

Seong Dae Kim

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EDUCATION

- 2002 - Present Texas A&M University, College Station, Texas
Ph.D. in Industrial and Systems Engineering (expected, 2009)
Advisor: Prof. J. Eric Bickel
- 1999 - 2002 Sungkyunkwan University, Korea (South)
M.S. in Industrial Engineering (degree conferred 2002)
Thesis title: "A Study on the Application of TRIZ to the Areas of Management Science - With Regard to Inventory Control and Queuing Models"
- 1992 - 1999 Sungkyunkwan University, Korea (South)
B.S. in Industrial Engineering (degree conferred 1999)

Coursework (in Texas A&M only): Production and Inventory Control, IT for Supply Chain Management, Stochastic Processes and Reliability, Engineering Economy, Linear and Nonlinear Optimization, Applied Probability, Statistics, Advanced Calculus, Simulation, Decision and Risk Analysis, Petroleum Project Evaluation.

DISSERTATION

"The Tradeoff between Investments in Infrastructure and Forecasting in the face of Natural Disaster Risk." *This work proposes a model to quantify the benefits of investing in infrastructure or investing in forecasting technologies. By integrating the emergency response system and forecasting system into a single dynamic model, the decision maker is able to find an optimal mix of the investments. A hurricane example in a selected area illustrates the relation between evacuation speed and forecast accuracy and the optimal mix of the investments.*

Advisor: J. Eric Bickel

Committee: Guy L. Curry, Donald R. Smith, Michael K. Lindell.

PUBLICATIONS

- J. Eric Bickel and Seong Dae Kim (2008), "Verification of The Weather Channel Probability of Precipitation Forecasts", *Monthly Weather Review*, Vol. 136, Issue 12, December 2008.
- Seong Dae Kim* and J. Eric Bickel (2008), "Roads or Radar: Investing in Infrastructure or Improved Forecasting in the Face of Tropical Cyclone Risk," Proceedings of the 28th Conference on Hurricanes and Tropical Meteorology, AMS Annual Meeting, Orlando, FL, April 30, 2008.
- J. Eric Bickel* and Seong Dae Kim (2008), "Verification of The Weather Channel Probability of Precipitation Forecasts," Proceedings of the 19th Conference on Probability and Statistics, 88th AMS Annual Meeting, New Orleans, LA, January 23, 2008.
- Seong Dae Kim* and J. Eric Bickel (2007), "Roads or Radar: Investing in Infrastructure or Improved Forecasting in the Face of Hurricane Risk," Proceedings of the 44th Annual Technical Meeting of the Society of Engineering Science, College Station, TX, October 23, 2007.

MANUSCRIPTS UNDER REVIEW

- Seong Dae Kim and J. Eric Bickel (2008), "Roads or Radar: The Tradeoff between Investments in Infrastructure and Forecasting when Facing Hurricane Risk," submitted to *IEEE Systems Journal* for publication, under review.

MANUSCRIPTS IN PREPARATION

- HongSeok Seo, Seong Dae Kim, and J. Eric Bickel, "Verification of National Hurricane Center Probability of Strike Forecasts"
- J. Eric Bickel, Woo S. Yun, and Seong Dae Kim, "Home Field Advantage in the Major League Baseball Betting Market"
- J. Eric Bickel, Woo S. Yun, and Seong Dae Kim, "Calibration: An Investigation of the Major League Baseball Betting

CONFERENCE PRESENTATION

- Seong Dae Kim (2008), “Investments in Infrastructure and Forecasting in the face of Hurricane Risk,” INFORMS TAMU Student Chapter Seminar, College Station, TX, October 24, 2008.
- Seong Dae Kim* and J. Eric Bickel (2008), “The Tradeoff between Investments in Infrastructure and Forecasting in the face of Hurricane Risk,” INFORMS Annual Meeting 2008, Washington D.C., October 15, 2008.
- J. Eric Bickel* and Seong Dae Kim (2008), “Baseball Betting Markets and Player Valuation,” INFORMS Southwest Regional Conference 2008, College Station, TX, April 18, 2008.
- Seong Dae Kim* and J. Eric Bickel (2008), “Roads or Radar: Investing in Evacuation Infrastructure or Improved Forecasting in the face of Hurricane Risk,” INFORMS Southwest Regional Conference 2008, College Station, TX, April 18, 2008.
- Seong Dae Kim*, Farnaz Akhavi, and Ben Zoghi (2005), “Industry Trend of Evolution Analysis Tool”, Proceedings of Industrial Distribution Educators Association (IDEA) Second Annual Meeting, 32nd Annual Meeting of Federation of Business Disciplines, Dallas, Texas, March 2 - March 5, 2005.
- Seong Dae Kim*, Farnaz Akhavi, and Ben Zoghi (2005), “How to Design New Services using TRIZ”, Proceedings of Industrial Distribution Educators Association (IDEA) Second Annual Meeting, 32nd Annual Meeting of Federation of Business Disciplines, Dallas, Texas, March 2 - March 5, 2005.

AWARDS AND HONORS

- INFORMS Decision Analysis Society (DAS) Student Travel Award, 2008.
- Invited to 2008 INFORMS Future Academician Colloquium in Washington, D.C.
- Department Scholarship, Texas A&M University, 2002 - 2008.
- Toegye Scholarship (four years, 100% tuition and fee), Sungkyunkwan University, 1992, 1996 - 1998.

RESEARCH EXPERIENCE

- 06/2008-present Student Technician II, Decision & risk analysis on investment decision associated with hurricane evacuation, supervised by Dr. J. Eric Bickel.
- 09/2006-08/2007 Student Technician II, Probability assessment and verification on sports gambling, supervised by Dr. J. Eric Bickel.
- 09/2005-08/2006 Research Assistant, “Value of information from 4D seismic technology for oil/gas exploration” sponsored by Schlumberger, supervised by Dr. J. Eric Bickel, Develop economic module to estimate the value of information.
- 01/2005-08/2005 Student Technician II, Probability assessment and verification on weather forecast, supervised by Dr. J. Eric Bickel.
- 06/2004-12/2004 Research Assistant, “Fee-Based Service for National Association of Wholesaler-Distributors (NAW)” supervised by Dr. Ben Zoghi in the Department of Engineering Technology & Industrial Distribution, Texas A&M University, Develop a model for developing and pricing new services for NAW members.
- 06/2004-12/2004 Research Assistant, “Elk Customer Service Survey” supervised by Dr. Ben Zoghi in the Department of Engineering Technology & Industrial Distribution, Texas A&M University, Documentation and analysis of the survey to Elk's distributors nation-wide.
- 01/2000-05/2000 Research Assistant, “Reconstruction of Demand Forecasting and Inventory Control System for Automobile Spare Parts” sponsored by Hyundai MOBIS (former Hyundai Precision Industry Company), Korea (South), Generate ideas for various alternative inventory control systems, conduct simulation of the alternatives, and analyze the result.

TEACHING EXPERIENCE

- 01/2009 - 05/2009 Instructor for Economic Analysis of Engineering Projects (ISEN302).
- 01/2008 - 05/2008 Instructor for Economic Analysis of Engineering Projects (ISEN302).
- 09/2007 - 12/2007 Teaching Assistant for Prof. J. Eric Bickel’s Engineering Analysis for Decision Making “Decision Analysis I” (ISEN627). Assist the instructor during the class, grade homework, quizzes, and tests, make test problems, teach problem sessions.
- 2007 - 2007 Teaching Assistant Training and Evaluation Program (TATEP), August 22 - August 23.

ACADEMIC SERVICE

- Session Chair, Session: Decision Analysis of Major Capital Investments, Cluster: Decision Analysis, INFORMS Southwest Regional Conference 2008, College Station, TX, April 18, 2008.

- Supervisory experience, Supervised a master student. Assisted in his master project on probability verification of hurricane forecasts from National Hurricane Center (Sep. 2007 - Aug. 2008)
- Supervisory experience, Supervised a master student. Assisted in his master project on probability assessment and verification in baseball betting market (Sep. 2006 - Aug. 2007)

RESEARCH INTERESTS

- Decision & Risk Analysis in investment decision in natural disaster situation, oil and gas exploration, business and operational decisions
- Value of Information and Response Speed in multi-stage setting
- Sports betting market
- Forecast verification
- Applied probability

TEACHING INTERESTES

- Decision analysis
- Engineering economy
- Probability and statistics
- Simulation
- Linear and non-linear optimization

ACTIVITIES

- Member, INFORMS, November, 2006-present.
- Member, Society of Petroleum Engineers (SPE), U.S.A., August, 2005-2006.
- Member, Council of Logistics Management (CLM), U.S.A., February, 2004-2005.
- Member, Institute of Industrial Engineers (IIE), U.S.A., September, 2003-present.

REFERENCES: available upon request

- J. Eric Bickel, Ph.D.
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Operations Research / Industrial Engineering
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Austin, TX 78712-0292
ebickel@mail.utexas.edu
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- Michael K. Lindell, Ph.D.
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