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Curriculum Vitae

(Updated 8/16/2021)

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Education

- **Ph.D. in Industrial and Systems Engineering**, 2006
  Department of Industrial and Systems Engineering, University of Florida, Gainesville, Florida

- **Master of Science in Applied Mathematics and Physics**, 2002
  Moscow Institute of Physics and Technology (MIPT), Moscow, Russia

- **Bachelor of Science in Applied Mathematics and Physics**, 2000
  Moscow Institute of Physics and Technology (MIPT), Moscow, Russia

Professional positions held

- September 2017 - present, Professor, Department of Industrial Engineering, University of Pittsburgh

- September 2012 - August 2017, Associate Professor, Department of Industrial Engineering, University of Pittsburgh

- September 2006 - August 2012, Assistant Professor, Department of Industrial Engineering, University of Pittsburgh

Publications

Refereed journal papers

1. J.S. Borrero[†], O.A. Prokopyev, D. Saure, "Learning in Sequential Bilevel Linear Programming," *INFORMS Journal on Optimization*, accepted for publication, 2021.

2. A. Veremyev, V. Boginski, E.L. Pasiliao, O.A. Prokopyev, "On integer programming models for the maximum 2-club problem and its robust generalizations," *European Journal of Operational Research*, accepted for publication, 2021.

3. J. Yang[†], J.S. Borrero[†], O.A. Prokopyev, D. Saure, "Sequential Shortest Path Interdiction with Incomplete Information and Limited Feedback," *Decision Analysis*, accepted for publication, 2021.

4. C.P. Gillen[†], A. Veremyev, O.A. Prokopyev, E.L. Pasiliao,"Fortification Against Cascade Propagation Under Uncertainty," *INFORMS Journal on Computing*, accepted for publication, 2020.

5. S. Sanoubar[†], K. He[†], L.M. Maillart, O.A. Prokopyev, "Optimal Age-Replacement in Anticipation of Time-Dependent, Unpunctual Policy Implementation," *IEEE Transactions on Reliability*, accepted for publication, 2020.

6. N. Vora[‡], C. Gillen, O.A. Prokopyev, V. Khanna, "Rewiring the Domestic U.S. Rice Trade for Reducing Irrigation Impacts–Implications for the Food-Energy-Water Nexus," *ACS Sustainable Chemistry & Engineering*, Vol. 9/28 (2021), pp. 9150–9505.

7. A. Gomez, O.A. Prokopyev, "A Mixed-Integer Fractional Optimization Approach to Best Subset Selection," *INFORMS Journal on Computing*, Vol. 33/2 (2021), pp. 551–565.

[†]Denotes one of my PhD students (advised or co-advised).
[‡]Denotes PhD students, on whose Dissertation Committee I served.

8. E. Mehmanchi†, A. Gomez, O.A. Prokopyev, "Solving a class of feature selection problems via fractional 0–1 programming," *Annals of Operations Research*, Vol. 303/1 (2021), pp. 265–295.

9. G.L. Zenarosa†, O.A. Prokopyev, E.L. Pasiliao, "On exact solution approaches for bilevel quadratic 0–1 knapsack problem," *Annals of Operations Research*, Vol. 298/1-2 (2021), pp. 555–572.

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12. S.S. Ketkov, E.P. Burashnikov, O.A. Prokopyev, "An approach to the distributionally robust shortest path problem," *Computers & Operations Research*, Vol. 130 (2021), Article 105212 (14 pages).

13. H. Zhong, F.M. Pajouh, O.A. Prokopyev, "Finding influential groups in networked systems: The most degree-central clique problem," *OMEGA*, Vol. 101 (2021), Article 102262 (13 pages).

14. E. Mehmanchi†, C.P. Gillen†, A. Gomez, O.A. Prokopyev, "On Robust Fractional 0-1 Programming," *INFORMS Journal on Optimization*, Vol. 2/2 (2020), pp. 96-133.

15. M.H. Zare†, O.A. Prokopyev, D. Saure, "On Bilevel Optimization with Inexact Follower," *Decision Analysis*, Vol. 17/1 (2020), pp. 74–95.

16. S. Rebennack, O.A. Prokopyev, B. Singh, "Two-stage stochastic minimum s-t cut problems: Formulations, complexity and decomposition algorithms," *Networks*, Vol. 75/3 (2020), pp. 235–258.

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65. M. Baz[‡], B. Hunsaker, O.A. Prokopyev, "How Much Do We 'Pay' for Using Default Parameters?," *Computational Optimization and Applications*, Vol. 48/1 (2011), pp. 91–108.

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Refereed conference proceedings & abstracts

1. X. Shi[†], O.A. Prokopyev, B Zeng, "Sequence independent lifting for the set of submodular maximization problem," in Proceedings of the 21st International Conference on Integer Programming and Combinatorial Optimization, IPCO 2020 (D. Bienstock, G. Zambelli, eds.), pp. 378–390.

2. A. Khojandi[†], L.M. Maillart, O.A. Prokopyev, M.S. Roberts, S. Saba, "Dynamic Abandon/Extract Decisions for Failed Cardiac Leads," Proceedings of the 2013 Society for Medical Decision Making Conference (the Lee B. Lusted Student Prize Competition Finalist).

3. O.V. Shylo, L. Luangkesorn, O.A. Prokopyev, J. Rajgopal, A.J. Schaefer, "Managing Patient Backlog in a Surgical Suite that Uses a Block-Booking Scheduling System," Proceedings of the 2011 Winter Simulation Conference, pp. 1414–1324.

4. P. Velagapudi, O.A. Prokopyev, K. Sycara, P. Scerri, "Analyzing the Performance of Randomized Information Sharing," Proceedings of the *8th International Joint Conference on Autonomous Agents and Multiagent Systems (AAMAS 2009),* Vol. 2, pp. 821–828.

5. P. Velagapudi, O.A. Prokopyev, P. Scerri, K. Sycara, "A Token-Based Approach to Sharing Beliefs in a Large Multiagent Team," in *Optimization and Cooperative Control Strategies* (M.J. Hirsch, C. Commander, P.M. Pardalos, and R. Murphey, eds.), Proceedings of the 8th International Conference on Cooperative Control and Optimization, Lecture Notes in Control and Information Sciences, Vol. 381, Springer (2009), pp. 417–429.

6. P. Velagapudi, O.A. Prokopyev, K. Sycara, P. Scerri, "Maintaining Shared Belief in a Large Multiagent Team," Proceedings of the *10th International Conference on Information Fusion*, 2007, pp. 1–8.

7. P.M. Pardalos, O.A. Prokopyev, S. Busygin, "On Biclustering with Feature Selection for Microarray Data Sets," *BIOMAT 2005 – International Symposium on Mathematical and Computational Biology*, R. Mondaini, R. Dilão (ed.), World Scientific (2006), pp. 367–378.

Courses Taught

University of Pittsburgh

⬦ IE 0015, Introduction to Information Systems Engineering (undergraduate)

– Fall 2006, Fall 2007

⬦ IE 1081, Deterministic Methods in Operations Research (undergraduate)

– Fall 2010 - Fall 2014, Fall 2018 - Fall 2020

⬦ IE 2082, Linear Optimization (MS/Ph.D.)

– Fall 2008 - Fall 2016, Fall 2018 - Fall 2020

⬦ IE 3097, Algorithms for Engineers (Ph.D.)

– Fall 2007, Fall 2016

⬦ IE 3053, Global Optimization (Ph.D.)

– Spring 2008, Spring 2015, Spring 2018

⬦ IE 3078, Convex Optimization (Ph.D.)

– Spring 2009

⬦ IE 3087, Network-based Optimization (Ph.D.)

– Spring 2007, Spring 2010, Spring 2013, Fall 2015, Spring 2021

⬦ IE 3080, Advanced Topics in Operations Research (Ph.D.)

– Spring 2014, Spring 2018, Spring 2020

⬦ IE 3057, Bilevel Optimization (Ph.D.)

– Spring 2017

University of Florida

- ESI 4312, Operations Research I (undergraduate)

    – Spring 2006

- ESI 4567C, Matrix and Numerical Methods in Systems Engineering (undergraduate)

    – Summer 2005, Fall 2005

Graduate Students

Graduated Ph.D. students

⋄ Andrew C. Trapp, Ph.D. 2011
"On Solving Selected Nonlinear Integer Programming Problems in Data Mining, Computational Biology, and Sustainability"

⋄ Osman Y. Ozaltin, Ph.D. 2011 (co-advised with Dr. Andrew J. Schaefer)
"Optimal Design of the Annual Influenza Vaccine"
2013 Pritsker Outstanding Dissertation Award (IIE)

⋄ Serdar Karademir, Ph.D. 2013
"Essays on Integer Programming in Military and Power Management Applications"

⋄ Anahita Khojandi, Ph.D. 2014 (co-advised with Dr. Lisa M. Maillart)
"Optimizing Implanted Cardiac Device Follow-up Care"
Honorable Mention for the 2014 George B. Dantzig Dissertation Award (INFORMS)

⋄ Behdad Beheshti, Ph.D. 2014
"Efficient Resource Allocation in a Bilevel Hierarchy with Knapsack and Assignment Lower-Level Problems"

⋄ Gabriel L. Zenarosa, Ph.D. 2016 (co-advised with Dr. Andrew J. Schaefer)
"Integrating Proactive and Reactive Decision-making in Surgery Scheduling"

⋄ Kai He, Ph.D. 2016 (co-advised with Dr. Lisa M. Maillart)
"Optimal Maintenance Planning in Novel Settings"

⋄ Juan S. Borrero, Ph.D. 2017
"Sequential Bilevel Linear Programming with Incomplete Information and Learning"

⋄ M. Hosein Zare, Ph.D. 2018
"Bilevel Linear Programs: Generalized Models for the Lower-Level Reaction Set and Related Problems"

⋄ Onur Tavaslioglu, Ph.D. 2019 (co-advised with Dr. Andrew J. Schaefer)
"Stochastic Operating Room Scheduling under Emergency Arrivals with Integrated Block Assignments"

⋄ Colin P. Gillen, Ph.D. 2019
"Critical Elements Detection in Dynamic Networks Under Uncertainty"

⋄ Erfan Mehmanchi, Ph.D. 2019
"Reformulation Techniques and Solution Approaches for Fractional 0–1 Programs and Applications"

Current Ph.D. students

◇ Jing Yang, Ph.D. expected August 2022

◇ Shadi Sanoubar, Ph.D. expected August 2022 (co-advised with Dr. Lisa M. Maillart)

◇ Xueyu Shi, Ph.D. expected December 2021 (co-advised with Dr. Bo Zeng)

◇ Tomás Lagos, Ph.D. expected August 2024

◇ Luca Wrabetz, Ph.D. expected August 2025

Honors and Awards

◇ The 2019 Best Publication Award in Environment and Sustainability by the INFORMS Section on Energy, Natural Resources, and the Environment (ENRE)

◇ U.S. Air Force Office of Scientific Research, Young Investigator Research Program (YIP) Award, 2010

◇ U.S. Air Force Summer Faculty Fellowship, 2010, 2011, 2013, 2014, 2021

◇ The 2004 William Pierskalla Best Paper Award by the Health Applications Society of INFORMS

Professional Service Activities

Editorial service

◇ Co-Editor-in-Chief, *Optimization Letters*

◇ Department Editor, *IISE Transactions* (Focused Issue: Operations Engineering & Analytics)

◇ Editorial Board Member, *Journal of Global Optimization*

◇ Editorial Board Member, *Journal of Industrial and Management Optimization*

◇ Area Editor, *Omega* (2017-2019)

◇ Editorial Board Member (Advisory Editor), book series *Springer Optimization and Its Applications*

◇ Guest co-editor:

  ◇ Special Issue of *Journal of Global Optimization* dedicated to *the 60th birthday of Panos M. Pardalos* (O.A. Prokopyev and N.V. Sahinidis, Guest Editors), Volume 59, Issue 2-3, 2014

  ◇ Special Issue of *Journal of Global Optimization* dedicated to *International Workshop on Multilevel Optimization: Algorithms and Applications* (A. Karakitsiou and O.A. Prokopyev, Guest Editors), Volume 38, Issue 4, 2007

  ◇ Special Issue on *Systems Analysis, Optimization and Data Mining in Biomedicine* of *Optimization Methods and Software* (C. Floudas and O.A. Prokopyev, Guest Editors), Volume 22, Issue 1, 2007

Conferences

◇ Organizing Committee Member (Emerging Topics Sessions Co-Chair), INFORMS 2018 Annual Meeting, Phoenix, AZ, November 4-7, 2018

◇ Local Organization Committee, 22nd International Symposium on Mathematical Programming (ISMP), Pittsburgh, PA, July 12-17, 2015

◇ Organizing Committee Member, Conference on Optimization, Control and Applications in the Information Age (in honor of the 60th birthday of Panos M. Pardalos), Chalkidiki, Greece, June 15-20, 2014

⋄ Cluster Chair, "Optimization/Global Optimization," INFORMS 2012 Annual Meeting, Phoenix, AZ, October 14-17, 2012

⋄ Cluster Chair, "Optimization/Global Optimization," INFORMS 2011 Annual Meeting, Charlotte, NC, November 13-16, 2011

⋄ Co-organizer, 3rd Yalta Optimization Conference, Yalta, Ukraine, August 2-4, 2010

⋄ Organizing Committee Member (Student Volunteers Coordinator), INFORMS 2006 Annual Meeting, Pittsburgh, PA, November 4-7, 2006

Professional societies

⋄ Co-Chair, 2018 INFORMS JFIG Best paper competition

⋄ Chair, 2015 IISE Transactions (Focused Issue on Operations Engineering & Analytics) Best Paper Award committee

⋄ Vice-Chair for Global Optimization, INFORMS Optimization Society, 2010-2012