NICOLA SECOMANDI

Jones Graduate School of Business
Rice University
July 2022

EDUCATION

1998 PhD, Operations Research and Statistics, University of Houston, Houston, TX
“Exact and Heuristic Dynamic Programming Algorithms for the Vehicle Routing Problem with Stochastic Demands”
(Edward Kao, Chair, Joaquin Diaz-Saiz, Michael Parks, Julio Peixoto)
(Honorable mention, 1999 Dissertation Prize, INFORMS Transportation Science Section)

1993 M.S. in Computer Science, University of Houston, Houston, TX

1992 Laurea, University of Venice, Ca’ Foscari, Venice, Italy

POSITIONS

2022- Houston Endowment Professor of Management, Professor of Operations Management, Jones Graduate School of Business, Rice University

2021- Rohet Tolani Distinguished Professor of Operations Management, Tepper School of Business, Carnegie Mellon University
(On leave July 2022-June 2023)

2016-21 Professor of Operations Management, Tepper School of Business, Carnegie Mellon University

2017-21 Head, PhD Program, Tepper School of Business, Carnegie Mellon University

2012-16 Associate Professor of Operations Management (with indefinite tenure), Tepper School of Business, Carnegie Mellon University

2009-12 Associate Professor of Operations Management (without indefinite tenure), Tepper School of Business, Carnegie Mellon University
2010-11 Faculty Giving Chair

2003-09 Assistant Professor of Operations Management, Tepper School of Business, Carnegie Mellon University
2008-09 Xerox Junior Research Chair
2004-05 BP Junior Research Chair

2001-02 Manager, El Paso Merchant Energy, Houston, TX

2001 Research Associate, Graduate School of Civil and Environmental Engineering, Cornell University, Ithaca, NY

2000-01 Senior Scientist, PROS Revenue Management, Houston, TX

1999-00 Scientist, PROS Revenue Management, Houston, TX

1998-99 Associate Scientist, PROS Revenue Management, Houston, TX

PUBLICATIONS

Articles in refereed journals

N. Secomandi, Quadratic Hedging of Risk Neutral Values, *Energy Economics*, *Special Issue on Theories and Methodologies for Energy and Commodity Markets*, 112, August, 2022.

N. Secomandi, Quadratic Hedging and Optimization of Option Exercise Policies, *Foundations and Trends in Technology, Information and Operations Management*, forthcoming.

N. Secomandi, S. Seshadri, Introduction to the Focused Issue on the POM-Finance Interface in Commodity and Energy Markets, *Production and Operations Management*, 30, 12, 4566-4567, 2021.

A. M. Gambaro, N. Secomandi, A Discussion of Non-Gaussian Price Processes for Energy and Commodity Operations, *Production and Operations Management*, 30, 1, 47-67, 2021.

S. Nadarajah, N. Secomandi, Least Squares Monte Carlo and Approximate Linear Programming with an Energy Real Option Application, *Foundations and Trends in Technology, Information and Operations Management*, 14, 1-2, 2020, 178-202.

L. Bertazzi, N. Secomandi, Worst-Case Benefit of Restocking for the Vehicle Routing Problem with Stochastic Demands, *Operations Research*, 68, 3, 2020, 671-675.

Y. Zhou, A. Scheller-Wolf, N. Secomandi, S. Smith, Managing Wind-based Electricity Generation in the Presence of Storage and Transmission Capacity, *Production and Operations Management*, 28, 4, 2019, 970-989.
(Winner, 2020 Best Publication Award in Environment-Sustainability, INFORMS, Energy, Natural Resources, and the Environment Section.)

N. Secomandi, Quadratic Hedging of Commodity and Energy Cash Flows, *Foundations and Trends in Technology, Information and Operations Management*, 12, 2-3, 2019, 240-253.

S. Nadarajah, N. Secomandi, Merchant Energy Trading in a Network, *Operations Research*, 66, 5, 2018, 1304-1320.

L. Bertazzi, N. Secomandi, Faster Rollout Search for the Vehicle Routing Problem with Stochastic Demands and Restocking, *European Journal of Operational Research*, 270, 2, 2018, 487-497.

N. Secomandi, An Improved Basket of Spread Options Heuristic for Merchant Energy Storage, *IISE Transactions – Focused Issue on Operations Engineering and Analytics*, *Special Issue on Energy Systems Modeling and Analytics,* lead article, 50, 8, 2018, 645-650.

Approximations for High Dimensional Commodity and Energy Merchant Operations Models, N. Secomandi, *Foundations and Trends in Technology, Information and Operations Management*, 11, 1-2, 2017, 144-164.

N. Secomandi, Relationship between Least Squares Monte Carlo and Approximate Linear Programming, S. Nadarajah, *Operations Research Letters*, 45, 5, 2017, 409-414.

E. Sonmez, A. Scheller-Wolf, N. Secomandi, An Analytical Throughput Approximation for Closed Fork/Join Networks, *INFORMS Journal on Computing*, 29, 2, 2017, 251-267.

S. Nadarajah, F. Margot, N. Secomandi, Comparison of Least Squares Monte Carlo Methods with Applications to Energy Real Options, *European Journal of Operational Research*, 256, 1, 2017, 196-204.

N. Secomandi, A Tutorial on Portfolio-Based Control Algorithms for Merchant Energy Trading Operations, *Journal of Commodity Markets*, 4, 1, 2016, 1-13.

Y. Zhou, A. Scheller-Wolf, N. Secomandi, S. Smith, Electricity Trading and Negative Prices: Storage vs. Disposal, *Management Science*, 62, 3, 2016, 880-898.
(2014 Version: Honorable mention, Best Paper Award of the 2014 Annual Conference of the Chinese Scholars Association in Management Science and Engineering.)

S. Nadarajah, F. Margot, N. Secomandi, Relaxations of Approximate Linear Programs for the Real Option Management of Commodity Storage, *Management Science*, 61, 12, 2015, 3054-3076.

N. Secomandi, Merchant Commodity Storage Practice Revisited, *Operations Research,* 63, 5, 2015, 1131-1143.

N. Secomandi, G. Lai, F. Margot, A. Scheller-Wolf, D. Seppi, Merchant Commodity Storage and Term Structure Model Error, *Manufacturing & Service Operations Management*, 17, 3, 2015, 302-320.

N. Secomandi, D. Seppi, Real Options and Merchant Operations of Energy and Other Commodities, *Foundations and Trends in Technology, Information and Operations Management*, 6, 3-4, 2014, 161-331.

N. Secomandi, S. Kekre, Optimal Energy Procurement in Spot and Forward Markets, *Manufacturing & Service Operations Management*, 16, 2, 2014, 270-282.

J. Apt, N. Secomandi, Preface to the Special Issue on Energy Modeling, *Socio-Economic Planning Sciences*, 47, 2, 2013, 75.

E. Sonmez, S. Kekre, A. Scheller-Wolf, N. Secomandi, Strategic Analysis of Technology and Capacity Investments in the Liquefied Natural Gas Industry, *European Journal of Operational Research*, 226, 1, 2013, 100-114.

N. Secomandi, M. X. Wang, A Computational Approach to the Real Option Management of Network Contracts for Natural Gas Pipeline Transport Capacity, *Manufacturing & Service Operations Management*, 14, 3, 2012, 441-454.

G. Lai, M. X. Wang, S. Kekre, A. Scheller-Wolf, N. Secomandi, Valuation of Storage at a Liquefied Natural Gas Terminal, *Operations Research*, 59, 3, 2011, 602-616.
(2008 Version: Honorable Mention, 2008 Student Paper Competition, POMS College of Supply Chain Management.)
(2007 Version: 2007 CART Research Frontier Award, Carnegie Mellon Tepper School of Business; First Prize in the 2007 Student Paper Contest of the INFORMS Energy, Natural Resources and the Environment Section.)

A. Bhandari, N. Secomandi, Revenue Management with Bargaining, *Operations Research*, 59, 2, 2011, 498-506.

P. Enders, A. Scheller-Wolf, N. Secomandi, Interaction between Technology and Extraction Scaling Real Options in Natural Gas Production, *IIE Transactions*, 42, 9, 2010, 643–655.
(2009 Version: First Prize in the 2009 Student Paper Contest of the INFORMS Energy, Natural Resources and the Environment Section.)

G. Lai, F. Margot, N. Secomandi, An Approximate Dynamic Programming Approach to Benchmark Practice-based Heuristics for Natural Gas Storage Valuation, *Operations Research*, 58, 3, 2010, 564-582.
(Winner, 2012 Best Publication Award in Energy, INFORMS, Energy, Natural Resources, and the Environment Section.)

N. Secomandi, On the Pricing of Natural Gas Pipeline Capacity, *Manufacturing & Service Operations Management*, 12, 3, 2010, 393-408.
(2004 Version: Finalist, 2004 Paper Competition, INFORMS Junior Faculty Interest Group.)

N. Secomandi, Optimal Commodity Trading with a Capacitated Storage Asset, *Management Science*, 56, 3, 2010, 449-467.

N. Secomandi, Teaching Demand Management and Price Optimization in the MBA Program at the Carnegie Mellon University Tepper School of Business, *INFORMS Transactions on Education*, *Special Issue on Teaching Revenue Management*, 9, 2, 2009, 99-108.

S. Kekre, N. Secomandi, E. Sonmez, K. West, Balancing Risk and Efficiency at a Major Commercial Bank, *Manufacturing & Service Operations Management*, 11, 1, 2009, 160-173.

N. Secomandi, F. Margot, Reoptimization Approaches for the Vehicle Routing Problem with Stochastic Demands, *Operations Research*, 57, 1, 2009, 214-230.

N. Secomandi, An Analysis of the Control-Algorithm Re-Solving Issue in Inventory and Revenue Management, *Manufacturing & Service Operations Management*, 10, 3, 2008, 468-483.

N. Secomandi, Analysis of a Rollout Approach to Sequencing Problems with Stochastic Routing Applications, *Journal of Heuristics*, 9, 4, 2003, 321-352.

N. Secomandi, K. Abbott, T. Atan, E. A. Boyd, From Revenue Management Concepts to Software Systems, *Interfaces*, 32, 2, 2002, 1-11.

N. Secomandi, A Rollout Policy for the Vehicle Routing Problem with Stochastic Demands, *Operations Research*, 49, 5, 2001, 796-802.

N. Secomandi, Comparing Neuro-Dynamic Programming Algorithms for the Vehicle Routing Problem with Stochastic Demands, *Computers & Operations Research*, *Special Issue on Neural Networks in Business*, 27, 11/12, 2000, 1201-1225.

N. Secomandi, Dissertation Abstract – Exact and Heuristic Dynamic Programming Algorithms for the Vehicle Routing Problem with Stochastic Demands, in G. J. van Ryzin, Abstracts for the 1999 INFORMS Transportation Science Section Dissertation Prize Competition, *Transportation Science*, 34, 1, 2000, 125-130.

Articles in refereed conference proceedings

R. Z. Rios-Mercado, N. Secomandi, V. Buraparate, Minimizing Cash-Out Penalty Costs: A Bilevel Programming Approach, *Proceedings of the 2001 NSF Design, Service and Manufacturing Grantees Research Conference*, Tampa, FL, USA, January 2001.

C. F. Eick, Y-J. Kim, N. Secomandi, E. Toto, DELVAUX – An Environment That Learns Bayesian Rule-Sets with Genetic Algorithms, *Proceedings of the Third World Congress on Expert Systems*, Seoul, Korea, February 1996.

C. F. Eick, Y-J. Kim. N. Secomandi, Enhancing Diversity for a Genetic Algorithm Learning Environment for Classification Tasks, *Proceedings of the Sixth International Conference on Tools with Artificial Intelligence*, IEEE Computer Society, New Orleans, Louisiana, USA, November 1994.

G. G. Pieroni, N. Secomandi, A. Campioli, Segmenting Surfaces: A Comparison between the Performance of a Neural Tree and a Back-Propagation Algorithm, *Proceedings of the IEEE Region 10's Ninth International Conference on Frontiers of Computer Technology*, Singapore, August 1994.

Articles in edited books/volumes

S. Nadarajah, N. Secomandi, G. Sowers, J. Wassick, Real Option Management of Hydrocarbon Cracking Operations, *Real Options in Energy and Commodity Markets*, World Scientific-Now Publishers Series in Business, Chapter 5, 173-202, N. Secomandi (ed.), 2017 (Refereed Chapter).

N. Secomandi, D. Seppi, Energy Real Options: Valuation and Operations, *Managing Energy Price Risk*, Chapter 13, 449-477, V. Kaminski (ed.), Risk Books, 4-th Edition, 2016.

N. Secomandi, An Opportunity Cost View of Basestock Optimality for the Warehouse Problem, *Handbook of Integrated Risk Management in Global Supply Chains*, Chapter 16, 447-461, P. Kouvelis, O. Boyabatli, L. Dong, and R. Li (eds.), John Wiley & Sons, Inc., Hoboken, 2012 (Refereed Chapter).

N. Secomandi, T. Valkov, Dynamic Pricing of Petroleum Distillates at a Terminal, D. Harvey, *Revenue Management and Pricing: Case Studies and Applications*, U. McMahon, I. Yeoman (eds.), Thompson Learning, UK, 2004.

Edited books/volumes

N. Secomandi (ed.), *Real Options in Energy and Commodity Markets*, World Scientific-Now Publishers Series in Business, Volume 12, 2017 (Refereed Volume).

M. P. Johnson, B. Norman, N. Secomandi (eds.), *Models, Methods, and Applications for Innovative Decision Making*, INFORMS Tutorials in Operations Research, Volume II, November 2006 (Refereed Volume).

Completed working papers

N. Secomandi, B. Yang, Quadratic Hedging of Futures Term Structure Risk in Merchant Energy Trading Operations, Working Paper, Tepper School of Business, Carnegie Mellon University, October 2021.

B. Yang, S. Nadarajah, N. Secomandi, Least Squares Monte Carlo and Pathwise Optimization for Merchant Energy Production, Working Paper, Tepper School of Business, Carnegie Mellon University, July 2021.

S. Nadarajah, N. Secomandi, Real Options in Energy: A Guided Analysis of the Operations Literature, Working Paper, Tepper School of Business, Carnegie Mellon University, June 2021.

Technical reports

B. Yang, S. Nadarajah, N. Secomandi, Pathwise Optimization for Merchant Energy Production, Technical Report, Tepper School of Business, Carnegie Mellon University, December 2019 (Subsumed by B. Yang, S. Nadarajah, N. Secomandi, Least Squares Monte Carlo and Pathwise Optimization for Merchant Energy Production, Working Paper, Tepper School of Business, Carnegie Mellon University, July 2021).

S. Nadarajah, N. Secomandi, Least Squares Monte Carlo and Approximate Linear Programming: Error Bounds and Energy Real Option Application, Technical Report, Tepper School of Business, Carnegie Mellon University, August 2018 (Abridged version published as S. Nadarajah, N. Secomandi, Least Squares Monte Carlo and Approximate Linear Programming with an Energy Real Option Application, *Foundations and Trends in Technology, Information and Operations Management*, 14, 1-2, 2020, 178-202).

M. Dufalla, N. Secomandi, Revenue Management with Bargaining and a Finite Horizon, Technical Report, Tepper School of Business, Carnegie Mellon University, April 2014.

M. Shunko, L. Debo, L. Nan, N. Secomandi, Optimal Managerial Compensation and Financial Hedging in Commodity Procurement, Technical Report, Tepper School of Business, Carnegie Mellon University, June 2011.

N. Secomandi, J. Johnson, Operations Management and Business Pricing, Technical Report, Tepper School of Business, Carnegie Mellon University, December 2007.

L. G. Debo, N. Secomandi, Revenue Management for Products with Unknown Quality and Observable Price and Sales History, Technical Report, Tepper School of Business, Carnegie Mellon University, March 2007.

C. F. Eick, Y-J. Kim, N. Secomandi, E. Toto, Learning Diagnostic Rules with Genetic Algorithms – Concepts, Techniques, and Experiences, Technical Report, Department of Computer Science, University of Houston, Houston, TX, December 1996.

N. Secomandi, Two Heuristics for the Gate Assignment Problem, Technical Report #12, Department of Applied Mathematics & Computer Science, University of Venice, Ca' Foscari, Venice, Italy, December 1992.

GRANTS

Data-Driven Distributionally-Robust Optimization for Contemporary Merchant Energy Operations Models
Scott Institute for Energy Innovation, Carnegie Mellon University, Seed Grant
7/2021-12/2022 ($75,000)
Role: Principal Investigator

Merchant Operations of Energy and Commodity Conversion Assets Considering Market Incompleteness
NSF, CMMI-OE
9/2018-8/2021 ($280,073)
Role: Principal Investigator

Pathwise Optimization for Large Scale Energy Merchant Operations Models
Scott Institute for Energy Innovation, Carnegie Mellon University, ProSEED/EQT Energy Seed Grant
2/2017-6/2018 ($71,000)
Role: Principal Investigator

Real Option Management of Commodity and Energy Conversion Assets
NSF, CMMI-SES-OR
9/2011-8/2014 ($385,000)
Role: Principal Investigator
Co-Principal Investigator: F. Margot
Collaborator: D. Seppi

Real Option Valuation and Hedging of Hydrocarbon Cracking Operations at Dow Chemical
Enterprise Wide Optimization, Carnegie Mellon University
November 2010 ($10,000)
Role: Principal Investigator

Modeling Tradeoff in the Merchant Management of Natural Gas Storage
CART, Tepper School of Business, Carnegie Mellon University
February 2008 ($3,000 and 1PhD student annual stipend of $18,000)
Role: Co-Principal Investigator

Valuation of Contracts for Interstate Natural Gas Pipeline Transportation Capacity by Producers and Local Distribution Companies
Berkman Faculty Development Grant, Carnegie Mellon University
March 2007 ($7,500)
Role: Principal Investigator

Integrated Finance and Operations Management Workshop
Carnegie Mellon Tepper School of Business
August 2006 ($10,000)
Role: Co-Chair

Software Development for 45-830 Demand Management and Price Optimization
Teaching Innovation Center, Carnegie Mellon Tepper School of Business
May 2006 ($10,000)
Role: Principal Investigator

Decision Technology for the Emerging Global Liquefied Natural Gas Market
CART, Tepper School of Business, Carnegie Mellon University
2004-2006 ($20,000, 1 teaching credit for 2005-06)
Role: Co-Principal Investigator

Integration of Investment Science and Supply Chain Management in the Energy Industry
Carnegie Bosch Institute, Graduate School of Industrial Administration, Carnegie Mellon University
2003-04 ($10,000)
Role: Principal Investigator

PROFESSIONAL ACTIVITIES

<u>Plenary talks/tutorials at conference/symposium</u>

Keynote Presentation, Quadratic Hedging of Futures Term Structure Risk in Merchant Energy Trading Operations, Energy Finance Italia VI, University of Brescia, Italy, February 2021.

Keynote Presentation, Merchant Operations of Energy Trading Networks, Energy and Commodity Finance Conference, ESSEC Business School, Paris, June 2016.

Keynote Presentation, Merchant Commodity Storage: Heuristics and Dual Bounds, 5-th International Ruhr Energy Conference (INREC), Essen, March 2015.

Seminars at academic and research institutions

2021: ECOMFIN Research Center, ESSEC Business School; University of North Carolina, Kenan-Flagler Business School.

2020: University of Southern California, Marshall School of Business; University of Padua, Department of Mathematics; University of Eastern Piedmont, Departimento di Studi per l'Economia e l'Impresa; Bocconi University, Department of Decision Sciences.

2019: Princeton University, Operations Research and Financial Engineering; Rice University, Jones Graduate School of Business.

2018: Johns Hopkins University, Department of Applied Mathematics & Statistics.

2017: University of Pittsburgh, Swanson School of Engineering, Department of Industrial Engineering; HEC Paris.

2015: Stanford, GSB; Norwegian University of Science and Technology, Department of Industrial Economics and Technology Management; McCombs School of Business, University of Texas at Austin.

2014: Case Western Reserve University, Weatherhead School of Management; University of Houston, Department of Mathematics.

2013: Boston College, Carroll School of Management.

2012: University of Wyoming, College of Business; University of Pittsburgh, Department of Industrial Engineering; University of Brescia; London Business School; Carnegie Mellon University, Chemical Engineering.

2011: University of Michigan, Ross School of Business; Wilfrid Laurier University, Centre for Supply Chain Management.

2010: Princeton, Operations Research and Financial Engineering; Duke, Fuqua School of Business; Columbia, IEOR-DRO; University of Minnesota, Industrial and System Engineering Program; ExxonMobil Research and Engineering Company; Carnegie Mellon University, Tepper School of Business.

2009: MIT, Sloan School of Management; Stanford, GSB; Carnegie Mellon University, Chemical Engineering.

2008: NYU, Stern School of Business; UCLA, Anderson School of Management; INSEAD; London Business School; Carnegie Mellon University, Chemical Engineering; Carnegie Mellon University, Tepper School of Business.

2007: Cornell University, Johnson School of Management; University of North Carolina, Kenan-Flagler Business School; Carnegie Mellon University, Tepper School of Business.

2006: University of Texas at Austin, McCombs School of Business; University of Chicago, Graduate School of Business; Carnegie Mellon University, Tepper School of Business.

2004: Ca' Foscari University of Venice, Department of Applied Mathematics and Informatics; Carnegie Mellon University, Tepper School of Business.

2003: Carnegie Mellon University, Graduate School of Business; University of Michigan, Business School; Colorado School of Mines, Division of Business and Economics.

2001: University of Texas at Austin, Graduate Program in Operations Research.

Awards, Prizes, Honors

Winner, 2020 Best Publication Award in Environment-Sustainability, **INFORMS**, Energy, Natural Resources, and the Environment Section (September 2020).

Outstanding Reviewer, European Journal of Operational Research, **EURO** (October 2017).

Recognized Reviewer, Journal of Economic Dynamics and Control (September 2017).

Recognized Reviewer, European Journal of Operational Research, **EURO** (June 2017).

2015 M&SOM Meritorious Service Award, **INFORMS** (March 2016).

Honorable mention, Best Paper Award of the 2014 Annual Conference of the Chinese Scholars Association in Management Science and Engineering, **CSAMSE** (July 2014).

Advisor of Selvaprabu Nadarajah, Winner of the William W. Cooper Doctoral Dissertation Award, **Carnegie Mellon Tepper School of Business** (May 2014).

2014 M&SOM Meritorious Service Award, **INFORMS** (March 2015).

2012 Operations Research Meritorious Service Award, **INFORMS** (August 2013).

2012 M&SOM Meritorious Service Award, **INFORMS** (March 2013).

Winner, 2012 Best Publication Award in Energy, **INFORMS**, Energy, Natural Resources, and the Environment Section (September 2012).

Co-Advisor of Paul Enders, Winner of the First Prize in the 2009 Student Paper Contest of the **INFORMS** Energy, Natural Resources and Environment Section.

Advisor of Mulan X. Wang, Honorable Mention in the 2008 Student Paper Competition, **POMS** College of Supply Chain.

Advisor of Mulan X. Wang, Winner of the First Prize in the 2007 Student Paper Contest of the **INFORMS** Energy, Natural Resources and Environment Section.

2007 CART Research Frontier Award, **Carnegie Mellon Tepper School of Business**.

Panhellenic Role Model, **Carnegie Mellon University** Sorority Community (2007).

Finalist, 2004 Paper Competition, **INFORMS**, Junior Faculty Interest Group.

Honorable mention, 1999 Dissertation Award, **INFORMS**, Transportation Science Section.

TEACHING

Carnegie Mellon

MBA: Demand Management & Price Optimization, Real Options, Risk Analytics, Risk Management Project, Production Management Project, Operations Management Project, Supply Chain Management

PhD: Dynamic Programming, Energy Merchant Operations, Real Options, Seminar in Revenue Management,

Undergraduate: Production/Operations Management, Real Options: Creating Value Beyond NPV

STUDENT SUPERVISION

Doctoral students (Carnegie Mellon)

Özgün Elçi (Second Year Paper Reader) (Tepper School of Business) (2019)
Bo Yang (Thesis Committee Co-Chair) (Tepper School of Business) (2018-2022)
Placement: Postdoctoral Researcher, Department of Industrial Engineering and Operations Research, Columbia University, New York, NY
Sreekanth Rajagopalan (Thesis External Reader) (Chemical Engineering) (2018)
Bo Yang (Summer Paper Reader) (Tepper School of Business) (2017)
Bo Yang (Summer Paper Reader) (Tepper School of Business) (2016)

Sreekanth Rajagopalan (Thesis Proposal External Reader) (Chemical Engineering) (2016)
Selvaprabu Nadarajah (Thesis Committee Chair) (Tepper School of Business) (2013-2014)
Placement: Liautaud Graduate School of Business, University of Illinois, Chicago, IL
Michele Dufalla (Thesis Committee Member) (Tepper School of Business) (2013-2014)
Steven Baker (Thesis External Reader) (Tepper School of Business) (2012-2013)
Abdulrahman Alattas (Thesis External Reader) (Chemical Engineering) (2012)
Selvaprabu Nadarajah (Advised Dissertation Research) (Tepper School of Business) (2011-2013)
Yangfang Zhou (Thesis Committee Member) (Tepper School of Business) (2012)
Selvaprabu Nadarajah (Advised Summer Paper Research, Summer Paper Reader) (Tepper School of Business) (2010)
Diego Falsini (Advised Thesis Research, Visiting PhD Student) (Tepper School of Business) (2010)
Yangfang Zhou (Advised Summer Paper Research) (Tepper School of Business) (2009)
Paul Enders (Thesis Committee Member) (Tepper School of Business) (2009)
Abdulrahman Alattas (Thesis Proposal External Reader) (Chemical Engineering) (2009)
Michele Dufalla (Summer Paper Reader) (Tepper School of Business) (2009)
Guoming Lai (Advised on CART Sponsored Research) (2009)
Erkut Sonmez (Thesis Committee Co-Chair) (Tepper School of Business) (2005-2009)
Placement: Carroll School of Management, Boston College, Boston, MA
Bora Tarhan (Thesis External Reader) (Chemical Engineering) (2009)
Michele Dufalla (Summer Paper Reader) (Tepper School of Business) (2008)
Guoming Lai (Advised on CART Sponsored Research) (2008)
Mulan X. Wang (Thesis Committee Chair) (Tepper School of Business) (2004-2008)
Placement: DTE Energy, Ann Arbor, MI
Atul Bhandari (Thesis Committee Member) (Tepper School of Business) (2006)
Ismail Civelek (Summer Paper Reader) (Tepper School of Business) (2006)
Erkut Sonmez (Summer Paper Reader) (Tepper School of Business) (2006)
Paul Enders (Summer Paper Reader) (Tepper School of Business) (2006)
Masha Shunko (Summer Paper Reader) (Tepper School of Business) (2006)
Muge Erdirik (Thesis External Reader) (Chemical Engineering) (2007)
Erkut Sonmez (Summer Paper Reader) (Tepper School of Business) (2005)
Xiaofeng Wang (Summer Paper Reader) (Tepper School of Business) (2004)
Wei Yang (Thesis Committee Member) (Tepper School of Business) (2004)

Post-doctoral researchers (Carnegie Mellon)

Anna Maria Gambaro, University of Eastern Piedmont, Italy, May-July 2018.

SERVICE

Editorial roles

Guest Editor, *Journal of Commodity Markets*, Special Issue on Operations Research in Commodity Markets (2019-2020).

Co-guest Editor (with Sridhar Seshadri), *Production and Operations Management*, Focused Issue of the POM-Finance Interface Department on the POM-Finance Interface in Commodity and Energy Markets (2019-2021).

Co-guest Editor (with Álvaro Cartea and Andrea Roncoroni), *Applied Mathematical Finance*, Special Issue on Methods and Models for Energy and Commodity Markets (2017).

Guest Editor (with Jay Apt), *Socio-Economic Planning Sciences*, Special Issue on Energy Modeling (2011-2012).

Area Editor, *Stochastic Models and Reinforcement Learning* Area, *INFORMS Journal on Computing* (2019-).

Associate Editor, *Foundations and Trends in Information, Technology and Operations Management* (2021-).

Associate Editor, *Manufacturing and Service Operations Management*, Special Issue on Smart City Operations (2019).

Associate Editor, *Operations Research*, Special Issue Honoring Kenneth Arrow, Mathematical Models of Individual and Group Decision Making in Operations Research (2018).

Senior Editor, *Production and Operations Management*, Special Issue on Innovation and Sustainability (2017).

Associate Editor, *IISE Transactions* (2017-).

Associate Editor, *Manufacturing and Service Operations Management* (2011-2014, 2017-).

Associate Editor, *Manufacturing and Service Operations Management*, Special Issue on Practice-Focused Research (2014-2015).

Associate Editor, *Operations Research* (2012-).

Associate Editor, *Management Science* (2012-2014, 2018-).

Guest Associate Editor, *Management Science* (2011).

Guest Associate Editor, *Manufacturing and Service Operations Management* (2010).

Senior Editor, *Production and Operations Management* (2010-).

Associate Editor, *Management Science*, Special Issue on Interfaces of Operations and Finance (2007-2011).

Associate Editor, *INFORMS Journal on Computing* (2004-2018).

Special Associate Editor, *INFORMS Journal on Computing* (2000-04).

Ad Hoc Referee for *Energy Economics*, *Energy Systems*, *The Engineering Economist*, *European Journal of Operational Research*, *IEEE Transactions on Automatic Control*, *IEEE Transactions on Intelligent Transportation Systems*, *IEEE Transactions on Power Systems*, *IIE Transactions*, *INFORMS Journal on Computing*, *INFORMS Transactions on Education*, *International Journal of Production Economics*, *Journal of Banking and Finance, Journal of Economic Dynamics and Control*, *Journal of Heuristics*, *Journal of Mathematical Models and Algorithms*, *Management Science*, *Manufacturing & Service Operations Management*, *Mathematics of Operations Research, Naval Research Logistics*, *Operations Research*, *Operations Research Letters*, *Optimization Letters*, *Optimization and Analytics in the Oil and Gas Industry (edited book)*, *Production and Operations Management*, *SIAM Journal on Financial Mathematics*, *Transportation Science*.

Reviewer for *National Science Foundation*, *National Academy of Sciences*. *Research Council of Norway*.

<u>Carnegie Mellon</u>

Reviewer, Seed Grants Proposals, Wilton E. Scott Energy Institute (2017, 2022)

Member, Faculty Advisory Committee, Wilton E. Scott Energy Institute (2017-2022).

Member, Internal Advisory Committee, Wilton E. Scott Energy Institute (2012-2015).

Faculty Affiliate, Carnegie Mellon Scott Institute for Energy Innovation (2016-)

Member, Carnegie Mellon Electricity Industry Center (2017-)

Member, Enterprise-wide Optimization, Chemical Engineering (2010-).

<u>Tepper School of Business</u>

Head, PhD Program (2017-2021).

Member, Cooper Award Committee (AY 2016-17).

Member, Master of Science in Business Analytics Curriculum Design Committee (September 2016-October 2017)

Member, Policy Committee (April 2016-)

Member, Dean Evaluation Committee (January 2016-May 2016)

Member, Lave-Weil Prize Committee (AY 2015-16).

Chair, OM Faculty Recruiting Committee (AY 2014-15, 2015-16).

Chair, OM Visiting Faculty Recruiting Committee (AY 2013-14).

Chair, PhD Subcommittee, Application Pool and Acceptance Rate (2014).

Member, MBA Full-time Curriculum Change Assessment Committee (2014).

Member, PhD Committee (2011-2017).

Coordinator, PhD Program in Operations Management (2011-2017).

Coordinator, Manufacturing Seminar Series (AY 04-05, 05-06, 07-08).

Member, OM Faculty Recruiting Committee (AY 2007-08).

Member, Undergraduate Academic Actions Committee (2006-2014).

Member, Edward R. Mosier Scholarship (POM) Award Committee (AY 2009-10, 2010-11, 2011-12, 2013-14, 2014-15, 2015-16, 2016-17, 2017-18, 2018-19, 2019-20, 2020-21, 21-22).

Member, Thompson Award Committee (AY 2006-07, 2012-13).

Member, Teaching Assignment Advisory Committee (Spring ‘05).

MBA Faculty Liaison (AY 2007-08).

Judge, MBA Operations Club Case Competition (2003, 2004, 2005, 2006, 2007).

Qatar Campus Inaugural Presentation (March 2004).

<u>Other institutions</u>

External Review Committee Member, University of Southern California, Marshall School of Business, Department of Data Science and Operations (2019).

Research Proposal Reviewer, Department of Logistics and Maritime Studies, The Hong Kong Polytechnic University (2019).

Pro-bono Lecture on Energy Real Option Valuation, Istituto Istruzione Superiore Leopardi-Majorana, Pordenone, Italy, March 2016.

Expert Committee Member, Norwegian University of Science and Technology (2015).

Professional societies

Invited Nominator, Sveriges Riksbank Prize in Economic Sciences in Memory of Alfred Nobel, The Royal Swedish Academy of Sciences (2020, 2021, 2022).

Judge, Commodity and Energy Markets Association Best Paper Award (2018, 2019, 2021).

Executive Committe member, Commodity and Energy Markets Association (2017-).

Committee member, INFORMS MSOM Society iFORM SIG Best Paper Award (2016).

Chair, INFORMS Energy, Natural Resources, and Environment Section, 2014 Young Researcher Prize (2014).

Judge, Operations Management Best Paper Award, Management Science (2014, 2018, 2019, 2020, 2021, 2022).

Judge, M&SOM Best Paper Award (2011, 2012, 2013, 2014, 2017, 2018, 2019, 2020, 2021, 2022).

Judge, Operations Management Best Paper Award, Operations Research (2016, 2017, 2018, 2019, 2020, 2021, 2022).

Board member, INFORMS Revenue Management and Pricing Section (2008-2010).

Judge, INFORMS Nicholson Student Paper Competition Committee (2005, 2006).

Judge, INFORMS MSOM Student Paper Competition Committee (2005, 2006, 2007, 2008, 2009, 2013, 2015, 2016).

President, Houston Chapter of INFORMS (2000-01).

Conference or program committee chair or member

Scientific committee member, Commodity and Energy Markets Association Annual Meeting, University of Illinois at Urbana-Champaign, Chicago, Illinois, June 2022.

Scientific committee member, Commodity and Energy Markets Association Annual Meeting, University Carlos III, Madrid, Spain, June 2020.

Program committee member, Energy and Commodities Finance Research Conference, University of Oklahoma, September 2019.

Chair, Commodity and Energy Markets Association Annual Meeting, Carnegie Mellon Tepper School of Business, Carnegie Mellon University, Pittsburgh, June 2019.

Organizing committee member, Commodity and Energy Markets Association Annual Meeting, Tepper School of Business, Carnegie Mellon University, Pittsburgh, June 2019.

Scientific committee member, Commodity and Energy Markets Association Annual Meeting, Tepper School of Business, Carnegie Mellon University, Pittsburgh, June 2019.

Program committee member, Energy and Commodities Finance Research Conference, University of Oklahoma, September 2018.

Scientific committee member, Commodity and Energy Markets Association Annual Meeting, Sapienza Università di Roma, Rome, June 2018.

Program committee member, Energy and Commodities Finance Research Conference, University of Oklahoma, September 2017.

Scientific committee member, Commodity and Energy Markets Association Annual Meeting, Oxford University, Oxford, June 2017.

Program committee member, Energy and Commodity Finance Conference, ESSEC Business School, Paris, June 2016.

Chair of the Organizing Committee, Interface of Finance, Operations, and Risk Management (iFORM) MSOM Special Interest Group Conference, Rotman School of Management, University of Toronto, Toronto, June 2015.

Member of the Organizing Committee, Interface of Finance, Operations, and Risk Management (iFORM) MSOM Special Interest Group Conference, Columbia University, New York, June 2012.

Member of the Organizing Committee, 4-th Mini-Conference on Integrated Risk Management in Operations and Global Supply Chains, Olin School of Business, Washington University-St. Louis, June 2007.

Co-Chair, Integrated Finance and Operations Management, Carnegie Mellon Tepper School of Business, August 2006.

Conference cluster

2010 INFORMS Annual Meeting, Austin, TX
(Cluster Chair, “Energy: Modeling the Interface between Markets and Operations”)

2007 INFORMS Annual Meeting, Seattle, WA
(Cluster Chair, “Operations Management in Commodity Markets and Agribusiness”)

Conference session chair

2021 Commodity and Energy Markets Association Annual Meeting, Madrid.

2022 INFORMS Annual Meeting, Indianapolis, IN.

2021 INFORMS Annual Meeting, Anaheim, CA.

2019 INFORMS Annual Meeting, Seattle, WA.

2019 Commodity and Energy Markets Association Annual Meeting, Pittsburgh, PA.

2019 SIAM Conference on Financial Mathematics and Engineering, Toronto, ON.

2018 INFORMS Annual Meeting, Phoenix, AZ.

2017 INFORMS Annual Meeting, Houston, TX.

2017 Commodity and Energy Markets Association Annual Meeting, Oxford, England.

2015 INFORMS Annual Meeting, Philadelphia, PA.

2015 19^{th} Annual International Conference on Real Options, Athens and Monemvasia, Greece.

2014 IFORS, Barcelona, Spain.

2013 INFORMS Annual Meeting, Minneapolis, MN.

2012 INFORMS Annual Meeting, Phoenix, AZ.

2012 SIAM Conference on Financial Mathematics and Engineering, Minneapolis, MN.

2012 15th Annual International Conference on Real Options, London, UK.

2012 International Ruhr Energy Conference, Essen, Germany.

2011 INFORMS Annual Meeting, Charlotte, NC.

2009 POMS Annual Conference, Orlando, Florida.

2008 INFORMS Annual Meeting, Washington, DC.

2008 POMS Annual Conference, San Diego, CA.

4-th Mini-Conference on Integrated Risk Management in Operations and Global Supply Chains, Olin School of Business, Washington University-St. Louis, June 2007.

2006 INFORMS Annual Meeting, Pittsburgh, PA.

2005 INFORMS Annual Meeting, San Francisco, CA.

2000 INFORMS Spring Meeting, Salt Lake City, UT.

CONSULTING

Caterpillar, Cheniere Energy, Cinergy, Deloitte & Touche LLP, Dow Chemical Company, EnWorkz, Inc., Equitable Gas, EverPower, ExxonMobil Research and Engineering Company, GE Commercial Finance, Georgia-Pacific RPC, LLC, FMC BioPolymer,Mellon Bank, Philips, National Grid, Seneca Resources, Shell Energy North America.

OTHER ACTIVITIES

United States Patent, System and Method for Analyzing Transactions at an Electronic Marketplace, No. 7,877,311 B1, January 25, 2011, R. F. Woestemeyer, M. Johnson, T. V. Valkov, M. Paige, M. O. Weigelt, N. Secomandi.