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Curriculum Vitae

ALEX SAVACHKIN

Assistant Professor

Industrial & Management Systems Engineering
University of South Florida
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EDUCATION

B.S. Industrial Engineering *(minor in applied math)*, Belarusian State University, Minsk, Belarus, 1996

M.S. Management of Technology, University of Colorado, Boulder, CO, 1998

Ph.D. Industrial Engineering, Texas A&M University, College Station, TX, 2005
Advisor: Prof. Martin Wortman

RESEARCH DOMAIN

· Engineering risk analysis

· Mitigation decision support for pandemic infectious diseases

PROFESSIONAL EXPERIENCE

2006 - present Asst. professor, Industrial & Management Systems Engineering, University of South Florida, Tampa, FL

2005 - 2006 Visiting asst. professor, Industrial & Management Systems Engineering, University of South Florida, 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

1994 - 1998 Industrial engineer, Integral Inc., Minsk, Belarus

1993 - 1994 Process engineer, Integral Inc., Minsk, Belarus

GRANTS

· 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.

· 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 "Description and analysis of the TACLAN training system", PI: Zayas-Castro J., Co-PI: Savachkin A., Schnitzler P., Yalcin A., USSOCOM, Department of Defense, **$442,000**, 09/2007 - 08/2008.

· 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.

PROPOSALS

In 2006-2011, (co-)authored a submission of 35 external funding proposals to federal agencies including NSF, DOD, DHS, VA, NIH, and FHA.

DOCTORAL STUDENTS

1. Anders 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 Tecnologico 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-major prof*).

5. Dayna Martinez, Ph.D. candidate, expected to graduate in Fall 2011, thesis: "Analysis of non-pharmaceutical interventions for mitigation of influenza pandemics" (*co-major prof*).

6. Sandro Paz, Ph.D. student (since Fall 2009).

REFEREED PUBLICATIONS

1. 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.

2. **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.

3. 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.

4. 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.*

5. 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.

6. Uribe A., **Savachkin A.**, 2010. "Two resource distribution strategies for dynamic mitigation of influenza pandemics", *J. of Multidisciplinary Healthcare*, 3, 65-77.

7. **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.

8. 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.

9. **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.

10. 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.

11. 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.

12. **Savachkin A.**, Uribe A., 2011. "Dynamic redistribution of mitigation resources during influenza pandemics", *Socio-Economic Planning Sciences*, DOI: 10.1016/j.seps.2011.05.001, in press.

13. Li Q., Zeng B., **Savachkin A.**, 2011. "Decision support models for design of reliable distribution networks", *Naval Research Logistics*, 2^{nd} round of review.

14. Li Q., **Savachkin A.**, 2011. "A heuristic approach to the design of fortified distribution networks", *Transportation Research (part E)*, 2^{nd} round of review.

15. Prieto D., Das T., **Savachkin A.**, Uribe A., Izurrieta R., 2011. "A review of literature to identify areas of enhancements of pandemic simulation models for higher usability", *BMC Public Health*, 2^{nd} round of review.

16. **Savachkin A.**, Uribe A., 2011. "Stochastic dynamics of enterprise networks exposed to random capacity disruptions", *J. of Systems Science and Systems Engineering*, 2^{nd} round of review.

17. Martinez D., **Savachkin A.**, Das T., 2011. "A review of literature on the effectiveness of non-pharmaceutical interventions for mitigating pandemic influenza outbreaks", *Emerging Infectious Diseases*, in review.

18. **Savachkin A.**, Zayas-Castro J., Schnitzler P., Santander A., Santana A. "Design of a computer-based training system to improve the effectiveness of a technology training process", *I. Journal of Training & Development*, 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 & AVG. EVALUATION; S = SPRING, F = FALL)

· ESI 6213 Stochastic Decision Models I: S08 (4.63), S09 (4.14), S10 (4.60), S11 (4.60)

· ESI 6353 Risk & Decision Analysis: F07 (4.22), S08 (5.00), F08 (4.40) *(new course)*

· EIN 6936 Nonlinear & Dynamic Optimization: S08 (4.73) *(new course)*

· EIN 6336 Production Control Systems: F06 (4.75) *(revamped course)*

· 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)

SERVICE

· 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)

· Candidate, election of the IIE Operations Research Division Board of Directors, 2007, 2011.

· Member of the INFORMS Humanitarian Applications Section *(since 2008)*

· Member of the USF College of Engineering IT Advisory Board *(since 2008)*

· Member of the USF Center for Evidence-based Medicine & Health Outcomes Research *(since 2008)*

· Member of the IMSE Graduate Committee *(since 2008)*

· Member of the IMSE ABET assessment committee *(since 2006)*

· Faculty advisor of the IIE Student Chapter at USF *(since 2007)*

· Advisor for IMSE undergraduate students *(since 2006)*

· Helped to plan and organize a STARS (NSF GK-12) summer camp including over 150 participants, 2007-2009

· Member of the Omega Rho Honor society *(since 2010)*

· Professional member of the INFORMS and IIE *(since 2006)*.

AWARDS (INCLUDING ONES RECEIVED BY SUPERVISED STUDENTS)

1. Andres Uribe, *USF Graduate and Professional Student Councils Graduate Student Award*, Apr. 2010.
2. 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. - Dec. 2010.
3. Alfredo Santana, *Tampa Metropolitan Ministries 2010 Ambassador Award* (with L. Cure).
4. Diana Prieto, Alfredo Santana, *USF Graduate School Student Challenge Grant*, "Novel Data Collection Strategies for Pandemic Surveillance: An interdisciplinary Design and Evaluation", Prieto D., Santana A., Malavade S., Moshtaghi N., $5,000, Jan. - Dec. 2010 *(co-major prof. for D. Prieto)*.
5. Sandro Paz, *FGLSAMP Bridge to the Doctorate Fellow Award*, 2009-2011.
6. Sandro Paz, *Diverse Student Success Fellowship*, 2009-2011.
7. Dayna Martinez, 1^{st} *place in HENAAC 2010 Technical Poster Competition*, "Non-pharmaceutical interventions for mitigation of influenza pandemics", Martinez D., Savachkin A., Das T., Castaneda H., Rego V., Oct. 2010 *(co-major prof.)*.
8. Dayna Martinez, *USF College of Engineering Research Week Poster Award*, Oct. 2010 *(co-major prof.)*.
9. Qingwei Li, *Conference presentation grant, USF Engineering Alumni Society*, $400, Feb. 2010.
10. IIE Student Chapter at USF: *Silver National Recognition Award (2011), Florida Engineering Foundation Award (2011), USF EXPO Best Student Organization Award (2011), Bronze National Recognition Award (2010), National Award of Merit (2008) (faculty advisor)*.
11. Holder of two industrial patents on UHF-based accelerated testing of integrated circuits.