

Curriculum Vitae

ALEX SAVACHKIN

Associate Professor

Industrial & Mgmt. Systems Engineering (IMSE)
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EDUCATION

- B.S.** Industrial engineering/applied math, Belarusian State University, Belarus, 1996
- M.S.** Management of technology, University of Colorado, 1998
- Ph.D.** Industrial engineering, Texas A&M University, 2005 (*advisor: prof. Martin Wortman*)

RESEARCH DOMAIN

- Risk analysis and design of resilient engineering networks
- Mitigation decision support for pandemic infectious diseases

PROFESSIONAL EXPERIENCE

- 2012 - present** Assoc. professor, IMSE, USF, Tampa, FL
- 2006 - 2012** Asst. professor, IMSE, USF, Tampa, FL
- 2005 - 2006** Visiting asst. professor, IMSE, USF, Tampa, FL
- 2000 - 2005** Research/teaching assistant, Industrial & Systems Engineering, Texas A&M University, College Station, TX
- 1998 - 2000** Technology feasibility analyst, MBS Consulting, Minsk, Belarus
- 1993 - 1998** Industrial/process engineer, Integral Inc., Minsk, Belarus

GRANTS

- Co-PI for “Students, teachers, and resources in the sciences (STARS2)”, PI: Das T., Co-PI: Okogbaa G., Savachkin A., Centeno G, Hunnicutt L., Kumar A., Townsend B., NSF, GK-12 Fellows, DGE #0638709, **\$1,680,000**, 07/2007-06/2012.
- Co-PI for “CBT for the TACLAN training system”, PI: Zayas-Castro J., Co-PI: Savachkin A., Schnitzler P., USSOCOM, Department of Defense, **\$400,000**, 09/2008 - 08/2009.
- Co-PI for “Description and analysis of the TACLAN training system”, PI: Zayas-Castro J., Co-PI: Savachkin A., Schnitzler P., USSOCOM, Department of Defense, **\$442,000**, 09/2007 - 08/2008.
- PI (single) for “A risk-based scalable methodology to support strategic design of an enterprise infrastructure”, NSF, CMMI #0621030, **\$171,577**, 09/2006 - 08/2009.

PROPOSALS

In 2006-2012, (co-)authored a submission of over 35 external funding proposals to federal agencies including NSF, DOD, DHS, VA, NIH, and FHA.

STUDENTS

1. Andres Uribe, Ph.D., Fall 2010, thesis: “Analysis of stochastic disruptions to support design of capacitated engineered networks”. Post-doctoral research fellow, Dept. of Radiation Oncology, University of California, San Diego, CA.
2. Qingwei Li, Ph.D., Summer 2011, thesis: “Decision support models for design of fortified distribution networks”. Senior research analyst, Eastman Chemical Co., Kingsport, TN.
3. Alfredo Santana, Ph.D., Summer 2011, thesis: “Decision aid models for resource sharing strategies during global influenza pandemics”. Asst. prof., IE, Instituto Tecnológico de Monterrey, Monterrey, Mexico.
4. Diana Prieto, Ph.D., Fall 2011, thesis: “Modeling and surveillance of pandemic influenza outbreaks”. Asst. prof., IIE, Western Michigan University, Kalamazoo, MI (*co-advised with T. Das*).
5. Dayna Martinez, Ph.D., Summer 2012, thesis: “Analysis of non-pharmaceutical interventions for mitigation of influenza pandemics”. J. A. Haley Veterans Hospital, Tampa, FL (*co-advised with T. Das*).
6. Sandro Paz, Ph.D. candidate, expected graduation: Spring 2013.

REFEREED PUBLICATIONS

1. Li Q., **Savachkin A.**, 2012. “A heuristic approach to the design of fortified distribution networks”, *Transportation Research (part E)*, accepted.
2. Prieto D., Das T., **Savachkin A.**, Uribe A., Izurrieta R., Malavade S., 2011. “A systematic review to identify areas of enhancements of pandemic simulation models for operational use at provincial and local levels”, *BMC Public Health*, 12:251.
3. Uribe A., **Savachkin A.**, Das T., Santana A., Prieto D., 2011. “A predictive decision aid methodology for dynamic mitigation of influenza pandemics”, *OR Spectrum*, 17(3), 239-257.
4. **Savachkin A.**, Uribe A., 2011. “Dynamic redistribution of mitigation resources during influenza pandemics”, *Socio-Economic Planning Sciences*, 46(1), 33-45.
5. **Savachkin A.**, Uribe A., 2011. “Analysis of capacitated flow-matching networks exposed to random disruptions”, *I. Journal of Operations and Quantitative Management*, 17(3), 239-257.
6. Uribe A., **Savachkin A.**, 2011. “Predictive and reactive distribution of vaccines and antivirals in cross-regional pandemic outbreaks”, *Influenza Research and Treatment*, 11(1), 1-14.
7. Uribe A., **Savachkin A.**, 2011. “Resource distribution strategies for mitigation of cross-regional influenza pandemics”, *I. Journal of Artificial Life Research*, 2(2), 19-41.
8. Bakir N., **Savachkin A.**, Uribe A., 2010. “Two countermeasure strategies to mitigate random disruptions in capacitated systems”, *J. of Systems Science and Systems Engineering*, 19(2), 210-226.
9. Uribe A., **Savachkin A.**, 2010. “Two resource distribution strategies for dynamic mitigation of influenza pandemics”, *J. of Multidisciplinary Healthcare*, 3, 65-77.
10. **Savachkin A.**, Uribe A., 2010. “Analysis of health care supply chain systems exposed to random disruptions”, *I. Journal of Collaborative Enterprise*, 1(3/4), 252-272.
11. Nanduri V., Otieno W., Das T., **Savachkin A.**, Okogbaa, G., 2009. “Mentor teacher workshops: train-the-trainer model of the USF STARS GK-12 program,” *J. of Florida Association of Science Teachers*.
12. Das, T., **Savachkin, A.**, Zhu, Y., 2008. “A large scale simulation model of pandemic influenza outbreaks for assessment of societal risk and development of dynamic mitigation strategies,” *IIE Transactions*, 40(9), 893-905.
13. **Savachkin A.**, Bakir N., Uribe A., 2008. “An optimal countermeasure policy to mitigate random capacity disruptions in a production system”, *I. Journal of Agile Systems and Mgmt.*, 3(1/2), 4-17.

14. Uribe A., Prieto D., **Savachkin A.**, Das T., Zhu Y., 2008. “A cross-regional pandemic outbreak simulation model: an aid to national resource allocation policy making”, *Data Mining and Health Informatics*, C1(1), 1-6.
15. Li Q., Zeng B., **Savachkin A.**, 2012. “Reliable facility location design under disruptions”, *Computers and OR*, in review.
16. Martinez D., **Savachkin A.**, Das T., 2012. “A review of literature on the effectiveness of non-pharmaceutical interventions for mitigating pandemic influenza outbreaks”, *Int. Journal of Epidemiology*, in review.

CONFERENCE PRESENTATIONS (LAST THREE YEARS)

1. Savachkin A., Uribe A., Das T. Predictive and myopic resource distributions for mitigation of cross-regional influenza pandemics, IERC annual conference, Reno, NV, May 2011.
2. Li Q., Savachkin A., Zeng, B. A decision support model for design of reliable distribution networks, INFORMS conference on Business Analytics & Operations Research, Chicago, IL, Apr. 2011.
3. Zhu Y., Das T., Savachkin A. Integrated disease surveillance for disease prevention and rapid intervention: aspects of quantitative implementation and evaluation, Armed Forces Public Health Conference, Hampton Roads, VA, Mar. 2011.
4. Prieto D., Santana A., Malavade S., Das T., Savachkin A. Real-time data collection strategies for pandemic outbreaks, CDC conference “Modeling for public health action: From epidemiology to operations”, Atlanta, GA, Dec. 2010.
5. Savachkin A., Uribe A. Analysis of healthcare supply chain systems exposed to random capacity disruptions, INFORMS Annual Conference, Austin, TX, Nov. 2010.
6. Wortman M., Savachkin A. Characterization of available production capacity in resource in resource-matching networks, INFORMS Annual Conference, Austin, TX, Nov. 2010.
7. Li Q., Savachkin A., Zeng B. Decision support models for design of reliable distribution networks, INFORMS Annual Conference, Austin, TX, Nov. 2010.
8. Martinez D., Das T., Savachkin A. Non-pharmaceutical interventions for mitigation of pandemic influenza, INFORMS Annual Conference, Austin, TX, Nov. 2010.
9. Prieto D., Das T., Malavade S., Santana A., Savachkin A. Models for public health crisis management during a pandemic, INFORMS Annual Conference, Austin, TX, Nov. 2010.
10. Santana A., Malavade S., Prieto D., Savachkin A. Decision support systems for pandemic influenza surveillance, INFORMS Annual Conference, Austin, TX, Nov. 2010.
11. Uribe A., Savachkin A. Resource distribution strategies for mitigation of cross-regional influenza pandemics, INFORMS Annual Conference, Austin, TX, Nov. 2010.
12. Li Q., Savachkin A., Zeng B. Analysis and decision support for design of robust distribution networks, IERC Annual Conference, Cancun, Mexico, May 2010.
13. Prieto D., Santana A., Das T., Savachkin A. A novel dynamic data collection strategy for pandemic surveillance, IERC Annual Conference, Cancun, Mexico, May 2010.
14. Li Q., Savachkin A., Zeng B. Decision support for design of fortified distribution networks, INFORMS Southern Regional Conference, Huntsville, AL, Apr. 2010.
15. Li Q., Savachkin A. Continuous and binary fortification models for reliable facility location problem, ISyE, University of Florida, Gainesville, FL, Mar. 2010.
16. Zeng B., Li Q., Savachkin A. Decision support for design of fortified distribution networks, Energy, Sustainability and Climate Change 2010 Annual Conference, Gainesville, FL, Feb. 2010.

17. Uribe A., Savachkin A. Analysis of Stochastic Disruptions to Support Design of Capacitated Engineered Networks. INFORMS Annual Conference, San Diego, CA, Oct. 2009.
18. Savachkin A., Das T., Prieto D., Uribe A. Developing Federal Resource Allocation Strategies to Mitigate Cross-Regional Pandemic Outbreaks. INFORMS Annual Conference, San Diego, CA, Oct. 2009.
19. Martinez D., Das T., Savachkin A. Impact of Social and Behavioral Issues on Pandemic Influenza Containment. INFORMS Annual Conference, San Diego, CA, Oct. 2009.
20. Prieto D., Das T., Savachkin A., Uribe A. Real-time Applicability of Pandemic Modeling Approaches. INFORMS Annual Conference, San Diego, CA, Oct. 2009.
21. Li Q., Savachkin A., Zeng B. The p-Median Location Problem: A Counter-measure Policy to Mitigate Random Facility Disruptions. INFORMS Annual Conference, San Diego, CA, Oct. 2009.
22. Uribe A., Savachkin A. Analysis of Stochastic Disruptions to Support Design of Capacitated Engineered Networks. IERC Annual Conference, Miami, FL, May 2009.
23. Uribe A., Savachkin A., Das T., Prieto D. Developing Resource Allocation Strategies to Mitigate Cross-Regional Pandemic Outbreaks. IERC Annual Conference, Miami, FL, May 2009.
24. Santana A., Savachkin A., Schnitzler P., Zayas-Castro J. Integrated Training Management System. IERC Annual Conference, Miami, FL, May 2009.

TEACHING (SEMESTER & OVERALL RATING (MAX = 5); S = SPRING, F = FALL)

- ESI 6213 Stochastic Decision Models I: S08 (4.63), S09 (4.14), S10 (4.60), S11 (4.60)
- EIN 6935 Stochastic Decision Models II: S12 (4.40)
- ESI 6353 Risk & Decision Analysis: F07 (4.22), S08 (5.00), F08 (4.40)
- EIN 6936 Nonlinear & Dynamic Optimization: S08 (4.73)
- EIN 6336 Production Control Systems: F06 (4.75)
- EIN 4333 Production Control: S06 (4.41), S07 (4.77)
- EGN 3443 Probability & Statistics for Engineers: S06 (4.50), F06 (4.67), F08 (4.82)
- ESI 4313 Probabilistic Operations Research: S12 (4.95)
- EGN 3615 Engineering Economics: F11 (4.73)

SERVICE

- IMSE Graduate Program Director (*since 2012*)
- Chair of the IMSE Graduate Committee (*since 2012*)
- Chair of the IMSE ABET course assessment committee (*since 2011*)
- Faculty advisor of the IIE Student Chapter at USF (*since 2007*)
- Advisor for IMSE undergraduate students (*since 2006*)
- Member of the USF College of Engineering IT Committee (*since 2008*)
- Journal reviewer: *IIE Transactions*, *IIE Transactions on Healthcare Systems Engineering*, *Socio-Economic Planning Sciences*, *Journal of Artificial Life Research*, *Influenza Research & Treatment*.
- NSF (CMMI) panel reviewer (almost every year)
- Session Chair: INFORMS, IERC annual meetings (multiple years)
- Member of the INFORMS Humanitarian Applications Section (*since 2008*)
- Professional member of the INFORMS and IIE (*since 2006*).

AWARDS (INCLUDING AWARDS BY SUPERVISED STUDENTS)

1. Dayna Martinez, 2nd place, dissertation poster competition, “Non-pharmaceutical interventions for mitigation of influenza pandemics”, ISERC annual conference, May 2012
2. Dayna Martinez, 1st place, technical poster competition, “Non-pharmaceutical interventions for mitigation of influenza pandemics”, HENAAC 2010, Oct. 2010
3. Dayna Martinez, USF College of Engineering Research Week Poster Award, Oct. 2010
4. Alfredo Santana, Tampa Metropolitan Ministries 2010 Ambassador Award, May 2010
5. Andres Uribe, USF Graduate and Professional Student Councils Graduate Student Award, Apr. 2010
6. Qingwei Li, Conference grant, USF Engineering Alumni Society, \$400, Feb. 2010
7. Qingwei Li, USF Graduate School Student Challenge Grant, “The Optimal Design of Water Supply Systems for Energy Efficiency in Tampa Bay Area”, Li Q., Mo W., Korecki J., Booth B., \$5,000, Jan. 2010 - Dec. 2010
8. Diana Prieto, Alfredo Santana, USF Graduate School Student Challenge Grant, “Novel Data Collection Strategies for Pandemic Surveillance”, Prieto D., Santana A., Malavade S., Moshtaghi N., \$5,000, Jan. 2010 - Dec. 2010
9. Sandro Paz, FGLSAMP Bridge to the Doctorate Fellow Award, 2009-2011
10. Sandro Paz, Diverse Student Success Fellowship, 2009-2011
11. IIE Student Chapter at USF (*faculty advisor since Fall 2007*):
 - Gold national award by IIE (2012)
 - USF EXPO best student organization award (2012)
 - Silver national award by IIE (2011)
 - Florida Engineering Foundation award (2011)
 - USF EXPO best student organization award (2011)
 - Bronze national award by IIE (2010)
 - National award of merit by IIE (2008)
12. Holder of two industrial patents on UHF-based accelerated testing of integrated circuits (1996, 1997)