Tallys Yunes

September 15, 2024

Contact Information

Management Science Department
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Academic Positions

- Associate Professor (tenured), Management Science Dept., University of Miami, 6/2012 – present.
- Assistant Professor, Management Science Department, University of Miami, 8/2006 – 5/2012.
- Instructor, Management Science Department, University of Miami, 8/2005 – 7/2006.

Education

- Ph.D., Operations Research, Carnegie Mellon University, 5/2006. Advisor: John N. Hooker.
- M.S., Operations Research, Carnegie Mellon University, 5/2002.
- M.S. (*stricto sensu*), Computer Science, University of Campinas (UNICAMP), Brazil, 4/2000. Advisors: Cid C. de Souza and Arnaldo V. Moura.
- B.S., Computer Engineering (valedictorian), University of Campinas (UNICAMP), Brazil, 11/1997.

Research Interests

- *Theoretical and empirical:* prescriptive analytics, modeling, integer programming, constraint programming, binary and multi-valued decision diagrams, meta-heuristics, large neighborhood search, integration of optimization techniques.
- *Application areas:* scheduling (sports, healthcare, workforce, machines), propagation of information in social networks, product line simplification, information layout, operations, and logistics.

Awards and Honors

- Runner-up, POMS College of Healthcare Operations Management Best Paper Award, "Multimodularity in the Stochastic Appointment Scheduling Problem with Discrete Arrival Epochs" (joint work with Christos Zacharias), May 2018.
- Twenty-two-time winner, Excellence in Teaching Award, Miami Herbert Business School. Selected by a vote from: the regular full-time MBA classes of May 2012, 2013, 2014, 2016, 2017, 2019, and 2021 (*best core course*); the one-year full-time MBA classes of December 2012, 2013, 2014, 2015, 2016, 2017, and 2018; the MD/MBA class of May 2024; the Professional MBA classes of December 2014, 2019, 2020, and May 2020, 2022; and the Real Estate MBA classes of December 2020 and 2023.
- Excellence in Teaching Award (for outstanding teaching contributions that go beyond the classroom), Miami Herbert Business School. Selected by a committee appointed by the Dean, May 2017.

- ◇ Faculty Research Mentor of the Year Award, Undergraduate Business Programs, Miami Herbert Business School, 2015.
- ◇ Air Force Office of Scientific Research grant to support *"A Unified Approach to Optimization"* (PI: John N. Hooker from CMU), 7/2011 – 6/2014. University of Miami share: $93,665.
- ◇ Honorable mention, INFORMS Railway Applications Section (RAS) Problem Solving Competition, 2010 (joint work with Michael Trick).
- ◇ Gerald L. Thompson Doctoral Dissertation Award in Management Science, Tepper School of Business, Carnegie Mellon University, 2006.
- ◇ James W. McLamore Summer Research Award in Business and Social Sciences, University of Miami, 2006 ($9,300), 2007 ($9,300), and 2010 ($10,500).
- ◇ William L. Mellon Fellowship, Tepper School of Business, Carnegie Mellon, 9/2000 – 8/2003.
- ◇ First prize, VIII UNESCO Latin American Master's thesis contest, Mérida, Venezuela, 9/2001.
- ◇ State of São Paulo Institute of Engineering Award for highest GPA among Computer Engineering graduates, University of Campinas (UNICAMP), Brazil, class of December 1997.

Refereed Publications (*click on blue titles to download papers*)

1. F. de C. Pereira, P. J. de Rezende, T. Yunes, and L. F. B. Morato, A Row Generation Algorithm for Finding Optimal Burning Sequences of Large Graphs. To appear in *European Symposium on Algorithms (ESA)*, 2024.
2. F. de C. Pereira, P. J. de Rezende, and T. Yunes, Minimizing the Cost of Leveraging Influencers in Social Networks: IP and CP Approaches, *Lecture Notes in Computer Science* 14743, 111–127, 2024. *International Conference on Integration of Constraint Programming, Artificial Intelligence, and Operations Research* (CPAIOR).
3. C. Zacharias and T. Yunes, Multimodularity in the Stochastic Appointment Scheduling Problem with Discrete Arrival Epochs, *Management Science* 66(2), 744–763, 2020.
4. A. A. Cire, A. Diamant, and T. Yunes, A Network-Based Formulation for Scheduling Clinical Rotations, *Production and Operations Management* 28(5), 1186–1205, 2019.
5. M. Shunko, T. Yunes, G. Fenu, A. Scheller-Wolf, V. Tardif, and S. Tayur, Product Portfolio Restructuring: Methodology and Application at Caterpillar, *Production and Operations Management* 27(1), 100–120, 2018.
6. A. A. Cire, J. N. Hooker, and T. Yunes, Modeling with Metaconstraints and Semantic Typing of Variables, *INFORMS Journal on Computing* 28(1), 1–13, 2016.
7. L. de Oliveira, C. C. de Souza, and T. Yunes, Lower Bounds for Large Traveling Umpire Instances: New Valid Inequalities and a Branch-and-Cut Algorithm, *Computers & Operations Research* 72, 147–159, 2016.
8. R. Cano, C. C. de Souza, P. J. de Rezende, and T. Yunes, Arc-Based Integer Programming Formulations for Three Variants of Proportional Symbol Maps, *Discrete Optimization* 18, 87–110, 2015. Extended journal version of paper #13.
9. L. de Oliveira, C. C. de Souza, and T. Yunes, On the Complexity of the Traveling Umpire Problem, *Theoretical Computer Science* 562, 101–111, 2015.
10. G. Kunigami, P. J. de Rezende, C. C. de Souza, and T. Yunes, Optimizing the Layout of Proportional Symbol Maps: Polyhedra and Computation, *INFORMS Journal on Computing* 26(2), 199–207, 2014. Extended journal version of paper #17.

11. L. de Oliveira, C. C. de Souza, and T. Yunes, Improved Bounds for the Traveling Umpire Problem: A Stronger Formulation and a Relax-and-Fix Heuristic, *European Journal of Operational Research* 236(2), 592–600, 2014.
12. D. Bergman, A. A. Cire, W.-J. van Hoeve, and T. Yunes, BDD-Based Heuristics for Binary Optimization, *Journal of Heuristics* 20(2), 211–234, 2014.
13. R. Cano, C. C. de Souza, P. J. de Rezende, and T. Yunes, Arc-Based Integer Programming Formulations for Three Variants of Proportional Symbol Maps, *Electronic Notes in Discrete Mathematics* 44, 251–256, 2013. *VII Latin-American Algorithms, Graphs and Optimization Symposium* (LAGOS).
14. M. A. Trick, H. Yildiz, and T. Yunes, Scheduling Major League Baseball Umpires and the Traveling Umpire Problem, *Interfaces* 42(3), 232–244, 2012.
15. G. Kunigami, P. J. de Rezende, C. C. de Souza, and T. Yunes, Generating Optimal Drawings of Physically Realizable Symbol Maps with Integer Programming, *The Visual Computer* 28(10), 1015–1026, 2012. Extended journal version of paper #16.
16. G. Kunigami, P. J. de Rezende, C. C. de Souza, and T. Yunes, Determining an Optimal Visualization of Physically Realizable Symbol Maps. Published by IEEE Computer Society, *24th Conference on Graphics, Patterns and Images (SIBGRAPI)*, Maceió, AL, Brazil, August 28–31, 2011.
17. G. Kunigami, P. J. de Rezende, C. C. de Souza, and T. Yunes, Optimizing the Layout of Proportional Symbol Maps, *Lecture Notes in Computer Science* 6784, 1–16, 2011. *11th International Workshop on Computational Geometry and Applications* (CGA).
18. T. Yunes, Software Tools Supporting Integration, book chapter in *Hybrid Optimization — The Ten Years of CPAIOR*, M. Milano and P. Van Hentenryck (eds.), 393–424, Springer, 2011. ISBN: 978-1-4419-1643-3.
19. T. Yunes, I. D. Aron and J. N. Hooker, An Integrated Solver for Optimization Problems, *Operations Research* 58(2), 342–356, 2010.
20. J. N. Hooker and T. Yunes, An Integrated Approach for Truss Structure Design, Workshop on Hybrid Methods for Nonlinear Combinatorial Problems. Co-located with the *7th International Conference on Integration of AI and OR Techniques in Constraint Programming for Combinatorial Optimization Problems* (CPAIOR), Bologna, Italy, June 14–18, 2010.
21. T. Yunes, D. Napolitano, A. Scheller-Wolf and S. Tayur, Building Efficient Product Portfolios at John Deere and Company, *Operations Research* 55(4), 615–629, 2007.
22. T. Yunes, A. V. Moura and C. C. de Souza, Hybrid Column Generation Approaches for Urban Transit Crew Management Problems, *Transportation Science* 39(2), 273–288, 2005.
23. I. D. Aron, J. N. Hooker and T. Yunes, SIMPL: A System for Integrating Optimization Techniques, *Lecture Notes in Computer Science* 3011, 21–36, 2004. *International Conference on Integration of AI and OR Techniques in Constraint Programming for Combinatorial Optimization Problems* (CPAIOR).
24. T. Yunes, On The Sum Constraint: Relaxation and Applications, *Lecture Notes in Computer Science* 2470, 80–92, 2002. *8th Intl. Conference on Principles and Practice of Constraint Programming* (CP).
25. T. Yunes, A. V. Moura and C. C. de Souza, Solving Very Large Crew Scheduling Problems to Optimality, *15th ACM Symposium on Applied Computing* (SAC), Como, Italy, March 19–21, 2000.
26. T. Yunes, A. V. Moura and C. C. de Souza, A Hybrid Approach for Solving Large Scale Crew Scheduling Problems, *Lecture Notes in Computer Science* 1753, 293–307, 2000. *2nd International Workshop on Practical Aspects of Declarative Languages* (PADL).

Working Papers and Work in Progress

27. The Sensitivity of the U.S. Presidential Election to Coordinated Voter Relocation (with D. Bergman, C. Cardonha, A. Cire, and L. Lozano). *Submitted for publication*.
28. An Effective Linear Programming Matheuristic for the Weighted Target Set Selection Problem (with F. de C. Pereira and P. J. de Rezende). *In progress*.
29. An MDD-Based Approach for the Time-Dependent TSP. *In progress*.
30. Exact and Heuristic Approaches for the Firefighter Problem on Graphs. *In progress*.
31. Hidden-Value Predictions within Correlated Time Series. *In progress*.
32. Cross Training for Flexibility in Manufacturing and Service Operations. *In progress*.
33. Product Assortment Optimization. *In progress*.

Unpublished Papers and Theses (*click on blue titles to download documents*)

34. T. Yunes, On the Integration of Optimization Techniques, *Ph.D. thesis*, Carnegie Mellon University, February 2006.
35. T. Yunes, Problemas de Escalonamento no Transporte Coletivo: Programação por Restrições e Outras Técnicas, *Master's thesis*, University of Campinas (UNICAMP), Brazil, April 2000.
36. T. Yunes, A. V. Moura and C. C. de Souza, Modeling and Solving a Crew Rostering Problem with Constraint Logic Programming and Integer Programming, *Institute of Computing Technical Report IC-00-04*, University of Campinas (UNICAMP), Brazil, March 2000.

Selected Talks

1. Teaching in Business Schools, invited to the *FutureBAProf Workshop*, aimed at incentivizing under-represented minorities to apply for faculty careers in business. Tippie College of Business, University of Iowa, Iowa City, IA, August 11-13, 2024.
2. Optimization Games for the Young (and not so young...), presented at the Teaching Effectiveness Colloquium, *INFORMS Annual Meeting*, Phoenix, AZ, October 14–18, 2023.
3. Teaching in Business Schools, invited to the *FutureBAProf Workshop*, aimed at incentivizing under-represented minorities to apply for faculty careers in business. Tippie College of Business, University of Iowa, Iowa City, IA, August 6-8, 2023.
4. Teaching in Business Schools, invited to the *FutureBAProf Workshop*, aimed at incentivizing under-represented minorities to apply for faculty careers in business. Tippie College of Business, University of Iowa, Iowa City, IA, August 15-16, 2022.
5. A Network-Based Formulation for Scheduling Clinical Rotations (joint work with A. A. Cire and A. Diamant), *INFORMS Annual Meeting*, Seattle, WA, October 20–23, 2019. Presented by Andre Cire.
6. An MDD-Based Formulation for Scheduling Clinical Rotations (joint work with A. A. Cire and A. Diamant), *INFORMS Annual Meeting*, Phoenix, AZ, November 4–7, 2018.
7. Product Portfolio Restructuring: Methodology and Application at Caterpillar (joint work with M. Shunko, G. Fenu, A. Scheller-Wolf, V. Tardif, and S. Tayur). Invited talk at the Darden School of Business, University of Virginia, January 22, 2018.
8. An MDD-Based Approach for the Time-Dependent TSP (joint work with D. Bergman and A. A. Cire), *INFORMS Annual Meeting*, Nashville, TN, November 13–16, 2016.

9. The Traveling Umpire Problem: An Overview of Recent Progress (joint work with L. de Oliveira and C. C. de Souza). Invited to the 13th *Mixed Integer Programming (MIP) Workshop*, Coral Gables, FL, May 23–26, 2016.
10. Modeling with Meaning: Metaconstraints and Semantic Typing (joint work with A. A. Cire and J. N. Hooker), *INFORMS Annual Meeting*, San Francisco, CA, November 9–12, 2014.
11. Optimizing the Layout of Proportional Symbol Maps: Polyhedra and Computation. Invited talk at the East West Manufacturing Scott Ellyson Seminar Series. Department of Industrial and Systems Engineering, University of Florida, October 24, 2013.
12. Modeling with Metaconstraints and Semantic Typing of Variables (joint work with A. A. Cire and J. N. Hooker), *INFORMS Annual Meeting*, Minneapolis, MN, October 6–9, 2013. Earlier version presented at the *INFORMS Computing Society Conference*, Santa Fe, NM, January 6–8, 2013.
14. MIP Modeling with Metaconstraints and Semantic Typing (joint work with A. A. Cire and J. N. Hooker). Invited talk presented by John Hooker at the 10th *Mixed Integer Programming (MIP) Workshop*, Madison, WI, July 22–25, 2013.
15. Optimizing the Layout of Proportional Symbol Maps (joint work with G. Kunigami, P. J. de Rezende and C. C. de Souza), *INFORMS Annual Meeting*, Phoenix, AZ, October 14–17, 2012.
16. Semantic Typing of Variables (joint work with A. A. Cire and J. N. Hooker), *INFORMS Annual Meeting*, Charlotte, NC, November 13–16, 2011.
17. Valid Inequalities for the Cumulative Constraint and the Cumulative Job Shop Scheduling Problem (joint work with D. Magos and I. Mourtos), 19th *Conference of the International Federation of Operational Research Societies (IFORS)*, Melbourne, Australia, July 10–15, 2011. Also presented at: *INFORMS Annual Meeting*, Charlotte, NC, November 13–16, 2011; *Operations Research Seminar*, Tepper School of Business, Carnegie Mellon University, March 25, 2011.
20. A Polyhedral Study of the Cumulative Constraint (joint work with D. Magos and I. Mourtos). *INFORMS Annual Meeting*, Austin, TX, November 7–10, 2010.
21. Valid Inequalities for the Cumulative Constraint (joint work with D. Magos and I. Mourtos). 11th *International Symposium on AI and Mathematics (ISAIM)*, Fort Lauderdale, FL, January 6–8, 2010.
22. Valid Inequalities for a Piecewise-Linear Objective with Knapsack and Cardinality Constraints (joint work with I. R. de Farias Jr.). 20th *International Symposium on Mathematical Programming (ISMP)*, Chicago, IL, August 23–28, 2009.
23. Keep it SIMPL: Latest Developments in a General Purpose Modeling and Solution System for Integrated Optimization (joint work with I. D. Aron and J. N. Hooker). Presented by me at: *CORS-INFORMS International Meeting*, Toronto, Canada, June 14–17, 2009; 11th *INFORMS Computing Society Conference*, Charleston, SC, January 11–13, 2009. Presented by John Hooker at the 20th *International Symposium on Mathematical Programming (ISMP)*, Chicago, IL, August 23–28, 2009.
26. Supporting a Bundling, Lane and Price Sheet Strategy for a Fortune 500 Industrial Manufacturer (joint work with A. Scheller-Wolf, M. Shunko, V. Tardif, S. Tayur and N. Trapp), *INFORMS Annual Meeting*, Washington D.C., October 12–15, 2008. Invited talk given by Sridhar Tayur.
27. Complexity Reduction and Price Optimization at Caterpillar (joint with A. Scheller-Wolf, M. Shunko, V. Tardif, S. Tayur and N. Trapp), *INFORMS Annual Meeting*, Seattle, WA, November 4–7, 2007.
28. Scheduling Umpires (joint work with M. A. Trick and H. Yildiz), *European Conference on Operational Research (EURO)*, Prague, July 8–11, 2007. Invited talk given by Michael Trick.
29. Scheduling Major League Baseball Umpires (joint work with H. Barringer, J. Levine and M. A. Trick), *INFORMS Annual Meeting*, Pittsburgh, PA, November 5–8, 2006.

30. An Integrated Solver for Optimization Problems (joint work with I. D. Aron and J. N. Hooker). Invited to the 3rd *Mixed Integer Programming Workshop* (2006), University of Miami, Coral Gables, FL, June 5–8, 2006. Also presented at: *Institute of Computing*, University of Campinas (UNICAMP), Campinas, SP, Brazil, June 27, 2007; 10th *INFORMS Computing Society Conference*, Coral Gables, FL, January 3–5, 2007; *INFORMS Annual Meeting*, San Francisco, CA, November 13–16, 2005.
34. SIMPL: A System for Integrating Optimization Techniques (joint work with I. D. Aron and J. N. Hooker), *INFORMS Annual Meeting*, Denver, CO, October 24–27, 2004. Also invited to be presented at: Management Science Department, University of Miami, January 26, 2005; Department of Mechanical Engineering, University of Minnesota, February 1, 2005; Department of Industrial and Manufacturing Engineering, University of Wisconsin-Milwaukee, February 4, 2005; Department of Operations and Decision Technologies, University of California Irvine, February 7, 2005; Department of Combinatorics and Optimization, University of Waterloo, Canada, February 10, 2005.
40. Building Efficient Product Portfolios at John Deere (joint work with D. Napolitano, A. Scheller-Wolf and S. Tayur), *INFORMS Annual Meeting*, Denver, CO, October 24–27, 2004.
41. On The Sum Constraint: Relaxation and Applications, 8th *International Conference on Principles and Practice of Constraint Programming* (CP), Ithaca, NY, USA, September 8–13, 2002.
42. Solving a Real World Crew Rostering Problem with Integer Programming and Constraint Logic Programming Models (joint work with A. V. Moura and C. C. de Souza), 17th *International Symposium on Mathematical Programming*, Atlanta, GA, August 7–11, 2000.
43. Solving Very Large Crew Scheduling Problems to Optimality (joint work with A. V. Moura and C. C. de Souza), 15th *ACM Symposium on Applied Computing* (SAC), Como, Italy, March 19–21, 2000.
44. A Hybrid Approach for Solving Large Scale Crew Scheduling Problems (joint work with A. V. Moura and C. C. de Souza), 2nd *International Workshop on Practical Aspects of Declarative Languages* (PADL), Boston, MA, USA, January 17–18, 2000.
45. Exact Solutions for Real World Crew Scheduling Problems (joint work with A. V. Moura and C. C. de Souza), *INFORMS Annual Meeting*, Philadelphia, PA, November 7–10, 1999.

Teaching Experience

Courses Taught at the University of Miami (instructor ratings out of 5.00; $*$ indicates 100% online instruction):

- ◇ *MAS 632: Management Science Models for Decision Making*, MBA core, Miami Herbert Business School, fall 2005 (4.58), spring 2006 (4.19), spring 2007 (4.76, 4.67), spring 2008 (4.65, 4.57), spring 2009 (4.69, 4.67), spring 2010 (4.89, 4.91, 4.83), spring 2011 (4.71, 4.81, 4.87), spring 2012 (4.94, 5.00, 4.88), spring 2013 (4.92, 5.00, 4.93), spring 2014 (4.94, 4.92, 4.96), spring 2015 (4.97, 4.95, 4.33), spring 2016 (4.83, 4.86, 4.93), spring 2017 (5.00, 4.77, 4.87), spring 2018 (5.00, 5.00, 4.85), spring 2019 (4.88, 4.89), summer 2019 (4.64), spring 2020 (4.93, 4.69), fall 2020 (4.63*), spring 2021 (4.32*, 4.79*), fall 2021 (4.36), spring 2022 (4.43, 4.08), spring 2023 (4.48, 4.74), fall 2023 (4.92), spring 2024 (4.97);
- ◇ *MAS 110: Quantitative Applications in Business* (business calculus), undergraduate, Miami Herbert Business School, spring 2024 (4.75), fall 2024;
- ◇ *BUS 658: Business Analytics* (co-taught), one of seven case-based 3-day residencies in the Global Executive MBA program, Miami Herbert Business School, summers of 2015 – 2024;
- ◇ *BUS 625: Brazilian Business Environment*, Global Immersion MBA Elective, Miami Herbert Business School, spring 2016, spring 2020, spring 2024;

- ◇ *MAS 641: Operations Research Models in Management*, MBA for Working Professionals, Miami Herbert Business School, fall 2012 (4.69), fall 2013 (4.94), fall 2014 (5.00), fall 2015 (5.00), fall 2016 (4.82), fall 2017 (4.95), fall 2018 (4.81, 4.86), fall 2019 (4.81), fall 2020 (4.59*), fall 2021 (4.83), fall 2022 (4.94);
- ◇ *MAS 641: Prescriptive Analytics*, elective course, Asynchronous Online MBA, Miami Herbert Business School, spring 2023*;
- ◇ *MAS 441: Deterministic Models in Operations Research*, undergraduate, Miami Herbert Business School, fall 2007 (4.75), fall 2008 (business: 5.00, industrial engineering: 4.36), fall 2009 (4.67);
- ◇ *MAS 547: Computer Simulation Modeling*, undergraduate, Miami Herbert Business School, fall 2005 (4.00), fall 2006 (4.75), fall 2007 (4.83);
- ◇ *MAS 201: Introduction to Business Statistics*, undergraduate, Miami Herbert Business School, fall 2006 (4.44);

Courses Taught at Other Universities (instructor ratings out of 5.00):

- ◇ *Introduction to Constraint Programming*, one-week mini-course (9 hours), Industrial Engineering Department, Universidad de los Andes, Colombia, October 31 – November 4, 2011;
- ◇ *Sequencing and Scheduling*, MBA elective, Tepper School of Business, Carnegie Mellon University. Taught as a doctoral student, fall 2004 (4.27);
- ◇ *Quantitative Skills Review Program* (30-hour math review for incoming MBA students), Tepper School of Business, Carnegie Mellon University. Taught as a doctoral student, summer 2004 (4.62, 4.24).

Other Teaching-Related Activities:

- ◇ *Teaching Fellow*, Eberly Center for Teaching Excellence, Carnegie Mellon University, 6/2003 – 5/2005.
- ◇ Invited member, Graduate Student Teaching Award selection committee, Carnegie Mellon University, 2001 – 2003.
- ◇ Teaching Assistant at both MBA and PhD levels (23 times), Tepper School of Business, Carnegie Mellon University, 2001 – 2005.
- ◇ Attended 18 teaching seminars offered by the Eberly Center for Teaching Excellence at Carnegie Mellon. Topics covered include: overview of student cognition; the role of external representations in the active construction of knowledge; writing in the disciplines; communicating across cultures; course and syllabus design; assessing student learning and providing helpful feedback; collaboration and peer-critique during teaching and learning; what makes a comfortable classroom climate; overview of student motivation; planning effective lectures; conducting productive discussions; strategies to increase active learning; teaching first-year students; working well one-on-one; teaching from the heart; and using case studies to actively engage students.

Other Contributions to Research and Teaching

- ◇ Optimization Games for the Young: A collection of hands-on games developed to help spark an interest for mathematics in children and young adults. All you need are a printer to print the pages with the instructions and a pair of scissors to cut out the game pieces. Background knowledge required: ability to count and, for some games, a basic command of the four arithmetic operations.
- ◇ Contributed an improvement (based on one of my blog posts) to problem 32 (locating ambulances in Dade County) in Chapter 6 of the seventh edition of *Spreadsheet Modeling and Decision Analysis* by Cliff Ragsdale. Cengage Learning, 2014. ISBN: 978-1285418681.

- ◇ Contributed three problem instances to MIPLIB 2010 (a benchmark widely used by researchers in discrete optimization), namely: *csched007*, *csched008*, and *csched010* (single-machine cumulative scheduling). Journal reference: *Mathematical Programming Computation*, volume 3, issue 2, pages 103–163, 2011. Web site: http://miplib.zib.de.
- ◇ Contributed the case study entitled "Warehouse Tenting at the Port of Miami" (based on one of my blog posts) to Module A of the eleventh edition of *Operations Management* by Jay Heizer and Barry Render. Prentice Hall, 2013. ISBN: 978-0132921145.

Consulting and Practical Experience

- ◇ Consultant to Burger King's supply chain management and distribution co-op (Restaurant Services, Inc.) on procurement optimization and cost reduction, 5/2013 – 10/2013, 3/2014 – 12/2014, 5/2017 – 9/2017, 12/2017 – 3/2018;
- ◇ Consultant to Caterpillar, Inc. (through SmartOps Corp.) on product line simplification, 4/2006 – 11/2007. Joint work with A. Scheller-Wolf, M. Shunko, V. Tardif, and S. Tayur;
- ◇ Consultant to John Deere & Co. (through SmartOps Corp.) on product line simplification, 5/2003 – 11/2004. Joint work with D. Napolitano, A. Scheller-Wolf and S. Tayur;
- ◇ Consultant to Major League Baseball (through the Sports Scheduling Group) on the scheduling of umpires. Joint work with H. Barringer, J. Levine and M. A. Trick, 1/2005 – 5/2005; joint work with M. A. Trick, 1/2006 – 3/2006;
- ◇ Informal consulting with a Brazilian urban transit company on the scheduling of bus drivers, 3/1998 – 5/2000. Joint work with A. V. Moura and C. C. de Souza.
- ◇ Member of the GEOTEC project in Brazil (National Research Council). Projected and implemented part of an environment for modeling complex computer-human interfaces (Xchart Project), 4/1995 – 2/1997. Joint work with C. Neves Jr. and F. N. de Lucena.

Student Supervision and Collaboration with Short-Term Visitors

- ◇ Doctoral dissertation advising/committees:
  - ○ Felipe de C. Pereira, Institute of Computing, University of Campinas (UNICAMP), Brazil (2021 – present). Thesis topic: *Influence Propagation in Social Netowks.* Co-advised with Pedro J. de Rezende from UNICAMP.
  - ○ Lucas de Oliveira, Institute of Computing, University of Campinas (UNICAMP), Brazil (2012 – 2016). Thesis title: *The Traveling Umpire Problem: Complexity, Modeling, and Algorithms*. Co-advised with Cid C. de Souza from UNICAMP. **Second Place Winner**, Latin American Doctoral Thesis Competition (CLTD), 2017.
  - ○ Hakan Yildiz, Tepper School of Business, Carnegie Mellon University (2002 – 2008). Thesis title: *Methodologies and Applications for Scheduling, Routing and Related Problems*. Advisor: Michael Trick. Initial placement: Michigan State University.
- ◇ Research collaboration with Felipe Pereira, visiting research scholar from the University of Campinas, Brazil. Visit: 2/2023 – 4/2023. Project topic: *Propagation of information in social networks*.
- ◇ Co-advised (with João da Silva) the undergraduate senior thesis of Diego de Souza, Department of Industrial Engineering, Federal University of São Carlos in Sorocaba, Brazil, spring 2018. Title: *O Problema de Programação de Turnês Musicais: Proposição de uma Modelagem Exata (Scheduling Band Concert Tours: An Exact Modeling Approach)*.

- ◇ Directed undergraduate research study with Linh Nghiem, Management Science Department, spring 2015. Project topic: *Improving patient flow at a local hospital's pre-operation assessment clinic.*
- ◇ Directed undergraduate research study with Stephen Bishop, Management Science Department, spring 2015. Project topic: *Trade-offs between monthly and hourly spots at parking lots and garages.*
- ◇ Research collaboration with Krzysztof Fleszar, Associate Professor, American University of Beirut, Lebanon. Visit: 11/2014 – 12/2014. Project topic: *Two-dimensional bin packing with guillotine cuts*.
- ◇ Honors summer research advisor for Linh Nghiem, Management Science Department, summer 2014. Project topic: *Concert tour route optimization*. Accepted for presentation at: ACC Meeting of the Minds Undergraduate Research Conference, Raleigh, NC, April 10–12, 2015; SACNAS National Conference, Los Angeles, CA, October 16–18, 2014. Winner of the Excellence in Research Award, Miami Herbert Business School, April 2015. Published as "A Heuristic Method for Scheduling Band Concert Tours," SIAM Undergraduate Research Online (SIURO), volume 9, 2016.
- ◇ Senior thesis advisor for Robert Stacey, Management Science Department, fall 2012 and spring 2013. Project topic: *Heterogeneous facility location with blockages*. First place winner, Undergraduate Research, Creativity, and Innovation Forum (business category), University of Miami, April 2013.
- ◇ Research collaboration with Jonas Bæklund, visiting doctoral student, Aarhus University, Denmark. Visit: 1/2011 – 6/2011. Project topic: *Nurse rostering in a Danish hospital*.
- ◇ Directed undergraduate research study with Juan Carlos Villegas, University of Miami, fall 2010. Project title: *Coverage Optimization with Visual Interference: A Case Study of the Blue-Light Phones on the University of Miami Campus*.

Service to the Academic Community

- ◇ *Editorial Board Member:* INFORMS Journal on Computing (AE, 3/2014 – 12/2018), International Transactions in Operational Research (AE, 10/2012 – 12/2020).
- ◇ Co-chair, INFORMS Teaching Effectiveness Colloquium, 2023 and 2024.
- ◇ Member of the INFORMS K-12 Education Outreach Subcommittee, 1/2020 – 5/2022.
- ◇ Selection committee member, INFORMS Prize for the Teaching of OR/MS Practice, 1/2020 – 12/2021.
- ◇ Grant Proposal Review Panelist, National Science Foundation (2015).
- ◇ Member of the INFORMS Public Information Committee (PIC), 8/2011 – 12/2013.
- ◇ *Organizing Committee Member:* INFORMS Optimization Society Conference (2012), Mixed Integer Programming (MIP) Workshop (2016).
- ◇ *Program Committee Member:* International Conference on Integration of AI and OR Techniques in Constraint Programming for Combinatorial Optimization Problems (CPAIOR) (2008 – 2014, and 2024), International Conference on Principles and Practice of Constraint Programming (CP) (2012, 2015, 2017, 2021, and 2024), INFORMS Optimization Society Conference (2012).
- ◇ *Session Organizer/Chair:* INFORMS Annual Meeting (2004, 2007, 2008, 2010, 2011), INFORMS Computing Society Conference (2007), CORS-INFORMS International Meeting (2009).
- ◇ *Ad hoc Reviewer: Operations Research*, *Manufacturing and Service Operations Management*, *Production and Operations Management*, *INFORMS Journal on Computing*, *Mathematical Programming Computation*, *Discrete Applied Mathematics*, *Naval Research Logistics*, *Annals of Operations Research*, *Journal of Heuristics*, *Journal of Scheduling*, *INFORMS Journal on Applied Analytics*, *Interfaces*, *European Journal of Operational Research*, *Computers and Operations Research*, *Computational Optimization and Applications*, *Constraints*, *Information Processing Letters*, *International Transactions in Operational Research*,

INFORMS Transactions on Education, *EURO Journal on Computational Optimization*, *Decision Sciences Journal of Innovative Education*, International Conference on Principles and Practice of Constraint Programming (CP), International Conference on Integration of AI and OR Techniques in Constraint Programming for Combinatorial Optimization Problems (CPAIOR), Algorithm Engineering and Experiments (ALENEX), ACM Symposium on Applied Computing (SAC), Workshop on Experimental Algorithms (WEA), Brazilian Symposium on Operations Research (SBPO).

Service to the University of Miami and the Business School

- ◇ Ph.D. Program Coordinator for Management Science, 6/2022 – present.
- ◇ Alternate Member of the Academic Integrity Committee, 10/2020 – present.
- ◇ Member of the Latin America and Caribbean Initiative (LACI) steering group, 12/2017 – present.
- ◇ Faculty Coordinator, Business Analytics, Global Executive MBA, 11/2014 – present.
- ◇ Member of the university-wide Academic Computing and Advisory Committee, 11/2014 – present.
- ◇ Member of the dean search committee, Miami Herbert Business School, 2/2023 – 5/2024.
- ◇ Member of the selection committee, Provost Teaching Awards (mentorship category), 1/2024 – 4/2024.
- ◇ Member of internal review committee, Keyboard Performance and Pedagogy Graduate Program Review, Frost School of Music, 11/2023 – 2/2024.
- ◇ Academic Director, Full-Time and Online MBA Programs, 8/2018 – 5/2020.
- ◇ Member of ad hoc taskforce for Academic Continuity (planning for disruptions caused by hurricanes and pandemics), 3/2020 – 5/2020.
- ◇ Member of steering committee, MBA 70th Anniversary Celebration, 1/2018 – 4/2018.
- ◇ Academic Director, Online MBA Program, 9/2016 – 7/2018.
- ◇ Panel Interviewer and Moderator, *Focus On Brazil*, an evening focused on the business environment in Brazil. Featuring industry professionals and a taste of Brazilian culture, 9/2016.
- ◇ Member of ad hoc Committee on Teaching Assessment, 12/2015 – 5/2018.
- ◇ Member of the Ph.D. Program Admissions Committee and Ph.D. Program Coordinator for Management Science, 2/2014 – 7/2018.
- ◇ Member of the Full-Time Graduate Business Programs Advisory Committee, 10/2012 – 12/2013.
- ◇ Taught sample classes to prospective undergraduate and graduate students at the following events: *Family Weekend* (9/2015), *MBA for a Day* (2/2013, 11/2013, 2/2014, 10/2015, and 10/2016), *Stamps/Singer Scholarship Weekend* (3/2013 and 3/2014).
- ◇ Singer Scholarship interviewer, 2010 and 2011.
- ◇ Member of the Graduate Curriculum Taskforce, 8/2007 – 5/2008.
- ◇ Organizer of the Management Science Department seminar series, 8/2006 – 5/2012.
- ◇ Member of the stage party at the spring/fall commencement ceremonies (eight times), 2007 – 2019; banner marshal for the Miami Herbert Business School (twice), 2017 – 2019; and faculty marshal for the Miami Herbert Business Schol (once), 2024.

Media Mentions and Featured Stories

- ◇ *Poets & Quants*, Favorite Professors Of The MBA Class Of 2019, 5/26/2019 (PDF version).

- ◇ *Orthopedics This Week*, Innovative Scheduling Model Raises Productivity, 12/10/2018 (PDF version).
- ◇ Featured in episode two of the Resoundingly Human podcast by INFORMS, 9/14/2018.
- ◇ Featured in *ORMS Today Magazine*'s What's Your StORy? April issue, page 11, 2016 (PDF version).
- ◇ Featured in a *Florida Trend Magazine* article entitled Florida's MBA Professors Are Pushing the Limits. March issue, page 48, 2013 (PDF version).
- ◇ *WAMC Northeast Public Radio Academic Minute*, Umpire Scheduling, 10/19/2011 (MP3 audio).
- ◇ *Miami New Times*, University of Miami Scientist Cracks MLB's Umpire Code, September 8–14, 2011.
- ◇ *Scientific American*, Researchers Tell Umpires Where to Go, 8/18/2011 (PDF version).
- ◇ *PhysOrg*, University of Miami Business Professor Helps Create a Successful Scheduling Method for Umpires in Major League Baseball, 8/3/2011 (PDF version).
- ◇ *HPCwire*, Business Prof Solves Traveling Umpire Problem for Major League Baseball, 8/3/2011.

Additional Information and Skills

- ◇ Born in Brazil. U.S. Citizen.
- ◇ *Natural languages:* fluent in English and Portuguese; beginner in French and Spanish.
- ◇ *Programming languages:* Assembly 8086, C, C++, Lisp, Pascal, Perl, Prolog.
- ◇ *Modeling languages:* AMPL, Arena, Comet, ECLiPSe, OPL, R (beginner).
- ◇ Classical piano (2000+ hours of practice, intermediate level), playing since 2019.

References

- ◇ Edward K. Baker
  Senior Professor (retired in 2016)
  Management Science Department
  Miami Herbert Business School
  ebaker@miami.edu

- ◇ John N. Hooker
  T. Jerome Holleran Professor of Business Ethics and Social Responsibility, University Professor of Operations Research, Emeritus
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- ◇ Anuj Mehrotra
  Dean, Stephen P. Zelnak Jr. Chair, and Professor of Operations Management
  Scheller College of Business
  Georgia Institute of Technology
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- ◇ Michael A. Trick
  Dean, Carnegie Mellon University in Qatar
  Harry B. and James H. Higgins Professor of Operations Research
  trick@cmu.edu