

# Bernardo PAGNONCELLI

Professeur

Académie : Digitalisation

Centre de recherche : SKEMA Centre for Analytics and Management Science

Campus : Lille

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## Intérêts de recherche

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Recherche opérationnel, Optimisation, Mesures de risque, Programation dynamique, Optimisation stochastique, Simulation

## Domaines d'enseignement

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Apprentissage automatique, Gestion des opérations, Optimisation de portefeuille, Recherche opérationnel, Science des données

## Formation

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- 2009 Ph.D. in Mathematics, Pontifical Catholic University of Rio de Janeiro, Brésil
- 2004 MSc in Applied Mathematics, Pontifical Catholic University of Rio de Janeiro, Brésil
- 2002 Bachelor of Science, Sciences, Mathématiques, Pontifical Catholic University of Rio de Janeiro, Brésil

## Expérience Professionnelle

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### Positions académiques principales

- Depuis 2024 Professeur, SKEMA Business School, France
- 2021 - 2023 Associate Professor, SKEMA Business School, France
- 2015 - 2020 Associate Professor, Business School, Universidad Adolfo Ibáñez, Chili
- 2009 - 2014 Professeur assistant, Business School, Universidad Adolfo Ibáñez, Chili

## Contrats de recherche, prix et distinctions

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### Prix et distinctions

- 2022 Most Productive Scholar Award, SKEMA Business School, France
- 2021 Meilleur Professeur MBA International Program 2021, Business School, Universidad Adolfo Ibáñez, Chili
- 2019 Best Researcher Award, Universidad Adolfo Ibanez
- 2018 Patrick and Amy McCarter Fellow in Residence at IEMS, Northwestern University, Northwestern University, Etats-Unis d'Amérique
- 2018 Best Professor Award in the MBA International Program, Universidad Adolfo Ibanez
- 2015 Reimagine Education Awards - category Presence Learning, GameLab, Chili
- 2015 Meilleur chercheur, Business School, Universidad Adolfo Ibáñez, Chili
- 2015 Meilleur Professeur - MBA International Program,, Business School, Universidad Adolfo Ibáñez, Chili

- 2007 Fellowship from a Brazilian Governmental Agency (CAPES) to spend 1 year as an exchange Ph.D. student at the ISYE Department at Georgia Tech,, CAPES, Brésil
- 2005 Fellowship at the Ph.D. program at the Department of Mathematics of PUC-Rio provided by FUNENSEG (private actuarial institution),, Pontifical Catholic University of Rio de Janeiro, Brésil

### Contrats de recherche

- 2023 PGM0: Modeling risk aversion in multi-stage stochastic lot-sizing problems, France
- 2023 PGM0: Strategic Bidding in Price Coupling Regions: risk and uncertainty, France
- 2021 Combining Prediction And Stochastic Optimization: New Methods In Prescriptive Analytics, ANID, Chili
- 2018 Production maximization of oil in off-shore platforms that use gas-lift, Petrobras, Brésil
- 2017 Large scale optimization and uncertainty: Challenges in Strategic Mine Planning. An interdisciplinary approach (, ANID, France
- 2017 Optimization, Games and Renewable Energy, EDF, France
- 2014 Centralized versus Decentralized Energy Management in a Stochastic Setting, EDF, France
- 2013 Multistage stochastic optimization applied to finance and mining, ANID, Chili
- 2013 PGM0 - Latin America Stochastic Optimization Network, EDF, France
- 2012 Models and Strategies for Multi-Stage Stochastic Programs with Risk Control, ANID, Chili
- 2012 PGM0 - Latin America Stochastic Optimization Network, EDF, France
- 2011 Mathematical Modeling for Industrial and Management Science Applications: An Interdisciplinary Approach., ANID, Chili

## Publications

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### Articles académiques revus

- LAMAS, P., GOYCOOLEA, M., PAGNONCELLI, B. et NEWMAN, A. (2024). A target-time-windows technique for project scheduling under uncertainty. *European Journal of Operational Research*, 314(2), pp. 792-806.
- PAGNONCELLI, B., RAMÍREZ, D., RAHIMIAN, H. et CIFUENTES, A. (2023). A Synthetic Data-Plus-Features Driven Approach for Portfolio Optimization. *Computational Economics*, (62), pp. 187-204.
- RAHIMIAN, H. et PAGNONCELLI, B. (2023). Data-Driven Approximation of Contextual Chance-Constrained Stochastic Programs. *SIAM Journal on Optimization*, 33(3), pp. 2248 - 2274.
- PAGNONCELLI, B., REDROBAN, S. et CIFUENTES, A. (2023). A Useful (But Painful) Risk-Management Lesson from the Chilean Pension System. *The Journal of Retirement*, 11(1), pp. 74 - 83.
- PIAZZA, A., PAGNONCELLI, B. et NTAIMO, L. (2022). What is the optimal cutoff surface for ore bodies with more than one mineral? *Operations Research Letters*, 50(2), pp. 137-144.
- DOWSON, O., MORTON, D. et PAGNONCELLI, B. (2022). Incorporating convex risk measures into multistage stochastic programming algorithms. *Annals of Operations Research*.
- PAGNONCELLI, B., PATRICIO, L., MARCOS, A. et PIAZZA, A. (2021). Lane's Algorithm Revisited. *Management Science*, 67(5), pp. 2657-3320.
- ANDRÉ, R., GAMBOA, C., VALLADAO, D. et PAGNONCELLI, B. (2021). A Robust Short-Term Oil Production under a Bow-Tie Uncertainty Set for the Gas Lift Performance Curve. *SPE Journal*, pp. 1-13.
- PAGNONCELLI, B., DEL CANTO, F. et CIFUENTES, A. (2021). The effect of regularization in portfolio selection problems. *TOP- An Official Journal of the Spanish Society of Statistics and Operations Research*, 29, pp. 156-176.
- PAGNONCELLI, B., CANESSA, G. et MORENO, E. (2021). The risk-averse ultimate pit problem. *Optimization and Engineering*, 22, pp. 2655-2678.
- PAGNONCELLI, B., DUQUE, D. et MORTON, D. (2021). How good are default investment policies in defined contribution pension plans? *Journal of Pension Economics and Finance*, 20(2), pp. 252-272.

- NESBITT, P., BLAKE, L.R., LAMAS, P., GOYCOOLEA, M., PAGNONCELLI, B., NEWMAN, A. et BRICKEY, A. (2021). Underground mine scheduling under uncertainty. *European Journal of Operational Research*, 294(1), pp. 340-352.
- ARPON, S., HOMEM-DE-MELLO, T. et PAGNONCELLI, B. (2020). An ADMM algorithm for two-stage stochastic programming problems. *Annals of Operations Research*, 286, pp. 559-582.
- DOWSON, O., MORTON, D. et PAGNONCELLI, B. (2020). Partially observable multistage stochastic optimization. *Operations Research Letters*, 48(4), pp. 505-512.
- PAGNONCELLI, B., GAMBOA, C., SILVA, T. et VALLADAO, D. (2020). A stochastic optimization model for short-term production of offshore oil platforms with satellite wells using gas lift. *TOP- An Official Journal of the Spanish Society of Statistics and Operations Research*, 28, pp. 549-574.
- PAGNONCELLI, B. et CIFUENTES, A. (2020). Molecular biology and economics: a few funerals are needed. *Journal of Portfolio Management*, 46(7), pp. 5-7.
- DELGADO, F., TRINCADO, R. et PAGNONCELLI, B. (2019). A multistage stochastic programming model for the network air cargo allocation under capacity uncertainty. *Transportation Research - Part E: Logistics and Transportation Review*, 131, pp. 292-307.
- CANESSA, G., GALLEGO, J., NTAIMO, L. et PAGNONCELLI, B. (2019). An algorithm for binary linear chance-constrained problems using IIS. *Computational Optimization and Applications*, 72(3), pp. 589-608.
- REUS, L., PAGNONCELLI, B. et ARMSTRONG, M. (2019). Better management of production incidents in mining using multistage stochastic optimization. *Resources Policy*, 63, pp. 101404.
- GUTIERREZ, T., PAGNONCELLI, B., VALLADAO, D. et CIFUENTES, A. (2019). Can asset allocation limits determine portfolio risk-return profiles in DC pension schemes? *Insurance: Mathematics and Economics*, 86, pp. 134-144.
- LE CADRE, H., PAGNONCELLI, B., HOMEM-DE-MELLO, T. et BEAUDE, O. (2019). Designing coalition-based fair and stable pricing mechanisms under private information on consumers' reservation prices. *European Journal of Operational Research*, 272(1), pp. 270-291.
- PAGNONCELLI, B., ARPON, S. et HOMEM-DE-MELLO, T. (2018). Scenario reduction for stochastic programs with Conditional Value-at-Risk. *Mathematical Programming*, 170, pp. 327-356.
- WADA, M., DELGADO, F. et PAGNONCELLI, B. (2017). A risk averse approach to the capacity allocation problem in the airline cargo industry. *Journal of the Operational Research Society*, 68(6), pp. 643-651.
- PAGNONCELLI, B., CIFUENTES, A. et DENIS, G. (2017). A two-step hybrid investment strategy for pension funds. *North American Journal of Economics and Finance*, 42, pp. 574-583.
- PAGNONCELLI, B. et PIAZZA, A. (2017). The optimal harvesting problem under price uncertainty: the risk averse case. *Annals of Operations Research*, 258, pp. 479-502.
- PAGNONCELLI, B., HAWAS, F. et CIFUENTES, A. (2016). Credit-Risk behavior of homogeneous portfolios: A Theoretical Result with Surprising Practical Implications. *Journal of Structured Finance*, 22(2), pp. 7-15.
- HOMEM-DE-MELLO, T. et PAGNONCELLI, B. (2016). Risk aversion in multistage stochastic programming: a modeling and algorithmic perspective. *European Journal of Operational Research*, 249(1), pp. 188-199.
- BARRERA, J., HOMEM-DE-MELLO, T., MORENO, E., PAGNONCELLI, B. et CANESSA, G. (2016). Chance-constrained problems and rare events: an importance sampling approach. *Mathematical Programming*, 157(1), pp. 153-189.
- PIAZZA, A. et PAGNONCELLI, B. (2015). The stochastic Mitra-Wan forestry model: risk neutral and risk averse cases. *Journal of Economics*, 115(2), pp. 175-194.
- PIAZZA, A. et PAGNONCELLI, B. (2014). The optimal harvesting problem under price uncertainty. *Annals of Operations Research*, 217(1), pp. 425-445.
- PAGNONCELLI, B. et CIFUENTES, A. (2014). Credit risk assessment of fixed income portfolios using explicit expressions. *Finance Research Letters*, 11(3), pp. 224-230.
- CIFUENTES, A. et PAGNONCELLI, B. (2014). Demystifying Credit Risk Derivatives and Securitization: *Journal of Derivatives*, 22(2), pp. 110-118.

PAGNONCELLI, B. (2012). A provisioning problem with stochastic payments. *European Journal of Operational Research*, 221(2), pp. 445-453.

PAGNONCELLI, B. (2012). Risk-Return Trade-off with the Scenario Approach in Practice: A Case Study in Portfolio Selection. *Journal of Optimization Theory and Applications*, 155(2), pp. 707-722.

PAGNONCELLI, B. (2009). Sample Average Approximation Method for Chance Constrained Programming: Theory and Applications. *Journal of Optimization Theory and Applications*, 142(2), pp. 399-416.

PAGNONCELLI, B., SCHNOOR, M.A.K., PALMEIRA, C.F.B. et CAYRES, R. (2008). Cournot equilibrium: modern techniques applied to an old problem. *Journal of Interdisciplinary Mathematics*, 11(5), pp. 601-616.

PAGNONCELLI, B., TOMEI, C. et DE AZEVEDO, A. (2008). Custos de transação em investimentos coletivos. *Revista Brasileira de Economia*, 63(4).

PAGNONCELLI, B., PALMEIRA, C.F.B. et LOPES, H. (2008). Coeficientes aleatórios de equações diferenciais ordinárias lineares. *Matemática Universitária*.

## Autres activités de recherche

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### **Editeur associé d'une revue**

Depuis 2023      INFOR

### **Supervision de thèses / HDR**

Depuis 2022      D. JIMENEZ, SKEMA Business School, Doctorat, Directeur de thèse

Depuis 2021      T. GUTIÉRREZ, Doctorat, Co-directeur de thèse

2022              C. VESSAIRE, Doctorat, Rapporteur

2021              P. LAMAS, Business School, Universidad Adolfo Ibáñez, Doctorat, Directeur de thèse

2019              G. CANESSA, Business School, Universidad Adolfo Ibáñez, Doctorat, Directeur de thèse

2018              S. ARPON, Business School, Universidad Adolfo Ibáñez, Doctorat, Directeur de thèse