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Education

1993-1996	Ph.D. in Computer and Systems Engineering Universidade Federal do Rio de Janeiro - UFRJ
1989-1992	M.S. in Computer and Systems Engineering Universidade Federal do Rio de Janeiro - UFRJ
1983-1987	Bachelor of Electrical Engineering Pontifícia Universidade Católica do Rio de Janeiro - PUC-Rio

Employment

1997 -	Universidade Federal do Rio de Janeiro - UFRJ Professor of DCC (Department of Computer Science) Professor of COPPE (Computer and Systems Engineering Graduate Program)
2005 -	Science Center and College Distance Education of Rio de Janeiro - CECIERJ Professor
1994-1994	Universidade Veiga de Almeida - UVA/RJ Professor
1988-1988	White Martins S. A. Systems Engineer

Book

1. M. Fampa, J. Lee, "Maximum-Entropy Sampling: Algorithms and Application," Springer Series in Operations Research and Financial Engineering, Sringer, New York City, 2022, XVII, 195 pp. https://link.springer.com/book/9783031130779

2. N. Maculan, M. Fampa, "Otimização Linear," Editora UnB, Brasília, 2006, 310 pp.

Publications in Journals

1. G. Ponte, M. Fampa, J. Lee, L. Xu, "On computing sparse generalized inverses," Operations Research Letters 52, 2024.
https://doi.org/10.1016/j.orl.2023.107058

2. M. Fampa, J. Lee, "An outer-approximation algorithm for maximum-entropy sampling," Discrete Applied Mathematics 347, 271-284, 2024.
https://doi.org/10.1016/j.dam.2024.01.002

3. Y. Li, M. Fampa, J. Lee, F. Qiu, W. Xie, R. Yao, "D-optimal Data Fusion: Exact and Approximation Algorithms," INFORMS Journal on Computing, 2023. https://doi.org/10.1287/ijoc.2022.0235.

4. Z. Chen, M. Fampa, J. Lee, "On computing with some convex relaxations for the maximum-entropy sampling problem," INFORMS Journal on Computing 35(2), 368–385, 2023. https://doi.org/10.1287/ijoc.2022.1264

5. Z. Chen, M. Fampa, J. Lee, "Masking Anstreicher's linx Bound for Improved Entropy Bounds," Operations Research, 2022. https://doi.org/10.1287/opre.2022.2324

6. M. Fampa, "Insight into the computation of Steiner minimal trees in Euclidean space of general dimension," Discrete Applied Mathematics 308, 4-19, 2022. https://doi.org/10.1016/j.dam.2019.03.015

7. M. Fampa, J. Lee, G. Ponte, L. Xu, "Experimental analysis of local searches for sparse reflexive generalized inverses," Journal of Global Optimization 81, 1057-1093, 2021. https://doi.org/10.1007/s10898-021-01087-y

8. L. Xu, M. Fampa, J. Lee, G. Ponte, "Approximate 1-norm minimization and minimum-rank structured sparsity for various generalized inverses via local search," SIAM Journal on Optimization 31(3), 1722-1747, 2021. https://doi.org/10.1137/19M1281514

9. R. S. Trindade, O. C. B. de Araújo, M. Fampa, "Arc-flow approach for single batch-processing machine scheduling," Computers & Operations Research 134, 2021. https://doi.org/10.1016/j.cor.2021.105394

10. Z. Chen, M. Fampa, A. Lambert, J. Lee, "Mixing convex-optimization bounds for maximum-entropy sampling," Mathematical Programming, Series B, 188, 539-568, 2021. https://doi.org/10.1007/s10107-020-01588-w

11. M. Fampa, J. Lee, G. Ponte. "Trading off 1-norm and sparsity against rank for linear models using mathematical optimization," Open Journal of Mathematical Optimization, 2(4), 14 p, 2021. https://doi.org/10.5802/ojmo.6

12. M. Fampa, J. Lee, "Convexification of bilinear forms through non-symmetric lifting," Journal of Global Optimization 80, 287-305, 2021. https://doi.org/10.1007/s10898-020-00975-z

13. C. Buchheim, M. Fampa, O. Sarmiento, "Lower Bounds for Cubic Optimization over the Sphere," Journal of Optimization Theory and Applications 188(3), 823-846, 2021. https://doi.org/10.1007/s10957-021-01809-y

14. W. Melo, M. Fampa, F. Raupp, "Two linear approximation algorithms for convex mixed integer nonlinear programming," Annals of Operations Research, 2020. https://doi.org/10.1007/s10479-020-03722-5

15. C. D'Ambrosio, M. Fampa, J. Lee, S. Vigerske, "On a nonconvex MINLP formulation of the Euclidean Steiner tree problem in n-space: missing proofs," Optimization Letters

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17. M. Fampa, J. Lee, "On sparse reflexive generalized inverse," Operations Research Letters 46, 605-610, 2018.
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20. R. S. Trindade, O. C. B. de Araújo, M. Fampa, F. Muller, "Modelling and symmetry breaking in scheduling problems on batch processing machines," International Journal of Production Research 56, 7031-7048, 2018.
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23. M. Fampa, J. Lee, W. Melo, "On global optimization with indefinite quadratics," EURO Journal on Computational Optimization 5, 309-337, 2016.
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25. H. Kramer, E. Uchoa, M. Fampa, V. Kohler, F. Vanderbeck, "Column generation approaches for the software clustering problem," Computational Optimization and Applications 64, 843-864, 2016.
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28. W. Melo, M. Fampa, F. Raupp, "Integrating nonlinear branch-and-bound and outer approximation for convex Mixed Integer Nonlinear Programming," Journal of Global Optimization 60, 373-389, 2014.
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29. M. Fampa, W. Melo, N. Maculan, "Semidefinite relaxation for linear programs with equilibrium constraints," International Transactions in Operational Research 20, 201-212, 2013.
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44. K. M. Anstreicher, M. Fampa, J. Lee, J. Williams, "Using continuous nonlinear relaxations to solve. constrained maximum-entropy sampling problems," Mathematical Programming 85, 221-240, 1999.
https://doi.org/10.1007/s101070050055

45. K.M. Anstreicher, M. Fampa,"A Long-Step Path Following Algorithm for Semidefinite Programming Problems," In Topics in Semidefinite and Interior-Point Methods, P.M. Pardalos and H. Wolkowicz, eds., The Fields Institute for Research in Mathematical Sciences Communications Series, American Mathematical Society, Providence, R.I., 181-196, 1998.
http://dx.doi.org/10.1090/fic/018

46. M. C. Goldbarg, M. Fampa, "Uma Heurística Para o Problema de Configuração de Explotação de Campos Submarinos de Petróleo," Pesquisa Naval (SDM) 8, 121-135, 1995.

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47. M. Fampa, J. Lee, G. Ponte, "Convex relaxation for the generalized maximum-entropy sampling problem," To appear in Dagstuhl's Leibniz International Proceedings in Informatics (LIPIcs), SEA 2024 Proceedings.

48. C. D'Ambrosio, M. Fampa, J. Lee, F. Sinnecker, "On a geometric graph-covering problem related to optimal safety-landing-site location," To appear in Lecture Notes in Computer Science, Springer.

49. M. Fampa, J. Lee, G. Ponte, "Branch-and-bound for D-Optimality with fast local search and variable-bound tightening," Oberwolfach Reports 35/2023, pp. 19-21. Proceedings of the workshop on Mixed-integer Nonlinear Optimization: a hatchery for modern mathematics, Mathematisches Forschungsinstitut, Oberwolfach, Germany, 2023.
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51. W. Melo, M. Fampa, F. Raupp, "Otimização Não Linear Inteira Mista," In: Macambira, Ana Flávia Uzeda; Simonetti, Luidi; Rodrigues, Rosiane de Freitas; Maculan, Nelson (eds). Tópicos em otimização inteira, pp. 177-198, Editora UFRJ, ISBN: 9786588388105, 2022. https://pantheon.ufrj.br/handle/11422/19343.

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54. O. Sarmiento, M. Fampa, "O método ADMM para um problema de otimização polinomial não convexo," To appear in: Proceeding Series of the Brazilian Society of Computational and Applied Mathematics, ISSN: 2359-0793, 2022.

55. L. Xu, M. Fampa, J. Lee, "1-norm minimization and minimum-rank structured sparsity for symmetric and ah-symmetric generalized inverses: rank one and two," To appear in: Fields Institute Communications Series volume on Data Science and Optimization (Deza, Gupta, Pokutta, eds.).

56. M. Fampa, J. Lee, "An outer-approximation algorithm for maximum-entropy sampling," In: I. Ljubić, F. Barahona, S. S. Dey, A. Ridha Mahjoub (eds) Combinatorial Optimization. ISCO 2022. Lecture Notes in Computer Science, vol. 13526, pp 130-142. Springer, Cham, 2022. https://doi.org/10.1007/978-3-031-18530-4_10.

57. J. Costa, M. Fampa, F. Raupp, W. Melo, "Modeling demand-price dependence in lot-sizing optimization," In: Proceedings of the Joint ALIO/EURO International Conference 2021-2022 on Applied Combinatorial Optimization, Viña del Mar, Chile. OpenProceedings.org, ISBN: 978-3-89318-089-9, Electronic Edition. http://openproceedings.org/2022/conf/alioeuro/ALIOEURO_2021_paper_37.pdf

58. G. Ponte, M. Fampa, J. Lee, "Análise experimental de buscas locais para a construção de inversas reflexivas generalizadas esparsas," Proceedings of SBPO 2020 - Braziliam Simposyum of Operations Research, João Pessoa, Brazil, 2020 (best undergraduate student paper award).

59. R. S. Trindade, O. C. B. de Araújo, M. Fampa, "Arc-Flow Approach for Parallel Batch Processing Machine Scheduling with Non-identical Job Sizes," In: M. Baiou; B. Gendron;

O. Günlük; A. Ridha Mahjoub (eds) Combinatorial Optimization. ISCO 2020. Lecture Notes in Computer Science, vol. 12176, pp. 179-190. Springer, Cham, 2020. https://doi.org/10.1007/978-3-030-53262-8_15.

60. C. Buchheim, M. Fampa, O. Sarmiento, "Tractable Relaxations for the Cubic One-Spherical Optimization Problem," In: Le Thi H., Le H., Pham Dinh T. (eds) Optimization of Complex Systems: Theory, Models, Algorithms and Applications. WCGO 2019. Advances in Intelligent Systems and Computing, vol. 991, pp. 267-276, Springer, Cham, 2020.

61. V. Fuentes, M. Fampa, J. Lee, "Diving for Sparse Partially-Reflexive Generalized Inverses," In: Le Thi H., Le H., Pham Dinh T. (eds) Optimization of Complex Systems: Theory, Models, Algorithms and Applications. WCGO 2019. Advances in Intelligent Systems and Computing, vol. 991, pp. 89-98, Springer, Cham, 2020.

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66. W. Melo, M. Fampa, F. Raupp, "Un Algoritmo para Programación No Lineal Entera Mixta Convexa Basado en Plano de Corte Extendido," Proceedings of the XIX Latin-Iberoamerican Conference on Operations Research (CLAIO 2018), David Mauricio and André Mauricio, Editors, ed. ISBN: 978-612-48146-1-7, pp. 109-116, 2018.

67. V. Costa, M. Fampa, N. Maculan, "Um modelo matamático para o problema Euclideano de Steiner em $\mathcal{R}^n$," In: A Investigação Operacional em Portugal - Novos Desafios, Novas Ideias.1 ed.Lisboa: Editora IST Press, pp. 145-158, 2016.

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72. R. Trindade, O. de Araújo, M. Fampa, F. Muller, "Modeling symmetry cuts for batch scheduling with realease times and non-identical job sizes," Proceedings of the XVIII Latin-Iberoamerican Conference on Operations Research (CLAIO 2016), Sergio Maturana, ed. ISBN: 978-956-9892-00-4, pp. 338-344, 2016.

73. J. P. Lima, L. A. Barroso, S. Granville, M. V. F. Pereira, M. Fampa, "Computing leastcore allocations for firm-energy rights: A Mixed Integer Programming procedure," 2016 IEEE Power and Energy Society General Meeting (PESGM), Boston, MA, 2016, pp. 1-5, 2016.

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75. W. Melo, M. Fampa, F. Raupp, "Cutting Box Strategy: An Algorithmic Framework for Improving Metaheuristics for Continuous Global Optimization," In: Global Optimization: Theory, Developments and Applications.1 ed.Hauppauge: Nova Science Publishers, pp. 155-176, 2013.

76. T. C. S. Dias, G. F. de Sousa Filho, E. M. Macambira, L. dos A. F. Cabral, M. Fampa, "An Efficient Heuristic for the Ring Star Problem," In: Àlvarez C., Serna M. (eds) Experimental Algorithms. WEA 2006. Lecture Notes in Computer Science, vol. 4007, pp. 24-35, Springer, Berlin, Heidelberg, 2006.

77. K.M. Anstreicher, M. Fampa, "An Improved Algorithm for Computing Steiner Minimal Trees in $\mathcal{R}^d$," Oberwolfach Reports 50 (2005), 2848-2850. (Proceedings of the workshop on Combinatorial Optimization, Mathematisches Forschungsinstitut, Oberwolfach, Germany, 2005.)

78. K. M. Anstreicher, M. Fampa, J. Lee, J. Williams. "Continuous relaxations for constrained maximum-entropy sampling," In: Cunningham W.H., McCormick S.T., Queyranne M. (eds) Integer Programming and Combinatorial Optimization. IPCO 1996. Lecture Notes in Computer Science, vol. 1084, pp. 234-248, Springer, Berlin, Heidelberg, 1996.

Unpublished Papers

79. M. Fampa, J. Lee, G. Ponte, "Convex relaxation for the generalized maximum-entropy sampling problem," (Extension of SEA 2024 paper).
`https://doi.org/10.48550/arXiv.2404.01390`

80. Z. Chen, M. Fampa, J. Lee, "Generalized scaling for the constrained maximum-entropy sampling problem" (Extension of ACDA 2023 paper).
https://arxiv.org/abs/2306.14661.

81. G. Ponte, M. Fampa, J. Lee, "Computing D-Optimal solutions for huge-scale linear and quadratic response-surface models."
https://arxiv.org/abs/2309.04009.

82. G. Ponte, M. Fampa, J. Lee, "Branch-and-bound for integer D-Optimality with fast local search and variable-bound tightening." (Extension of SBPO-2022 paper).
https://arxiv.org/abs/2309.00117.

83. F. Thomé, M. Pereira, S. Granville, M. Fampa, "Non-convexities representation on hydrothermal operation planning using SDDP."
https://www.researchgate.net/publication/283091434_Non-Convexities_Representation_on_Hydrothermal_Operation_Planning_using_SDDP.

Theses Supervised

Doctoral Theses

1. Zhongzhu Chen (co-supervision, with Jon Lee) , *On Algorithmic Advances for Maximum-Entropy Sampling*, Ph.D. in Industrial and Operations Engineering, University of Michigan, 2024.

2. Renan Spencer Trindade (with Olinto Araújo), *Modelling batch processing machines problems with symmetry breaking and arc flow formulation*, Ph.D. in Computer and Systems Engineering, Universidade Federal do Rio de Janeiro, 2019.

3. Daniela Cristina Lubke de Mello. *Relaxações convexas e desigualdades válidas para o problema da mochila quadrático binário*, (Daniela spent six months as a visiting research scholar at the University of Waterloo under the supervision of Prof. Henry Wolkowicz). Ph.D. in Computer and Systems Engineering, Universidade Federal do Rio de Janeiro, 2019.

4. Orlando Sarmiento Chumbes. *Relaxações tratáveis para problemas de otimização cúbicos restritos à esfera*, (Orlando spent six months as a visiting research scholar at the Technische Universität Dortmund under the supervision of Prof. Christoph Buchheim). Ph.D. in Computer and Systems Engineering, Universidade Federal do Rio de Janeiro, 2019.

5. Francisco Ismael Pinillos Nieto. *Extensão de limites elipsoidais em programação quadrática inteira*, Ph.D. in Computer and Systems Engineering, Universidade Federal do Rio de Janeiro, 2017.

6. Wendel Melo (with Fernanda Raupp and Jon Lee). *Novas abordagens de solução para programação não linear inteira mista binária e programação quadrática não convexa*, (Wendel spent a year as a visiting research scholar at the University of Michigan under the supervision of Prof. Jon Lee). Ph.D. in Computer and Systems Engineering, Universidade Federal do Rio de Janeiro, 2016.

7. Wagner Pimentel. *Um estudo de um problema de programação em dois níveis: o problema de estratégia de preço sob incerteza em mercado de energia*, Ph.D. in Computer and Systems Engineering, Universidade Federal do Rio de Janeiro, 2014.

8. Brígida Alexandre Sartini. *Problema Euclideano de Steiner em espaços de dimensão maior ou igual a três: modelos exatos e heurísticos*, Ph.D. in Computer and Systems Engineering, Universidade Federal do Rio de Janeiro, 2013.

9. Fernanda Souza Thomé. *Representação de não-convexidades no planejamento da operação hidrotérmica utilizando PDDE*, Ph.D. in Computer and Systems Engineering, Universidade Federal do Rio de Janeiro, 2013.

10. Luiz Carlos da Costa Junior. *Representação de restrições de aversão a risco de cvar em programação dinâmica dual estocástica com aplicação ao planejamento da operação de sistemas hidrotérmicos*, Ph.D. in Computer and Systems Engineering, Universidade Federal do Rio de Janeiro, 2013.

11. Viviane Cátia Kohler. *Programação matemática aplicada ao problema de clusterização com aplicação em engenharia de software*, Ph.D. in Computer and Systems Engineering, Universidade Federal do Rio de Janeiro, 2012.

12. Juliana Pontes de Lima (with Luiz Augusto Barroso). *Métodos de otimização para o cálculo do núcleo de jogos cooperativos aplicados à alocação de energia firme entre usinas hidroelétricas*, Ph.D. in Computer and Systems Engineering, Universidade Federal do Rio de Janeiro, 2011.

13. Patricia Regina de Abreu Lopes. *Otimização aplicada ao problema de circuito virtual privado em redes de telecomunicações*, Ph.D. in Computer and Systems Engineering, Universidade Federal do Rio de Janeiro, 2010.

14. Yuri Abitbol de Menezes Frota (with Nelson Maculan). *Problemas de coloração em grafos*, Ph.D. in Computer and Systems Engineering, Universidade Federal do Rio de Janeiro, 2008.

15. Luiz Augusto Nobrega Barroso. *Estratégias de Ofertas Ótimas sob incerteza e cálculo de equilíbrios de Nash de agentes geradores em mercados de curto prazo de energia elétrica: uma abordagem por programação linear inteira*, Ph.D. in Computer and Systems Engineering, Universidade Federal do Rio de Janeiro, 2006.

16. Ana Lúcia de Sousa. *Um algoritmo utilizando programação semidefinida para o problema de dois níveis linear* , Ph.D. in Computer and Systems Engineering, Universidade Federal do Rio de Janeiro, 2006.

17. Denise Candal Reis Fernandes. *Estratégia ótima de oferta em mercados competitivos de energia*, Ph.D. in Computer and Systems Engineering, Universidade Federal do Rio de Janeiro, 2005.

Master Theses

18. Jéssica Costa (with Fernanda Raupp). *Programação não-linear inteira mista aplicada ao problema de dimensionamento de lotes*, M.S. in Computer and Systems Engineering, Universidade Federal do Rio de Janeiro, 2022.

19. Priscilla Lusie Coelho Velozo. *Busca de ótimos locais para um problema não convexo de estratégia de preços em mercados de energia*, M.S. in Computer and Systems Engineering, Universidade Federal do Rio de Janeiro, 2015.

20. Wendel Melo (with Fernanda Raupp). *Algoritmos para programação não linear inteira mista*, M.S. in Computer and Systems Engineering, Universidade Federal do Rio de Janeiro, 2012.

21. Tiago Luiz Gonçalves (with Luiz Satoru). *Meta-heurísticas para o problema de programação de tripulações*, M.S. in Computer and Systems Engineering, Universidade Federal do Rio de Janeiro, 2010.

22. Marcos Henrique de Azevedo. *Otimização de um caso real de alocação de equipes da Petrobras*, M.S. in Computer and Systems Engineering, Universidade Federal do Rio de Janeiro, 2010.

23. Fernanda Souza Thomé. *Aplicação de técnica de decomposição com o cálculo de multiplicadores implícitos no planejamento da expansão da geração e rede de transmissão de sistemas elétricos*, M.S. in Computer and Systems Engineering, Universidade Federal do Rio de Janeiro, 2008.

24. Luiz Carlos da Costa Junior. *Incorporação de restrições de confiabilidade ao problema de planejamento ótimo da expansão de sistemas elétricos.* M.S. in Computer and Systems Engineering, Universidade Federal do Rio de Janeiro, 2008.

25. Thayse Christine Souza Dias (with Elder Magalhães Macambira). *Algoritmos heurísticos e metaheurísticas híbridas aplicadas ao planejamento de uma rede de telecomunições com topologia anel-estrela*, M.S. in Computer and Systems Engineering, Universidade Federal do Rio de Janeiro, 2006.

26. Mariza Adélia Correia Aires. *Programação matemática aplicada ao problema de scheduling de refinarias de petróleo*, M.S. in Computer and Systems Engineering, Universidade Federal do Rio de Janeiro, 2005.

27. Juliana Pontes Lima. *Um algoritmo branch-and-cut para o problema de roteamento de veiculos capacitado assimetrico,* M.S. in Computer Science, Universidade Federal do Rio de Janeiro, 2005.

28. Paula Queiroz Rangel. *O Estudo de um Algoritmo para Resolução do Problema de Recobrimento de Grande Porte,* M.S. in Computer Science, Universidade Federal do Rio de Janeiro, 2004.

29. Patrícia Regina de Abreu Lopes. *Otimização aplicada ao planejamento de anéis unidirecionais em redes de telecomunicações,* M.S. in Computer Science, Universidade Federal do Rio de Janeiro, 2004.

30. Moises Teles (with Nelson maculan). *Aplicação de grafos Cordais a Sistemas Lineares Esparsos*, M.S. in Computer and Systems Engineering, Universidade Federal do Rio de Janeiro, 2002.

31. Carlos Andre dos Santos. *Programação em Dois NíveisAplicada ao estudo da Oferta ótima em sistemas Termoelétricos,* M.S. in Computer Science, Universidade Federal do Rio de Janeiro, 2002.

32. Priscila Rochinha Lino. *Esquemas Competitivos em Sistemas Hidrotérmicos*, M.S. in Computer Science, Universidade Federal do Rio de Janeiro, 2001.

33. Denise Candal Reis Fernandes. *Um Estudo sobre Programação Semidefinida Positiva*, M.S. in Computer Science, Universidade Federal do Rio de Janeiro, 2001.

34. Luiz Augusto Nobrega Barroso. *Esquemas Competitivos em Sistemas Hidrotérmicos: Comportamento Estratégico de Agentes Geradores em Ambiente de Mercado,* M.S. in Computer Science, Universidade Federal do Rio de Janeiro, 2000.

Supervision of Undergraduate Students

Works presented at Weeks of Academic Integration at UFRJ

1. Gabriel Ponte (supervised with Jon Lee). Sparse reflexive generalized inverses. 2019, 2020,2021,2022.

2. Luciana dos Santos Cruz. Algoritmos para o Problema de clusterização em grafos, 2012, 2013.

3. Diego Marin Santos. Heurísticas para o problema de programação de horários de cursos em universidades, 2010.

4. Wendel Melo (supervised with Fernanda Raupp) Algoritmo para um Problema de Otimização em Dois Níveis, 2007, and, Heurísticas para otimização contínua restrita, 2008, 2009, 2010.

5. José Koiller (received a Best Session Paper award). Minimizando a soma de normas Euclideanas, 1998.

Works presented as Undergraduate Final Projects at UFRJ

6. Gabriel Oliveira da Ponte. Experimental analysis of local searches for sparse reflexive generalized inverses. 2022.

7. Fabricio Bruno Barros de Almeida. Desenvolvimento computacional de ferramenta de apoio à tomada de decisão em investimentos financeiros. 2017.

8. Eduardo Bomtempo Martins Rocha. Algoritmo genético aplicado ao problema do recobrimento. 2012.

9. Vanius Farias Ferreira, Diego Marin Santos, Wellington Mascena da Silva. Resolvendo o problema da programação horária de cursos com pos-inscrição. 2011.

10. Wendel Melo. Busca local intensiva: uma nova metaheurística para otimização global contínua restrita. 2009.

11. Henrique Tardin Caixeiro. Heurística aplicada ao Problema da Mochila Multidimensional. 2009.

12. Adriano Mauricio de Almeida Cortes. Comparação entre Métodos de Pivoteamento e de Pontos Interiores. 2004.

13. Carlos Frederico Paim de Souza. Resolução de Sistemas Lineares e Ajuste de Curvas pelo Método dos Mínimos Quadrados. 2004.

14. Jean Michel Alves Dupret, Alexander Ramos de Oliveira. Ferramenta de Apoio ao Ensino de Programação Linear. 2002.

15. Maurício Guimarães Torres. Sim-Graf - Simulador Gráfico para Cálculo Numérico. 2001.

Recent Presentations

- *Branch-and-bound for D-Optimality with fast local search and variable-bound tightening*,
  - Business Analytics Seminar, Department of Business Analytics, University of Iowa, Iowa, USA, December 2023.
  - Discrete Math seminar, Department of Mathematics, University of Kentucky, Kentucky, USA, November 2023.
  - 2023 INFORMS Annual Meeting, Phoenix, USA, October 2023.
  - The 2023 Annual Midwest Optimization Meeting, Ann Arbor, Michigan, USA, October 2023.
  - Industrial & Operations Engineering Seminar Series, University of Michigan, Michigan, USA, September 2023.
  - Workshop Mixed-integer Nonlinear Optimization: a hatchery for modern mathematics, Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach, Germany, August 2023.
- *The maximum-entropy sampling problem*, Jon-Shmuel halfway to twelfty workshop, École des Ponts, Marne-la-Vallée, France, July 2023.
- *What else can we say about the maximum-entropy optimization problem?*, SIAM Conference on Optimization (OP23), Seattle, USA, June 2023.
- *Mathematical formulations for the Euclidean Steiner Tree Problem*, China-Brazil OR Road-to-Future Forum for Nelson Maculan's 80th birthday, organized by Operations Research Society of China (ORSC), online, March 2023.
- *Convex integer nonlinear programming for maximum-entropy sampling*, DOTs - Discrete Optimization Talks, `https://talks.discreteopt.com/home`, March 2023.
- *The Euclidean Steiner problem*, Discrete Optimization: Mathematics, Algorithms, and Computation, Jan 30 - May 4, 2023, ICERM, Providence, USA, February 2023.
- *Otimização não-linear inteira mista: aplicações e algoritmos*, X Jornada de Matemática da UFPI - JMatUFPI 2022, Teresina, Brazil, September 2022.
- *An outer-approximation algorithm for maximum-entropy sampling*, International Symposium on Combinatorial Optimization - ISCO 2022, online conference, May 2022.
- *Parametric relaxation for the quadratic knapsack problem*, IFORS Global Webinar, July 2020.

- *Convex Relaxations and valid inequalities for the Quadratic Knapsack Problem*, Workshop Mixed-integer Nonlinear Optimization: a hatchery for modern mathematics, Mathematisches Forschungsinstitut Oberwolfach, Oberwolfach, Germany, June 2019.
- *Convexification and Linearization in MINLP*, CRM/DIMACS Workshop on Mixed-Integer Nonlinear Programming, University of Montreal, Montreal, Canada, October 2019.
- *Lidando com não linearidades em programação inteira*, Plenary, 51 Simpósio Brasileiro de Pesquisa Operacional, Brazil, September 2019.
- *The Challenging Euclidean Steiner Tree Problem*, Seminar, University of Michigan, Ann Arbor, USA, March 2019.
- *Challenges in MINLP - The Euclidean Steiner Tree Problem in n-dimensional space*, Keynote speech, International Symposium on Combinatorial Optimization - ISCO 2018, Marrakesh, Marocco, April 2018.
- *Extending cover inequalities for the quadratic knapsack problem to relaxations in lifted space*, CLAIO 2018: XIX Latin-Iberoamerican Conference on Operations Research, Lima, Peru, September 2018.
- *Treating indefinite quadratic and bilinear forms in MINLP*, 23rd International Symposium on Mathematical Programming (ISMP), Bordeaux, France, June 2018.
- *Generalization of ellipsoid bounds for quadratic integer programming*, CLAIO 2016: XVIII Latin-Iberoamerican Conference on Operations Research, Santiago, Chile, October 2016.
- *Extensions on Ellipsoid Bounds for Quadratic Programs*, XIII Global Optimization Workshop, Braga, Portugal, September 2016.
- *Generalization of Ellipsoid bounds for Nonconvex Quadratic Integer Problems*, XI Brazilian Workshop on Continuous Optimization, Manaus, Brazil, May 2016.
- *Modeling the Euclidean Steiner Tree Problem*, DIMACS Workshop on Distance Geometry: Theory and Applications, Rutgers, USA, July 2016.
- *Formulations and solution approaches for the Euclidean Steiner Problem in-n-space*, Seminar, École Polytechnique, Paris, France, June 2014.
- *Global Optimization with Non Convex Quadratics*, 2014 SIAM Conference on Optimization, San Diego, USA, May 2014.
- *Globally solving non-convex problems with indefinit e quadratic functions*, X Brazilian Workshop on Continuous Optimization, Florianópolis, Brazil, March 2014.
- *A Bilevel Model and Solution Approaches for a Strategic Bidding Problem in Electricity Markets*, Informs Annual Meeting 2013, Minneapolis, USA, October 2013.
- *Solution approaches for a nonlinear clustering problem*, 17th Combinatorial Optimization Workshop, Aussois, France, January 2013.
- *MILP formulation for the clustering problem*, 21st International Symposium on Mathematical Programming (ISMP), Berlin, Germany, August 2012.

- *MILP formulation for the software clustering problem*, Global Optimization Workshop 2012, Natal, Brazil, June 2012.

Other Activities

- Associate Editor of *OPTE: Optimization and Engineering*, since Jan/2024.
- Visiting Researcher, University of Michigan, Michigan, USA, Jun 2023 - Feb 2024.
- Visiting Researcher, ICERM, Brown University, Providence, Rhode island, USA, Jan 30 - May 5, 2023.
- Member of the Organizing Committee of Discrete Optimization: Mathematics, Algorithms, and Computation, Aug 26 - 30, 2024, at ICERM, Brown University, Providence, Rhode Island, USA.
- Member of the Organizing Committee of Discrete Optimization: Mathematics, Algorithms, and Computation, Jan 30 - May 5, 2023, at ICERM, Brown University, Providence, Rhode Island, USA.
- Member of the Organizing Committee of Linear and Non-Linear Mixed Integer Optimization Feb 27 - Mar 3, 2023, at ICERM, Brown University, Providence, Rhode Island, USA.
- Member of the Organizing Committee of Current Themes of Discrete Optimization: Bootcamp for early-career researchers Jan 30 - Feb 3, 2023, at ICERM, Brown University, Providence, Rhode Island, USA.
- Associate Editor of *TOP: Transactions in Operations Research*, since Jan/2020.
- Vice president of SOBRAPO (Sociedade Brasileira de Pesquisa Operacional), 2017-2018.
- Member of the SBPO 2022 (Brazilian Symposium on Operations Research) award evaluation committee for the best master's dissertation defended from January 2021 to April 2022.
- Member of the Organizing Committee of Workshop on Distance Geometry, Semidefinite Programming and Applications, Toronto, Canada, May 2021.
- Visiting Researcher, École Polytechnique de Montreal, Montreal, Canada, Oct 2019.
- Member of the Advisory Committee of CRM/DIMACS Workshop on Mixed-Integer Nonlinear Programming, Montreal, Canada, October 2019.
- Member of the Organizing Committee of 50 Simpósio Brasileiro de Pesquisa Operacional - SBPO, Rio de Janeiro, Brazil, August 2018.
- Member of the Organizing Committee of DIMACS Workshop on Distance Geometry: Theory and Applications, New Jersey, USA, July 2016.
- Member of the Program Committee of ISCO (International Symposium on Combinatorial Optimization): 2016, 2020,2022,2024.

- Member of the Program Committee of Latin-Iberoamerican Conference on Operation Research (CLAIO): 2012, 2018, 2020.
- Member of Program Committee of Simpósio Brasileiro de Pesquisa Operacional (SBPO): 2016-2022, 2010-2014.
- Member of Scientific Committee of Global Optimization Workshop, Natal, Brazil, June 2012.
- Coordinator of the Computer Science Bachelor, 2006-2008.
- Visiting Researcher, University of Iowa, Iowa, USA, 2005-2006.
- Visiting Research Scholar, National Scientific Computing Laboratory (LNCC), March 1997 - October 1997.
- Visiting Research Scholar, University of Iowa, Iowa, USA, 1995-1996.

Awards and Honors

- 2020 - COIN-OR Cup Prize, sponsored by the COIN-OR Foundation - "Muriqui Optimizer: An open source solver for convex Mixed Integer Nonlinear Programming," by Wendel Melo, Marcia Fampa and Fernanda Raupp.
- 2020 - EJOR Editors' Choice Article of January 2020, selected by José Fernando Oliveira - Marcia H.C. Fampa, Daniela Lubke, Fei Wang, Henry Wolkowicz, "Parametric convex quadratic relaxation of the quadratic knapsack problem."
- 2017 - Roberto Diéguez Galvão Best Paper Award - SOBRAPO (Brazilian Society of Operational Research) tribute to the best paper presented at XLIX SBPO - Brazilian Symposium on Operational Research.
- 2014 - Roberto Diégues Galvão Best Paper Award - SOBRAPO (Brazilian Society of Operational Research) tribute to the best paper presented at XLVI SBPO - Brazilian Symposium on Operational Research.
- 2012 - GAPSO Best Paper Award - SOBRAPO (Brazilian Society of Operational Research) tribute to the best work presented at the XLIV SBPO - Brazilian Symposium on Operational Research.

Refereeing

Applied Mathematics and Computation. Computational Optimization and Applications, Discrete Applied Mathematics, IEEE Transactions on Power Systems , International Transactions in Operational Research, Mathematical Programming, Mathematical Programming Computation, Mathematics, Numerical Linear Algebra with Applications, Operations Research Letters, RAIRO Recherche Opérationnelle, SIAM Journal on Optimization, Journal of Global Optimization.