

Jean-Philippe Vial

Professor (emeritus)
University of Geneva
40 Blvd du Pont d'Arve
1211 Geneva, 4
Email : jean-philippe.vial@unige.ch

Director
ORDECSYS
4 Place de l'Etrier
CH-1224 Chêne-Bougeries, Switzerland
Tel : +41 22 349 3390
Mobile : +41 78 889 3659
Email : jpvial@ordecsys.com

Résumé

Jean-Philippe Vial holds an engineering degree from Ecole Centrale de Paris (1964). He obtained a MS degree in industrial engineering (University of Michigan, 1967), a PhD in Operations Research (Catholic University of Louvain, 1970) and a PhD (Doctorat d'Etat) in Mathematics (University of Paris-Dauphine, 1985).

His academic career started with a position of research assistant at CORE (Center for Operations Research and Econometrics, Louvain) in 1967. In 1970 he was appointed "chargé de cours" at the University of Louvain and senior researcher at CORE. He held his professor position until 1986, and then moved to the business school of the University of Geneva (HEC) where he taught quantitative methods and production management until 2006 as full professor. Since then, he is Emeritus Professor of the University of Geneva.

With his colleague, Professor Alain Haurie, he created in 2002 the consulting company ORDECSYS, which is specialized in logistics and modeling for energy and environmental management. His current professional activity is devoted to this society and to a sister society, C-ORDEE, which is specialized in systemic and economic analysis in environment.

During his academic career, he chaired departments (Applied Mathematics at the University of Louvain and HEC at the University of Geneva). He has been invited professor for extended periods at the Graduate School of Management, University of California, Berkeley (1972-74 and 1981) and at the University of Strasbourg (1984-1986). He frequently visited, for shorter periods, the Technion (Haifa, Israel), University Paris-Dauphine, University Paul Sabatier (Toulouse and the Technical University Delft (The Netherlands). Together with Alain Haurie he created in 1990 Logilab, a research laboratory at HEC, and was in charge of it until 2006. He has been elected President of the Mathematical Programming Society in 1997 and held this position from 1999 to 2001. He has been a member of juries of international scientific prizes. He also chaired the Tucker Prize jury. He served as associate editors in scientific journals.

In Geneva, he taught production management and operations research at the bachelor and master levels and also in continuing education programs. He has been the main investigator of many research projects of the Fonds National Suisse, dealing with convex optimization and stochastic programming as well as applied research grants on telecommunications or the analysis of energy and environmental choices. He has been the thesis advisor of 2 PhDs in Louvain and 9 in Geneva.

Honors

- President of the Mathematical Programming Society, 1998-2001.
- Vice-President of the Mathematical Programming Society, 1997 et 2002-2003.
- The paper « Supplier-retailer flexible commitments contracts : A robust optimization approach » (Manufacturing Services and Operations Management, 2005) was distinguished by the Operations Research Society of Israel as the 2005 best paper in Operations Research.
- The paper « Automatic formulation of stochastic programs via an algebraic modeling language » (Computational Management Science, 2007) received the « 2007 CMS Best Paper Award » from the board of editors of Computational Management Science.

Editorial assignments

- Associate Editor of Management Science
- Associate Editor of Mathematical Methods for Operations Research

Publications

Book

C. Roos, T. Terlaky, and J.-Ph. Vial. *Interior Point Methods for Mathematical Programming*. John Wiley and Sons, New York, 1997.

C. Roos and J.-Ph. Vial. *Interior Point Methods for Linear Programming : Theory and Practice*. Number 52 in Mathematical Programming B. North-Holland, Amsterdam, The Netherlands, 1991.

Articles (to appear)

C. Beltran-Royo, J.-P. Vial, and A. Alonso-Ayuso. Semi-Lagrangian relaxation applied to the uncapacitated facility location problem. Working paper (in press *Computational Optimization and Applications*), DOI : 10.1007/s10589-010-9338-2, 2010.

F. Babonneau, Y. Nesterov, and J.-Ph. Vial. Design and operations of gas transmission networks. Working paper (to appear in *Operations Research*), ORDECSYS, Place de l'Etrier, 4, 1224 Genève, Switzerland, 2010.

L. Drouet, A. Haurie, J.-P. Vial, and M. Vielle. A coupled game solved with the homogeneous version of OBOE to model Post Kyoto international climate policy. Working paper (to appear in *Annals of Dynamic Games*), ORDECSYS, Geneva, Switzerland, 2008.

F. Babonneau, A. Kanudia, M. Labriet, R. Loulou, and J.-P. Vial. Energy security : a robust optimization approach to design a robust European energy supply via TIAM. Working paper (to appear in *Environmental Modeling and Assessment*), ORDECSYS, 2010.

Articles

F. Babonneau and J.-P. Vial. A partitioning algorithm for the network loading problem. *European Journal of Operational Research*, 204(1) :173–179, 2010.

F. Babonneau and J.-P. Vial. Test instances for the multicommodity flow problem : an erratum. *Operations Research*, e-companion at <http://or.journal.informs.org/cgi/data/opre.1080.0658/DC1/1>, 2009.

F. Babonneau and J.-P. Vial. ACCPM with a nonlinear constraint and an active set strategy to solve nonlinear multicommodity flow problems : a corrigendum. *Mathematical Programming*, 120(1) :211–212, 2009.

- F. Babonneau and J.-P. Vial. ACCPM with a nonlinear constraint and an active set strategy to solve nonlinear multicommodity flow problems. *Mathematical Programming Ser. B*, 120 :179–210, 2009.
- F. Babonneau and J.-P. Vial. Test instances for the multicommodity flow problem : an erratum. (An electronic companion of the online version can be found at <http://or.journal.informs.org>.) *Operations Research*, 57(4) :1045, 2009.
- Y. Nesterov and J.-Ph. Vial. Confidence level solutions for stochastic programming. *Automatica*, 44(6) :1559–1568, 2008.
- L. Drouet, A. Haurie, F. Moresino, J.-P. Vial, M. Vielle, and L. Viguier. An oracle based method to compute a coupled equilibrium in a model of international climate policy. *Computational Management Science*, 5(1-2) :119–140, 2008.
- F. Babonneau and J.-P. Vial. An efficient method to compute traffic assignment problems with elastic demands. *Transportation Science*, 42(2) :249–260, May 2008.
- J. Thénier and J.-P. Vial. Step decision rules for multistage stochastic programming : a heuristic approach. *Automatica*, 44(6) :1569–1584, 2008.
- J. Thénier, C. van Delft, and J.-P. Vial. Automatic formulation of stochastic programs via an algebraic modeling language. *Computational Management Science*, 4(1) :17–40, 2007.
- F. Babonneau, O. du Merle, and J.-P. Vial. Solving large scale linear multicommodity flow problems with an active set strategy and Proximal-ACCPM. *Operations Research*, 54(1) :184–197, 2006.
- C. Beltran, N.R. Edwards, A.B. Haurie, J.-P. Vial, and D.S. Zachary. Oracle-based optimization applied to climate model calibration. *Environmental Modeling and Assessment*, 11(1) :31–43, 2006.
- C. Beltran, C. Tadonki, and J.-P. Vial. Solving the p-median problem with a semi-Lagrangian relaxation. *Computational Optimization and Applications*, (35), 2006.
- A. Ben-Tal, B. Golany, A. Nemirovski, and J.-Ph. Vial. Supplier-retailer flexible commitments contracts : A robust optimization approach. *Manufacturing Services and Operations Management*, 7 :248–271, 2005.
- Y. Nesterov and J.-Ph Vial. Augmented self-concordant barriers and nonlinear optimization problems with finite complexity. *Mathematical Programming*, 99 :149–174, 2004.
- D. Carlson, A. Haurie, J.-P. Vial, and D.S. Zachary. Large-scale convex optimization methods for air quality assessment. *Automatica*, 40 :385–395, 2004.
- Ch. van Delft and J.-Ph. Vial. A practical implementation of stochastic programming : an application to the evaluation of option contracts in supply chains. *Automatica*, 40 :743–756, 2004.
- O. Péton and J.-Ph. Vial. Multiple cuts with the homogeneous analytic center cutting plane method. *Computational Optimization and Applications*, 24 :27–61, 2003.
- J.-L. Goffin and J.-Ph. Vial. Convex nondifferentiable optimization : A survey focussed on the analytic center cutting plane method. *Optimization Methods and Software*, 17(805-867), 2002.
- J. Gondzio, R. Sarkissian, and J.-Ph. Vial. Parallel implementation of a central decomposition method for solving large-scale planning problems. *Computational Optimization and Applications*, 19 :5–29, 2001.
- A. Lisser, R. Sarkissian, and J.-Ph. Vial. Solving LP relaxation for survivability problems in telecommunication networks. *Investigacion Operativa*, 9 :21–27, 2000.
- A. Ouorou, P. Mahey, and J.-Ph. Vial. A survey of algorithms for convex multicommodity flow problems. *Management Science*, 46 :126–147, 2000.
- J.-L. Goffin and J.-Ph. Vial. Multiple cuts in the analytic center cutting plane method. *SIAM Journal on Optimization*, 11 :266 – 288, 2000.
- E. Fragnière, J. Gondzio, and J.-Ph. Vial. Building and solving large-scale programs on an affordable distributed computing system. *Annals of Operations Research*, 99(1/4) :167–187, 2000.
- E. Fragnière, J. Gondzio, R. Sarkissian, and J.-Ph. Vial. Structure exploiting tool in algebraic modeling languages. *Management Science*, 46 :1145 – 1158, 2000.

- Yu. Nesterov and J.-Ph. Vial. Homogeneous analytic center cutting plane methods for convex problems and variational inequalities. *SIAM Journal on Optimization*, 9 :707–728, 1999.
- J. Gondzio and J.-Ph. Vial. Warm start and ϵ -subgradients in the cutting plane scheme for block-angular linear programs. *Computational Optimization and Applications*, 14 :17–36, 1999.
- J.-L. Goffin and J.-Ph. Vial. Shallow, deep and very deep cuts in the analytic center cutting plane method. *Mathematical Programming*, 84 :89–103, 1999.
- Yu. Nesterov, O. Péton, and J.-Ph. Vial. Homogeneous Analytic Center Cutting Plane Methods with Approximate Centers. *Optimization Methods and Software*, 11&12 :243–273, 1999.
- J.-L. Goffin and J.-P. Vial. A two-cut approach in the analytic center cutting plane method. *Mathematical Methods in Operations Research*, (49) :149–169, 1999.
- J.-Ph. Vial. The New MPS Chair. *Optima*, 59 :9, 1998.
- T. Terlaky and J.-Ph. Vial. Computing maximum likelihood estimators of convex density functions. *SIAM Journal of Scientific and Statistical Computing*, 19 :675–694, 1998.
- O. Bahn, A. Haurie, S. Kypreos, and J.-Ph. Vial. Advanced mathematical programming modeling to assess the benefits from international CO2 abatement cooperation. *Environmental Modeling and Assessment*, 3 :107–116, 1998.
- O. du Merle, J.-L. Goffin, and J.-P. Vial. On improvements to the analytic center cutting plane method. *Computational optimization and applications*, (11) :37–52, 1998.
- J.-Ph. Vial. A path-following version of the Todd-Burrell procedure for linear programming. *Mathematical Methods of Operations Research*, 46 :153–167, 1997.
- J. Gondzio, R. Sarkissian, and J.-Ph. Vial. Using an interior point method for the master problem in a decomposition approach. *European Journal of Operational Research*, pages 577–587, 1996.
- B. Jansen, C. Roos, T. Terlaky, and J.-Ph. Vial. Primal-dual target-following algorithms for linear programming. *Annals of Operations Research*, 62 :197–231, 1996.
- B. Jansen, C. Roos, T. Terlaky, and J.-Ph. Vial. Long-step primal-dual target-following algorithms for linear programming. *Mathematical Methods of Operations Research*, 44 :11–30, 1996.
- J. Gondzio, O. du Merle, R. Sarkissian, and J.-Ph. Vial. ACCPM - A library for convex optimization based on an analytic center cutting plane method. *European Journal of Operational Research*, 94 :206–211, 1996.
- J. L. Goffin, J. Gondzio, Sarkissian R., and J. P. Vial. Solving nonlinear multicommodity flow problems by the analytic center cutting plane method. *Mathematical Programming*, 76 :131–154, 1996.
- O. Güler, C. Roos, T. Terlaky, and J.-Ph. Vial. A survey of the implication of the behavior of the central path for the duality theory of linear programming. *Management Science*, 41 :1922–1934, 1995.
- O. Bahn, O. du Merle, J.-L. Goffin, and J.-Ph. Vial. A cutting plane method from analytic centers for stochastic programming. *Mathematical Programming*, 69 :45–73, 1995.
- J.-L. Goffin and J.-Ph. Vial. Short steps with Karmarkar’s projective algorithm for linear programming. *SIAM Journal on Optimization*, 4 :193–207, 1994.
- B. Jansen, C. Roos, T. Terlaky, and J.-Ph. Vial. Primal–dual algorithms for linear programming based on the logarithmic barrier method. *Journal of Optimization Theory and Applications*, 83 :1–26, 1994.
- K. Anstreicher and J.-Ph. Vial. On the Convergence of an infeasible primal-dual interior point method for convex programming. *Optimization Methods and Software*, 3 :273–283, 1994.
- O. Bahn, J.-L. Goffin, J.-Ph. Vial, and O. du Merle. Implementation and behavior of an interior point cutting plane algorithm for convex programming : an application to geometric programming. *Discrete Applied Mathematics*, 49 :3–23, 1994.
- J.-Ph. Vial. Computational experience with a primal–dual interior-point method for smooth convex programming. *Optimization Methods and Software*, 3 :285–316, 1994.
- C. Roos and J.-Ph. Vial. Achievable potential reductions in the method of Kojima and al. in the case of linear programming. *RAIRO*, 28 :123–133, 1994.

- J.-L. Goffin, A. Haurie, J.-Ph. Vial, and D.L. Zhu. Using central prices in the decomposition of linear programs. *European Journal of Operational Research*, 64 :393–409, 1993.
- J.-L. Goffin and J.-Ph. Vial. On the computation of weighted analytic centers and dual ellipsoids with the projective algorithm. *Mathematical Programming*, 60 :81–92, 1993.
- N. Vi Cao, O. du Merle, and J.-P. Vial. Un système de confection automatisée d’horaires d’examens. *Revue des Systèmes de Décision*, 1(4) :377–399, 1992.
- M.J. Todd and J.-Ph. Vial. Todd’s low-complexity algorithm is a predictor-corrector method. *Operations Research Letters*, 11 :199–207, 1992.
- J.-L. Goffin, A. Haurie, and J.-Ph. Vial. Decomposition and nondifferentiable optimization with the projective algorithm. *Management Science*, 38 :284–302, 1992.
- C. Fraley and J.-Ph. Vial. Alternative approaches to feasibility in projective methods for linear programming. *ORSA Journal on Computing*, 4 :285–299, 1992.
- J.-Ph. Vial. A projective algorithm for linear programming with no regularity condition. *Operations Research Letters*, 12 :1–2, 1992.
- C. Roos and J.-Ph. Vial. A polynomial method of approximate centers for linear programming. *Mathematical Programming*, pages 295–305, 1992.
- D. den Hertog, C. Roos, and J.-Ph. Vial. A complexity reduction for the long-step path-following algorithm for linear programming. *SIAM Journal on Optimization*, 2 :71–87, 1992.
- J.-L. Goffin and J.-Ph. Vial. Cutting planes and column generation techniques with the projective algorithm. *Journal of Optimization Theory and Applications*, 65 :409–429, 1990.
- J.-Ph. Vial. A fully polynomial time projective method. *Operations Research Letters*, 7(1) :15–19, 1988.
- J.-P. Bulteau and J.-Ph. Vial. Curvilinear path and trust region in unconstrained optimization : a convergence analysis. *Mathematical Programming Study*, pages 82–101, 1987.
- G. de Ghellinck and J.-Ph. Vial. An extension of Karmarkar’s algorithm for solving a system of linear homogeneous equations on the simplex. *Mathematical Programming*, 39 :79–92, 1987.
- B. Cornet and J.-Ph. Vial. Lipschitz solutions of perturbed nonlinear programming problems. *SIAM Journal of Optimization and Control*, 24 :1123–1137, 1986.
- G. de Ghellinck and J.-Ph. Vial. A polynomial Newton method for linear programming. *Algorithmica*, 1 :425–453, 1986.
- J.-P. Bulteau and J.-Ph. Vial. A restricted trust region algorithm for unconstrained optimization. *Journal of Optimization Theory and Applications*, 44 :413–435, 1985.
- F. Tolfo, J.-P. Vial, and J.-P. Bulteau. Separazione di gas naturale. *ICP–Rivista dell’Industria Chimica*, XIII :35–42, 1985.
- J.-Ph. Vial. Strong and weak convexity of sets and functions. *Mathematics of Operations Research*, 8 :231–259, 1983.
- J.-Ph. Vial. Strong convexity of sets and functions. *Journal of Mathematical Economics*, 9 :187–205, 1982.
- H. Moulin and J.-Ph. Vial. Strategically zero-sum game : the class of game whose completely mixed equilibria cannot be improved upon. *International Journal of Game Theory*, 7 :201–221, 1978.
- J.-Ph. Vial and I. Zang. Unconstrained optimization by approximation of the gradient path. *Mathematics of Operations Research*, 2, 1977.
- J. Jaskold Gabszewicz and J.-Ph. Vial. Oligopoly ‘à la Cournot’ in a general equilibrium analysis. *Journal of Economic Theory*, 4 :1381–1400, 1972.

Articles in livres

- F. Babonneau, J.-P. Vial, and R. Apparigliato. Robust optimization for environmental and energy planning. In J.A. Filar and A. Haurie, editors, *Handbook on "Uncertainty and Environmental Decision Making"*, International Series in Operations Research and Management Science, pages 79–126. Springer Verlag, 2010.
- O. Bahn, L. Drouet, N. Edwards, A. Haurie, R. Knutti, S. Kypreos, T.F. Stocker, and J.-P. Vial. The coupling of optimal economic growth and climate models. In H. Wanner, M. Grosjean, R. Röthlisberger, and E. Xoplak, editors, *Climate Variability, Predictability and Climate Risks : A European Perspective*, volume 79, pages 103–119. Climatic Change, 2006.
- F. Babonneau, C. Beltran, A. Haurie, C. Taddonji, and J.-P. Vial. Proximal-ACCPM : a versatile oracle based optimization method. In E. J. Kontoghiorghes, editor, *Optimisation, Econometric and Financial Analysis*, volume 9 of *Advances in Computational Management Science*. Springer Verlag, 2006.
- C. Beltran, L. Drouet, N.R. Edwards, A. Haurie, J.-P. Vial, and D.S Zachary. An oracle method to couple climate and economic dynamics. In A. Haurie and L. Viguier, editors, *The Coupling of Climate and Economic Dynamics*, chapter 3. Springer, 2005.
- L. M. Nicoletti, G. Stauffer, and J.-Ph. Vial. An industrial cutting stock problem. In M. Breton and G. Zaccour, editors, *Decision and Control in Management Science*. Kluwer, 2002.
- J. Filar, A. Haurie, F. Moresino, and J.-Ph. Vial. Singularly perturbed hybrid systems approximated by structured linear programs. In Z. Hou, J. Filar, and A. Chen, editors, *Markov Processes and Controlled Markov Chains*. Kluwer, Dordrecht, 2002.
- S. Elhedhli, J.-L. Goffin, and J.-Ph. Vial. Nondifferentiable optimization : Introduction, applications and algorithm. In Panos M. Pardalos and Chris A. Floudas, editors, *Encyclopedia of Optimization*. Kluwer Academic Publishers, 2000.
- S. Elhedhli, J.-L. Goffin, and J.-Ph. Vial. Cutting plane methods for nondifferentiable optimization. In Panos M. Pardalos and Chris A. Floudas, editors, *Encyclopedia of Optimization*. Kluwer Academic Publishers, 2000.
- O. du Merle, J.-L. Goffin, C. Trouiller, and J.-Ph. Vial. A Lagrangian relaxation of the capacitated multi-item lot sizing problem solved with an interior point cutting plane algorithm. In P. M. Pardalos, editor, *Approximation and Complexity in Numerical Optimization : Continuous and Discrete Problems*,. Kluwer Academic Publishers, 1999.
- C. Roos and J.-Ph. Vial. Interior point methods. In J.E Beasley, editor, *Advances in Linear and Integer Programming*, pages 51–106. Oxford University Press, Oxford, England, 1996.
- O. Bahn, A. Haurie, S. Kypreos, and J.-Ph. Vial. A multinational MARKAL model to study joint implementation of carbon dioxide emission reduction measures. In P. Ghosh and J. Puri, editors, *Joint Implementation of Climate Change Commitments*, pages 43–50. Tata Energy Research Institute, 1994.
- O. Bahn, A. Haurie, S. Kypreos, and J.-Ph. Vial. A decomposition approach to multiregional environmental planning : a numerical study. In C. Carraro and A. Haurie, editors, *Operations Research and Environmental Management*, pages 119–132. Kluwer Academic Publisher, The Netherlands, 1994.
- B. Jansen, C. Roos, T. Terlaky, and J.-Ph. Vial. Interior-point methodology for linear programming : duality, sensitivity analysis and computational aspects. In K. Frauendorfer, H. Glavitsch, and R. Bacher, editors, *Optimization in Planning and Operation of Electric Power Systems*, Lecture Notes of the SVOR/ASRO Tutorial (Thun, Switzerland, October 14-16, 1992), pages 57–123. Physica-Verlag, Heidelberg, 1993.
- C. Roos and J.-Ph. Vial. Long steps with the logarithmic penalty barrier function in linear programming. In J. Gabszewicz, J.-F. Richard, and L. Wolsey, editors, *Economic Decision-Making : Games, Economics and Optimization, dedicated to Jacques H. Drèze*, pages 433–441. Elsevier Science Publisher B.V., Amsterdam, The Netherlands, 1990.
- J.-Ph. Vial. Approximate projections in a projective method for the linear feasibility problem. In N. Megiddo, editor, *Progress in Mathematical Programming : Interior-Points and Related Methods*, pages 65–78. Springer Verlag, Berlin, Heidelberg, New York, 1989.

J. Jaskold Gabszewicz and J.-Ph. Vial. Optimal capacity expansion under growing demand and technological change,. In G. Szegő and K. Shell, editors, *Mathematical Methods in Investment and Finance*. North-Holland, Amsterdam, 1972.

J.-Ph. Vial. Continuous time model for the cash balance problem. In G. Szegő and K. Shell, editors, *Mathematical Methods in Investment and Finance*. North-Holland, Amsterdam, 1972.

Articles in proceedings

A. Ouorou and J.-P. Vial. A model for robust capacity planning for telecommunications networks under demand uncertainty. In *Proceedings of the 6th International Workshop on Design and Reliable Communication Networks, DRCN 2007*, 2007.

C. Tadonki and J.-Ph. Vial. Efficient algorithm for linear pattern separation. In M. Bubak, G.D. van Albada, P.M.A. Sloot, and J.J. Dongarra, editors, *Computational Science - ICCS 2004 : 4th International Conference, Kraków, Poland, June 6-9, 2004, Proceedings, Part I*, Lecture Notes in Computer Science, pages 679 – 682. Springer-Verlag GmbH, 2004.

J.A. Filar, J. Gondzio, A. Haurie, F. Moresino, and J.-Ph. Vial. Decomposition and parallel processing techniques for two-time scale controlled markov chains. In *IEEE CDC Proceedings, Sidney*, 2000.

J.-L. Goffin and J.-Ph. Vial. Interior Point Methods for Nondifferentiable Optimization. In P. Kishka et al., editor, *1997 Operations Research Proceedings*, pages 35–49, Berlin, Heidelberg, New York, 1998. Springer Verlag.

A. Haurie, R. Loulou, and J.-Ph. Vial. Programmation mathématique et analyse des choix énergétiques et environnementaux. In F. Carlevaro, M. Garbely, and F. Romerio, editors, *Modèle d'aide à la décision en matière de politique énergétique suisse*. Proceedings of Journée du CUEPE 1990 held in Genève, Switzerland, 1991.

J.-Ph. Vial. Decomposition of structured linear programs based on analytical centers. In G. Ricci, editor, *Decision Processes in Economics*, pages 190–203, Berlin, Heidelberg, New York, 1991. Springer Verlag. Proceedings of the 6th Italian Conference on Game Theory and Applications held in Modena.

C. Fraley and J.-Ph. Vial. Numerical study of projective methods for linear programming. In S. Dolecki, editor, *Optimization*, number 1405 in Lecture Notes in Mathematics, pages 25–38, Berlin, Heidelberg, New York, 1989. Springer Verlag. Proceedings of the Fifth French-German Conference in Optimization held in Castel-Novel 1988.

J.-Ph. Vial. A unified approach to projective algorithms for linear programming. In S. Dolecki, editor, *Optimization*, number 1405 in Lecture Notes in Mathematics, pages 191–220, Berlin, Heidelberg, New York, 1989. Springer Verlag. Proceedings of the Fifth French-German Conference in Optimization held in Castel-Novel 1988.

Editor of special issues

J.-L. Goffin and J.-Ph. Vial, editors. *Nondifferentiable and Large Scale Optimization*. Number 69 in Mathematical Programming B. North-Holland, Amsterdam, The Netherlands, 1995.

B. Cornet, Nguyen v. Hien, and J.-Ph. Vial, editors. *Nonlinear Analysis and Optimization*. Mathematical Programming Study. North-Holland, Amsterdam, The Netherlands, 1987.

Research reports

Frédéric Babonneau, Olivier Klopfenstein, Adam Ouorou, and Jean-Philippe Vial. Robust capacity expansion solutions for telecommunication networks with uncertain demands. Working paper (submitted to *Networks*), ORDECSYS, Place de l'Etrier, 4, 1224 Genève, Switzerland, 2010.

J.-P. Vial and R. Apparigliato. Optimisation robuste linéaire : une introduction. Rapport de recherche, EDF R&D OSIRIS, 1 Av. Général de Gaulle, 92141 Clamart cedex, France, 2007.

R. Apparigliato, J.-P. Vial, and R. Zorgati. Optimisation robuste linéaire. Application ; Gestion à court terme d'une vallée hydraulique. Rapport de recherche H-R32-2006-04804-FR, EDF R&D, Dépt OSIRIS, 1 Av. Général de Gaulle, 92141 Clamart cedex, France, 2007.

C. Beltran-Royo, J.-P. Vial, and A. Alonso-Ayuso. Solving the uncapacitated facility location problem with semi-Lagrangian relaxation. Working paper, Statistics and Operations Research, Rey Juan Carlos University, Madrid, Spain, 2007.

J. Thénier and J.-P. Vial. A script for the automatic generation of stochastic programming models with AMPL. Technical report, HEC/Logilab, University of Geneva, 40 Bd du Pont d'Arve, CH-1211, Switzerland, 2005.

A. Dubois, J. Thénier, and J.-P. Vial. Stochastic programming : the det2sto tool. Technical report, 2005.

O. Péton, N. Sawhney, and J.-P. Vial. Linear and nonlinear discrimination via the analytic center cutting plane method. Technical report, Hec/Logilab, University of Geneva, 40 bd du Pont d'Arve, CH-1211 Geneva 4, Switzerland, 2005.

C. Beltran, A. Haurie, X. Haurie, M. Polis, and J.-P. Vial. A multicriterion circuit design problem. Technical report, Logilab, HEC, University of Geneva, 2004.

Y. Hachez and J.-Ph. Vial. Cutting plane methods and nonnegative polynomial. Technical report, HEC/Logilab, University of Geneva, 40 Bd du Pont d'Arve, CH-1211, Switzerland, 2002.

F. Babonneau, C. Beltran, O. du Merle, C. Tadonki, and J.-P. Vial. *The proximal analytic center cutting plane method*. Logilab - HEC - University of Geneva, 2003.

O. du Merle and J.-P. Vial. Proximal ACCPM, a cutting plane method for column generation and Lagrangian relaxation : application to the p-median problem. Technical report, Logilab, HEC, University of Geneva, 2002.

O. Péton and J.-P. Vial. A tutorial on ACCPM : user's guide for version 2.01. Technical report, Logilab - HEC - University of Geneva, 2001.

Y. Nesterov and J.-Ph. Vial. Confidence level solutions for stochastic programming. Technical report, Department of Management Studies, University of Geneva, 2000, revised 2001.

O. Epelly, J. Gondzio, and J.-Ph. Vial. An interior point solver for smooth convex optimization with an application to environmental-energy-economic models. Technical Report 2000.08, Department of Management Studies, University of Geneva, Switzerland, 2000.

A. Ouorou, J.-Ph. Vial, and A. Lissier. Capacity planning under uncertain demand in telecommunications networks. Technical report, HEC/Logilab, University of Geneva, 102 Bd Carl-Vogt, CH-1211, Switzerland, 1999.

J.-Ph. Vial. A note on an infeasible start interior point method for linear programming. Technical Report 99.04, HEC/Logilab, University of Geneva, 102 Bd Carl-Vogt, CH-1211, Switzerland, 1999.

A. Lissier, R. Sarkissian, and J.-Ph. Vial. Mid-range planning of survivable telecommunications networks : joint optimal synthesis of base and spare network. Technical Report 98.14, HEC/Logilab, University of Geneva, 102 Bd Carl-Vogt, CH-1211, Switzerland, 1998. Extensive revision of [19].

J.-Ph. Vial. A generic path-following algorithm with a sliding constraint and its application to linear programming and the computation of analytic centers. Technical Report 96.8, HEC/Logilab, University of Geneva, 102 Bd Carl-Vogt, CH-1211, Switzerland, February 1996.

A. Lissier, R. Sarkissian, and J.-Ph. Vial. Optimal joint synthesis of base and reserve telecommunication networks. Technical report, HEC/Logilab, University of Geneva, 102 Bd Carl-Vogt, CH-1211, Switzerland, October 1995.

E. Loute and J.-Ph. Vial. A parallel block Cholesky factorization for staircase linear programs. Technical Report CORE DP 9260, Center for Operations Research and Econometrics, Louvain, Belgium, 1992. Revised October 1993.