methods. In *Energy-Efficient Computing and Networking*, volume 54 of *Lecture Notes of the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering*, pages 12–19. Springer Berlin Heidelberg, 2011.

Technical Reports

- 2018 Modelling of inverter-based generation for power system dynamic studies. Technical Report 727, JWG C4/C6.35/CIRED, 5 2018.
- 2017 ▼ N. Hatziargyriou, T. Van Cutsem, J. Milanovic, P. Pourbeik, C. Vournas, O. Vlachokyrakou, P. Kotsampopoulos, M. Hong, R. Ramos, J. Boemer, **P. Aristidou**, V. Singhvi, J. dos Santos, and L. Colombari. Contribution to bulk system control and stability by distributed energy resources connected at distribution network. Technical Report TR22, IEEE Power & Energy Society, 1 2017. **(IEEE PES Outstanding Technical Report award)**.