Damien ERNST

Full professor

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University of Liège

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Online profiles

Main research and teaching interests

Smart electrical grids,

Artificial intelligence with a focus on reinforcement learning,

Artificial intelligence for the defence sector,

Energy policy,

Energy transition.

Employment history

September 2025 -: Co-founder, Belerion.

July 2021 -: Chief Scientific Officer, Haulogy.

October 2016 -: Full professor, Montefiore Research Unit, University of Liège, Belgium. Tenured position.

January 2017 - June 2021: Co-founder, Blacklight Analytics. Merged with Haulogy in July 2021.

January 2015 - September 2016: Full professor, holder of the EDF-Luminus Chair on Smart Grids. Systems and Modelling Research Unit, University of Liège, Belgium. Tenured position.

October 2011 - December 2014: Associate professor, holder of the EDF-Luminus Chair on Smart Grids. Systems and Modelling Research Unit, University of Liège, Belgium. Tenured position.

October 2007 - September 2011: Research associate, FRS-FNRS. Systems and Modelling Research Unit, University of Liège, Belgium. Tenured position.

September 2006 - September 2007: Assistant professor, SUPELEC, Rennes Campus, France. Tenured position.

October 2003 - September 2006: Post-doctoral researcher, FRS-FNRS. Research group on stochastic methods, University of Liège, Belgium.

October 1999 - September 2003: Research fellow, FRS-FNRS, University of Liège, Belgium.

October 1998 - September 1999: Research fellow, FRIA (Fund for Research in the Industry and the Agriculture), University of Liège, Belgium.

Positions held as visiting researcher

December 2021 - November 2024: Invited professor, Télécom Paris.

June 2004 - September 2004: Federal Institute of Technology Zürich (ETH). Professor: Göran Andersson. Research topics: distributed control of electrical power systems; electricity markets.

March 2004 - May 2004: Massachusetts Institute of Technology (MIT). Professor: Marija Ilic. Research topic: electricity markets.

September 2003 - December 2003: Carnegie Mellon University (CMU). Professor: Marija Ilic. Research topic: electricity markets.

December 1999: Royal Institute of Technology in Stockholm (KTH). Professor: Göran Andersson. Research topic: damping of electrical power oscillations.

February 1999-April 1999: Virginia Tech. Professor: Arun Phadke. Research topic: transient stability emergency control.

Education

Doctor of applied sciences, 2003

Obtained with the greatest distinction, University of Liège, Belgium.

Electrical and Mechanical Engineer, 1998

Obtained with the greatest distinction, University of Liège, Belgium.

High School Degree in mathematics and science, 1993

Gemmenich, Belgium.

Publications

I have (co-)authored more than 300 research papers and three books. My publications can be accessed through ORBI, the institutional repository of the University of Liège, as well as through Google Scholar.

Awards and honours

Personal grants I have obtained for doing research are not listed as Scientific Awards, as it is often the case.

[14] Honorary Citizen of Liège in 2019.

[13] Elected Belgian Personality of the Year 2018 by the Newspaper La Libre.

[12] Recipient of the "André Blondel Medal" 2018

[11] Research paper: "*Intra-day bidding strategies for storage devices using deep reinforcement learning*" authored by Ioannis Boukas, Damien Ernst, Anthony Papavasiliou, and Bertrand Cornélusse got the Best Paper Award at 15th International Conference on the European Energy Market, June 2018, Łódź, Poland.

[10] Research paper: "*Fostering Share&Charge through proper regulation*" authored by Fanny Vanryckel, Damien Ernst and Marc Bourgeois got the Best Paper Award at the 7th Conference on the Regulation of Infrastructures organized by the Florence School of Regulation, June 2018, Florence, Italy.
[9] Research paper: "*Simple connectome inference from partial correlation statistics in calcium imaging*" authored by Antonio Sutera, Arnaud Joly, Vincent, François-Lavet, Zixiao Aaron Qiu, Gilles Louppe, Damien Ernst and Pierre Geurts got the First Price at the ECML 2014 Connectomics Workshop. This paper explains the methodology we developed for winning the Connectomics challenge.
[8] Research paper: "*Automatic discovery of ranking formulas for playing with multi-armed bandits*". F. Maes, L. Wehenkel and D. Ernst. In Proceedings of the 9th European Workshop on Reinforcement Learning (EWRL 2011), Athens, Greece, September 9-11, 2011. Got the Best Paper Award.
[7] Research paper: "*Model-free Monte Carlo-like policy evaluation*". R. Fonteneau, S.A. Murphy, L. Wehenkel and D. Ernst. In Proceedings of Conférence francophone sur l'Apprentissage Automatique (CAp) 2010, Clermont-Ferrand, France, 17-19 May 2010. (16 pages) got the Best Student Paper Award.
[6] Prize ULG network 2009 (in French : Prix réseau ULg) for my research work in the year 2008.
[5] Research paper: "*A cautious approach to generalization in reinforcement learning*". R. Fonteneau, S.A. Murphy, L. Wehenkel and D. Ernst. In Proceedings of the 2nd International Conference on Agents and Artificial Intelligence (ICAART 2010), Valencia, Spain, 22-24 January 2010. (10 pages) got the Best Student Paper Award.
[4] Research paper: "*On the fairness of centralized decision-making strategies in multi-area power systems*". Y. Phulpin, M. Begovic, M. Petit, J.-B. Heyberger and D. Ernst. In Proceedings of the 16th Power Systems Computation Conference (PSCC-2008), Glasgow, UK, 14-18 July 2008. (7 pages) was selected as one of the five best papers of the 16th Power Systems Computation Conference (PSCC-2008).
[3] Research paper: "*A comparison of Nash equilibria analysis and agent-based modelling for power markets*". T. Krause, G. Andersson, D. Ernst, E.V. Beck, R. Cherkaoui and A. Germond. In Proceedings of the 15th Power System Computation Conference (PSCC-2005). Liège, Belgium, 22-26 August 2005. (8 pages) was selected as one of the five best papers of the 15th Power Systems Computation Conference (PSCC-2005).
[2] Working Group Recognition Award 2000 (PES IEEE) For Services Rendered as Member of the Task Force on Techniques for Power System Stability Limit Search.
[1] Melchior Salier 1998 Prize for my Master Thesis "*Couplage SIME/EUROSTAG et mise au point d'une approche d'évaluation et de commande curative de la stabilité transitoire des réseaux électriques*".

Supervision

Current PhD students

[15] Fabrice Lusinde. Energy policy and the Democratic Republic of the Congo (2025-)
[14] Julien Brandoit. On the quest for the perfect RNN cell (2025-)
[13] Julien Hansen. AI for defence (2025-)
[12] Alfaham Abdallah. Reinforcement learning for complex environment (2025-)
[11] Louis Colson. AI for defence (2024-)
[10] Antoine Larbanois. Techno-economic model of the inclusion of Small Modular Reactors in the Belgian energy system (2024-)
[9] Samy Mokeddem. GBOML for bi-level optimization and the handling of uncertainty (2024-)
[8] Lize Pirenne. Large Language Models for the industry (2023-)
[7] Arthur Louette. Design of intelligent systems for delta robots using reinforcement learning (2023-)

[6] Laurie Boveroux. Optimizing complex large-scale scheduling problems using reinforcement learning (2023-)
[5] Matthias Pirlet. Artificial intelligence for energy markets (2023-)
[4] Maurizio Vassallo. Reinforcement learning for smart grids (2022-)
[3] Florent De Geeter. Biological models for improving Deep learning (2021-)
[2] Jocelyn Mbenoun. Study and optimization of multi-energy systems (2021-)
[1] Samy Attaihar. Reinforcement learning and microgrids (2015-)

Current postdocs

[8] Victor Dachet. Remote renewable energy hubs (2025-)
[7] Alireza Bahmanyar. Smart operation of distribution networks (2025-)
[6] Adrien Bollabd. Deep reinforcement learning and decision-making in energy systems (2025-)
[5] Gaspard Lambrechts. Reinforcement learning for POMDP (2025-)
[4] Bardhyl Miftari. Graph-Based Optimization Modelling Language (2024-)
[3] Pascal Leroy. AI for defence (2024-)
[2] Guillaume Derval. Optimisation for energy systems (2022-)
[1] Raphael Fonteneau. Energy and artificial intelligence (2012-)

Past PhD students

[25] Victor Dachet. Thesis “Remote Renewable Energy Hubs: Design, Techno-Economic and Financial Perspectives”. (2012-2025)
[24] Elie Kadoche. Thesis “Deep reinforcement learning for wind farm flow control”. Co-supervised by Pascal Bianchi and Florence Carton. (2021-2025)
[23] Bardhyl Miftari. Thesis “Tools and Techniques for Efficient Encoding and Analysis of Linear Programming Models”. (2020-2025)
[22] Adrien Bolland. Thesis “Reimagining Exploration: Theoretical Insights and Practical Advancements in Policy Gradient Methods”. Co-supervised by Guillaume Derval and Quentin Louveaux. (2020-2025)
[21] Gaspard Lambrechts. Thesis “Reinforcement Learning in Partially Observable Markov Decision Processes: Learning to Remember the Past by Learning to Predict the Future”. Co-supervised by Guillaume Drion. (2021-2025)
[20] Amina Benzerga. Thesis “Hosting capacity of low-voltage distribution networks”. (2021-2024)
[19] David Vangulick. Thesis “Contribution to decision making in power system driven by distributed generation. Solutions and implementation based on Distributed Ledger Technology”. (2015-2024)
[18] Pascal Leroy. Thesis: “Contributions to multi-agent reinforcement learning”. (2018-2024)
[17] Antoine Dubois. Thesis: “Exploring the near-optimal spaces of energy system optimisation models using necessary conditions for better decision making”. (2019-2023)
[16] Thibaut Théate. Thesis: “Artificial Intelligence Techniques for Decision-Making in Market Environments”. (2019-2023)
[15] Mathias Berger. Thesis: “Low-Carbon Energy System Design: Methods, Software and Applications”. (2018-2023)
[14] Nicolas Vecoven. Thesis: “Introducing biological neuronal dynamics and neuromodulation in artificial neural networks”. Co-supervised by Guillaume Drion. (2017-2022)
[13] David Radu. Thesis: “Siting Strategies for Variable Renewable Generation Assets in Capacity Expansion Planning Frameworks”. (2017-2021)

[12] Ioannis Boukas. Thesis: “Deep Reinforcement Learning for the Control of Energy Storage in Grid-Scale and Microgrid Applications”. Co-supervised by Bertrand Cornélusse. (2016-2021)
[11] Miguel Manuel de Villena. Thesis: “Smart Regulation for Distribution Networks – Modelling New Local Electricity Markets and Regulatory Frameworks for the Integration of Distributed Electricity Generation Resources”. Co-supervised by Raphael Fonteneau. (2016-2021)
[10] Frédéric Olivier. Thesis: “Solutions for integrating photovoltaic panels into low-voltage distribution networks”. Co-supervised by Raphael Fonteneau. (2013-2018)
[9] Vincent François Lavet. Thesis: “Contributions to deep reinforcement learning and its applications in smart grids”. Co-supervised by Raphael Fonteneau. (2014-2017)
[8] Michael Castronovo. Thesis: “Offline Policy-search in Bayesian Reinforcement Learning”. Co-supervised by Raphael Fonteneau. (2012-2017)
[7] Quentin Gemine. Thesis: “Active network management for electrical distribution systems”. Co-supervised by Bertrand Cornélusse. (2012-2016)
[6] Sébastien Mathieu. Thesis: “Flexibility services in the electrical system”. Co-supervised by Quentin Louveaux and by Bertrand Cornélusse. (2012-2016)
[5] Firas Safadi. Thesis: “Artificial Intelligence in Video Games: Towards a Unified Framework”. Co-supervised by Raphael Fonteneau. (2010-2015)
[4] David Lupien St-Pierre. Thesis: “Contributions to Monte Carlo Tree Search”, Co-supervised by Quentin Louveaux. (2010-2013)
[3] Jing Dai. Thesis: “Frequency control coordination among asynchronous AC areas connected by a multi-terminal HVDC grid”. Co-supervised by Yannick Phulpin (SUPELEC). (2008-2011)
[2] Florence Belmudes. Thesis: "Identification of dangerous contingencies for large scale power system security assessment". Co-supervised by Louis Wehenkel. (2007-2012)
[1] Raphael Fonteneau. Thesis: “Contribution to batch mode reinforcement learning”. Co-supervised by Louis Wehenkel. (2007-2011)

Past postdocs

[16] Alireza Bahmanyar. Smart operation of distribution networks (2020-2023)
[15] Ioannis Boukas. Optimising flexibility in water systems (2021-2023)
[14] Michael Castronovo. Reinforcement learning for energy systems (2017-2022)
[13] Miguel Manuel de Villena. Regulation for renewable energy communities (2021)
[12] Hatim Djelassi. Optimisation for multi-energy systems (2020-2021)
[11] Yves Vanaubel. Intelligent computing for future energy systems (2018-2021)
[10] Quentin Gemine. Smart operation of microgrids (2016-2020)
[9] Sébastien Mathieu. Intelligent computing for future energy systems (2017-2020)
[8] Gilles Meyer. Energy Management Systems for microgrids (2016-2018)
[7] Adrien Couetoux. Reinforcement learning (2014-2016)
[6] Bertrand Cornélusse. Smart Grids (2013-2016).
[5] Aivar Sootla. Optimal control and synthetic biology (2014-2016)
[4] Tobias Jung . Reinforcement learning with application to computer networks (2010-2013).
[3] Efthymios Karangelos. Risk-based operation of power systems (2012-2014)
[2] Francis Maes. Reinforcement Learning (2012)
[1] Emmanuel Rachelson. Reinforcement Learning (2010)

Supervision of master theses

I have supervised numerous master theses since the 2006–2007 academic year, in the fields of smart electrical grids, artificial intelligence and sustainable energy.

Main teaching experience

Reinforcement Learning

For master students in computer/data science from the ULiège.
Class taught since the 2017-2018 academic year, 60 hours.

Energy and sustainable development

For 3rd bachelor engineering students of the ULiège.
Class taught since the 2012-2013 academic year, 30 hours.

Energy markets and regulation

For 2nd master engineering students of the ULiège.
Class taught since the 2011-2012 academic year, 60 hours.

Electrical energy systems

For master students in environment.
Class taught during the 2015-2024 academic years, 30 hours.

Artificial autonomous intelligent agent

For 3rd year students at SUPELEC.
Class taught during the 2006-2010 academic years, 8 hours.

Numerical methods and optimisation

For 2nd year students at SUPELEC.
Class taught during the 2006-2010 academic years, 8 hours.

Circuit theory

For 3rd year engineering students of the ULiège.
Teaching assistant, 1998, 15 hours.

Services to the scientific community

Activities as a reviewer

I regularly review papers for journals and international conferences in the fields of smart electrical grids, reinforcement learning and energy policy. I also evaluate research proposals for governmental research agencies across several European countries, including France, the Netherlands, Switzerland, and Belgium.

Organizer

2023 - CIRED 2023 (with the AIM)
2021 - Organiser of the AIM study day on “La révolution digitale intelligente des systèmes énergétiques”
2020 - PMAPS
2014 - JFPDA

Member of program committees

2018 - PSCC
2016 - PSCC
2014 - PSCC, JFPDA, ADPRL
2013 - JFPDA, ICML, ECML, TAAI (Technologies and Applications of Artificial Intelligence)
2012 - Benelearn, Journées Francophones Planification, Décision, et Apprentissage pour la conduite de systèmes (JFPDA), ICML, EWRL, NIPS
2011 - Adaptive Programming and reinforcement learning (ADPRL), ICML, PSCC, Neural Information Processing Systems (NIPS), Benelearn, Journées Francophones de Planification, Décision et Apprentissage pour la conduite de systèmes (JFPDA)
2010 - ICML, ECML, Benelearn
2009 - European Conference on Machine Learning and Principles and Practice of Knowledge (ECML), International Conference on Machine Learning (ICML), International Joint Conferences on Artificial Intelligence (IJCAI), Benelearn
2008 - Power System Computation Conference (PSCC), European Workshop on Reinforcement Learning (EWRL), The Annual Machine Learning Conference of Belgium and the Netherlands (Benelearn)

Member of PhD juries

[68] Alexis Costa, UMons, “Optimization of cryogenic facilities for carbon dioxide capture”, January 2025.
[67] Shengren Hou, TU-Delft, “Deep reinforcement learning based optimal distribution networks operation”, October 2025.
[66] Riad Akrour, Thèse d’Habilitation à diriger des recherches de l’Université de Lille, “Contributions to reinforcement learning with function approximators”, October 2025.
[65] Magnus Tarle, KTH, “Coordinated Control of FACTS Setpoints Using Reinforcement Learning”, October 2025.
[64] Lisa Benin, Ecole Polytechnique, “Avancées dans les Modèles Génératifs : Méthodologies et Applications en Cardiologies”, May 2025.
[63] Julien Perez, Thèse d’habilitation de l’Université de Grenoble Alpes, “Contributions to Differentiable Decision Making, Reasoning, and Common-Sense”, March 2025.
[62] Ayşegül Kahraman, DTU, “Enhancing Multi Energy System Operations Under Uncertainty”, February 2025.
[61] Marine Cauz, EPFL, “Co-optimising design and operation of energy system using reinforcement learning”, June 2024.

[60] Marie Girod, Université Paris-Saclay, “Managing electricity network congestion in European near-real-time markets”, May 2024.
[59] Rafael Alvarenga, Université de Guyanne, “Développement d’un algorithme de prévision et planification de la production d’une centrale solaire photovoltaïque avec stockage”, December 2023.
[58] Ghada Sokar, TU-Eindhoven, “Learning Continually Under Changing Data Distributions”, October 2023.
[57] Jochen Bernhard Stiasny, DTU, “Physics-Informed Neural Networks for Power System Dynamics”, September 2023.
[56] Sumeyra Demir, TU-Eindhoven, “Statistical arbitrage trading on electricity markets using deep reinforcement learning”, June 2023.
[55] Léonard Hussenot, INRIA-Lille, “Apprenticeship learning: Transferring human motivations to artificial agents”, December 2022.
[54] Louis Desportes, ETIS, ENSEA, “Apprentissage, prédiction et optimisation des apports énergétiques pour un bâtiment à faible impact environnemental“, December 2022.
[53] Palo Morato, University of Liège, “Optimal Inspection and Maintenance Planning for Deteriorating Structures through Dynamic Bayesian Networks and Markov Decision Processes”, September 2021.
[52] Tanguy Levent, Institut Polytechnique de Paris, “Reinforcement Learning application for Energy Management of Microgrids”, December 2020.
[51] Taha Abd El Halim Nakabi, University of Eastern Finland, “Computational intelligence for smart grid flexibility”, December 2020.
[50] Hussain Kazmi, KUL, “Data-driven Modelling and Control of Energy-Flexible Residential Loads”, July 2019.
[49] Marie Wehenkel, ULiège, “Characterization of neurodegenerative diseases with tree ensemble methods: the case of Alzheimer’s disease”, September 2018.
[48] Frédéric Olivier, ULiège, “Solutions for integrating photovoltaic panels into low-voltage distribution networks”, July 2018.
[47] Benoit Mattlet, ULB, “Potential benefits of load flexibility. Focus on the Belgian distribution system”, May 2017.
[46] Julien Perolat, INRIA-Lille Nord Europe, “Reinforcement Learning: The Multi-Player Case”, December 2017.
[45] Lazaros Exizidis, UMons, “Electricity Markets with High Wind Power Penetration: Information Sharing and Incentive-Compatibility”, December 2017.
[44] Mohammad Nazari, KTH, “Control and planning of multi-terminal HVDC transmission systems”, October 2017.
[43] Vincent François, University of Liège, “Contributions to deep reinforcement learning and its applications in smart grids”, September 2017.
[42] Navikkumar Modi, Centrale-Supelec, “Machine learning and statistical decision making for green radio”, May 2017.
[41] Tiago Soares, Technical University of Denmark, “Renewable energy sources offering flexibility through electricity markets”, April 2017.
[40] Michael Castronovo, University of Liège, “Offline Policy-search in Bayesian Reinforcement Learning", March 2017.
[39] Arnaud Joly, University of Liège, “Exploiting random projections and sparsity with random forests and gradient boosting methods - Application to multi-label and multi-output learning, random forest, model compression and leveraging input sparsity”, February 2017.

[38] Alejandro Marcos Alvarez, University of Liège, “Computational and Theoretical Synergies between Linear Optimization and Supervised Machine Learning”, December 2016.
[37] Vincent Krakowski, MINES ParisTech, “Intégration du renouvelable et stratégies de déploiement du de déploiement du réseau électrique réseau électrique: réconciliation d'échelles spatio réconciliation dans des exercices prospectifs dans des exercices de long terme”, December 2016.
[36] Quentin Gemine, University of Liège, “Active Network Management for Electrical Distribution Systems”, November 2016.
[35] Sebastien Mathieu, University of Liège, “Flexibility services in the electrical system”, March 2016.
[34] Amaury Johnen, University of Liège, “Indirect quadrangular mesh generation and validation of curved finite elements”, March 2016.
[33] Azary Abboud, Centrale-Supelec, “Distributed Energy Management in Power Systems”, January 2015.
[32] Hengshuai Yao, University of Alberta, “Model-based reinforcement learning with state and action abstractions”, December 2015
[31] Olivier Beaude, Centrale-Supelec, “Modélisation et optimisation de l’interaction entre véhicules électriques et réseaux d’électricité : Apport de la théorie des jeux”, November 2015.
[30] Nicolas Galichet, LRI, Université de Paris-Sud, “Contributions to multi-armed bandits: risk-awareness and sub-sampling for linear contextual bandits”, September 2015.
[29] Huu-Minh Nguyen, Université of Liège, “Real-time monitoring and dynamic line rating forecast of overhead power lines using a vibration sensor”, July 2015.
[28] Petros Aristidou, Université of Liège, “Time-domain simulation of large electric power systems using domain-decomposition and parallel processing methods”, June 2015.
[27] Mohamadreza Baradar, KTH, “On the efficiency and accuracy of simulation methods for optimal power system operation”, June 2015.
[26] Yujun He, Centrale-Supelec, “Contribution au réglage de la tension sur un réseau HTA avec producteurs. Apport de la flexibilité de la demande”, February 2015.
[25] Ivo Grondman, TU Delft, “Online Model Learning Algorithms for Actor-Critic Control”, February 2015.
[24] Jérémie Decock, INRIA-Saclay, “L’hybridation de méthodes d’optimisation dynamiques”, November 2014.
[23] Sophie Penning, University of Liège, “Tight Glycaemic Control Model-based methods to answer critical questions about this controversial therapy“, October 2014.
[22] Thomas Prelle, EDF-Ecole Nationale Supérieure des Mines de Nantes, “Gestion optimisée d’un modèle d’agrégation de flexibilités diffuses“, September 2014.
[21] Gennaro Esposito, UPC Barcelona, “Explorations of generalization methods using kernel-based policy iteration in reinforcement learning”, June 2014.
[20] Wang Da, University of Liège, “Distributed MPC of wide-area electromechanical oscillations of large-scale power systems”, March 2014.
[19] Alexander Hans, Technischen Universität Ilmenau, “Advancing the applicability of reinforcement learning to autonomous control”, March 2014.
[18] Djalel Benbouzid, Laboratoire de l’Accélérateur Linéaire de l’Université Paris-Saclay (Paris-Sud XI), "Sequential prediction for budgeted learning. Application to trigger design", February 2014.
[17] Gabriel Dulac-Arnold, Université Pierre et Marie Curie, "A general sequential model for constrained classification", February 2014.
[16] Pierre Henneaux, ULB, “A two-level probabilistic risk assessment of cascading failures leading to blackout in transmission power systems”, September 2013.
[15] Haitham Bou Hamar, Maastricht University, “Automated transfer for reinforcement learning”, June 2013.

[14] Cyril Vuillecard, Mines ParisTech “Méthodes de construction d’une offre d’effacement électrique basée sur les technologies gaz naturel actuelles et à venir", March 2013.
[13] Cosmin Paduraru, McGill University, “Off-policy evaluation in Markov Decision Processes”, February 2013.
[12] Jean-François Hren, INRIA-Lille, "Planification optimiste pour systèmes déterministes", June 2012.
[11] Wassim Jouini, SUPELEC, "Contribution to learning and decision making under uncertainty for cognitive radio", June 2012.
[10] Matthew Robards, Australian National University, “Online learning algorithms for reinforcement learning with function approximation”, February 2012,
[9] Fabien Teytaud, INRIA-Saclay, “Introduction of statistics in optimization”, November 2011.
[8] Dirk Fey, University of Liège, "Parameter identification for biological models", April 2011
[7] Bertrand Cornelusse, ULg, "Supervised Learning for Sequential and Uncertain Decision Making Problems, Application to Short-Term Electric Power Generation Scheduling", December 2010.
[6] Philippe Rolet, INRIA-Saclay, "Elements for learning and optimizing expensive functions", December 2010
[5] Sarah Philippi, Télécom ParisTech, "Stratégies optimistes en apprentissage par renforcement", November 2010.
[4] Julien Perez, LRI Paris-Sud "Apprentissage par renforcement pour l'ordonnancement des tâches dans les grilles de calcul", September 2010.
[3] Mazhar Ezzeddine, SUPELEC, "Etude et coordination de protections dans les réseaux de distribution mixtes aériens et souterrains", September 2010.
[2] Marie José Mhawej, Ecole Centrale de Nantes, "Modélisation et commande de l'infection par le VIH : Aide au diagnostic et à la décision des traitements", September 2009.
[1] Lucian Busoniu, TU Delft, "Reinforcement learning in continuous state and action Spaces", January 2009.

Participation to EU research projects

[6] “Showcasing Hydrokinetic energy Innovations for Northwest European Energy Sovereignty”. Acronym SHINES. Project ID: NWE0400547
[5] “Generally Accepted Reliability Principle with Uncertainty modelling and through probabilistic Risk assessment” Acronym: GARPUR.
[4] “Resilience and Survivability for Future Networking: Framework, Mechanisms, and Experimental Evaluation”. Acronym: RESUMET. Contract Number: FP7 – 224619.
[3] “Simulation and state estimation of smart electricity transmission networks”. Acronym: PEGASE. Project Reference: 211407.
[2] “EXperimentation of a Monitoring and control system for managing vulnerabilities of the European INfrastructure for Electric power exchange”. Acronym: EXaMINE. Project Reference: IST-00-3-1A.
[1] “Open market access and security assessment system (dynamic stability of the electrical networks)”. Acronym: OMASES. Project Reference: ENK6-CT-2000-00064.

Selected talks

[319] “*The clean-tech revolution led by China. And why the latest Chinese tech moves may change everything in the energy sector, forever*”, European Automotive Dealer Summit, Belgium, December 2025.

[318] "*Energie : L'avenir des infrastructures gazières et électriques"*, Meeting of the boards of Publi-T and NextGrid Holding, Zeebrugge, Belgium, November 2025.
[317] "*Quand la recherche et l'innovation relèvent les nouveaux défis du monde de l'énergie",* Les Grandes Conférences de l'ULiège à Verviers, Verviers, Belgium, November 2025.
[316] "*Electricity retail contracts for the energy transition*", HEC-Liège, Liège, Belgium.
[315] "*Véhicules électriques : stop ou encore ?*", Parlement bruxellois, Brussels, Belgium, June 2025.
[314] "*The world of energy: problems, but always with solutions*", Engie Energy Luncheons, Brussels, Belgium, May 2025.
[313] "*Le monde de l'énergie : des problèmes, mais toujours des solutions*", Talk given at an eveng organized by the company PhoenixContact. Namur, Belgium, May 2025.
[312] "*Remote Renewable Energy Hub: a concept for improving energy security*", Talk given at the Walloon Parliament in the context of a working session on decarbonization between the Walloon Parliament (Belgium) and the Parliament of North Rhine-Westphalia (Germany), Namur, Belgium, March 2025.
[311] "*The four-layer decision-making problem for power system operation: How can AI help?", Conférence organisée par Les Amis de l'Université de Liège,* Liège, Belgium, February 2025.
[310] "*Landmark Events in the Energy Sector: Understanding their Effects on International Politics",* Conférence au Fifty-One Club de Braine, Belgium, November 2024.
[309] "*Landmark Events in the Energy Sector: Understanding their Effects on International Politics",* Salon Batireno / Energie & Habitat, Namur, Belgium, October 2024.
[308] "*Landmark Events in the Energy Sector: Understanding their Effects on International Politics",* Conseil Administration RESA, Liège, Belgium, October 2024.
[307] "*The four-layer decision-making problem for power system operation: How can AI help?", Elia's Annual Academic Board Event*, Brussels, Belgium, October 2024.
[306] "*LLMs: generating innovative and effective collaborations in AI*", NRB AI &c Data Xperience, Wanze, Belgium, September 2024.
[305] "*Mix Électrique Renouvelable + Nucléaire : 10 Actions pour la Réussite*", Club des Entreprises de Herve, Belgium, May 2024.
[304] "*Landmark Events in the Energy Sector: Understanding their Effects on International Politics",* Rotary Club Liège Cité Ardente, Liège, Belgium, September 2024.
[303] "*The four-layer decision-making problem for power system operation: How can AI help?",* ECML-PKDD, Workshop on Machine Learning for Sustainable Power Systems (ML4SPS), Vilnius, Lithuania, September 2024.
[302] "*Reinforcement learning for electrical markets and the energy transition",* On-line talk on the Application of AI and Robotics to Energy Systems, May 2024.
[301] "*Mix Électrique Renouvelable + Nucléaire : 10 Actions pour la Réussite*", SolarExpo, Marche-En-Famenne, Belgium, May 2024.
[300] "*Modern aviation: Taking off towards a new carbon-neutral technological era*", Orizio event: A Century of Belgian Aviation, Brussels, Brussels, Belgium, March 2024.
[299] "*Remote renewable energy hubs (v2)*", Les Grandes Conférences de l'ULiège à Verviers, Verviers, Belgique, March 2024.
[298] "*Rethinking electricity retail contracts for leveraging flexibility*", Workshop On Electrical Load Flexibility in retail by KBVE-SRBE, Brussels, Belgium, November 2023.
[297] "*Harvesting wind energy in Greenland and exporting it as electricity or energy-rich molecules",* Agoria & Sirris: Nocturne Nordics & Baltics. Antwerp, Belgium, December 2023.
[296] "*Harvesting wind energy in Greenland and exporting it as electricity or energy-rich molecules",* Conference organized by the FABI. Brussels, Belgium, November 2023.

[295] "*Generation 2 Platforms for Retailers: an important tool for integrating electric vehicles into our energy systems*", KBVE SRBE - E mobility seminar. Brussels, Belgium, October 2023.
[294] "*Remote renewable energy hubs (v2)*", CE+T Partner Forum 2023, Liège, Belgium, September 2023.
[293] "*Remote renewable energy hubs (v2)*", DTU, Copenhague, Denmark, September 2023.
[292] "*Crise énergétique : et l'après (v2) ?* ", Club Royal des Officiers du Régiment des Guides, Waterloo, Belgium, June 2023.
[291] "*Crise énergétique : et l'après (v2) ?* ", Réunion des directeurs généraux des communes de la province de Liège, Liège, Belgium, June 2023.
[290] "*Remote renewable energy hubs*", TotalEnergies, Paris, May 2023.
[289] "*Reinforcement learning for electrical markets and the energy transition",* Soirée de l'IA, Centrale-Supelec, Paris, France, April 2023.
[288] "*Patrimoine et transition énergétique",* Commission royale des Monuments, Sites et Fouilles (CRMSF), Liège, Belgium, March 2023.
[287] "*Crise énergétique : et l'après ? ",* Maison de la Laïcité de Jupille-Wandre, Jupille, Belgium, February 2023.
[286] "*Crise énergétique : et l'après ? ",* Lions Club Liège Sart-Tilman, Liège, Belgium, February 2023.
[285] "*Contexte d'une crise annoncée. Quelles perspectives pour l'Europe, la Belgique et ses régions ? Quelles alternatives pour les entreprises et les citoyens ?",* Journée d'études FERMABEL, Nivelles, Belgium, January 2023.
[284] "*Nuclear: the dreaming reality",* ITP Court-Saint-Etienne, Belgium, December 2022.
[283] *"Extreme engineering for fighting climate change and the Katabata project",* Awex, Liège, Belgium October 2022.
[282] *"Extreme engineering for fighting climate change and the Katabata project",* Eoly Energy, Nivelles, Belgium October 2022.
[281] "*Reinforcement learning for electrical markets and the energy transition",* TotalEnergies, Meet the experts, Paris, France, June 2022.
[280] "*Active network management schemes to facilitate the integration of renewables and new loads into distribution networks",* SRBE Study Day: Power Network Digitalization Impacts on Protection, Automation and Control, Beersel, Belgium, June 2022.
[279] *"Extreme engineering for fighting climate change and the Katabata project",* RotaryClub, Liège, April 2022.
[278] "*Extreme engineering for fighting climate change and the Katabata project",* RotaryClub, Liège, April 2022.
[277] "*Politique énergétique, crise et consommateurs : quelques éléments importants",* Table Ronde "Spéciale Energie", Institut Gramme, May 2022.
[276] "*Extreme engineering for fighting climate change and the Katabata project",* Club B19, Liège, April 2022.
[275] "*Extreme engineering for fighting climate change and the Katabata project",* Société littéraire de Liège. Liège, April 2022.
[274] "*Nuclear: the dreaming reality",* Centre Culture de Beaufays, Belgium, February 2022.
[273] "*Reinforcement learning for electrical markets and the energy transition",* Hi-Paris, Paris, France, January 2022.
[272] "*Reinforcement learning for electrical markets and the energy transition",* Institut Polytechnique Paris, Paris, France, November 2021.
[271] "*Reinforcement learning for electrical markets and the energy transition",* AI Conférence, Institut Pointcarré, Paris, France, November 2021.

[270] "*Competition models for the electrical industry and electrical markets",* The Haulogy Academy, October 2021.
[269] "*Nuclear: the dreaming reality",* NSI, Liège, Belgium, September 2021.
[268] "*Communauté d'Energie Renouvelable (CER) : un bref regard sur l'état d'avancement la législation*", Atelier sur les micro-réseaux et les communautés d'énergie renouvelable de la Province de Liège. March 2021.
[267] "*Extreme engineering for fighting climate change and the Katabata project",* Café pol': écologie et mondialisation du Mouvement Libéral Étudiant. March 2021.
[266] "*Harvesting wind energy in Greenland: a huge step towards the building a global electrical grid".* Stanford Decarbonizing the Grid Workshop: The role of grid interconnection. March 2021.
[265] "*Eléments pour une vision techno-optimiste de l'écologie".* HEC Liège Advisory, Quatre regards neufs sur l'écologie, March 2021.
[264] "*AI for energy: a bright and uncertain future ahead",* AI4ENERGY – kickoff meeting. November 2020.
[263] "*Extreme engineering for fighting climate change and the Katabata project",* Maison de la Presse, Liège, Belgium, October 2020. Conference given with Michael Fonder and Xavier Fettweis.
[262] "*Extreme engineering for fighting climate change",* Assemblée générale de la Conférence Nationale des Cadres, Conference given through Teams, October 2020.
[261] "*Energy: the clash of nations*", UDA, Louvain-La-Neuve, Belgium, March 2020.
[260] "*Extreme engineering for ecology*", Abbaye de Stavelot, Belgium, March 2020.
[259] "*Extreme engineering for ecology*", Centre Culturel de Welkenraedt, Belgium, March 2020.
[258] "*Global Grid and Power to X for fighting climate change*", Commission de l'Energie, de l'Environnement et du Climat de la Chambre des représentants, Brussels Belgium, March 2020.
[257] "*Nuclear: the dreaming reality",* Belgian Nuclear Society, Brussels, Belgium, February 2020.
[256] "*Extreme engineering for ecology*", Lions Club Wanze, Belgium, February 2020.
[255] "*Nuclear: the dreaming reality",* Espace universitaire de Liège, Liège, Belgium, February 2020.
[254] "*Global Grid and Power to X for fighting climate change*", Engie, Brussels, Belgium, February 2020.
[253] "*Energy: the clash of nations*", Commune de Montzen, Montzen, Belgium, January 2020.
[252] "*International multi-sector coupling for the energy transition in Belgium*", Febeliec Energy Forum, Brussels, Belgium, January 2020.
[251] "*Extreme engineering for ecology",* Semaine des sciences amusantes, IPES de Wavre, Wavre, Belgium, January 2020.
[250] "*Big infrastructures for fighting climate change",* IPFA/European Investment Bank, Brussels, Belgium, January 2020.
[249] "*Uber-like Models for the Electrical Industry*", Rotary Namur Citadelle, Namur, Belgium, January 2020.
[248] "*Energy: the clash of nations*", Commune de Dalhem, Dalhem, January 2020.
[247] "*Energy: the clash of nations*", Forum des Savoirs, Liège, December 2019.
[246] "*Energy: the clash of nations*", Fédération wallonne de l'agriculture, Gembloux, Belgium, December 2019.
[245] "*Uber-like Models for the Electrical Industry*", Friends Of Sustainable Grids (FOSG), Brussels, Belgium, November 2019.
[244] "*Uber-like Models for the Electrical Industry*", Febeliec, Brussels, Belgium, November 2019.
[243] "*Eléments pour une vision techno-enthousiasme de l'écologie*", Jeunes MR de la Région des Sources (Spa, Theux, Jalhay), Verviers, November 2019.
[242] "*Uber-like Models for the Electrical Industry*", ING Event: Are you ready for the energy transition?, Brussels, Belgium, November 2019.

[241] "*Uber-like Models for the Electrical Industry*", Formation GAZELCO, La Roche-en-Ardenne, November 2019.
[240] "*The GREDOR project. Redesigning the decision chain for managing distribution networks*", Loria, Nancy, France, November 2019.
[239] "*Nuclear: the dreaming reality*", Collège Belgique, Brussels, Belgium, November 2019.
[238] "*Eléments pour une vision techno-enthousiasme de l'écologie*", Ecolo J, Brussels, October 2019.
[237] "*Uber-like Models for the Electrical Industry*", Liège Créative, Liège, Belgium, October 2019.
[236] "*Energy: the clash of nations*", Intervention dans le cours de politique énergétique européenne de l'ULiège, Liège, Belgium, October 2019.
[235] "*Eléments pour une vision techno-enthousiasme de l'écologie*", Conférence transitions énergétiques et développement durable. Quelles voies pour nos sociétés ?, ULB, Brussels, October 2019.
[234] "*Eléments pour une vision techno-enthousiasme de l'écologie*", Afterworks de l'AILg et de la FABI sur la transition énergétique, Liège, September 2019.
[233] "*Energy: the clash of nations*", Leçon inaugurale pour la Haute Ecole de la Province de Namur, Namur, Belgium, September 2019.
[232] "*Eléments pour une vision techno-enthousiasme de l'écologie*", Journée d'étude des parlementaires fédéraux du MR, Brussels, September 2019.
[231] "*Energy: the clash of nations*", Association Chrétienne des Institutions Sociales et de santé, Namur, Belgium, June 2019.
[230] "*Round Table No 3. Industrial Solutions for Active Network Management*", CIRED 2019, Madrid, Spain, June 2019.
[229] "*Reinforcement Learning in Power Systems*", Tutorial on Artificial Intelligence in electricity distribution systems, CIRED 2019, Madrid, Spain, June 2019.
[228] "*Uber-like Models for the Electrical Industry*", Bank Petercam-Degroof, Luxembourg, May 2019.
[227] "*The rise of Artificial Intelligence (AI)",* CESE Wallonie, Liège, Belgium, May 2019.
[226] "*Eléments pour une vision techno-enthousiasme de l'écologie*", Les enjeux climatiques & énergétiques - Conférence/Débat, Liège, May 2019
[225] "*Energy: the clash of nations*", Students for Climate, Liège, Belgium, April 2019.
[224] "*Harvesting Wind Energy in Greenland: a project for Europe and a huge step towards the building a global electrical grid*", Friends of Sustainable Grids, Brussels, Belgium, March 2019.
[223] "*Energy: the clash of nations*", Conseil Provincial de Liège, Ostende, Belgium, March 2019.
[222] "*Uber-like Models for the Electrical Industry*", EDF-Luminus Business Event, Hippodrome de Wallonie, Mons, Belgium March 2019.
[221] "*The Global Grid", Fondation Arenberg, Sénat de Belgique, March 2019.*
[220] "*Harnessing the Potential of Power-to-Gas Technologies. Insights from a preliminary analysis focused on Belgium*", Fluxys Forum, Bruxelles, March 2019.
[219] "*Uber-like Models for the Electrical Industry*", Journée d'études de RESA, Liège, Januray 2019.
[218] "*Energy: the clash of nations*", Institute Saint-Laurent, Liège, Belgique, January 2019.
[217] "*Artificial Intelligence and business disruption*", Asssociation des entrepreneurs de Jalhay, Jalhay, Belgique, January 2019.
[216] "*Reinforcement learning, energy systems and deep neural nets",* PGMO Days, Paris, France, November 2018.
[215] "*Reinforcement learning, energy systems and deep neural nets",* Energy-Open 2018, Eindhoven, The Netherlands, November 2018.
[214] "*Energy: the clash of nations*", Maison de l'environnement, Néchin, Belgique, June 2018.

[213] "*Energy: the clash of nations*", Leçon inaugurale pour la rentrée académique de la Haute Ecole Robert Schuman, Arlon, Belgium, June 2018.
[212] "*Uber-like Models for the Electrical Industry*", Namur Institute for Complex Systems, Namur, Belgium, September 2018.
[211] "*Reinforcement leaning for data-driven optimisation*", EES-UETP Course on Advanced Data Analytics for Energy Systems. Porto, Portugal, September 2018.
[210] "*Energy: the clash of nations*", Groupe politique MR, Bertogne, Belgium, August 2018.
[209] "*Energy: the clash of nations*", Formation en gestion énergétique 2018, La production d'électricité en entrerprises, Virton, Belgium, June 2018.
[208] "*Electricity retailing in Europe: remarkable events (with a special focus on Belgium)*", Business event sur l'ECONOMIE CIRCULAIRE, Comment créer de la valeur, réduire ses coûts et trouver des financements, ULiège, Interface entreprises, Belgium, June 2018
[207] "*Uber-like Models for the Electrical Industry*", Maison Rurale de Nassogne, Nassogne, Belgique, May 2018.
[206] "*The GREDOR project. Redesigning the decision chain for managing distribution networks*",Young Researchers Symposium, ULB, Brussels, May 2018.
[205] "*Energy: the clash of nations*", Maison des Associations, Wellin, Belgium, May 2018.
[204] "*Reinforcement learning: a generic tool for solving sequential decision-making problems for electrical systems",* Journée d'étude de la SRBE sur "L'intelligence artificielle au sein du système électrique: Ses applications, potentialités et dangers", Brussels, Belgium, May 2018.
[203] "*Energy: the clash of nations*", GreenMind University, Brussels, Belgium, May 2018.
[202] "*Energy: the clash of nations*", Conférence Energie-Climat, University of Liège, Belgium, May 2018.
[201] "*Projet de décret « GRD »: quelques remarques du Prof. Damien ERNST*", Parlement wallon, Commission énergie, Belgium, April 2018.
[200] "*Energy: the clash of nations*", Groupe politique "Pour Waremme", Waremme, Belgium, April 2018.
[199] "*The Green Grid Network and Trading Renewable Energy*", Academics for development, Louvain-La-Neuve, Belgium, April 2018.
[198] "*Uber-like Models for the Electrical Industry"*, Meuse Condroz ASBL, Tihange, Belgium, March 2018. Degroof Petercam Business Day, Bayard Castel, Éghezée, Belgium, March 2018.
[197] "*Autonomous vehicles and new business models for the distribution of electricity*", Soirée sur L'avenir de Volvo, la mobilité de demain, technologie..., Liège, Belgium, March 2018.
[196] "*Uber-like Models for the Electrical Industry"*, Degroof Petercam Business Day, Bayard Castel, Éghezée, Belgium, March 2018.
[195] "*The rise of Artificial Intelligence (AI)*", Collège Saint-Joseph de Welkenraedt, Belgium, March 2018.
[194] "*L'intelligence artificielle, risque ou chance pour l'Homme*", Cathédrale Saint Paul de Liège, Liège, Belgium, March 2018.
[193] "*Energy: the clash of nations*", Lions Club, Liège, Belgium, March 2018.
[192] "*Energy: the clash of nations*", Université du Temps Libre d'Arlon, Arlon, Belgium, January 2018.
[191] "*Artificial intelligence and business disruption*", CMI International Technology Meeting, Liège, Belgium, January 2018.
[190] "*Energy: the clash of nations*", Rotary Namur Citadelle, Namur, Belgium, January 2018.
[189] "*Uber-like Models for the Electrical Industry"*, Conférence avec la ministre de l'énergie MC Marghem, Brussels, Belgium, November 2017.
[188] "*The GREDOR project. Redesigning the decision chain for managing distribution networks*", Séminaire Smart Grids, Technifutur, Liège, Belgium, November 2017.
[187] "*Energy: the clash of nations*", Université du 3ème âge, Jupille, November 2017.

[186] "*Energy: the clash of nations*", Rotary LNE, Liège, Belgium, November 2017.
[185] "*Uber-like Models for the Electrical Industry*", Conférence "L'Energie : Une question de transitions ?" Brussels, Belgium, November 2017.
[184] "*Uber-like Models for the Electrical Industry*", AGC Glass Europe, Charleroi, Belgium, November 2017.
[183] "*Aire autoroutière de Hondelange: combiner le développement durable et l'opportunité économique*", Journée d'étude de la Sofico, Jodoigne, Belgium, November 2017.
[182] "*Uber-like Models for the Electrical Industry*", Belgian Solar Network, Brussels, Belgium, November 2017.
[181] "*The rise of Artificial Intelligence (AI)*", Conférence ASBL La Mézon, Huy, Belgium, November 2017.
[180] "*Uber-like Models for the Electrical Industry*", Conférence de sensibilisation au PV en Hesbaye-Condroz, Hannut, Belgium, November 2017.
[179] "*Time to make a choice between a fully liberal or fully regulated model for the electrical industry*", SRBE-KBVE: Soirée de conférence: Regards croisés sur la transition énergétique, Louvain-la-Neuve, Belgium, November 2017.
[178] "*Electrification and DRC*", Colloque "Enjeux électriques en République Démocratique du Congo Liège, Belgium, November 2017.
[177] "*Energy: the clash of nations*", Maison de la Laïcité, Wandre, Belgium, October 2017.
[176] "*Uber-like Models for the Electrical Industry*", Colloque "Conflits à l'ère du numérique", Brussels, Belgium, October 2017.
[175] "*Uber-like Models for the Electrical Industry*", L'énergie et les data, Café Numérique Liège, Liège, Belgium, October 2017.
[174] "*Uber-like Models for the Electrical Industry*", Cluster Tweed, Louvain-La-Neuve, Belgium, October 2017.
[173] "*The rise of Artificial Intelligence (AI)*", ARHS, Luxembroug, October 2017.
[172] "*Energy: the clash of nations*", Alliance française de Belgique, Bruxelles, September 2017.
[171] "*The GREDOR project. Redesigning the decision chain for managing distribution networks*", Facebook AI Research, Paris, France, September 2017.
[170] "*The GREDOR project. Redesigning the decision chain for managing distribution networks*", Data Science Summer School, Ecole Polytechnique, Paris, France, September 2015.
[169] "*Uber-like Models for the Electrical Industry*", Lampiris Coop, Liège, Belgium June 2017.
[168] "*Uber-like Models for the Electrical Industry*", Event - Mobilité Electrique, Campus Francorchamps ASBL, Belgium, June 2017.
[167] "*Energy: the clash of nations*", Soirée de collecte de fonds du Rotary Club Liège-Chaudfontaine, Liège, Belgium, May 2017.
[166] "*Uber-like Models for the Electrical Industry*", Gembloux Agro-Bio Tech, Gembloux, Belgium, April 2017.
[165] "*Uber-like Models for the Electrical Industry*", Conférence & Walking Diner // Mobilité et Révolution Energétique, UStart Liège, Liège, Belgium, April 2017.
[164] "*The rise of Artificial Intelligence (AI)*", Conférence groupement de médecins, Eupen, Belgium, April 2017.
[163] "*Uber-like Models for the Electrical Industry*", University of Mons, Mons, March 2017.
[162] "*Energy: the clash of nations*", College Belgique, Namur, March 2017
[161] "*Uber-like Models for the Electrical Industry*", Smart City Institute, University of Liège, Liège, March 2017.
[160] "*Uber-like Models for the Electrical Industry*", Réinventons Liège, Liège, March 2017.

[159] "*COP22 and Electrical Systems*", Printemps des sciences, University of Liège, Liège, Belgium, March 2017.
[158] "*COP22 and Electrical Systems*", Rotary de Liège-Chaudfontaine, Belgium, February 2017.
[157] "*The GREDOR project. Redesigning the decision chain for managing distribution networks*", Future Electric Power Systems and the Energy Transition, Champéry, Switzerland, February 2017.
[156] "*Uber-like Models for the Electrical Industry*", Coworking Namur, Belgium, February 2017.
[155] "*Energy: a worrisome future ahead*", Royal International Club - Château Sainte-Anne, Brussels, Belgium, January 2017.
[154] "*Uber-like Models for the Electrical Industry*", Powerdale Event, Brussels, Belgium, January 2017.
[153] "*COP22 and Electrical Systems*", Au Pays de l'Attert ASBL, Attert, Belgium, December 2016.
[152] "*COP22 and Electrical Systems*", Société des transports intercommunaux de Bruxelles (STIB), Brussels, Belgium, December 2016.
[151] "*COP22 and Electrical Systems*", Formation Gazelco (FGTB énergie), Castel les Sorbiers, Heer-sur-Meuse, Belgium, December 2016.
[150] "*The rise of Artificial Intelligence (AI)*", Cycle de Grandes conférences ULg à Verviers, Verviers, Belgium, December 2016.
[149] "*COP22 and Electrical Systems*", Congrès du parti Défi sur l'Environnement, l'Energie et la Ruralité, Charleroi, Belgium, December 2016.
[148] "*COP22 and Electrical Systems*", Rotary de Visé, Visé, Belgium, November 2016.
[147] "*The GREDOR project. Redesigning the decision chain for managing distribution networks*", Workshop EU Incite Project, Energyville, Genk, Belgium, November 2016.
[146] "*COP22 and Electrical Systems*", Association des professeurs émérties et honoraires de l'Université de Liège (APEH), Château Colonster, Belgium, November 2016.
[145] "*The GREDOR project. Redesigning the decision chain for managing distribution networks*", Workshop on "Smart grids energy and big data analytics challenges, opportunities, and solutions: from distribution systems to pan-European system."
Luxembourg Institute of Science and Technology (LIST), Luxembourg, November 2016.
[144] "*The Green Grid Network and Trading Renewable Energy*", Climate Parliament, Green Grid Network Parliamentary Roundtable (side event of the COP22), Marrakech, Morocco, November 2016.
[143] "*The GREDOR project. Redesigning the decision chain for managing distribution networks*", ADVANTAGE Research meeting, Royal Society, London, UK, October 2016.
[142] "*The GREDOR project. Redesigning the decision chain for managing distribution networks*", Sommet wallon pour le climat, Mons, Belgium, October 2016.
[141] "*Analyse du projet de décret relatif à la méthodologie tarifaire applicable aux gestionnaires de réseaux de distribution de gaz et d'électricité*", Commission des pouvoirs locaux, du logement et de l'énergie, Parlement wallon, Namur, Belgium, September 2016.
[140] "*Energy, Grids and Microgrids*", Emissions Zéro, Namur, Belgique, October 2016.
[139] "*The Global Grid* ", Fête de la Science, RTE, Paris, France, October 2016.
[138] "*Batteries and disrupting business models for the energy sector* ", Journée d'étude "Stockage de l'électricité : réel bouleversement ?", Liège, Belgium, October 2016.
[137] "*La transition énergétique, l'affaire de tous*", Liège Créative, Liège, Belgium, October 2016.
[136] "*Energy, Grids and Microgrids*", Commission des pouvoirs locaux, du logement et de l'énergie, Parlement wallon, Namur, Belgium, September 2016.
[135] "*Energy, Grids and Microgrids*", Desco Expo, Kemzeke, Belgium, September 2016.
[134] "*Energy, Grids and Microgrids*", Université du Temps Libre, Andenne, Belgium, September 2016.

[133] "*The GREDOR project. Redesigning the decision chain for managing distribution networks*", International Workshop on Smart Micro-Grids for Autonomous Zero-Net-Energy Communities, Birmingham, UK, September 2016.
[132] "*Energy, Grids and Microgrids*", Suez group, Bruges, Belgium, September 2016.
[131] "*Energy, Grids and Microgrids*", 6èmes Assises des Energies renouvelables "Photovoltaïque", Moulin de Beez, Namur, Belgium, June 2016.
[130] "*Capacity mechanisms for improving security of supply: quick patches or thoughtfully rethinking the way electricity is traded?*" Conference on Capacity Remuneration Mechanisms, Brussels, Belgium, June 2016.
[129] "*Integration of renewable energy sources and demand-side management into distribution networks",* EES-UETP course on "Risk Management in Power Systems: from Theory to Practice", Porto, Portugal, June 2016.
[128] "*Energy, Grids and Microgrids*", Vlaamse Raad, Brussels, Belgium, June 2016.
[127] "*Energy, Grids and Microgrids*", Union Wallonne des Entreprises de Liège, Liège, Belgium, June 2016.
[126] "*The rise of AI*", Maison de la Laïcité, Amay, Belgium, June 2016
[125] "*Energy, Grids and Microgrids*", Midi Energie à Bruxelles Environnement, Brussels, Belgium, May 2016.
[124] "*Energy, Grids and Microgrids*", 3E, Brussels, Belgium, May 2016.
[123] "*Smart grids versus Microgrids*", Intermixt, Brussels, Belgium, May 2016.
[122] "*Smart grids versus Microgrids*", Région wallonne, Moulin de Beez, Namur, Belgium, May 2016.
[121] "*The rise of AI*", Royal International Club - Château Sainte-Anne, Brussels, Belgium, May 2016.
[120] "*The inevitable downfall of the Belgian electrical power industry?*", Internacia skoltismo en Esperanto – International Scouting in Esperanto, Wépion, Belgium, May 2016.
[119] "*COP21 and Electrical Systems*", Lycée Saint-Jacques, Liège, Belgium, April 2016.
[118] "*COP21 and Electrical Systems*", Conférence - Accord de Paris sur le climat: quels défis pour la Belgique?, Brussels, Belgium, April 2016.
[117] "*COP21 and Electrical Systems*", Régionale Ecolo du Brabant wallon, Mont-Saint-Guibert, Belgium, April 2016.
[116] "*The GREDOR project. Redesigning the decision chain for managing distribution networks*", INRIA-Lille, France, March 2016.
[115] "*TPCV versus gouvernement(s) et gestionnaires de réseaux: décodage*", Assemblée Générale Touche Pas à mes Certificats Verts, Marche-en-Famenne, Belgique, March 2016.
[114] "*The Global Grid for empowering renewable energy*", Energy Next! Congres, Dordrecht, The Netherlands, December 2015.
[113] "*The Global Grid for empowering renewable energy*", Climate Parliament Roundtable on Green Growth, Paris, France, December 2015.
[112] "The GREDOR project. Redesigning the decision chain for managing distribution networks", Storage workshop, Lille, France, November 2015.
[111] "*Global Grid(s) versus Microgrids*", ELIA Stakeholders' Days, Brussels, Belgium, November 2015.
[110] "L'énergie de demain", Lions Club Athus Lorraine, Pétange, Luxembourg, November 2015.
[109] "*The inevitable downfall of the Belgian electrical power industry?*" Innovation in Energy Management. Make Green Efficient!, Louvain-La-Neuve, Belgium, November 2015.
[108] "*Un réseau électrique mondial pour accélérer le développement des énergies renouvelables*", ETOPIA, Mons, Belgium, November 2015.
[107] "*Microgrids and their destructuring effects on the electrical industry*", Fall Days on Algorithms and Models for Real-Life Systems, Herten-Roermond, The Netherlands, November 2015.

[106] "*Smart meter: cette brique de base de notre (futur) système énergétique*", Parlement wallon – commission énergie, Namur, Belgium, November 2015.
[105] "*Microgrids and their destructuring effects on the electrical industry*", Journée d'étude AIM sur les micro-réseaux, Château Colonster, Liège, November 2015.
[104] "*The inevitable downfall of the Belgian electrical power industry?*" Journées parlementaires du CDH, Chateau d'Harzé, Belgium, September 2015.
[103] "*The inevitable downfall of the Belgian electrical power industry?*" Congrès de Professeurs de Sciences, Liège, Belgium, August 2015.
[102] "*An economic case for transnational and international transmission*", International Energy & Climate Forum, Lucerne, Switzerland, June 2015.
[101] "*Microgrids and renewable energy: the only hope of the Belgian electrical industry?*", Actualités 2015 du solaire photovoltaïque, du stockage énergétique et des réseaux intelligents, Namur, Belgium, June 2015.
[100] "*The Global Grid for Empowering Renewable Energy",* TEDx-Moonshot Edition, Liège, Belgium, May 2015.
[99] "*The inevitable downfall of the Belgian electrical power industry?*" SRBE-KBVE, Brussels, May 2015.
[98] "*The inevitable downfall of the Belgian electrical power industry?*" CSC Bâtiment - Industrie & Energie, Brussels, Belgium, April 2015.
[97] "*The inevitable downfall of the Belgian electrical power industry?*" Haute Ecole de la Province de Liège, Liège, Belgium, March 2015.
[96] "*Blackouts: des vérités qui dérangent*", Printemps des sciences, Haute Ecole Robert Schuman, Arlon, Belgium, March 2015.
[95] "*Plan de délestage: aller au-delà de l'iniquité et de l'insécurité*", Workshop Living Lab on Risk Management, ULG, Liège, Belgium, March 2015
[94] "*Blackouts: des vérités qui dérangent*", SUR'Cité asbl, Liège, Belgium, February 2015.
[93] "*Microgrids and their destructuring effects on the electrical industry*", INRIA Lille Nord Europe, France, January 2015.
[92] "*Blackouts: des vérités qui dérangent*", Brussels Business Club, Belgium, January 2015.
[91] "*The Global Grid*", Cercle Val Duchesse, Brussels, Belgium, January 2015.
[90] "*Microgrids and their destructuring effects on the electrical industry*", Center for Data Science, University of Paris-Saclay, Paris, France, January 2015.
[89] "*Microgrids and their destructuring effects on the electrical industry*", HEC-ULG, Liège, Belgium, January 2015.
[88] "Constitution et fonctionnement des réseaux", Carrefour énergie, Namur, Belgium, December 2014.
[87] "*Blackouts: des vérités qui dérangent*", MCC, Jodoigne, Belgium, December 2014.
[86] "*Blackouts: des vérités qui dérangent*", Commune de Sprimont, Sprimont, Belgium, November 2014.
[85] "*Blackouts: des vérités qui dérangent*", Les Tribunes de l'ULB, Brussels, Belgium, November 2014.
[84] "*Blackouts: des vérités qui dérangent*", University of Liège, Liège, Belgium, November 2014.
[83] "*Blackouts: des vérités qui dérangent*", Club Rotary Liège Nord Est, Liège, Belgium, October 2014.
[82] "*Batch mode reinforcement learning based on the synthesis of artificial trajectories*", MGill, Montreal, Canada, October 2014.
[81] "*Batch mode reinforcement learning based on the synthesis of artificial trajectories*", MGill, Montreal, Canada, October 2014.
[80] "*Microgrids and their destructuring effects on the electrical industry*", Ecole Polytechnique de Montréal (EPM), Montreal, Canada, October 2014.
[79] "*Understanding active network management in 30 minutes*", Ecole Polytechnique de Montreal (EPM), Montréal, Canada, October 2014.

[78] "*Understanding active network management in 30 minutes*", Entretiens Jacques Cartier, Montreal, October 2014.
[77] "*The Global Grid*", Next-GWiN, Rennes, France, October 2014.
[76] "*The Global Grid*", Rotary Club Liège, Liège, Belgium, September 2014.
[75] "*Microgrids and their destructuring effects on the electrical industry*", Scientitizenship and Energy, Archéoforum, Liège, Belgium, July 2014.
[74] "The Global Grid", Scientitizenship and Energy, Institut de Zoologie de l'Université de Liège, Liège, Belgium, July 2014.
[73] "*Solving the fluctuation problems in a land with 100% of renewable energy*", Scientitizenship and Energy, Cité Miroir, Liège, Belgium, July 2014.
[72] "*Microgrids and their destructuring effects on the electrical industry*", ELIA, Brussels, Belgium, June 2014.
[71] "*Microgrids and their destructuring effects on the electrical industry*", Café Numérique Liège, Belgium, May 2014.
[70] "*The Global Grid*", CESAME, UCL, Louvain La Neuve, Belgium, May 2014.
[69] "*Understanding active network management in 20 minutes*", DYSCO Study Day, UNamur, Namur, Belgique, May 2014.
[68] "*The Global Grid*", Liège Creative, Chateau Colonster, Liège, Belgique, May 2014.
[67] "*Microgrids and their destructuring effects on the electrical industry*", Electrabel, Brussels, Belgium, May 2014.
[66] "*Batch mode reinforcement learning based on the synthesis of artificial trajectories*", Xerox Research Center Europe, Grenoble, France, April 2014.
[65] "*GREDOR",* Workshop ULg – EDF R&D on Active Management Tools for Distribution System Operators, Montefiore Institute – ULG, March 2014
[64] "*The Global Grid*", Rotary Club Liège – rive droite, January 2014.
[63] "*GREDOR*", ABB Corporate Research Center – Switzerland, December 2013.
[62] "*Multi-terminal HVDC systems and ancillary services*", ABB Corporate Research Center – Switzerland, December 2013.
[61] "*Understanding active network management in 40 minutes*", ETH, Zürich, Switzerland, December 2013.
[60] "*The Global Grid",* Conseil Economique et Social de Wallonie, Liège, Belgium, December 2013.
[59] "*Multi-terminal HVDC systems and ancillary services*", Study day: Towards a HVDC European supergrid. A German-Belgian link with the ALEGrO project. Liège, Belgium, October 2013.
[58] "*GREDOR*", ATRIAS, Leuven, Belgium, September 2013.
[57] "Smart *conversion of residual heat into electricity: the electricity market point of view*", Restwarmterecuperatie - its voor uw bedrijf? ArcelorMittal-Gent, September 2013.
[56] "*Meta-learning of exploration-exploitation strategies in reinforcement learning*", University of Waterloo, Ontario, Canada, August 2013.
[55] "*Understanding active network management in 40 minutes*", University of Waterloo, Ontario, Canada, August 2013.
[54] "*Understanding active network management in 40 minutes*". DAI-Labor,TU Berlin, Berlin,Germany, July 2013.
[53] "*Meta-learning of exploration-exploitation strategies in reinforcement learning*", CWI (Centrum voor Wiskunde en Informatica), Amsterdam, The Netherlands, July 2013.
[52] "*Understanding active network management in 40 minutes*", CWI (Centrum voor Wiskunde en Informatica), Amsterdam, The Netherlands, July 2013.

[51] "*Understanding active network management in 40 minutes*", CWAPE (Commission WAllone pour l'Electricité). June 2013.
[50] "*Understanding active network management in 40 minutes*", Systmod Research Unit, ULg, Belgium, May 2013.
[49] "*Understanding active network management in 30 minutes*", 9ème Rendez-Vous Annuel Du Solaire Photovoltaique, Namur, Belgium, April 2013.
[48] "*Meta-learning of exploration-exploitation strategies in reinforcement learning*", Gatsby Computational Neuroscience Unit, University College London, UK, April 2013.
[47] "*Smart operation of multi-terminal HVDC systems for providing ancillary services*", University of Luxembourg, Luxembourg, March 2013.
[46] "*Solving the fluctuation problems in a land with 100% of renewable energy*". Université Catholique de Louvain (UCL), Belgium, February 2013.
[45] "*Batch mode reinforcement learning based on the synthesis of artificial trajectories*", Princeton, USA, December 2012.
[44] "*Meta-learning of exploration-exploitation strategies in reinforcement learning*", Artificial Intelligence Group, Maastricht University, The Netherlands, September 2012.
[43] "*Multi-terminal HVDC and ancillary services*", Energy management forum, Tainan, Taiwan, May 2012
[42] "*Learning for exploration-exploitation in reinforcement learning*", Workshop on Time for Causality, Bristol, UK, April 2012.
[41] "*Learning for exploration-exploitation in reinforcement learning*", VITO, Belgium, April 2012.
[40] "*Machine Learning to the Rescue of Posturology: Towards Assisted Training*", IMEP, Namur, Belgique, January 2012.
[39] "*Learning for exploration-exploitation in RL. The dusk of the small formulas' reign",* SequeL, INRIA Lille-Nord Europe research center, November 2011.
[38] "*Beyond function approximators for batch mode reinforcement learning: rebuilding trajectories*", TAO Team, Laboratoire de Recherche en Informatique, Université de Paris Sud, France, December 2010.
[37] "*Beyond function approximators for batch mode reinforcement learning: rebuilding trajectories*", Workshop "Learning and Planning from Batch Time Series Data", NIPS 2010, Whistler, Canada.
[36] "*Model-free Monte Carlo-like policy evaluation*". Journées MAS 2010, August 31- September 3, 2010, Bordeaux, France.
[35] "*Consequence driven decomposition of large-scale power systems security analysis*". 2010 IREP Symposium - Bulk Power Systems Dynamics and Control - VIII, Buzios, Rio de Janeiro, Brazil, 1-6 August 2010.
[34] "*Learning about near-optimal policies from a sample of trajectories*", University of Rouen, France, March 2010.
[33] "*Learning about near-optimal policies from a sample of trajectories*", CESAME, UCL, Louvain La Neuve, Belgium, December 2009.
[32] "*What is the likely future of real-time transient stability?*", 2009 IEEE/PES Power Systems Conference and Exposition, March 15-18, 2009, Seattle, USA.
[31] "*Lower bounds in reinforcement learning: the intelligent agent dream is getting closer*", Control Group, TU Delft, The Netherlands, January 2009.
[30] "*Scalable process control*", Meeting TOTAL APC, Siège de Total à La Défense (Paris), France, June 2008 (talk given with Rodolphe Sepulchre).
[29] "*A reinforcement learning approach for designing artificial autonomous intelligent agents*", EPIT'08, Porquerolles, France, May 2008.

[28] "*Fitted Q iteration*", 3rd Bellairs Reinforcement learning workshop, Holetown (Barbados), April 2008.
[27] "*Clinical data based optimal STI strategies for HIV: a reinforcement learning approach*", INRIA Futurs Lille, France, July 2007.
[26] "*Clinical data based optimal STI strategies for HIV: a reinforcement learning approach*", SAMSI Workshop on Dynamic Treatment Regime, Durham, North Carolina, USA, June 2007.
[25] "*Computing near-optimal policies from trajectories by solving a sequence of standard supervised learning problems*", IRCCyN, Nantes, France, June 2006.
[24] "*Clinical data based optimal STI strategies for HIV: a reinforcement learning approach*", 45th IEEE Conference on Decision and Control, San Diego, USA, December 2006.
[23] "*Computing near-optimal policies from trajectories by solving a sequence of standard supervised learning problems*", Control Group, TU Delft, The Netherlands, November 2006.
[22] "*Computing near-optimal policies from trajectories by solving a sequence of standard supervised learning problems*", Neuroinformatics Group, Universität Osnabrück, Germany, August 2006.
[21] "*Computing near-optimal policies from trajectories by solving a sequence of standard supervised learning problems*", Benelux Meeting, Heeze, The Netherlands, March 2006.
[20] "*Clinical data based optimal STI strategies for HIV: a reinforcement learning approach*", Montefiore, University of Liège, Belgium, March 2006.
[19] "*Supervised learning based sequential decision making*", Manchester, United Kingdom, January 2006.
[18] "*Selecting concise sets of samples for a reinforcement learning agent*", CIRAS, Singapore, December 2005.
[17] "*Supervised learning based sequential decision making*", Optimization frameworks for industrial applications, Paris, France, October 2005
[16] "*Analysis and control of system dynamics driven by objective oriented agents. Application to power systems*", EDF, research center, Clamart, France, October 2005.
[15] "*Supervised learning based sequential decision making*", FNRS Machine Learning Day, UCL, Louvain-La-Neuve, Belgium, August 2005.
[14] "*Reinforcement learning in high-dimensional and/or continuous state spaces*", Dalle Molle Institute for Artificial Intelligence (IDSIA), Lugano Switzerland, September 2004.
[13] "*Market dynamics driven by the decision-making of power producers*", Bulk Power System Dynamics and Control - IV Managing Complexity in Power Systems: From Micro-Grids to Mega-Interconnections, Cortina D'Ampezzo, Italy, August 2004.
[12] "*Design of intelligent agents for power system control*", ABB research center, Baden, Switzerland, July 2004.
[11] "*Supervised learning based reinforcement learning. Application to power systems control*", ETH, Zürich Switzerland, January 2004.
[10] "*Supervised learning based reinforcement learning*", University of Massachussetts, Amherst, USA, December 2003.
[9] "*Iteratively extending time horizon reinforcement learning*", Carnegie Mellon University, Pittsburgh, USA, September 2003.
[8] "*Reinforcement learning in continuous state spaces*", CESAME, UCL, Louvain La Neuve, Belgium, October 2002.
[7] "*FACTS devices controlled by means of reinforcement learning algorithms*", 14th Power Systems Computation Conference (PSCC 2002), Sevilla, Spain, June 2002.
[6] "*Reinforcement learning in continuous state spaces*", Benelux Meeting, Veldhoven, The Netherlands, March 2002.

[5] "*Reinforcement learning applied to power system oscillations damping*", 40th IEEE Conference on Decision and Control, Orlando, USA, December 2001.
[4] "*Preventive and emergency transient stability control*", VII Symposium of Specialists in Electric Operational and Expansion Planning (SEPOPE 2000), Curitiba, Brasil, May 2000.
[3] "*Closed loop transient stability emergency control*", IEEE PES Winter Meeting, Singapore, January 2000.
[2] "*The SIME method as a tool for transient stability analysis and control*", KTH, Stockholm, Sweden, December 1999.
[1] "*Transient stability emergency control*", Virginia Polytechnic Institute, Virginia, USA, March 1999.