

Elizabeth A. Rauscher, Ph.D.

Biography:

Dr. Elizabeth A. Rauscher received a B.S. in Physics and Chemistry, an M.S. and a Ph.D. in Astrophysics, Nuclear Physics and Engineering from the University of California at Berkeley (UCB). Rauscher was a nuclear scientist and researcher at Lawrence Berkeley National Laboratory from 1962 until 1979, where she served as Chairman from 1974 to 1977. She was a researcher at Stanford Research Institute Radio Physics Laboratory from 1974 until 1978, a Professor of Physics at *John F. Kennedy University of California* from 1978 to 1984, and research consultant to NASA from 1983 to 1985 (space shuttle program). She held a U.S. Navy grant from 1970-1974 through UCB and an Air Force consulting position in 1979.

In 1979 Rauscher started her own company, Tecnic Research Laboratories (TRL) which held a number of government and private industrial grants and contracts.

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 from 1990 to 1995. From 1997 to 1999 she conducted research on generalized Quantum Theory and relativistic invariance under a Stanford Engineering research grant.

Dr. Rauscher served on the Congressional OTA Advisory Committee from 1970 to 1980, and has been Delegate and advisor to the United Nations in 1979, 1989, and 2002. In 2001, Elizabeth Rauscher developed a detailed theory of a hypothesis of consciousness and spacetime based on an eight-dimensional complex Minkowski space. Since 2003 she has been President of Electromagnetic Signal Laboratory of Arizona. Since 2001, Rauscher has been collaborating with scientist Nassim Hamein, Director of Research at The Resonance Project Foundation developing a Unified Field Theory typically referred to as the *Hamein-Rauscher metric* which describes spacetime with the inclusion of a fundamental torque and Coriolis dynamics as a source for spin/angular momentum at all scales.

She is the author of over 250 technical papers, invited presentations, and lectures, four books, and has three U.S. patents and one European patent.

Recognitions

Recognized for major contributions in Marquis Who's Who of Men and Women in Science, Who's Who in California and in Technology Today, Leading Consultants in Technology, DOE top ten men and women in USA science award, USPA Leaders of America Life Time Membership Award. Rauscher also received the award for Outstanding Contribution to Astronomy and Astrophysics, American Astronomical Society Meeting, Lawrence Hall of Science, and the CSPA Hall of Fame Award by the California Society for Physical Studies for Outstanding Research in

Bioelectromagnetism, the Foundations of Quantum Theory, and Contributions to Humanity. Dr. Rauscher is also the recipient of a Medal of Honor for contributions to Unity of the Sciences, Seoul, Korea, and many other awards.

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. ABC/USA Award for contributions to Theoretical Scientific Knowledge, 1991. USPA for the USA Man of the Year Award for fundamental Contributions to Science, particularly Electromagnetic Theory, 1989. The Albert Einstein ARE acknowledgment for the most outstanding woman in science, 2004. The Advanced Institute of Noetic Sciences award for Frontier Sciences award for 2005. Lifetime Achievement Award for the Study of the Foundations of Quantum Theory and Conscious Observer Presented by the ISSSEEM Medical Group, Colorado 2007.

Teaching positions:

Rauscher taught lower and upper division mechanics, graduate courses in classical mechanics and general relativity, a seminar series in astrophysics, undergraduate electromagnetism, lower division mathematics and undergraduate laboratories, and upper division and graduate thermodynamics and lectured at the University of California, Berkeley, 1971-1974. She also proposed, developed and taught a course in scientific method and the philosophy and history of science at UCB in 1971 and 1973, and by invitation at Stanford in 1972, also by invitation at J.F. Kennedy University in California from 1978 to 1984, and the University of Nevada, Reno, 1990-1994. She conceived, started and chaired the Fundamental Physics seminar group at LBNL on the foundations of quantum mechanics and Bell's theorem from 1974 to 1977.

Patents:

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.

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.

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.

Selected Technical Papers and Publications:

E.A. Rauscher, J.O. Rasmussen and K. Harada, "Coupled-Channel, Alpha Decay Rate Theory Applied to $\text{Po}^{212\text{m}}$," UCRL-16351 and Nuclear Physics A94, 33, 1967.

- K. Harada and E.A. Rauscher, "Unified Theory of Alpha Decay," *Physical Review* 169,818, 1968.
- E.A. Rauscher, "Electron Interactions and Quantum Plasma Physics," *Journal of Plasma Physics* 2, 517, 1968.
- E.A. Rauscher, *A Unifying Theory of Fundamental Processes*, UCRL-20808 book, LBNL University of California Press, June 1971.
- E.A. Rauscher, "Closed Cosmological Solutions to Einstein's Field Equations," *Lett. Nuovo Cimento* 3, 661, 1972.
- E.A. Rauscher, "A Possible Group Theoretical Representation of the Generalization Heisenberg Relations," *Lett. Nuovo Cimento* 5, 925, 1972.
- E.A. Rauscher, "The Minkowski Metric for a Multidimensional Geometry," *Lett. Nuovo Cimento* 7, 361, 1973.
- E.A. Rauscher, with TOSABE Group, "LBNL, K-Vacancy Production by 4.88 GeV Protons," *Phys. Rev. A* 14, 2103, 1976.
- 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.
- 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.
- 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.
- 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.
- E.A. Rauscher, with TOSABE Group, LBNL, CA, "In-beam Nuclear Gamma-Ray Studies of Relativistic Heavy Ion Reactions," *Nucl. Phys.* A308, 513, 1978.
- 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.

E.A. Rauscher and C. Ramon, "Superluminal Transformations in Complex Minkowski Spaces," LBL-9752, September 1979 and Found. of Phys. 10, 661, 1980.

E.A. Rauscher, "U.S. Delegate to the Conference on Long-Term Energy Resources," *United Nations Institute for Training and Research (UNITAR)*, November 1979.

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.

E.A. Rauscher, "Solitary Waves, Coherent Non-Dispersive Solutions in Complex Minkowski Spaces," Bull. Amer. Phys. Soc 27, 35, 1982.

E.A. Rauscher, "Electromagnetic and Nonlinear Phenomena in Complex Minkowski Spaces," Bull. Amer. Phys. Soc. 28, 351, 1983.

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.

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.

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).

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.

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