Dr. Johannes O. Royset

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Education

PhD: University of California, Berkeley, Civil & Environmental Engineering, December 2002.
Advisors: Armen Der Kiureghian (Department of Civil & Environmental Engineering)
Elijah Polak (Department of Electrical Engineering & Computer Sciences).
MS: Norwegian University of Science and Technology, Civil & Environ. Eng., December 1997.
BS: Ålesund University College, Norway, Civil & Environmental Engineering, June 1995.

Professional History

01/2024-Present: Professor, University of Southern California, ISE Department.
07/2016-12/2023: Professor, Naval Postgraduate School, Operations Research Dept. (NPS-OR).
10/2019-09/2020: Visiting Scholar, Management Science & Engineering, Stanford University.
04/2014-02/2019: Associate Chair of Research, NPS-OR.
01/2016-05/2016: Visiting Associate Professor, Department of EECS, UC Berkeley.
10/2012-09/2013: Visiting Associate Professor, Department of Mathematics, UC Davis.
07/2011-06/2016: Associate Professor (with tenure), NPS-OR.
06/2006-07/2011: Assistant Professor (tenure track), NPS-OR.
01/2005-06/2006: Research Assistant Professor (nontenure track), NPS-OR.
04/2003-01/2005: Postdoctoral Researcher (National Research Council), NPS-OR.
01/2003-03/2003: Postdoctoral Researcher, UC Berkeley; Dept. of Civil & Environ. Engineering.
01/1998-12/1998: Corporal, Norwegian Army.

Awards

Goodeve Medal from the Operational Research Society (2019).
Top Instructor, campus wide recognition (2018).
Carl E. and Jessie W. Menneken Award for Excellence in Scientific Research (2010).
Richard H. Barchi Award from the Military Operations Research Society (2009).
Military Operations Research Journal Award (2009).
Air Force Office of Scientific Research Young Investigator Award (2007).
National Research Council Research Associateship (2002).
Norwegian Research Council Doctoral Fellowship (1998).
ELF Aquitaine Student Award (1998).

Plenaries and Key Presentations

Brief, National Academies committee on "Future Directions for Digital Twins" (2023).
Plenary, INFORMS Conference on Security, Arlington, Virginia (2022).

Plenary, Pacific Optimization Conf., Kuala Lumpur, Malaysia (2021; cancelled due to covid).

Plenary, SIAM Conference on Uncertainty Quantification, Anaheim, California (2018).

Plenary, 14th International Conference on Stochastic Programming, Buzios, Brazil (2016).

Tutorial, INFORMS Annual Meeting, Anaheim, California (2021).

Tutorial, 14th International Conference on Stochastic Programming, Buzios, Brazil (2016).

Tutorial, Smart Energy and Stochastic Optimization, Paris, France (2015).

Tutorial, INFORMS Annual Meeting, San Francisco, California (2014).

Tutorial, INFORMS Annual Meeting, Minneapolis (2013; cancelled, government shutdown).

Tutorial, 13th International Conf. on Stochastic Programming, Bergamo, Italy (2013).

Speaker, Casa Matematica Oaxaca: Stochastic Optimization in Energy (2019).

Speaker, Oberwolfach: New Directions in Stochastic Optimization (2018).

Speaker, Banff: Shape-Constrained Methods in Statistics (2018).

Funded Projects: (Co-)Principal Investigator.

ONR, *Science of Autonomy Program*, "Physical Access to Autonomous Systems: Adversarial Manipulation, Robustness, and Real-Time Computation," co-PI, $648,000, 3/1/2023-9/30/2026.

ONR, *Operations Research Program*, "Large Scale Optimization," PI, $461,000, 1/1/2022-12/31/2024.

ONR, *Operations Research Program*, "COAST Development and Testing," PI, $20,000, 5/1/2022-12/31/2022.

AFOSR, *Mathematical Optimization Program*, "Optimal Decision Making under Tight Performance Requirements in Adversarial and Uncertain environments: Insights from Rockafellian Functions," PI, $408,000, 1/1/2022-12/31/2024.

ONR, *Science of Autonomy Program*, "Decision Theoretic and Algorithmic Foundations for Autonomy in Adversarial Environments," co-PI, $501,000, 1/1/2020-12/31/2022.

AFOSR, *Optimization & Discrete Mathematics Program*, "Distributional Stability and Error Estimates in Constrained Learning, Optimization under Uncertainty, and Defense Applications," PI, $447,000, 7/1/2018-9/30/2021.

ONR, *Operations Research Program*, "Large Scale Optimization," co-PI, $454,000, 1/1/2019-12/31/2021.

ONR, *Science of Autonomy Program*, "Context-Rich Predictors for Self-Reflective Autonomy: Variational Foundations," PI, $301,000, additional $305,000 to UC Davis, 1/1/2017-12/31/2019.

DARPA, *Lagrange Program,* "Infinite-Dimensional Optimization with Applications to High-Dimensional Statistics and Small-Data Problems," PI, $86,000, 3/1/2018-9/30/2019.

Naval Postgraduate School, *CMIS Program*, "Foundations for Information Valuation and Error Assessment in Multi-Source Target Estimation," PI, $67,000, 1/10/2016-9/30/2017.

DARPA, *Enabling Quantification of Uncertainty in Physical Systems Program*, "Scalable Framework for Hierarchical Design and Planning under Uncertainty with Application to Marine Vehicles," co-PI, $375,000, additional $1,625,000 to Brown and MIT, 1/10/2015-9/30/2018.

DARPA, *Defense Sciences Office*, "A New Mathematical Framework for Design under Uncertainty," co-PI, $100,000, additional $678,000 to Brown and MIT, 1/10/2014-9/30/2015.

ARO, *Decision & Neuro-Sciences Program*, "Estimation and Uncertainty Quantification of Stochastic Systems," PI, $199,000, additional $71,000 to UC Davis, 1/10/2012-9/30/2015.

AFOSR, *Optimization & Discrete Mathematics Program*, "Optimization of Complex Systems in the Presence of Uncertainty and Approximations," PI, $242,000, additional $70,000 to U. Washington, 1/10/2011-9/30/2015.

ONR, *Science of Autonomy Program*, "Herding and Active Force Protection using Autonomous Agents," co-PI, $700,000, 1/10/2010-9/30/2013.

ONR, *Mathematical Optimization & Operations Research Program*, "Optimization of Sensor Operation for Search, Surveillance, and Rapid Accurate Decision Making in Maritime, Littoral, and Urban Environments," co-PI, $978,000, 1/1/2009-9/30/2014.

ONR, *Mathematical Optimization & Operations Research Program*, "Optimization of Sensor Allocation for Search and Surveillance in Maritime, Littoral, and Urban Environments," co-PI, $189,000, 1/1/2008-12/31/2008.

AFOSR, *Young Investigator Award*, "Adaptive Precision Adjustment for Efficient Optimization of Complex Systems," PI, $315,000, 1/1/2008-12/31/2010.

US Marine Corps, *Operations Analysis Division*, "Optimizing the Deployment of Cargo Unmanned Aerial Systems in Logistical Support Missions at the Tactical Level," co-PI, $100,000, 1/1/2010-12/31/2010.

NPS-SOCOM Field Experimentation Program, "ASOM-II – Search and Identification Decision-Support System," co-PI, $146,000, 1/1/2009-12/31/2009.

NPS-JIEDDO Research Program, "Optimized Routing of Unmanned Aerial Systems for the Interdiction of Improvised Explosive Devices," PI, $25,000, 1/1/2008-12/31/2008.

NPS-SOCOM Field Experimentation Program, "ASOM – The Next Generation: From Model to Dynamic Decision-Support Tool," co-PI, $146,000, 1/1/2008-12/31/2008.

NPS-SOCOM Field Experimentation Program, "Extensions of Aerial Search Optimization Model (ASOM)," co-PI, $146,000, 1/1/2007-12/31/2007.

Teaching at NPS

Optimization with applications to machine learning, risk, and statistics (23 times).

Operations Management (eight times).

Introduction to optimization models and algorithms (three times).

Engineering Design (twice); Stochastic Optimization (twice); Advanced Optimization (once).

Teaching at University of California Berkeley, Department of EECS

Optimization models and applications to machine learning, statistics, decision making, and control; Spring 2016.

Advising

Graduated PhDs: five at NPS, one at Colorado School of Mines (Co-Advisor); including a Dantzig Dissertation Prize Finalist.

Graduated MS students: 36 *with theses* at NPS, including two Military Operations Research Society Tisdale Awardees and one Military Operations Research Society Barchi Awardee.

PhD dissertation committees at Brown University, UC Santa Cruz, Naval Postgraduate School, Universidad Federico Santa María (Chile), and Molde University College (Norway).

External Service

Guest Editor:
Journal of Convex Analysis (Special issue in honor of R. Wets), 2023.

Mathematical Programming B (Variational Analysis in Modern Statistics), 2019.
Journal of Optimization Theory and Applications (Advances in Nonsmooth Optimization), 2016.

Associate Editor:
SIAM Journal on Optimization (2021-present).
Operations Research (2010-present).
Journal of Convex Analysis (2020-present).
Set-Valued and Variational Analysis (2019-present).
Computational Optimization and Applications (2010-present).
Journal of Optimization Theory and Applications (2008-present).
Naval Research Logistics (2009-2019).

Co-Organizer:
Erice Meeting: Stochastic Optimization and Statistical Learning (2022).
Banff Meeting: Optimization under Uncertainty (2021).
Bay Area Optimization Meeting (2015, 2016, 2017, 2018, 2019, 2023).

Organizing Committee Member:
SIAM Conference on Optimization (2023).
International Conference on Stochastic Programming (2023).

Program Committee Member:
International Conference on Stochastic Programming (2019).
Pacific Optimization Conference (2014).
International Conf. on Applications of Statistics and Probability in Civil Engin. (2015, 2018).

Governing Body Member:
Committee on Stochastic Programming, Stochastic Programming Society (2019-2023).
Secretary, Committee on Stochastic Programming, Stochastic Programming Society (2016-2019).

Award Committees:
Chair, committee for Dupacova-Prekopa Best Student Prize (2023).
Committee for ICCOPT Best Paper by Young Researcher Prize (2022).
Committee for Dupacova-Prekopa Best Student Prize (2019).

National Research Council Advisor, Research Associateship Program (2016-Present).

Reviewer and Panelist:
National Science Foundation.
Air Force Office of Scientific Research.
Office of Naval Research.
Numerous journals and conferences.

Internal Service at NPS

2014-2019: Associate Chair of Research, NPS-OR.

2014-2019: Member, Dean's Research Board, NPS.

2015-2019: Faculty recruiting committee, NPS-OR (Chair: 2017-2019).

2015-2016, 2018-2019: Strategic evaluation and planning committee, NPS-OR.

2023: Two department evaluation committees (midway review of assist. prof.); one as chair.

Consulting

01/2015-06/2016: *RetailNext, Inc.:* analyzing data streams from in-store optical sensors, wireless trackers, and cashier records; uncertainty modeling.

Books

B2. **J.O. Royset** and R. J-B Wets, *An Optimization Primer*, Springer Series on Operations Research and Financial Engineering, 2021; 694 pages. *Solution Manual;* 140 pages.

B1. L. Stone, **J.O. Royset**, and A.R. Washburn, *Optimal Search for Moving Targets*, Springer, 2016; 227 pages.

Preprints

A5. **J. O. Royset** and M. A. Lejeune, "Risk-Adaptive Local Decision Rules," arXiv:2310.09844.

A4. Y. I. Kim, P. Agrawal, **J. O. Royset**, and R. Khanna, "On Memorization and Privacy risks of Sharpness Aware Minimization," arXiv:2310.00488.

A3. J. Deride, **J. O. Royset**, and F. Urrea, "A variational approach to a cumulative distribution function estimation problem under stochastic ambiguity," arXiv:2309.00070.

A2. **J.O. Royset**, "Risk-Adaptive Approaches to Learning and Decision Making: A Survey," arXiv:2212.00856.

A1. **J.O. Royset**, L.L Chen, and E. Eckstrand, "Rockafellian Relaxation in Optimization under Uncertainty: Asymptotically Exact Formulations," arXiv:2204.04762.

Refereed Journal Publications (Students of Royset at NPS indicated by asterisks.)

J71. M. A. Lejeune, **J. O. Royset**, and W. Ma, "Multi-Agent Search for a Moving and Camouflaging Target," *Naval Research Logistics*, in press.

J70. S.M. Warner* and **J.O. Royset**, "Optimizing Surveillance Satellites for the Synthetic Theater Operations Research Model," *Military Operations Research*, in press.

J69. J.-E. Byun, W. de Oliveira, and **J.O. Royset**, 2023, "S-BORM: Reliability-Based Optimization of General Systems using Buffered Optimization and Reliability Method," *Reliability Engineering & System Safety*, Vol. 236, pp. 109314.

J68. P. Chen and **J.O. Royset**, 2023, "Performance Bounds for PDE-Constrained Optimization under Uncertainty," *SIAM Journal on Optimization*, Vol. 33, No. 3, pp. 1828-1854.

J67. **J.O. Royset**, 2023, "Consistent Approximations in Composite Optimization," *Mathematical Programming A*, Vol. 201, pp. 339-372.

J66. E.A. Feinberg, P.O. Kasyanov, and **J.O. Royset**, 2023, "Epi-Convergence of Expectation Functions under Varying Measures and Integrands," *Journal of Convex Analysis*, Vol. 30, No. 3, pp. 917-936.

J65. **J.O. Royset**, 2023, "On Robustness in Nonconvex Optimization with Application to Defense Planning," *Operations Research Letters*, Vol. 51, No. 1, pp. 3-10.

J64. M. Norton and **J.O. Royset**, 2023, "Diametrical Risk Minimization: Theory and Computations," *Machine Learning*, Vol. 112, pp. 2933-2951.

J63. J.-E. Byun and **J.O. Royset**, 2022, "Data-Driven Optimization of Reliability using Buffered Failure Probability," *Structural Safety*, Vol. 98, pp. 102232.

J62. A. Chaudhuri, B. Kramer, M. Norton, **J.O. Royset**, and K. Willcox, 2022, "Certifiable Risk-Based Engineering Design Optimization," *AIAA Journal*, Vol. 60, No. 2, pp. 551-565.

J61. **J.O. Royset** and J.-E. Byun, 2021, "Gradients and Subgradients of Buffered Failure Probability," *Operations Research Letters*, Vol. 49, No. 6, pp. 868-873.

J60. F. Peschiera, R. Dell, **J.O. Royset**, A. Hait, N. Dupin, and O. Battaia, 2021, "A Novel Solution Approach with ML-Based Pseudo-Cuts for the Flight and Maintenance Planning Problem," *OR Spectrum*, Vol. 43, pp. 635-664.

J59. **J.O. Royset**, 2020, "Set-Convergence and Its Application: A Tutorial," *Set-Valued and Variational Analysis*, Vol. 28, pp. 707-732.

J58. **J.O. Royset** and R. J-B Wets, 2020, "Variational Analysis of Constrained M-Estimators," *Annals of Statistics*, Vol. 48, No. 5, pp. 2759-2790.

J57. **J.O. Royset**, 2020, "Stability and Error Analysis for Optimization and Generalized Equations," *SIAM Journal on Optimization*, Vol. 30, No. 1, pp. 752-780.

J56. **J.O. Royset**, 2020, "Approximations of Semicontinuous Functions with Applications to Stochastic Optimization and Statistical Estimation," *Mathematical Programming A*, Vol. 184, pp. 289-318.

J55. L. Bonfiglio and **J.O. Royset**, 2019, "Multi-Disciplinary Risk-Adaptive Set-Based Design of Super-Cavitating Hydrofoils," *AIAA Journal*, Vol. 57, No. 8, pp. 3360-3378.

J54. Y. Yang, Y. Fan, **J.O. Royset**, 2019, "Estimating Probability Distribution of Travel Demand on Congested Networks," *Transportation Research B*, Vol. 122, pp. 265-286.

J53. **J.O. Royset** and R. J-B Wets, 2019, "Lopsided Convergence: An Extension and Its Quantification," *Mathematical Programming A*, Vol. 177, No. 1, pp. 395-423.

J52. M.D. Teter, **J.O. Royset**, and A.M. Newman, 2019, "Modeling Uncertainty of Expert Elicitation for use in Risk-Based Optimization," *Annals of Operations Research*, Vol. 280, No. 1-2, pp. 189-210.

J51. B. Assimizele, **J.O. Royset**, R.T. Bye, J. Oppen, 2018, "Preventing Environmental Disasters from Grounding Accidents: A Case Study of Tugboat Positioning along the Norwegian Coast," *Journal of the Operational Research Society*, Vol. 69, No. 11, pp. 1773-1792. (Recipient of the Goodeve Medal for best paper published in JORS in 2018.)

J50. **J.O. Royset**, 2018, "Approximations and Solution Estimates in Optimization," *Mathematical Programming A*, Vol. 170, No. 2, pp. 479-506.

J49. R.T. Rockafellar and **J.O. Royset**, 2018, "Superquantile/CVaR Risk Measures: Second-Order Theory," *Annals of Operations Research*, Vol. 262, No. 1, pp. 3-28.

J48. C. Walton, P. Lambrianides, I. Kaminer, **J.O. Royset** and Q. Gong, 2018, "Optimal Motion Planning in Rapid-Fire Combat Situations with Attacker Uncertainty," *Naval Research Logistics*, Vol. 65, No. 2, pp. 101-119.

J47. **J.O. Royset** and R. J-B Wets, 2018, "On Univariate Function Identification Problems," *Mathematical Programming B*, Vol. 168, No. 1-2, pp. 449-474.

J46. **J.O. Royset** and R. J-B Wets, 2017, "Variational Theory for Optimization under Stochastic Ambiguity," *SIAM Journal on Optimization*, Vol. 27, No. 2, 1118-1149.

J45. **J.O. Royset**, L. Bonfiglio, G. Vernengo, and S. Brizzolara, 2017, "Risk-Adaptive Set-Based Design and Applications to Shaping a Hydrofoil," *ASME Journal on Mechanical Design*, Vol. 139, No. 10, pp. 1014031-1014038.

J44. **J.O. Royset** and R. J-B Wets, 2016, "Multivariate Epi-Splines and Evolving Function Identification Problems," *Set-Valued and Variational Analysis*, Vol. 24, No. 4, pp. 517-545.

J43. C. Phelps, **J.O. Royset**, and Q. Gong, 2016, "Optimal Control of Uncertain Systems using Sample Average Approximations," *SIAM Journal on Control and Optimization*, Vol. 169, No. 2, pp. 550-567.

J42. **J.O. Royset** and R. J-B Wets, 2016, "Optimality Functions and Lopsided Convergence," *Journal of Optimization Theory and Applications*, Vol. 169, No. 3, pp. 965-983.

J41. J.C. Foraker*, **J.O. Royset**, and I. Kaminer, 2016, "Search-Trajectory Optimization: Part 1, Formulation and Theory," *Journal of Optimization Theory and Applications*, Vol. 169, No. 2, pp. 530-549.

J40. J.C. Foraker*, **J.O. Royset**, and I. Kaminer, 2016, "Search-Trajectory Optimization: Part 2, Algorithms and Computations," *Journal of Optimization Theory and Applications*, Vol. 169, No. 2, pp. 550-567.

J39. J. Pietz* and **J.O. Royset**, 2015, "Optimal Search and Interdiction Planning," *Military Operations Research*, Vol. 20, No. 4, pp. 59-73.

J38. P. Perdikaris, D. Venturi, **J.O. Royset**, and G. Karniadakis, 2015, "Multi-Fidelity Modeling via Recursive Co-Kriging and Gaussian Markov Random Fields," *Proceedings of the Royal Society A*, Vol. 2179, No. 471, 20150018.

J37. **J.O. Royset** and R. J-B Wets, 2015, "Fusion of Hard and Soft Information in Nonparametric Density Estimation," *European Journal of Operational Research*, Vol. 247, No. 2, pp. 532-547.

J36. R.T. Rockafellar and **J.O. Royset**, 2015, "Engineering Decisions under Risk-Averseness," *ASCE-ASME Journal of Risk and Uncertainty in Engineering Systems, Part A: Civil Engineering*, Vol. 1, No. 2, 04015003.

J35. R.T. Rockafellar and **J.O. Royset**, 2015, "Measures of Residual Risk with Connections to Regression, Risk Tracking, Surrogate Models, and Ambiguity," *SIAM Journal on Optimization*, Vol. 25, No. 2, pp. 1179–1208.

J34. R.T. Rockafellar and **J.O. Royset**, 2014, "Random Variables, Monotone Relations, and Convex Analysis," *Mathematical Programming B*, Vol. 148, No. 1, pp. 297-331.

J33. R.T. Rockafellar, **J.O. Royset**, and S.I. Miranda*, 2014, "Superquantile Regression with Applications to Buffered Reliability, Uncertainty Quantification, and Conditional Value-at-Risk," *European Journal of Operational Research*, Vol. 234, No. 1, pp. 140-154.

J32. C. Phelps, Q. Gong, **J.O. Royset**, C. Walton, and I. Kaminer, 2014, "Consistent Approximation of a Nonlinear Optimal Control Problem with Uncertain Parameters," *Automatica*, Vol. 50, No. 12, pp. 2987-2997.

J31. **J.O. Royset** and R. Szechtman, 2013, "Optimal Budget Allocation for Sample Average Approximation," *Operations Research*, Vol. 61, pp. 762-776.

J30. **J.O. Royset**, 2013, "On Sample Size Control in Sample Average Approximations for Solving Smooth Stochastic Programs," *Computational Optimization and Applications*, Vol. 55, No. 2, pp. 265-309.

J29. J. Pietz* and **J.O. Royset**, 2013, "Generalized Orienteering Problem with Resource Dependent Rewards," *Naval Research Logistics*, Vol. 60, No. 4, pp. 294-312.

J28. **J.O. Royset**, 2012, "Optimality Functions in Stochastic Programming," *Mathematical Programming A*, Vol. 135, No. 1-2, pp. 293-321.

J27. **J.O. Royset** and E.Y. Pee*, 2012, "Rate of Convergence Analysis of Discretization and Smoothing Algorithms for Semi-Infinite Minimax Problems," *Journal of Optimization Theory and Applications*, Vol. 155, No. 3, pp. 855-882.

J26. M. Kress, **J.O. Royset**, and N. Rozen*, 2012, "The Eye and the Fist: Optimizing Search and Interdiction," *European Journal of Operational Research*, Vol. 220, No. 2, pp. 550-558.

J25. H. Chung, E. Polak, **J.O. Royset**, and S. Sastry, 2011, "On the Optimal Detection of an Underwater Intruder in a Channel using Unmanned Underwater Vehicles," *Naval Research Logistics*, Vol. 58, No. 8, pp. 804-820.

J24. E.Y. Pee* and **J.O. Royset**, 2011, "On Solving Large-Scale Finite Minimax Problems using Exponential Smoothing," *Journal of Optimization Theory and Applications*, Vol. 148, No. 2, pp. 390-421.

J23. **J.O. Royset** and H. Sato*, 2010, "Route Optimization for Multiple Searchers," *Naval Research Logistics*, Vol. 57, No. 8, pp. 701-717.

J22. R.T. Rockafellar and **J.O. Royset**, 2010, "On Buffered Failure Probability in Design and Optimization of Structures," *Reliability Engineering & System Safety*, Vol. 95, pp. 499-510.

J21. H. Sato* and **J.O. Royset**, 2010, "Path Optimization for the Resource-Constrained Searcher," *Naval Research Logistics*, Vol. 57, No. 5, pp. 422-440.

J20. **J.O. Royset** and D.N. Reber*, 2009, "Optimized Routing of Unmanned Aerial Systems for the Interdiction of Improvised Explosive Devices," *Military Operations Research*, Vol. 14, No. 4, pp. 5-19. (Barchi Prize)

J19. **J.O. Royset**, W.M. Carlyle, and R.K. Wood, 2009, "Routing Military Aircraft with a Constrained Shortest-Path Algorithm," *Military Operations Research*, Vol. 14, No. 3, pp. 31-52.

J18. R.F. Dell, **J.O. Royset**, and I. Zyngiridis*, 2009, "Optimizing Container Movement using One and Two Automated Stacking Cranes," *Journal of Industrial and Management Optimization*, Vol. 5, No. 2, pp. 285-302.

J17. W.M. Carlyle, **J.O. Royset**, and R.K. Wood, 2008, "Lagrangian Relaxation and Enumeration for Solving Constrained Shortest-Path Problems," *Networks*, Vol. 52, No. 4, pp. 256-270.

J16. E. Polak and **J.O. Royset**, 2008, "Efficient Sample Sizes in Stochastic Nonlinear Programming," *Journal of Computational and Applied Mathematics*, Vol. 217, pp. 301-310.

J15. M. Kress and **J.O. Royset**, 2008, "Aerial Search Optimization Model (ASOM) for UAVs in Special Operations," *Military Operations Research*, Vol. 13, No. 1, pp. 23-33. (Journal award.)

J14. **J.O. Royset** and R.K. Wood, 2007, "Solving the Bi-objective Maximum-Flow Network-Interdiction Problem," *INFORMS Journal on Computing*, Vol. 19, No. 2, pp. 175-184.

J13. H. Liang, T. Haukaas, and **J.O. Royset**, 2007, "Reliability-based Optimal Design Software for Earthquake Engineering Applications," *Canadian Journal of Civil Engineering*, Vol. 34, pp. 856-869.

J12. **J.O. Royset** and E. Polak, 2007, "Extensions of Stochastic Optimization Results from Problems with Simple to Problems with Complex Failure Probability Functions," *Journal of Optimization Theory and Applications*, Vol. 133, No. 1, pp. 1-18.

J11. **J.O. Royset**, A. Der Kiureghian, and E. Polak, 2006, "Optimal Design with Probabilistic Objective and Constraints," *Journal of Engineering Mechanics*, Vol. 132, No. 1, pp. 107-118.

J10. E. Polak and **J.O. Royset**, 2005, "On the use of Augmented Lagrangians in the Solution of Generalized Semi-Infinite Min-Max Problems," *Computational Optimization and Applications*, Vol. 31, No. 2, pp. 173-192.

J9. **J.O. Royset** and E. Polak, 2004, "Implementable Algorithm for Stochastic Optimization using Sample Average Approximations," *Journal of Optimization Theory and Applications*, Vol. 122, No. 1, pp. 157-184.

J8. **J.O. Royset** and E. Polak, 2004, "Reliability-Based Optimal Design using Sample Average Approximations," *Journal of Probabilistic Engineering Mechanics*, Vol. 19, No. 4, pp. 331-343.

J7. **J.O. Royset**, E. Polak, and A. Der Kiureghian, 2003, "Adaptive Approximations and Exact Penalization for the Solution of Generalized Semi-infinite Min-max Problems," *SIAM Journal on Optimization*, Vol. 14, No. 1, pp. 1-34.

J6. E. Polak and **J.O. Royset**, 2003, "Cutting Sphere Algorithm," *Journal of Optimization Theory and Applications*, Vol. 119, No. 2, pp. 379-385.

J5. E. Polak and **J.O. Royset**, 2003, "Algorithms for Finite and Semi-infinite Min-max-min Problems using Adaptive Smoothing Techniques," *Journal of Optimization Theory and Applications*, Vol. 119, No. 3, pp. 421-457.

J4. E. Polak, **J.O. Royset**, and R.S. Womersley, 2003, "Algorithms with Adaptive Smoothing for Finite Minimax Problems," *Journal of Optimization Theory and Applications*, Vol. 119, No. 3, pp. 459-484.

J3. **J.O. Royset**, A. Der Kiureghian, and E. Polak, 2001, "Reliability-Based Optimal Structural Design by the Decoupling Approach," *Reliability Engineering and System Safety*, Vol. 73, No. 3, pp. 213-221.

J2. **J.O. Royset**, A. Der Kiureghian, and E. Polak, 2001, "Reliability-Based Optimal Design of Series Structural Systems," *Journal of Engineering Mechanics*, Vol. 127, No. 6, pp. 607-614.

J1. A. Naess and **J.O. Royset**, 2000, "Extensions of Turkstra's Rule and Their Application to Combination of Dependent Load Effects," *Structural Safety*, Vol. 22, No. 2, pp. 129-143.

Book Chapters

C4. **J.O. Royset**, 2021, "Good and Bad Optimization Models: Insight from Rockfellians," in *INFORMS Tutorials*; J. Carlsson (Ed.), INFORMS.

C3. **J.O. Royset** and R. J-B Wets, 2014, "From Data to Assessments and Decisions: Epi-Spline Technology," in *INFORMS Tutorials*; A. Newman and J. Leung (Eds.), pp. 27-53, INFORMS.

C2. R.T. Rockafellar and **J.O. Royset**, 2013, "Superquantiles and Their Applications to Risk, Random Variables, and Regression," in *INFORMS Tutorials*; H. Topologlu (Ed.), pp. 151-167, INFORMS.

C1. **J.O. Royset** and E. Polak, 2008, "Sample Average Approximations in Reliability-Based Structural Optimization: Theory and Applications," in *Structural Design Optimization Considering Uncertainties*; Y. Tsompanakis and N.D. Lagaros (Eds.), Springer, New York, NY.

Refereed Conference Papers (Students of Royset at NPS indicated by asterisks.)

R17. K. McCollum*, N.D. Bastian, and **J.O. Royset**, 2023, "Towards Robust Learning using Diametrical Risk Minimization for Network Intrusion Detection," *IEEE DSC 2023 Workshop on AI/ML for Cybersecurity*, Tampa, Florida.

R16. **J.O. Royset**, S. Gunay, and, K. Mosalam, 2019, "Risk-Adaptive Learning of Seismic Response using Multi-Fidelity Analysis," *Proceedings of the International Conference on Applied Statistics and Probability in Civil Engineering*, Seoul, Korea.

R15. L. Bonfiglio, **J.O. Royset**, and G. Karniadakis, 2018, "Multi-Disciplinary Risk-Adaptive Design of Super-Cavitating Hydrofoils," *2018 AIAA Non-Deterministic Approaches Conference*, AIAA SciTech Forum, (AIAA 2018-1177), https://doi.org/10.2514/6.2018-1177.

R14. M. Harajli, R.T. Rockafellar, and **J.O. Royset**, 2015, "Importance Sampling in the Evaluation and Optimization of Buffered Failure Probability," *Proceedings of the 12th International Conference on Application of Statistics and Probability in Civil Engineering*, Vancouver, Canada.

R13. R.T. Rockafellar and **J.O. Royset**, 2015, "Risk Measures in Engineering Design under Uncertainty," *Proceedings of the 12th International Conference on Application of Statistics and Probability in Civil Engineering*, Vancouver, Canada.

R12. C.L. Walton, Q. Gong, I. Kaminer, **J.O. Royset**, 2014, "Optimal Motion Planning for Searching for Uncertain Targets," *Proceedings of the 19th World Congress of the International Federation of Automatic Control*, Cape Town, South Africa.

R11. C. Phelps, **J.O. Royset**, and Q. Gong, 2013, "Sample Average Approximations in Optimal Control of Uncertain Systems," *Proceedings of the 52nd IEEE Conference on Decision and Control*, Florence, Italy.

R10. D.I. Singham, **J.O. Royset**, and R. J-B Wets, 2013, "Density Estimation of Simulation Output using Exponential Epi-Splines," *Winter Simulation Conference*, Washington, DC.

R9. **J.O. Royset**, N. Sukumar, R. J-B Wets, 2013. "Uncertainty Quantification using Exponential Epi-Splines," *Proceedings of the International Conference on Structural Safety and Reliability*, New York, NY.

R8. C. Phelps, Q. Gong, **J.O. Royset**, and I. Kaminer, 2012, "Consistent Approximation of an Optimal Search Problem," *Proceedings of the 51st IEEE Conference on Decision and Control*, Maui, Hawaii, 2012.

R7. H.G. Basova*, R.T. Rockafellar, and **J.O. Royset**, 2011, "A Computational Study of the Buffered Failure Probability in Reliability-Based Design Optimization," *Proceedings of the 11th International Conference on Application of Statistics and Probability in Civil Engineering*, Zurich, Switzerland.

R6. H. Chung, E. Polak, **J.O. Royset**, and S. Sastry, 2011, "Optimal Periodic Patrol Trajectories of UUVs Guarding a Channel," *Proceedings of the American Control Conference*, San Francisco, California.

R5. T.H. Chung, M. Kress, and **J.O. Royset**, 2009, "Probabilistic Search Optimization and Mission Assignment for Heterogeneous Autonomous Agents," *Proceedings of the International Conference on Robotics and Automation*, Kobe, Japan.

R4. H. Liang, T. Haukaas, and **J.O. Royset**, 2005, "Object-Oriented Implementation of a Reliability-based Optimization Algorithm for Nonlinear Finite Element Applications," *Proceedings of the 9th Intern. Conference on Structural Safety and Reliability*, Rome, Italy.

R3. G.G. Brown, M.W. Carlyle, **J.O. Royset**, and R.K. Wood, 2005, "On The Complexity of Delaying an Adversary's Project," in *The Next Wave in Computing, Optimization and Decision Technologies*, B. Golden, S. Raghavan and E.Wasil editors, Springer, New York, pp. 3-17.

R2. **J.O. Royset**, A. Der Kiureghian, and E. Polak, 2003, "Successive Approximations for the Solution of Optimal Design Problems with Probabilistic Objective and Constraints," *Proceedings of the 9th Intern. Conf. on Applications of Statistics and Probability in Civil Engineering*, San Francisco, CA, Paper No. 355.

R1. E. Polak and **J.O. Royset**, 2003, "An Algorithm for Generalized Semi-infinite Min-Max Problems using Exact Penalties," *Proceedings of the 41st IEEE Conf. on Decision and Control*, Las Vegas, NV, December 2002, Vol. 3. Piscataway, NJ, USA: IEEE, pp. 3545-3550.

Other Conference Papers and Publications

P13. T. Hoheisel and **J.O. Royset**, 2023, "Foreword," *Journal of Convex Analysis*, Vol. 30, No. 2, pp. 403-406.

P12. **J.O. Royset**, 2019, "Preface," *Mathematical Programming B*, Vol. 174, pp. 1-3.

P11. **J.O. Royset**, 2016, "Preface," *Journal of Optimization Theory and Applications*, Vol. 169, pp. 713-718.

P10. **J.O. Royset** and E. Polak, 2004, "Reliability-Based Design Optimization of Structural Systems," *Proceedings of the 9th ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability*, Albuquerque, NM.

P9. H. Liang, **J.O. Royset**, and T. Haukaas, 2004, "Reliability-Based Optimal Design in OpenSees," *Proceedings of the 9th ASCE Joint Specialty Conference on Probabilistic Mechanics and Structural Reliability*, Albuquerque, NM.

P8. **J.O. Royset**, A. Der Kiureghian, and E. Polak, 2004, "Algorithms for Reliability-Based Optimal Design," *Proceedings of the Advanced Course on Reliability-Based Design and Optimisation*, Warsaw, Poland.

P7. **J.O. Royset** and E. Polak, 2004, "Reliability-Based Optimization Using Sample Average Approximations," *Proceedings of the 11th IFIP WG 7.5 Conf. on Reliability and optimization of structural systems*, Banff, Canada.

P6. **J.O. Royset**, A. Der Kiureghian, and E. Polak, 2004, "Reliability-Based Optimal Design: Problem Formulations, Algorithms and Application," *Proceedings of the 11th IFIP WG 7.5 Conf. on Reliability and optimization of structural systems*, Banff, Canada.

P5. **J.O. Royset**, E. Polak, and A. Der Kiureghian, 2002, "FORM Analysis using Consistent Approximations," *Proceedings of the 15th ASCE Engineering Mechanics Conf.*, New York, NY, Paper No. 325.

P4. **J.O. Royset**, A. Der Kiureghian, and E. Polak, 2000, "Reliability-Based Optimal Design with Probabilistic Cost and Constraint," in *Reliability and optimization of structural systems*, A.S. Nowak and M.M. Szerszen (Eds.), University of Michigan, Ann Arbor, MI, pp. 209-216.

P3. A. Naess and **J.O. Royset**, 1999, "Estimation of Extremes of Combination of Stochastic Load Effects by Turkstra's Rule," *Proceedings of the 18th Intern. Conf. on Offshore Mechanics and Arctic Engineering*, ASME, OMAE99/S&R-6423.

P2. A. Naess and **J.O. Royset**, 1999, "Approximations for Extremes of Combinations of Stochastic Load Effects," in *Stochastic Structural Dynamics*, B.F. Spencer and E.A. Johnson (Eds.), A.A. Balkema, pp. 575-582.

P1. A. Naess and **J.O. Royset**, 1998, "The SRSS Formula for Prediction of Extremes of Linear Combination of Load Effects," *Proceedings of the 17th Intern. Conf. on Offshore Mechanics and Arctic Engineering*, ASME, OMAE98-1392.

Dissertation and Thesis

J.O. Royset, 2002, "Reliability-Based Design Optimization of Series Structural Systems," PhD Dissertation, University of California, Berkeley.

J.O. Royset, 1997, "Combination of Load Effects for the Design of Structures," Master's Thesis, Norwegian University of Science and Technology.

Conference Presentations and Seminars (excluding sponsors' program review meetings)

2023
October, INFORMS Annual Meeting.
July, International Conference on Stochastic Programming.
May, SIAM Conference on Optimization.
May, Brown University, Division of Applied Mathematics, CRUNCH Seminar.
April, Columbia University, Department of Statistics, Applied Probability Seminar.
April, University of Michigan, Variational Analysis and Optimization Seminar.
March, Naval Postgraduate School, Operations Research Department Seminar.
March, Northwestern University, Department of Statistics and Data Science Seminar.
February, National Academies committee on "Future Directions for Digital Twins."
February, Stony Brook University, Quantitative Finance Seminar.
January, Univ. of California, Santa Barbara, Control, Dynamics, and Computation Seminar.

2022
December, Simula Research Laboratory, Optimization in Oslo Seminar.
November, University of Southern California, Epstein Institute Seminar.
November, Duke University, Department of Electrical and Computer Engineering Seminar.
November, Stanford University, Operations Research Seminar.
August, George Mason University, Center for Mathematics and Artificial Intelligence Seminar.
August, INFORMS Security Conference (**plenary**).
July, International Conference on Continuous Optimization.
May, Erice Workshop on Stochastic Optimization and Learning.
April, University of California, Berkeley, Dept. of Industrial Eng. & Operations Research Seminar.
April, SIAM Conference on Uncertainty Quantification.
March, INFORMS Optimization Conference.

2021
December, Pacific Optimization Conference, Kuala Lumpur (**plenary**); cancelled due to covid.
November, University of Minnesota, Machine Learning Seminar.
October, INFORMS Annual Meeting, Tutorial.
September, University of Montreal, Thematic Semester – The Mathematics of Decision Making.
July, SIAM Conference on Optimization.
March, SIAM Conference on Computational Science and Engineering.

2020
November, Stony Brook University, Workshop on Stochastic Optimization.
November, Univ. of California, San Diego, Dept. of Mechanical and Aerospace Engin. Seminar.
October, McGill University, Department of Mathematics Seminar.
January, University of California, Davis, Department of Statistics Seminar.

2019
November, University of Linz, Thematic Semester on Stochastic Optimization.
October, Conference on Computational Optimal Control.
September, Casa Matematica Oaxaca Workshop.

August, International Conference on Stochastic Programming.
June, Erice Workshop on Variational Analysis.
May, International Conference on Applications of Statistics and Probability.

2018
November, INFORMS Annual Meeting.
November, Hong Kong Polytechnic University, Workshop on Optimization.
September, University of Florida, Workshop on Risk Management.
August, Oberwolfach Workshop on Stochastic Optimization.
July, SIAM Annual Meeting.
July, International Symposium on Mathematical Programming.
April, SIAM Conference on Uncertainty Quantification (**plenary**).
April, SIAM Conference on Uncertainty Quantification.
February, Banff International Research Station, Workshop on Nonparametric Statistics.

2017
May, United Technologies (Berkeley), Seminar.
May, SIAM Conference on Optimization.
April, Duke University, OPTDATA workshop.
February, Georgia Institute for Technology, Department of Industrial and Systems Engin. Seminar.
February, SIAM Conference on Computational Science and Engineering.
January, University of California, Santa Cruz, Department of Applied Math and Statistics Seminar.

2016
November, University of California, Berkeley, Guest Lecture in EECS class.
November, University of Florida, Workshop on Risk Management.
July, University of California, Berkeley, Reliability Seminar.
June, International Conference on Stochastic Programming (**plenary**).
June, International Conference on Stochastic Programming, Tutorial.
June, University of Chile, Center for Mathematical Modeling Seminar.
May, International Centre for Mathematical Sciences, Edinburgh, Workshop on Statistics.

2015
October, University of Illinois, Urbana-Champaign, Der Kiureghian Retirement Fest.
October, University of Southern California, Workshop on Variational Inequalities.
August, Erice Workshop on Variational Analysis.
July, International Conference on Applications of Statistics and Probability.
July, Purdue University, Workshop on Simulation and Optimization.
June, ENPC ParisTech, Tutorial on Smart Energy.
May, Bay Area Optimization Meeting.
May, University of Limoges, Terry Fest.
January, University of California, Berkeley, Workshop.

2014
December, Northwestern University, Department of Industrial Eng. and Manag. Sci. Seminar.
November, University of California, Davis, Workshop on Optimization.
November, University of Florida, Workshop on Risk Management.
November, INFORMS Annual Meeting, Tutorial.
October, University of California, Berkeley, Energy workshop.
July, Sandia National Laboratory, Department Seminar.
June, King's College, Workshop on Optimization.
May, SIAM Conference on Optimization.
May, West Coast Optimization Meeting.

March, INFORMS Optimization Conference.

2013
November, INFORMS Annual Meeting, Tutorial; cancelled due to government shutdown.
October, Stanford University, Management Science and Engineering Seminar.
September, University of California, Davis, Applied Math Seminar.
July, International Conference on Stochastic Programming.
July, International Conference on Stochastic Programming, Tutorial.
June, International Conference on Structural Safety and Reliability.
June, Stanford University, Reliability Seminar.
April, University of California, Berkeley, Workshop.
March, Workshop on Stochastic Optimization, Chile.
January, University of California, Davis, Workshop.

2012
December, University of California, Berkeley, Reliability Seminar.
November, Stanford University, Uncertainty Quantification Seminar.
October, Army Conference on Applied Statistics.
August, International Symposium on Mathematical Programming.
June, Nordic Operations Research Meeting.
April, SIAM Conference on Uncertainty Quantification.
May, University of California, Santa Cruz, Department of Applied Math and Statistics Seminar.
May, West Coast Optimization Meeting.

2011
November, Conference on Computational Optimal Control.
November, INFORMS Annual Meeting.
May, SIAM Conference on Optimization.
March, University of California, Davis, Optimization Workshop.
January, INFORMS Computing Society Conference.

2010
August, International Conference on Applications of Statistics and Probability.
August, International Conference on Stochastic Programming.

2009
August, International Symposium on Mathematical Programming.
May, Forsvarets Forskningsinstitutt, Seminar.
May, Molde University College Seminar.
February, University of Florida, Workshop on Risk Management.

2008
November, INFORMS Annual Meeting.
May, Conference on Engineering Mechanics.
May, SIAM Conference on Optimization.

2007
May, Montreal Optimization Days.

2006
November, INFORMS Annual Meeting.

2005
November, INFORMS Annual Meeting.
July, IFORS Conference.

January, INFORMS Computing Society Conference.

2004
July, Probabilistic Mechanics Conference.
January, Sandia National Laboratory Workshop.

2003
November, INFORMS Annual Meeting.
July, International Conference on Applications of Statistics and Probability.

2002
June, ASCE Engineering Mechanics Conference.

2000
September, IFIP Reliability and Optimization Conference.

1998
August, Conference on Stochastic Structural Dynamics.

PhDs Advised at Naval Postgraduate School

MIRANDA, SOFIA, "Superquantile regression: theory, algorithms, and applications," Doctor of Philosophy in Operations Research, December 2014. (Next position: Portuguese Navy)

PIETZ, JESSE, Major, U.S. Air Force, "A generalized orienteering problem for optimal search and interdiction planning," Doctor of Philosophy in Operations Research, September 2013. (Next position: US Air Force Academy)

FORAKER, JOSEPH, Commander, U.S. Navy, "Optimal search for moving targets in continuous time and space using consistent approximations," Doctor of Philosophy in Operations Research, September, 2011. (Next position: US Naval Academy)

PEE, ENG YAU, "On algorithms for nonlinear minimax and min-max-min problems and their efficiency," Doctor of Philosophy in Operations Research, March 2011. (Next position: Singaporean Defense Research)

SATO, HIROYUKI, "Path optimization for single and multiple searchers: models and algorithms," Doctor of Philosophy in Operations Research, September 2008. (Next position: Japanese Defense Research)

PhD Advised at Colorado School of Mines (co-advisor)

TETER, MICHAEL, "Modeling uncertainty of expert-elicited data for use in risk-based, capital budgeting and underground mine production scheduling optimization models," Doctor of Philosophy in Operations Research with Engineering, 2016. (Next position: US Army, TRAC)

MS with Thesis Advised at Naval Postgraduate School

RILEY, KEVIN F., Commander, U.S. Navy, "Evaluation of the Courses of Action simulation tool," MS Thesis in Operations Research, June 2023.

RANGEL, GABRIEL CUSTODIO, "Robust machine learning for computer vision in naval applications," MS Thesis in Operations Research, June 2023.

MCCULLOM, KELSON J., Captain, U.S. Marine Corps, “Towards robust learning using diametrical risk minimization for network intrusion detection,” MS Thesis in Operations Research, June 2023.

CAHIR, SEAN, “Managing uncertainty in agricultural production: a two-stage stochastic programming approach,” MS Thesis in Operations Research, June 2023.

DEITER, JARED R., Lieutenant Commander, U.S. Navy, “Statistical sensitivity analysis of the replenishment at sea planner,” MS Thesis in Operations Research, September 2022.

MIRANO, MIGUEL D., Lieutenant, U.S. Navy, “Optimization of Surface Warfare Vessel Operations in the Arctic,” MS Thesis in Operations Research, September 2022.

WARNER, STEPHEN M., Major, U.S. Marine Corps, “Optimizing intelligence, surveillance, and reconnaissance inputs for the synthetic theater operations research model,” MS Thesis in Operations Research, June 2022.

YANG, DONGYU, “Robust machine learning using superquantiles,” MS Thesis in Operations Research, September 2021.

MILLER, MATTHEW, Captain, U.S. Marine Corps, "Implementation of support vector machines using difference-of-convex functions," MS Thesis in Operations Research, June 2019.

SAMUDIO, GABRIEL, Major, U.S. Army, "Implementation of maximum likelihood estimation of probability density functions using difference-of-convex functions," MS Thesis in Operations Research, June 2019.

JI, JUNGHOON, "Using Fisher information to create self-reflection in autonomous systems," MS in Operations Research, March 2018.

MCCRAY, JOHN, Lieutenant Commander, U.S. Navy, "Optimal semiadaptive search with false targets", MS in Operations Research, December 2017.

TYDINGCO, PETER, Lieutenant, U.S. Navy, "The use of epi-splines to model empirical semivariograms for optimal spatial estimation", MS in Operations Research, September 2016. (Co-advised with D. Horner)

SABOL, JOHN, Captain, U.S. Marine Corps, "Dual approach to superquantile estimation and applications to density fitting", MS in Operations Research, June 2016.

HALL, DANIEL, Captain, U.S. Marine Corps, "Applications of text analytics in the intelligence community", MS in Operations Research, June 2016.

CARBAUGH, JAMES, Lieutenant, U.S. Navy, "Density deconvolution with epi-splines," Master of Science in Operations Research, September 2015.

DING, SZE YI, "On distributed strategies in defense of a high value unit (HVU) against a swarm attack," Master of Science in Mechanical Engineering, September 2012. (Co-advised with I. Kaminer)

HUNT, STEPHEN, Major, U.S. Army, "Uncertainty quantification using epi-splines and soft information," Master of Science in Operations Research, June 2012.

MIRANDA, SOFIA, "Search planning under incomplete information using stochastic optimization and regression," Master of Science in Operations Research, September 2011.

GIFT, PHILIP D., Lieutenant, U.S. Navy, “Planning for an adaptive evader with application to drug interdiction operations,” Master of Science in Operations Research, September 2010.

BESSMAN, DANIEL L., Lieutenant Commander, U.S. Navy, “Optimal interdiction of an adaptive smuggler,” Master of Science in Operations Research, September 2010.

MERKLE, TIMOTHY J., Captain, U.S. Marine Corps, "Logistical risk planning tool: optimizing the deployment of cargo unmanned aerial system in logistical support missions at the tactical level," Master of Science in Operations Research, June 2010. (MORS/Tisdale Thesis Award.) (Co-advised with M. Kress.)

BASOVA, HABIB, "Reliability-based design optimization using buffered failure probability," Master of Science in Operations Research, June 2010.

ROZEN, NIR, "Sensor-interceptor operational policy optimization for maritime interdiction missions," Master of Science in Operations Research, December 2009.

GONZALEZ, ISSAC, Commander, U.S. Navy, "Efficient retirement financial plans: an inverse optimization and parameterization of intertemporal discounted habit formation utility," Master of Science in Operations Research, June 2009.

VONDRAK, DAVID, Lieutenant Commander, U.S. Navy, "Adaptive selection of sample size and solver iterations in stochastic optimization with application to nonlinear commodity flow problems," Master of Science in Operations Research, March 2009.

JOHNSON, WESLEY, Lieutenant Commander, U.S. Navy, "Solving for optimal retirement financial plans by maximizing a discounted habit formation utility function," Master of Science in Operations Research, March 2009.

CLEM, DOYNE D., Lieutenant Commander, U.S. Navy, "Logistically-constrained assets scheduling in maritime security operations," Master of Science in Operations Research, September 2008.

MCCADDEN, KEVIN, Ensign, U.S. Navy, "Allocation of UAV search efforts using dynamic programming and Bayesian updating," Master of Science in Operations Research, June 2008.

NIGUS, CHRISTOPHER, Ensign, U.S. Navy, "Allocation of UAV search efforts using dynamic programming and Bayesian updating," Master of Science in Operations Research, June 2008.

SCIOLETTI, MICHAEL S., Major, U.S. Army, "A heuristic algorithm for optimized routing of unmanned aerial systems for the interdiction of improvised explosive devices," Master of Science in Operations Research, June 2008.

MCNARY, BRADLEY, Lieutenant, U.S. Navy, "Real-time dispatching of rubber-tired gantry cranes in container terminals," Master of Science in Operations Research, March 2008.

NACHMANI, GIL, "Minimum-energy flight paths for UAVs using mesoscale wind forecasts and approximate dynamic programming," Master of Science in Operations Research, December 2007.

KARCZEWSKI, NORBERT, Major, U.S. Marine Corps, "Optimal aircraft routing in a constrained path-dependent environment," Master of Science in Operations Research, September 2007. (Co-advised with R. Gera, Department of Applied Mathematics.)

REBER, DANIEL, Major, U.S. Marine Corps, "Optimized routing of unmanned aerial systems for the interdiction of improvised explosive devices," Master of Science in Operations Research, September 2007. (MORS/Tisdale Thesis Award.)

BURTON, LARRY, Lieutenant Commander, U.S. Navy, "Strategic inventory positioning of Navy depot level repairables," Master of Science in Operations Research, June 2005.

Teaching

Fall 2005 OA3201 Linear Programming (4 contact hours).
Summer 2006 OA4201 Nonlinear Programming (2 sections; 4+4 = 8 contact hours).
Fall 2006 OA3201 Linear Programming (4 contact hours).
Summer 2007 OA4201 Nonlinear Programming (2 sections; 4+4 = 8 contact hours).
Fall 2007 OA3201 Linear Programming (4 contact hours).
Winter 2008 MN4379 Operations Management (online; 3.5 contact hours).
Summer 2008 OA4201 Nonlinear Programming (2 sections; 4+4 = 8 contact hours).
Winter 2009 MN4379 Operations Management (online; 3.5 contact hours).
Winter 2009 OA4201 Nonlinear Programming (4 contact hours).
Summer 2009 OA4201 Nonlinear Programming (2 sections; 4+4 = 8 contact hours).
Winter 2010 MN4379 Operations Management (online; 3.5 contact hours).
Winter 2010 OA4201 Nonlinear Programming (4 contact hours).
Summer 2010 OA4201 Nonlinear Programming (2 sections; 4+4 = 8 contact hours).
Winter 2011 MN4379 Operations Management (online; 3.5 contact hours).
Summer 2011 OA4201 Nonlinear Programming (2 sections; 4+4 = 8 contact hours).
Winter 2012 MN4379 Operations Management (online; 3.5 contact hours).
Summer 2012 OA4201 Nonlinear Programming (2 sections; 4+4 = 8 contact hours).
Winter 2014 ME4371 Design Optimization (4 contact hours).
Summer 2014 OA4201 Nonlinear Programming (2 sections; 4+4 = 8 contact hours).
Summer 2015 OA4201 Nonlinear Programming (2 sections; 4+4 = 8 contact hours).
Spring 2016 EE127/EE227AT Optimization Models (UC Berkeley; 78 students, 4 contact hours).
Summer 2016 OA4201 Nonlinear Programming (2 sections; 4+4 = 8 contact hours).
Winter 2017 OA4201 Nonlinear Programming (4 contact hours).
Spring 2017 ME4371 Design Optimization (4 contact hours).
Summer 2017 OA4201 Nonlinear Programming (2 sections; 4+4 = 8 contact hours).
Winter 2018 OA4201 Nonlinear Programming (4 contact hours).
Summer 2018 OA4201 Nonlinear Programming (2 sections; 4+4 = 8 contact hours).
Winter 2019 OA4201 Nonlinear Programming (4 contact hours).
Summer 2019 OA4201 Nonlinear Programming (2 sections; 4+4 = 8 contact hours).
Winter 2021 OA4201 Nonlinear Programming (4 contact hours).
Winter 2021 MN4379 Operations Management (online; 18 students; 3 contact hours).
Summer 2021 OA4201 Nonlinear Programming (2 sections; 38 students; 4+4 = 8 contact hours).
Winter 2022 OA4201 Nonlinear Programming (22 students; 4 contact hours).
Winter 2022 MN4379 Operations Management (online; 15 students; 3 contact hours).
Summer 2022 OA4201 Nonlinear Programming (2 sections; 38 students; 4+4 = 8 contact hours).
Winter 2023 OA4201 Nonlinear Programming (11 students; 4 contact hours).
Winter 2023 MN4379 Operations Management (online; 14 students; 3 contact hours).
Summer 2023 OA4201 Nonlinear Programming (2 sections; 40 students; 4+4 = 8 contact hours).