

RÉSUMÉ
BILLY VAUGHN KOEN

ADDRESS: ETC 5.134B
Mechanical Engineering Department
The University of Texas at Austin
Austin, Texas 78712
(512) 471-3086

2604 Harris Blvd.
Austin, Texas 78703
(512) 472-1798

MARITAL STATUS: Married

WIFE'S NAME: Deanne Rollins Koen

CHILDREN: Kent Vaughn Koen
Douglas Branch Koen

NATIONALITY: American

POSITION: Professor of Mechanical Engineering

LANGUAGES: Fluent in French

EDUCATION: Sc.D., Nuc. Eng.:
Massachusetts Institute of Technology, 1968

Diplôme d'Ingénieur en Génie Atomique:
L'Institut National des Sciences et Techniques
Nucléaires, Saclay, FRANCE, 1963

S.M., Nuc. Eng.:
Massachusetts Institute of Technology, 1962

B.S., Chem.E.:
The University of Texas at Austin, 1961

B.A., Chemistry:
The University of Texas at Austin, 1960

Attended Course on Probabilistic Risk
Assessment for Nuclear Power Plants,
Argonne National Laboratory

REGISTRATION:

Professional Engineer, Texas

PROFESSIONAL EXPERIENCE:

The University of Texas at Austin:

Undergraduate Advisor 1988-1992
Full Professor 1982-present
Associate Professor, 1971-1982
Assistant Professor, 1968-1971
Director, Bureau of Engineering Teaching, 1973-1976

Tokyo Institute of Technology, O-okayama, Meguro-ku, Tokyo, Japan:

Visiting Professor, June-August, 1994

Ecole Centrale, Paris, France:

Visiting Professor, January, 1983

Consultantships:

Environment Consultants, Inc., 1979-1980
CACHE Corporation, 1979-80
Southwest Research Institute, 1979-present
Reactor Safety Division, Saclay (French AEC lab), 1976-77, 1971-72
Los Alamos Scientific Lab, Summer 1969
Academy for Educational Development, Tunisian Technology Transfer Project, 1984
Oak Ridge Associate Universities Board of Directors, 1975
American Nuclear Society, Nuclear Department Heads, 1979-81
Educational Council for Massachusetts Institute of Technology, 1980-82
Regional Chairman, Educational Council for Massachusetts Institute of Technology, 1983-1990
Foreign Contact for Ecole Centrale, France

PROFESSIONAL SOCIETY MEMBERSHIPS:

American Society for Engineering Education
American Society of Mechanical Engineering
American Nuclear Society
American Institute of Chemical Engineers
American Standard Testing Materials (1961)
Alpha Chi Sigma
New York Academy of Sciences (1970)
American Association for the Advancement of Science
Association des Ingénieurs en Génie Atomique
Texas Society of Professional Engineers

PROFESSIONAL SOCIETY ACTIVITIES:

American Society for Engineering Education (ASEE)

Fellow Member Committee, 1992-1995
Constitution and Bylaws Committee, 1992-1995
Vice President for Public Affairs, 1989-1993
Board of Directors, 1982-1984, 1987-1993
First Vice President, 1988-89
Chairman, Projects Board, 1987-1993
Chairman, Professional Interest Council IV, 1982-1984
ASEE representative to Washington Internships in Engineering (WISE), 1981-1993
ASEE representative to Office of Naval Research fellowships, 1981-1993
Member of project board, 1980-1993
Chairman, Educational Research and Methods Division of ASEE, 1979-80, 1975-1977
Co-editor of *Transactions in Engineering Education*
Member, Society Publication Committee
Delegate to *Société Européenne pour la Formation des Ingénieurs (S.E.F.I.)*
Institutional Representative of UT/Austin to Gulf-Southwest Section of ASEE
Program Chairman, Educational research and Methods Division
Director, National Effective Teaching Institute, 1978
Application of Technology to Education Committee
Board of Directors, Educational Research Methods Division
Chapter in Monograph, *Individualized Instruction in Engineering* published by ASEE
Dean's representative to the Young Engineering Delegates (two years)
Director, Self-Paced Instruction Workshop, Ohio State National Meeting of ASEE, June, 1970
Director of Self-Paced Instruction Workshop, Annapolis National Meeting of ASEE, June, 1971
Effective Teaching Institute, Gulf Southwest Section, August, 1970
Edison Electric Institute Panel, "Mechanics and Psychology of Learning" at the ASEE National Meeting at Annapolis, June, 1971
Session Chairman for ERM Division
Numerous articles published in the *Journal of Engineering Education*
Section Editor *ERM Magazine*

HONORARY FRATERNITIES AND AWARDS:

Phi Beta Kappa
Tau Beta Pi
Pi Lambda Upsilon
Omega Chi Epsilon
Phi Eta Sigma
Pi Tau Sigma
Sigma Xi
Phi Kappa Phi
Beta Alpha Phi

AWARDS:

Engineering Foundation Faculty Award, College of Engineering
(1973,1974,1979)
Distinguished Advisor Award (1970), College of Engineering
Standard Oil of Indiana Foundation Award for Outstanding Teaching
(1970), The University of Texas
Minnie Stevens Piper Professor Award (1980), M.S. Piper Foundation,
San Antonio, Texas
Chester F. Carlson Award for Innovation in Engineering Education
(1980), ASEE
Ben Dasher Best Paper Award (1984; 1985), ASEE
William Elgin Wickenden Award for Best Paper in *Engineering
Education* (1986), ASEE
Helen Plants Award (1985), ASEE
Olmsted Award (1987), Liberal Arts Division, ASEE
Best Paper Award at the ASEE Gulf-Southwest Section Meeting (1988)
Fellow ASEE (1987)
W. Leighton Collins Award (1992), ASEE
Centennial Medallion Award (1993), ASEE
Helen Plants Award (1995), ASEE
Parlin Fellow (1996), Plan II, The University of Texas at Austin

LISTED IN:

Who's Who in America
American Men of Science
Who's Who in South & Southwest
Who's Who in Texas
Who's Who in Computer Education and Research
Leaders in Education
International Scholars Directory
Personalities in the South
Outstanding Americans in the South
Men of Achievement
Notable Americans
Personalities of America
Men and Women of Distinction

The American Registry
International Who's Who in Engineering
The Directory of Distinguished Americans

LISTED IN (Continued):

Who's Who in Technology Today
Who's Who in Instructional Technology
American Men and Women of Science
Marquis Who's Who in Science and Engineering
2,000 Notable American Men
Dictionary of Int'l Biography
Men of Achievement

ACADEMIC COMMITTEE ASSIGNMENTS:

Departmental

Curriculum Development
Furniture
Area Coordinator, Nuclear Engineering
Awards Committee
Approved Non-technical Electives
Accreditation
Computer Committee

College

Scholastic Appeals Committee
ASEE Nat'l Committee for Young Delegates Representative,
(1969-70)
Dean's Rep. to "Liberal Learning in Engineering," Punderson
Conference, 1969-70
Awards Committee
Course Evaluation Committee
Humanities Committee
Core Curriculum and Junior Colleges
High School Enrollment Program, 1972-73
Teaching Effectiveness Committee (1974)
Ad Hoc Committee to Advise on Elections (1974)
Center for Energy Studies Education Committee (1975)
Course and Curriculum Committee
Metrication Committee
Commencement Committee
Phi Kappa Phi Selection Committee
Ethics Lecture Series
Library
Graduate Studies Committee in Manufacturing Systems Engineering
(1988)
Undergraduate Advisors Committee (1989-present)
Admissions Committee (1989-present)
Engineering Honors Committee (1989-present)

University

Admissions and Registration Committee (1974)
Representative, Oak Ridge Associated
Universities (1973-75)

ACADEMIC COMMITTEE ASSIGNMENTS (Cont):

Admissions and Registration Committee (Ch)(1981, 1991-present)
Writing Assessment Committee (1982)
University Council on Teacher Education
Judge for Plan II Senior Thesis Symposium
Plan II Committee
International Study Abroad Committee (1993-present)

GRADUATE DEGREES SUPERVISED:

M.S., August, 1970

Edgar Oelkers

Thesis: "A Learning Method for Identification of Nuclear Reactor Point Dynamics"

M.S., December, 1970

Charles Rombough

Thesis: "Application of Queueing Theory to Closed-Loop Computer-Control Systems"

M.S., December, 1970

Alfredo Heli Urdaneta Bohorquez

Thesis: "A Programmed Associative Analyzer"

Ph.D., August, 1971

Gary Don Bouchey

Dissertation: "The Optimization of Nuclear Systems"

M.S., May, 1972

Michel Boyd Owen

Thesis: "Fuel Management Using Dynamic Programming"

M.S., August, 1972

James Leonard Macdonald

Thesis: "Heuristic Learning Control for Nuclear Reactors"

M.S., May, 1974

Wilfrido Jose Lopez-Buenano

Thesis: "Statistical Monitoring for PSI"

Ph.D., January, 1975

Charles Rombough

Dissertation: "The Total Energy Investment in Nuclear Power Plants"

Ph.D., August, 1975

James Leonard Macdonald

Dissertation: "Investigation of Pattern Recognition Techniques for the Identification of Splitting Surfaces in Monte Carlo Particle Transport Calculations"

GRADUATE DEGREES SUPERVISED: (Continued)

M.S., August, 1978

Harley J. Harben

Report: "The James-Stein Estimator and Its Generalizations Applied to Estimating Component Unreliabilities Used in System Reliability Analyses"

M.S., August, 1979

Shawn Rogers

Thesis: "The Application of List Processing Techniques to Dependent Fault Trees"

M.S., December, 1981

William B. Bobnar

Thesis: "Time Dependent Fault Tree Evaluation Using A List Processing Pattern Recognition Technique"

M.S., August, 1982

James Richard Murphy

Thesis: "The Development and Use of Barrier Diagrams"

M.S., August, 1982

Joe Robert Hill

Thesis: "Improving Failure Rate Estimation Using Parametric Empirical Bayes"

M.S., December, 1983

Ahmad Sharif-Homayoun

Thesis: "Comparison of Parametric Empirical Bayes with Maximum Likelihood Estimators When Applied to Nuclear Reliability Data--A Simulation Study"

Ph.D., February 1988

Ann Patterson-Hine

Dissertation: "Object-Oriented Programming Applied to the Evaluation of Reliability Fault Trees"

M.S., August 1989

Hanspeter Wegmann

Thesis: "Parallel Processing of Fault Trees on a Locally Distributed Multiple-Processor Network"

Ph.D., August 1989

Arlen S. Heger

Dissertation: "An Adaptive Interface "Knowbot" For Nuclear Point Industry Database"

M.S., December 1990

Gregory D. Gillenwaters

Thesis: "Creation of Student Academic Passports Using Modern Artificial Intelligence Strategies"

GRADUATE DEGREES SUPERVISED: (Continued)

Ph.D., February, 1992

Philip D. Heermann

Dissertation: "Neural Network Techniques For Stable Adaptive Control of Non-Linear Systems"

M.S., May, 1994

Astrid Leuba

Thesis: "Improvement of ART1 Networks solution to the Stability/Plasticity Dilemma".

PUBLICATIONS:

A. Books:

1. Chapter on Keller Plan in book, *Individualized Instruction*, published by ASEE, June, 1974, edited by L. Grayson.
2. Himmelblau, Schechter, Koen, *Adventures in Fortran*, Swift Publishing Co., Austin, TX 1975.
3. Koen, B. V., *Definition of Engineering Method*, monograph of the American Society for Engineering Education, 1985.
4. Koen, B. V., "Engineering Method: Its Definition, Implementation, and of Judgment," Modern Design Principles in View of Information Technology, K. Jakobsen (ed.), Tapir Publishers, 1988, pp.27-40.
5. Koen, B.V., "The Engineering Method," Critical Perspectives on Nonacademic Science and Engineering, Paul T. Durbin (Ed.), Associated University Presses, Inc. 1991, pp. 33-59.
6. Koen, B.V. and A.S. Heger, "Engineering Application of Computer-Based Instruction," Performance-based Training Principles for University Education, R.A. Knief (ed), 1994.

B. Major Technical Publications:

1. K. F. Hansen, B. V. Koen, W. W. Little, "Stable Numerical Solutions of the Reactor Kinetics Equations," *Nuc. Sci. & Eng.*, 22, 51-59 (1965).
2. Billy V. Koen, "Calculation of Reactor Coupling Coefficients," CSR t-68-1, Center for Space Research, February, 1968.
3. G. D. Bouchey, B. V. Koen, C. S. Beightler, "The Optimal Allocation of Energy in Industrial and Agro-Industrial Complexes Using Dynamic Programming," *Nuc. Sci. and Engr.*, Vol. 41, 70-78 (1970).

4. B. V. Koen, "Self-Paced Instruction for Engineering Students," *Eng. Educ.*, Vol. 60, No. 7, March, 1970.

B. Major Technical Publications: (Continued)

5. B. V. Koen, "Self-Paced Instruction for Engineering: A Case Study," Paper No. 84, ASEE Annual Meeting, June, 1970.
6. B. V. Koen, "Engineering Education," Event No. 173, ASEE Annual Meeting, June, 1970.
7. W. W. Little, K. F. Hansen, E. A. Mason, B. V. Koen, "Stable Numerical Solutions of the Reactor Kinetics Equations," *Trans. Amer. Nuc. Soc.*, Vol. 7, 1, June, 1964.
8. B. V. Koen, K. F. Hansen, "Numerical Solution of the Coupled Core Equations," *Trans. Amer. Nuc. Soc.*, 1968 Annual Meeting, June 10, 1968.
9. B. V. Koen, "Learning to Learn," SPE of AIME, October 4-7, 1970, Houston, Paper No. 2951.
10. B. V. Koen, "Self-Paced Instruction in Engineering: A Case Study," *IEEE Trans. on Education*, February, 1971. (Modified Version of No. 5 Above; requested for release by IEEE; granted by ASEE).
11. B. V. Koen, "An Evaluation of an Introductory Nuclear Engineering Course Taught by a Self-Paced Method," *Trans. of Amer. Nuc. Soc.*, June, 1970.
12. G. F. Malan, B. V. Koen, "A Nonlinear Programming Approach to Optimal Control of Nuclear Reactors," *Trans. Amer. Nuc. Soc.*, November, 1970.
13. B. V. Koen, F. S. Keller, "Experiences with a Proctorial System of Instruction," *J. Eng. Educ.*, March, 1971.
14. G. D. Bouchey, C. S. Beightler, B. V. Koen, "Optimization of Nuclear Systems by Geometric Programming," *Nuc. Sci. & Eng.*, May, 1971.
15. B. V. Koen, "Improving Teaching: Modifying the Behavior of Professors," *J. of Eng. Educ.*, March, 1971.
16. G. D. Bouchey, B. V. Koen, C. S. Beightler, "Optimization of Nuclear Materials Safeguards Systems by Dynamic Programming," *Nuclear Technology*, 12, September, 1971.
17. B. V. Koen, C. Rombough, "Application of Queueing Theory to Closed-Loop Computer-Control Systems," *Trans. Amer. Nuc. Soc.*, Vol. 14, No. 1, 1971 Annual Meeting, June 13, 1971, p. 193.
18. L. L. Hoberock, B. V. Koen, C. H. Roth, G. R. Wagner, "Theory of PSI Evaluated for Engineering Education," *Amer. Soc. for Eng. Ed.*, Annual Meeting, June 20-21, 1971.

19. G. F. Malan, B. V. Koen, "Application of Nonlinear Programming to the Optimal Control of a Point Model Nuclear Reactor," *Nuc. Sci. and Eng.*, 46, p. 385, 1971.

B. Major Technical Publications: (Continued)

20. G. D. Bouchey, B. V. Koen, C. S. Beightler, "Optimization of Material Safeguards Sampling System," *Trans. of Amer Nuc. Soc.*, Vol. 14, No. 2, p. 664, Winter Meeting, 1971.
21. G. D. Bouchey, E. Linn Draper, B. V. Koen, C. S. Beightler, "Multiple Foil Activation Spectrum Determination Using a Numerical Direct Search Technique," *Trans. Amer. Nuc. Soc.*, Vol. 14, No. 2, p. 667, Winter Meeting, 1971.
22. B. V. Koen, C. S. Rombough, "Applications de la Théorie des Files D'Attente Aux Systemes de Contrôle des Reactors Nucléaires," Commissariat à L'Energie Atomique, Département de Sûreté Nucléaire, Service d'Etudes Techniques de Sûreté, Rapport No. 1, Février, 1972. (English Translation: "Applications of Queueing Theory to the Control of Nuclear Reactors").
23. B. V. Koen, "Quelques Idées Nouvelles Pour L'Evaluation de la Fiabilité," Commissariat à L'Energie Atomique, Département de Sûreté Nucléaire, Service d'Etudes Techniques de Sûreté, Rapport No. 2, Mars, 1972, (English Translation: "Advanced Concepts for Reliability Calculations").
24. B. V. Koen, "Application de la Reconnaissance des Formes aux Calculs de Fiabilité des Systemes," Commissariat à L'Energie Atomique, Département de Sûreté Nucléaire, Service d'Etudes Techniques de Sûreté, Rapport No. 5, Juin, 1972, (English Translation: "Application of Pattern Recognition to the Calculation of System Reliability").
25. B. V. Koen, "PATREC I: Programme pour le Calcul de la Fiabilité des Systemes par la Reconnaissance des Formes" Commissariat à L'Energie Atomique, Département de Sûreté Nucléaire, Service d'Etudes Techniques de Sûreté, Rapport No. 6, Juin, 1972, (English Translation: "PATREC I: Program for the Calculation of System Reliability Using Pattern Recognition").
26. B. V. Koen, "Methods Nouvelles Pour L'Evaluation de la Fiabilité: Reconnaissance des Formes," Commissariat à L'Energie Atomique, Rapport CEA-4368, Juin, 1972, (English Translation: "New Methods for the Evaluation of Reliability: Pattern Recognition").
27. B. V. Koen, "Determining Unit Structure in a PSI Course," Event 1725, American Society for Engineering Education Annual Meeting, June 19-22, 1972.
28. A. Carnino and B. V. Koen, "A New Method for the Evaluation of the Reliability of Complex Systems," *SRS Quarterly Digest*, System Reliability Service, United Kingdom Atomic Energy Authority, Risley, Warrington, Lancashire, Oct. 1, 1972.

29. B. V. Koen, "Determining Unit Structure in a PSI Course," *Eng. Educ.*, March, 1973.

B. Major Technical Publications: (Continued)

30. Hoberock, Koen, Roth, Wagner, "Theory of PSI Evaluated for Engineering Education," *IEEE Trans. on Education*, Vol. E5, No. 1, February, 1973, pp. 25-29.
31. James L. Macdonald, B. V. Koen, "An Artificial Intelligence Approach to Nuclear Reactor Control", *Trans. Amer. Nuc. Soc.*, Chicago, June, 1973.
32. B. V. Koen, Annick Carnino, "Calculation of System Reliability by Pattern Recognition," *Trans. Amer. Nuc. Soc.*, Chicago, June, 1973.
33. B. V. Koen, Annick Carnino, "Reliability Calculations with List Processing Techniques," *IEEE Trans. on Reliability*, April, 1974.
34. B. V. Koen, "Humanities and Engineering: Why Don't Engineers Read Books?", *J. of Eng. Ed.*, November, 1973.
35. B. V. Koen, "The Procrastination Problem," Event 2915, National ASEE Meeting, June 17-20, 1974.
36. James L. Macdonald, B. V. Koen, "Application of Artificial Intelligence Techniques to Digital Computer Control of Nuclear Reactors," *Nuc. Sci. & Eng.*, Vol. 56, No. 2, Feb. 1975, pp. 14251.
37. Charles T. Rombough, B. V. Koen, "Total Energy Investment in Nuclear Power Plants," *Nuclear Technology*, Vol. 26, No. 1, May 1975, pp. 5-11.
38. B. V. Koen, E. H. Wissler, J. P. Lamb, and L. L. Hoberock, "PSI Management: Down the Administrative Chain," *Eng. Educ.*, Nov. 1975, pp. 165-168.
39. B. V. Koen, "Calculation of Time Varying System Reliability Using a List Processing Technique," International Federation of Automatic Controls, IFAC 75.
40. B. V. Koen, J. L. Macdonald, "Monte Carlo Splitting Surface Identification by Pattern Recognition," *Trans. Amer. Nuc. Soc.*, San Francisco, California, November, 1975, p. 281.
41. Wallace Fowler, B. V. Koen, and Paul Nacozy, "We like to Lecture, BUT...," *THE Journal, Technological Horizons in Education*, April, 1976.
42. B. V. Koen, "Teaching Engineering Design by Authentic Involvement." Proceedings of the 1976 Joint Automatic Control Conference. Purdue University, July 27-30, 1976.

43. B. V. Koen, "Nuclear Reactor Engineering," one of a series of reports on the project titled *Expansion of Keller Plan Instruction in Engineering and Selected Other Disciplines*. The University of Texas at Austin, 1975.

B. Major Technical Publications: (Continued)

44. B. V. Koen, "Création d'une liste de structures pour un arbre de faute", Commissariat à L'Energie Atomique, Département de Sûreté Nucléaire, Service d'Etudes Techniques de Sûreté, December 1976, SETSSR No. 61 (f), (French Version).

B. V. Koen, "Creation of a Pattern List for an Input Fault Tree," Department of Nuclear Safety, French Atomic Energy Commission, December 1976, SETSSR No. 61 (e), (English Version).

45. B. V. Koen, "Introduction de lois de probabilité dans un code de reconnaissance des structures utilisant une structure de lists," Commissariat à L'Energie Atomique, Département de Sûreté Nucléaire, Service d'Etudes Techniques de Sûreté, SETSSR No. 62 (f), Février 1977. (French Version).

B. V. Koen, "Introduction of Probability Laws in a Pattern Recognition Code Using List Processing," Department of Nuclear Safety, French Atomic Energy Commission, February 1977, (English Version).

46. B. V. Koen, "Structuration d'un arbre par la liste 'ossature'," Commissariat à L'Energie Atomique, Département de Sûreté Nucléaire, Service d'Etudes Techniques de Sûreté, Mars 1977, SETSSR No. 63 (f).

B. V. Koen, "Tree Linkage Using Spine List," Department of Nuclear Safety, French Atomic Energy Commission, SETSSR No. 63 (e), March 1977, (English Version).

47. B. V. Koen, "Généralisation de la définition des noeuds dans le code PATREC," Commissariat à L'Energie Atomique, Département de Sûreté Nucléaire, Service d'Etudes Techniques de Sûreté, SETSSR No. 64 (f), (French Version).

B. V. Koen, "Generalizing Node Definition in PATREC code," Department of Nuclear Safety, French Atomic Energy Commission, SETSSR No. 64 (e), (English Version).

48. B. V. Koen, "Management of Pattern Library for a Pattern Recognition Code for Reliability Analysis," Department of Nuclear Safety, French Atomic Energy Commission, Rapport SETSSR, July 1977, (English Version).

49. M. Lorigeon, Billy Koen, "Création de bibliothèques de composants en vue de l'Evaluation de la fiabilité: compte-rendu d'avancements au 31 Juillet 1977," Commissariat à L'Energie Atomique, Département de Sûreté Nucléaire, Service d'Etudes Techniques de Sûreté, Rapport SETSSR.

50. B. V. Koen, "Construction Automatique d'Arbres de Défaillance,"
Commissariat à L'Energie Atomique, Département de Sûreté Nucléaire,
Service d'Etudes Techniques de Sûreté, Août 1977.

B. Major Technical Publications: (Continued)

51. Koen, Billy V. and Kling, Roger, "L'Enseignement personnalisé pour la formation des ingénieurs," mars 1977, European Journal of Engineering Education.
52. Koen, Billy V., "Education for Creativity in Engineering Design," Essential Elements in Engineering Education, S.E.F.I. Conference, Copenhagen 1977, Société Européenne pour la Formation des Ingénieurs Conference, (European Society for Engineering Education).
53. Blin, Carnino, Duchemin, Hervy, Jubault, Koen, Lanore, "The State of the Art of PATREC: A Computer Code for the Evaluation of Reliability and Availability of Complex Systems," NRC/20/1, National Reliability Conference, Nottingham, September 21, 1977.
54. J. P. Georgin, B. V. Koen, J. Dubau, "Estimation de taux de défaillance par estimateur James-Stein," Commissariat à L'Energie Atomique, Département de Sûreté Nucléaire, Service d'Etudes Techniques de Sûreté, Rapport DSN, February 1978, (French Version).

J. P. Georgin, B. V. Koen, J. Dubau, "Application of James-Stein Estimators in the Evaluation of the Phénix Reactor Data Bank," Department of Nuclear Safety, French Atomic Energy Commission, DSN Report, February 1978.
55. A. Blin, G. Jubault, A. Carnino, B. V. Koen, B. Duchemin, J. M. Lanore, H. Kalli, and A. Henry, "A Computer Code for Fault Tree Calculations: PATREC," ANS Topical Meeting, 1978.
56. B. V. Koen, "Behaviorism: A Smörgåsbord of Intellectual Tidbits from the Writings of Behavioral Theorists," ASEE Annual Meeting in Vancouver, British Columbia, Event No. 1220, 1978.
57. A. Blin, A. Carnino, B. Duchemin, G. Jubault, H. Kalli, B. V. Koen, J. M. Lanore, "PATREC: A Code for Fault Tree Calculations and Its Different Versions."
58. J. Dubau, B. V. Koen, J. P. Georgin, "Application of James-Stein Estimators in the Evaluation of the Phenix Reactor Data Bank," ANS Topical Meeting, May 8-10, 1978, Probabilistic Analysis of Nuclear Reactor Safety.
59. B. V. Koen, "Reevaluation of Nuclear Engineering PSI Course--Ten Years Later," *Trans. Amer. Nuc. Soc.*, 1980 Annual Meeting, Vol. 34, Las Vegas Nevada, June 9-12, 1980.
60. B. V. Koen, "Improving Teaching: A Modest Proposal," *J. Eng. Educ.*, January 1982.

61. J.R. Hill, A. Sharif Homayoun, and B.V. Koen, "Improving Failure Rate Estimation Using Parametric Empirical Bayes," 1982, Presented at the Department of Energy Statistical Symposium, pp. 145-152.

B. Major Technical Publications: (Continued)

62. B. V. Koen, J. R. Murphy, "Barrier Diagrams as Models for Reliability Analysis," *Trans. Amer. Nuc. Soc.*, 1983 Winter Annual Meeting, Vol. 45, p. 389-390, San Francisco, CA, Oct. 28.
63. J. R. Hill, A. S. Heger, B. V. Koen, "The Application of Stein and Related Parametric Empirical Bayes Estimators to the Nuclear Plant Reliability Data System", NUREG/CR-3637 (EGG-2295), April, 1984.
64. B. V. Koen, "Toward a Definition of the Engineering Method," Proceedings of the ASEE-IEEE Frontiers in Education Conference, Oct. 3-5, 1984, Philadelphia, Pa., pp. 544-549. (Won the Ben Dasher Best Paper Award for 1984.)
65. B. V. Koen, "Toward a Definition of the Engineering Method," *Eng. Ed.*, December, 1984, pp. 150-155. (Reprint of #63 above.) (Won the William Elgin Wickenden Best Paper Award for 1986).
66. Koen, Himmelblau, Jensen, Roth, "The Keller Plan: A Successful Experiment in Engineering Education," *Eng. Ed.*, Feb. 1985, pp.280-284.
67. Hill, J.R., B.V. Koen, and A. S. Heger, "Parameteric Empirical Bayes Methods for Failure Rate Estimation." Presented at the International ANS/ENS Topical Meeting, Methods and Applications, February 24-28, 1985.
68. B. V. Koen, "Toward a Definition of the Engineering Method," *The Bent of Tau Beta Pi*, Spring, 1985, pp. 28-33. (Reprint of #63 above.)
69. B. V. Koen, "Alternate Definitions of Engineering," ASEE 1986 Annual Conference Proceedings, Atlanta, Georgia, June 16-20, 1985.
70. F. A.Patterson-Hine, and B. V. Koen, "Implementation of PATREC Nuclear Reliability Program in LISP," *Trans. Amer. Nuc. Soc.*, 1986 Annual Meeting, San Francisco, November 10-14, 1985.
71. B. V. Koen, "Engineering Method and the State-of-the-Art," *Proceedings of 1985 Frontiers in Education Conference*, Golden, Colorado, October 20-22, 1985.
72. B. V. Koen, "Engineering Method and the State-of-the Art," *Eng. Ed.*, April 1986. (Reprint of #69 above.)
73. B. V. Koen, "A Theoretical Basis for Judging the Engineer," ASEE 1986 Annual Conference Proceedings, Cincinnati, Ohio, June 22-26, 1986.

74. B. V. Koen, " Current Thinking on How Artificial Intelligence Can Help the Design Process," 1986 ASEE Annual Conference Proceedings, Cincinnati, Ohio, June 22-26, 1986.

B. Major Technical Publications: (Continued)

75. B. V. Koen, "Generalization of Engineering Method to Universal Method," *Proceedings of 1986 Frontiers in Education Conference*, Arlington, Texas, October 12-15, 1986, pp. 265-270.
76. A. S. Heger, H. L. Marcus, and B. V. Koen, "An Intelligent Front End for Large Databases," *Materials Database Workshop Stanford*, June 1987.
77. B. V. Koen, "The Theory of Engineering Design: A Strategy for Cross-Cultural Analysis," *International Congress on Planning & Design Theory Proceedings*, August 1987, Boston, MA, pp. 11-13.
78. B. V. Koen, "Teaching AI by PSI," *Proceedings of 17th Annual Frontiers in Education Conference*, October 1987, Terre Haute, IN, Vol. 2, pp. 407-413.
79. B. V. Koen, A. S. Heger, "A Natural Language Interface for Nuclear Data Bases," *Trans. of American Nuclear Society Annual Meeting*, June 1987, Dallas, TX, Vol. 54, pp. 282-284.
80. B. V. Koen, D. B. Koen, "Implementation of PATREC Nuclear Reliability Program in PROLOG," *Trans. of American Nuclear Society Annual Meeting*, June 1987, Dallas, TX, Vol. 54, pp. 54-55.
81. B.V. Koen, F.A. Patterson-Hine, "System Safety and Reliability Using Object-Oriented Programming Techniques," *Trans. of American Nuclear Society Winter Annual Meeting*, November 1987, Los Angeles, CA, Vol. 55, pp. 431-432.
82. B.V. Koen, F.A. Patterson-Hine, "Comment on: An Algorithm for Exact Fault Tree Probabilities without Cut Sets," *IEEE Trans. on Reliability*, Vol. R-36, No. 5, Dec. 1987, pp. 640-641.
83. B.V. Koen, "A Laboratory in the Classroom: Teaching AI Computer Programming," *Proceedings of ASEE Gulf-Southwest Section Annual Meeting*, March 1988, San Antonio, TX, pp. 52-57 (winner of Best Paper Award).
84. B.V. Koen, "Engineering Method: Its Definition, Implementation, and Rule of Judgment," *Proceedings of 14th International Conference on Improving University Teaching*, June 20-23, 1988, Umea, Sweden (invited speaker).
85. Heger, A.S., Patterson-Hine, F.A., Harrington, R.J. and Koen, B.V., "Reliability Database Development for Use with an Object-Oriented Fault Tree Evaluation Program,"
86. B.V. Koen, "Engineering Method: Its Definition, Implementation, and Rule of Judgment," Modern Design Principles in View of Information Technology, K. Jakobsen (ed.), Tapir Publishers, 1988, pp. 27-40.

87. Heger, A.S., Patterson-Hine, F.A., Harrington, R.J. and Koen, B.V.
"Relational Reliability Database Development For Use With An Object-Oriented Fault Tree Evaluation Program," Proceeding of 1989 Reliability

B. Major Technical Publications: (Continued)

& Maintainability Symposium, January 1989, Atlanta, GA, pp.

88. B.V. Koen, "Toward A Definition Of The Engineering Method," European Journal of Engineering Education, Vol. 13, No. 3, 1988, pp. 307-315.

89. B.V. Koen, F.A. Patterson-Hine, "Object-Oriented Fault Tree Evaluation Program For Quantitative Analyses," Proceedings of the Fourth Conference on Artificial Intelligence for Space Applications, November 15 and 16, 1988, Huntsville, Alabama, pp. 1-9.

90. A.S. Heger, Billy B. Koen, "KNOWBOT: A Self-Organizing Interface for Nuclear Data Bases," Annual Winter meeting of the American Nuclear Society, Washington, D.C., November, 1988, pp. 258-259.

91. A.S. Heger, F.A. Patterson-Hine, R.J. Harrington, B.V. Koen, "Relational Reliability Database Development For Use With An Object-Oriented Fault Tree Evaluation Program," Proceeding of 1989 Reliability & Maintainability Symposium, January 1989, Atlanta, GA, pp.

92. B.V. Koen, F.A. Patterson-Hine, "Direct Evaluation of Fault Trees Using Object-Oriented Programming Techniques," IEEE Transactions on Reliability, Vol. 38, No. 2, June 1989, pp. 186-192.

93. A.S. Heger, and B. V. Koen, "Development of an Adaptive Interface for Nuclear Data Bases," Transactions from the Annual Winter meeting of the American Nuclear Society, San Francisco, November 1989., Vol. 60, pp. 192-93.

94. A.S. Heger, and B.V. Koen, "An Adaptive Interface (KNOWBOT) For Nuclear Power Industry Databases," Proceedings of the Twelfth Annual Ideas in Science and Electronics Exposition and Symposium, Albuquerque, NM, May 8-10, 1990, pp. 123-151.

95. B.V. Koen, "An Heuristic Look at the Difference in Engineering Design in The United States and Japan," Proceedings from 19th International Symposium of the Frontiers in Education (ASEE), Institute for Electrical and Electronics Engineers (IEEE) and International Society for Engineering Education (IGIP), Vienna, Austria, July 2-4, 1990, pp. 534-536.

96. Koen, B.V. and Ann Patterson-Hine, "Object-Oriented Fault Tree Evaluation Program for Quantitative Analysis", submitted for NASA Technical Brief.

97. A.S. Heger and B.V. Koen, "KNOWBOT: An Adaptive Data Base Interface," Nuclear Science and Engineering, February 1991, Vol 107, #2, pp. 142-157.

98. A.S. Heger and B.V. Koen, "Good Relationships Are Pivotal in Nuclear Databases," Nuclear Safety Journal, October-November 1990, Vol. 31, No. 4, pp. 458-459.

B. Major Technical Publications: (Continued)

99. A.S. Heger and B.V. Koen, "Nuclear Data Technology, the Key is Information," Nuclear Safety Journal 31, 1990, p. 458.
100. A.S. Heger and B.V. Koen, "Nuclear Data Technology, the Key is Information," Nuclear Safety Journal 32, 1991, pp. 142-157.
101. B.V. Koen, "Professional Judgment in Engineering," Ethical & Policy Issues, Perspectives on the Professions, Vol. 11, No. 2, January 1992, pp. 4-5.
102. B.V. Koen, "A Heuristic Look at the Differences in Engineering Design," The Intl. Journal of Engineering Education, Vol. 7, #6, pp. 487-489, 1992.
103. B.V. Koen, "How The Academic Community Views Continuing Education, Keynote Address for the Continuing Education for Construction Professionals Symposium, National Academy of Sciences, March 3, 1993,
- 104 C.A. Fisher, T. Cochrane, B.V. Koen, J.D. Lang, R.V. Pieri, H.J. Sneck, J.R. Dixon, J.F. Lardner, H.R. MacKenzie, F.B. Prinz, and D.S. Ullman, "Design Methodology and New Paradigms for Design," Innovations in Engineering Design Education, A Compendium to the 1993 ASME Design Education Conference, March 24-26, 1993, Orlando, Florida, ASME 1993, pp 81-84.
105. B.V. Koen, "Teaching Engineering Design: A Case Study in Behavior Modification," Proceedings of ASEE Gulf-South Section Annual Meeting, The University of Texas at Austin, Austin, TX, Vol. 1, pp. 17-21, April 1-2, 1993.
106. B.V. Koen, "Creation of Student Academic Passports," Proceedings of ASEE Gulf-South Section Annual Meeting, The University of Texas at Austin, Austin, TX, Vol. 1, pp. 225-230, April 1-2, 1993.
107. B.V. Koen and A. S. Heger, "Evaluation of Introductory Nuclear Course Taught by Self-Paced Method: Twenty Two Years Later, American Nuclear Society, San Diego, CA, June 20-24, 1993, pp.
108. B.V. Koen and A.S. Heger, "Engineering Application of Computer-Based Instruction," Special Session on Performance-Based Training Principles for University Education, Annual Summer meeting of the American Nuclear Society, June 1993 Proceedings.
109. A. Sharif Heger, B. V. Koen and H.F. Wegmann, "Parallel Processing of Fault Trees on a Locally Distributed Multiprocessor Network," IEEE Transactions on Reliability, Vol. 42, No. 3, pp. 436-441, Sept. 1993.

110. B.V. Koen, "Accessing The World," Workshop 9, 1993 Frontiers in Education Conference, Nov. 6-9, 1993, Washington D.C., pp. 25-26.

B. Major Technical Publications: (Continued)

111. B.V. Koen, "Toward a Strategy for Teaching Engineering Design," *Journal of Engineering Education*, Vol. 83, #3, pp. 193-201, July 1994.

112. B.V. Koen, "How The Academic Community Views Continuing Education," *Cont. Edu. for Construction Professional Summary of a Symposium*, Technical Report, No. 124, pp. 20-24, 1994.

113. A. Leuba and B.V. Koen, "Eliminating Order Dependency of Classification in Artificial Resonance Theory (ART1) Networks," *Proceedings from Applications & Science of Artificial Neural Networks*, SPIE Proceedings, Vol. 2492, April 20, 1995.

114. A. S. Heger and B.V. Koen, "Finding Patterns of Concern in Nuclear Safety Data," *AAAS-AMSIE '96, Intelligent Agents: Software Assistants in Finding, Retrieving, and Analyzing Information*, Baltimore, Maryland, February 1996.

115. B.V. Koen, "Use of Internet Relay Chat (IRC) in Distributed Consensus Forming", 1996 Annual Meeting of the Gulf Southwest Section of ASEE, University of Texas at San Antonio, San Antonio, TX, March 28, 1996, pp. 459-464.

C. Reviews and Editorships

1. 1970 Fall Joint Computer Conference, Houston, Paper Review and Session Chairman.
2. Review articles for IEEE (Education).
3. Review on Self-Paced Materials for Houghton Mifflin Company.
4. Review for *Science*.
5. Reviewer for National Science Foundation.
6. Paper Review Chairman, PSI Symposium, U. of Texas at Austin, May 1974.
7. Section Editor of *Educational Research and Methods Magazine*.
8. Paper Reviewer and Session Chairman, National ASEE meeting, June 1974.
9. ERM Division Program Chairman, National ASEE Meeting, June 1975.
10. Editor, *Trans. in Eng. Ed.* (a special journal replacing the Dec. 1975 issue of *Eng. Ed.*)
11. Reviewer for McGraw-Hill.

12. Associate Editor for *Journal of Personalized Instruction*.

D. Invited Lectures:

1. "Description of an Engineering Course for Liberal Arts Honor Students," ASEE Gulf Southwest Section Meeting, 1970.
2. "Self-Paced Instruction," Salado Summer Teaching Effectiveness Institute, July 1970.
3. "Self-Paced Instruction," Rose Polytechnic Institute, Oct. 27, 1970.
4. "Self-Paced Instruction in Engineering Education," Teaching Effectiveness Luncheon, College of Engineering, March 16, 1970.
5. "Self-Paced Instruction," Graduate School of Library Sciences, Nov. 10, 1970.
6. "Pattern Recognition: Applications in Nuclear Engineering," Physics Department, Baylor University, Nov. 23, 1970.
7. "The Teaching of the Methodology of Engineering to Large Groups of Non-Engineering Students," ASEE Gulf Southwest Section, 1971.
8. "Experience with Self-Paced Instruction," Moderator of Panel at Teaching Effectiveness Luncheon, College of Engineering, February 11, 1971.
9. "Self-Paced Instruction," Vanderbilt University, April, 1971.
10. "Self-Paced Instruction," Mississippi State University, May 7, 1971.
11. "Educational Methods," Resource Speaker, Eighth Annual Institute for Engineering Deans, ASEE, April 5-7, 1971, hosted by the College of Engineering, The University of Texas at Austin.
12. "Experiences with Self-Paced Instruction at U. T. Austin," Junior Colleges, July 12, 1971.
13. "Mechanics and Psychology of Learning," Panel, Edison Electric Institute, National ASEE Meeting at Annapolis, June, 1971 (Event No. 30).
14. Presenter at Plenary Session, National ASEE at Annapolis, June, 1971, (Multi-Media-PSI) No. 43.
15. "Self-Paced Instruction," Rockdale Rotary, August 17, 1971.
16. "Self-Paced Instruction," College Teaching in Engineering and the Natural Sciences, sponsored by the Bureau of Engineering Teaching, October, 1972.

17. Invited speaker and panel participant at PSI conference sponsored by Chancellor's Office, the California State University and Colleges, November 18-19, 1972, Long Beach, California.

18. "PSI", Colorado State University, April 11, 1973.

D. Invited Lectures: (Continued)

19. Consultant in PSI, Colorado State University, July 2-6, 1973.
20. "PSI," Tenth Annual Industrial Associates, July 24, 1973.
21. "PSI," The University of California at Davis, June, 1973.
22. "PSI," Massachusetts Institute of Technology, Conference on Self-Paced Instruction, October, 1971.
23. "PSI," The University of Texas, Student-Faculty Education Council, December 1, 1972.
24. "PSI," Effective Teaching Institute at Texas A&M, October 1973.
25. Two PSI panels, Events 69 and 70, National meeting of American Institute of Chemical Engineering, New Orleans, March 11-15, 1973.
26. "PSI," Danforth Foundation, Conference at Vail, Colorado, April 13-15, 1973.
27. "PSI," American Institute for Decision Sciences, New Orleans, February 1974.
28. "PSI," Third Annual Oklahoma Conference on Chemical Education, January 4-5, 1974, Arrowhead Lodge.
29. First National Conference on PSI, feature speaker, Washington, D.C., April 5-6, 1974.
30. PSI Workshop, Puerto Rico, March 1974.
31. Creative Change Workshop, sponsored by Chancellor's Office, California State Universities and Colleges, Kellogg-West, Pomona, April 21-23, 1974.
32. Session chairman, PSI Symposium, The University of Texas at Austin, May 1974.
33. "PSI in Nuclear Engineering," PSI Symposium, The University of Texas at Austin, May 1974.
34. Workshop on PSI, sponsored by National AICHe, Pittsburgh, Penn., June 2, 1974.
35. "PSI," University of Maine at Orono, July 2, 1974.
36. "Advances in Self-Paced Engineering Education," Bell Laboratories, Holmdel, New Jersey, August 6, 1974.

37. "Application of the Keller Plan (PSI) to Engineering Education," Carnegie-Mellon, October 22, 1974.

D. Invited Lectures: (Continued)

38. "Workshop on PSI," Faculty Development Resource Center, 2nd Annual Fall Faculty Workshop, November 1-3, 1974, U. T. Arlington.
39. "Engineering: A Man-Made World," Gulf Coast Chapter of Texas Society of Professional Engineers, Freeport, Texas, Nov. 19, 1974.
40. "The View From Within," ASEE Gulf Southwest Section Meeting, 1975.
41. "The Improvement of Undergraduate Teaching," G.S. 323-Self and the Campus Society, The University of Texas at Austin, March 11, 1975.
42. "Introduction to PSI," Wright State University, Dayton, Ohio, April 7, 1975.
43. "Introduction to PSI," Ohio State University, Columbus, Ohio, April 9, 1975.
44. "An Evaluation of the Keller Plan and the Natural Sciences," Nine Great Lakes Regional Meeting of the American Chemical Society, St. Paul, Minnesota, June 5, 1975.
45. Workshop on PSI for the Production Training Department of Shell Oil Company, July 29, 1975.
46. Consultant to the CACHe Conference on Designing Modules, at New Seabury, Massachusetts, August 19-21, 1975.
47. "Calculation of Time Varying System Reliability Using a List Processing Technique," Conference of International Federation of Automatic Control, Boston, Massachusetts, August 26, 1975.
48. Workshop on PSI, Logan, Utah, December 2, 1975.
49. Workshop on PSI, Mexico City, Feb. 26-27, 1976.
50. "Mastery in Competency Based Education," ASEE Gulf-Southwest Section Meeting, Arlington, Texas, March, 1976.
51. "Teaching Engineering Design," University of Michigan, March 22-23, 1976.
52. Invited speaker, Third National Conference on PSI, Washington, D. C., May 6-8, 1976.
53. Fulbright International Education Regional Conference, May 10, 1976.
54. Workshop on PSI, Baylor University, Waco, Texas, April 1, 1976.

55. "Teaching Engineering Design by Authentic Involvement," July 29, 1976,
The Joint Automatic Control Conference held at Purdue University.

D. Invited Lectures: (Continued)

56. "L'Ingénieur en France et à l'Etranger," Invited Panel, Ecole Centrale, May 25, 1977, Paris, France.
57. "Conference des Grandes Ecoles," Journée d'Etudes 11 mars, 1977, a L'Ecole Polytechnique, Palaiseau.
58. "Les Nouvelles Techniques d'Ingénierie dans les Ecoles aux U.S.A., Ecole Centrale, Paris, France, December, 1976.
59. "PSI-Recent Work," University of Surrey, Guildford, Surrey, England, July 12 and 13, 1977.
60. Chairman, "Une Petite Reunion sur le Systeme Personnalisé d'Enseignement," U.N.E.S.C.O., Paris, France, January 12, 1977.
61. Autocrats at the Breakfast Table, Frontiers in Education Conference, "ERM Priorities and Directions," October 17, 1979, Niagara Falls.
62. Austin Area Engineering Exes Meeting, "PSI in Mechanical Engineering," September 1979, Austin, Texas.
63. "Technological Illiteracy," Austin Rotary Club, 1980.
64. "The Theory of Engineering Design," Clemson University, Sept. 1983.
65. "Comparison of the Educational System in France and the United States from Grade School Through College," L'Ecole Nationale D'Ingénieurs Sfax (L'ENIS), Tunisia, Academy for Educational Development, Tunisian Technology Transfer Project, Jan. 1984, (in French).
66. "Various Pedagogical Strategies Used in Engineering Education in the United States," L'Ecole Nationale D'Ingenieurs Sfax (L'ENIS), Tunisia, Academy for Educational Development, Tunisian Technology Transfer Project, Jan. 1984, (in French).
67. "The Theory of Engineering Design," Colorado School of Mines, April 1984.
68. National Effective Teaching Institute, Georgia Institute of Technology, June 1985.
69. "Aids to Education," The University of Texas at Austin Mechanical Engineering Department Visiting Committee Spring 1986 Meeting, March 1986.

70. "Engineering Method: Its Definition, Implementation, and Rule of Judgment," International Seminar on Modern Design Principles, Trondheim, Norway, June 13-15, 1988.

71. University of Texas High School Honors Colloquium, July 22-23, 1988.

D. Invited Lectures: (Continued)

72. Plan II - Engineering Student Group, October 19, 1988.
73. Austin Area High School Career Day, October 19, 1988.
74. The First National Conference on Effective Communication Skills For Technical Professionals, Greenville, S.C., November 15-16, 1988.
75. "The Philosophy of Technology: Generalization of Engineering Method To Universal Method," local Mensa Group, January 20, 1989.
76. Speaker at the Natural Science Honors Brown Bag Luncheon - March 24, 1989.
77. "Quo Vadis Design - An American Council on Engineering Design?", NSF Engineering Design Conference in Amherst, Massachusetts, June 13, 1989.
78. University of Texas Honors Colloquim, July 20-22, 1989
79. "Teaching Creativity in Engineering Design" at the American Society for Mechanical Engineering International Computers in Engineering Conference in Anaheim, CA., July 29-Aug 2, 1989.
80. "Noses and Thumbs: An Engineer Looks At His Role in Society or A Theoretical Analysis of the Interaction Between The Engineer and Society," at Tri-State University, October 15, 1989.
81. "The Theory of Engineering Design," Engineers in Plan II, October, 1989.
82. Austin Area High School Career Day, October, 1989.
83. The Second National Conference on Effective Communication Skills For Technical Professionals, Greenville, S.C., December 12-13, 1989.
84. "Project Activities of ASEE," CIEC Conference, Orlando, Florida, February 5, 1990.
85. "The Theory of Engineering Design," University of New Mexico, Chemical and Nuclear Engineering Department, Albuquerque, NM, April 10, 1990.
86. "Challenges in Engineering Education for the 21st Century," Main Plenary Speaker at 19th International Symposium of the Frontiers In Education (ASEE), Institute for Electrical and Electronics Engineers (IEEE) and International Society for Engineering Education (IGIP), Vienna, Austria, July 2, 1990.
87. "The Philosophy of Technology," Graduate Student/Faculty Forum for the Wesley Foundation of Austin, Inc., October 26, 1990.

88. Speaker at The Seventh Effective Teaching Institute for Faculty at the University of Cincinnati, Ohio, May 22, 1991.

D. Invited Lectures: (Continued)

89. "Engineering Education: Alternative Models", Vision 2020: Engineering Education Convocation, Texas A&M University, August 26, 1991.
90. "Definition of the Engineering Method", talked to an ME Design class taught by Professor Alice Agogino at The University of California by speaker phone, September 10, 1991.
91. "How The Academic Community Views Continuing Education," Keynote Address for the Continuing Education for Construction Professionals Symposium, National Academy of Sciences, Washington, D.C., March 3, 1993.
92. "Creation of Student Academic Passports," University of Missouri-Rolla, Invited by Vice-Chancellor, March 10-11, 1993.
93. "Teaching Engineering Design," 1992-93 Effective Teaching Luncheon and Seminar, The Bureau of Engineering Teaching College of Engineering, The University of Texas at Austin, Austin, TX, March 23, 1993.
94. "Teaching Engineering Design: A Case Study in Behavior Modification," ASEE Gulf Southwest Section Annual Meeting, The University of Texas at Austin, Austin, TX, April 1, 1993.
95. "Creation of Student Academic Passports," ASEE Gulf Southwest Section Annual Meeting, The University of Texas at Austin, Austin, TX, April 2, 1993.
96. "PSI: Still Relevant," Session 1630, ERM Historical Highlights, University of Illinois, June 21, 1993.
97. "Accessing The World," Workshop 9, Frontiers In Education Conference, Washington, D.C., November 6-9, 1993.
98. "Definition of Engineering Design", Trinity University, San Antonio, TX, March 24, 1994.
99. "Design is Behavior," presented to the Faculty of Colorado School of Mines, Golden, CO, April 13, 1994.
100. "A Definition of the Engineering Method", Honors Symposium, Colorado School of Mines, Golden, CO, April 13, 1994.
101. "PSI In Engineering Education," *Tokyo Institute of Technology*, O-okayama, Meguro-ku, Tokyo, Japan, June 7, 1994.
102. "Use of Internet in Engineering Education," *Tokyo Institute of Technology*, O-okayama, Meguro-ku, Tokyo, Japan, June 13, 1994.

103. "Current Research in Educational Technology in American Colleges of Engineering," *The Institute of Electronics, Information and Communication*

D. Invited Lectures: (Continued)

Engineers, Tokyo Institute of Technology, O-okayama, Meguro-ku, Tokyo, Japan, July 23, 1994.

104. "Accessing The World," Frontiers In Education Conference, San Jose, CA, November 2-7, 1994.
105. Plan II Senior Thesis Symposium, Saturday, March 2, 1996 at Joe. C. Thompson Conference Center, Austin, TX.
106. "Introduction to Internet" Seminar at the University of Detroit at Mercy in Detroit, MI, March 2-5, 1995.
107. Speaker at the McKettafest Colloquium, honoring Dr. John McKetta on October 27, 1995 at The University of Texas at Austin.
108. "Use of Internet Relay Chat (IRC) in Distributed Consensus Forming", 1996 Annual Meeting of the Gulf Southwest Section of ASEE, University of Texas at San Antonio, San Antonio, TX, March 28, 1996.
109. "Distributed Consensus Forcing Over Internet, Breakfast of Champions, 1996 ASEE Annual Conference, Washington, D.C., June 26, 1996.

E. Reports

Fred S. Keller and Billy V. Koen, editors, "The Personalized System of Instruction: State of the Art 1976," a report to the Alfred P. Sloan Foundation prepared by Engineering Institutes, The University of Texas at Austin.

GRANTS AND CONTRACTS:

1. "Optimal Direct Digital Control of Distributed Parameter Nuclear Reactor Systems," NSF Research Initiation Grant, 1960-70, \$14,300.
2. Research Appointment, Bureau of Engineering Research, Summer, 1970.
3. Fulbright Travel to France, 1971, \$700.
4. URI Grant to France, 1971, \$7,000.
5. Project C-BE (Associate Investigator), NSF , 1972-73, \$3,045.
6. PSI Associate Investigator, Sloan Foundation, 1973-75, \$10,000.
7. Creation of Learning Center, Academic Development, May 1974, \$10,000.
8. Creation of Learning Center, Office of the President, 1974, \$19,000.

9. "Theoretical Evaluation of Nuclear Reactor Reliability Using List Processing Techniques," Principal Investigator, Bureau of Engineering Research, 1975-76, \$4,818.

GRANTS AND CONTRACTS: (Continued)

10. "State-of-the-Art of PSI," Meeting, Alfred P. Sloan Foundation Grant, 1976, \$20,000.
11. URI Grant to France, 1976, \$9,350.
12. Center for Energy Studies, 1978, \$4,500.
13. Small Travel Grant, British Council.
14. "Application of James-Stein Estimators in the Evaluation of the NPRDS Reactor Data Bank," Nuclear Regulatory Commission, \$69,000 (in conjunction with E.G.& G.), Oct. 31, 1982.
15. "Discussion of Method: The Theory of Engineering Design," Alfred P. Sloan Foundation Grant, 5/21/80-8/31/81, \$20,000.
16. "Discussion of Method: The Theory of Engineering Design," Alfred P. Sloan Foundation Grant, 1/81-6/82, \$20,000.
17. Grant of INTEL SYS 310 Microcomputer System, Intel Corporation, 1984, \$10,000.
18. Grant of Texas Instrument Explorer Lisp Machine, T.I. Corporation, 1986, \$73,000.
19. "Teaching A.I. Programing for Engineering Applications," PROJECT QUEST, 1986, \$10,500.
20. "List Processing Techniques Applied to the Reliability Analysis of Complex Systems," National Science Foundation, 5/1/87 - 4/30/90, \$155,421.
21. "Object-Oriented Programming Applied to the Evaluation of Reliability Fault Trees," NASA Graduate Student Research Grant, 6/87 - 5/88, \$18,000.
22. "Design Synthesis For Novel Engineered Devices," Texas Advanced Research Program, 11/1/89-5/31/91, \$138,896.
23. Bureau of Engineering Teaching: Creation of Student Academic Passport as Advising Aid: \$7,500.
24. Two T.I. MicroExplorers, Special Equipment Grant, UT Eng. Dean's Office, November 21, 1988, \$33,028.
25. Creation of Academic Passports, Academic Development Funds, Dean's Office, 1988, \$10,000.

26. Design Synthetic Reasoning: A Computational Model For Mechanical System Design Synthesis," (Consultant with Kurt Marshek, January, 1990), \$3,000.

GRANTS AND CONTRACTS: (Continued)

27. "Use of Engineering Heuristics in Engineering Design and Engineering Design Education in Japan," NSF-CGP Science Fellowship Program, May 10, 1994, \$18,150.

28. "Assigning, Grading, and Monitoring PSI Units in a Course in Artificial Intelligence Over Internet: An Experiment in Distance Learning", Project Quest, \$3,235, July 7, 1994.

Revised: 10/7/96 (General)