

Jose L. Walteros, Ph.D.

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Department of Industrial and Systems Engineering
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EDUCATION

- **Ph.D., Industrial and Systems Engineering, 2014**
University of Florida, Gainesville, FL, USA
- **M.S., Industrial Engineering, 2010**
Universidad de los Andes, Bogotá, Colombia
- **B.S., Industrial Engineering, 2005**
Universidad de los Andes, Bogotá, Colombia

EMPLOYMENT HISTORY

- **Assistant Professor**, Department of Industrial and Systems Engineering, 2014 - present
University at Buffalo, The State University of New York, Buffalo, NY, USA
- **Doctoral Research Assistant**, Department of Industrial and Systems Engineering, 2010 - 2014
University of Florida, Gainesville, FL, USA
- **Instructor**, Department of Industrial Engineering, 2007 - 2010
Universidad de los Andes, Bogotá, Colombia

RESEARCH INTERESTS

Large-Scale Optimization	Transportation and Routing
Integer Programming	Environmental applications
Network Optimization and Interdiction	Logistics
Multilevel Optimization	Data Association
Parameterized Algorithms	Defense Applications

HONORS AND AWARDS

- Morton C. Frank Professorship, Industrial and Systems Engineering, University at Buffalo 2014-2017.
- 2019 Informs Junior Faculty Interest Group Paper competition. Finalist and Honorable Mention for the paper Walteros, J. L. and Buchanan, A., *Why is maximum clique often easy in practice?*
- Top cited paper 2019-2020 in the journal Networks for the paper Walteros, J. L., Veremyev, A. and Pardalos, P. M., *Detecting Critical Node Structures on Graphs: A Mathematical Programming Approach*.
- Top downloaded paper 2018-2019 in the journal Networks for the paper Walteros, J. L., Veremyev, A. and Pardalos, P. M., *Detecting Critical Node Structures on Graphs: A Mathematical Programming Approach*.
- Advisor to Luca Wrabetz (University at Buffalo), 3rd place in the INFORMS Annual Meeting Poster Competition, Seattle, WA, 2019.
- Graduate Award for Excellence in Teaching, Industrial and Systems Engineering Department, University of Florida, 2013.
- University of Florida Graduate School Fellowship Award, 2010-2014.
- Advisor to Luca Wrabetz, 3rd place, INFORMS Annual Poster Competition, Seattle, WA, 2019.

- Advisor to Svetlana Riabova, Honorable Mention, Best Poster Award, 2023 Los Alamos Grid Science Winter School and Conference, Los Alamos, NM, 2023.
- Co-advisor (with A.L. Medaglia and J. Sefair) to Miguel Angel Vargas (Universidad de los Andes), 2nd place in the 5th Regional Conference, IIE Central and South American Region, Technical Paper Competition, Paipa, Colombia, 2008.

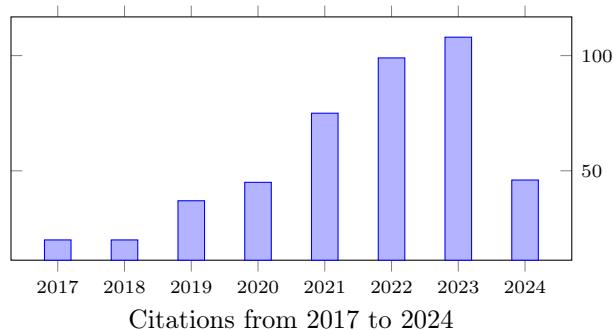
PEER-REVIEWED PUBLICATIONS

Impact Summary (as of October, 2023):

Journal	Total
Operations Research	1
Mathematical Programming	1
INFORMS Journal on Computing	1
INFORMS Transportation Science	2
Mathematical Programming Computation	1
Networks	3
European Journal of Operational Research	3
Omega	1
Risk Analysis	1
Annals of Operations Research	1
Operations Research Letters	1
Optimization Letters	2
Computers & Industrial Engineering	1
Socio-Economic Planning Sciences	1
Environmental Modeling and Software	1
Journal of Hydrology	1
Total	22

Citation Indices	All	Since 2018
Citations	567	405
h-index	14	12
i10-index	18	16

Google Scholar Citation Data, April, 2024.



Number of journal articles published or accepted for publication (J): 22. Number of journal articles under review (U): 7. Number of books edited (B): 2. Number of book chapters (C): 5. Number of conference proceedings (P): 4.

Journal Articles Published and Accepted:

Legend: *-Student (Main advisor or Co-main advisor), †-Student (Committee member), †-Walteros is corresponding author

- J1. C. Gao*, N. Wei*, **J. L. Walteros**[†], An Exact Approach for Solving Pickup-and-Delivery Traveling Salesman Problems with Neighborhoods. *Transportation Science*. <https://doi.org/10.1287/trsc.2022.0138>.
- J2. D. V. Papazaharias*, **J. L. Walteros**[†], Solving Graph Partitioning on Sparse Graphs: Projections and Extended Formulations. *Mathematical Programming Computation*. 15:103-151 (2023). <https://doi.org/10.1007/s12532-022-00228-y>.
- J3. R. Bhandawat*, S. Casucci, B. Ramamurthy, **J. L. Walteros**, Cooperative Blood Inventory Ledger (Co-BIL): A decentralised decision making framework for improving blood product management. *Computer & Industrial Engineering* (2022). <https://doi.org/10.1016/j.cie.2022.108571>.
- J4. N. Wei*, **J. L. Walteros**[†], Integer Programming Methods for Solving Binary Interdiction Games. *European Journal of Operational Research*. 302(2):456-469 (2022). <https://doi.org/10.1016/j.ejor.2022.01.009>.
- J5. J. E. Fontecha*, A. Nikolaev, **J. L. Walteros**[†], Z. Zhu, Scientists Wanted? A Literature Review on Incentive Programs that Promote Pro-Environmental Consumer Behavior: Energy, Waste, and Water. *Socio-Economic Planning Sciences* (2022). <https://doi.org/10.1016/j.seps.2022.101251>.

- J6. M. J. Naderi, A. Buchanan, **J. L. Walteros**, Worst-Case Analysis of Clique MIPs. *Mathematical Programming*. 195:517-551 (2022). <https://doi.org/10.1007/s10107-021-01706-2>.
- J7. J. E. Fontecha*, **J. L. Walteros**[‡], A. Nikolaev, Reach Maximization for Social Lotteries. *Omega* (2021). <https://doi.org/10.1016/j.omega.2021.102496>.
- J8. J. E. Fontecha*, P. Agarwal, **J. L. Walteros**, S. Mukherjee, M. N. Torres Cajiao, J. P. Rodríguez, A Two-Stage Data-Driven Spatiotemporal Analysis to Predict Failure Risk of Urban Sewer Systems Leveraging Machine Learning Algorithms. *Risk Analysis*. 41(12):2356-2391 (2021). <https://doi.org/10.1111/risa.13742>.
- J9. M. N. Torres Cajiao, J. E. Fontecha*, **J. L. Walteros**, Z. Zhu, Z. Ahmed, J. P. Rodriguez, A. J. Rabideau, City-Scale Optimal Location Planning of Green Infrastructure Using Piece-Wise Linear Interpolation and Exact Optimization Methods. *Journal of Hydrology* (2021). <https://doi.org/10.1016/j.jhydrol.2021.126540>.
- J10. N. Wei*, **J. L. Walteros**[‡], M. Worden, H. Ortíz-Peña, A Resiliency Analysis of Information Distribution Policies over Mobile Ad Hoc Networks. *Optimization Letters*. 15(4):1081-1103 (2021). <https://doi.org/10.1007/s11590-021-01717-0>
- J11. N. Wei*, **J. L. Walteros**[‡], F. Mahdavi Pajou, Integer Programming Formulations For Minimum Spanning Tree Interdiction. *INFORMS Journal on Computing*. 33(4):1461-1480 (2021). <https://doi.org/10.1287/ijoc.2020.1018>.
- J12. **J. L. Walteros**[‡], A. Buchanan, Why is Maximum Clique Often Easy in Practice? *Operations Research*. 68(6):1866-1895 (2020). <https://doi.org/10.1287/opre.2019.1970>. *Honorable Mention, 2019 JFIG Paper Competition*.
- J13. N. Wei*, **J. L. Walteros**[‡], R. Batta, On the Distance Between Random Events in a Network. *Networks*. 75(2):203-231 (2020). <https://doi.org/10.1002/net.21919>.
- J14. M. N. Torres Cajiao, J. E. Fontecha*, **J. L. Walteros**, Z. Zhu, J. P. Rodriguez, A Participatory Approach Based on Stochastic Optimization for the Spatial Allocation of Sustainable Urban Drainage Systems for Rainwater Harvesting. *Environmental Modeling and Software* (2020). <https://doi.org/10.1016/j.envsoft.2019.104532>.
- J15. Y. C. Hsu*, **J. L. Walteros** **J. L.**[‡], R. Batta. Petroleum Replenishment and Routing Problem with Variable Demands and Time Windows. *Annals Operations Research*. 294:9-46 (2020). <https://doi.org/10.1007/s10479-018-3042-5>.
- J16. **J. L. Walteros**[‡] A. Veremyev, P. M. Pardalos, Detecting Critical Node Structures on Graphs: A Mathematical Programming Approach. *Networks*. 73(1):48-88 (2019). <https://doi.org/10.1002/net.21834>. *Top Downloaded Paper 2018-2019* and *Top Cited Paper 2019-2020*.
- J17. C. Vogiatzis, **J. L. Walteros**, Integer Programming Models for Generating Graph Bipartitions with Structural Requirements. *Networks*. 71(4):432-450 (2018). <https://doi.org/10.1002/net.21786>.
- J18. F. Mahdavi Pajouh, **J. L. Walteros**, V. Boginski, E. L. Pasiliao, Minimum Edge Blocker Dominating Set Problem. *European Journal of Operational Research*. 247(1):16-26 (2015). <https://doi.org/10.1016/j.ejor.2015.05.037>.
- J19. **J. L. Walteros**, A. L. Medaglia, G. Riaño, A Hybrid Algorithm for Route Design on Bus Rapid Transit Systems. *Transportation Science*. 49(1):66-84 (2015). <https://doi.org/10.1287/trsc.2013.0478>
- J20. **J. L. Walteros**, C. Vogiatzis, E. L. Pasiliao, P. M. Pardalos, Integer Programming Models for the Multidimensional Assignment Problem with Star Costs. *European Journal of Operational Research*. 235(3):553-568 (2014). <https://doi.org/10.1016/j.ejor.2013.10.048>.
- J21. A. Buchanan, **J. L. Walteros**, S. Butenko, P. M. Pardalos, Solving Maximum Clique in Sparse Graphs: an $O(nm + n2^{d/4})$ Algorithm for d -Degenerate Graphs. *Optimization Letters*. 8(5):1611-1617 (2014). <https://doi.org/10.1007/s11590-013-0698-2>.
- J22. D. Feillet, M. Gendreau, A. L. Medaglia, **J. L. Walteros**, A Note on Branch-and-Cut-and-Price. *Operations Research Letters*. 38(5):346-353 (2010). <https://doi.org/10.1016/j.orl.2010.06.002>.

Journal Articles Under Review:

- U1. R. Bhandawat*, S. Casucci, **J. L. Walteros**, A Two-Stage Stochastic Framework for Blood Product Inventory Management with ABO Substitution and Lateral Transshipment. Revision submitted to *IIE Transactions on Healthcare Systems Engineering* (2023).
- U2. N. Wei*, **J. L. Walteros**, On Supervalid Inequalities for Binary Interdiction Games.
- U3. P. Ganguly[†], S. Mukherjee, **J. L. Walteros**, L. Herrera, An Integrated Framework to Improve the Resiliency of Electricity Distribution Systems Exposed to Wildfires.
- U4. M. Ni[†], Q. He, **J. L. Walteros**, X. Liu, A. Hampapur, A Store-based Fulfillment Planning Strategy for a Holiday Season: How Traditional Retailers Compete with E-retailers in Same-day Delivery?
- U5. R. Raj[†], D. Lee, S. Lee, **J. L. Walteros**, C. Murray, A Branch-and-Price Approach for the Parallel Drone Scheduling Vehicle Routing Problem.

Edited Books:

- B1. C. Vogiatzis, **J. L. Walteros**, P. M. Pardalos (Eds.), Dynamics of Information Systems: Computational and Mathematical Challenges. *Proceedings in Mathematics & Statistics*, volume 105. Springer, 2014.
- B2. P. M. Pardalos, M. G. C. Resende, C. Vogiatzis, **J. L. Walteros** (Eds.), Learning and Intelligent Optimization. *Lecture Notes in Computer Science*, volume 8426. Springer, 2014.

Peer-reviewed Book Chapters:

- C1. **J. L. Walteros**, Grapg Partitioning. In P. M. Pardalos and O. A. Prokopyev (Eds.), *Encyclopedia of Optimization*, Springer (2023). https://doi.org/10.1007/978-3-030-54621-2_757-1.
- C2. J. Dorismond*, **J. L. Walteros**, R. Batta, A Simulation Based Tool to Guide Changes in a Supermarket Layout. In A. Ghoniem and B. Maddah (Eds.), *Retail Space Analytics International Series in Operations Research & Management Science*, vol 339, Springer (2022). https://doi.org/10.1007/978-3-031-27058-1_4.
- C3. C. Vogiatzis, **J. L. Walteros**, P. M. Pardalos, Evacuation Through Clustering Techniques. In Goldengorin, B., Kalyagin, V. A., and Pardalos, P. M. (Eds.), *Models, Algorithms, and Technologies for Network Analysis*, vol 32. Springer (2013) https://doi.org/10.1007/978-1-4614-5574-5_10.
- C4. **J. L. Walteros** P. M. Pardalos, Selected Topics in Critical Element Detection. In N. J. Daras (Ed.), *Applications of Mathematics and Informatics in Military Science*, vol 71, Springer (2012). https://doi.org/10.1007/978-1-4614-4109-0_2.
- C5. **J. L. Walteros**, P. M. Pardalos, A Decomposition Approach for Solving Critical Clique Detection Problems. In Klasing, R. (Ed.), *Experimental Algorithms*, vol 7276, Springer (2012). https://doi.org/10.1007/978-3-642-30850-5_34

Peer-reviewed Conference Proceedings:

- P1. A. Bernal*, M. A. Ramírez, H. Castro, **J. L. Walteros**, A. L. Medaglia, JG2A: A Grid-Enabled Object-Oriented Framework for Developing Genetic Algorithms. In Proceedings of the 2009 IEEE Systems and Information Engineering Design Symposium, pp. 1–6, 2009.
- P2. M. A. Vargas*, **J. L. Walteros**, A. L. Medaglia, Hybrid Approach to Airline Crew Pairing Optimization for Small Carriers. Proceeding of the IIE Annual Conference and Expo, pp. 1327–1332, 2009.
- P3. M. A. Vargas*, J. Sefair, **J. L. Walteros**, A. L. Medaglia, L. Rivera, Car pooling optimization: a case study in Strasbourg (France). In Proceedings of the 2008 IEEE Systems and Information Engineering Design Symposium, pp. 89–94, 2008.
- P4. **J. L. Walteros**, G. Riaño, A. L. Medaglia, A Hybrid Genetic Algorithm for Route Design in a Bus Rapid Transit System. In Proceedings of the 7th Metaheuristics International Conference (MIC), Montreal, Canada, 2007.

Conference Presentations:

1. **J. L. Walteros**, A Branch-and-Bound Framework to Solve a General Class of Interdependent Multistage Interdiction Games. 2024 INFORMS Optimization Society Conference, Houston TX, March 2024.
2. S. Riabova, **J. L. Walteros**, Designing Optimal Location-Based Discount Policies for Online Retail Distribution with Customer Preferences Uncertainty. 2023 INFORMS Annual Meeting, Phoenix AZ, October 2023. (Presented by S. Riabova).
3. P. Ganguly, S. Mukherjee, **J. L. Walteros**, An Integrated Framework to Improve the Resiliency of Electricity Distribution Systems Exposed to Wildfires. 2023 INFORMS Annual Meeting, Phoenix AZ, October 2023. (Presented by P. Ganguly).
4. J. E. Fontecha*, A. Nikolaev, **J. L. Walteros**, Z. Zhu, Distribution of Pro-Environmental Incentives: Opportunities for OR. 2022 INFORMS Annual Meeting, Indianapolis IN, October 2022. (Presented by A. Nikolaev).
5. S. Riabova*, **J. L. Walteros**, Adjusting Customers' Utility Functions via Bilevel Optimization. 2022 INFORMS Annual Meeting, Indianapolis IN, October 2022. (Presented by A. Riabova).
6. N. Wei*, **J. L. Walteros**, Supervalid Inequalities in Binary Interdiction Games and Applications in Greedoid Interdiction. 2023 INFORMS Annual Meeting, Indianapolis IN, October 2022. (Presented by N. Wei).
7. S. Riabova*, **J. L. Walteros**, Bilevel models for location-based pricing problems in online retail. 2022 INFORMS Optimization Society Conference, Greenville SC, March 2022 (Presented by A. Riabova).
8. D. V. Papazaharias*, **J. L. Walteros**, M. Sudit, Optimal Task Planning of Adversarial Games: An Integer Programming Approach. 2022 INFORMS Computing Society Conference, Tampa FL, January 2022.
9. D. V. Papazaharias*, **J. L. Walteros**, M. Sudit, Optimal Task Planning of Adversarial Games: An Integer Programming Approach. 2021 INFORMS Annual Meeting, Anaheim CA, November 2021 (Presented by D. V. Papazaharias).
10. N. Wei*, **J. L. Walteros**, Integer Programming Methods for Solving Binary Interdiction Games. 2021 INFORMS Annual Meeting, Anaheim CA, November 2021. (Presented by N. Wei).
11. C. Gao, **J. L. Walteros**, Optimal Criteria For The Close-enough Traveling Salesman Problem With General-shape Regions. 2020 INFORMS Annual Meeting, November 2020. (Presented by C. Gao).
12. J. E. Fontecha*, P. Agarwal, **J. L. Walteros**, S. Mukherjee, M. N. Torres Cajiao, J. P. Rodríguez, A Two-stage Data-driven Risk Prediction Framework Leveraging Machine Learning and 2D Space-time Analysis: A Case Study For Sewer System Failures In Bogota. 2020 INFORMS Annual Meeting, November 2020. (Presented by J. E. Fontecha).
13. M. N. Naderi, A. Buchanan, **J. L. Walteros**, Worst-case Analysis Of Clique MIPs. 2020 INFORMS Annual Meeting, November 2020. (Presented by M. J. Naderi).
14. L. Wrabetz*, **J. L. Walteros**, Minimum Cost Set-Covering Interdiction. 2020 INFORMS Annual Meeting, November 2020. (Presented by L. Wrabetz).
15. D. V. Papazaharias*, **J. L. Walteros** A Branch-and-cut Approach For Simple Graph Partitioning On Sparse Graphs. 2020 INFORMS Annual Meeting, November 2020. (Presented by D. V. Papazaharias).
16. N. Wei*, **J. L. Walteros**, Robustness Analysis of UAV Information Collection Path Under Limited Bandwidth. 2019 INFORMS Annual Meeting, Seattle, WA, October 2019. (Presented by N. Wei).
17. D. V. Papazaharias*, **J. L. Walteros** Extended Formulations For Simple Graph Partitioning On Sparse Graphs. 2019 INFORMS Annual Meeting, Seattle, WA, October 2019. (Presented by D. V. Papazaharias).
18. N. Wei*, **J. L. Walteros**, Supervalid Inequalities for Network Interdiction Problems. 2018 INFORMS Annual Meeting, Phoenix AZ, October 2018. (Presented by N. Wei).

19. J. E. Fontecha*, M. Jois*, Nikolaev, A., **J. L. Walteros** On Incentivized-social-influence-based Programs to Promote Behavioral Changes: A Case Study for Incentivizing Households to Save Energy. 2018 INFORMS Annual Meeting, Phoenix AZ, October 2018. (Presented by J. E. Fontecha).
20. F. Monsapour*, **J. L. Walteros**, R. Batta Studying the Trade-off Between Police Presence and Patrolling in a Road Network. 2018 INFORMS Annual Meeting, Phoenix AZ, October 2018. (Presented by F. Monsapour).
21. N. Wei*, **J. L. Walteros**, R. Batta On the Distance between Random Events in a Network. 2018 INFORMS Annual Meeting, Phoenix AZ, October 2018. (Presented by N. Wei).
22. D. V. Papazaharias*, **J. L. Walteros** An Integer Programming Approach for Vertex Connectivity Interdiction Problems. 2018 INFORMS Annual Meeting, Phoenix AZ, October 2018. (Presented by D. Papazaharias).
23. N. Wei*, **J. L. Walteros**, Supervalid Inequalities for Network Interdiction Problems. 2018 INFORMS Optimization Society Conference, Denver CO, March 2018. (Presented by N. Wei).
24. **J. L. Walteros**, A. Buchanan, Why is Maximum Clique Easy on Real-life Graphs. 2018 INFORMS Optimization Society Conference, Denver CO, March 2018.
25. C. Gao*, **J. L. Walteros**, On Routing Unmanned Aerial Vehicles for Surveillance and Reconnaissance Activities. 2018 INFORMS Annual Meeting, Houston TX, October 2017. (Presented by C. Gao).
26. N. Wei*, **J. L. Walteros**, Supervalid Inequalities for Network Interdiction Problems. 2017 INFORMS Annual Meeting, Houston TX, October 2017. (Presented by N. Wei).
27. Nikolaev, A., **J. L. Walteros**, Reach Maximization for Direct Incentive-Driven Pro-Environmental Social Programs. 2018 INFORMS Annual Meeting, Houston TX, October 2017. (Presented by A. Nikolaev).
28. Ni, M.[†], Q. He, **J. L. Walteros**, Same-day Delivery Planning with Store Fulfillment. 2017 INFORMS Annual Meeting, Houston TX, October 2017. (Presented by M. Ni).
29. J. Dorismond*, **J. L. Walteros**, R. Batta Simulation and Analysis of a Grocery Store Layout. 2017 INFORMS Annual Meeting, Houston TX, October 2017. (Presented by J. Dorismond).
30. **J. L. Walteros**, A. Buchanan, Why is Maximum Clique Easy on Real-life Graphs. 2017 INFORMS Annual Meeting, Houston TX, October 2017.
31. H. Feyzollahi*, **J. L. Walteros** Team Orienteering Problem with Stochastic Profits and Risk Constraints. 2017 INFORMS Annual Meeting, Houston TX, October 2017. (Presented by H. Feyzollahi).
32. Mousapour, F.* , **J. L. Walteros**, R. Batta Studying the Tradeoff Between Police Presence and Response Time. 2017 INFORMS Annual Meeting, Houston TX, October 2017. (Presented by F. Mousapour).
33. H. Feizollahi* **J. L. Walteros** A Dynamic Programming Approach For Solving The Orienteering Problem With Time Windows Stochastic Profits and Risk Constraints. IISE Annual Conference and Expo, Pittsburgh, PA, May 2017. (Presented by H. Feyzollahi).
34. R. Swamy, **J. L. Walteros**, Managing the Daily Operations of a Bike Sharing System Using Portable Stations. 2016 INFORMS Annual Meeting, Nashville, TN, November 2016. (Presented by R. Swamy).
35. C. Gao*, **J. L. Walteros**, C. Murray, The Risk/Reward Asset Routing Problem (R^2 ARP): Optimal Route Planning for Airborne Sensors. 2016 INFORMS Annual Meeting, Nashville, TN, November 2016. (Presented by Coauthor C. Gao).
36. N. Wei*, **J. L. Walteros**, Mahdavi Pajou, F., Integer Programming Formulations For Minimum Spanning Tree Interdiction. 2016 INFORMS Annual Meeting, Nashville, TN, November 2016. (Presented N. Wei).
37. C. Vogiatzis, **J. L. Walteros**, Integer Programming Models for Generating Graph Bipartitions with Structural Requirements. 2016 INFORMS Annual Meeting, Nashville, TN, November 2016. (Presented C. Vogiatzis).

38. H. Feizollahi* **J. L. Walteros** A Dynamic Programming Approach For Solving The Orienteering Problem With Time Windows Stochastic Profits and Risk Constraints. 2016 INFORMS Annual Meeting, Nashville, TN, November 2016. (Presented by H. Feyzollahi).
39. Y. C. Hsu*, **J. L. Walteros**, R. Batta A Mathematical Programming Framework that Integrates Customer decisions within the Distribution Planning of Petroleum Products. 2016 INFORMS Annual Meeting, Nashville, TN, November 2016. (Presented by Y. C. Hsu).
40. Y. S. Hsu*, **J. L. Walteros**, R. Batta. Gasoline Replenishment and Routing Problem with Variable Demands and Time Windows VeRoLog 2016, Nantes, France, June 2016.
41. **J. L. Walteros**, N. Wei*, Mahdavi Pajou, F., Integer Programming Formulations For Minimum Spanning Tree Interdiction. IISE Annual Conference and Expo, Anaheim, CA. May 2016.
42. R. Swamy, **J. L. Walteros**, Managing the Daily Operations of a Bike Sharing System Using Mobile Stations. IISE Annual Conference and Expo, Anaheim, CA. May 2016. (Presented by R. Swamy).
43. **J. L. Walteros**, N. Wei* , F. Mahdavi Pajou, Integer Programming Formulations For Minimum Spanning Tree Interdiction. INFORMS Optimization Society Conference, Princeton, NJ, March 2016.
44. **J. L. Walteros**, A. Veremyev, P. M. Pardalos, Detecting Critical Vertex Structures on Graphs: A Mathematical Programming Approach. 22nd International Symposium on Mathematical Programming, Pittsburgh, PA, July 2015.
45. Y. S. Hsu, **J. L. Walteros**, Batta R. Gasoline Replenishment and Routing Problem with Variable Demands and Time Windows VeRoLog 2015, Vienna, Austria, June 2015. (Presented by R. Batta).
46. H. Feyzollahi, **J. L. Walteros** Solving Multidimensional Assignment Problems with Different Combinatorial Decomposable Cost Functions. IISE Annual Conference and Expo, Nashville, TN. May 2015.
47. **J. L. Walteros**, C. Vogiatzis, E. L. Pasiliao, A Mathematical Programming Framework for Detecting Sybil Communities in Online Social Networks. INFORMS Computing Society Conference, Richmond, VA, January 2015.
48. **J. L. Walteros**, F. Mahdavi Pajouh, The minimum edge blocker dominating set problem. 2014 INFORMS Annual Meeting, San Francisco, CA, November 2014.
49. A. Buchanan, **J. L. Walteros**, S. Butenko, P. M. Pardalos, Solving integer programs with dense conflict graphs. MAGO14, XII Global Optimization Workshop, Málaga, Spain, September, 2014. (Presented by S. Butenko).
50. **J. L. Walteros**, A. Veremyev, P. M. Pardalos, Detecting Critical Vertex Structures on Graphs: A Mathematical Programming Approach. 2nd Annual Meeting of the Mathematical Modeling and Optimization Institute, Shalimar, FL, August, 2013.
51. A. Buchanan, **J. L. Walteros**, S. Butenko, P. M. Pardalos, Solving integer programs with dense conflict graphs. 17th Conference on Integer Programming and Combinatorial Optimization (IPCO 2014), Bonn, Germany, June, 2014. (Poster presented by A. Buchanan).
52. **J. L. Walteros**, F. Mahdavi Pajouh, Towards the Dominating Set Edge Blocker Problem. INFORMS 2013 Annual Meeting, Minneapolis, MN, October, 2013.
53. **J. L. Walteros**, C. Vogiatzis, E. L. Pasiliao, P. M. Pardalos, Integer Programming Models for the Multidimensional Assignment Problem with Star Costs. INFORMS 2012 Annual Meeting, Minneapolis, MN, October, 2013.
54. **J. L. Walteros**, F. Mahdavi Pajouh, Towards the Dominating Set Edge Blocker Problem. 1st Annual Meeting of the Mathematical Modeling and Optimization Institute, Shalimar, FL, July, 2013.
55. **J. L. Walteros**, P. M. Pardalos, A Branch-and-Price Approach for Solving the Critical Clique Detection Problem. INFORMS Annual Meeting, Phoenix, AZ, 2012.
56. **J. L. Walteros**, C. Vogiatzis, P. M. Pardalos, Star partitioning problems on d -partite graphs: A comparative approach. Talk given at the 5th International Conference on the Dynamics of Information Systems, Gainesville, FL, 2013.

57. **J. L. Walteros**, P. M. Pardalos, A Branch-and-Price Approach for Solving the Critical Clique Detection Problem. Invited talk given at INFORMS 2012 Annual Meeting, Phoenix, AZ, October, 2012.
58. **J. L. Walteros**, C. Vogiatzis, P. M. Pardalos, Recent Advances in Critical Element Detection in Analyzing Graphs. INFORMS Annual Meeting, Charlotte, NC, November 2011.
59. **J. L. Walteros**, D. Feillet, M. Gendreau, A. L. Medaglia, Designing Bus Rapid Transit (BRT) Routes via Simultaneous Column and Cut Generation. ALIO-INFORMS Joint International Meeting 2010, Buenos Aires, Argentina, June 2010.
60. **J. L. Walteros**, M. A. Vargas*, D. C. Flórez*, A. L. Medaglia, A Hybrid Approach to Airline Crew Pairing Optimization. INFORMS Annual Meeting, San Diego, CA, November 2009.
61. **J. L. Walteros**, A. L. Medaglia, M. Gómez*, Towards The Solution of the Route Design Problem on Bus Rapid Transit Systems. Invited talk given at INFORMS 2009 Annual Meeting, San Diego, CA, November 2009.
62. M. A. Vargas*, **J. L. Walteros**, A. L. Medaglia, Hybrid Approach to Airline Crew Pairing Optimization for Small Carriers. IIE Annual Conference and Expo, Miami, FL, May 2009.
63. A. C. Trillos*, F. A. Ramirez, D. Londoño*, **J. L. Walteros**, N. B. Velasco, Optimization of a Stop Strategy of an Elevator Group: A Case Study in a University Building. IIE Annual Conference and Expo, Miami, FL, May 2009.
64. M. A. Vargas, J. Sefair, **J. L. Walteros**, A. L. Medaglia, L. Rivera, An Optimization Approach to Car Pooling: An Application in Strasbourg (France). IIE Annual Conference and Expo, Vancouver, Canada, May 2008.

Invited Talks:

1. A Branch-and-Bound Framework to Solve a General Class of Interdependent Multistage Interdiction Games. Discrete Optimization Talks (DOTs) virtual seminar series, 2024
2. Optimal Location-Based Discount Policies for Product Distribution in Online Retail, Concordia University, 2023.
3. Recent Advances in Graph Interdiction Problems, Texas A&M University, 2019.
4. Why is Maximum Clique Often Easy in Practice, Universidad de los Andes, 2018.
5. Critical Structures Formulations for Graph Interdiction Problems, Naval Postgraduate School, 2018.
6. Time management: A Long Story of Struggles and Perseverance. IISE Doctoral Colloquium, 2017.
7. Your First Few Years: Challenges and Opportunities. IISE Doctoral Colloquium, 2016
8. Graph Blocker Problems, University of Pittsburgh, 2015.

GRANTS AND SPONSORED PROJECTS

Summary of Awarded Funding:

Funding Category	Total	Share
External Government and Foundation Sources	\$2,761,533	\$1,260,243
External Industry Sources	\$33,580	\$16,790
Internal Sources	\$15,000	\$7,500
Total Funded Research	\$2,810,113	\$1,284,533

Awarded (Active):

1. Designing Defensive Strategies to Protect Ground-Space Communication Networks in Contested Environments. Air Force Office of Scientific Research (AFOSR). PI: J. L. Walteros (100%). \$358,762, 9/2023–08/2026.

2. SAI: Integrating equity in emergency management: A human-centered decision framework to improve polycentric governance of critical infrastructure in wildland-urban interfaces. *National Science Foundation (NSF)* PI: S. Mukherjee (40%), CO-PIs: J. L. Walteros (35%), S. Clark (10%), J.Yeo (15%). \$750,000, 9/2023–08/2026.

Awarded (Expired):

1. Managing Exponential Decision Spaces (MEDS). *Office of Naval Research (ONR)*. PI: M. Sudit (10%) Co-PIs: J. L. Walteros (30%), R. Batta (30%), and K. McConky (RIT) (30%). \$1,150,000, 4/2020–3/2023.
2. Modeling Complexity Analytics of Surveillance Operations via Network Interdiction Games. *Air Force Research Laboratory (AFOSR)*. Summer Faculty Fellowship. PI: J. L. Walteros (100%), \$7,989, 07/2021–08/2021.
3. Promoting the Installation of Green Infrastructure Through Optimal Distribution of Incentives. *Buffalo Blue Sky*. PI: J. L. Walteros (50%) Co-PI: Z. Zhu (50%). \$15,000. 1/2019–12/2020.
4. Data Science Approaches to Automation of Analytic Work Flows. *Office of Naval Research (ONR)* (via the Naval Postgraduate School (NPS)). PI: J. Llinas (33.3%), Co-PIs: J. L. Walteros (33.3%) and B. Smith (33.3%). \$149,732, 6/2018–5/2019.
5. Communication Optimization of Networks of Cross-Domain Unmanned Systems (CONEXUS). *Office of Naval Research (ONR)* (via CUBRC, inc.). PI: J. L. Walteros (100%). \$62,112, 1/18–12/2018.
6. Improving the Service Quality of Bike Sharing Systems via the Analysis of Real-Time User Data. *Transportation Informatics (TransInfo)*, *Tier I University Transportation Center*. PI: J. L. Walteros (100%). \$50,000, 9/2017–8/2018.
7. Operational Decision-Making for Reach Maximization of Incentive Programs that Influence Consumer Energy-Saving Behavior *National Science Foundation (NSF)*. PI: A. Nikolaev (50%), Co-PI: J. L. Walteros (50%), \$199,938. An additional REU of \$18,000 also awarded. 9/2016–8/2018.
8. Managing the Daily Operations of a Bike Sharing System Using Mobile Stations. *University Transportation Research Center (UTRC)*. PI. \$15,000. 8/2016–7/2017.
9. Inventory Software Consolidation Analysis. *Niagara Transformer* (via TCIE). PI: R. Batta (50%) Co-PI: J. L. Walteros (50%). \$33,580. 7/2015–9/2015.

STUDENTS MENTORED

Ph.D. Students (chair/co-chair):

1. **Yan Cheng Hsu**, Co-advised with R. Batta (*Graduated*: 2017). Dissertation: *Mathematical Models for Solving Petroleum Replenishment and Routing Problems*. Placement: Ford Motor Company.
2. **Jessica Dorismond**, Co-advised with R. Batta (*Graduated*: 2018). Dissertation: *Data-Driven Models for Promoting Impulse Items in Supermarkets*. Placement: Air Force Research Laboratory.
3. **Ningji Wei** (*Graduated*: 2020). Dissertation: *Integer Programming Methods for Boolean Interdiction Games*. Placement: Texas Tech University, Tenure-Track Assistant Professor.
4. **Cai Gao** (*Graduated*: 2020). Dissertation: *On Routing Unmanned Aerial Vehicles for Surveillance and Reconnaissance Activities*. Placement: Walmart Global Tech.
5. **John E. Fontecha**, Co-advised with A. Nikolaev (*Graduated*: 2021). Dissertation: *Mathematical Models for the Design of Policies to Promote Behavior/Product Adoption*. Placement: American Airlines.
6. **Fatemeh Monsapour** Co-advised with R. Batta (*Graduated*: 2022). Dissertation: *On the Development and Analysis of a Comprehensive Police Patrolling Model*.
7. **Rishabh Bhandawat** Co-advised with S. Casucci. (*Graduated*: 2022). Dissertation: *Blood Supply Chain Networks: Framework and Models to Improve Blood Product Utilization*.

8. **Demetrios Papazaharias**, (2017 - 2023, expected).
9. **Svetlana Riabova** (2020 - 2024, expected).
10. **Rafal Muszalski** (2023 - 2027, expected).

Ph.D. Students (committee member):

1. **Michael D. Moskal II**, (R. Batta, chair) *Graduated: 2016.*
2. **Ming Ni**, (Q. He, chair) *Graduated: 2017.*
3. **Ethan Malinowski**, (M. Karwan, chair) *Graduated: 2018.*
4. **Atieh Mahdani**, (M. Karwan, chair) *Graduated: 2019.*
5. **Zhiheng Xu**, (J. E. Kang, chair) *Graduated: 2019.*
6. **Reza Mohammadi**, (Q. He, chair) *Graduated: 2021.*
7. **Ritwik Raj**, (C. Murray, chair) *Graduated: 2021.*
8. **Himangshu Kumar Paul**, (A. Nikolaev, chair) *Graduated: 2022.*
9. **Monir Sabbaghtorkan**, (Q. He and R. Batta, chairs) *Graduated: 2022.*
10. **Xiaohang Zhu**, (J. E. Kang, chair) *Graduated: 2022.*
11. **Lan Peng**, (C. Murray, chair) *Graduated: 2023.*
12. **Prasangsha Ganguly**, (S. Mukherjee, chair) *Graduated: 2023.*
13. **Qingyang Xiao**, (J. E. Kang, chair) *Graduated: 2022.*

M.S Students (advised/co-advised):

1. **Samir Niño**, *Graduated: Spring 2022.*
2. **Michael Young**, *Graduated: Spring 2022.*
3. **Luca Wrabetz**, *Graduated: Spring 2020.*
4. **Ningji Wei**, *Graduated: Spring 2016.* Thesis title: *Integer Programming Formulations for the Minimum Edge Blocker Problem Respect to Minimum Spanning Trees.*
5. **Medha Nemade**, *Graduated: Spring 2016.* Thesis title: *A Mathematical Framework for Analyzing Vulnerabilities in Large-Scale Urban Evacuation Plans.*
6. **Manjunath Holaykoppa Nanjunda Jois**, Co-advised with A. Nikolaev, *Graduated: Spring 2015.* Tesis title: *A Column Generation Approach to Solve Multi-Team Influence Maximization Problem for Social Lottery Design*

TEACHING

University at Buffalo, Industrial and Systems Engineering Department:

- **IE 573: Discrete Optimization** (*Required graduate course*)
Topics: Mathematical modeling, integer programming, complexity theory, polyhedral analysis, enumerative techniques, decomposition algorithms, deterministic dynamic programming.
- **IE 504: Facilities Design** (*Required Graduate course*)
Topics: Plant layout, warehouse design, facility location, routing of material handling shipments. *Note: in 2014, the score ranged between 0 and 4.*

Semester	Enrollment	Evaluations received	Instructor rating
Fall 2014	36	28	3.30/4.00
Fall 2015	69	46	4.30/5.00

- **IE 572: Linear Programming** (*Required graduate course*)
Topics: Mathematical modeling, linear algebra review, convex analysis, the simplex method and its variations, duality, dual simplex, sensitivity analysis, interior point methods, Dantzig-Wolfe decomposition.
- **IE 671: Networks Optimization** (*Advanced graduate course*)
Topics: Network flows, introductory topics in graph theory, shortest path problems, maximum flow problems, minimum cost flow problems, spanning tree problems, network decomposition approaches.
- **IE 677: Nonlinear Optimization** (*Advanced graduate course*)
Topics: Convex sets and functions, subgradients, local and global minima of functions, families of convex programs, convex relaxations, optimality conditions, Lagrangian duality, weak duality, KKT conditions, and introduction to interior-point algorithms.
- **IE 373: Operations Research I** (*Required Undergraduate course*)
Topics: Mathematical modeling, simplex method, duality, dynamic programming, branch and bound methods.
- **IE 670: Selected Topics in Logistics Optimization** (*Advanced graduate course*)
Topics: The traveling salesman Problem and variations, vehicle routing problems, crew scheduling problems, shortest path problems and other variations, network design, assignment problems, facility location.

University of Florida, Industrial and Systems Engineering Department:

- **ESI 4327C: Matrix and Numerical Methods in Systems Engineering** (*Required undergraduate course.*) [Received the ISE Graduate Award for Excellence in Teaching of 2013.](#)
Topics: Systems of linear equations, matrices, Gaussian elimination, linear vector spaces, projections and projection matrices, determinants, eigenvalues and eigenvectors, diagonalization, Taylor expansions, systems of nonlinear equations, bisection, fixed-point methods, Newton's method, polynomial interpolation, and numerical differentiation and integration.

Universidad de los Andes, Industrial Engineering Department:

- **IIND-2103: Optimization Principles** (*Required undergraduate course*)
Topics: Formulating and solving linear programs, the simplex method, basic LP duality, sensitivity analysis, introduction to integer programming.

SERVICE ACTIVITIES

University Level:

- SEAS Representative, UB Faculty Senate, Fall 2021 - present.

School Level:

- Faculty member, SEAS Student Awards Committee, Fall 2020 - Present.
- Faculty member, SEAS Student Recruitment Committee for South America, Fall 2017 - Fall 2020.
- Faculty member, SEAS Adjudication Committee for Reviewing Academic Integrity Violations, Fall 2015.
- Faculty advisor SHPE Student Chapter, Fall 2015 - Present.
- Faculty mentor, SEAS Freshman Mentoring Program, 2014 - Present.
- Judge, Sigma Xi Poster Competition, Spring 2015.

Department Level:

- ISE Student Awards Committee Chair, Fall 2020 - present.
- Coordinator of the Student recruitment committee for Latin America, Fall 2018 - Present.
- Coordinator of the Industrial and Systems Engineering *Praxair* Seminar Series, Fall 2014 - Spring 2015.

- Faculty advisor of the IISE Student Chapter [The chapter has consistently received the gold recognition award since 2015](#), Fall 2014 - Present.
- Judge of the ISE, Poster Competition, Spring 2015 - present.
- Member of the ISE Undergraduate affairs committee, Fall 2015 - present.

Professional Level:

- INFORMS Undergraduate Scholarship Committee Member 2023.
- Vice-Chair for Network Optimization, INFORMS Optimization Society, 2020-2022.
- Organizer of the Network Optimization Cluster track of the INFORMS Annual Meeting 2021.
- Organizer of the Network Optimization Cluster track of the IOS Conference 2022.
- President INFORMS Junior Faculty Interest Group 2017-2018
- President/Vice-president elect INFORMS Junior Faculty Interest Group (2016)
- Organizer INFORMS Junior Faculty Interest Group, best paper competition (2017)
- Organizer INFORMS Junior Faculty Interest Group, best paper competition (2016)
- Session chair: INFORMS 2014-present, IOS 2018-present, ISMP 2015.
- NSF proposal review panelist.
- Panelist at the IISE Annual Doctoral Colloquium (2017)
- Panelist at the IISE Annual Doctoral Colloquium (2016)
- Judge at the IISE Annual Conference and Expo Poster Competition (2015).
- Organizer, LION 8, Learning and Intelligence Optimization Conference (2014).

Editorial Service:

- Guest Editor, Special issue of “Learning and Intelligent Optimization”, *Annals of Mathematics and Artificial Intelligence*.
- Guest Editor, Special issue of “Bilevel Optimization”, *Optimization Letters*.
- Journal Referee, Ad hoc referee for (50+ articles): *Operations Research, Management Science, Transportation Science, Omega, Socio-Economic Planning Sciences, Mathematical Programming, Inform's Journal on Computing, Journal of Optimization Theory and Applications, Energy Systems, Journal of Combinatorial Optimization, Optimization Methods and Software, Journal of Industrial and Management Optimization, Optimization Letters, TOP Journal, Annals of Operations Research, Networks, Annals of Mathematics and Artificial Intelligence, Journal of Global Optimization, Springer Plus, Transportation Research Part B, Computational Optimization and Applications, Computers & Operations Research, Operations Research Forum, Naval Research Logistics*.

PROFESSIONAL MEMBERSHIP

INFORMS, Institute for Operations Research and the Management Sciences

- Optimization Society
- Computing Society
- Transportation and Logistics Society

SIAM, Society for Industrial and Applied Mathematics

IISE, Institute of Industrial Engineers

VeRoLog, Working Group on Vehicle Routing and Logistics Optimization within EURO

MOS, Mathematical Optimization Society