

E. Stanley Lee
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Education

DEGREES: Ph.D., Princeton University, Princeton, N.J., 1962.
M.S., North Carolina State University, Raleigh, 1957.
B.S., Chung Cheng Institute of Technology, Taiwan, ROC, 1953.

Teaching

IMSE 780 Methods of Operations Research
IMSE 830 Applied Fuzzy Sets Theory
IMSE 971 Industrial Queuing Process
IMSE 983 Dynamic Programming

Fields of research:

Dr. Lee's contributions to operations research and applied mathematics cover many different areas. During the 1970's, he did pioneering research work in optimization theory and systems analysis with Dr. Richard Bellman and Dr. Lotfi Zadeh. He also applied operations research techniques to solve various engineering and social problems in areas such as water resource management, energy, and environmental systems. Recently, Dr. Lee's interests have concentrated on the development of intelligent and soft computing techniques such as support vector machines, evidence theory, fuzzy set theory, probabilistic approaches and neural networks and on the application of these techniques to engineering and social problems. He has made significant contributions in the areas of uncertain reasoning and artificial intelligence.

Professional Membership:

INFORMS
International Fuzzy Systems Association.

Professional Positions

Honorary Professor, Yuan-Ze University, Taiwan, 1994-present
Chaired Professor, Yuan-Ze Institute of Technology, Taiwan ROC, 1993-1994 (on leave from KSU).
Honorary Professor, Chinese Academy of Sciences, People's Republic of China, 1987-present.
Assistant Professor, Department of Chemical Engineering, Kansas State University, 1966-1967.
Associate and full Professor, Department of Industrial Engineering, Kansas State University, 1967-1973.
Visiting Professor, Mathematical Biosciences, University of Southern California, Los Angeles, 1972-1973 (on sabbatical leave from KSU to work with Dr. Richard Bellman).
Professor, Departments of Chemical and Electrical Engineering, University of Southern California, Los Angeles 1973-1976.

Chairman, Mathematical Bioscience, College of Engineering, University of Southern California, Los Angeles, 1973-1976.

Professor, Department of Industrial and Manufacturing Systems Engineering, Kansas State University, Manhattan, Kansas, 1976-now.

Consultant and Project Director, Dr. Richard Bellman research group, University of Southern California, Los Angeles, 1976-1987.

Visiting Professor, Institute of Automatic Control, Lund Institute of Technology, Lund, Sweden, Sept.-Dec. 1982.

Research Chemical Engineer, Phillips Petroleum Company, Bartlesville, Oklahoma, 1960-1966.

Awards and Honors

Sigma Xi, Tau Beta Pi, Phi Kappa Phi, Alpha Pi Mu.

Who's Who in the World, Who's Who in America, and other listings.

Editorial Activities: Editor, Associate Editor, or on the editorial board of the following journals:

International Journal of Operations Research, 2004-now.

International Journal of Modeling and Simulation, ACTA press, Calgary, Canada, 2001-now.

Fuzzy Optimization and Decision Making, Kluwer Academic Publishers, 2000-now.

Computer and Mathematics with Applications, an International Journal, Pergamon Press, Inc., 1975-present.

Indian Journal of Management and Systems, 1984-present.

Journal of Engineering Chemistry and Metallurgy, 1989-present.

The Journal of Fuzzy Systems Association, Taiwan, ROC, 1994-present.

Journal of Nonlinear Differential Equations: theory, Methods, and Applications, 1993-present.

Journal of the Chinese Institute of Industrial Engineers, 1998-now.

International Journal of Fuzzy Systems, 1999-now.

Informed Student Guide to Management Science, Thomson Learning Publishers, London (2001)

The Chinese Journal of Process Engineering, 2001-now

Books and Monographs: Dr. Lee has over a dozen books. The following are some typical areas of interest:

1. Lee, E.S., Quasilinearization and Invariant Imbedding with Applications to chemical Engineering and Adaptive Control, Academic Press, New York (1968).
2. Lee, E.S. and C.Y. Wen (eds.) Coal Conversion Technology, Addison-Wesley (1980).
3. Lee, E.S. and C.Y. Wen (eds.) Coal Liquefaction, by Shah, Addison-Wesley (1981).
4. Lee, E.S. and Q. Zhu, Fuzzy and Evidence Reasoning, Springer-Verlag, New York and Physica-Verlag, Heidelberg (1996).
5. Lee, E.S. and Hsu-Shih Shih, Fuzzy and Multi-Level Decision Making: An Interactive Computational Approach, Springer-Verlag, London (2001).

Journal Publications: Dr. Lee has over 300 refereed publications in various technical journals ranging from coal conversion technology to optimization, modeling and uncertainty reasoning. Ten of the recent publications are listed in the following:

1. Shen, J.D., Pei, Z.J., Lee, E.S., and Fisher, G.R., (2006) "Modeling and analysis of waviness reduction in soft-pad grinding of wire-sawn silicon wafers by support vector regression," *International Journal of Production Research*, 44, pp 2605-2623.
2. Jiao, Y., Pei, Z.J., Lei, S., Lee, E.S. and Fisher, G. R., (2006) "A fuzzy adaptive network model for waviness removal in grinding of wire-sawn silicon wafers," *Journal of Manufacturing Science and Engineering*, 128, pp 938-943.
3. Jiao, Y., Pei, Z.J., Lei, S., Lee, E.S., and Fisher, G.R., (2005), "Fuzzy adaptive network in machining process modeling: dimensional error prediction for turning operations," *International Journal of Production Research*, 43, pp 2931–2948.
4. Jiao, Y., Lei, S., Pei, Z.J., and Lee, E.S., (2004), "Fuzzy adaptive networks in machining process modeling: surface roughness prediction for turning operations," *International Journal of Machine Tools and Manufacture*, 44, No. 15, pp 643–1651.
5. Syau, Y.R. and Lee, E. S., (2006) "Preinvexity and Φ_1 - Convexity of Fuzzy Mappings through a Linear Ordering." *Comp Math Applics*, 51, pp 405-418.
6. Chen, K.T., Jiao, Y. and Lee, E. S., (2006) "Fuzzy Adaptive Network in Thermal Comfort," *Applied Mathematics Letter*, 19, pp 420-426.
7. Syau, Y.R. and Lee, E.S., (2005) "Preincavity and Fuzzy decision Making," *Fuzzy Sets and Systems*, 155, pp 408-424.
8. Aouam, Chang, S. I. and Lee, E. S., ((2003) "Fuzzy MADM: An Outranking Method," *European Journal of Operational Research*, 145, pp 317-328.
9. Qing, H., Shi, Z.Z., Ren, L. A. and Lee, E. S., (2003) "A Novel Classification Method Based on Hyper Surface," *Mathematical and Computer modeling*, 38, pp 395-407.
10. Syau, Y. R., Hsieh, H. T. (2001) "Fuzzy Numbers in the Credit Rating of Enterprise Financial Conditions," *Review of Quantitative Finance and Accounting*, 17, pp 351-360.

Invited Talks: Dr. Lee has participated many Invited lectures at various short courses, seminars, summer institutes and meetings. Some of the typical talks are listed in the following:

Organizer of various symposiums at AIChE National Meetings and Joint Automatic Control Conferences, 1966-1972.

Invited keynote lecturer at various scientific and technical meetings.

Organizer of Bellman Continuum Workshops and conference committee, 1985-now.

Organizer of various symposiums on fuzzy set theory and uncertainty reasoning, 1987-now.

External Ph.D. dissertation examiner for various universities in Canada, India, Singapore, Hong Kong, Australia 1970- now.

National Research Council, Panelist and reviewer, 1989- now.

Invited special lecturer, Lectureship Program, National Research council, Taiwan, ROC, 1991-1992, 2001-2002.

Visiting faculty researcher, Air Force Logistics Command, 1983.

International Program Committee, The Eighth International Fuzzy Systems Association World Congress, 1999.

Member of the organizational committee of the International Conference on Information and Management Science, 2003-now.

