

KEZBAN YAGCI SOKAT

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1915 Maple Ave, #311
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RESEARCH INTERESTS

Adaptive decision making in limited data environments, integration of dynamic real-time information in disaster response logistics, health and humanitarian applications of IE/OR, infectious disease modeling.

EDUCATION

NORTHWESTERN UNIVERSITY, Evanston, IL

PhD Candidate in Industrial Engineering and Management Sciences

9/2011-Present

- Advisors: Benjamin Armbruster, Irina Dolinskaya, Karen Smilowitz
- Expected Graduation: Summer 2017
- Thesis Title: Doing Good with Public Services: Applications of Operations Research

Master of Science in Industrial Engineering and Management Sciences

12/2012

GEORGIA INSTITUTE OF TECHNOLOGY, Atlanta, GA

Master of Science in Health Systems Engineering

5/2010

Master of Science in Industrial and Systems Engineering (Manufacturing & Logistics)

12/2008

- Fulbright Scholar

ISTANBUL TECHNICAL UNIVERSITY, Istanbul, Turkey

Bachelor of Science in Industrial Engineering

6/2006

- Ranked 1st out of 120 graduates in the Industrial Engineering Department

RESEARCH EXPERIENCE

NORTHWESTERN UNIVERSITY, Industrial Engineering and Management Sciences

6/2012- Present

Graduate Research Assistant (NSF Funded) to Karen Smilowitz and Irina Dolinskaya

- Studied integration of new data streams and routing models to advance dynamic relief response
- Researched adaptive decision making in limited data environments
- Assembled open source disaster data and test cases based on real disasters for broader academic community use
- Developed a framework for analyzing real-time logistics data for mathematical modeling

Graduate Research Assistant to Benjamin Armbruster

- Built a variety of infectious disease progression models including HIV and measles
- Used stochastic optimization to develop nurse schedules for a healthcare consulting company

IBM ALMADEN RESEARCH CENTER

6/2013-9/2013

Healthcare Research Team, Intern

- Improved the measles model in collaboration with National Institute for Health Research London
- Developed a general mathematical model of foodborne illness that incorporates the different routes of infections
- Contributed to open source Spatiotemporal Epidemiological Modeler (<http://www.eclipse.org/stem/>) via various projects including implementation of HIV model and measles model.

GEORGIA INSTITUTE OF TECHNOLOGY

Health Systems Institute, Graduate Research Assistant to David Cowan

1/2010-5/2010

- Worked in the Emory Healthcare Department of Emergency Medicine (EM) Project Management Office on process improvement projects to decrease length of stay in EM
- Researched just-in-time inventory management in healthcare

College of Management, Graduate Research Assistant to Mark Ferguson

1/2009-12/2009

- Researched effects of forecasting error types on different customer service constraints
- Compiled coursework material for Dr. Ferguson's Supply Chain Modeling and Revenue Management Class
- Developed sample forecasting problems and solutions in R

- Designed a database for wine supply chain management project
- Researched the effects of climate on wine supply chain management

PUBLICATIONS

- Deo, S., Topp, S.M., Garcia, A., Soldner, M., **Yagci Sokat, K.**, Reid, S., Chipukuma, J., Wamulume, C., Swann, J. (2012) "Modeling the Impact of Integrating HIV and Outpatient Health Services on Patient Waiting Times in an Urban Health Clinic in Zambia." *PLoS ONE* 7(4): e35479. doi:10.1371/journal.pone.0035479
- **Yagci Sokat, K.**, Armbruster, B. (2015) "Implications of Switching Away From Injectable Hormonal Contraceptives on the HIV epidemic." *Socio-Economic Planning Sciences* 52(12), pp. 1-9. doi:10.1016/j.seps.2015.08.001
- **Yagci Sokat, K.**, Zhou, R., Dolinskaya, I., Smilowitz, K., Chan, J. (2016) "Capturing Real-Time Data in Disaster Response Logistic." *Journal of Operations and Supply Chain Management* 9(1), pp. 23-54
- **Yagci Sokat, K.**, Armbruster, B. (2016) "Stochastic Model of Measles Outbreaks and the Role of Community Connectivity." *In Preparation*
- Edlund, S., Lovett, D., Kaufman, J., **Yagci Sokat, K.**, Van Wijgerden, J., Poots, A. "Modeling and Forecasting Measles in a London Borough." *In Preparation*
- **Yagci Sokat, K.**, Clarkson, K.L., Kaufman, J. "Simple Model of Veterinary Disease." *In Preparation*
- **Yagci Sokat, K.**, Dolinskaya, I., Smilowitz, K., Bank, R. "Adaptive Decision Making Under Dynamic Information Update In Limited Data Environments." *In Preparation*
- **Yagci Sokat, K.**, Smilowitz, K., Bank, R. "Estimating the Impact and Ranking of a Disaster." *In Preparation*
- **Yagci Sokat, K.**, Smilowitz, K., Cherklesly, M. "Supply Chain Management in Limited Data in Limited Data Environments: Application to Community Health." *In Preparation*

TEACHING EXPERIENCE

NORTHWESTERN UNIVERSITY, Industrial Engineering and Management Sciences
Primary Instructor

- IEMS 202 Probability (Spring 2014)

Graduate Teaching Assistant

- IEMS 202 Probability (Fall 2012, Winter 2013)
- IEMS 303 Statistics (Fall 2012, Winter 2013)
- IEMS 326 Economics and Finance for Engineers (Winter 2014)
- IEMS 310 Operations Research (Spring 2013)
- IEMS 365 Analytics for Social Good (Spring 2015, Spring 2016)
- IEMS 381 Supply Chain Modeling and Analysis (Fall 2013)

GEORGIA INSTITUTE OF TECHNOLOGY, Industrial & Systems Engineering

Graduate Teaching Assistant

- ISyE 6230 Economic Decision Analysis, Spring (2010)

PRESENTATIONS

Invited Talks

- **Yagci Sokat, K.**, Dolinskaya, I., Smilowitz, K. "Integrating Limited Data into Humanitarian Logistics Models for Adaptive Decision Making." POMS Annual Conference, Orlando, FL, May 2016
- **Yagci Sokat, K.**, Dolinskaya, I., Smilowitz, K., Bank, R. "Adaptive Decision Making Under Dynamic Information Update in Limited Data Environments." POMS Annual Conference, Orlando, FL, May, 2016
- **Yagci Sokat, K.**, Dolinskaya, I., Smilowitz, K., Bank, R. "Adaptive Decision Making Under Dynamic Information Update in Limited Data Environments." INFORMS Annual Meeting, Philadelphia, PA, November, 2015
- **Yagci Sokat, K.**, Dolinskaya, I., Smilowitz, K., Bank, R. "Use of GIS in Disaster Response." Annual Geography Week, Evanston, IL, November, 2015
- **Yagci Sokat, K.**, Dolinskaya, I., Smilowitz, K., Chan, J. "Integrating Real Time Data into Logistical Models: A Case

Study from Typhoon Haiyan.” INFORMS Annual Meeting, San Francisco, CA, November, 2014

- **Yagci Sokat, K.** “Modeling and Forecasting Measles in a London Borough.” IBM Lunch Talk Series, San Jose, CA, August 2013
- **Yagci Sokat, K.,** Armbruster, B. “Stochastic Model of Measles Outbreaks and the Role of Community Connectivity.” INFORMS Healthcare Conference, Chicago, IL, June 2013
- **Yagci Sokat, K.** “Healthcare in Turkey: Transformation in Health.” Health Systems Seminar Series, Atlanta, GA, May 2010

Poster Presentations

- Edlund, S., Hu, K., Kaufman, J.H., Lovett, D.A., **Yagci Sokat, K.,** Wijgerden, V.J., Poots, A. “Estimating the Impact of Measles Immunization Uptake for Clinics in a North-western London Borough Epidemics.” Fourth International Conference on Infectious Disease Dynamics, November 2013
- **Yagci Sokat, K.,** Kaufman, J.H., Edlund, S., Davis, M., Renly, S., Hu, K., Poots, A., Lovett, D., Wijgerden, V.J. Measles, “Modeling and Forecasting Measles in a London Borough.” San Jose, CA, August 2013
- Garcia, A., Gardner, B., Soldner, M., **Yagci, K.,** Reid, S., Chipukuma, J., Wamulume, C., Swann, J. “Two Queue or Not Two Queue: Evaluating Integration of HIV Clinics in Zambia.” Health and Humanitarian Logistics Conference, Atlanta, GA, March 2010
- **Yagci, K.,** Swann, J., Deo, S., Topp, S. “Improving HIV Care in Zambia: Increasing Access and Quality of Care.” Institute for Healthcare Improvement, Orlando, FL, December 2010
- Jain, A., Kuo, C., **Yagci, K.** “F.A.S.T: Flexible, All-in-One, Space, Technology Patient Encounter Room Designs.” Onsite Health Center of the Future, Atlanta, GA, December 2009

HONORS & AWARDS

- Northwestern University Transportation Center Dissertation Year Fellowship, 2016
- Royal E. Cabell Terminal Year Fellowship, 2016
- IEMS Department Service Award, Northwestern University, 2013 & 2014
- INFORMS Doctoral Student Colloquium, 2014
- Richard P. Covert, Ph.D., FHIMSS Scholarship for Management Systems, HIMSS Foundation, 2009
- Various travel grants from Institute for Healthcare Improvement, Health Systems Institute at Georgia Institute of Technology and Northwestern University
- Global Logistics Scholar, The Supply Chain & Logistics Institute at Georgia Institute of Technology, 2008
- Fulbright Scholar, 2007-2008
- Yasar Foundation Master’s Scholar, 2006
- Student Excellence Award, Istanbul Technical University Alumni Association, 2006
- Istanbul Technical University Rector’s Award for Student Excellence, 2006
- Massachusetts Institute of Technology – Istanbul Technical University Freshman Program Physics Scholar, 2002-2003
- Istanbul Technical University Success Scholar, 2001-2006

INDUSTRY EXPERIENCE

DAVITA INC., Atlanta, GA

5/2010- 5/2011

DaVita At Home, *Process Engineer*

- Managed various process and quality improvement projects such as design of hub and spoke management model for home modalities’ nurses and creation of “Best Demonstrated Practices” for different aspects of dialysis services to assist in growth.

THRIVE TECHNOLOGIES, Hiram, GA

8/2009-12/2009

Supply Chain Consultant (resulted in patent pending)

- Supervised selection and implementation of forecasting methods to improve organization’s forecasting strategies.

SENTIM INFORMATION TECHNOLOGY, Istanbul, Turkey

12/2006-5/2007

e-Municipality Department, Project Engineer

- Coordinate all technical activities on assigned projects such as plans, schedules, training and budget estimation.

ARCELIK A.S., Istanbul, Turkey

7/2005-8/2005

Marketing Department, Intern

- Developed forecasting models for sales and launched comparative analyses based on advertising modes.

MERCEDES BENZ, Istanbul, Turkey

5/2005-6/2005

Logistics Department, Intern

- Performed time & methods study in warehouse to minimize the raw material picking time.

GURMEN GROUP A.S., Karabuk, Turkey

Summer 2003 & Summer 2004

Manufacturing Department, Intern

- Led various process and quality improvement projects such as conducting time studies, developing a performance management system and implementing failure modes and effects analysis for machine scrap, rework and repair

SKILLS

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- Computer Skills: ArcGIS, Arena, Ampl,C#, GAMS, Lindo, Matlab ,MySQL, R, Minitab, SquirrelDB, XpressMP, VBA
 - Languages: Turkish (Native), English (Fluent) and German (Intermediate)

ACTIVITIES AND SERVICES

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- Session chair: *POMS 2016 Annual Conference*
 - Referee: *European Journal of Operational Research*
 - INFORMS Northwestern Student Chapter, President, 2013-2014 & Secretary, 2012-2013
 - EECS White & CO-REC League Volleyball Teams, Player, 2012-2014
 - Grad Liaison Committee, Northwestern University, 2011-Present
 - Society for Health Systems, Nationwide Committee, Student Member, 2008-2011
 - Turkish Student Organization at GaTech, Secretary, Cultural Chair, Editor (TechTurk), 2008-2011
 - Fulbright Student Association at GaTech, Public Affairs Chief, 2007-2009
 - Georgia International Leadership Conference, Selected Attendee, 2009
 - Georgia Tech Office of International Education Leadership Retreat, Selected Attendee, 2008
 - Habitat For Humanity, Volunteer, 2008- Present
 - Honorary Consul General of Turkey, Volunteer, Georgia, 2008-2011
 - Fulbright Enrichment Seminar. "Engaging the Electorate: The Dynamics of Politics and Participation in 2008", 2008
 - Pre-Academic Training and Fulbright Orientation, 2007

REFERENCES

- **Karen Smilowitz (co-adviser)**

Charles Deering McCormick Professor of Teaching Excellence
Department of IEMS, Northwestern University
Tel: 847-491-4693
E-mail: ksmilowitz@northwestern.edu

- **Benjamin Armbruster (co-adviser)**

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Senior Research Scientist
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- **Barry Nelson**

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