

Clayton W. Commander

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Education

- ◇ **University of North Carolina, Chapel Hill, NC**
Doctor of Medicine (M.D.), August 2010 - Present

- ◇ **University of Florida, Gainesville, FL**
Doctor of Philosophy (Ph.D.) in Operations Research, August 2007
Department of Industrial and Systems Engineering
GPA: 3.95/4.0
Dissertation: *Optimization Problems in Telecommunications with Military Applications*
Advisor: Dr. Panos M. Pardalos

Master of Science in Operations Research, December 2005
Department of Industrial and Systems Engineering
GPA: 3.9/4.0
Advisor: Dr. Panos M. Pardalos

Bachelor of Science in Mathematics with Highest Honors, May 2003
GPA: 3.95/4.0, Math GPA: 4.0/4.0 (Phi Beta Kappa)
Thesis: *A Survey of the Quadratic Assignment Problem, with Applications*
Thesis Advisor: Dr. Panos M. Pardalos

Professional Experience

- ◇ **May 2009 – Present, University of North Carolina, Chapel Hill, NC**
Research Specialist (Statistical Genetics & Genetic Epidemiology) – Cystic Fibrosis Pulmonary Treatment and Research Center
My primary duties involve analysis stemming from the North American Cystic Fibrosis Gene Modifier Consortium, of which, my supervisor Dr. Michael Knowles is a co-PI. Our consortium has performed a genome-wide association and linkage study investigating modifiers of CF lung disease. Under the guidance of Fred Wright, Ph.D. (UNC Biostatistics), I have been intimately involved with all quantitative aspects of this study, from calculating quantitative phenotypes, to performing genome scans. I analyze differential gene expression data, and examine correlations between gene expression levels and genotypes to identify expression quantitative trait loci (eQTL). I also serve as the primary statistician and analyst for our genome-wide association studies of severe liver disease in cystic fibrosis and CF-related diabetes. I have also led the analysis of a multi-year study investigating the role of mucin genes in CF lung disease.

- ◇ **January 2009 – May 2009, Delaware County Community College, Media, PA**
Adjunct Mathematics Instructor
Spring 2009 - Teaching Technical Mathematics II to undergraduates. Course content includes linear systems, radicals and complex numbers, quadratic equations and systems, advanced trigonometry to include vectors and graphing trigonometric functions, logarithms and exponentials. (Student Evaluation: 3.7/4.0)

- ◇ **August 2008 – May 2009, Bryn Mawr College, Bryn Mawr, PA**
Physics Tutor
 Tutoring postbaccalaureate premedical students in college physics.

- ◇ **May 2003 – May 2008, United States Air Force (CIV), Eglin AFB, FL**
Computer Scientist - Air Force Research Laboratory (08/05 - 05/08)
 Active member of basic research team in the Navigation and Controls branch. Researching and developing high-level algorithms for optimization problems in telecommunications. Principal investigator and writer of numerous grant proposals.
Computer Scientist - 96th Communications Group (05/03 - 08/05)
 Supported the development and testing of state-of-the-art smart weapon systems using modeling and simulation, network management, high performance computing, and direct test and evaluation support of munitions and Command and Control systems in a CMM Level 5 organization.

- ◇ **August 2007 – May 2008, Okaloosa-Walton College, Niceville, FL**
Adjunct Assistant Professor
Spring 2008 – Taught preparatory algebra to undergraduates. Course content included operations with real numbers, properties of real numbers, linear equations and equalities, rational expressions and equations, properties of exponents, polynomials, radical expressions, and graphs of lines. (Student Evaluation: 4.89/5.0)
Mathematics Tutor
Fall 2007 – Provided tutorial assistance for all levels of mathematics from preparatory algebra to multi-variable calculus and ordinary differential equations.

Publications

- ◇ **Books Edited**
 1. *Sensors: Theory, Algorithms, and Applications*. V.L. Boginski, **C.W. Commander**, P.M. Pardalos, and Y. Ye, (eds.), Springer Series on Optimization and Its Applications, Springer 2011. (in preparation)
 2. *Optimization and Cooperative Control Strategies*. **C.W. Commander**, M.J. Hirsch, R.A. Murphey, and P.M. Pardalos (eds.), Lecture Notes in Control and Information Systems, Vol. 381, Springer 2009.

- ◇ **Papers in Refereed Journals and Books**
 1. X.L. Guo, R.G. Pace, J.R. Stonebraker, **C.W. Commander**, A.T. Dang, M.L. Drumm, F. Zou, D.M. Swallow, F.A. Wright, W.K. O'Neal, M.R. Knowles. Mucin VNTR Polymorphisms and Severity of CF Lung Disease: Significant Association with MUC5AC. Submitted, 2011.
 2. F. Wright, L.J. Strug, V. Doshi, **C.W. Commander**, S.L. Blackman, L. Sun, Y. Berthiaume, A. Cojocar, M. Collaco, M. Corey, D. Cutler, R. Dorfman, K. Goddard, D. Green, J. Kent, E. Lange, S. Lee, W. Li, J. Luo, G. Mayhew, K. Naughton, R. Pace, P. Par, J. Rommens, A. Sandford, J. Stonebraker, W. Sun, C. Taylor, L. Vanscoy, F. Zou, J. Blangero, J. Zielenski, W. O'Neal, M. Drumm, P. Durie, M. Knowles, and G.R. Cutting. Genome-Wide Association and Linkage Identify Modifier Loci of Lung Disease Severity in Cystic Fibrosis at 11p13 and 20q13.2, *Nature Genetics*, 43:6, pp. 539-546, 2011.
 3. C. Taylor, **C.W. Commander**, M. Collaco, L. Strug, L. Li, F. Wright, A. Webel, R. Pace, J. Stonebraker, K. Naughton, R. Dorfman, A. Sanford, S. Blackman, Y. Berthiaume, P. Pare, M. Drumm, J. Zielenski, P. Durie, G. Cutting, M. Knowles, and M. Corey. A Complex Disease Phenotype Adjusted for Mortality Attrition: Application to Cystic Fibrosis Lung Disease, *Pediatric Pulmonology*, in press 2011.

4. A. Arulseivan, **C.W. Commander**, O. Shylo, and P.M. Pardalos. Cardinality-constrained critical node detection problem. N. Gulpinar, P. Harrison, and B. Rustem (editors), *Performance Models and Risk Management in Communication Systems*, Springer, pp. 79-91, 2011.
5. A. Arulseivan, **C.W. Commander**, L. Elefteriadou, and P.M. Pardalos. Detecting Critical Nodes in Sparse Graphs. *Computers and Operations Research*, 36:7, pp. 2193-2200, 2009.
6. **C.W. Commander** and P.M. Pardalos. A Combinatorial Algorithm for the TDMA Message Scheduling Problem. *Computational Optimization and Applications*, 43:3, pp. 449-463, 2009.
7. V.L. Boginski, **C.W. Commander** and T. Turko. Polynomial-Time Identification of Robust Network Flows Under Uncertain Arc Failures. *Optimization Letters*, 3:3, pp. 461-473, 2009.
8. A. Arulseivan, **C.W. Commander**, M.J. Hirsch, and P.M. Pardalos. Communication Models for a Cooperative Network of Autonomous Agents. W.A. Chaovilitwongse, K.C. Furman, and F. Roberts (editors), *Computational Optimization and Logistics Challenges in the Enterprise*, Springer Series on Optimization and Its Applications 30, pp. 411-431, 2009.
9. **C.W. Commander**, P.M. Pardalos, V. Ryabchenko, S. Sarykalin, T. Turko, and S. Uryasev. Robust Wireless Network Jamming Problems. C.W. Commander, M.J. Hirsch, R.A. Murphey, and P.M. Pardalos (editors), *Optimization and Cooperative Control Strategies*, Lecture Notes in Control and Information Sciences, Vol. 381, pp. 399-416, Springer 2009.
10. **C.W. Commander**, M.A. Ragle, and Y. Ye. Semidefinite Programming and the Sensor Network Localization Problem, SNLP. C.A. Floudas and P.M. Pardalos (editors), *Encyclopedia of Optimization*, second edition, 3384-3390, Springer, 2009.
11. **C.W. Commander**, P. Festa, and M.G.C. Resende. Maximum Cut Problem, MAX-CUT. C.A. Floudas and P.M. Pardalos (editors), *Encyclopedia of Optimization*, second edition, pp. 1991-1999, Springer, 2009.
12. **C.W. Commander**. Broadcast Scheduling Problem, BSP. C.A. Floudas and P.M. Pardalos (editors), *Encyclopedia of Optimization*, second edition, pp. 339-345, Springer 2009.
13. **C.W. Commander**, P.M. Pardalos, V. Ryabchenko, O. Shylo, S. Uryasev, and G. Zrazhevsky. Jamming Communication Networks Under Complete Uncertainty. *Optimization Letters*, 2:1, pp. 53-70, 2008.
14. V.L. Boginski and **C.W. Commander**. Identifying Critical Nodes in Protein-Protein Interaction Networks. S.I. Butenko, W.A. Chaovilitwongse, and P.M. Pardalos (editors), *Clustering Challenges in Biological Networks*, pp. 153-167, World Scientific, 2008.
15. **C.W. Commander**, P. Festa, C.A.S. Oliveira, P.M. Pardalos, and M.G.C. Resende. Cooperative Communication Problems in Ad-hoc Networks. In D.A. Grundel, R.A. Murphey, P.M. Pardalos, and O.A. Prokopyev (editors), *Cooperative Networks: Control and Optimization*, Edward Elgar, pp. 187-208, 2008.
16. **C.W. Commander**, P.M. Pardalos, V. Ryabchenko, O. Shylo, and S. Uryasev. Eavesdropping and Jamming Communications Networks. In D.A. Grundel, R.A. Murphey, P.M. Pardalos, and O.A. Prokopyev (editors), *Cooperative Networks: Control and Optimization*, pp. 101-112, Edward Elgar, 2008.
17. **C.W. Commander**, P.M. Pardalos, V. Ryabchenko, S. Uryasev, and G. Zrazhevsky. The Wireless Network Jamming Problem. *Journal of Combinatorial Optimization*, 14:4, pp. 481-498, 2007.
18. A. Arulseivan, **C.W. Commander**, and P.M. Pardalos. A Random Keys Based Genetic Algorithm for the Target Visitation Problem. M.J. Hirsch, P.M. Pardalos, R.A.

Murphey, and D.A. Grundel (editors), *Advances in Cooperative Control and Optimization*, Lecture Notes in Control and Information Sciences 369, pp. 389-397, Springer, 2007.

19. **C.W. Commander**, C.A.S. Oliveira, P.M. Pardalos, and M.G.C. Resende. A One-Pass Heuristic for Cooperative Communication in Mobile Ad Hoc Networks. D.A. Grundel, R.A. Murphey, P.M. Pardalos, and O.A. Prokopyev (editors), *Cooperative Systems: Control and Optimization*, pp. 285-296, Springer, 2007.
20. **C.W. Commander** and P.M. Pardalos. A Survey of the Quadratic Assignment Problem, with Applications. *The Morehead Electronic Journal of Applicable Mathematics*, 4:1-15, 2005.
21. **C.W. Commander**, S.I. Butenko, and P.M. Pardalos. On the Performance of Heuristics for Broadcast Scheduling. In D. Grundel, R. Murphey, and P. Pardalos (editors), *Theory and Algorithms for Cooperative Systems*, pp. 63-80, World Scientific, 2004.

◇ **Papers in Refereed Proceedings**

22. A. Arulsevan, **C.W. Commander**, and P.M. Pardalos. Detecting Critical Nodes in Sparse Graphs. On *9th INFORMS Telecommunications Conference* proceedings disk, 2008.
23. A. Arulsevan, **C.W. Commander**, M.J. Hirsch, P.M. Pardalos, and M.G.C. Resende. Cooperative Communication in Ad-Hoc Networks. On *2007 National Fire Control Symposium* proceedings disk, 2007.
24. **C.W. Commander**, P. Festa, C.A.S. Oliveira, P.M. Pardalos, and M.G.C. Resende, and M. Tsitselis. A Greedy Randomized Algorithm for the Cooperative Communication Problem on Ad Hoc Networks, On *8th INFORMS Telecommunications Conference* proceedings disk, 2006.
25. **C.W. Commander**, C.A.S. Oliveira, P.M. Pardalos, and M.G.C. Resende. A GRASP Heuristic for the Cooperative Communication Problem in Ad Hoc Networks. *Proceedings of VI Metaheuristics International Conference*, pp. 225-230, 2005.
26. **C.W. Commander**, S.I. Butenko, P.M. Pardalos, and C.A.S. Oliveira. Reactive GRASP with Path Relinking for Broadcast Scheduling. *Proceedings of the 40th Annual International Telemetry Conference*, pp. 792-800, 2004.
27. **C.W. Commander**, S.I. Butenko, and P.M. Pardalos. A GRASP for Broadcast Scheduling in Ad-Hoc TDMA Networks. *International Conference on Computing, Communications, and Control Technologies*, 5:323-327, 2004.

◇ **Educational Articles**

28. **C.W. Commander**. Applications of Operations Research in the United States Air Force. *OR/MS Tomorrow*, Vol. 8, 2004.

◇ **Unpublished Papers**

29. **C.W. Commander** and P.M. Pardalos. Eavesdropping and Jamming Communication Networks. Technical Report, Department of Industrial and Systems Engineering, University of Florida, 2006.
30. S.I. Butenko, **C.W. Commander**, and P.M. Pardalos. On the Complexity of the Broadcast Scheduling Problem. Technical Report, 2004.

◇ **Abstracts in Conferences**

31. **C.W. Commander** and M.R. Knowles. Genetic modifiers of cystic fibrosis lung disease. *43rd Annual Medical Student Research Day*, Chapel Hill, NC, January 20, 2011.
32. M.R. Knowles, **C.W. Commander**, J. Stonebraker, and P.R. Durie. Genetic modifiers and CF liver disease. *2010 North American Cystic Fibrosis Conference*, Pediatric Pulmonology, 45:S33, pp. 122-123, 2010.

33. S.M. Blackman, **C.W. Commander**, M.L. Drumm, P.R. Durie, M.R. Knowles, and G.R. Cutting. CF-related diabetes and type 2 diabetes: Different on the outside, similar on the inside? *2010 North American Cystic Fibrosis Conference, Pediatric Pulmonology*, 45:S33, pp. 149-151, 2010.
34. V.L. Boginski, **C.W. Commander**, Avni M. Shah, and Daniel A. Albert. Diagnosis of Wegener's Granulomatosis Using Predictive Modeling Techniques, *INFORMS 2009 Annual Meeting*, San Diego, CA, October 11-14, 2009.
35. V.L. Boginski, S.I. Butenko, **C.W. Commander**, and D.E. Jeffcoat. Reliability and Robustness Issues for Complex Networks in Uncertain Environments, *International Conference on the Dynamics of Information Systems*, Gainesville, FL, January 28-30, 2009.
36. V.L. Boginski and **C.W. Commander**. Identifying Critical Nodes in Protein-Protein Interaction Networks, *INFORMS 2008 Annual Meeting*, Washington D.C., October 12-15, 2008.
37. A. Arulselvan, **C.W. Commander**, and P.M. Pardalos. Detecting Critical Nodes in Supply Chain Networks, *Humanitarian Logistics: Networks for Africa*, Lake Como, Italy, May 5-9, 2008.
38. A. Arulselvan, **C.W. Commander**, and P.M. Pardalos. Detecting Critical Nodes in Sensor Networks, *Sensors 2008: Theory, Algorithms, and Applications*, Shalimar, FL, April 24-26, 2008.
39. V.L. Boginski and **C.W. Commander**. Solving Network Flow Problems Under Uncertainty, *Sensors 2008: Theory, Algorithms, and Applications*, Shalimar, FL, April 24-26, 2008.
40. **C.W. Commander**, P.M. Pardalos, and S. Uryasev. Eavesdropping (or Jamming) of Communication Networks, *AFOSS Optimization and Discrete Mathematics Meeting*, Arlington, VA, April 21-23, 2008.
41. A. Arulselvan, **C.W. Commander**, and P.M. Pardalos. Detecting Critical Nodes in Sparse Graphs, *9th INFORMS Telecommunications Conference*, College Park, MD, March 27-29, 2008.
42. V.L. Boginski and **C.W. Commander**. Formulations of Network Flow Problems Under Uncertainty, *8th International Conference on Cooperative Control and Optimization*, Gainesville, FL, January 30 - February 1, 2008.
43. **C.W. Commander**, P.M. Pardalos, V. Ryabchenko, S. Sarykalin, and S. Uryasev. Stochastic Wireless Network Jamming Problems, *8th International Conference on Cooperative Control and Optimization*, Gainesville, FL, January 30 - February 1, 2008.
44. A. Arulselvan, **C.W. Commander**, M.J. Hirsch, and P.M. Pardalos. Cooperative Communication of Ad-Hoc Networks, *8th International Conference on Cooperative Control and Optimization*, Gainesville, FL, January 30 - February 1, 2008.
45. **C.W. Commander**, M.J. Hirsch, P.M. Pardalos, and M.G.C. Resende. Cooperative Communication in Ad-Hoc Networks, *2007 INFORMS National Meeting*, Seattle, WA, November 4-7, 2007.
46. A. Arulselvan, **C.W. Commander**, and P.M. Pardalos. Critical Node Detection in Sparse Graphs, *2007 INFORMS National Meeting*, Seattle, WA, November 4-7, 2007.
47. **C.W. Commander**, M.J. Hirsch, P.M. Pardalos, and M.G.C. Resende. Cooperative Communication in Ad-Hoc Networks, *2007 National Fire Control Symposium*, San Diego, CA, July 30 - August 2, 2007.
48. **C.W. Commander**, P.M. Pardalos, V. Ryabchenko, S. Sarykalin, O. Shylo, and S. Uryasev. Eavesdropping (or Jamming) Communication Networks, *AFOSS Optimization and Discrete Mathematics Meeting*, Arlington, VA, May 7-9, 2007.
49. **C.W. Commander**, P.M. Pardalos, V. Ryabchenko, S. Uryasev. Recent Advances in Eavesdropping and Jamming Communication Networks, *7th International Conference on Cooperative Control and Optimization*, Gainesville, FL, January 31 - February 2, 2007.

50. **C.W. Commander**, P. Festa, C.A.S. Oliveira, P.M. Pardalos, and M.G.C. Resende, and M. Tsitselis. A Greedy Randomized Algorithm for the Cooperative Communication Problem on Ad Hoc Networks, *8th INFORMS Telecommunications Conference*, Dallas, TX, March 30 - April 2, 2006.
51. **C.W. Commander**, P. Festa, C.A.S. Oliveira, P.M. Pardalos, and M.G.C. Resende, and M. Tsitselis. Improved GRASP for the Cooperative Communication Problem in Ad Hoc Networks, *6th International Conference on Cooperative Control and Optimization*, Gainesville, FL, February 1-3, 2006.
52. **C.W. Commander**, C.A.S. Oliveira, P.M. Pardalos, and M.G.C. Resende. On the Cooperative Communication Problem in Mobile Ad Hoc Networks, *INFORMS Annual Meeting 2005*, San Francisco, CA, November 13-16, 2005.
53. **C.W. Commander**, C.A.S. Oliveira, P.M. Pardalos, and M.G.C. Resende. A GRASP heuristic for the Cooperative Communication Problem in Ad Hoc Networks, *MIC2005: The Sixth Metaheuristics International Conference*, Vienna, Austria, August 22-26, 2005.
54. **C.W. Commander**, C.A.S. Oliveira, P.M. Pardalos, and M.G.C. Resende. Finding Approximate Solutions for the Cooperative Communication Problem in Ad Hoc Networks, *International Conference on Computational Management Science*, Gainesville, FL, March 30 - April 3, 2005.
55. **C.W. Commander**, C.A.S. Oliveira, P.M. Pardalos, and M.G.C. Resende. A Greedy Randomized Algorithm for Cooperative Communication in Ad Hoc Networks, *5th International Conference on Cooperative Control and Optimization*, Gainesville, FL, January 20-22, 2005.
56. **C.W. Commander**, S.I. Butenko, P.M. Pardalos, and C.A.S. Oliveira. Reactive GRASP with Path Relinking for Broadcast Scheduling, *39th Annual International Telemetry Conference*, San Diego, CA, October 18-21, 2004.
57. **C.W. Commander**, S.I. Butenko, and P.M. Pardalos. A GRASP for Broadcast Scheduling in Ad-Hoc TDMA Networks, *International Conference on Computing, Communications, and Control Technologies (CCCT'04)*, Austin, TX, August 14-17, 2004.
58. **C.W. Commander**, S.I. Butenko, and P.M. Pardalos. On the Performance of Heuristics for Broadcast Scheduling in Ad-Hoc TDMA Networks, *Invitational Conference on Robust Optimization-Directed Design*, University of Florida (GERC), Shalimar, FL, April 19-21, 2004.
59. **C.W. Commander**, S.I. Butenko, and P.M. Pardalos. A Greedy Randomized Adaptive Search Procedure for the Broadcast Scheduling Problem, *4th International Conference on Cooperative Control and Optimization*, Destin, FL, November 19-21, 2003.

Conference Presentations

1. "Genetic Modifiers of Cystic Fibrosis Lung Disease", *43rd Annual Medical Student Research Day*, Chapel Hill, NC, January 20, 2011.
2. "Detecting Critical Nodes in Sensor Networks", *Sensors 2008: Theory, Algorithms, and Applications*, Shalimar FL, April 24-26, 2008.
3. "Detecting Critical Nodes in Sparse Graphs", *9th INFORMS Telecommunications Conference*, College Park, MD, March 27-29, 2008.
4. "Stochastic Wireless Network Jamming Problems", *8th International Conference on Cooperative Control and Optimization*, Gainesville, FL, January 30 - February 1, 2008.
5. "Cooperative Communication in Ad-Hoc Networks", *2007 INFORMS National Meeting*, Seattle, WA, November 4-7, 2007.
6. "Recent Advances in Eavesdropping and Jamming Communication Networks", *7th International Conference on Cooperative Control and Optimization*, Gainesville, FL, January 31 - February 2, 2007.

7. "Eavesdropping/Jamming of Communication Networks", *AFOSR Optimization and Discrete Mathematics Meeting*, Ft. Walton Beach, FL, May 22-24, 2006.
8. "Improved GRASP for Cooperative Communication in Mobile Ad Hoc Networks", *6th International Conference on Cooperative Control and Optimization*, Gainesville, FL, February 1-3, 2006.
9. "Finding Approximate Solutions for the Cooperative Communication Problem in Ad Hoc Networks", *International Conference on Computational Management Science*, Gainesville, FL, March 30 - April 3, 2005.
10. "A Greedy Randomized Algorithm for Cooperative Communication in Ad Hoc Networks", *5th International Conference on Cooperative Control and Optimization*, Gainesville, FL, January 20-22, 2005.
11. "Heuristic Techniques for Broadcast Scheduling using GRASP", (On behalf of P.M. Pardalos) *INFORMS Annual Meeting 2004*, Denver, CO, October 24-27, 2004.
12. "Reactive GRASP with Path Relinking for Broadcast Scheduling", *39th Annual International Telemetry Conference*, San Diego, CA, October 18-21, 2004.
13. "A GRASP with Path Relinking for Broadcast Scheduling", *International Conference on Computing, Communications, and Control Technologies (CCCT'04)*, Austin, TX, August 14-17, 2004.
14. "On the Performance of Heuristics for Broadcast Scheduling in Ad-Hoc TDMA Networks", *Invitational Conference on Robust Optimization-Directed Design*, University of Florida (GERC), Shalimar, FL, April 19-21, 2004.
15. "A Greedy Randomized Adaptive Search Procedure for the Broadcast Scheduling Problem", *4th International Conference on Cooperative Control and Optimization*, Destin, FL, November 19-21, 2003.

Other Talks

1. "Introduction to Optimization, with Military Applications", Air Force Research Laboratory, Eglin Air Force Base, FL, May 14, 2008.
2. "Optimization Problems in Telecommunications with Military Applications", Doctoral Defense, Department of Industrial and Systems Engineering, University of Florida, Gainesville, FL, May 22, 2007.
3. "Eavesdropping and Jamming Communication Networks", Department of Industrial and Systems Engineering, University of Florida, Gainesville, FL, August 17, 2006.
4. "A GRASP for Cooperative Communication in Mobile Ad Hoc Networks", Department of Industrial and Systems Engineering, University of Florida, Gainesville, FL, February 2, 2006.
5. "A Greedy Randomized Adaptive Search Procedure for the Broadcast Scheduling Problem", Freeman Computer Science Center, Eglin AFB, FL, November 5, 2003.

Funded Research

- ◇ "Robust Optimization for Connectivity and Flow Patterns in Complex Dynamic Networks" \$589,000, (Co-PI with B. Balasundaram, V. Boginski, S. Butenko, and S. Uryasev). Sponsor: U.S. Department of Energy.
- ◇ "Novel Reliability Characteristics and Related Phase Transition Problems in Complex Networks Under Uncertainty" \$387,000, 2008-2011, (PI with D. Jeffcoat). Sponsor: Air Force Office of Scientific Research.

- ◇ “Sensors 2008: Theory, Algorithms, and Applications”, \$15,000. Sponsor: Air Force Office of Scientific Research.
- ◇ “Detecting and Jamming Dynamic Communication Networks in Anti-Access Environments”, \$432,672, 2007-2010, (Co-PI with S. Uryasev and P.M. Pardalos). Sponsor: Air Force Office of Scientific Research.

Professional Activities

- ◇ Referee for the following journals (number of reviews):
 - *Applied Mathematical Modeling* (1)
 - *Computers and Operations Research* (1)
 - *Journal of Combinatorial Optimization* (5)
 - *Optimization* (1)
 - *Optimization Letters* (8)
- ◇ Reviewer for the following books:
 - *Pareto Optimality, Game Theory and Equilibria*, A. Migdalas, P.M. Pardalos, and L. Pit-soulis (eds.), Springer, 2006.
 - *Data Mining in Biomedicine*, P.M. Pardalos, V. Boginski and A. Vazacopulos (eds.), Springer, 2005.
- ◇ Co-organizer of the following conferences:
 - Sensors 2008: Theory, Algorithms, and Applications, University of Florida REEF, Shalimar, FL, April 26-28, 2008.
 - 8th International Conference on Cooperative Control and Optimization, University of Florida, Gainesville, FL, January 30 - February 1, 2008.
 - 7th International Conference on Cooperative Control and Optimization, University of Florida, Gainesville, FL, January 31 - February 2, 2007.
- ◇ Session chair for the following conferences:
 - 8th INFORMS Telecommunications Conference, Dallas, TX, March 30 - April 1, 2006.
 - 6th International Conference on Cooperative Control and Optimization, University of Florida, Gainesville, FL, February 1-3, 2006.
 - International Conference on Computational Management Science, University of Florida, Gainesville, FL, March 30 - April 3, 2005.
 - 5th International Conference on Cooperative Control and Optimization, University of Florida, Gainesville, FL, January 20-22, 2005.
- ◇ Co-organizer of an Invited Session on Combinatorial Optimization in Wireless Networks, International Conference on Computing, Communications, and Control Technologies (CCCT'04), Austin, TX, August 14-17, 2004.
- ◇ Co-editor (in-chief) of *OR/MS Tomorrow*. (August 2004 - August 2006)

Medically Related Service Activities

- ◇ **September 2010 – Present, UNC School of Medicine, Chapel Hill, NC**
 - **Co-President, Class of 2014, UNC School of Medicine (2010 - Present)** Duties include planning the Annual SOM Cadaver Memorial service, serving as liaison between the class and the faculty/administration, attending monthly Dean’s, Town Hall, and student government meetings, and organizing social events and class activities. Additional duties include serving on the SOM graduation committee and orientation committee.
 - **Liaison Committee on Medical Education (LCME)**

- * **Student Steering Committee:** Lead analyst of a team who designed and implemented a 130 question survey of the UNC School of Medicine. (>50 hours)
 - * **Medical Education Subcommittee:** Member of subcommittee task force on teaching and evaluation. The task force was responsible for determining and reporting school-wide compliance for 9 LCME standards. (15 hours)
- ◇ **April 2007 – May 2008, Sacred Heart Hospital, Destin, FL**
Emergency Department Volunteer (> 150 hours) Duties consisted of helping register patients, transporting patients, and assisting nursing staff.
 - ◇ **July 2007 – May 2008, Pat T. Tidwell, M.D., P.A., Niceville, FL**
Shadowing Student (> 60 hours) Shadowed family medicine specialist in a busy private practice.

Awards and Distinctions

- ◇ John B. Graham Student Research Society, UNC School of Medicine, January 2011.
- ◇ Paper: "C.W. Commander, S.I. Butenko, P.M. Pardalos, C.A.S. Oliveira. Reactive GRASP with Path Relinking for Broadcast Scheduling" received 2nd prize in graduate student paper competition at 40th Intl. Telemetry Conference.
- ◇ 96 Air Base Wing Civilian of the Quarter (Jan-Mar 2004)
- ◇ 96 Communications Group Civilian of the Quarter (Jan-Mar 2004)
- ◇ 96 Communications Group Special Act or Service Award - For participating in efforts resulting in CMM Level 5 certification

Professional Memberships

- ◇ Phi Beta Kappa
- ◇ Golden Key International Honor Society
- ◇ Phi Kappa Phi Honor Society
- ◇ Tau Beta Pi Honor Society
- ◇ Radiological Society of North America
- ◇ American College of Physicians

Salient Computer Skills

- ◇ **Operating Systems:** MS Windows (all flavors), Apple OS (9.1 and newer), Linux
- ◇ **Programming:** FORTRAN 77/90, C, C++, Visual Basic, Java, HTML
- ◇ **Applications:** MATLAB, Mathcad 2001, R, Stata, PLINK
- ◇ **General:** L^AT_EX, Microsoft Office, FTP, Telnet

Languages

- ◇ English – speak, understand, read, write (Native)
- ◇ Spanish – speak, understand, read, write (Intermediate)
- ◇ Hebrew – read