

Elizabeth A. Rauscher, Ph.D.

World-renowned physicist, researcher and presenter

PROFESSOR ELIZABETH A. RAUSCHER, Ph.D.

**President
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Apache Junction, AZ 85219**



- Ph.D. and M.S. in Astrophysics, Nuclear Physics and engineering, B.S. Physics and Chemistry, University of California, Berkeley.
- Nuclear scientist and astrophysicist and researcher at Lawrence Berkeley National Laboratory (LBNL) (1962-1979).
- Navy grants through University of California, Berkeley (1970-1974) and through Tecnic Research Laboratories (1983, 1990-1991).
- Researcher at Stanford Research Institute (SRI International) Radio Physics Laboratory (1974-1978), concurrent position.
- Chairman, Fundamental Physics Group (FPG) at Lawrence Berkeley National Laboratory (LBNL) (1974-1977).
- Staff Researcher, Theory Group, Lawrence Livermore National Laboratory (LLNL) (1966-1969).
- Professor of Physics and General Science at John F. Kennedy University of California (1978-1984).
- Research Consultant to NASA (1983-1985), and Stanford SLAC (1971-1972).
- Professor and graduate student advisor, Department of Physics at the University of Nevada, Reno (1990-1998).
- Member of APS, IEEE, , AAAS, MAA, ANA, AAMI.
- Served on Congressional OTA Advisory Committee (1970-1980).
- Delegate and advisor to the United Nations (1979, 1989, 2002).
- President of Tecnic Research Laboratories (TRL), San Leandro, CA (1979-1988), and partner Tecnic Research Laboratory of Apache Junction, AZ (1988-2004) and sole proprietor (2004-present).

- Stanford University Grant in astrophysics (1997-1999), and Event Horizons (1999-present).
- President and board of directors of six non-profit 501(c)3 Organizations. Currently President of Electromagnetic Signal Laboratory of Arizona (2003-present).
- Consulting research and invited lectures in U.S., England, Europe, Korea, Japan, China, India, Africa, Singapore, Iceland, Canada, Mexico, Bermuda, and South America.
- Author of 275 scientific papers and 6 books, and 3 U.S. patents and one European patent.
- Co-inventor with W.L. Van Bise of non-superconducting magnetic detector; external magnetic pacemaker, and pulsed magnetic pain control system (issued patents in the U.S. and Europe).
- Main field of research: Nuclear and Atomic Physics, Astrophysics and Cosmological Models, Plasma Physics, Biomedical Engineering and Geophysics Monitoring and Data Analysis.
- Has received numerous awards and grants and is listed in eleven Who's Who, including Marquis' Who's Who, and Men and Women in Science and Technology.

QUALIFICATIONS FOR ADMINISTRATION, DIRECTORSHIP, RESEARCH AND TEACHING OF

Prof. Elizabeth A. Rauscher, Ph.D.

A. Academic Research

Dr. Elizabeth A. Rauscher was associated with the University of California, Berkeley (UCB), Lawrence Berkeley National Laboratory (LBNL) from 1964 until 1979, first as a graduate student and then as a research staff member. From 1964 until 1966 she was with the theoretical nuclear science division and from 1966-1969, with the Lawrence Livermore National Laboratory (LLNL) Theoretical Nuclear, Plasma and Astrophysical Program. From 1969 until 1974 she was associated with the theoretical particle physics group and from 1974 until 1977 she was associated with the Nuclear Science Theoretical and experimental Bevatron accelerator program from 1977 until 1979 she was on staff with the Nuclear Physics G.T. Seaborg research group.

Dr. Rauscher held concurrent invited positions at the Stanford Linear Accelerator Center (SLAC) from 1971 to 1972 and was a consultant of the Stanford Research Institute (SRI) Radio Physics Laboratory 1974-1977 in theoretical relativistic physics. She also held a Navy grant from 1970-1974 through U.C. Berkeley and also she held an Air Force consulting position in 1979 an antennae theory and in 1979 and 1989, she was a delegate to the United Nations on long term energy sources and environmental issues. As a consultant and adjunct professor at the University of Nevada, she conducted theoretical research and advised experimental programs on fast light ion-atom collisions, primarily helium to calculate high resolution extreme ultraviolet (EUV) emission cross sections 1990-1995 in which she worked with faculty and graduate students in completing their graduate programs. From 1997-1999 she conducted research on generalized quantum theory and relativistic

invariance under a Stanford Engineering research grant.

B. Program Development, Administration and Committees

Administrative experience, program and group leadership and committee activities are listed. These projects involved the knowledge and ability to coordinate, integrate, organize and deal with interpersonal relationships of administrators, faculty, students and employees, as well as budgetary programs. Also utilized was the ability to present information in written, graphical and oral presentation for.

Dr. Rauscher served on the academic oversight committee on women in academia at UCB (1969-1971), was on the Radiation Safety Committee (1972) at LBNL, set up successful training and advancement programs for LBNL employees (1969-1973), organized and chaired coordinating and review committee for minority students and employee programs for recruitment and training at UCB and LBNL (1970-1973) and met on a regular basis with LBNL Directors Edwin McMillan and later with Andrew Sessler on laboratory policy issues, organized and chaired the Fundamental Physics group at LBNL (1974-1977) in which over forty physicists, biophysicists and sociologists participated, directed solar physics research program at LLNL (1966-1967), vice president academic senate at JFK University (1980-1982), elected president of the PRG psychology and interdisciplinary nonprofit program in San Francisco, CA (1980-1986), board of directors MIT habitat research program, conducted in Santa Barbara, CA (1975-1978), organized new section of the IEEE, Tesla Centennial (1984-1988), elected president of the N.W. Center for the study of Non-Ionizing Radiation (1991-1993), delegate and adviser to the United Nations (1979, 1989) as previously stated, President and Research Director of Tecnic Research Laboratories of California (1979-1988) which held NASA, Navy, Air Force and academic and industrial consulting contracts and also DOE, DOD and private industry grants, vice president Magtek laboratories, Inc. of Nevada conducting biomedical and bioengineering research and conducting FDA studies (1988-1993), advised Reno City Planning Commission (1992) and partner Tecnic Research Laboratory of Arizona (1998-present).

Dr. Rauscher has given invited talks and chaired technical meeting sections as well as conducted consulting projects internationally in the United States, Canada, Mexico, Brazil, England, France, Spain, India, North Africa, Korea, Japan, Singapore and Iceland. She has published over 200 papers, talks, books, book chapters, patents, and has participated in extensive public lecturing, television, and radio interviews on science topics, science and society and the sociology and history of science.

C. Government and Industrial Positions

In 1979, she started her own company, Tecnic Research Laboratories (TRL) of California which held a number of government and private industrial grants and contracts. She held a Navy contract in 1983, 1990, 1991 on ionospheric studies and from 1983 until 1985, she had a NASA space shuttle project contract under TRL to increase the integrity of welds under plasma arc welding. Also she had, under TRL, a contract with Primary Energy Technology on quantum effects in semiconductors from 1980 to 1982 as well as a number of other contracts and grants under TRL. The Navy and NASA projects were conducted with Dr. William Van Bise.

Dr. Rauscher held a number of other consulting positions in private industry, such as DuPont Control Corporation, Los Angeles, renewable energy systems, 1979, Primary Energy Technology, LA, solid state quantum electronics (1980-1982), Bioelectronic Corp., LA, high temperature superconductors, 1981-1982, Technion Corp, New York, quantum electronics, 1977, Assentia Research Associates, Amherst, Wisconsin, plasma gas discharges (1977-1981).

Dr. Rauscher and William Van Bise, D.Sc. developed a sensitive non-superconducting magnetic field detector, rivaling the sensitivity of the "SQUID", about 10^{-11} Gauss, which is patented. They have conducted over twenty years of extensive research on low frequency, low intensity magnetic field measurements and theoretical model development.

Dr. Van Bise and Dr. Rauscher coinvented and developed devices and procedures to normalize cardiac functioning and reduce pain utilizing pulsed magnetic fields. She conducted detailed data analysis and developed the detailed mathematical models for these patented inventions and protocols for clinical studies.

D. Teaching Positions and Classes Taught

Dr. Rauscher has taught lower and upper division mechanics, graduate course in classical mechanics and general relativity and a seminar series in astrophysics, undergraduate electromagnetism, lower division mathematics and undergraduate laboratories, and upper division and graduate thermodynamics at the University of California, Berkeley (UCB), 1964, 1971-1974. She also proposed, developed and taught a course in scientific method and the philosophy and history of science at UCB 1971 and 1973 and by invitation at Stanford 1972 and also by invitation and also at J.F. Kennedy University, CA, 1978 through 1984. Dr. Rauscher conceived, started and chaired the Fundamental Physics seminar group at LBNL on the foundations of quantum mechanics and Bells theorem from 1974 to 1977. She supervised Ph.D. students, M.S. students and numerous undergraduate students on special projects at UCB, JFK University and University of Nevada, NV, UNR. She received excellent recommendations from faculty and students and many research papers and several books resulted from the Fundamental Physics Group.

E. Thesis Topics

1. M.S. Thesis, "Effects of Collective Excited States on Alpha Particle Barrier Penetrability," University of California, Lawrence Berkeley National Laboratory, UCRL-11875, 1965.
2. Ph.D. Thesis, Coupled Channel Alpha Decay Theory for Even and Odd-Mass Light and Heavy Nuclei," University of California, Lawrence Berkeley National Laboratory, LBL-7194, 1978. Thesis advisor Glenn T. Seaborg (three Nobel prize Winners on thesis committee).

F. Books and Manuals

1. A Unifying Theory of Fundamental Processes: Nucleo-Abundances and Cosmological Models, University of California LBNL Press, UCRL-20808, 1971.
2. The Philosophy of Science, History and Methodology of Scientific Research and Technological Application, Science and Society, textbook syllabus and courses taught at U.C. Berkeley, Stanford and J.F. Kennedy University, University Press, 1971.
3. The Iceland Papers: Frontiers of Physics, Coeditor and contributor, forewords by B.D. Josephson and E.A. Rauscher, Assentia Research Associates, Amherst, Wisconsin 54406, 1979, 1995.
4. A Short Course in Algebra with an Introduction to Trigonometry, Syllabus for LLNL Course 1966, TNC-17 (UCID), 1966.
5. AIP Encyclopedia of Applied Physics with co-authors, Molecular and Atomic Collision Process with Ion Beams UNR, Volume 10, pp. 437-470, November 1994.

G. Holder of Four Patents

1. E.A. Rauscher and W. Van Bise, Non-Superconducting Apparatus for Detecting Magnetic and Electromagnetic Fields U.S. Patent Number 4,724,390, issued February 9, 1988.
2. E.A. Rauscher and W. Van Bise, External Magnetic Field Impulse Pacemaker, Non Invasive Method and Apparatus for Modulating Brain Signals through External Magnetic or Electric Field to Pace the Heart and Reduce Pain, U.S. Patent Number 4,723,536, issued February 9, 1988.
3. E.A. Rauscher and W. Van Bise, Non-invasive Method and Apparatus for Modulating Brain Signals through an External Magnetic or Electric Field to Reduce Pain, U.S. Patent number 4,889,526, issued December 26, 1989.
4. E.A. Rauscher and W. Van Bise, Apparatus for Modulating Brain Signals through an External Magnetic Field to Reduce Pain European Patent Number 0223354, granted September 1, 1993.

H. Memberships in Professional Organizations

American Physical Society, The Mathematical Society of America, The American Association for the Advancement of Science, American Nuclear Society, Institute of Electronic and Electrical Engineers, International Society for the Study of Energy Medicine, American Associates of Medical Instruments and American Association of Mathematics.

I. Honory Membership and Recognition

Marquis Who's Who of Men and Women in Science, Golden State Who's Who in the West, Who's Who in California, Who's Who in Technology Today, Leading Consultants in Technology, Who's Who Historical Society, Men of Achievement, Community Leaders of America, Who's Who of American Inventors, World Leadership Award (England), Outstanding Teachers Award, Award for Significant Research Joint ABC/USA, DOE top ten women in USA in science award, USPA Leaders of America Life Time Membership Award, Iota Sigma Pi fellow, Delta Delta Delta scholarships at UCB. She graduated with Honors and presidential Commendation for service to the University of California, Berkeley.

J. Honors Received

1. Lifetime Achievement Award for the Study of the Foundations of Quantum Theory and Conscious Observer Presented by the ISSSEEM Medical Group, Colorado 2007.
2. USPA for the USA Man of the Year Award for Fundamental Contributions to Science, particularly Electromagnetic Theory, 1989.
3. Rosebridge Graduate School of Psychology Certificate of Contribution to Scientific Knowledge in Medical Science and Education (1988-1990).
4. ABC/USA Award for contributions to Theoretical Scientific Knowledge, 1991.
5. For Contributions to Fundamental Knowledge in History, Who's Who in History of the Western United States, 1985.
6. The Golden State Award in Recognition of Outstanding Professional Achievement in the Sciences, Superior Leadership in Education and Exceptional Services to the Success of the state of California, 1988.
7. Invited Speaker at the Special Ceremonial, 50th Anniversary of the isolation of Plutonium, Lawrence Berkeley National Laboratory, November, 1991.
8. Invited Speaker, American Physical Society, Accelerator Conference, November 1992, Awards in Contribution to Atomic Physics.
9. Award for Outstanding Contribution to Astronomy and Astrophysics, American Astronomical Society Meeting, Lawrence Hall of Science, 1978.
10. CSPS Hall of Fame Award by the California Society for Psychical Studies for Outstanding Research in Bioelectromagnetism, The Foundations of Quantum Theory, and Contributions to Humanity, 1990.
11. Received the Medal of Honor for contributions in Unity of the Sciences, Seoul Korea, November 13, 1981.
12. The advanced Institute of Noetic Sciences award for Frontier Sciences award for 2005.
13. The Albert Einstein ARE acknowledgment for the most outstanding woman in science, 2004.
14. Graduated from the University of California, Berkeley, California with presidential Commendation for Service to the University of California, Berkeley, 1962.
15. Certificate of Merit in Outstanding Work in Photography, First Place Winner Award "The Farm" N4C Interclub Competition in Amateur Photography, July 1992.
16. Iota Sigma Pi Honor Fraternity, 1962.

17. Delta Delta Delta Scholarship, 1958.
18. Tower and Flame honor Society, 1962.

K. Additional Activities

Dr. Rauscher taught skin and scuba diving (1966-1971) and has dove extensively in California, Hawaii and Bermuda, also climbing and spelunking, climbed Half Dome in Yosemite (1964), Piloted Cessnas 150's and 175's (1966-1981) and is also a prize winning photographer (1964-1978). Interviewed numerous times on television and radio in the U.S. and other countries on her research, and science education.

Grants: Research Projects

E.A. Rauscher, Ph.D.

1. U.S. Navy Grant – Engineering and Space Sciences contract no. NONR-222(87), University of California, Berkeley, CA 96720, 1971 – 1974, GV-25957 ONR Navy Grant Prof. P. Lieber, (Principle Investigator) P.I. and Contract Monitor, E.A. Rauscher, 2nd P.I. – Engineering Office of Research. Research Topic: Formulation of geometrical constraints applied to Einstein's field equation's and quantum gravity in cosmogenesis and cosmological curvature calculation using nucleosynthesis equations.
2. SRI (Stanford Research Institute) International, Radio Physics Laboratory 1975-1977, E024-F1856 Navy Grant with R. Targ, PI, EA. Rauscher, Ph.D., P.I. and director of research on the theoretical formulation of complex Minkowski space, M_4 for nonlocality.
3. Psychology Foundation, Inc. New York, NY 10010, E.A. Rauscher, P.I. – Principle Investigator, WVC – 2V2 (25056) R.R. Coley administrator 1976, 1977, 1981, Study of fields and remote sensing systems.
4. Holms Foundation of the Los Angeles Health Institute (501-c3), 1979, 1980, QC – 4128 carried through San Francisco State University, San Francisco, CA Study of field effects on bacteria motility and growth, E.A. Rauscher, Ph.D. P.I. and B. Rubik, P.I.
5. Primary Energy Technologies Century Blvd., Los Angeles, CA 90045, 1980, 1981, 1982, J. Reynolds, contract monitor E.A. Rauscher, P.I., PSRL-3107 AND PSRL-8524, Formulation and application of soliton and nonlinear coherent phenomena to plasma MHD and superconductivity – BCS for possible sources, storage and transmission of power in free space and matter.
6. Korean Center for Interdisciplinary research, Medal of Honor Korea 1981.
7. R.M. Banks and associates of California PSRL-6402 and UCB-LBNL contract W-7405-Eng 48, 1983-1984, Coherent Martensitic phase transitions in shape memory allays, work functions and other coherence matter phenomena, R.M. Banks and Dr. McMillian contract monitors and E.A.

Rauscher, P.I.

8. Martin Marietta now Lockheed Martin, NASA grant AS3-756244, 183, 1984, 1985, contract monitor J.B. Beal, E.A. Rauscher, P.I. and W.L. Van Bise, researcher, Theoretical and experimental and main hydrogen – oxygen tank aluminum 2219-187 Welment and pulsed field designs.
9. Naval Surface Weapons Center, White Oak, 70-126, Silver Spring, MD 20910, 1982, R34-2-0176 contract monitor E. Byrd, E.A. Rauscher, P.I. and W.L. Van Bise, P.I. Solving Maxwell's equations in complex space relating to the space relating to the solutions to solitons and nonlinear Schrodinger equation and other nonlinear phenomena and the study fo field phenomena.
10. Washington Research Center, San Francisco, CA 501-c3 for the Buck Foundation, 1988, H. Dakin, contract monitor, E.A. Rauscher, P.I. and W.L. Van Bise, researcher, PSRL-60788 Man Machine Systems Division TRL Laboratory, Nonlinear analysis of complex machine mode operations and external influences to their operations.
11. Olive Garvy Foundation for Health, Topeka, KS 1992, contract monitor Dr. Hugh Reordin, Dr. E.A. Rauscher, Ph.D., P.I. complementary, less invasive medicine, FDA studies and theoretical analysis.
12. Naval Ocean Systems Command, San Diego, CA 92152 1992-1993, Dr. W. Bruner, N66001-91-M-2621 contract monitor, E.A. Rauscher, P.I. and W.L. Van Bise, P.I. Data acquisition and analysis of ionospheric resonance phenomena from natural and man made sources with multistation deployed ground space stations.
13. Stanford University, Stanford California and Ditron, LLC of Excelsior, MN 55331, #41-1862841 dates 1997-2000, Theoretical finite discrete and infinitesimal group generators and their algebras: theoretical analysis and comparison to experimental data.
14. The Resonance Project Foundation 501c3, Holualoa, HI 2002 - present, Astrophysics and cosmological models, N. Harahein and E.A Rauscher.

SELECTED TECHNICAL PAPERS, PUBLICATIONS, REPORTS AND INVITED PRESENTATIONS

BY

E.A. Rauscher, Ph.D.

- 1) E.A. Rauscher, "Fundamentals of Fusion," The University of California Engineer, pp. 20-49, November 1960 (undergraduate publication).
- 2) E.A. Rauscher, "Effects of Collective Excited States on Alpha Particle Barrier Penetrability," Lawrence Berkeley Laboratory, UCRL-11875 (DOE sponsored), M.S. thesis, January 1965.

- 3) E.A. Rauscher, J.O. Rasmussen and K. Harada, "Coupled-Channel, Alpha Decay Rate Theory Applied to Po^{212m} ," UCRL-16351 and Nuclear Physics A94, 33, 1967.
- 4) K. Harada and E. A. Rauscher, "Unified Theory of Alpha Decay," Physical Review 169, 818, 1968.
- 5) K. Harada and E.A. Rauscher, "Alpha Decay of Po^{212} Pb^{208} , Po^{210} Pb^{206} , Treated by the Unified Theory of Alpha Decay," UCRL-70513, May 1967.
- 6) E.A. Rauscher, "Electron Interactions and Quantum Plasma Physics," Journal of Plasma Physics 2, 517, 1968.
- 7) K. Harada and E.A. Rauscher, "Unified Theory of Alpha Decay," Contributions International conference on Nuclear Structure, September 1967, Tokyo, Japan.
- 8) E.A. Rauscher, "Coupled-Channel, Alpha Decay Rate Theory Applied to Po^{212m} ," Bull. Amer. Phys. Soc. 11, 915, 1966.
- 9) E.A. Rauscher, "Unified Theory of Alpha Decay," Bull. Amer. Phys. Soc. 13, 1665, 1968.
- 10) E.A. Rauscher, "A Unified Theory of Fundamental Processes," University of California, Los Angeles, Bull. Amer. Phys. Soc. 13, 1643, 1968.
- 11) E.A. Rauscher, "Einstein's Field Equations and the Quantal Force," Lawrence Livermore National Laboratory, UCRL-71435, October 1968.
- 12) E.A. Rauscher, "Taming the H-Bomb: Comprehensive Study of the Need for Fusion Power," Energy Conference Colloquium and panel discussion with Charles Townes and others, Stanislaus State College, November 1968.
- 13) E.A. Rauscher, "Atomic Physics and a Fundamental Frequency," New York, Bull. Amer. Phys. Soc. 14, 1190, 1969.
- 14) E.A. Rauscher, The Philosophy of Science: History and Methodology of Science, (textbook syllabus and course developed and taught at LBNL/UCB, Stanford, SLAC, J.F. Kennedy University, 1971-1983.
- 15) E.A. Rauscher, A Unifying Theory of Fundamental Processes, UCRL-20808 book, LBNL University of California Press, June 1971.

- 16) E.A. Rauscher, "Closed Cosmological Solutions to Einstein's Field Equations," *Lett. Nuovo Cimento* 3, 661, 1972.
- 17) E.A. Rauscher, "A Set of Generalized Heisenberg Relations and a New Form of Quantization," *Lett. Nuovo Cimento* 4, 757, 1972.
- 18) E.A. Rauscher, "A Possible Group theoretical Representation of the Generalization Heisenberg Relations," *Lett. Nuovo Cimento* 5, 925, 1972.
- 19) E.A. Rauscher, "Bootstrap and a Uniform Formalism of the Four Force Fields," UCRL-20068, October 1970 (LBNL and a chapter in the book of ref. 15).
- 20) E.A. Rauscher, "Quantized Plasmas," *Bull. Amer. Phys. Soc.* 15, 1639, 1970.
- 21) E.A. Rauscher, "Quantized Force and Length and the Structure of Space-Time," California Institute of Technology, *Bull. Amer. Phys. Soc.* 16, 505, 1971. This paper was also presented at the University of California, Department of Mathematics Colloquium on General Relativity, February 19, 1971.
- 22) E.A. Rauscher, "A Possible New Form of Quantization of Atomic Quantities," Lawrence Berkeley National Laboratory UCRL-20627, March 1971.
- 23) E.A. Rauscher, "The Minkowski Metric for a Multidimensional Geometry," *Lett. Nuovo Cimento* 7, 361, 1973.
- 24) E.A. Rauscher, "Early Universe Cosmological Models," Lawrence Berkeley National Laboratory LBL-1152, September 1973.
- 25) A.J. Soinski, E.A. Rauscher and J.O. Rasmussen, "Alpha Particle Amplitudes and Phases in the Decay of ^{253}Es ," *Bull. Amer. Phys. Soc.* 18, 768, 1973.
- 26) E.A. Rauscher, "Geometrical Constraints in Quantum Mechanics and Cosmology," LBL-1725, August 1973.
- 27) E.A. Rauscher, "Early Universe Cosmological Models," *Bull. Amer. Phys. Soc.* 18, 1570, 1973.
- 28) E.A. Rauscher, "Science for the Non-Scientist: Need and Challenge," Research Progress Meeting, Bldg. 50 Auditorium Lawrence Berkeley National Laboratory, August 30, 1973.
- 29) E.A. Rauscher, "Some Concepts on the Scientific Revolution – Copernicus to Einstein," and "The

Challenge of Science,” a series of three Public Broadcasting Educational Programs, (PBS) Corvallis, Oregon, September 1973.

- 30) E.A. Rauscher, A. J. Soinski, and J.O. Rasmussen, “Coupled Channel Alpha Decay Theory for Odd-Mass Nuclei,” LBL-2366, Annual Report, Nuclear Science Division, Lawrence Berkeley National Laboratory, p. 172.
- 31) E.A. Rauscher, “Early Universe Cosmologies and Nucleo-Abundance (Some X-Ray Studies),” Departmental Seminar Series – Joint Chemistry-Physics and Astronomy Seminar, University of California, Berkeley, December 4, 1974.
- 32) E. A. Rauscher, USA-DOE film on the “Role of Women in Science in the United States,” one of ten women in the U.S. interviewed for the educational film for high schools and colleges, January 29-30, 1975.
- 33) E.A. Rauscher, “Covariant Conditions in Multidimensional Geometries,” presented at SRI International, Stanford, CA, June 25, 1975.
- 34) E. A. Rauscher, “Bell’s Theorem, Remote Interconnectedness, and Quantum Physics,” University of California, Santa Barbara, August 21-23, 1975.
- 35) E.A. Rauscher, “Copenhagen and Bohmian Quantum Mechanics and Possible Models of Reality,” featured speaker, Sierra College, Education Alliance, Sacramento, September 28, 1975.
- 36) E.A. Rauscher, “New Discoveries in Astrophysics,” Interview on KPFA radio station, Berkeley, with R. Reis, Senior Astronomer, Astronomical Society of the Pacific, October 1975.
- 37) E.A. Rauscher, “New Concepts in Astrophysics: Multidimensional Geometric Models,” presented to the Physics Department series on What Physicists Do, Sonoma State College, California, November 4, 1975.
- 38) E.A. Rauscher, “Scientific Knowledge and Its Use,” Santa Rosa Junior College, Santa Rosa, CA, November 5, 1975.
- 39) E.A. Rauscher, J. Millay and M. King, panel, “New Directions in Education,” panel discussion, KPFA Radio, Berkeley, CA, December 31, 1975.
- 40) E.A. Rauscher, “A Uniform Formalism of the Four Force Fields,” Bull. Amer. Phys. Soc. 20, 1504, 1975.

- 41) J. Ioannow-Yannou, E.A. Rauscher and J.O. Rasmussen, "X-Ray Production by Relativistic Heavy Ions," (accelerator physics, LBNL Bevatron), Bull. Amer. Phys. Soc. 20, 1500, 1975.

- 42) E.A. Rauscher with TOSABE Group, LBNL, "In-Beam Gamma Rays from Relativistic Proton and Carbon Ions on Various Targets," Bull. Amer. Phys. Soc. 20, 1497, 1975.

- 43) E.A. Rauscher, "Speculations on the Evolution of a Schwarzschild Universe," Lawrence Berkeley National Laboratory LBNL/UCB, LBL-4353, pp. 331-333 December 1975.

- 44) E.A. Rauscher, with TOSABE Group, LBNL, "Atomic K-Vacancy Production with 3 GeV Carbon Ions," LBL-4359, 1975 and LBL-5075, pp. 196,217,218,296 and Phys. Lett. 59A, 429, 1977.

- 45) E.A. Rauscher, with TOSABE Group, LBNL, K-Vacancy Production by 4.88 GeV Protons," Phys. Rev. A14, 2103, 1976.

- 46) E.A. Rauscher, chair, featured speaker at conference sponsored by Stanford University Education Department, CA, "Educating Women for Science: A Continuous Spectrum," April 24, 1976. (Published as a book by Syntex Corporation, Stanford, November 1976).

- 47) E.A. Rauscher, with TOSABE Group, LBNL, "In-Beam Gamma Ray Spectroscopy with Relativistic Carbon Ion Beams," Bull. Amer. Phys. Soc. 21, 681, 1976.

- 48) E.A. Rauscher, "Where are the Women in Astronomy? The Role of Education," featured speaker, Scientific Meeting of the Astronomical Society of the Pacific, Lawrence Hall of Science, LBNL, CA, May22, 1976.

- 49) E.A. Rauscher, "Applications of Einstein's Special and General Relativity to Current Cosmological Models," Part I, presented to the Fundamental "Physics" Group seminar at Lawrence Berkeley National Laboratory, May 28, 1976, the Fundamental Physics Group developed and chaired by E.A. Rauscher.

- 50) E.A. Rauscher, "General Relativity, Cosmological Models and Multidimensional Geometries," Part II, presented to the Fundamental Physics Group LBNL, June 4, 1976.

- 51) E.A. Rauscher, "Multidimensional Geometries and their Tests, D-Abundance," Part III, presented to the Fundamental Physics Group at LBNL, June 17, 1976.

- 52) E.A. Rauscher, "A Look at the Foundations of Quantum Mechanics and Relativity," Featured Speaker Physics-Mathematics Colloquium, Kent State University, Kent, Ohio, September 14, 1976.

- 53) E.A. Rauscher, "Some Recent Studies in Relativity and Astrophysics and Models of Reality," WKNT

radio interview, Kent, Ohio, September 13, 1976.

- 54) E.A. Rauscher, "The Scientific Method and the Study of Models of Reality," Kent State University Honorary Seminar, September 13, 1976.
- 55) E.A. Rauscher, "Experiments in Remote Connection – Bell's Theorem", WKDD radio interview with Debbie Welmond, Akron, Ohio, September 19, 1976.
- 56) E.A. Rauscher, "Geometrical Models in Astrophysics and Quantum Mechanics," Xerox Research Corporation Research Seminar, Palo Alto, CA, December 3, 1976.
- 57) E.A. Rauscher, "New Directions in Science: I. Quantum Mechanics and Relativity; Observer as Participant," Canadian Radio, Ontario, interview with H. Eisenberg, York University, Canada, May 1977.
- 58) E.A. Rauscher, "Physical Models of the Structures of Space-Time," Physics Department Seminar, University of California, Santa Cruz, June 7, 1977.
- 59) E.A. Rauscher, "Frontiers of Science: The Observer and the Observed," Conference on Science and Consciousness, Museum of Man, The Palace of Chaillot, Paris, France, November 15, 1977.
- 60) E.A. Rauscher, "Conference on New Directions in Science: New Discoveries and Paradigms," Hotel Concorde, Paris France, November 17, 1977.
- 61) E.A. Rauscher, "Speculations on the Evolution of a Schwarzschild Universe," Birbeck College, University of London, November 23, 1977. Invited Summer Teaching and Research Seminar and Program by David Bohm and John Hasted.
- 62) E.A. Rauscher, "Speculations on the Foundations of Physics: (Quantum Mechanics and Relativity)," Radio Monte Carlo, interview with William Heihler, France-Switzerland-Italy, November 16, 1977.
- 63) E.A. Rauscher, "Sociological Implications of Scientific Discoveries," invited lecturer Sociology Dept., University of San Francisco, San Francisco, CA, December 7, 1977.
- 64) E.A. Rauscher, "Nuclear Structure Studies and Unique Properties of Materials," Material Science Dept., Engineering Services, Lawrence Livermore National Laboratory, CA, January 8, 1978.
- 65) E.A. Rauscher, A.J. Soinski and J.O. Rasmussen, "Coupled Channel Alpha Decay Theory for Odd-Mass Nuclei," Bull. Amer. Phys. Soc. 23, 37, 1978.

- 66) E.A. Rauscher, "Complex Coordinate Geometries in General Relativity and Electromagnetism," Bull. Amer. Phys. Soc. 23, 84, 1978.
- 67) E.A. Rauscher, with TOSABE Group, LBNL, CA, "In-beam Nuclear Gamma-Ray Studies of Relativistic Heavy Ion Reactions," Nucl. Phys. A308, 513, 1978.
- 68) E.A. Rauscher, with TOSABE Group, LBNL, CA, "Nuclear Gamma Rays Following Interaction with Relativistic Carbon Projectile Target Fragmentation," Nuclear Science Dept. Annual Report (LBL-5075), p. 196, 1975.
- 69) E.A. Rauscher, with TOSABE Group, LBL, CA, "Atomic K-Vacancy Production by Relativistic Carbon Ions," Nuclear Science Annual Report, page 217, and "K-Vacancy Production by Relativistic Bevalac Protons," Nuclear Science Annual Report, page 218, 1975.
- 70) E.A. Rauscher, A.J. Soinski, and J.O. Rasmussen, "Application of the Coupled Channel Alpha Decay Theory to Odd-Mass Nuclei," Nuclear Science Dept. Annual Report (LBL-5075), p. 296, 1975.
- 71) E.A. Rauscher, "Interstellar Deuterium Abundance and Closed Versus Open Universe Models," Nuclear Science Dept. Annual Report (LBL-5075), p. 331, 1975.
- 72) E.A. Rauscher, "Observations in Astrophysics, Distance Scale and Hubble's Constant," University of California Berkeley, Seminars in New Research in Physics, UC Ed., August 24, 1977.
- 73) E.A. Rauscher, "Laboratory Replication in the Social Sciences?" Barrows Hall, Dept. of Psychology, University of California, Berkeley, September 2, 1977.
- 74) E.A. Rauscher, A.J. Soinski, and J.O. Rasmussen, "Coupled Channel Alpha Decay Theory for Odd-Mass Nuclei: ^{253}Es and ^{255}Fm ," Nucl. Phys. A291, 386, 1977.
- 75) E.A. Rauscher, "Theoretical Exploration of the Relationship of Relativity and Quantum Physics: Kaluza-Klein and Complex Geometries," Frontiers of Physics Conference, Reykjavik, Iceland, International Conference of Physicists and Engineers, November 7-13, 1977.
- 76) E.A. Rauscher, programs on my research on physics, biology and medicine, six times on CNN, ABC news, 20/20, FOX news and other TV appearances, 1974-1994.
- 77) E.A. Rauscher, "Explorations in Science, Society and Human Consciousness," featured speaker, American River College, Sacramento, CA, April 1978.

- 78) E.A. Rauscher, "Implications for Causality Conditions in Macroscopic Remote Connectedness Models" International Conference on Science and the Future, Mexico City, July 1978.
- 79) E.A. Rauscher, "Studies of Reality Models in Physics," CBC Montreal, Canadian Television special, June 1978 and on ABC 20/20 in April 1978.
- 80) E.A. Rauscher, "Current Research in Nuclear Structure and Astrophysics, Noon Lecture Series, University of California, Berkeley, CA, November 1, 1978.
- 81) E.A. Rauscher and thesis advisor Glen T. Seaborg, "Coupled Channel Alpha Decay Theory for Even- and Odd-Mass Light and Heavy Nuclei," LBL-7194 (Ph.D. thesis), 1978.
- 82) E.A. Rauscher, "Elastic and Inelastic Coupled Channel Alpha Scattering Theory and Resonance Decay Widths (S-Matrix Theory)," Lawrence Berkeley National Laboratory publication LBL-8577, February 1979.
- 83) E.A. Rauscher, "Exploration in the Use of Physical Models to Examine Properties of Consciousness," Chapter in Humanistic Psychology Institute, San Francisco, pp. 10-12, June 1979.
- 84) E.A. Rauscher, "Some Concepts of the Fundamental Nature of Physical Reality," International Display Project, an architecture for integrative systems summary of the work of 50 scholars. Boston University, MA, August 1979.
- 85) E.A. Rauscher, editor and chapter, The Iceland Papers: Frontiers of Physics Conference, select papers on experimental and theoretical research on physics of consciousness, Foreword by B.D. Josephson, and A. Puharich Assentia Research Associates, Amherst, Wisconsin 54406, August 1979, 1995.
- 86) E.A. Rauscher and C. Ramon, "Superluminal Transformations in Complex Minkowski Spaces," LBL-9752, September 1979 and Found. of Phys. 10, 661, 1980.
- 87) E.A. Rauscher, "Macroscopic Connectedness in Multidimensional Geometries and the Quantum Observer," International Conference on Science and Consciousness, with D. Bohm, B. D. Josephson, F. Capra and others, Cardoba, Spain, November 1979.
- 88) E.A. Rauscher, "An S-Matrix Theory of Alpha Decay," Nuclear Science Dept. Annual Report LBL-9711, UCB, pp. 26-29 and p. 243 December 1979.
- 89) E.A. Rauscher, "U.S. Delegate to the Conference on Long-Term Energy Resources," United Nations Institute for Training and Research (UNITAR), November 1979.

- 90) E.A. Rauscher, "Interview on Electrical Power Development," in feature film on the life of Nikola Tesla, The Secret of Nikola Tesla, with Orson Welles, Peer Bozorine, released spring 1980.
- 91) E.A. Rauscher and W. Van Bise, "Multiple Wave Analysis Measurements at Low Frequency (LF) and Extremely Low Frequency (ELF) Artificial and Natural Radiation," report under contract for Pacific Northwest Center for the Study of Non-ionizing Radiation, (501-c3) Portland, Oregon, 1980.
- 92) E.A. Rauscher and W. Van Bise, "Ambient Radiation and Possible Biological Correlates," report and proposal under contract to Pacific Northwest Center for the Study of Non-ionizing Radiation, (501-c3) Portland, Oregon, 1980.
- 93) E.A. Rauscher, "Multidimensional Geometric Models and Their Application to Remote Connectedness Phenomena," briefing at McDonnell-Douglas Astronautics Corp., November 1980.
- 94) E.A. Rauscher, "Multidimensional Geometries and Unified Field Theories," Physics and Astronomy Department, San Francisco State University, April 7, 1980.
- 95) E.A. Rauscher, "The Psychology of the Observer/Participator," Colloquium II, University of California, Santa Cruz, July 11, 1981.
- 96) E.A. Rauscher, "Electromagnetic Fields and Biological Systems," Conference on New Directions in Research Medicine, University of California, Berkeley, School of Public Health, March 28, 1981.
- 97) E.A. Rauscher, "Coherent Remote Connectedness Phenomena in Complex and Kaluza-Klein Geometric Models," University of Toronto, Victoria College, Canada, August 13, 1981.
- 98) E.A. Rauscher, "Remote Connectedness in Complex Geometries," Research Congress, Dayton, Ohio, July 25, 1981.
- 99) E.A. Rauscher, "Coherent Quantum Phenomena in Complex Geometries," Theoretical Physics Colloquium, Esalen, CA, January 29, 1981.
- 100) E.A. Rauscher, "Multidimensional Geometric Models: Mapping of Complex Twister Algebras to Kaluza-Klein Spinor Calculus," Theoretical Physics Colloquium, Stanford University, May 9, 1981.
- 101) E.A. Rauscher, "Solitons, Plasmas and Polarization of the Vacuum," Special Presentation, University of Toronto, Canada, October 23, 1981.
- 102) E.A. Rauscher, "Conceptual Changes in Reality Models and New Discoveries in Physics: Soliton Solutions to the Schrödinger Wave Equations," Tecnic Research Laboratories of California Report

PSRL-1076, September 1981, published in the Proceedings for the "First International Energy Conference," University of Toronto, Ontario, Canada, 1981.

- 103) E.A. Rauscher, "Conceptual Changes in Reality from New Discoveries in Physics," page 1407-1431, Proceeding of the Tenth International Conferences on the Sciences, Volume II, the ICF Press, New York, 1981. E.P. Wigner "Comments on the Support of the Work of E.A. Rauscher" p. 1479.
- 104) C. Ramon and E.A. Rauscher, "Remote Connectedness in Complex Geometries," page 1423-1477, E.A. Rauscher, chair address pages 1405-1407, Proceedings of the Eleventh International Conference on the Sciences, Volume II, the ICF Press, New York, 1982.
- 105) E.A. Rauscher, "On Some Issues Concerning Locality versus Non-Locality," Tecnic Research Laboratory Report (TRL) PSRL-2007B, November 1980, revised February 1982.
- 106) E.A. Rauscher, "Complex Geometric Models and Soliton Solutions" briefing at Hughes Aircraft Co., Aerospace Group, April 1982.
- 107) E.A. Rauscher, "Solitary Waves, Coherent Non-Dispersive Solutions in Complex Minkowski Spaces," Bull. Amer. Phys. Soc. 27, 35, 1982.
- 108) E.A. Rauscher, "Theoretical and Field Studies of Extremely Low Frequency Radiation and Coherent Nonlinear Phenomena," Learned Societies Conference, University of Ottawa, Canada, June 5, 1982.
- 109) E.A. Rauscher, "ELF Radiation and Nonlinear, Coherent Phenomena," Colorado School of Mines, July 24, 1982.
- 110) E.A. Rauscher, "Complex Geometries and Quantum Measurement Problems," Pennsylvania State University, Conference on New Problems in Physics, November 29, 1982.
- 111) E.A. Rauscher, "A Research Physicist Reflects on Paradoxes in Science, the Scientific Method, and the Role of the Observer," Jour. of TSK 1, 491, 1982.
- 112) E.A. Rauscher, "Electromagnetic Phenomena in Complex Geometries and Nonlinear Phenomena," PSRL-5116B, under contract to the Naval Surface Weapons Laboratory, Maryland, September 1982. Non-destructive evaluation, contract R34-2-0176, 142 pages.
- 113) E.A. Rauscher, "Electromagnetic and Nonlinear Phenomena in Complex Minkowski Spaces," Bull. Amer. Phys. Soc. 28, 351, 1983.

- 114) E.A. Rauscher, "Application of Soliton Physics to Plasma-MHD and Superconductivity BCS: Theoretical Implications for Primary Energy," TRL report, PSRL-3107, under contract to Primary Energy Technology, Inc., Los Angeles, CA, November 1982.
- 115) E.A. Rauscher, "Coherent Martensitic Phase Transformation in Shape Memory Alloys," PSRL-6402, under contract to R.M. Banks and Associates Grant Systems and LBNL, Edwin McMillan, April 1983.
- 116) E.A. Rauscher, "Properties of Nonlinear Coherent Modes in MHD-Plasmas and a Possible Resolution of the Confinement Problem in Plasma Fusion Reactors," TRL report, PSRL-8462, March 1983 (DOE report).
- 117) E.A. Rauscher, "Coherent Nondispersive Solutions to the Schrödinger and Dirac Equations," Tecnic Research Laboratories of California Report, PSRL-6941, 1983.
- 118) E.A. Rauscher, "The Fundamental Theoretical Significance of Time; a Philosophy of Time", PSRL-762, Nuclear Science Division, LBNL, March 3, 1977, Rev. I, 1983.
- 119) E.A. Rauscher and W. Van Bise, "Electrostatic Cooling: Theoretical and Experimental Analysis and Application to Heat Transfer Enhancement in 2219-T87 Aluminum Weldments," PSRL-1072P-I, TRL report for NASA Lockheed-Martin (formally Martin-Marietta) Aerospace, Advanced Quality Technology Dept., New Orleans, LA, Contract SC-W02846, December 1983 (Part I), 84 pages, December 1984 (Part II), 90 pages. This report received the US Air Force outstanding recognition.
- 120) W. Van Bise and E.A. Rauscher, "Multiple Wave Analysis Measurement of Low Frequency (LF) and Extremely Low Frequency (ELF) Artificial and Natural Radiation Extant in Parts of North America," report for the North West Center for this study of Non-ionizing Radiation of Oregon September 1980.
- 121) E.A. Rauscher, "Probing Into Control Mechanisms in Cellular Healing Processes: A San Francisco Initiative," The Doctors Research Group, PACE, Canadian Journal, page 8, February 1981.
- 122) E.A. Rauscher, "The Biophysics of Electrical Pathways and Magnetic Fluxes in the Human Heart Wall," The Doctors Research Group, PACE, Canadian Journal, page 9, February 1981.
- 123) E.A. Rauscher, "Theoretical and Field Studies of ELF Radiation and Coherent Nonlinear Phenomena," International Symposium on the Biological Effects of Electromagnetic Radiations, Learned Societies Conference, University of Ottawa, Canada, June 1982.
- 124) E.A. Rauscher, Electromagnetic Phenomena in Complex Geometries and Nonlinear Phenomena, and Non-Hertzian Waves, Tesla Book Co., Millbrae, CA, 1983 and Tesla Book Co., Chula Vista, CA

1983.

- 125) E.A. Rauscher, "Electromagnetic Phenomena in Complex Geometries and Non-linear Phenomena," Seminar presented to the University of Portland, OR, July 22, 1983.
- 126) E.A. Rauscher and W. Van Bise, "Biological Effects of Electromagnetic Fields," Presentation at the University of Portland, OR, July 23, 1983.
- 127) E.A. Rauscher, "Electromagnetic Fields and Nonlinear Phenomena," Topics in Non-Destructive Evaluation, Materials Evaluation Branch, presented to the Naval Surface Weapons Center, Silver Spring, Maryland, May 20, 1983.
- 128) E.A. Rauscher, "Electromagnetic and Nonlinear Phenomena in Complex Minkowski Spaces," Paper presented at the University of California, Los Angeles, and Bull. Amer. Phys. Soc. 20, 351, 1983.
- 129) E.A. Rauscher, "Bell's Theorem, Nonlocality and the Foundations of Quantum Mechanics," Keynote Speaker on Foundations in Science East-West congress in Bombay, India, November 1984.
- 130) E.A. Rauscher, "Observer and the Observed, Quantum Theory and the Participatory Universe", Bokken Library Publication, WI, Archaeus 2, 71 (1983).
- 131) E.A. Rauscher, "Complex Geometry and Non Linear Phenomena in Electromagnetism," Physics Department Colloquium, University of Nevada, Reno, December 9, 1983.
- 132) E.A. Rauscher, "Students Need for Quality Higher Education," Conference on World Education by Leading Academicians, Academy for World Peace, Fez, Morocco, Africa, July 1984.
- 133) E.A. Rauscher, "Multi-dimensional Formalism of Maxwell's Equations and Solutions to Maxwell's Equation in Complex Geometries," Lecture presented to Colorado College, Colorado Springs, CO, August 11, 1984. Sponsored by the International Tesla Society and the Pikes Peak Section of IEEE, Colorado Springs. Meeting conceived, sponsored, and chaired by E.A. Rauscher.
- 134) E.A. Rauscher, "Protecting the Earth's Ecology," ed. J. Swan Proceedings, Chapter 55, 1-4. U.S. Department of Education, Education Resources Information Center and National Audubon Society Expedition Institute, Environmental Symposium report, University of Massachusetts, August 1985.
- 135) E.A. Rauscher, "The Mathematical Theory of the Magnetic Piezoelectric Resonator, MPR-7944-T Device for Treatment of Pain," Tecnic Research Laboratory Internal Report PSRL-12764, April 1985.
- 136) E.A. Rauscher and W. Van Bise, "Observations of Local and Global Earth-Ionospheric Excitation

for Earthquake and Volcanic Prediction,” Bull. Am. Phys. Soc. 32, 67 (1987).

- 137) W. Van Bise and E.A. Rauscher, Instrumentation and Techniques for Analysis of Extremely Low Frequency (ELF) Magnetic Field Impulses Preceding Geologic Events,” Bull. Am. Phys. Soc. 32, 67B (1987).
- 138) E.A. Rauscher and W. Van Bise, “Magnetic Field Flux Induction into the Visual System of Humans,” Institute for Electrical and Electronic Engineers Annual Conference on Engineering in Medicine and Biology Society, page 1590, Boston, MA, November 1987.
- 139) E.A. Rauscher and W. Van Bise, “Theoretical Study of Maximum Sensitivity, Directionality, and Flat Frequency Response for Ultra Sensitive Non-superconducting Coil Sensors,” Tecnic Research Laboratories Report on the Specifications of the T-1050 Detection System, July 1, 1987.
- 140) W. Van Bise and E.A. Rauscher, “Geomagnetic Pulsations of the Earth’s Magnetosphere,” Tecnic Research Laboratories Report, PSRL-2417B, 1987.
- 141) E.A. Rauscher and W. Van Bise, Non-superconducting Apparatus for Detecting Magnetic and Electromagnetic Fields, U.S. Patent Number 4,724,390, February 9, 1988.
- 142) E.A. Rauscher and W. Van Bise, External Magnetic Field Impulse Pacemaker Non-Invasive Method and Apparatus for Modulating Brain Signals Through an External Magnetic or Electric Field to Pace the Heart and Reduce Pain, U.S. Patent Number 4,723,536, issued February 9, 1988.
- 143) J. Beal and E. A. Rauscher, “Human Response to Electromagnetic Fields” Modern Science Reads the Earth’s Electromagnetic Fields, University of California, Davis, CA jointly sponsored by NASA, September 10, 1988.
- 144) W. Van Bise and E.A. Rauscher, “Fundamental Excitatory Modes of the Earth and Earth-Ionosphere Resonant Cavity,” Field Physics Division, Tecnic Research Laboratories Report, PSRL-702C-II, July 1988. Published in the Proceedings of the IEEE, Colorado Springs Section, 1988, pp. 3-34.
- 145) E.A. Rauscher, “Theories and Experiments in Healing” II ICAT, International Congress on Medical Therapies, Sao Paulo, Brazil, September 1988.
- 146) E.A. Rauscher and W. L. Van Bise, “Magnetic Field Interaction with Macro Biological Systems with Applications to Effects on Physiology,” Medicine Around the World, ed. T.M. Srinivasan, page 205-218, Gabriel Press, Phoenix, AZ, Print World, November, 1988. (Proceedings from conference at the Madras Institute of Magnetobiology 1987).

- 147) G. Simpson, W. Van Bise and E.A. Rauscher, "Magnetic Control of Low Back Pain," Conference on Acute and Chronic Low Back Pain, Las Vegas, Nevada, November, 1988.
- 148) E.A. Rauscher, W. Van Bise, and R. Kroening, "Magnetic Control of Low Back Pain," Bull. Amer. Phys. Soc. 34, 109, 1989.
- 149) E.A. Rauscher and W. Van Bise, "Magnetic Flux Control of Low Back Pain," Proceedings of the Association for the Advancement of Medical Instrumentation (AAMI), St. Louis, MO, page 76, May 1989.
- 150) E.A. Rauscher, "Completely Chaotic Systems and Complex Logic Equations," Bull. Am. Phys. Soc. 34, 82, 1989.
- 151) E.A. Rauscher, "Fractal Geometries, World Populations and Environmental Conditions and Constraints," Heritage Preservation Conference, San Francisco, August 10, 1989. Sponsored by the Institute for the Study of Natural Systems of California.
- 152) E.A. Rauscher, "Fractal Geometries, World Populations, and the Environment," United Nations NGO Forum, Solutions to the Global Environmental Crisis, Dag Hammarskjold Auditorium, United Nations, June 7, 1989.
- 153) E.A. Rauscher, "Frontiers of Science: The Observer and the Observed in Quantum Theory," TRL, PSRL-2810, The Twelfth International Conference, Bio-Medical Educational Institute, Wichita, KS, November 1990, Chapter 4 of the conference proceedings the Olive Garvy Foundation.
- 154) E.A. Rauscher and W. Van Bise, Non-invasive Method and Apparatus for Modulating Brain Signals Through an External Magnetic or Electric Field to Reduce Pain, U.S. Patent Number 4,889,526, issued December 26, 1989.
- 155) W. Van Bise and E. A Rauscher, "Non-superconducting Systems for Detecting and Analyzing Low Intensity Pure Magnetic Fields," Tecnic Research Laboratories Report PSRL-5476B and Bull. Am. Phys. Soc. 34, p. 109, 1989.
- 156) E.A. Rauscher and W. Van Bise, "Relaxation of Gauge Invariant Conditions for ELF and VLF Phenomena and Their Implications for Magnetic and Electromagnetic Wave Transmission," Tecnic Research Laboratories Report, PSRL-8476B Bull. Am. Phys. Soc. 34, p. 82, 1989.
- 157) S. Fuelling, R. Bruch, G. Liu, M. Baily, E.A. Rauscher, E. Trabert and P.H. Heckmann, "Absolute State Selective Cross Sections for Ionization-Excitation of Helium in $e^- + \text{He}$, $\text{H}^+ + \text{He}$, $\text{H}_2^+ + \text{He}$ and $\text{H}_3^+ + \text{He}$ Collisions," Z. Phys. D21, S309 (1991).

- 158) S. Fuelling, R. Bruch, G. Liu, E.A. Rauscher, E. Trabert and P. Heckmann, "Absolute State Selective Cross Sections for Ionization-Excitation of Helium in $H^+ + He$ and $C^{6+} + He$ Collisions: Z_p -Dependence," Z. Phys. D21, S313 (1991).
- 159) S. Fuelling, R. Bruch, E.A. Rauscher, E. Trabert and P.H. Heckmann, "Absolute State Selective Cross Sections for Ionization-Excitation of Helium in Fast $e^- + He$ and $H^+ + He$ Collisions," Nucl. Instr. Meth. In Phys. Res. B56, 275 (1991).
- 160) S. Fuelling, R. Bruch, E.A. Rauscher, E. Trabert and P.H. Heckmann, "Absolute State Selective Cross Sections of ionization-Excitation of Helium in Fast $H^+ + He$ and $C^{6+} + He$ Collisions: Z_p^3 -Dependence," Nucl. Instr. Meth. in Phys. Res. B56, 317 (1991).
- 161) S. Fuelling, R. Bruch, E.A. Rauscher, E. Trabert and P.H. Heckmann, "Ionization-Excitation of Helium in $e^- + He$, $H^+ + He$, $H_2^+ + He$ and $H_3^+ + He$ Collisions," Nucl. Instr. Meth. in Phys. Res. B56, 279 (1991).
- 162) S. Fuelling, R. Bruch, E.A. Rauscher, P.A. Neill, E. Trebert, and P.H. Heckmann, "Projectile-Charge Dependence of Ionization-Excitation of Helium Following Collisions of MeV Bare Ions with $Z_p = 1$ to 6," XVII ICPEAC Abstracts of Contributed Papers, Brisbane, Australia, July 10-16 (1991), p. 389.
- 163) S. Fuelling, R. Bruch, E.A. Rauscher, P.A. Neill, E. Trabert and P.H. Heckmann, "Electron Correlation in Ionization-Excitation of Helium by Electron and Proton Impact," XVII ICPEAC, Abstracts of Contributed Papers, Brisbane, Australia, July 10-16 (1991), p.390.
- 164) S. Fuelling, R. Bruch, E.A. Rauscher, P.A. Neill, E. Trabert and P.H. Heckmann, "Hydrogen Ions (H^+ , H_2^+ , and H_3^+) in Collisions with Helium: Target Excitation and Ionization-Excitation," to the XVII ICPEAC, Abstracts of Contributed Papers, Brisbane, Australia, July 10-16 (1991), p.391.
- 165) E.A. Rauscher, R. Bruch and S. Fuelling, "Theoretical Analysis of a Possible Cross Section Dependence on Projectile Charge in Ion-Atom Collisions", UNR Department of Physics Accelerator group reports 1991.
- 166) E.A. Rauscher and R. Bruch, "S-Matrix Approach to Fast projectile-Gas Target Many Body Physics," UNR Department of Physics Accelerator group reports, Spring 1991.
- 167) E.A. Rauscher and W. Van Bise, "Response of Physiological Parameters to Low Frequency and Low Intensity Pulsed Magnetic Fields," Ninth Annual International Symposium on Man and His Environment in Health and Disease, Proceedings p. 42, Dallas, TX, March 1991.
- 168) E.A. Rauscher and W. Van Bise, "Environmental Magnetic Electromagnetic Field Monitoring, An Analysis of Field Effect son Biological Systems," Ninth Annual International Symposium on Man and His Environment in Health and Disease, p. 43, Dallas, TX, March 1991.

- 169) E.A. Rauscher, "The Properties of Plutonium and Comparison to Other Ferromagnetic Metallic Elements," TRL, Invited Poster Session, 50th Anniversary of the Discovery and First Chemical Identification of Plutonium, Invited presenter at the 50th anniversary of the isolation of Pu²³⁹ University of California, Lawrence Berkeley National Laboratory, CA, February 22-23, 1991.
- 170) J.Y. Dea, W. Van Bise, E.A. Rauscher and W.M. Boerner, "Observations of ELF Signatures Arising from Space Vehicle Disturbances of the Ionosphere," *Can. J. Phys.* 69, 959 (1991).
- 171) W. Van Bise and E. A. Rauscher, "Ionospheric Monitoring Program," NOSC, Contract #NG6001, August 1991.
- 172) W. Van Bise, J.Y. Dea, E.A. Rauscher, and W.M. Boerner, "ELF Transient Events Created by Space Vehicles During Exit and Reentry Through the ionosphere," 1991 North American Radio Science Meeting and International IEEE/APS Symposium, June 24-28, 1991, page 37, the University of Western Ontario, London, Ontario, Canada.
- 173) R. Bruch, M. Baily, S. Fuelling, E.A. Rauscher, and P. Neill, "Ionization Plus Excitation of Helium by Fast Electron and Ion Impact," *Bull. Am. Phys. Soc.* 37, Special Session on Atomic Physics Session of the APS, May 1992, Chicago, IL.
- 174) J.W. McDonald, D. Schneider, U.I. Safronova, R. Bruch, H. Wang and E.A. Rauscher, "Autoionization of Be-Like $1s^2 2pnl$ State for C III, O V and Ne VII e Excited in Low-Energy Double-Electron Capture from He, Ne and Ar by C^{4+} , C^{6+} and Ne^{8+} Ions," *Bull. Am. Phys. Soc.* 37, May 1992, Chicago, IL.
- 175) R. Bruch, E.A. Rauscher, H. Wang, T. Tanaka, D. Schneider, L. Lipsky, A. Russak, And U.I. Safronova, "Collision Spectroscopy of Core-Excited Multi-charged $1s2ln$ States at Low Velocities," *Bull. Am. Phys. Soc.* 37, Special Session of the APS (1992).
- 176) S. Fuelling, R. Bruch, E.A. Rauscher, P.A. Neill, E. Trabert, P.H. Heckmann and J.H. McGuire, "Ionization Plus Excitation of Helium by Fast Electron and Proton Impact," *Phys. Rev. Lett.* 68, 3152 (1992).
- 177) W. Van Bise, E.A. Rauscher, B. Roth and S. Fuelling, "The Ambient Electromagnetic Environment: What We Have and Have Not Learned over 14 Years of ELF Signal Measurements," pp. 1-7 Proceedings of the International Workshop, Low-Frequency Electrical Precursors, National Science Foundation: National Earthquake Hazards Reduction Program, University of California, Irvine, CA, June 14-17, 1992.
- 178) E.A. Rauscher, R. Bruch, S. Fuelling, I. Beigmann and J. McGuire, "Joint Ionization and Excitation: Theoretical Analysis of Two Electron Transfer Processes," Invited Paper, *Bull. Am. Phys.*

Soc., Invited Presentation GG4, 138 (1992), Denton Accelerator Conference, University of North Texas, Denton, TX.

- 179) R. Bruch, S. Fuelling, H. Wang, M. Bailey, W. Stolte, E.A. Rauscher, E. Trabert, P.H. Heckmann, and J. McGuire, "Observation of Excitation and Ionization in Fast Electron and Ion Collisions with Atomic Targets," Invited paper, Bull. Am. Phys. Soc., GF3, 77 (1992), Twelfth International Accelerator Conference, University of North Texas, Denton, TX.
- 180) E.A. Rauscher, R. Bruch, S. Fuelling, I.L. Beigmann, J. McGuire, "Interference Term contributions to Ionization Plus Excitation Cross Sections in High Energy $e^- + He$ and $H^+ + He$ Scattering," Bull. Am. Phys. Soc., PA43, 39 (1992), Twelfth International Accelerator Conference, University of North Texas, Denton, TX.
- 181) M. Bailey, S. Fuelling, E.A. Rauscher, E. Trabert, P.H. Heckmann, and J.H. McGuire, "Absolute Ionization-Excitation Cross Sections of Helium by H_n^+ ($n=1$ to 3) Impact," Bull. Am. Phys. Soc. PA57, 41 (1992), Twelfth International Accelerator Conference, University of North Texas, Denton, TX.
- 182) E.A. Rauscher, "History of Recent Research on Electromedical Theories," Invited presentation at the Second International ISSSEEM Society Conference on Research, Theory and Clinical Practice in Medicine, June 26-30, 1992, Boulder, CO.
- 183) R. Bruch, P.L. Altick, E. Rauscher, and D. Schneider, "The Possibility of Spin-Flip Processes in Low-Energy $Fe^{17+} + He$ Collisions," VIth International Conference on the Physics of High-Charged Ions, AIP Proceedings B 274, J.R. MacDonald Laboratory, Kansas State University, Manhattan, KS 66506 (1992), p. 1 to 17.
- 184) R. Bruch, E.A. Rauscher, S. Fuelling, E. Trabert and P.H. Heckmann, I.L. Beigmann, A. Shevelko and J. McGuire, "Ionization Plus Excitation of He Target by Fast Ion Impact for Multiply Charged Ions," VIth International Conference on the Physics of Highly-Charged Ions, AIP Proceedings 274, J.R. MacDonald Laboratory, Kansas State University, Manhattan, KS 66506 (1992), p.355.
- 185) R. Bruch, I.L. Beigmann, E.A. Rauscher, S. Fuelling, J.H. McGuire, E. Trabert and P.H. Heckmann, "Higher Order Contributions to Ionization Plus Excitation Cross Sections in High Energy $e^- + He$ and $H^+ + He$ Scattering," J. Phys. B: At. Mol. Opt. Phys. 26, L413 (1993).
- 186) S. Fuelling, R. Bruch, P.A. Neill, E.A. Rauscher, M. Bailey, J.S. Thompson, E. Trabert, P.H. Heckmann and J.H. McGuire, "Electron Correlation in Ionization-Excitation of Helium by Electron and Proton Impact," UV and X-Ray Spectroscopy of Astrophysical and Laboratory Plasmas, Proceedings of the Tenth International Colloquium, Berkeley, CA, February 3-5, 1992, Cambridge University Press, p.106.
- 187) S. Fuelling, R. Bruch, P.A. Neill, E.A. Rauscher, M. Bailey, H. Wang, E. Trabert, P.H. Heckmann

- and J.S. Thompson, "Hydrogen Ions (H^+ , H_2^+ , and H_3^+) in Collisions with Helium: Target Ionization-Excitation Cross Sections," UV and X-Ray Spectroscopy of Astrophysical and Laboratory Plasmas, Proceedings of the Tenth International Colloquium, Berkeley, CA, February 3-5, 1992, Cambridge University Press, p.110.
- 188) S. Fuelling, R. Bruch, P.A. Neill, E.A. Rauscher, E. Trabert, P.H. Heckmann, and J.S. Thompson, "Projectile-Charge Dependence of Ionization-Excitation of Helium Following Collisions of MeV Bare Ions with $Z_p=1$ to 6," UV and X-Ray Spectroscopy of Astrophysical and Laboratory Plasmas, Proceedings of the Tenth International Colloquium, Berkeley, CA, February 3-5, 1992, Cambridge University Press, p.114.
- 189) H. Wang, R. Bruch, F. Hao, S. Fuelling, Z. Xu, Z. Wang, E. Rauscher, "Zero Degree High Resolution Target Autoionization Spectra of Helium in Fast e^- , H^+ , He^+ and He^{+2} Collisions: Line Profiles and Double Differential Cross Sections," Nucl. Instr. Meth. in Phys. Res. B79, 114 (1993).
- 190) M. Ya. Amusia, E.A. Rauscher, R. Bruch and S. Fuelling, "Theoretical Analysis of Ionization Plus Excitation of Helium by Fast Electron and Proton Impact," Nucl. Inst. Meth. in Phys. Res. B79, 117 (1993).
- 191) R. Bruch, E.A. Rauscher, S. Fuelling, I.L. Beigmann and J. McGuire, "Excitation and Ionization in Fast Electron and Ion Collisions with Helium Gas Targets," Nucl. Instr. Meth. in Phys. Res. B79, 120 (1993).
- 192) E.A. Rauscher, R. Bruch, S. Fuelling, F.L. Beigmann and J. McGuire, "Theoretical Analysis of Ionization Plus Excitation Cross Sections in High Energy $e^- + He$ and $H^+ + He$ Scattering", Bull. Am. Phys. Soc. 38, 1089 (1993), Department of Physics, University of Nevada, Reno, NV.
- 193) S. Fuelling, H. Wang, R. Bruch, F. Hao, E.A. Rauscher and C. Looney, "Versatile Data Acquisition and Control System for High Resolution Electron Spectroscopy," Bull. Am. Phys. Soc. 38, 1163 (1993).
- 194) E.A. Rauscher, "Pulsed Magnetic Field Control of Low Back Pain," Department of Physics and Astronomy Colloquium, Featured Speaker Northwestern University, Evanston, IL, March 10, 1993.
- 195) W.L. Van Bise and E.A. Rauscher, "ELF Signatures Arising from Space Vehicle Disturbances of the Ionosphere," Invited presentation to the U.R.S.I., XXIV General Assembly of the International Union of Radio, Science, Science Council of Japan, Kyoto, Japan, August 25, 1993, Proceedings p. 187.
- 196) M. Bailey, S. Fuelling, R. Bruch, E.A. Rauscher, P. Neill, S. Bliman, E. Trabert, P.H. Heckmann, K.H. Schartner, and D. Hasselkamp, " $He(1snp) ^1P^0$ Excitation Cross Sections for Energetic Electron and H_n^+ ($n=1$ to 3) Impact on He," Department of Physics, UNR report, 1993.

- 197) H. Wang, R. Bruch, and E.A. Rauscher, "Projectile Charge and Velocity Dependence of $(2p^2)^1D$ and $(2s2p)^1P^0$ Autoionization Line Projectiles Produced by H^+ , He^+ and He^{2+} Impact on He for Zero Degree Observation," Proceedings for ICPEAC XVIII, Arhus, Denmark, July 12-16, 1993.
- 198) H. Wang, R. Bruch and E.A. Rauscher, "Double Differential Electron Emission Cross Sections for Double Excitation of Helium $2p^2)^1D$ and $(2s2p)^1P^0$ Resonances Excited by $e^- + He$ and $H + He$ Collisions at Medium to High Velocities," Proceedings for ICPEAC XVIII, Arhus, Denmark, July 12-16, 1993.
- 199) E.A. Rauscher and W. Van Bise, Apparatus for Modulating Brain Signal through an External Magnetic Field to Reduce Pain, European Patent Number 0223354, September 1, 1993.
- 200) E.A. Rauscher, "Changes in Electromagnetic Fields as Possible Seismic and Volcanic Precursors," Institute of Applied Physics, invited department presentation University of Tsukuba, Tsukuba Space Science City, Japan, September, 1993.
- 201) W.L. Van Bise and E.A. Rauscher, "Ambient Electromagnetic Fields as Possible Seismic and Volcanic Precursors," Proceedings of the International Workshop on Electromagnetic Phenomena Related to Earthquake Prediction The University of Electro-Communications, eds. M. Hayakawa and Y. Fujinawa, Chofu Tokyo, Japan, September 6-8, 1993, p.59.
- 202) W.L. Van Bise and E.A. Rauscher, "Analysis of Non-Induced ELF Signatures: Space Vehicle Disturbances of the Ionosphere," Proceedings of the International Workshop on Electromagnetic Phenomena Related to Earthquake Prediction," The University of Electro-Communications, edited by M. Hayakawa and Y. Fujinawa, Chofu Tokyo, Japan, September 6-8, 1993, p. 75.
- 203) E.A. Rauscher, "Earthquake Prediction and Environmental Planning," featured presentation at the Architecture Design Strategies Conference, Frank Lloyd Wright Civic Center, Embassy Suites, San Rafael, CA, Sept. 8-10, 1993.
- 204) R. Bruch, E.A. Rauscher, S. Fuelling, D. Schneider, S. Mannervik and M. Larsson, Collision Processes of Molecules and Atoms, ed. Linden Byass, Encyclopedia of Applied Physics, American Institute of Physics, Volume 10, 437-470, November 1994.
- 205) M. Bailey, R. Bruch and E.A. Rauscher, "Analysis of Excitation Processes in Helium by Fast Electrons and Protons," a UNR Department of Physics progress report and summary 1994.
- 206) M. Bailey, E. Rauscher, R. Bruch, and S. Bliman, "Cross Sections for the Ionization and Ionization-Excitation n^2P^0 for Levels of Helium, $n=2-5$, by Fast Electrons and H^+ , H_2^+ and H_3^+ Ions," University of Nevada, NV, proposal, 1994.

- 207) E.A. Rauscher and W.L. Van Bise, "ELF Electromagnetic Field Effects on EEG of Adult Males", Special Report FOX News, July 1994.
- 208) W.L. Van Bise and E.A. Rauscher, "Ambient Electromagnetic Fields as Possible Seismic and Volcanic Precursors," J. Atmos. Terr. Phys. eds. M. Hayakawa and Y. Fujinawa, 221-242, Terra Sci. Pub. Co., (TERRAPUB), Tokyo, 1994.
- 209) E.A. Rauscher, "An S-Matrix Theory of Alpha Decay," 1994, American Physical Society Nuclear Physics Meeting APS, Williamsburg, VA, October, 1994.
- 210) E.A. Rauscher, M. Bailey, And R. Bruch, "Excitation and Ionization of Helium by Fast Electron and proton Impact Extreme Ultraviolet (EUV) Cross Section Measurements," Sixty First Meeting for the Southeastern Section of the APS, Newport News, Virginia, November 1994.
- 211) E.A. Rauscher, M. Bailey, S. Fuelling and R. Bruch, "Collisions Spectroscopy Ionization-Excitation Cross Sections of Helium by H_n^+ ($n=1$ to 3) and e- Impact," Sixty First Meeting APS, Newport News, VA, November 1994.
- 212) E.A. Rauscher and L. Van Bise, "Specific Geologic Magnetic and Electric Fields and their Emerging Role as Earthquake and Volcanic Early Warning Systems," United Nations World Conference on Natural Disaster Reduction, Yokohama, Japan 23-27, May 1994.
- 213) W. Van Bise and E.A. Rauscher, "Ambient Electromagnetic Field as Possible Seismic and Volcanic Precursors," pp. 221-242, Electromagnetic Phenomena Related to Earthquake Prediction, eds. M. Hayakawa and Y. Fujinawa, Terra Scientific Publishing Co. (TERRAPUB), Tokyo, Japan, 1994.
- 214) E.A. Rauscher, "ELF and RF Fields and Delayed Re-emissions and the Media of and Role in Biological Process," 11 pages, Proceedings of the Second Annual Advanced Science Symposium, Dallas, Texas, October 1996.
- 215) E.A. Rauscher, "Environmental Issues and Global Population: Theoretical Models and Demographic Studies", International Forum on New Science, pp. 215-236, eds. Maury Albertson (who started the Peace Corps.), and Grover, Denver, CO, October 1997.
- 216) E.A. Rauscher, "No Place to Stand, No Place to Go, No Place to Be", A Personal Essay, International Forum on New Science, pg. 209-213, eds. Maury Albertson and J. Grover, Denver, CO, October 1997.
- 217) E.A. Rauscher, "Pulsed Magnetic Field Pain Reduction FDA Studies," Texas Houston Medical Center, Houston, TX, May 29, 1998, Chair, R. Garrison, M.D.

- 218) W. Van Bise and E.A. Rauscher, "Multiple Extremely Low Frequency Magnetic and Electromagnetic Field Effects on Human Electroencephalogram and Behavior," pg. 57-58, the Annual Review of Research on Biological Effects of Electric and Magnetic Fields from the Generation, Delivery and use of Electricity, DOE, EPRI, and the U.S. National Institute of Environmental Health Sciences, Tucson, AZ, September 1998.
- 219) E.A. Rauscher and W. Van Bise, "Degranulation of in Vivo Rat Brain Mast Cells by Exposure to External Pulsed Magnetic Fields", pg. 61, the Annual Review of Research on Biological Effects of Electric and Magnetic Fields from the Generation, Delivery and use of Electricity, DOE, EPRI and the U.S. National Institute of Environmental Health Sciences, Tucson, AZ, September 1998.
- 220) E.A. Rauscher and W. Van Bise "The Relationship of Extremely Low Frequency Electromagnetic and Magnetic Fields Associated with Seismic and Volcanic Natural Activity and Artificial Ionospheric Disturbances," pgs. 459-487, Atmospheric and Ionospheric Electromagnetic Phenomena Associated with Earthquakes, ed. M. Hayakawa, Terra Scientific Pub. Co. (TERRAPUB), Tokyo, Japan, 1999.
- 221) W. Van Bise and E.A. Rauscher, "Ambient Electromagnetic Fields as possible Seismic and Volcanic precursors," Second International Workshop on Magnetic, Electric and Electromagnetic Methods in Seismology and Volcanology, Ministry of Interior; Public Administration and General Secretariat for civil Protection, General Secretariat for Research and Technology, National Institute for Geophysics (ING) and Institute of Advanced Methodologies for Environmental Analysis, IMAAA-CNR, Chania, Greece, September, 1999.
- 222) W. Van Bise and E.A. Rauscher, "The Relationship of Extremely Low Frequency Electromagnetic and Magnetic Fields Associated with Seismic and Volcanic Activity and Natural and Artificial Ionospheric Disturbances," Second Magnetic, Electric and Electromagnetic Methods in Seismology and Volcanology, Ministry of Interior, Public Administration and General Secretariat for Civil Protection, General Secretariat for Research and Technology, National Institute for Geophysics (ING) and Institute of Advanced Methodologies for Environmental Analysis, IMAAA-CNR, Chania, Greece, September 1999.
- 223) W. Van Bise and E.A. Rauscher, "Experimental Detection and Determination of the Properties and Characteristics of Human Remote Intention on a Remote Electronic Sensor System": TRL report PSRL-48642, joint Sponsored Department of Materials Science and Engineering, Stanford University, Stanford, CA, 1999.
- 224) E.A. Rauscher and W. Van Bise, "The Mathematical Structure of Quantum Mechanics and the Role of the Collective Observer," Tecnic Research Laboratory of Arizona Report, PSRL-62748, Draft I 1998, Draft II 1999, sponsored by Stanford University, Stanford, CA 1999.
- 225) E.A. Rauscher and W. Van Bise, "Response of Physiological Parameters to Low Frequency and Low Intensity Pulsed Magnetic Fields"" Frontiers of Science, Temple University Philadelphia, Pennsylvania, 2, 26 (1999).

- 226) E.A. Rauscher and W. Van Bise, "Pulsed Magnetic Fields for Pain Reduction; Chronic Pain, Surgical Recovery and Current Injury" Physicians Study Group, Gladys Taylor Medical Foundation, Phoenix, AZ, October 13, 1999.
- 227) E.A. Rauscher, CNN – T.V. News Reports 1979, 1982, 1986, 1987, 1994, 1999.
- 228) E.A. Rauscher and W.L. Van Bise, "Dynamic Plasma Excitation Modes of Propagation in the Ionosphere Associated with Siesmic and Volcanic Geomagnetic Phenomenon". Workshop on Seismo Electromagnetics", IWSE 2000, Electrocommunications College, Department of Electronic Engineering, Chofu Tokyo, Japan, September 19-21, 2000.
- 229) W.L. Van Bise and E.A. Rauscher, "Detection and Analysis of Precursor Magnetic Signatures Preceding the Recent Greek and Turkey Seismicity of 1999", International Workshop on Seismo Electromagnetics, "IWSE 2000, Electrocommunications College, Department of Electronic Engineering, Chofu Tokyo, Japan, September 19-21, 2000.
- 230) W.L. Van Bise and E.A. Rauscher, "Magnetic Field Impulse Cardiovascular Stimulation for Normalizing a Arrhythmias and/or Heart Block" BEMS, European Bioelectromagnetics Association, Twenty Third Annual Meeting, Page 155, St. Paul, Minnesota, June 10-14, 2001.
- 231) E.A. Rauscher and W.L. Van Bise, "Pulsed Magnetic Field Treatment and Chronic Back Pain", BEMS, European Bioelectromagnetics Association, Twenty Third Annual Meeting, Page 56, St. Paul, Minnesota, June 10-14, 2001.
- 232) E.A. Rauscher and R. Targ, "The Speed of Thought: Investigation of Complex Space Time Metric", International Remote Sensing Association, Workshop, June 15-17, 2001, Texas Station, Las Vegas, Nevada, 2001.
- 233) E.A. Rauscher and R. Targ, "Complex Space-Time Metrics", Journal of Scientific Exploration 15, 331-354, 2001.
- 234) E.A. Rauscher and W.L. Van Bise, "Specific Plasma Ionospheric Excitation Modes in the Ionosphere Produced by Space Vehicle Launch and Re-entry and Natural Phenomena", Joint Fall Meeting American Physical Society Space Physics, Bull. Am. Phys. Soc. EB01, 1300, 2001.
- 235) E.A. Rauscher, "Complex Minkowski Space and Measurement", International Symposium, the Chopra Foundation, San Diego, CA March 18-21, 2002.
- 236) W.L. Van Bise and E.A. Rauscher, "Nonlinear, Coherent, Collective Resonant Plasma Propagation Modes in the Ionosphere", American Physical Society, Bull. Am. Phys. Soc. 47, 169, 2002.

- 237) E.A. Rauscher, “Non-Abelian Gauge Groups for Real and Complex Maxwell’s Equations”, Bull. Am. Phys. Soc. 47, 167, 2002.
- 238) W.L. Van Bise and E.A. Rauscher, “Geomagnetic Precursor Detection, Analysis and Predictive Systems”, Geophysical Division, Beijing Polytechnic Institute University, Beijing, China, September 19, 2002, United Nations Sponsorship for Global Hazard Reduction with the Beijing Polytechnic University, China.
- 239) E.A. Rauscher and W.L. Van Bise, “Medical Application of Pulsed Magnetic Fields in Medicine”, Presentation talk to the Department of Bioelectromagnetism, Beijing Polytechnic Institute University, Beijing, China, October 4, 2002.
- 240) E.A. Rauscher, “Cross Fertilization of Business and Science”, CEA, Conference on Energy and Accountability, College Park, Baltimore, MD, November 9-10, 2002.
- 241) E.A. Rauscher and R. Targ, “Why Only Four Dimensions Will Not Explain Non-Locality”, Journal of Scientific Explorations 16, 655, 2002.
- 242) E.A. Rauscher, “Non-Abelian Gauge Groups for Real and Complex Amended Maxwell Equations” pp. 183-188, eds. R.L. Amoroso, G. Hunter, M. Kafatos, and J.-P. Vigiier, Gravitation and Cosmology: From the Hubble’s Radius to the Planck Scale, Kluwer Academic Press, Dordrecht, Netherlands (2002).
- 243) W.L. Van Bise and E.A. Rauscher, “Detection of Precursor Magnetic and Electric Signatures Preceding the Turkey – Greek seismicity”, EGS – AGU – EUG Joint Assembly, Nice, France, April 2003.
- 244) W.L. Van Bise and E.A. Rauscher, “Detection and Analysis of Precursor Magnetic Signatures Preceding the Turkey and Greek Seismicity”, Geophysical Research Abstracts 5, 14637 (2003).
- 245) E.A. Rauscher, “Study of a Model Bacterial System’s Growth and Motility and the Healing Process”, Presentation to the Berkeley Psychological Research Study Group; Berkeley, CA, June 17, 2003.
- 246) N. Hamein and E.A. Rauscher, “The Quest for the Higgs Boson and Planck Black Hole Production at the CERN Large Hadron Collider”, Bull. Am. Phys. Soc. S8.002, Arizona State University, Tempe, AZ, October 2003.
- 247) N. Hamein and E.A. Rauscher, “A Consideration of Torsion and Coriolis Effects in Einstein’s Field Equations”, Bull. Am. Phys. Soc. S10.016, Arizona State University, Tempe, AZ, October 2003.

- 248) E.A. Rauscher, “Wireless Energy Through the Earth – Ionosphere Cavity”, Integrity Research Institute, Tesla Energy Conference and Exposition, Washington, D.C., November, 2003.
- 249) E.A. Rauscher, “The Unity of Science and Current Physical Theory”, United States, PA, The University of Columbus, Ohio 13, 241 (2004).
- 250) E.A. Rauscher, “Complex Space-Time Metric and Non-Locality”, Featured Speaker ARE Virginia Beach, VA, 2004.
- 251) E.A. Rauscher, “The Unity of Science and Philosophy”, Journal of the ISSSEEM Energy Medicine, 15, 87 (2004).
- 252) E.A. Rauscher and W.L. Van Bise, “Dynamic Plasma Modes of Propagation in the Ionosphere Associated with Seismic and Volcanic Geomagnetic and Geoelectric Fields”, United States, PA, The University of Columbus, Ohio 13, 277 (2004).
- 253) E.A. Rauscher, “Response of Physiological Parameters to Low Frequency and Low Intensity Pulsed Magnetic Fields and Effects on Humans to Make the Blind See”, United States, PA, The University of Columbus, Ohio 14, 295 (2005).
- 254) E.A. Rauscher, “The Relationship of Extremely Low Frequency Electromagnetic and Magnetic Fields Associated with Seismic and Volcanic Natural and Artificial Ionospheric disturbances”, United States, PA, The University of Columbus, Ohio 14, 262 (2005).
- 255) E.A. Rauscher, “General Medical Treatments and Technologies: A Revolution in Medicine and a New Medical View.” Featured Speaker, Banquet Talk Presentation ISSSEEM Medical Conference, Colorado Spring, CO. June 23-24, 2005.
- 256) E.A. Rauscher, “Cosmogenesis and Current Cosmology and the Evolution of its Physical Parameters”, pp 43-72, The Foundation of Cosmology and Quantum Theory, eds. R.L. Amoroso, B. Leahnart and J.-P. Vigier, Noetic Academic Science Press, CA, USA (2005).
- 257) E.A. Rauscher, “Quantum Mechanics and the Role of Action of Measurement”, Beyond the Standard Model: Searching for Unity in Physics, ed. R.L. Amoroso, MIT Press, 2006.
- 258) N. Hamein and E.A. Rauscher, “A Consideration of Torque and Coriolis Forces in Einstein’s Field Equations”, pp 153-168, The Foundation of Cosmology and Quantum Theory, eds. R.L. Amoroso, B. Leahnart and J.-P. Vigier, Noetic Academic Science Press, CA, USA 2006.

- 259) N. Hamein and E.A. Rauscher, “Collective Coherent Oscillations in Plasma Modes in Surrounding Media of Black Holes and Vacuum Structure-Quantum Processes with Considerations of Spacetime Torque and Coriolis Forces”, pp 279-331, Beyond the Standard Model: The Foundations of Cosmology and Quantum Theory, eds. R.L. Amoroso, B. Lehnart and J.-P. Vigi er, Noetic Academic Science Press, CA, USA 2006
- 260) E.A. Rauscher, “The Principles of Physics and the Unity of Science”, Beyond the Standard Model: Searching for Unity in Physics, ed. R.L. Amoroso, MIT Press, 2006.
- 261) W. Winter, N. Hamein, and E.A. Rauscher, “The Dual Torus Solution of the generalized Einstein Field Equations with the Inclusion of Torque”. (to be published)
- 262) R.L. Amoroso and E.A. Rauscher, “On the Possibility of Relativistic Shock-Wave Effects in Cosmological Observations”, International Physics Symposium Casys ’05, Brussels, Belgium (2005), Proceedings pub. 2006.
- 263) E.A. Rauscher and R. Targ, “The Speed of Thought, Investigation of a Complex Space-Time Metric and Non-Locality”, pp 121-146, Frontiers of Time: Retrocausation, Experiment and Theory, ed. D.P. Sheehan, University of San Diego, CA, Presentation, AAAS Meeting, June 2006 and AIP Conference Proceedings, Volume 863 (2006).
- 264) E.A. Rauscher, “Quantum Mechanics and the Role for Consciousness in the Physical World”, Journal of the ISSSEEM, Energy Medicine, 16, 1 (2006).
- 265) E.A. Rauscher, Detection, Recording and Analysis of Precursor magnetic and Electric Signatures Proceeding the Turkey and Greek Seismicity, Fall 1999”, United States, PA, The University of Columbus, Ohio 14, 348, 2006.
- 266) E.A. Rauscher and R.L. Amoroso, “The Physical Implications of Multidimensional Geometries and Measurement”, ed. D.M. Dubois, International Journal of Computing Anticipatory Systems, Volume 19 CHAOS, Institute of Mathematics, University of Liege, Belgium (2006)
- 267) E.A. Rauscher, “Complex Dimensional Space, Penrose Twisters, Nonlocality and Consciousness”, Unified Theories Scientific Conference Proceedings, Institute for Strategic Research, Hall of the Hungarian Cultural Foundation, Budapest, Hungary (2006).
- 268) E.A. Rauscher, “New Clues About Visual Perception and an Expanded View of Consciousness”, Featured Speaker, American Institute of Mental Imagery, ed. G. Epstein, New York, New York, 10128, May 2007.
- 269) E.A. Rauscher, “Everything and All and A Little Bit More: Is all Non Linear Anyway”, ISSSEEM,

Sixteenth Annual Conference, June 2007 Recipient of The Lifetime Achievement Award for Quantum Theory and Consciousness Research (2007).

- 270) E.A. Rauscher, and R.L. Amoroso, “Non Linear Coherent Collective States and Complex Phenomenon”, Computing Anticipatory System, CASYS '07, Institute of Mathematics, University of Liege, Belgium (2007).
- 271) I. Dienes, R.L. Amoroso, E.A. Rauscher, “Emergence of Generalized F-Theory 2-Branes from Parameters of the Dubois Incurive Oscillator”, Computing Anticipatory System, CASYS '07, Institute of Mathematics, University of Liege, Belgium (2007).
- 272) S. Giandinoto, R.L. Amoroso, E.A. Rauscher, “Class II Mesoionic Xanthines as Potential Ten-Qubit Quantum Computer Substrate Registers”, Computing Anticipatory System, CASYS '07, Institute of Mathematics, University of Liege, Belgium (2007).
- 273) N. Hamein, and E.A. Rauscher, “The Role of Black Hole Dynamics and Surrounding Plasma Media in Current Cosmologies”, Computing Anticipatory System, CASYS '07, Institute of Mathematics, University of Liege, Belgium (2007).
- 274) R.L. Amoroso, I. Dienes, S. Giandinoto, G. Hunter, and E.A. Rauscher, “Universal Quantum Computing: Anticipatory Parameters Predicting Bulk Implementation”, Computing Anticipatory System, CASYS '07, Institute of Mathematics, University of Liege, Belgium (2007).
- 275) E.A. Rauscher, Global Coherence Monitoring SystemTM, Institute of HeartMath, IHM Newsletter, pp 1-4 (2007)
- 276) E.A. Rauscher and N. Hamein, “Torsion and its Role in Fundamental and Applied Physics”, The Resonance Project Foundation, in progress.
- 277) N. Hamein and E.A. Rauscher, “A Scaling Law for Organized Matter in the Universe”, The Resonance Project Foundation, in press.
- 278) E.A. Rauscher, Mathematical Medicine: A New Medical Modality (book in progress).