January, 2018

Hillel J. Kumin
1317 Cherry Laurel Drive
Norman, OK 73072

ADMINISTRATIVE APPOINTMENTS, UNIVERSITY OF OKLAHOMA

Associate Dean, College of Engineering, 1988-2002
Associate Dean, Graduate College, 1988
Assistant Dean, Graduate College, 1982-1988
Acting Director, School of Industrial Engineering, 1975

ACADEMIC APPOINTMENTS, UNIVERSITY OF OKLAHOMA

Williams Emeritus Professor of Engineering, 2013-present
Williams Professor of Engineering, 2002-2013
Professor of Industrial Engineering, 1986-2013
Associate Professor of Business Administration, 1980-2013
Associate Professor of Industrial Engineering, 1971-1986
Assistant Professor of Industrial Engineering, 1968-1971

EDUCATION

Ph.D., Operations Research, Case Institute of Technology, Cleveland, OH, 1968
M.A., Mathematics, University of Texas, Austin, Texas, 1964
B.S., Mathematics, Southern Methodist University, Dallas, Texas, 1962

RELATED PROFESSIONAL EXPERIENCE

Senior Research Associate, National Oceanic and Atmospheric Administration, Joint Tsunami Research Effort, Honolulu, Hawaii; awarded to develop a computer simulation of the United States Tsunami Warning System, 1975-1976.

Visiting Professor, Institute for Energy Analysis, Oak Ridge, Tennessee; studied the effects of waste heat from the cooling towers of nuclear power facilities on inadvertent weather modification, Summer, 1974.

Visiting Professor, National Bureau of Standards, Gaithersburg, Maryland, helped develop a Markovian model for the United States Food and Drug Administration to predict the way in which firms respond to being inspected, Summer, 1973.

Research Associate, Booz-Allen Applied Research, Bethesda, Maryland, helped develop a systems analysis transportation model of the Northwest Corridor, Summer, 1966.

Instructor of Mathematics, San Antonio Junior College, San Antonio, Texas, 1964-1965.

MILITARY/GOVERNMENT CONSULTING

U. S. Army Artillery Branch, Ft. Sill, Oklahoma, Helped develop and taught an Operations Research course for senior officers.

Oklahoma City Public Schools, performed a systems analysis to help implement a court-ordered desegregation plan for the Oklahoma City public school system. A time-shared interactive class-scheduling program was developed and implemented.

Senior Consultant to Brigadier General Peter G. Olenchuk, Chairman of the Joint Armed Forces Panel to develop a coordinated management system for the DOD Ammunition Production Base (JCAP).

Office of Technology Assessment, U.S. Congress, Washington, D.C., documented and implemented computer programs analyzing the impact of solar technology on the United States' energy planning.

Army Research and Development Command, Dover, New Jersey, evaluated large-scale linear programming models of production base/stockpile tradeoffs.

Ballistic Missile Defense System Command, Huntsville, Alabama evaluated optimization algorithms for pattern classification.

SCIENTIFIC AND PROFESSIONAL SOCIETIES MEMBERSHIP

INFORMS
American Society for Engineering Education
Mathematical Programming Society
Institute of Industrial Engineers

PROFESSIONAL ACTIVITIES

AIIE Associate Program Chairman, OR Division, 1982-83
AIIE Oklahoma City Senior Chapter, Secretary, 1980-81

MAJOR SERVICE ACTIVITIES AT UNIVERSITY OF OKLAHOMA

Graduate Council
Academic Programs Council
Faculty Appeals Board
Committee on Sexual Harassment
Industrial Engineering Graduate Programs Advisor
Honors Council
OSLEP Advisory Board
Departmental Assessment Chair
Department ABET Coordinator
Industrial Engineering Undergraduate Advisor

TEACHING

Major advisor to six Ph.D. and twenty M.S. students.

Graduate Courses Taught
       Applied Probabilistic Models
       Design of Production Systems
       Applied Operations Research
       Mathematical Techniques of Operations Research
       Advanced Stochastic Processes
       Integer Programming
       Queueing Systems

Undergraduate Courses Taught
       Engineering Statistics
       Engineering Economics
       Introduction to Engineering
       Introduction to Industrial Engineering
       Inventory Models
       Deterministic Models of Operations Research
       Probabilistic Models of Operation Research

PAPERS PRESENTED

"Some Explicit Results for the Distribution Problem of Stochastic Linear Programming," (with Afrooz Ansaripour), International Symposium on Stochastic Programming, Bergamo, Italy, August, 2013.

"Discrete Convexity of a Set of Discrete Variable Functions in Z(n), n > 1" (with Emre Tokgoz), INFORMS National Conference, Charlotte, VA, November, 2011.

"A Convexity Result for an (S-1,S) Inventory Model Under Time Limits on Backorders," (with Emre Tokgoz), 2010 INFORMS National Conference, Austin, TX, November, 2010.

"A Quadratic Assignment Problem with Linear Side Constraints for a Distributed Network of Computers," (with Diana Higuera), 2010 INFORMS National Conference, Austin, TX, November, 2010.

"Some Computational Results for a Bidder Selection Problem," (with Ebisa Wollega), 2010 INFORMS National Conference, Austin, TX, November, 2010.

"A Convexity Result for Functions with Two Integer Variables", (with Sara Nourazari), 2009 INFORMS Annual Conference, San Diego, CA, October 2009

"Convexity Results for Functions with n Integer Variables", (with Sara Nourazari), International Symposium on Integer Programming, Mathematical Programming Society, University of California, Berkeley, CA, June, 2009.

"A Hessian Matrix for Functions with Integer and Continuous Variables", (with Emre Tokgoz), 20th International Symposium on Mathematical Programming", Mathematical Programming Society, Chicago, IL, August, 2009.

"A Statistical Analysis of Balked Landing Approaches for the Airbus A380 Under GBAS Guidance" (with Juan Higuera, John Fagan, and Gerry McArtor), ION National Conference, Ft. Worth, TX, September, 2006.

"A Survey of Operations Research Applications in Solar Energy Systems" (with M. Devine and A. Aly) 60th National ORSA Meeting, October, 1981, Houston, Texas.

"Operations Research Problems in the Economic Design and Operations of Solar Energy Systems", (with M. Devine and A. Aly), IGT Symposium on Energy Modeling and Net Energy Analysis, Colorado Springs, August, 1978.

"Internally Consistent Thermodynamic Data", (with Howard Day), American Geophysical Union, 1977, Washington, D.C.

"A Heuristic Technique for Solving Large-Scale Linear Programming Problems" (with K. Burd), 46th National ORSA Meeting, October, 1974, San Juan, Puerto Rico.

"A Method for the Solution of the Distribution Problem of Stochastic Linear Programming:, (with J. Ewbank), 41st National ORSA Meeting, April, 1972, New Orleans, Louisiana.

"A Dynamic Programming Approach to a Bidder Selection Problem:, (with M. Devine), 29th National ORSA Meeting, May, 1971, Dallas, Texas.

"A Systems Study of School Desegregation", (with R. Lutz and M. Devine), National TIMS meeting, October, 1970, Los Angeles, California.

"An Algorithm for the Design of Markovian Congestion Systems", 36th National ORSA Meeting, November, 1969, Miami, Florida.

PUBLICATIONS

"Some Explicit Results for the Distribution Problem of Stochastic Linear Programming," (with Afrooz Ansaripour, Adriana Mata and Sara Nourazari), Open J. Optimization, Vol 5, p. 140-162, 2016.

"Stochastic Reservoir Systems with Different Assumptions for Storage Losses," (with Carter Browning), American J. Oper. Research, Vol 6, No 5, p. 414-423, 2016.

"Mixed Convexity and Optimization Results for an (S-1, S) Inventory Model Under a Time Limit on Backorders", (with E. Tokgoz), Comp. Management Sci., Vol 9, no. 4, 2012, p. 417-440

"Convexity and Optimization of Condense Discrete Functions," (with E. Tokgoz and S. Nourazari), Lecture Notes in Computer Science, Springer-Verlag, Volume 6630, 2011, p. 33-42.

"Support Vector Regression to Predict the Performance of Stabilized Aggregate Bases Subject to Wet-Dry Cycles," (with N. Khoury, M. Maalouf, and J. Laguros), Intl. J. Numer. Analy. Meth. Geomechanics, Vol 36, no. 6, 2012, p. 675-696..

"A Mixed Integer Convexity Result with an Application to an M/M/s Queueing System,"
 (with E. Tokgoz), Intl. J. Open Prob. Computational. Math., Vol 3, no. 5, December, 2010, p. 48-62

"A Statistical Analysis of Balked Landing Approaches for the Airbus A380 Under GBAS Guidance", (with J. Higuera, J. Fagan, and G. McCartor), Navigation,, Vol. 56, 2009, p. 175-184.

"A Hessian Matrix for Functions with Integer and Continuous Variables", (with E. Tokgoz and M. Maalouf), International Journal of Pure and Applied Mathematics, Volume 57, 2009, p. 209-218.

"Heuristic Policies for Inventory Ordering Problems with Long and Randomly Varying Lead Times", (with B.F. Foote and N. Kebriaei), Journal of Operations Management, Vol. 7, 1988, p. 115-124.

"A Random Walk Approximation for a Solar Energy Storage System", (with A. Nozari and J. Lalli), Solar Energy, Vol. 37, 1986, p. 127-133.

"Equilibria in the System MgO-SiO2-H2O: A Thermodynamic Analysis", (with H. Day and J.V. Chernosky), American Mineralogist, Vol. 70, 1985, p. 237-248.

"An Analysis of Solar Energy Systems that Use Vapor Compression Cycles", (with M. Suzuki, M. Devine, and D.B. Turkington), Solar Energy, Vol 34, 1985, p. 43-57.

"A Survey of Optimization and Stochastic Process Techniques Applied to Solar Energy Systems," (with M. Devine and A. Aly), TIMS Studies in Management Science and Systems: Energy Models and Studies, 1983, B. Lev., ed., p. 339-352.

"A Convexity Result for a Class of GI/G/1 Queueing Systems", (with H. Tu), Operations Research, Vol. 31, 1983, p. 948-950.

"Thermodynamic Analysis of the Aluminum Silicate Triple Point: A Linear Programming Approach" (with Howard Day), American Journal of Science, Vol. 280, March, 1980, p. 265-287.

"Operations Research Problems in the Economic Design and Operation of Solar Energy Systems:, (with M.D. Devine and A. Aly), Proceeding of the IGT Symposium in Energy Modeling and Net Energy Analysis, Colorado Springs, Colorado, August, 1978, p. 619-638.

"A Time-Shared Interactive System for Class Scheduling", (with R.P. Lutz, M.D. Devine and W. Smith), Computers and Education, Vol. 1, 1976, p. 1-14.

"A Method for the Solution of the Distributions Problem of Stochastic Linear Programming",) with J. Ewbank, and B.L. Foote), SIAM Journal on Applied Mathematics, Vol. 26, 1974, p. 225-238.

"On Characterizing the Extreme of a Function of Two Variables, One of Which is Discrete", Management Science, Vol 209, 1973, p. 126-129.

"A Dynamic Programming Approach to a Bidder Selection Problem" (with M.D. Devine), AIEE Transactions, Vol. 3, 1973, p. 33-36.

"Enumeration Sequences of Rooted Trees:, in A Handbook of Integer Sequences, N.J.A. Sloane, Academic Press, New York, 1973.

"Identities on Matrices" (with Kirby Smith), American Mathematical Monthly, Vol. 79, Feb., 1972, p. 157-158.

"An Application of Operations Research to School Desegregation" (with R.P. Lutz and M.D. Devine), Management Science, Vol. 19, 1972, p. 100-109.

"Some Enumeration Tables for Rooted Trees by Height and Diameter", Mathematics of Computation, Vol. 25, July, 1971, p. 632.

REPORTS AND OTHER PUBLICATIONS

"Time Series Applications," Proceeding of the 5th Annual Symposium on Computer Science and Statistics, Oklahoma State University, 1971.

"The Alternate Quantity Bidding Problem," Army Ammunition and Procurement Supply Agency, Joliet, IL, DAA-09-07-C-043, 1971.

"The compliance Behavior of Firms Subject to Inspections Modelled as a Semi-Markov Process,: National Bureau of Standards, NBS73-501B, 1973.

"The Effects of Waste Heat from Nuclear Power Plant Facilities on Inadvertent Weather Modification," Institute for Energy Analysis, Oak Ridge, TN, 1974.

"Introduction to Stochastic Processes: by Erhan Cinlar, book review, Interfaces, Vol 6, No. 1, 1975, p. 91-92.

"A Simulation Study of the United States Tsunami Warning System," National Oceanic and Atmospheric Administration, Honolulu, Hawaii, August, 1978.

"Evaluation of Optimization Algorithms for Pattern Classification," (with Adel Aly and Samuel Lee), Ballistic Missile Defense System Command, Final report, Huntsville, Alabama, 1978.

"An Application of Gould's Method for Analyzing the Behavior of solar Energy Storage Systems," (with S. Desai), University of Oklahoma, School of Industrial Engineering, Technical Report, TR 83-3, 1983.

"A Stochastic Process Model for Solar and Wind Energy Systems," (with Ardavan Nozari), National Science Foundation, Final Report, 1984.

FUNDED RESEARCH

Federal Aviation Administration: "Statistical Analysis of Flight Test Data for Collision Risk Models", January, 2005-2007.

National Science Foundation: "Stochastic Process Models of Solar Energy Systems", September 1983-August 1984.

Ballistic Missile Defense System Command: "Optimal Pattern Classifiers", Summer 1978.

National Science Foundation: "Determination of Thermodynamic Parameters from Phase Equilibrium Data-Criteria for Choosing Solutions", September 1976-August 1977.

National Science Foundation: "Determination of Thermodynamic Parameters from Phase Equilibrium Data - A Linear Programming Approach", September 1976-August 1978.

Army Ammunition Procurement and Supply Agency: "Operations Research algorithms for Range Bidding Problems", Summer 1969.

National Science Foundation: "Algorithms for the Design of Markovian Congestion Systems", September 1968-August 1969.

HONORS AND AWARDS

University of Oklahoma Regents Superior Teaching Award, 1978
National Research Council, Senior-Research Associate, 1975-1976
Alpha Pi Mu, National Industrial Engineering Honorary Society

PERSONAL

Date of Birth: November 14, 1940

Married, two sons

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