Vincent Leclère

Researcher Hab. at École des Ponts in Stochastic Optimization

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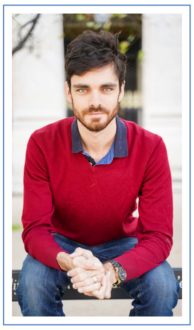

Publications

Preprint

2022 **Robust limit analysis theory for computing worst-case limit loads under uncertainties**, *J. Bleyer, V. Leclère*
arXiv preprint

2021 **Exact quantization of multistage stochastic linear problems**, *M. Forcier, S. Gaubert, V. Leclère*
arXiv preprint. Best student paper award at CMS-ECSO 2022.

Published work

2023 **Convergence of trajectory following dynamic programming algorithms for multistage stochastic problems without finite support assumptions**, *M. Forcier, V. Leclère*
Accepted in Journal of Convex Analysis.

2023 **Dual sddp for risk-averse multistage stochastic programs**, *B. Da Costa, V. Leclère*
Published in Operations Research Letters.

2022 **Generalized adaptive partition-based method for two- stage stochastic linear programs: Geometric oracle and analysis**, *M. Forcier, V. Leclère*
Published in Operations Research Letters. 2022 ORL Best paper award.

2020 **Mathematical programming for influence diagrams**, *A. Parmentier, V. Cohen, V. Leclère, G. Obozinski, J. Salmon*
Published in Informs Journal on Optimization.

2019 **Exact converging bounds for Stochastic Dual Dynamic Programming via Fenchel duality**, *V. Leclère, P. Carpentier, J-Ph. Chancelier, A. Lenoir, F. Pacaud*
Published in SIAM Journal on Optimization

2019 **Epiconvergence of relaxed stochastic optimization problems**, *V.Leclère*
Published in Operations Research Letters.

2018 **On risk averse competitive equilibrium Optimization**, *H. Gérard, V. Leclère, A. Philpott*
Published in Operations Research Letters.

2018 **Stochastic decomposition applied to large-scale hydro valleys management** , *P. Carpentier, J-Ph. Chancelier, F. Pacaud, V. Leclère*
Published in European Journal of Operation Research

2016 **Building up Time-Consistency for Risk Measures and Dynamic Optimization**, *M. De Lara, V.Leclère*
Published in European Journal of Operation Research.

2015 **On the convergence of decomposition methods for multi-stage stochastic convex programs**, *P. Girardeau, V. Leclère, A. Philpott*
Published in Mathematics of Operation Research.

2013 **Priority option: the value of being a leader**, *M. Grasselli, V. Leclère, M. Ludkovski*
Published in International Journal of Theoretical and Applied Finance.

Peer-reviewed proceedings

2018 **A stochastic multi-item lot-sizing problem with bounded number of setups**, *E. De Saint Germain, V. Leclère, F. Meunier*
ICORES 2017 Proceeding

2017 **Efficient Smoothed Concomitant Lasso Estimation for High Dimensional Regression**, *E. Ndiaye, O. Fercoq, A. Gramfort, V. Leclère, J. Salmon*
Published in J. Phys.: Conference Series.

Young researchers advising

PhD Student

2022-... **Vitor Luiz Pinto de Pina Fereira**, *In partnership with TotalEnergies*

2022-... **Zoé Fornier**, *In partnership with Metron Energy*

2019-2022 **Maël Forcier**, *Ministère de la transition écologique's funding*
In collaboration with Stéphane Gaubert, supervised by Jean-Philippe Chancelier

2015-2018 **Étienne de Saint Germain**, *In partnership with Argon Consulting*
In collaboration with Frédéric Meunier

Postdoctorate

2021-2023 **Carlos Moreno**, *Chair Supply chain of Tomorrow's funding*

2018-2019 **Regan Baucke**, *DIM Math'Innov's funding*
Supervised by Jean-Philippe Chancelier

Grants and industrial contracts

Current contracts

2022-2025 **Optimization of an isolated hybrid system (PI)**, *TotalEnergies*
Industrial contract funding for a PhD thesis aiming at optimizing the energy production plan of an isolated system with thermal production, renewable energies and energy storage.

2021-2024 **Optimization of a system coupling industrial production, renewable energy and energy storage (PI)**, *Metron Energy*
CIFRE funding for a PhD thesis aiming at optimizing the coupled production and energy procurment short-term plan of an industrial micro-grid.

2021-2023 **Mathematical model and solution methods for resilient and green supply chain design (PI)**, *Chair Supply Chain of Tomorrow*
Industrial contract with a consortium of companies, aiming at proposing a multi-objective model for supply chain design. Funding an 18 months post-doc position.

2021-2023 **Reverse logistic inventory routing (co-PI)**, *Renault*
Industrial contract tackling a split-delivery multi-item large scale inventory routing problem. Focus on the strategical problem to select regular routes at a discounted price.

2019-2023 **Two-scale optimization problems (PI)**, *Programme Gaspard Monge pour l'Optimisation et la recherche opérationnelle - EDF*

Past contracts

2018-2019 **Exact bounds for stochastic optimization (co-PI)**, *DIM-MathInnov*
Institutional funding covering a one-year post-doctorate position.

2015-2018 **Balancing cost and flexibility in supply chain (co-PI)**, *Argon Consulting*
CIFRE funding for a PhD thesis aiming at balancing cost and flexibility for tactical decisions (lot-sizing) and for strategical decision (sourcing strategy).

2016-2017 **Equilibrium and games in energy (PI)**, *Programme Gaspard Monge pour l'Optimisation et la recherche opérationnelle - EDF*

2015-2016 **Epi-splines for solar energy prevision (PI)**, *Programme Gaspard Monge pour l'Optimisation et la recherche opérationnelle - EDF*

2014-2015 **Robust Sketching for Structured Multi-Instance Optimization with Uncertainty**, *Programme Gaspard Monge pour l'Optimisation et la recherche opérationnelle - EDF*

2013-2016 **SunHydro Project**, Optimal management of an hydroelectric storage coupled with a renewable energy production unit

2012-2013 **Décomposition/Coordination en commande optimale stochastique - StochDec**, Programme Gaspard Monge pour l'Optimisation et la recherche opérationnelle - EDF

2012-2014 **Optimization Methods for Smart Grid**, report for the Conseil Français de l'Énergie, french member of the World Energy Council

Knowledge transfer (Industrial courses)

2022 **Stochastic Optimization**, *RTE*, (6h)

2021 **Multiobjective Optimization**, *Chair Supply Chain of Tomorrow*, (3h)

2021 **Stochastic Optimization**, *Metron Energy*, (6h)

2020-2022 **Stochastic and Robust Optimization**, *Air France*, (8h)

2020 **Stochastic Optimization**, *Total Energies*, (6h)

2019 **Stochastic Optimization**, *CNRS Interface Winter School*, CIRM Luminy, (15h)

2016 **Stochastic Optimization**, *SESO Winter School*, ENPC, (6h)

2015 **Stochastic and Robust Optimization**, *IRT System'X*, (6h)

2013 **Stochastic Optimization**, *XM-Columbia*, (6h)

2012 **Progressive Hedging**, *practical session of 2-week summer school*, (8h)

Teaching

Current teachings

2018 - 2023 **Stochastic Optimization**, *5th year course*, University Paris-Saclay, (15h)

2020 - 2023 **Convex Optimization**, *4th year course*, ENPC, (30h)

2015 - 2023 **Operation Research and Transportation**, *3rd year course*, ENPC, (15h)

Past teachings

2017 - 2020 **Data Driven Robust Optimization**, *5th year course*, ENPC, (15h)

2015 - 2020 **Optimization and Energy**, *3rd year course*, ENPC, (15h)

2017 - 2020 **Finding an optimal board game strategy**, *3rd year project*, ENPC, (10h)

2010 - 2020 **Optimization and control**, *4th year course*, ENPC, (10h)

2015 - 2018 **Introduction to Optimization**, *3rd year course*, ENPC, (12h)

2013 - 2017 **Stochastic Optimization**, *5th year course*, MPRO, (9h)

2011 - 2014 **Differentiable optimization**, *4th year course*, ENSTA, (24h)

2011 - 2013 **Introduction to probability**, *3rd year course*, ENSTA, (24h)

2011 - 2013 **Le risque dans tous ses états**, *thematic week*, ENPC, (10h)

Education

2023 **Habilitation in Mathematics (HDR)**, *UGE*, Champs sur Marne, France
Exact methods and applications of optimization under uncertainty.

2014 - 2015 **Post-Doctorate in Operation Reseach**, *Berkeley*, California
Robust Sketching with Laurent El Ghaoui.

2011 - 2014 **PhD. in Stochastic Optimization**, *ENPC*, France
Contributions to Decomposition Method in Stochastic Optimization. With Optimisation & Systèmes team of CERMICS, with M. De Lara and P. Carpentier as advisors.

2009 - 2011 **Master of Optimization and Game Theory**, *UPMC*, France, with very high honors
Specialization in Stochastic Optimization.

2009 - 2011 **Master in Financial Mathematics**, *UMLV*, France, with very high honors
Stochastic processes and numerical methods.

2006 - 2010 **Ingénieur Polytechnicien Program**, *École Polytechnique*
Applied math specialization.