

**KIMBERLEE J. KEARFOTT**  
**Professor**  
**Department of Nuclear Engineering and Radiological Sciences**  
**The University of Michigan**  
**Ann Arbor, MI 48109-2104**

**Educational Background**

<u>Degree</u>	<u>Year</u>	<u>University</u>	<u>Field</u>
Sc. D.	1980	Massachusetts Institute of Technology	Nuclear Engineering
Doctoral Minor	1980	Harvard School of Public Health	Physiology/Medical Physics
M. E. N. E.	1977	University of Virginia	Nuclear Engineering
B. Sc.	1975	St. Mary's University (Nova Scotia)	Engineering
Dip. Engr.	1975	St. Mary's University (Nova Scotia)	Engineering

**Specialized Training**

Bryn Mawr College and HERS, Mid-America, Summer Institute for Women in Higher Education Administration, selected for and completed 4-week intensive training program, 1995  
 Accreditation Board for Engineering and Technology/American Nuclear Society, ABET Engineering Criteria 2000, Accreditation Training for Evaluators, Albuquerque, November 1997

**Employment History**

<u>Title</u>	<u>Organization</u>	
Professor	The University of Michigan Nuclear Engineering and Radiological Sciences	1993 - Present (Tenured 1993)
Professor	Biomedical Engineering	1994 - Present
Professor	Radiology	2003 - Present
Radiological Engineer	Detroit Edison Fermi I and Fermi II Nuclear Power Facilities (through Bartlett Nuclear Services, Inc.)	2000-2001
Faculty Associate	Los Alamos National Lab, Environmental and Health Sciences Division (ESH-4), Inorganic Chemistry (C-SIC)	Summer 2001, 2002
Program Advisor	Radiological Health Engineering	1994 - 2000
Faculty Associate	Institute for the Humanities	1997 - 1998
Director of Faculty Development	College of Engineering	1994 - 1997 (3 year term)
Associate Professor	Georgia Institute of Technology Nuclear Engineering and Health Physics Programs Mechanical Engineering	1989 - 1993 (Tenured 1991)
Associate Professor	Emory University School of Medicine Radiology	1990 - 1993
Associate Professor	Arizona State University Electrical and Computer Engineering	1987 - 1989 (Tenured 1987)
Assistant Professor	Arizona State University Electrical and Computer Engineering	1984 - 1987
Research Associate	Sloan-Kettering Institute for Cancer Research Neurology	1980 - 1984
Assistant Professor	Cornell University Medical School Physics in Neurology	1980 - 1984
Adjunct Assistant Professor	Massachusetts College of Pharmacy Physics and Mathematics	1980
Research Assistant	Massachusetts General Hospital Physics Research Laboratory	1980
Research Assistant	Massachusetts Institute of Technology Nuclear Engineering Department	1977 - 1980
Co-op Engineer	Babcock and Wilcox Co. Nuclear Power Generation Division, Technical Staff	1975 - 1977

**Major Fields of Interest and Expertise:** personnel dosimetry (thermoluminescent detectors, optically stimulated luminescent detectors, novel approaches); environmental radionuclide modeling and measurement (radon, RESRAD and similar codes, *in situ* spectroscopy, tomography); radioactive waste transportation, management, disposal, decommissioning and decontamination; physiological models (PET, SPECT, ICRP, general); internal dose assessment (ICRP/NCRP, MIRD, general); radiation detection and external dosimetry; applied radiation protection (medical health physics, nuclear power plant health physics)

**Additional Fields of Interest and Experience:** positron emission tomography, single photon emission computed tomography, tomographic image reconstruction, digital image formation and processing, mammography, medical imaging quality control and assurance, augmented and virtual reality, new detector material development, history of women in engineering and physics

## I. PUBLICATIONS

### A. Dissertation

“Measurement of Glucose Metabolism Using Positron Imaging and F-18-Labeled Analogs”, Sc. D. Dissertation, July 1980, Advisor: G. Brownell, M. I. T.

### B. Published Books and Parts of Books (Student/Postdoc Authors in Italics)

1. Goodman, M. M., Kearfott, K. J., Elmaleh, D. R., Alpert, N. M., Brownell, G. L., “A Comparison of Carbon-11 and Fluorine-18 Carbohydrates”, in Radiopharmaceuticals: Structure-Activity Relationships, pages 801-833, (R. P. Spencer, Ed.), New York: Grune and Stratton, 1981.

2. Rottenberg, D. A., Ginos, J. Z., Kearfott, K. J., “Assessment of Regional Cerebral Acid-Base Status in Man Using C-11-Dimethylxazolidinedione and Positron Emission Tomography”, in The Metabolism of the Human Brain Studied with Positron Emission Tomography, pages 279-284, (T. Greitz, L. Widén, Eds.), New York: Raven Press, 1985.

3. Trueblood, J. M., *Burch, S. E.*, Kearfott, K. J., *Brooks, K. W.*, “Radiographic Film Digitization”, in Digital Imaging, Medical Physics Monograph No. 22, pages 97-122, (W. R. Hendee, J. M. Trueblood, Eds.), Madison: Medical Physics Publishing Company, 1993.

4. Kearfott, K. J., Votaw, J. R., “The Basics of Positron Emission Tomographic Imaging”, in Chemists' Views of Imaging Centers, pages 3-26, (A.M. Emran, Ed.), New York: Plenum Press, 1995.

5. Kearfott, K. J., Stabin, M., Eds., History of the Medical Uses of Radiation, special issue of Health Physics, vol. 69, no. 5, 1995.

6. Kearfott, K. J., “Issues in External Dosimetry for Medical Personnel”, in External Dosimetry, pages 287-316, (Jack Higginbotham, Ed.), Madison: Medical Physics Publishing Company, 1996.

7. *Calkins, L. M.*, Kearfott, K. J., “Radioactive Waste Management in the Early Nuclear Era: A Survey of Practices and Policy Transitions at U. S. Nuclear Sites 1946-54”, International Symposium on Waste Management Technologies in Ceramic and Nuclear Industry, Session on Historical Aspects of Radioactive Waste Management, in Environmental Issues and Waste Management Technologies in the Ceramic and Nuclear Industries III, pages 169-176, (D. K. Peeler, J. C. Maria, Eds.), Ceramic Transactions, vol. 87, 1998.

8. Kearfott, K. J., *Calkins, L. M.*, “Atomic Energy Commission Educational Programs 1947-52”, International Symposium on Waste Management Technologies in Ceramic and Nuclear Industry, Session on Historical Aspects of Radioactive Waste Management, in Environmental Issues and Waste Management Technologies in the Ceramic and Nuclear Industries III, pages 159-168, (D. K. Peeler, J. C. Maria, Eds.), Ceramic Transactions, vol. 87, 1998.

9. Duscha, L. A., Burns, C. J., Colton, R. J., Kearfott, K. J., Samelson, R. J., Steffan, R. J., Tschinkel, V. J., Uhle, M. E., Zylstra, G. J., Research Opportunities for Managing the Department of Energy's Transuranic and Mixed Wastes, National Research Council, The National Academies Press, Washington, D.C., 2002 (November), 118 pp.

**C. Published Journal Papers (refereed)** (Student/Postdoc Authors in Italics)

1. Brownell, G. L., Ackerman, R. H., Strauss, H. W., Elmaleh, D. R., Cochavi, S., Alpert, N., Correia, J. A., Kearfott, K. J., Taveras, J., “Preliminary Imaging Results with F-18-2-Fluoro-2-deoxy-D-Glucose”, J Comp Assist Tomogr, vol. 4, no. 4, pp. 473-477, 1980.

2. Goodman, M. M., Elmaleh, D. R., Kearfott, K. J., Ackerman, R. H., Hoop, B., Brownell, G. L., Alpert, N. M., Strauss, H. W., “F-18-Labeled 3-deoxy-3-Fluoro-D-Glucose for the Study of Regional Metabolism in the Brain and Heart”, J Nucl Med, vol. 22, no. 2, pp. 138-144, 1981.

3. Rottenberg, D. A., Lu, H. C., Kearfott, K. J., “The *In Vivo* Autoradiographic Measurement of Regional Cerebral Blood Flow Using Stable Xenon and Computerized Tomography: The Effect of Tissue Heterogeneity and Computerized Tomography Noise”, J Cereb Blood Flow Metab, vol. 2, no. 2, pp. 173-178, 1982.

4. Kearfott, K. J., “Absorbed Dose Estimates for Positron Emission Tomography (PET): CO-15, C-11-O, and CO-15-O”, J Nucl Med, vol. 23, no. 11, pp. 1031-1037, 1982.

5. Kearfott, K. J., “Radiation Absorbed Dose Estimates for Positron Emission Tomography (PET): K-38, Rb-81, Rb-82, and Cs-130”, J Nucl Med, vol. 23, no. 12, pp. 1128-1132, 1982.

6. Kearfott, K. J., “Radiation Absorbed Dose Estimates for Positron Emission Tomography (PET): Inert Gases Ne-19 and Kr-77”, Health Physics, vol. 44, no. 3, pp. 235-241, 1983.

7. Kearfott, K. J., Rottenberg, D. A., Deck, M. D. F., “Optimization of Xenon-Enhanced CT Studies: Beam Energy, Enhancement, Root Mean Square Deviation, and Repeatability”, Am J Neuroradiol, vol. 4, no. 2, pp. 195-199, 1983.

8. Kearfott, K. J., Rottenberg, D. A., Volpe, B. T., “Design of Steady-State Positron Emission Tomography Protocols for Neurobehavioral Studies: CO-15-O and Ne-19”, J Comput Asst Tomogr, vol. 7, no. 1, pp. 51-58, 1983.

9. Kearfott, K. J., Junck, L., Rottenberg, D. A., “C-11 Dimethylloxalidinedione (DMO): Biodistribution, Radiation Absorbed Dose, and Potential for PET Measurement of Regional Brain pH”, J Nucl Med, vol. 24, no. 9, pp. 805-811, 1983.

10. Brownell, G. L., Kearfott, K. J., Kairento, A. L., Elmaleh, D. R., Alpert, N. M., Correia, J. A., Wechsler, L., Ackerman, R. H., “Quantitation of Regional Cerebral Glucose Metabolism”, J Comput Assist Tomogr, vol. 7, no. 5, pp. 919-924, 1983.

11. Kearfott, K. J., Carroll, L. R., “Evaluation of the Performance Characteristics of the PC 4600 Positron Emission Tomograph”, J Comput Assist Tomogr, vol. 8, no. 3, pp. 503-513, 1984.

12. Kearfott, K. J., Elmaleh, D. R., Goodman, M., Correia, J. A., Alpert, N. M., Ackerman, R.

- H., Brownell, G. L., Strauss, W. H., "Comparison of 2- and 3-F-18-Fluoro-Deoxy-D-Glucose for Studies of Tissue Metabolism", Int J Nucl Med Biol, vol. 11, no. 1, pp. 15-22, 1984.
13. Kearfott, K. J., Lu, H. C., Rottenberg, D. A., Deck, M. D. F., "The Effects of CT Drift on Xenon/CT Measurement of Regional Cerebral Blood Flow", Med Phys, vol. 11, no. 5, pp. 686-689, 1984.
14. Kearfott, K. J., Rottenberg, D. A., Knowles, R. J. R., "A New Headholder for PET, CT, and NMR Imaging", J Comput Assist Tomogr, vol. 8, no. 6, pp. 1217-1220, 1984.
15. Kearfott, K. J., "(A Statistical Model for Positron Emission Tomography) Comment: Practical Considerations", J Am Statistical Assn, vol. 80, no. 389, pp. 26-28, 1985.
16. Rottenberg, D. A., Ginos, J. Z., Kearfott, K. J., Junck, L., Dhawan, V., Jarden, J. O., "In vivo Measurement of Brain Tumor pH Using C-11-DMO and Positron Emission Tomography", Ann Neurol, vol. 17, no. 1, pp. 70-79, 1985.
17. *Gruppen, M. E.*, Kearfott, K. J., "Numerical Analysis of Infrared Laser Heating in Thermoluminescent Material Layers", J Appl Phys, vol. 64, no. 3, pp. 1044-1049, 1988.
18. Kearfott, K. J., "Preliminary Experiences with Rn-222 in Arizona Homes", Health Physics, vol. 56, no. 2, pp. 169-179, 1989.
19. Kearfott, K. J., "Sinograms and Diagnostic Tools for the Quality Assurance of a Positron Emission Tomograph", J Nucl Med Tech, vol. 17, no. 2, pp. 83-87, 1989.
20. Kearfott, K. J., *Murray, D.*, "An Inexpensive Miniaturized Linear CdTe Detector Array System", Health Physics, vol. 57, no. 5, pp. 825-830, 1989.
21. Kearfott, K. J., "Long-Term Performance of a Multiplanar Positron Emission Tomograph", J Nucl Med, vol. 30, no. 8, pp. 1378-1385, 1989.
22. Kearfott, K. J., Rucker, R. H., "Median Polish for Quality Assurance of a PET Scanner", J Comput Assist Tomogr, vol. 13, no. 5, pp. 932-939, 1989.
23. Kearfott, K. J., "Performance of a Well Counter and a Dose Calibrator for Quantitative Positron Emission Tomography", Health Physics, vol. 57, no. 4, pp. 623-629, 1989.
24. *Gruppen-Shemansky, M. E.*, Kearfott, K. J., Hirleman, E. D., "Numerical Analysis of Infrared Laser Heating in Thermoluminescent Material Layers: The Focused Laser Case", J Appl Phys, vol. 66, no. 7, pp. 3407-3409, 1989.
25. Kearfott, K. J., *Kluksdahl, E. M.*, "Effects of Axial Spatial Resolution and Sampling on Object Detectability and Contrast for Multiplanar Positron Emission Tomography", Med Phys, vol. 16, no. 5, pp. 785-790, 1989.
26. Kearfott, K. J., *Murty, K. N.*, "A High Spatial Resolution Computerized Electro-Optic Radiation Detector Array", Health Physics, vol. 58, no. 1, pp. 99-105, 1990.
27. Kearfott, K. J., *Hill, S. E.*, "Simulated Annealing Image Reconstruction Method for a Pinhole Aperture Single Photon Emission Computed Tomograph (SPECT)", IEEE Trans Med Imaging, vol. 9, no. 2, pp. 128-143, 1990.
28. Kearfott, K. J., "Feasibility of Simultaneous and Sequentially Administered Dual Tracer Protocols for Measurement of Regional Cerebral Hematocrit Using Positron Emission Tomography", Phys Med Biol, vol. 35, no. 2, pp. 249-258, 1990.

29. Bandy, D. J., Kearfott, K. J., "New Phantom Design for Mapping Spatial Resolution in SPECT Imaging", J Nucl Med Tech, vol. 18, no. 1, pp. 34-37, 1990.
30. Kearfott, K. J., *Gruppen-Shemansky, M. E.*, "Positional Radiotherapy Beam Dosimetry Using a Laser Heated Thermoluminescent Plate", Med Phys, vol. 17, no. 3, pp. 429-435, 1990.
31. Kearfott, K. J., *Gruppen-Shemansky, M. E.*, "Design of a Positionally Sensitive Laser-Heated Thermoluminescent Detector System", Health Physics, vol. 59, no. 4, pp. 421-431, 1990.
32. Kearfott, K. J., *Nabelssi, B. K.*, Rucker, R. H., Klingler, G. W., "Evaluation of Two Thermoluminescent Detection Systems for Medical Imaging Environments", Health Physics, vol. 59, no. 6, pp. 827-836, 1990.
33. Faulkner, D. B., Kearfott, K. J., Manning, R. G., "Planning of a Clinical PET Facility", J Nucl Med Tech, vol. 19, no. 1, pp. 5-19, 1990.
34. Kearfott, K. J., "Dual-lumen Catheters: Quality Control Tests for Radiopacity", Intl J Rad Appl Instru Part A: Appl Rad and Isot, vol. 42, no. 5, pp. 463-469, 1991.
35. Kearfott, K. J., *Chesser, J. M.*, *Mitchell, H. E.*, Coombs, M. A., "Apparent Dose Equivalents Resulting from Severe Heating of Film Dosimeters", Health Physics, vol. 60, no. 4, pp. 597-601, 1991.
36. Kearfott, K. J., Carey, J. E., *Clemenshaw, M. N.*, Faulkner, D. B., "Radiation Protection Design for a Clinical Positron Emission Tomography (PET) Imaging Suite", Health Physics, vol. 63, no. 5, pp. 581-589, 1992.
37. Kearfott, K. J., Metzger, R. L., Kraft, K. R., Holbert, K. E., "Underground Air Returns as Active Transportation Pathways for Radon Gas Entry into Homes", Health Physics, vol. 63, no. 6, pp. 665-673, 1992.
38. Kearfott, K. J., Metzger, R. L., Kraft, K. R., Holbert, K. E., "Mitigation of Elevated Indoor Radon Gas Resulting From Underground Air Return Usage", Health Physics, vol. 63, no. 6, pp. 674-680, 1992.
39. Kearfott, K. J., *Juang, R. J.*, Marzke, M. W., "Implementation of Digital Stereo Imaging for Analysis of Metaphyses and Joints in Skeletal Collections", Medical and Biological Engineering and Computing, vol. 31, no. 2, pp. 149-156, 1993.
40. *Brooks, K. W.*, Trueblood, J. H., Kearfott, K. J., "Subjective Evaluations of Mammographic Accreditation Phantom Images by Three Observer Groups", Investigative Radiology, vol. 29, no. 1, pp. 42-47, 1994.
41. *Windham, J. R.*, Kearfott, K. J., *Mis, F. J.*, "Discrepancies in Committed Effective Dose Equivalents Calculated Using United States Nuclear Regulatory Commission Regulatory Guide 8.34", Health Physics, vol. 67, no. 5, pp. 486-494, 1994.
42. Kearfott, K. J., *Han, S.*, McMahan, K. L., *Samei, E.*, "Sensitivity of a Mixed Field Dosimetry Algorithm to Uncertainties in Thermoluminescent Element Readings", Health Physics, vol. 68, no. 3, pp. 340-349, 1995.
43. *Samei, E.*, Kearfott, K. J., Wang, C-K. C., "Numerical Modeling of a New Method for Determination of Shallow Dose and Deep Dose in Low-LET Radiation Fields", Radiation Protection Dosimetry, vol. 58, no. 2, pp. 103-114, 1995.

44. Samei, E., Kearfott, K. J., Wang, C. -K., Han, S., "Impact of Variations in Physical Parameters on Glow Curves for Planchet Heating of TL Dosimeters", Nuclear Instrumentation and Methods Phys. Res. A, vol. 353, pp. 415-419, 1994.
45. Samei, E., Kearfott, K. J., "A Limited Bibliography of Atomic Energy Commission-Funded Human Radiation Experiments", Health Physics, vol. 69, no. 6, pp. 885-891, 1995.
46. Kearfott, K. J., Zhu, M., "A Comparison of Values of Annual Limits on Intake Presented in ICRP 61 and 10 CFR Part 20 1991", Health Physics, vol. 70, no. 4, pp. 552-555, 1996.
47. Samei, E., Kearfott, K. J., Gillespie, T. J., Wang, C. -K.C., "An Atlas of Selected Beta Ray Spectra and Depth Dose Distributions in Lithium Fluoride and Soft Tissue Generated by a Fast Monte-Carlo-Based Sampling Method", Radiation Physics and Chemistry, vol. 48, no. 6, pp. 719-725, 1996.
48. Johnson, W. H., Kearfott, K. J., "Lost Life Expectancy Rate: An Application to Environmental Levels of Radiation", Health Physics, vol. 73, no. 2, pp.312-319, 1997.
49. Simpkins, R. W., Kearfott, K. J., "The Minimum Number of Observations Necessary to Develop an Average Thermoluminescent Dosimeter Element Correction Factor", Radiation Protection Management, vol. 13, no. 6, pp. 55-61, 1997.
50. Burch, S. E., Kearfott, K. J., Trueblood, J. H., Shiels, W. C., Yeo, J. I., Wang, C. K. C., "A New Approach to Film Dosimetry for High Energy Photon Beams: Lateral Scatter Filtering", Medical Physics, vol. 24, no. 5, pp. 775-783, 1997.
51. Brooks, K. W., Trueblood, J. H., Kearfott, K. J., Lawton, D., "Automated Analysis of the American College of Radiology Mammographic Accreditation Phantom Images", Medical Physics, vol. 24, no. 5, pp. 709-723, 1997.
52. Benke, R. R., Kearfott, K. J., "Comparison of In Situ and Laboratory Gamma Spectroscopy of Natural Radionuclides in Desert Soil", Health Physics, vol. 73, no. 2, pp. 350-361, 1997. [cover article]
53. Manuca, D., Kearfott, K. J., "Effects of Intake Function Shape on Estimations of Internal Dose", Health Physics, vol. 75, no. 1, pp. 76-84, 1998.
54. Wood, J. L., Benke, R. R., Rohrer, S. M., Kearfott, K. J., "A Comparison of Minimum Detectable and Proposed Maximum Allowable Soil Concentration Cleanup Levels for Selected Radionuclides", Health Physics, vol. 76, no. 4, pp. 413-417, 1999.
55. Branch, C. J., Kearfott, K. J., "Positional Glow Curve Simulation for Thermoluminescent Detector (TLD) System Design", Nuclear Instrumentation and Methods Phys. Res. A, vol. 442, pp. 638-642, 1999.
56. Hsu, H. H., Kearfott, K. J., "Criticality Dosimetry Using a Sulfur Disk and A Priori Neutron Spectral Knowledge", Nuclear Instrumentation and Methods Phys. Res. A, vol. 442, pp. 626-628, 1999.
57. Hsu, H. H., Kearfott, K. J., "Effects of Neutron Source Selection on Land-Mine Detection Efficiency", Nuclear Instrumentation and Methods Phys. Res. A, vol. 442, pp. 914-918, 1999.
58. Deogracias, E. C., Wood, J. L., Wagner, E. C., Kearfott, K. J., "Polynomial Expressions of Electron Depth Dose as a Function of Energy in Various Materials: Applications to Thermoluminescence (TL) Dosimetry", Nuclear Instrumentation and Methods Phys. Res. A, vol. 442, pp. 629-637, 1999.

59. Benke, R. R., Kearfott, K. J., "Soil Sample Moisture Content as a Function of Time During Oven Drying for Gamma Spectroscopic Measurements", Nuclear Instrumentation and Methods Phys. Res. A, vol. 442, pp. 817-819, 1999.
60. Benke, R. R., Kearfott, K. J., "Accounting for  $^{222}\text{Rn}$  Loss During Oven Drying for the Immediate Laboratory Gamma-ray Spectroscopy of Collected Soil Samples", Applied Radiation and Isotopes, vol. 52, no. 2, pp. 271-287, 2000.
61. Kearfott, K. J., Han, S., Wagner, E. C., Samei, E., Wang, C.-K. C., "Numerical Simulation of a TLD Pulsed Laser-Heating Scheme for Determination of Shallow Dose and Deep Dose in Low-LET Radiation Fields", Applied Radiation and Isotopes, vol. 52, no. 6 (June), pp. 1419-1429, 2000.
62. Hamilton, D. S., Peck, M., Yu, H., Kearfott, K. J. "Computer-Based Radiation Safety Training For Hospital Radiation Workers", Operational Radiation Safety, vol. 78, no. 1, pp. 54-58, 2000.
63. Benke, R. R., Kearfott, K. J., "Suggested Sample Processing Procedure for Immediate Gamma-Ray Spectroscopy Determinations of Ra-226 Activities in Soil Samples", Radioactivity and Radiochemistry, vol. 10, no. 4, pp. 34-41, 1999.
64. Baciak, J. E., Kearfott, K. J., "Review of Fetal Radiation Dose Protection and Dosimetry Issues for Medical Procedures", J Rad Prot Man, vol. 17, no. 1, pp. 39-42, 2000. Also printed in RSO Magazine, vol. 5., no. 2, pp. 13-16, 2000.
65. Shapiro, B., Rufini, V., Jarwan, A., Geatti, O., Kearfott, K.J., Fig, L. M., Kirkwood, I. D., Gross, M. D., "Artifacts, Anatomical and Physiological Variants, and Unrelated Diseases that Might Cause False-Positive Whole-Body  $^{131}\text{I}$  Scans in Patients with Thyroid Cancer", Seminars in Nuclear Medicine, vol. XXX, no. 2 (April), pp. 115-132, 2000.
66. Donnell, J. A., Kearfott, K. J., "Teaching Radiation Safety Students to Write: A Classroom Strategy", J Rad Prot Man, vol. 17, no. 2, pp. 23-29, 2000. Also printed in RSO Magazine, vol. 5, no. 3, pp. 15-22, 2000.
67. Kearfott, K. J., (Peacock-)Homiller, S. L., Dowling, M. M., "Effects of Containers and Supports on Sensitivity of Thermoluminescent Detectors for Environmental Monitoring", J Rad Prot Man, vol. 17, no. 6, pp. 26-32, 2000.
68. Benke, R. R., Kearfott, K. J., "An Improved *In Situ* Method for Determining Depth Distributions of Gamma-Ray Emitting Radionuclides", Nuclear Instruments and Methods in Phys. Res. A, vol. 463, no. 1-2, pp. 393-412, 2001.
69. Benke, R. R., Kearfott, K. J., "Demonstration of a Collimated *In Situ* Method for Determining Depth Distributions Using Gamma Ray Spectroscopy", Nuclear Instruments and Methods in Phys. Res. A, vol. 482, no. 3, pp. 814-831, 2002.
70. Steinman, R. L., Kearfott, K. J., Weiner, R. F., "A Comparison of Transient Dose Model Predictions and Experimental Measurements", Health Physics, vol. 83, no. 4, pp. 504-511, 2002.

**D. Published Papers, Reports, and News Items (non-refereed)** (Student/Postdoc Authors in Italics)

1. Kearfott, K. J., "Global Temperature Effects of Man's Contributions to the Carbon Dioxide Content of the Atmosphere", Project Concern: Environmental Research Studies, vol. I, St. Mary's University Press, January 1974.

2. Oelkers, E., Heller, A. S., Farnsworth, D. A., Kearfott, K. J., "Statistical Core Design", Babcock and Wilcox Company publication NPGD-TM-416, October 1977.
3. Harvey, P., Kearfott, K. J., "John McKlveen 1943-1991", Health Physics Society Newsletter, vol. XIX, no. 8, p. 14, 1991.
4. Kearfott, K. J., Holbert, K., "John McKlveen 1943-1991", Health Physics, vol. 61, no. 6, pp. 929-930, 1991.
5. Bolch, W., Kearfott, K. J., "Undergraduate and Graduate Health Physics Academic Programs", Health Physics Society Newsletter, vol. XX, no. 1, insert (4 pp.), 1992.
6. Kearfott, K. J., "Latest Video Course Offerings for Georgia Tech's M. S. H. P. Degree", Health Physics Society Newsletter, vol. XX, no. 3, p. 21, 1992.
7. Bolch, W., Kearfott, K. J., "Health Physics Degree Programs and Fellowships/Scholarships", Health Physics Society Newsletter, vol. XX, no. 7, insert (7 pp.), 1992.
8. Kearfott, K. J., "1992 Elda E. Anderson Award Acceptance Speech", Health Physics Society Newsletter, vol. XX, no. 9, pp. 18-19, 1992.
9. Kearfott, K. J., "Underground Air Returns as Pathways for Radon Gas Entry into Homes: Detection and Mitigation", in Masters of Innovation IV 1992 Competition Abstracts of Entries, page 118, Buffalo Grove, IL, Zenith Data Systems (1992).
10. Kearfott, K. J., "The Environmental Protection Agency's Radiation Site Cleanup Regulation", Health Physics Society Newsletter, vol. XXI, no. 12, p. 12, 1993.
11. Kearfott, K. J., "Symposium on Radiation Measurements and Applications", Health Physics Society Newsletter, vol. XXII, no. 1, p. 22, 1994 and vol. XXII, no. 5, p. 28, 1994.
12. Kearfott, K. J., "Nuclear Regulatory Commission Radiological Criteria for Decommissioning", Health Physics Society Newsletter, vol. XXII, no. 4, p. 18, 1994.
13. Kearfott, K. J., "University of Michigan Announces Radiological Health Engineering Program", Health Physics Society Newsletter, vol. XXII, no. 4, p. 22, 1994.
14. Kearfott, K. J., Wang, C.-K. C., "Mixed Field Dosimetry Using Focused and Unfocused Laser Heating of Thermoluminescent Materials", Idaho National Engineering Laboratory Report on DOE Nuclear Engineering Education Research Grant Program, DOE/ID-10470, p. 11, 1994. (Abstract)
15. *Windham, J. R., Kearfott, K. J., Mis, F. J.*, "Discrepancies in Committed Effective Dose Equivalents Calculated using U. S. Nuclear Regulatory Commission Regulatory Guide 8.34 Suggested Methods", Department of Energy Report DOE/OR/00033-T588, 1994.
16. Kearfott, K. J., "University of Michigan M. Eng. Radiological Health Engineering: Success during First Year!", International Radiation Physics Society Bulletin, vol. 9, no. 2, p. 5, 1995.
17. Kearfott, K. J., "Michigan's Master of Engineering Degree in Radiological Health", Radwaste Magazine, vol. 2, no. 4, p. 8, 1995.
18. Kearfott, K. J., "U. M. Radiological Engineering Program Update", Health Physics Society Newsletter, vol. XXIII, no. 7, p. 30, 1995.



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20. Kearfott, K. J., “Graduate Medical Health Physics Studies in the University of Michigan Department of Nuclear Engineering and Radiological Sciences (NERS)”. Medical Health Physics E-Mail Newsletter, vol. 2, no. 4, [listserv.medhp-e@slac.stanford.edu](mailto:listserv.medhp-e@slac.stanford.edu) (7 December 1999). [invited]

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## **E. Book Reviews**

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#### **F. Editorials and Letters to the Editor**

1. Rottenberg, D. A., Lu, H. C., Kearfott, K. J., Dhawan, V., "Letter to the Editor (Measurement of Regional Cerebral Blood Flow Using Stable Xenon and Computerized Tomography)", J Cerebr Blood Flow Metabol, vol. 3, no. 1, pp. 137-138, 1983. (Letter to the Editor)
2. Kearfott, K. J., "Innovations in Radon Control: The Time Has Come", Forum for Applied Research and Public Policy, vol. 4, no. 2, pp. 110-111, 1989.
3. Kearfott, K. J., "Swords to Plowshares", Atlanta Journal Constitution, September 24, 1992. (Letter to the Editor)
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5. Kearfott, K. J., "Health Physics Language and Professionalism", Health Physics, vol. 66, no. 3, pp. 235-236, 1994. (Editorial)
6. Kearfott, K. J., "Health Physics Language and Professionalism: Reply to Muse and Poston", Health Physics, vol. 67, no. 3, pp. 235-236, 1994. (Letter to the Editor)
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8. Kearfott, K. J., "ICRU 50 Revisited: Reply to Bourland", Health Physics, vol. 69, no. 4, p. 581, 1995. (Letter to the Editor)
9. Kearfott, K. J., "Medical Uses of Radiation—The First Hundred Years in Review", Health Physics, vol. 69, no. 5, p. 609, 1995.
10. Kearfott, K. J., "Radiation is Effective Way to Preserve Food", The Ann Arbor News, July 27, 2000. (Letter to the Editor)
11. Kearfott, K. J., "Power Plants Can Be Good Neighbors", The Detroit Free Press, May 23, 2001. (Letter to the Editor)
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13. Kearfott, K. J., "It's Time to Recycle Spent Nuclear Fuel", The Detroit News, November 12, 2001. (Commentary/Opinion Editorial)

## II. CONFERENCE PUBLICATIONS, PRESENTATIONS, AND MEDIA APPEARANCES

### A. Invited Conference and Keynote Addresses (Student/Postdoc Authors in Italics)

1. Kearfott, K. J., "Use of Positron Imaging and  $^{18}\text{F}$ -labeled Analogs for the Measurement of Glucose Metabolism", Annual American Chemical Society Meeting, New York, NY, August 1981. [invited]
2. Kearfott, K. J., "PET: Wave of the Future?", Pacific Interurban Clinical Club Annual Meeting, Phoenix, AZ, November 1985. [keynote]
3. Kearfott, K. J., "Performance of the Panasonic 515AN TLD Reader", Panasonic Industrial Systems Annual TLD User's Meeting, Santa Monica, CA, June 1987. [invited]
4. Kearfott, K. J., "Positron Emission Tomography/Single Photon Emission Computed Tomography: State of Instrumentation", IEEE Computer Elements Workshop, Mesa, AZ, December 1987. [invited]
5. Kearfott, K. J., "Radon Gas: Detection and Abatement", American Lung Association Conference on Indoor Air Quality, Phoenix, AZ, May 1988. [keynote]
6. Kearfott, K. J., "Laser Heating of TLDs", "The Medical TLD Market", "Film Dosimetry: Adverse Heating Effects", "Radon: The Next Frontier", Panasonic TLD Meeting, Orlando, FL, June 1988. [invited]
7. Kearfott, K. J., "Radon and Human Health", Northwest Occupational Health Conference, Spokane, WA, October 1988. [keynote]
8. Kearfott, K. J., "PET Instrumentation", Southern California Chapter of the Society of Nuclear Medicine Spring Meeting, Tempe, AZ, April 1989. [keynote]
9. Kearfott, K. J., "Radon Gas", Arizona Jr. Academy of Science 33rd Annual Meeting, Tempe, AZ, May 1989. [keynote]
10. Kearfott, K. J., "Simulated Annealing Image Reconstruction Method for a Pinhole Aperture Single Photon Emission Computed Tomograph (SPECT)", Southeast American Association of Physicists in Medicine Annual Meeting, Charleston, SC, March 1991. [invited]
11. Kearfott, K. J., "Health Physicists: The Fire-keepers of Nuclear Science", Elda E. Anderson Acceptance Speech, Annual Meeting of the Health Physics Society, Columbus, OH, June 1992. [keynote]
12. Kearfott, K. J., "Radiation Medicine to Benefit Humanity", University Working Conference on "Meeting the Challenge of Nuclear Engineering Education in the 21st Century", Philadelphia, PA, June 1995. [keynote]
13. Kearfott, K. J., "Weaving a Web: Nuclear Engineering Education through the Millennium", University Working Conference on "Building on the Past, Planning for the Future", Reno, NV, June 1996. [keynote]
14. Kearfott, K. J., *Calkins, L. M.*, "Atomic Energy Commission Educational Programs 1947-52", American Ceramic Society Annual Meeting, International Symposium on Waste Management Technologies in Ceramic and Nuclear Industry, Session on Historical Aspects of Radioactive Waste Management, Cincinnati, OH, May 1997. [invited]

15. *Calkins, L. M., Kearfott, K. J., "The Phoenix Project at the University of Michigan, 1945-60"*, American Nuclear Society, Albuquerque, NM, November 1997. [invited; Kearfott presented]

16. Kearfott, K. J., "Dixie Lee Ray and Elda Emma Anderson: Role Models for All", American Nuclear Society, President's Special Session "Celebration of Women in Nuclear Engineering and Science", Boston, MA, June 1997. [invited]

**B. Conference Presentations with Proceedings: Abstracts (refereed)**  
(Student/Postdoc Authors in Italics)

1. Goodman, M. M., Elmaleh, D. R., Merk, L., Lade, R., Kearfott, K., Varnum, D., Kapiwoda, S., Brownell, G. L., Strauss, H. W., "F-18-2- and 3-Fluorodeoxy-D-glucose as Potential Diagnostic Tracers for Tumors", J Nucl Med, vol. 21, no. 6, p. 37, 1980.

2. Elmaleh, D. R., Kearfott, K., Goodman, M., Varnum, D., Lade, R., Ackerman, R., Strauss, H. W., Brownell, G. L., "A Comparison of the Biodistribution of 2-F-18-FDG and 3-F-18-FDG in Mice, Rats and Dogs", J Nucl Med, vol. 21, no. 6, p. 13, 1980.

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6. Kearfott, K. J., Junck, L. R., Rottenberg, D. A., "Biodistribution, Radiation Dosimetry and Potential of C-11 Dimethylloxazolidinedione for Positron Emission Tomography", J Nucl Med, vol. 24, no. 5, p. P107, 1983.

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13. Phillips, P. C., Dhawan, V., Kearfott, K. J., Jarden, J. O., Rottenberg, D. A., "Regional

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**C. Conference Presentations with Proceedings: Papers (refereed) (Student/Postdoc Authors in Italics)**

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**D. Conference Presentations with Proceedings (non-refereed)** (Student/Postdoc Authors in Italics)

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#### **E. Conference Presentations without Proceedings** (Student/Postdoc Authors in Italics)

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7. Kearfott, K. J., "Planning a Clinical Positron Emission Tomography (PET) Facility", Annual Meeting of the Southeast Chapter of the American Association of Physicists in Medicine, Savannah, GA, March 1992.
8. Brooks, K. W., Trueblood, J. T., Peng, J. P., David, G., Kearfott, K. J., "Analysis of Subjective Evaluations of ACR Mammography Accreditation Phantom Images", Georgia University System Symposium on Research, May 1992.
9. Samei, E., Fischer, K., Miyamoto, J., Leonard, C., Rojas, R., Park, J., Kitley, A., Harris, H., Kearfott, K. J., "An Overview of Federally Assisted Human Radiation Experiments of the 1940's, 50's, and 60's", Great Lakes Chapter of the Health Physics Society, Spring Meeting, Ypsilanti, MI, April 1994.
10. Samei, E., Kearfott, K. J., Harris, H., Fischer, K., Kitley, A., Miyamoto, J., Leonard, C., Rojas, R., Park, J., "An Overview of Human Radiation Experiments Funded by the Atomic Energy Commission Before 1970", Health Physics Society Annual Meeting (Work-in-Progress), June 1994.
11. Samei, E., Kearfott, K. J., "Introducing a New Method for Determination of Shallow Dose and Deep Dose in Low-LET Radiation Fields Using Thermoluminescent Dosimeters", Great Lakes Chapter Health Physics Society Annual Symposium, March 1995. [First Place Award]
12. Kerrembaev, E., Kearfott, K. J., "Radiation Monitoring in the Chernobyl Zone", Annual Meeting of the Health Physics Society, Boston, MA, June 1995.
13. Agrawal, G., Carey, J. E., Kearfott, K. J., "A Simple Technique for Improvement of *In Vivo* Activity Estimation for I-131 Using Dual Headed Gamma Cameras", Michigan Section American Nuclear Society, January 1996.
14. Samei, E., Flynn, M. J., Kearfott, K. J., "Development of Externally-Placed Phantoms for Accurately Simulating Subtle Lung Nodules", Great Lakes Chapter Health Physics Society Annual Symposium, March 1996.
15. Samei, E., Flynn, M. J., Kearfott, K. J., "Assessment of Image Quality for Digital Radiographic Systems", Great Lakes Chapter American Association of Physicists in Medicine Annual Symposium, March 1997. [Siemens/Norman Horowitz Award]
16. Branch, C. J., Kearfott, K. J., "Using Virtual Reality in Health Physics- Preliminary Results", Great Lakes Chapter American Association of Physicists in Medicine Annual Symposium, March 1998.
17. Benke, R., R., Kearfott, K. J., "Assessment of Rn-222 Loss in Collected Soil Samples", Great Lakes Chapter American Association of Physicists in Medicine Annual Symposium, March 1998.
18. Wagner, E. C., Kearfott, K. J., "Adaptation and Analysis of the SPUNIT Code to Dose Curve Deconvolution in Thermoluminescent Detectors", Great Lakes Chapter American Association of Physicists in Medicine Annual Symposium, March 1998.
19. Demore, D. M., Spisar, M., Mintzer, R. A., Henry, D., Kearfott, K., Aarsvold, J. N., "Photomultiplier Tube Characterization using Pulsed LEDs", Great Lakes Chapter American Association of Physicists in Medicine Annual Symposium, March 1998.
20. Steinman, R. L., Kearfott, K. J., "Issues in Radioactive Waste Transportation", Michigan Section American Nuclear Society, Section Meeting, January 1999.

21. *Marcinkowski, K. A., Kearfott, K. J.*, “A Comparison of Dose Estimations from Radiological Monitoring With and Without As-Measured Data Reporting”, University of Michigan GE Undergraduate Research Programs Annual Symposium, April 1999.

22. *Hamilton, D., Kearfott, K. J.*, “Computer-Based Radiation Safety Training for Hospital Radiation Workers”, Great Lakes Chapters of AAPM and HPS Annual Symposium, May 1999.

23. *Kearfott, K. J., Baciak, J. E., Conley, T.*, “Review of Fetal Radiation Dose Protection and Dosimetry Issues for Medical Procedures”, Kansas Radiation Control Program Workshop 2000, May 2000.

24. *Henley, C. P., Kearfott, K. J., West, W. G., Kalchik, A. F., Granzow, D. A., McDonald, J. T.*, "Design of an Inexpensive, Flexible, Shielded Cave for Environmental Radioactivity Measurements ", Undergraduate Research Opportunities Program (UROP) Symposium, March, 2003.

#### **F. Seminar Presentations and Invited Talks (non-conference)**

1. “Women in Non-traditional Careers”, Northern Essex Community College, MA, May 1979.

2. “Women in Technology”, Northern Essex Community College, MA, April 1980.

3. “PET Scanners”, Hoescht Science Writers U.S. Tour, New York, NY, August 1982.

4. “Neurobehavioral Studies Using PET”, ASE 496, Biomedical and Premedical Engineering Professional Seminar, Arizona State University, Tempe, AZ, September 1984.

5. “Instrumentation for PET”, E. E. Graduate Seminar, Arizona State University, Tempe, AZ, November 1984.

6. “Basics of Tomography”, Biomedical Engineering Society Seminar, Arizona State University, Tempe, AZ, November 1984.

7. “PET at M. S. K. C. C.”, Barrow's Neurological Institute Neurosciences Research Seminar, Phoenix, AZ, March 1985.

8. “A Clinical Health Physics Experience with PET”, Arizona Health Physics Society, Phoenix, AZ, September 1985.

9. “From PET to SPECT”, University of Arizona Optical Sciences Seminar, Tucson, AZ, September 1985.

10. “Tomographic Nuclear Medicine”, Sun Cities Physicians Club, Sun City, AZ, October 1985.

11. “Clinical Engineering: An Atypical Experience”, Mesa Community College, Mesa, AZ, October 1985.

12. “Tomographic Imaging: The A. S. U. MiniSPECT”, Friendship Village Kiwanis Club, Mesa, AZ, January 1986.

13. “Careers in Biomedical Instrumentation Design”, ECE396, E. E. Professional Seminar, Arizona State University, Tempe, AZ, March 1986.

14. “Biomedical Imaging”, A. S. U. Family/Leaders' Day, Tempe, AZ, September 1986 (2 presentations).

15. "Design of Instruments for Emission Tomography: Mathematical Implications", Computational Mathematics Professional Seminar, Arizona State University, Tempe, AZ, November 1986.
16. "Design of Instrumentation for Emission Tomography: New Applications Possible", Neurosciences Discussion Group, Arizona State University, Tempe, AZ, November 1986.
17. "Tour of Radiological Imaging Facility", A. S. U. Biomedical Engineering Society, Tempe, AZ, November 1986.
18. "Positron Emission Tomography", Samaritan Health Services Science and Technology Committee, Phoenix, AZ, January 1987.
19. "Engineering and Science", Creighton Middle School Career Day, Phoenix, AZ, March 1987 (3 presentations).
20. "Radon Gas in Arizona", Sun Cities Physician's Club, Sun City, AZ, May 1987.
21. "Radon Gas: A Naturally Occurring Radiation Hazard", Arizona State University Family/Leaders' Day, Tempe, AZ, August 1987 (2 presentations).
22. "Radon in the Granite Dells", Granite Dells Property Owner's Association Community Meeting, Prescott, AZ, August 1987.
23. "Radon, An Environmental Perspective", Arizona American Association of Women in Science, Tempe, AZ, September 1987.
24. "PET Instrumentation: State of the Art", Samaritan Health Services Technology Review Board, Phoenix, AZ, September 1987.
25. "Status of PET Instrumentation for Clinical Applications", Samaritan Health Services Technology Review Board, Phoenix, AZ, November 1987.
26. "Careers in Engineering", Westwood High School Women Scholars' Program, Tempe, AZ, November 1987.
27. "Studies on Radon", AFTUE Local #2050 Spring Speaker's Series, Arizona State University, February 1988.
28. "Careers in Engineering", Creighton Middle School Career Day, Phoenix, AZ, April 1988 (3 presentations).
29. "Radon Measurement Methods", Honeywell, Minneapolis, MN, May 1988.
30. "PET and Cardiology", Good Samaritan Cardiology Fellows Meeting, Phoenix, AZ, June 1988.
31. "Careers in Engineering", Arizona State University Summer Institute, July 1988.
32. "Radon Gas in Arizona: An Update", Family/Leaders' Day, Tempe, AZ, September 1988 (2 presentations).
33. "Radon Gas in the Sun City Area", Interfaith Services Auxiliary Meeting, Sun City, AZ, September 1988.
34. "Radon Hot Spots in Arizona", Arizona Health Physics Society, Phoenix, AZ, September 1988.

35. "Radon: A Public Health Experience", Arizona Council of Engineering and Science Associations, Mesa, Arizona, October 1988.
36. "Radon Gas: Land of Quacks", Sertoma Club, Mesa, AZ, October 1988.
37. "Basics of Radon Gas", Arizona Public Service, Phoenix, AZ, November 1988.
38. "PET: The New Medical Diagnostic Frontier", Doctors' Club of Leisure World, Mesa, AZ, November 1988.
39. "Radon Gas - The Real Story", Society of Women Engineers, Phoenix, AZ, December 1988.
40. "Radon: Everything You Ever Wanted to Know but Were Afraid to Ask", Arizona Public Service Project Voice, Phoenix, AZ, December 1988.
41. "Positron Emission Tomography: Latest Medical Imaging Tool", NE/HP Graduate Seminar, Georgia Institute of Technology, Atlanta, GA, January 1989.
42. "PET: A New Clinical Tool?", ACM/IEEE Computer Society, Tempe, AZ, January 1989.
43. "Radon in the Home", Arizona American Nuclear Society, Tempe, AZ, January 1989.
44. "Radon Myths and Realities", Temple Emmanuel Fifty Plus Club, Tempe, AZ, January 1989.
45. "PET - Window on the Mind", Arizona Board of Regents/Faculty Senate Gathering, Tempe, AZ, January 1989.
46. "Radon in the Home", Sun City Engineer's Club, Sun City, AZ, February 1989.
47. "Radon in Arizona", American Chemical Society, Phoenix, AZ, February 1989.
48. "Radon Gas: Is It Dangerous to Tempe Homes?", Friendship Village Kiwanis Club, Tempe, AZ, February 1989.
49. "Radon - Is It Real ?", Arizona American Statistical Society, Tempe, AZ, March 1989.
50. "Positron Emission Tomography: A Clinical Imaging Modality?", Mayo Clinic (Visiting Faculty), Rochester, MN, April 1989.
51. "Clinical PET: Is It Real?", University of Wisconsin Medical Physics Seminar, Madison, WI, April 1989.
52. "Radon", Tempe Tri-City Rotary Club, Tempe, AZ, April 1989.
53. "Radon Awareness", Arizona Public Service Product Knowledge Training for North Country, Payson, AZ, June 1989.
54. "Positron Emission Tomography - Cadillac of Nuclear Medicine", Guest Lecturer, ME8453 (Functional Anatomy for Engineers), G. I. T., Atlanta, GA, November 1989.
55. "Radon Gas: Example of a Health Physics Project", Guest Lecturer, NE1100 (Energy and Engineers in Society), G. I. T., Atlanta, GA, November 1989.
56. "A Laser-heated Positional TLD Reader System", Atlanta Chapter of the Health Physics Society, Atlanta, GA, December 1989.

57. "PET: Is It/Are We Ready?", Medical College of Georgia Radiology Research and Education Conference, Augusta, GA, January 1990.
58. "Radon: An Environmental Hazard", Environmental Forum, G. I. T., Atlanta, GA, January 1990.
59. "Sources of Radon Gas", Guest Lecturer, CE4133 (Engineering Aspects of Environmental Health), G. I. T., Atlanta, GA, February 1990.
60. "Radon Gas: What to Look for and What to Avoid", NE/HP Seminar, G. I. T., Atlanta, GA, March 1990.
61. "The Health Physics Program at Georgia Tech", Alabama Chapter of the Health Physics Society, Birmingham, AL, April 1990.
62. "PET", Guest Lecturer, Physical Principles of Radiology, Emory University Medical School Dept. of Radiology, Atlanta, GA, September 1990.
63. "Radon Gas: Quacks and Thieves", Alabama Chapter of the Health Physics Society, Fort McClellan, AL, November 1990.
64. "PET: Tool for Measuring Brain Function", Guest Lecturer, NE1100 (Energy and Engineering in Society), G. I. T., Atlanta, GA, November 1990.
65. "PET: Basic Physics and Cyclotrons", Guest Lecturer, Emory University School of Medicine, Dept. of Radiology, Radiology Resident's Physics Lecture Series, Atlanta, GA, January 1991.
66. "PET: Imaging Instrumentation", Guest Lecturer, Emory University School of Medicine, Dept. of Radiology, Radiology Resident's Physics Lecture Series, Atlanta, GA, February 1991.
67. "Radon Gas, An Overview", Guest Lecturer, CE4133 (Engineering Aspects of Environmental Health), G. I. T., Atlanta, GA, March 1991.
68. "Basics of Internal Dosimetry", Guest Lecturer, Emory University School of Medicine, Department of Radiology, Nuclear Medicine Resident's Physics Lecture Series, Atlanta, GA, September 1991.
69. "Automated Acceptance Criteria for Images of the American College of Radiology Mammographic Accreditation Phantom", Emory University School of Medicine, Division of Radiological Sciences, Research in Progress Conference, Atlanta, GA, October 1991.
70. "Basics of Positron Emission Tomography", Guest Lecturer, ME6530 (Pathology for Bioengineers), G. I. T., Atlanta, GA, November 1991.
71. "Positron Emission Tomography", Guest Lecturer, The Physical Principles of Medical Imaging, Emory University School of Medicine, Department of Radiology, Atlanta, GA, November 1991.
72. "Positron Emission Tomography: It's Not MRI", Society of Physics Students, Valdosta State College, Valdosta, GA, November 1991.
73. "Mammography Research", Panelist, Georgia Tech Women's Forum, G. I. T., Atlanta, GA, January 1992.
74. "PET: Basic Physics and Cyclotrons", Guest Lecturer, Emory University School of Medicine,

Dept. of Radiology, Nuclear Medicine Resident's Physics Lecture Series, Atlanta, GA, January 1992.

75. "PET: Imaging Instrumentation", Guest Lecturer, Emory University School of Medicine, Dept. of Radiology, Nuclear Medicine Resident's Physics Lecture Series, Atlanta, GA, February 1992.

76. "Careers in Engineering", South Cobb High School, Austell, GA, February 1992.

77. "Automated Analysis of the American College of Radiology Mammography Accreditation Phantom", Western New York Chapter Health Physics Society, Buffalo, NY, April 1992.

78. "Advances in Mammography Safety", Northeastern University College of Engineering Women's Programs and Northeastern University Student Chapter of Society of Women Engineers, Boston, MA, April 1992.

79. "Automated Quality Control for Mammography", Northeastern University Department of Mechanical Engineering Research Colloquium, Boston, MA, April 1992 (Broadcast on television).

80. "Risks and Benefits of Radiation in Mammography Procedures", Massachusetts Institute of Technology Department of Nuclear Engineering Seminar, Cambridge, MA, April 1992.

81. "Radiation Protection Considerations for Clinical Positron Emission Tomography", University of Pittsburgh School of Public Health, Department of Environmental and Occupational Health, Pittsburgh, PA, July 1992.

82. "Basics of Positron Emission Tomography", Guest Lecturer, HP 6426 (Usage of Radioisotopes in Medicine), G. I. T., Atlanta, GA, August 1992.

83. "Design of PET Cameras", Guest Lecturer, HP 6426 (Usage of Radioisotopes in Medicine), G. I. T., Atlanta, GA, August 1992.

84. "Fundamentals of Radiation Dosimetry", Guest Lecturer, Emory University School of Medicine, Department of Radiology, Nuclear Medicine Resident's Physics Lecture Series, Atlanta, GA, September 1992.

85. "Cyclotrons and Radiation Protection for PET", Emory University School of Medicine, Division of Radiological Sciences, Research in Progress Conference, Atlanta, GA, October 1992.

86. "Positron Emission Tomography", Guest Lecturer, The Physical Principles of Medical Imaging, Emory University School of Medicine, Department of Radiology, Atlanta, GA, November 1992.

87. "Gamma Ray Spectroscopy", Guest Seminar, University of Nevada-Las Vegas, Health Physics Program, Las Vegas, NV, December 1992.

88. "Positional Dosimetry Using Laser Heating of Thermoluminescent Materials", Distinguished Lecturer Series, University of Florida, Gainesville, FL, January 1993.

89. "Positional Dosimetry Using Laser Heating of Thermoluminescent Materials", University of Michigan, Ann Arbor, MI, February 1993.

90. "Positional Dosimetry Using Laser Heating of Thermoluminescent Materials", Massachusetts Institute of Technology, Cambridge, MA, February 1993.

91. "Mixed Field Dosimetry Using Focused and Unfocused Heating of Thermoluminescent (TL)

Materials”, Department of Energy Contractors Meeting, Argonne National Lab, Argonne, IL, February 1993.

92. “Mammography: Technical Issues and Quality Control”, Auckland Radiology Society, Auckland, New Zealand, March 1993.

93. “Positron Emission Tomography: Mercedes Benz of Nuclear Medicine”, Auckland University School of Medicine Registrant's Seminar, Auckland, New Zealand, March 1993.

94. “U.S. Women in Engineering”, Auckland Association of Women in Science, Auckland, New Zealand, March 1993.

95. “Activity and Dose”, Guest Lecturer, NE 311 (Introduction to Nuclear Engineering), U. of Michigan, Ann Arbor, MI, November 1993.

96. “Radon Gas - Origins, Detection and Remediation”, Guest Lecturer, NE100 (Nuclear Energy in Modern Society), U. of Michigan, Ann Arbor, MI, March 1994.

97. “Mammography: Technology, Risks, and Benefits”, Iowa State University, Program for Women in Science and Engineering, Ames, Iowa, March 1994.

98. “Negotiating Academia”, Iowa State University, Iowa State Faculty Women's Network, Ames, Iowa, March 1994.

99. “Radiological Health Engineering”, Dept. of Nuclear Engineering Colloquium, University of Michigan, Ann Arbor, MI, April 1994.

100. “The Definition of Excellence”, U. of Michigan Office of Vice President for Research, Panel on National Science Policy with Dr. Martha Krebs, September 1994.

101. “Engineering in the Americas”, U. of Michigan College of Engineering National Advisory Council Meeting, November 1994.

102. “Gender Neutral Language in Science”, U. of Michigan, Women in Science and Engineering (WISE) Graduate Seminar, March 1995.

103. “Career Choices and Graduate Degrees in Engineering”, Parker's Scholars Program Panel, U. M. Center for Education of Women, January 1996.

104. “Elda Anderson: Nuclear Scientist and Radiological Physicist”, U. of Michigan, Society of Women Engineers Graduate SWE Poster Exhibition, February 1996.

105. “Positional Thermoluminescent Dosimetry”, Los Alamos National Laboratory, Invited Talk, February 1996.

106. “Radon and Issues in Radiological Health Engineering”, U. M. NERS 211 Introduction to Nuclear Engineering and Radiological Sciences, Guest Lecturer, February 1996.

107. “Ionizing Radiation: Basic Physics”, U. M. EIH 550 Introduction to Industrial Hygiene, Guest Lecturer, October 1996.

108. “Ionizing Radiation: Biological Effects”, U. M. EIH 550 Introduction to Industrial Hygiene, Guest Lecturer, October 1996.

109. “Positron Emission Tomography (PET): An Overview of Nuclear Engineering in Action”, U. M. BME 295 Biomedical Engineering Seminar, Guest Lecturer, February 1997.

110. "Virtual Radiation: Nuclear Engineering in Virtual Reality", U. M. G. E. Faculty for the Future Program, Bag Lunch, September 1998
111. "Nuclear Engineering and Nuclear Medicine: The PET Example", U. M. NERS 400 Elements of Nuclear Engineering, Guest Lecturer, October 1998.
112. "Biomedical Applications of NERS", U. M. BME 295 Biomedical Engineering Seminar, Guest Lecturer, March 1999.
113. "Medical and Health Physics Interactive Question Box", U. M. NERS 211 Introduction to Nuclear Engineering and Radiological Sciences (for majors), Guest Lecturer, March 1999.
114. "Radiation Safety Fundamentals for Radioactive Waste Disposal: Confusing Units and Internal Dose Guestimation", U. M. NERS 531 Radioactive Waste Management, Guest Lecturer, October 1999.
115. "Radiation Safety Fundamentals for Radioactive Waste Disposal: Unknowable Low Level Health Effects Viewed Through Smoke and Mirrors", U. M. NERS 531 Radioactive Waste Management, Guest Lecturer, November 1999.
116. "Radon: One Woman's Western Experience", Consumer's Power, Big Rock Point Restoration Project, First ANS Big Rock Point Plant Branch Meeting, June 2000.
117. "Mammography: Radiation Saving Lives", Detroit Energy, Fermi I/II, Women in Nuclear Chapter Meeting, January 2001.
118. "Basics of Radiation Protection", U. M. NERS 211 Introduction to Nuclear Engineering and Radiological Sciences (for Non-Majors), Guest Lecturer, February 2002.

#### **G. Radio and Television Appearances**

1. Five television appearances on radon gas, July 1987.
2. "Radon: The Facts", KTAR Radio, September 1988.
3. "Radon", KFLR Radio, September 1988.
4. "Radon Gas and Air Pollution", KMEO Radio Weekend Edition, Phoenix, AZ, January 1989 (2 appearances).
5. "Radon - An Update", KTAR Radio, Phoenix, AZ, May 1989.
6. "Baby X-rayed at Hartsfield", WGST Radio, Atlanta, GA, December 1990.
7. "Are Dental X-rays Dangerous?", Channel 11 News, Atlanta, GA, July 1991.
8. "Automated Quality Control for Mammography", Northeastern University Department of Mechanical Engineering Research Colloquium, Boston, MA, April 1992 (Broadcast on television).
9. "Advances in Mammography", (Museum Society of Australia) Public Radio, Sydney, Australia, May 1994.
10. "Security at Commercial Nuclear Power Plants", Channel 7 News, Detroit, MI, February 2002.



## **H. Newspaper, Magazine, and Internet Articles**

1. "Scanning the Human Body", Arizona Monthly, vol. 1, no. 3, pp. 29, March 1987.
2. "Dealing with Radon's Dangerous Daughters: Scientific Sleuthing to Solve the Granite Dells Mystery", Arizona State University Research, Spring 1988, pp., 26-29, 1988. (back cover illustration).
3. "Shining a Light on Dosimetry", RT Image, vol. 13, no. 8, pp. 22-27, 2000.
4. "Blue Glow Reported at Paducah Plant", The Courier Journal, Paducah, Ky, October 25, 2000.
5. "Lethal Targets: Officials Assure Nuclear Plants are Safe from Attack", ABCnews.com, October 23, 2001.
6. "Vulnerable on the Road: Transporting Nuclear Waste Could Pose Risk", ABCnews.com, October 23, 2001.

## **III. TEACHING**

### **A. Courses Taught**

#### **Arizona State University**

Introduction to Nuclear Engineering (sophomore)  
Digital Computer Fundamentals (sophomore)  
Electrical Networks (junior)  
Clinical Nuclear Engineering (senior)  
Physics of Diagnostic Radiology (graduate)  
Nuclear Medicine Instrumentation (graduate)  
Medical Tomography (graduate)

#### **Georgia Institute of Technology**

Thermodynamics I (sophomore)  
Nuclear Engineering Seminar (undergraduate/graduate)  
Introduction to Radiation Protection (graduate)  
Medical X-ray Imaging (graduate)  
Internal Dosimetry (graduate)  
Medical Usage of Radioisotopes (graduate)  
Medical Terminology for Engineers (graduate)  
Health Physics Practice (graduate)  
Medical Physics Internship (graduate)  
Practical Problems in Health Physics (graduate)

#### **The University of Michigan**

Introduction to Nuclear Engineering and Radiological Sciences (sophomore)  
Fundamentals of Nuclear Engineering (sophomore)  
Radiological Health Engineering Fundamentals (senior)  
Medical Radiological Health Engineering (graduate)  
Internal Radiation Dose Assessment (graduate)

### **B. Continuing Education (Short) Courses Taught**

September 1978	Basic Radiation Protection. Harvard School of Public Health. Instructor for detection instruments.
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April 1979	Basic Radiation Protection. Harvard School of Public Health. Instructor for thermoluminescent detectors.
May 9-10, 1988	Radiation Safety. Arizona State University. Developed and taught section for medical personnel and radiation producing equipment.
August 17, 1988	Radiation Safety. Arizona State University. Taught section for medical personnel and radiation-producing equipment.
September 15, 1988 - May 15, 1989	Medical Physics Training Course for Radiology Residents. St. Joseph's Hospital, Phoenix, Arizona. Developed and taught.
November 3, 1988 November 9, 1988 (offered twice)	Radon Gas: Financial and Legal Implications for the Housing Industry. Arizona State University. Conceived, developed, and taught.
December 10, 1988	Radon Gas: Financial and Legal Implications for the Housing Industry. Arizona State University. Conceived, developed, and taught.
June 7, 1989	Radiation Safety for Lead Paint Testing. City of Phoenix. Developed and taught.
June 14, 1989	Radon Awareness. Arizona Public Service. Conceived, developed, and taught.
May 21-29, 1990	Advanced Internal Dosimetry. Quantum Technologies. Taught.
April 15-18, 1991	Health Physics Board Certification Examination Review. Technical Management Services, Inc. Taught section on medical health physics.
October 28-31, 1991	Radioactive Sample Analysis. Technical Management Services, Inc. Planned and taught course.
May 18-20, 1992	Problems in External Dosimetry. Duke Power Company. Planned and taught course.
August 31- September 4, 1992	Low Level Radioactive Waste Management, Georgia Institute of Technology. Course Director.
September 17, 1992	The Art of Video Instruction. Georgia Institute of Technology. Lectured 2 hours on tape for the Defense Systems Management College.
October 27-30, 1992	Analysis of Radioactive Environmental Samples. Georgia Institute of Technology. Course Director and Faculty.
December 7-9, 1992	Nuclear Medicine Update. Emory University School of Medicine. Lecture "Clinical Applications of Dosimetry".
May 10-14, 1993	Problems in External Dosimetry and Shielding. Duke Power Company. Planned and taught course.

- Oct. 31-Nov. 2, 1994 Intensive Review for the NRRPT Examination, Greg Coache and Associates. Tri-Cities, Washington. Planned and taught course.
- April 30-May 4, 1995
- July 15-19, 1996 Applications of New Technology in External Dosimetry. Health Physics Society. Seattle, Washington. Lecture "External Dosimetry in Medical Physics".
- Sept. 27-Oct. 1, 1999 External Radiation Dosimetry. Ontario Power Generation Company, Ajax, Ontario, Canada. Planned and taught course.
- Nov. 1-4, 1999 Intensive Review for the NRRPT Certification Examination, Detroit Edison, Fermi Nuclear Power Generation Facility, Monroe, MI. Planned and taught course.
- Nov. 8-12, 1999 Internal Radiation Dose Assessment. Ontario Power Generation Company, Ajax, Ontario, Canada. Planned and taught course.
- Oct.-Nov., 2000 NRC Reactor Regulatory Oversight Program Update (part of formal subject matter expert training for radiation safety), Detroit Edison, Fermi II. Planned and taught 2-h lecture (six times).

### **C. Curriculum Development**

#### *Arizona State University*

1. Nuclear instrumentation graduate option: Developed and implemented nuclear instrumentation master's and doctoral options within an electrical and computer engineering curriculum, 1984-1986. (A. S. U.)
2. Bionuclear engineering undergraduate and master's degree options: Developed and implemented bionuclear engineering/radiological sciences undergraduate and master's options in biomedical engineering (existing) undergraduate and (new) graduate programs, 1984-89. (A. S. U.)
3. Revisions of electrical and computer engineering undergraduate curriculum: Chaired committee which oversaw major changes in electrical and computer engineering undergraduate curriculum, 1988-89. (A. S. U.)
4. New courses in nuclear medicine instrumentation, clinical nuclear engineering, physics of diagnostic radiology, and medical tomography: Developed and taught new courses in support of curricular initiatives, 1984-1989. (A. S. U.)

#### *Georgia Institute of Technology*

1. Laboratory exercises for graduate course on medical X-ray imaging: Developed series of advanced experiments illustrating the principles of X-ray imaging and quality control, 1990. (G. I. T.)
2. New graduate course on internal dosimetry: Developed comprehensive course on philosophy, computational methods, and regulation for radiation dose assessments for internally deposited radionuclides, 1990. (G. I. T.)
3. Major revision of health physics curriculum: Played major role in development and revision of master's curriculum through activities of committee for MS Radiological Engineering, 1991. (G. I. T.)
4. Video program for Master of Radiological Engineering: Developed and promoted the program, dramatically improving student participant quality and quantity, and number of course offerings, 1990-92. (G. I. T.)

#### *University of Michigan*

1. Undergraduate curriculum for Radiological Health Engineering: Led development and implementation effort of specialization in health physics to be offered as part of nuclear engineering degree, 1993. (U. M.)

2. New Master of Engineering in Radiological Health Engineering: Designed and implemented new terminal master's degree for professionals, 1994. (U. M.) Note: This attracted a large fraction of the new NERS graduate students (4-15/y) for several years.
3. New undergraduate course on radiological health engineering: Developed and taught comprehensive course on radiation protection for seniors and first-year graduate students, 1994. (U. M.)
4. New graduate course on medical radiological health engineering: Developed and taught new course on medical radiation protection, 1995. (U. M.)
5. Developed 5-year undergraduate and master's programs (SGUS) in radiological health engineering and biomedical engineering, 1996. (U. M.)
6. Developed research project component for NERS 582, and ethics cases for NERS 484 and NERS 211, Winter 1998. (U. M.)
7. Proposed organizational structure for incorporating Health Physics and Medical Physics into the graduate option of Radiation Measurements and Imaging (for graduate brochure). Solved problem of disadvantage of Radiological Health Engineering graduate students w.r.t. Rackham and NERS degree requirements through cross-listing of courses, Winter 1999. (U. M.)
8. Developed plan for continuing Radiological Health Engineering at the University of Michigan with the discontinuation of the program in the School of Public Health. Involves assuming responsibility four courses, eliminating duplication, re-organization of materials, and usage of adjuncts, Winter 2000. (U. M.)
9. Developed detailed curriculum for undergraduate Medical Physics program for NERS department, Fall 2000. (U. M.)
10. Collaborated in the conceptualization and creation of new NERS graduate option, Radiation Safety, Environmental Sciences, and Medical Physics (REM), for the NERS department, Winter 2001. (U. M.)
11. Created new NERS Radiation Safety, Environmental Sciences, and Medical Physics option guidelines and presentation materials, Fall 2001. (U. M.)
12. Developed NERS 587, new course on internal dose assessment covering internal dose computations from both the health physics and medical physics perspectives at an advanced level, Winter 2002. (U. M.)
13. Developed and taught NERS 250, a course designed for first and second year NERS students, Winter 2003. (U. M.)

#### **IV. INDIVIDUAL STUDENT GUIDANCE**

##### **A. Postdoctoral Fellows Supervised**

1. E. B. Bartlett, September 1990-January 1991, Medical Imaging.
2. L. M. Calkins, September 1994-August 1996, National Science Foundation Fellow, Etiology of Radiation Protection Culture.

##### **B. Ph.D. Students Supervised (as Chair)**

1. M. E. Grupen, May 1989 (Arizona State University), "Three-dimensional Spatial and Dosimetric Characterization of Radiotherapy Beams Using Laser Readout of Thermoluminescent Detectors". Motorola Semiconductor Products Sector, Staff Engineer.
2. J. Ye, November 1992 (G. I. T.), "Scatter and Attenuation Correction for SPECT Quantitative Imaging". State University of New York (SUNY) Stony Brook, Research Associate.
3. S. E. Burch, July 1993 (G. I. T.), "Radiotherapy Film Densitometry using a Slow-Scan, Cooled Charge Coupled Device Imaging System". Medical College of Georgia, Radiotherapy Physicist and Assistant Professor.
4. K. W. Brooks, August 1993 (G. I. T.), "Automated Analysis of Mammography Phantom

Images". Emory University School of Medicine, Department of Radiation Oncology, Assistant Professor.

5. S. Han, February 1994 (G. I. T.), "Mixed Field Dosimetry Using Focused and Unfocused Laser Heating of Thermoluminescent Materials". Korean Institute of Nuclear Safety, Senior Researcher.

6. T. H. Fox, February 1994 (G. I. T.), "Computer Treatment Planning System and Optimization of Dose Distributions for a Patient Rotator Used in Stereotactic Radiosurgery". Emory University School of Medicine, Department of Radiation Oncology, Assistant Professor.

7. E. Samei, February 1997 (U. M.), "The Performance of Digital X-ray Imaging Systems in Detection of Subtle Lung Nodules". Henry Ford Hospital, Department of Radiology, Medical Physics Clinical Fellow; later became Medical University of South Carolina, Radiology, Assistant Professor.

8. A. Badano, January 1999 (U. M.). "Image Quality Degradation by Light Scattering Processes in High Performance Display Devices for Medical Imaging". University of Michigan, Electrical Engineering and Computer Science, Research Fellow.

9. R. R. Benke, February 2000 (U. M.). "An Improved Method for Determining Radionuclide Depth Distributions using *In Situ* Gamma-Ray Spectrometry". Southwest Research Institute (SWRI), Research Engineer.

10. R. L. Steinman, August 2000 (U. M.). "Evaluation of the Risks Associated with the Routine Transport of Radioactive Material in Michigan". Advent Engineering, Consultant.

11. E. C. Wagner, February 2001 (U. M.). "A Double Element Method for Mixed Field Radiation Dosimetry". Bechtel Nevada, Senior Research Scientist.

12. S. Bernal, began advising Fall 2001 (U. M.). Tentative Topic "A Novel Method for Timed Dosimetry Using Thermoluminescent Detectors".

13. G. West, began advising Fall 2002 (U. M.). Tentative Topic "Equilibrium Dosimetry using Passive Integrating Detectors".

### **C. M.S. Thesis Students Supervised (as Chair)**

1. D. Murray, May 1988 (Arizona State University), "Cadmium Telluride Crystal Gamma-Detector Array for a Miniaturized Single Photon Emission Computed Tomograph". Continued graduate studies, A. S. U.

2. K. N. Murty, July 1988 (Arizona State University), "Design, Construction and Evaluation of a Computerized Electro-optic Detector for Use in a Mini-SPECT". Signal Processing Group, Design Engineer.

3. S. E. Hill, October 1988 (Arizona State University), "Applicability of the Simulated Annealing Method for Tomographic Image Reconstruction". NASA Goddard Space Flight Center, Programmer Analyst.

4. E. K. Kluksdahl, December 1988 (Arizona State University), "Optimization of a Single Photon Emission Computed Tomography System with a Unique Detector Configuration". NASA Johnson Space Flight Center, Battery Systems Engineer.

5. B. K. Nabelssi, June 1989 (Arizona State University), "Thermoluminescent Radiation

Dosimetry for Medical Diagnostic Imaging". Continued graduate studies, Texas A and M.

6. P. U. Lind, July 1989 (Arizona State University), "Analysis and Restoration of Severely Blurred Voyager Spacecraft Images". Motorola Government Electronics Group, Electronics Engineer.

7. S. P. Pisciotta, August 1989 (Arizona State University), "A Method for Three Component Fractional Analysis". Honeywell Commercial Division, Project Engineer.

8. S. Y. Lin, August 1989 (Arizona State University), "Mammographic Digital Image Processing". Delco Electronics, Project Engineer.

9. R. J. Juang, August 1989 (Arizona State University), "An Application of Binocular Stereo Surface Analysis to Bone Epiphysis Using a Low Cost Image Processing System". Eastman Kodak Estek Product Division, Software Engineer.

10. J. P. Peng, November 1991 (G. I. T.), "Automated Acceptance Criteria for the American College of Radiology (ACR) Mammographic Accreditation Phantom Images". Lancaster General Hospital, Medical Physicist.

11. L. L. Wilson, December 1991 (G. I. T.), "Using Magnetic Resonance Anatomically Simulated Normal Image to Reveal SPECT Finite Resolution Effects". Medical College of Georgia, Biomedical Engineer.

12. T. H. Fox, May 1992 (G. I. T.), "Evaluation of a Method for Identifying Finite Resolution Effects in Single Photon Emission Computed Tomographic (SPECT) Images". Emory University School of Medicine, Junior Medical Physicist; Georgia Institute of Technology, Ph.D. Candidate.

13. W. H. Johnson, February 1992 (G. I. T.), "Lost Life Expectancy Rate Survey Meter". Georgia Institute of Technology, Ph.D. Candidate; later became Assistant Professor, Department of Health Physics, University of Los Vegas Nevada.

14. M. L. B. Harmer, December 1992 (G. I. T.), "A Dynamic Model for Calculating the Uptake of an Inhaled Noble Gas". Georgia Institute of Technology Ph.D. Candidate.

15. J. S. Yakoubian, March 1993 (G. I. T.), "Mammographic Image Enhancement". Moncrief Radiation Center (Fort Worth), Junior Medical Physicist.

16. E. Samei, Summer 1993 (G. I. T.) "Theoretical Study of Various Thermoluminescent Dosimeters Heating Schemes". University of Michigan, Graduate Student.

17. T. J. Gillespie, Spring 1994 (G. I. T.), "A Computer Model of Beta Particle Dose Distributions in Lithium Fluoride and Tissue". Consort Technologies, Inc., Health Physicist.

18. B. Busby, Summer 1997 (U. M.), "Error Analysis of a Novel Method for Mixed Beta/Gamma Field Dosimetry Using Pulsed Laser Heating of LiF Thermoluminescent Materials".

19. S. M. Shah, Fall 1998 (U. M.). "An Algorithm for the Quantitative Analysis of Mammographic Breast Density". Environmental Research Institute of Michigan, Engineer.

20. A. Akhtar, Fall 1999 (U. M.), "Double Badging of Nuclear Medicine Technologists for Improved Personnel Dose Assessment".

#### **D. M.S./M. Eng. Research Projects**

1. M. R. Islam, 1986 (Arizona State University), "Simplified Fourier Methods in S-ray Imaging: Modification of Original Software to Include Tests".
2. R. Allen, 1987-88 (Arizona State University), "Effects of Scatter on SPECT Image Quality".
3. E. M. Kluksdahl, 1988 (Arizona State University), "Medical Tomography".
4. E. M. Kluksdahl, 1988 (Arizona State University), "Effects of Axial Sampling on PET Resolution".
5. R. Piplani, 1988 (Arizona State University), "Quality Control of Commercial TLD Systems".
6. D. Bandy, 1988-89 (Arizona State University), "Phantoms for PET and SPECT". Publication #IC-29.
7. A. Pandya, 1988-89 (Arizona State University), "Contrast Magnesonics".
8. C. Leis, 1988-89 (Arizona State University), "Novel Scalloped Detector Arrangement to Improve SPECT Sampling and Inter-Detector Cross-Talk".
9. T. Remedio, 1989 (Arizona State University), "Effects of Heat on Film Badges".
10. C. Su, 1989 (Arizona State University), "Statistical Analysis of Palo Verde TLD Badges".
11. K. Klee, 1990 (G. I. T.), "Data Base for Radon in Arizona".
12. H. Mitchell, 1990 (G. I. T.), "Radiation Detection and Measurement". Publication #IC-35.
13. S. Schwahn, 1990 (G. I. T.), "Characterization of CdTe Detectors in Gamma-ray Spectroscopy".
14. S. Han, 1990 (G. I. T.), "Study of Dose Calculation Algorithm with Thermoluminescent Detectors". Publication #IC-42.
15. H. Mitchell, 1990 (G. I. T.), "Overview of Diagnostic Radiology".
16. L. Eckert, 1990 (G. I. T.), "Absorbed Dose Estimates Due to Uptake of Noble Gases During Submersions in Clouds".
17. B. Tsang, 1991 (G. I. T.), "Estimation of Doses at Different Positions During Different Procedures in a Nuclear Medicine Room". (two quarters)
18. S. Peacock (Homiller), 1991 (G. I. T.), "Dose Response Effects for TLDs". (two quarters). Publication #IC-67.
19. N. Khater, 1991 (G. I. T.), "Dose Calculation and Measurement at the Base of the Skull for Radiotherapy".
20. M. Clemenshaw, 1991 (G. I. T.), "Real Time Measurement of Radiation Exposures during Nuclear Medical Procedures". (two quarters). Publication #IC-36.
21. S. Shockley, 1991 (G. I. T.), "An Evaluation of Electron Pencil Beam Algorithms".

22. M. A. Kowski, 1991 (G. I. T.), "Cyclotrons and their Application in Medical Imaging"
23. C. Olson, 1992 (G. I. T.), "Dose to Health Workers from a Patient Source". (two quarters)
24. K. S. Ersahin, 1992 (G. I. T.), "Medical Terminology".
25. W. A. Akins, 1992 (G. I. T.), "Medical Terminology".
26. R. W. Simpkins, 1992 (G. I. T.), "The Number of Trials for the Initial Determination of Element Correction Factors". Publication #IC-49.
27. F. Mis, 1992 (G. I. T.), "Development of a New Automated Thermoluminescent Processor". (two quarters)
28. S. Riahi, 1993 (G. I. T.), "Performance Testing of Panoramic Dental X-ray Units".
29. M. Glaser, 1993 (G. I. T.), "A Low-Cost, Ultra Low Magnetic Field Magnetic Resonance Imaging System".
30. R. Rodgers, 1993 (G. I. T.), "An Investigation of a Dual Window Method for Scatter Correction in Dual Isotope Single Photon Emission Computed Tomographic Imaging".
31. E. Miller, 1993 (G. I. T.), "Comparison of Two-Scatter Correction Methods for Single Photon Emission Computed Tomographic Imaging".
32. J. Windham, 1993 (G. I. T.), "Power Plant Isotopes and Other Radionuclides and Inconsistent Committed Effective Dose Equivalent Calculations". (2 quarters). Publication #IC-41, IC-15.
33. J. McElrath, 1993 (G. I. T.), "Cost Analysis of Emory PET Facility".
34. E. Miller, 1993 (G. I. T.), "Organ Dose Assessment for SEB-CT Scanner".
35. R. Schmitz, Fall 1994 (U. M.), U. M. Radiation Safety Services, "Low Level Waste Storage Facility Assessment". [Practicum]
36. H. Harris, Fall 1994 (U. M.), Los Alamos National Laboratory, "Performance Evaluation of the Aloka 'MYDOSE mini' Electronic Neutron Dosimeter for Energies up to 2.5 MeV". [Practicum][Project]
37. E. Samei, Fall 1994 (U. M.), "A Fast Monte Carlo Simulation of Depth-Dose Distributions Generated by Beta Rays in Lithium Fluoride and Tissue". [Project]
38. E. Samei, Winter 1995 (U. M.), Henry Ford Hospital, "Radiologic Characteristics and Simulation of Subtle Lung Nodules". [Project]
39. D. Brooks, Winter 1995 (U. M.), U. M. Dept. of Radiation Oncology, "Design of Radiotherapy Imager Mount" and other projects. [Project] [Practicum]
40. C. Renquist, Winter 1995 (U. M.) "Attenuation Correction in Positron Emission Tomography" [Project]
41. M. Zhu, Winter 1995 (U. M.), "Comparison of ICRP 60 and 10 CFR 20 Annual Limits on Intake". Publication #IC-46. [Project]
42. E. Kerrembaev, Winter 1995 (U. M.), U. M. Radiation Safety Services, "General Radiation



Safety Services Tasks". [Practicum]

43. D. Brooks, Spring 1995 (U. M.), "Gamma Counting of Cyclotron Foils for Beaumont Hospital". [Independent Study]

44. R. R. Benke, Spring 1995, Fall 1995 (U. M.), S. A. I. C. (Yucca Mt.), "In Situ Gamma Spectroscopy for the Yucca Mountain Site Characterization Project". [Practicum] [Project]

45. A. Deo, Winter 1995 (U. M.), "Bioassay for Radiation Protection". [Project]

46. E. Simpson, Spring 1995 (U. M.), E. P. A. Region II (New York), "Experience at the Environmental Protection Agency Region II Radiation Branch". [Practicum]

47. M. Winslow, Spring 1995 (U. M.), E. P. A. Region II (New York), "Experience at the Environmental Protection Agency Region II Radiation Branch". [Practicum]

48. G. West, Spring 1995 (U. M.), S. A. I. C. (Las Vegas), "Evaluation of Computer Codes for Environmental Pathway Analysis". [Practicum]

49. D. Manuca, Fall 1995, Winter 1996 (U. M.), "Effects of Intake Function on Internal Dose". [Project]. Publication #IC-53.

50. G. Agrawal, Winter 1996 (U. M.), "Improvement of Quantification of Source Activity Using the Mean Conjugate View Technique". [Project] [NANT fellow, Outstanding Senior]

51. K. Fischer, Fall 1995, Winter 1996 (U. M.), U. M. Radiation Safety Services, "General Radiation Safety Services Tasks". [Practicum]

52. E. C. Wagner, Winter 1996 (U. M.), "Simulation of Thermoluminescence with Systematic and Statistical Errors". [Project]

53. A. Jarwan, Winter 1996, Fall 1996, Completed Summer 1998 (U. M.), "Dating of Cyclotron Foils using Spectroscopic Analysis". Publication #IC-65. [Project]

54. M. Doty, Summer 1996 (U. M.), Los Alamos National Laboratory, "Preliminary Findings for the Incorporation of the TLD into the Nuclear Accident Dosimeter at Los Alamos National Laboratory". [Project]

55. G. Agrawal, Spring/Summer 1996 (U. M.), Idaho National Engineering Laboratory (Argonne National Laboratory West), "Non-Destructive Mass Assay of Plutonium-239 Using Resonance Radiography Techniques". [Project]

56. J. Weldy, Summer 1996 (U. M.), Argonne National Laboratory, "Measurement of a Pulsed Neutron Source Using Bonner Spheres". [Project]

57. L. Craine, Summer 1996, Winter 1997, Summer 1997 (U. M.), "Ramifications of Nuclear Medicine Patient Workers in Nuclear Power Generation Facilities". [Project] [incomplete]

58. A. Jarwan, Fall 1996, Winter 1997, Completed Summer 1998 (U. M.), "Customized Dosimetry for Radioiodine Thyroid Therapy". [Project]

59. E. C. Wagner, Fall 1996, Winter 1997, Fall 1997, Winter 1998 (U. M.), "A Double Element Method for Mixed Field Radiation Dosimetry". [Project]

60. M. Connell, Fall 1996, Winter 1997 (U. M.), "Bioelectricity and Biomagnetism". [Practicum] [Project] [Completed as an Undergraduate]

61. E. J. Boylan, Fall 1996, Winter 1997, Fall 1997, Winter 1998 (U. M.), "Radiological Health Engineering Topics in Nuclear Medicine". [Practicum]
62. A. Akhtar, Winter 1997 (U. M.), "Topics in Nuclear Medicine". [Practicum]
63. C. J. Branch, Winter 1997 (U. M.), "Science Fiction Movies and Public Ideas of Radiation Health Effects". [Project]
64. S. S. Gross, Spring/Summer 1997, Fall 1997 (U. M.), "Public Outreach in Radiation Protection for Los Alamos National Laboratory". [Practicum]
65. R. L. Steinman, Spring/Summer 1997, Fall 1997, Winter 1998, Fall 1998 (U. M.), "Transportation of Hazardous Materials at Argonne National Laboratory". [Practicum] [Project]
66. T. J. Bauer, Spring/Summer 1997, Fall 1997 (U. M.), "Applied Radiation Protection at Oak Ridge Associated Universities". [Practicum]
67. G. Miller, Winter 1997 (U. M.), "Practical Modeling and Measurements of Betas on Hot Smears taken at a Commercial Nuclear Power Station". [Practicum]
68. S. Dewey, Spring/Summer 1997, Fall 1997 (U. M.), "Design of a Small Gamma Camera System". [Practicum]
69. S. M. Shah, Fall 1997, Winter 1998 (U. M.), "Topics in Mammography Physics and Image Processing". [Project]
70. J. L. Wood, Fall 1997, Winter 1998 (U. M.), "Parametric Sensitivity Analysis of the RESRAD Environmental Dose Assessment Program". Publications #IC-54, IC-58. [Project]
71. C. J. Branch, Fall 1997, Winter 1998 (U. M.), "A Program for Simulation of Positional Thermoluminescence Dosimetry". Publication #IC-55. [Project]
72. M. A. Montes, Fall 1997 (U. M.), "Virtual Radiation". [Project]
73. E. C. Deogracias, Fall 1997, Winter 1998 (U. M.), "Explanation of the Energy Dependence of Thermoluminescent Dosimeters". Publication #IC-58. [Project]
74. D. Demore, Fall 1997, Winter 1998 (U. M.), "Photomultiplier Tube Characterization for Nuclear Medical Imaging Applications". [Project]
75. A. P. Hall, Fall 1997, Winter 1998 (U. M.), "Digital Radiographic Imaging". [Project]
76. C. B. Sozener, Winter 1998, Fall 1998, Winter 1999 (U. M.), "P112: A Novel Protein". [Project] [P. Robeson]
77. E. Boylan, Winter 1998 (U. M.), "Nuclear Medical Physics". [Practicum] [J. Carey]
78. C. J. Branch, Winter 1998 (U. M.), "Virtual Radiation". [Project]
79. M. A. Montes, Winter 1998 (U. M.), "Neutron Personnel Dosimetry". [Project]
80. B. P. Hanson, Winter 1998, Summer 1998 (U. M.), "Neutron Accident Dosimetry". [Project] [Practicum]
81. R. M. McGee, Winter 1998 (U. M.), "Accelerator Shielding for a Nondestructive Imaging

Facility for the Automotive Industry”. [Project] [incomplete]

82. S. S. Gross, Winter 1998 (U. M.), “A New Public Opinion Assessment and Communications Methodology for Nuclear Issues”. [Project]

83. B. K. Stratton, Fall 1997, Winter 1998 (U. M.), “CTE Determination for a Three-Dimensional Tissue Compensator System”. [Project]

84. M. B. Briggs, Winter 1999, completed April 1999 (U. M.), "A Comparison of NaI(Tl) and Plastic Scintillators for Use in Remote Monitoring Applications". [Project]

85. S. E. Sibert, Winter 1999, Completed Spring/Summer 1999 (U. M.), “Historical Internal Dose Assessments for the Department of Energy”. [Practicum]

86. E. Ariesanti, Fall 1999 (U. M.), “The MICROSIELD Code for External Dose Estimation from Complex Sources”. [Project]

87. P. J. Byrne, Fall 1999 (U. M.), “Construction of Uniform Area Sources for Evaluation of Environmental Spectroscopy Systems”. [Project]

88. D. S. Hamilton, Fall 1999 (U. M.), “Computer-based Hospital Radiation Safety Training for Hospital Radiation Workers”. Publication #IC-62. [Project]

89. R. Saini, Winter 1999, Fall 1999, Completed Winter 2000 (U. M.), “An Investigation of Environmental Dosimetry Problems at LANL using Spectral Measurements”. [Practicum]

90. S. Bernal, began advising Fall 2001, Completed Master's degree Winter 2002 (U. M.). "The Age Dependence of Risks due to Internal Radionuclides". [Rackham fellowship] [NERS 599 Fall 2001, Winter 2002]

### **E. Undergraduate Research and Engineering Projects**

1. M. Thomas, 1985 (Arizona State University), "Comparative Calibration of Flow Characteristics of Jarvik 7 and Phoenix Totally Artificial Hearts".

2. T. Hjellming, 1984-85 (Arizona State University), "A Monte Carlo Simulator for Photon Transport Calculations for IBM PC-Compatible Microcomputers".

3. J. Shaw, 1985 (Arizona State University), "Mechanical Design of a Miniature Single Photon Emission Computed Tomograph".

4. R. Fitting, 1986 (Arizona State University), "Color Display for Evoked Potential Response".

5. J. Shaw, K. Keller, P. Henderson, J. Steel, N. Yo, 1986 (Arizona State University), "SPECT Image Processing and Analysis Package".

6. P. Franz, T. Seus, 1986 (Arizona State University), "Design of a Low-Cost Densitometer for Radiology".

7. J. Gustafson, 1986 (Arizona State University), "Design of Protocols for Radiological Quality Assurance".

8. R. Knapp, 1986 (Arizona State University), "Investigation of the Low Frequency Sound Spectrum of the Human Body".

9. J. Shaw, J. Begay, L. Hung, 1987 (Arizona State University), "A Fiber-Optics Patient-

Operator Communication System for MRI".

10. J. Farrar, 1987 (Arizona State University), "Radon Gas in Arizona Homes".
11. B. Harrell, 1987 (Arizona State University), "Diagnostic Radiology Experiments".
12. M. Smith, G. Cawthorne, 1988 (Arizona State University), "Determination of Scatter Radiation in CAT Scanning Suite".
13. A. Brand, J. D. Perkins, 1988 (Arizona State University), "Effects of Heating on Radiation Film Badges".
14. F. Farah, 1988 (Arizona State University), "X-ray Exposure Through Different Materials".
15. K. King, K. Huynh, 1988 (Arizona State University), "Background Radiation Levels on Campus".
16. M. Radonich, 1988 (Arizona State University), "Radon and the Media in Arizona".
17. E. Harrington, 1988 (Arizona State University), "Radon Health Risks".
18. J. Stahler, 1988 (Arizona State University), "Statistical Analysis of Radon Data for the State of Arizona".
19. J. Stahler, 1989 (Arizona State University), "A Complete Radon Data Base for Arizona".
20. G. Agrawal, Fall 1994, Winter 1995 (U. M.), "Improvement of Quantification of Source Activity Using the Mean Conjugate View Technique". [Independent Research]
21. J. Lemaster, Fall 1994, Winter 1995 (U. M.), "Databank of Problems for the American Board of Health Physics Certification Examination". [Work Study/UROP]
22. J. Lemaster, Fall 1995, Winter 1996 (U. M.), "Empirical Fits of Electron Depth Dose Database". [Work Study/UROP]
23. M. Connell, Fall 1995, Winter 1996 (U. M.), "Bioelectricity in the Human Body". [UROP]
24. P. Gadsen, Fall 1995 (U. M.), "Women in Engineering". [UROP]
25. J.-P. Mih, Fall 1995, Winter 1996 (U. M.), "Environmental Radiation Spectroscopy Measurements". [UROP]
26. S. M. Rohrer, Winter 1996, Fall 1996, Winter 1997 (U. M.), "Dose Assessment Using the RESRAD Computer Code". Publication #IC-54. [NERS research project]
27. E. Deogracias, Winter 1996 (U. M.), "Practical Radiation Detectors". [NERS research project]
28. E. Larson, Winter 1996 (U. M.), "Special Issues in Gamma Ray Spectroscopy". [NERS independent study] [NANT 2 y, Kikuchi]
29. J. L. Wood, Winter 1996, Summer 1996, Fall 1996 (U. M.), "Generation of Depth Dose Information for a Variety of Thermoluminescent Materials and Tissues". [Parker's Scholar, NANT]
30. S. M. Rohrer, Summer 1996 (U. M.), "Careers of Milwaukee Downer College Alumni in the

- Sciences”. [Parker’s Scholar, NANT 3y, Kikuchi, MI ANS]
31. J. L. Wood, Winter 1997 (U. M.), “Evaluation of Radiation Detectors”. [NERS independent study]
  32. E. Deogracias, Winter 1997 (U. M.), “Evaluation of Radiation Detectors”. [NERS independent study] [NANT 2y]
  33. C. J. Branch, Fall 1996, Winter 1997 (U. M.), “Women Students in Engineering at University of Michigan”. [UROP/GE]
  34. J. Sanders, Winter 1997 (U. M.), “The Treatment and Prognosis for Leukemia in 1961”. [Fermi Scholar] [NERS research project] [First Year Merit Scholar]
  35. W. V. Ferguson, Fall 1996, Winter 1997 (U. M.), “Curve Fitting of Depth Dose Data”. [NERS research project]
  36. D. DeMore, Winter 1997 (U. M.), “Uniformity of Photomultiplier Tube Response to LED Pulses”. [NERS research project] [with J. Aarsvold]
  37. D. J. Leja, Fall 1996, Winter 1997 (U. M.), “Exploration of Radiological Sciences Topics”. [Fermi Scholar]
  38. K. K. Brock, Fall 1996, Winter 1997 (U. M.), “Exploration of Radiological Sciences Topics”. [Fermi Scholar]
  39. K. A. Marcinkowski, Fall 1997, Winter 1998 (U. M.), “Biography of Elda Anderson: Primary and Secondary Source Materials”. [Parker’s Scholar]
  40. J. Sanders, Fall 1997 (U. M.), “Three-dimensional Rendering of an X-ray Machine”. [Work Study] [NERS undergraduate research project] [UM grant]
  41. C. J. Branch, M. A. Montes, T. Godfroy, Fall 1997 (U. M.), “Virtual Training for Hazardous Environments”. [Eng 477 Project]
  42. C. Doan, M. Hoyi, S. Ismail, J. Kim, K. MacKellar, S. Redman, Fall 1997 (U. M.), “The Temple of Mut”. [Eng 477 Project]
  43. N. Broege, Fall 1997 (U. M.), “Life at Milwaukee Downer Women’s College: Interviews and Primary Document Research”. [UROP]
  44. J. Sanders, Winter 1998, Fall 1998, Winter 1999 (U. M.), “Development of a Virtual Store for Radiation Devices” and “Development of Virtual Radiation using Augmented Reality”. [Work Study] [NERS undergraduate research project] [UM grant]
  45. K. K. Brock, Winter 1998 (U. M.), “Image Alignment for Radiotherapy Portal and CT Images”. [UROP][NERS undergraduate research project][with J. Balter]
  46. M. A. Stager, Winter 1998 (U. M.), “The Experience of Women Physics Undergraduates in a Woman’s College: 1930-1960”. [Fermi Scholar]
  47. M. Cordoba, Winter 1998 (U. M.), “Virtual and Augmented Reality”. [Fermi Scholar]
  48. L. Carlson, Winter 1998 (U. M.), "Women in a Women's College Dorm". [UROP]
  50. A. Ergun, Spring/Summer 1998 (U. M.), “Virtual and Augmented Reality”. [General Electric

Fellow]

51. D. Sewell, Fall 1998 (U. M.), "Biography of Elda Emma Anderson". [UROP]
52. K. A. Marcinkowski, Fall 1998, Winter 1999 (U. M.), "Scatter Spectral Measurements for Fluoroscopy". [GE]
53. M. Watkins, Fall 1998 (U. M.), "History of Women in Physics and Radiation Sciences". [UROP]
54. J. Sanders, Fall 1999 (U. M.), "Development of Digital Ultrasound Mammography". [Work Study] [Medical School contract]
55. K. L. Darner, Fall 1999 (U. M.), "Visualization of Stereo X-ray Mammograms". [NERS 499] [Medical School contract]
56. C. Glide, Fall 1999, Winter 2000 (U. M.), "Etiology and Development of Radiation Protection Practice". [NERS UROP]
57. E. Lang, Fall 2001, Winter 2002 (U. M.), "Algorithms for Collimated *in Situ* Radiation Distribution Determination".
58. A. Emerick, Fall 2001, Winter 2002 (U. M.), "Comparison of Measured vs. Theoretical Dose quantities in Finite Personnel Radiation Dosimeters". [UROP]
59. R. Ambrose, Fall 2001, Winter 2002 (U. M.), "General Laboratory Assistant".
60. P. Pengavich, Fall 2001 (U. M.), "UM Student Health Physics Society Radiation Safety Home Page".
61. A. Weston, Fall 2002, Winter 2003 (U. M.), "Fitting of Glow Curves for Thermoluminescent Analysis". [NERS 499 Fall 2003]
62. R. Gunnett, Fall 2002, Winter 2003, Fall 2003 (U. M.), "Timed Dosimetry using a Moving Collimator". [Work Study] [NERS 499 Fall 2003]
63. T. McDonald, Fall 2002, Winter 2003 (U. M.), "Optically and Thermally Stimulated Luminescence: A Literature Search". [Work Study]
64. K. Charette, Fall 2002, Winter 2003 (U. M.), "Temporal Radon Gas Measurements". [UROP]
65. A. Kalchik Fall 2002, Winter 2003 (U. M.), "Nuclear Instrumentation Module Performance Testing". [UROP]
66. C. Henley, Fall 2002, Winter 2003 (U. M.), "A Graded Shield for Environmental Measurements". [UROP]
67. M. Israel, Fall 2002, Winter 2003 (U. M.), "A Radiation Detector Made from Household Materials". [UROP]
68. D. Granzow, Fall 2002, Winter 2003 (U. M.), "Radon Gas Detection Using Electrets". [UROP]
69. J. Dreyer, Winter 2003 (U. M.), "Radiological Health Engineering Laboratory Website Design". [Work Study] [NERS 499]

**F. Member of Master's Thesis Committees (not as primary advisor)**

1. Member, A. S. U. M.S. Thesis Committee, T. Hjellming, "Design of a Computer Controlled Coincidence-anti-coincidence Low-Level Radioiodine Detector", 1986.
2. Member, G. I. T. Master's Thesis Committee, M. Vaughn, "Internal Dose Assessment Calculations for the Proposed Low-Level Radioactive Waste Disposal Facility in the Southeast Compact", August 1991.
3. Member, G. I. T. Master's Thesis Committee, D. Adkins, "A Comparison of Perceived and Calculated Risk for a Low-Level Radioactive Waste Disposal Facility", November 1991.
4. Member, U. M. (School of Dentistry) Master's Thesis Committee, "Measurement of the Dose of X-radiation to the Hands of the Dental Professional Who Holds the Film for Uncooperative Patients", December 2000.

**G. Member of Doctoral Oral Committees (not as primary advisor)**

1. Member, U. M. Oral Examination Committee, T. Lujan (NERS), "Phosphors for High Brightness Flat Panel Microcathode Displays", September 1993.
2. Member, U. M. Oral Examination Committee, T. Ueki (NERS), "Statistical Analysis of Source Iteration in Monte Carlo Eigenvalue Calculation", May 1995.
3. Member, U. M. Oral Committee, S. Krishnan (Biomedical Engineering), "Segmented Dynamic K-space Acquisition of Dynamic Gadolinium-enhanced 3D Breast MRI", Summer 1998.
4. Member, U. M. Oral Examination Committee, R. B. Anderson (NERS), "Etching with Novel ECR Plasma using Actinometry to Track the Density of Hydrogen", October 1998.
5. Member, U. M. Oral Examination Committee, A. Siefert (NERS), "Submicron X-ray Tomography", January 1999.
6. Member, U. M. Oral Examination Committee, G. Gu (NERS), "Radiation and Thermal Effects on the Structure and Chemical Properties of Zeolites, Crystalline Silicotitanates and Smectite Clay", August 1999.
7. Member, U. M. Oral Examination Committee (as primary Research Advisor), C. J. Branch (NERS), "Three-Dimensional Imaging of Subsurface Radiological Contamination using Tomographic Gamma Scanning", September 1999.
8. Member, U. M. Oral Examination Committee, S. Jul (EECS), "Computational Implications of Frames of Reference in Multiscale Navigation", August 2000.
9. Member, U. M. Oral Examination Committee, R. Harvey (SPH EHS), "Uncertainty of Inhalation Dose Conversion Factors for Representative Physical and Chemical Forms of I-131", March 2001.
10. Member, U. M. Oral Examination Committee, Bo Qui (NERS), "Ablation Plasma Implantation", November 2001.

**H. Member of Doctoral Dissertation Committees (not as primary advisor)**

1. Member, A. S. U. Ph.D. Dissertation Committee, N. Macia, "Parameter Identification of Lung

Models", 1988.

2. Member, A. S. U. Ph.D. Dissertation Committee, T.-S. Chen, "Design of Multidimensional Recursive Digital Filters", 1988.

3. Member, G. I. T. Dissertation Committee, C. Hazin, "Release of Radon from Showers and its Influence on Indoor Radon Dose", August 1990.

4. Member, G. I. T. Dissertation Committee, C. Campos, "Choice of Personal Dosimeter Location to Assess the Effective Dose Equivalent for Various Photon Irradiations", August 1990.

5. Member, G. I. T. Dissertation Committee, S. Kamboj, "The Cross Section for Photodetectors Equivalent Interactions in Germanium for Gamma Ray Spectral Analysis", February 1994.

6. Member, U. M. Dissertation Committee, D. Stuenkel (NERS), "Measurement of Dose Equivalent Rate in Mixed Fast Neutron-Gamma Ray Fields using a Liquid Scintillator", January 1997.

7. Member, U. M. Dissertation Committee, R. Harvey (SPH EHS), "Uncertainty of Inhalation Dose Conversion Factors for Representative Physical and Chemical Forms of I-131", December 2002.

8. Member, U. M. Dissertation Committee, S. Jul (EECS), "Computational Implications of Frames of Reference in Multiscale Navigation". (began July 1998, passed preliminary examination January 1999, passed oral examination August 2000).

9. Member, U. M. Dissertation Committee, S. Hames (NERS), "Soft X-ray Production and Detection in Microtomography". (began Spring/Summer 1998).

10. Member, U. M. Dissertation Committee, S. Krishnan (Biomedical Engineering), "Segmented Dynamic K-space Acquisition of Dynamic Gadolinium-enhanced 3D Breast MRI". (began Spring/Summer 1998).

11. Member, Panel of Examiners, Bharathiar University, India, N. Mugunthamanikandor (Dept. Physics). Topic on Radon Gas. (began January 2001).

12. Member, U. Va. Dissertation Committee, C. Bly (Nuclear Engineering), "Celestial Power Transients and Nuclear Power", 2001-present.

### **I. Course-Related Research Projects (U. M. only)**

1. Winter 93 NERS 582

"Dose for Mammography": M. Glaser, D. J. Jalandoni, E. Miller, Robert Rodgers

"Safety of Non-ionizing Radiation in Medical Environments": B. Han, H. Ning, E. Samei, D. Zhu

"Shielding Design": M. Sauer, P. Slover, J. Wertz, Chris W.

"Patient Dose Estimation in Diagnostic Radiology": T. Evans, S. Miller, S. Ward

"Radiology and the Fetus": S. Chae, C. H. Nahass, C. Parker

"Tc-99m Generator Kinetics in Nuclear Medicine": P. H. Chung, T. N. Fike

2. Winter 1994 NERS 484

"Cancer Risk Estimate for Water (Revigator and Swimming Pool Reactor Water)": B. Berles, K. Cranford, J. Miyamoto, R. Schmitz

"The Radium Dial Painters": D. Clark, H. Yates, W. Heuman



“An Overview of Federally Assisted Human Radiation Experiments of the 1940s 1950s and 1960s”: E. Samei, K. Fischer, A. Kitley, J. Miyamoto, C. Leonard, R. Rojeski, J. Park. Publication #IC-45

3. Winter 1998 NERS 582

“Ethical Issues in Medical Health Physics”: J. Wood, D. Demore, E. Deogracias, C. Sozener  
“Evaluation of the Performance Characteristics of a PC4600 PET”: N. Reddy (Jakkula); R. R. Rowbothom

“Current Trends in Mammography”: A. D. Hall

“Scatter Spectra from a Fluoroscopy Unit”: B. Hanson, M. Montes, S. Shah, B. Stratton

“Effective Shielding of a Nuclear Medicine Facility to Minimize Crosstalk between Gamma Cameras and Radiation Counting Instrumentation in Nuclear Medicine Departments using FDG”: R. P. Harvey and C. Yan

4. Fall 1998 NERS 484

“How Movies Cause Public Misconception of Nuclear Issues”: J. Lehning, E. Skarpac, M. Sheng

“Dr. Strangelove and Fail Safe: Critical Nuclear Scenarios”: T. Muroya, M. Phillips, H. Reisig, M. Yang

“The Changing Atomic Attitudes in Filmmaking: A Comparison of the Atomic Cafe and By Dawn's Early Light”: K. Brock, L. Clarke, K. Marcinkowski, S. Sibert

“How the End of the Cold War Affected Music: A Case Study of Six American Songs”:

T. Muroya, M. Sheng, M. Yang

“Nuclear Themes in Music”: L. Clarke, J. Lehning, M. Phillips, B. Sibert

“Radical Thoughts, Mainstream Ideas: The Use of Nuclear Fear in Socially Conscious Music”:  
K Marcinkowski, H. Reisig, E. Skarpac, K. Brock

5. Winter 1999 NERS 582

Yu, H., Hamilton, D.S., Peck, M.: “Computer-Based Radiation Safety Training For Hospital Radiation Workers”. Publication #IC-62

Sibert, S. E.: “Scatter Spectra From A Fluoroscopy Unit: A Comparison Of Experimental And Simulated Data”

Baciak, J.E., Skarpac, E. J., Kearfott, K. J.: “Review of Fetal Radiation Dose Protection and Dosimetry Issues”. Publication #IC-64

6. Winter 2000 NERS 582

“Measurement and Analysis of Dose and Exposure due to Scattered X-rays, Including Inverse-Square Law Verification and Exposure-To-Dose Conversion Coefficients”: Ariesanti, E., Park S.-J., Saini, R.

“External Beam Radiation Treatment Room Dose Distribution Measurements and Effects of Precision of Radiation Personnel Dosimeters”: Brock. K. K.

“An Examination of Total and Scatter Area Doses Received During the Radioiodine Treatment of Feline Hyperthyroidism”: Byrne P.

7. Winter 2000 NERS 554

“Issues in Medical Fluoroscopy”, Ariesanti, E., Park, S.-J, Porter, M. D., Zhenghi Ling

## V. RESEARCH FUNDING AND EQUIPMENT ACQUISITIONS

### A. Funded External Grants and Contracts

1. "PET of the Central Nervous System"

National Institutes of Health

Amount Requested: \$4,273,846. Submitted Spring 1984

Result: Funded 1986-89. Did not participate due to relocation

Co-Principal Investigator: Responsible for performance of PET physics

research and technical operations.

2. "SPECT for Cardiovascular Imaging"

American Heart Association, Arizona Affiliate Grant-in-Aid  
Amount Requested: \$37,555. Submitted December 1984  
Result: Funded \$37,555 (7/1/85 - 6/30/87)  
Principal Investigator

3. "Cardiomagneto Acoustics"

American Heart Association, Arizona Affiliate Grant-in-Aid  
Amount Requested: \$12,500. Submitted December 1984  
Result: Funded \$12,500 (7/1/85 - 12/30/86)  
Co-Principal Investigator: Wrote portions of proposal. Planned and performed experiments. Supervised students.

4. "A Novel Approach to Physiological Imaging"

National Institutes of Health, Biomedical Research Technology Program  
Amount Requested: \$36,750. Submitted February 1986  
Result: Funded \$34,306 (9/15/87 - 9/14/89)  
Co-Principal Investigator: Wrote proposal, designed and analyzed all work, supervised involved personnel.

5. "A New Approach to the Noninvasive Measurement of Bioelectric Currents"

Arizona Disease Control Research Commission  
Amount Requested: \$17,600. Submitted May 1986  
Result: Funded \$17,600 (8/16/86 - 7/1/87)  
Co-Principal Investigator: Wrote portions of proposal. Planned and performed experiments. Supervised students.

6. "Computational Resources for Modeling in Ultrasmall Electronics Research"

Office of Naval Research  
Amount Requested: \$300,000. Submitted Fall 1986  
Result: Funded \$300,000 (1986)  
Co-Principal Investigator: Wrote portion of proposal dealing with medical applications.

7. "Software and Techniques Analysis for PET"

Scottsdale Memorial Hospital  
Amount Requested: \$39,890. Submitted June 1988  
Result: Funded \$39,890 (6/27/88 - 12/31/88)  
Principal Investigator

8. "Fluoroscopy Studies for WWB Angioscope"

Robert A. Mackin  
Amount Requested: \$ 8,670. Submitted January 1988  
Result: Funded \$8,670 (1/22/88 - 1/22/89)  
Principal Investigator

9. "TLDs and Radiology"

Panasonic Industrial Systems  
Amount Requested: \$36,441. Submitted April 1988  
Result: Funded \$36,441 (1/1/89 - 12/31/89)  
Principal Investigator

10. "Development of Radon and Radium Detection System and Protocols for Groundwater and Establishment of Baseline Radioactivity in Aquifer Systems for the Carefree-Cavecreek Area"

Arizona Department of Environmental Quality  
Amount Requested: \$16,000. Submitted December 1988  
Result: Funded \$55,000 (1/1/89 - 1/30/93)  
Co-Principal Investigator: Provided all preliminary data for the proposal. Did not actively participate due to relocation.

11. "Radon Mitigation Demonstration: Southwest Tucson"  
Arizona Disease Control Research Commission  
Amount Requested: \$44,400. Submitted May 1989  
Result: Funded \$44,400 (7/7/89 - 6/30/91)  
Principal Investigator for 1989/90, Consultant 1990/91

12. "Radiological Imaging Facility"  
Impra Inc., Harrington Arthritis Institute, miscellaneous other sources  
Amount Requested: \$5,452. Continuing submissions 1985-1989  
Result: Funded \$5,452 (1985-89)  
Principal Investigator

13. Presidential Young Investigator Award  
National Science Foundation  
Amount Requested: \$312,500. Submitted June 1984  
Result: Funded \$312,500 (9/1/85 - 12/31/91)  
Principal Investigator

14. Cooperative Agreement for Services  
Emory University Department of Radiology  
Amount requested: \$18,945. Submitted September 1989  
Result: Funded \$18,945 (9/16/89-6/15/90)  
Funded \$26,018 (6/15/90 - 6/15/91)  
Funded \$25,695 (6/15/91 - 6/15/92)  
Funded \$19,830 (6/16/92 - 6/15/93)  
Principal Investigator

15. "Error Analysis of the Beta-Gamma Algorithm"  
Martin Marietta (Oak Ridge National Laboratory)  
Amount Requested: \$20,000. Submitted November 1989  
Result: Funded \$20,000 (11/1/89 - 6/30/90)  
Funded \$6,000 (6/30/90 - 9/30/90)  
Principal Investigator

16. "SPECT Analysis of the Cerebral Cortex Using Anatomically Simulated Normal Images"  
Emory/Georgia Tech Biomedical Research Technology Center Seed Grant  
Amount Requested: \$35,054. Submitted Winter 1990  
Result: Funded \$29,000 (\$14,000 G. I. T.) (7/1/90 - 6/30/91)  
Funded \$20,000 (\$10,000 G. I. T.) (7/1/91 - 6/30/92)  
Co-Principal Investigator: Wrote portions of proposal, supervised students, designed and analyzed work.

17. "Mixed Field Dosimetry Using Focused and Unfocused Laser Heating of Thermoluminescent Materials"  
Department of Energy  
Amount Requested: \$356,020. Submitted January 1991  
Result: Funded \$104,777 (4/15/92 - 4/14/93, renewable)  
Funded \$150,000 (4/15/93 - 4/15/95)  
Note: \$73,809 Subcontracted to University of Michigan  
Principal Investigator

18. "Telecommunications: Medical Imaging"  
 State of Georgia, Georgia Research Alliance  
 Amount Requested: \$7,440,000. Submitted June 1991  
 Result: Funded \$450,000 for equipment (1991)  
 Co-Investigator (Norberto Ezquerro, PI)
19. "Biomedical Engineering Development: Cellular Engineering at Emory and Georgia Tech"  
 Whitaker Foundation  
 Amount Requested: \$3,000,000. Submitted August 1992  
 Result: Funded (1992)  
 Participating Faculty
20. "Radiation Protection Management for Non-Military Nuclear Technologies in the Developing World Since 1955"  
 National Science Foundation  
 Amount Requested: \$45,000. Submitted February 1994  
 Result: Funded \$45,000 (9/1/94 - 8/31/96)  
 Co-Principal Investigator (L. M. Calkins, P. I.)
21. "Research Involving Digital Radiography"  
 Henry Ford Hospital (subcontract from Eastman Kodak and other sources)  
 Amount: Graduate student funding. Submitted in revolving fashion  
 Result: Funded \$10,867 (1/1/95 - 5/11/95)  
 Funded \$10,266 (5/1/95 - 8/31/95)  
 Funded \$23,922 (9/1/95 - 4/30/96)  
 Funded \$11,983 (5/1/96 - 12/31/96)  
 Principal Investigator
22. "The Dual Integral Glow Analysis (DINGA) Method for Low LET Radiation Field Dosimetry: Panasonic Reader Experiments"  
 Panasonic Industrial Corporation  
 Amount Requested: One student fellowship  
 March 1995, requested \$15,000: (September 1995); not funded  
 May 1996, requested \$16,000: (September 1995); funded \$16,000  
 9/1/96-9/1/97)  
 May 1997, Year 2 renewal; not funded, but no second year has ever been  
 funded in this program)  
 Principal Investigator
23. "High Fidelity Electronic Display of Digital Mammograms"  
 U.S. Army Breast Cancer Research Program and Henry Ford Hospital  
 Amount Requested: \$75,000/y for 2 years. Submitted September 1995  
 Results: Funded \$75,000.  
 Awarded \$24,383 as subcontract from Henry Ford Hospital (9/1/96-4/30/97).  
 Renewed \$23,593 (9/1/97-8/31/98)  
 Renewed \$11,704 (9/1/98-12/31/98)  
 Consultant (M. Flynn, P. I.)
24. "The Graduate Experience: A Model Recruitment and Retention Program for Women Graduate Students in Engineering and the Physical Sciences at the University of Michigan"  
 Alfred P. Sloan Foundation  
 Amount Requested: Approx. \$150,000 /y for 4 years. Submitted Winter 1995  
 Result: Funded \$159,815 for Year I (9/1/ 1995-8/31/1996), total 4 years  
 Supervised staff and serve as general collaborator, 1995-1997

25. "Biography of Elda Emma Anderson: Applied Physicist and Educator"  
Herbert Hoover Presidential Library Association  
Amount Requested: \$1,200 (1997-98). Submitted Winter 1997  
Result: Funded \$1,000 (4/15/97-5/31/98)  
Principal Investigator

26. "Dual Integral Glow Analysis (DINGA) Method for Mixed Radiation Field Dosimetry"  
Department of Energy Health Physics Faculty Research Award Program  
Amount Requested: \$50,000/year renewable for 3 years.  
Result: Funded \$50,000(2/1/96-1/31/97)  
Funded \$50,000 (2/1/97-1/31/98)  
Funded \$50,000 (9/1/97-8/31/00)  
Principal Investigator

27. "A Novel Technique for the One-Sided Imaging of Gamma Emitters in an Attenuating Medium"  
Los Alamos National Lab  
Amount Requested: \$65,000  
Result: Funded \$65,000 (10/99-9/00)  
Collaborating Investigator [Robert Estep, Principal Investigator]  
Failed to participate due to student [Branch] choosing a different advisor.

28. "Science Teacher Workshop at Michigan Science Teachers Association (March 2000)"  
"Science Teacher Workshop at Delta College (April 2000)"  
American Nuclear Society Public Education Program  
Amount Requested: \$570.90, \$400 (approximate)  
Result: Funded \$570.90. \$400 (approximate, to Michigan Chapter of ANS)  
President, Local Section of American Nuclear Society

29. "Marie Curie Event"  
Detroit Edison (\$2,000), Consumer's Power (\$2,000)  
Result: Funded, September/October 2000  
Fund Raiser

30. "Determination of Radionuclide Depth Distribution by Calibrated Gamma-Ray Spectroscopy"  
Department of Energy Small Business Innovation Research Grant (SBIR)  
Phase I, Subcontract with Radiation Safety Engineering  
Amount Requested: \$100,000/6 months (submitted January 2001)  
Result: \$29,000 subcontract (September 2001-February 2002)  
Principal Investigator

31. "Graduate Fellowships in Health Physics at the University of Michigan"  
National Academy for Nuclear Training (NANT)  
Amount Requested and Awarded:  
Nov. 1994, 2 fellowships, \$24,000: not funded  
Nov. 1995: 2 fellowships, \$26,000: not funded  
Nov. 1996, 2 fellowships, \$26,000: funded \$13,000 (9/97-8/98)  
Nov. 1997: 2 fellowships, \$26,000: funded \$13,000 (9/98-8/99)  
(assigned to "NE" for administrative reasons)  
Nov. 1998, 2 fellowships, \$28,000: funded \$14,000 (9/99-8/00)  
Nov. 1999, 2 fellowships, \$28,000: funded \$14,000 (9/00-8/01)  
Nov. 2000, 2 fellowships, \$28,000: not funded (program determined to be "in flux")  
Nov. 2001, 1 fellowship, \$14,000: funded (9/02-8/03)  
Nov. 2002, 1 fellowship, \$14,000: funded (9/03-8/04)  
Principal Investigator

32. "University Participation in Department of Energy Office of Civilian Radioactive Waste Management Graduate Fellowship Program"

U. S. Department of Energy

Amount Requested: Depends upon student applications (submitted 9/1/00)

Result: Approved (effective until 8/31/05)

Collaborating Investigator [Rod Ewing, Principal Investigator]

33. "Department of Energy Graduate Fellowships in Health Physics"

Department of Energy Special Programs Office, MUSC

Amount Requested: n/a (depends upon student applications) (submitted January 2002)

Result: Approved (valid September 2002 to August 2007)

Principle Investigator (coPIs: entire department)

34. "Advanced Radiation Dosimeters for Radiological Dose Assessments"

Los Alamos National Laboratory , NMT-5, C-SIC

Amount Requested: \$689,899 (March 2002) [includes \$58,000 U. M. cost-sharing]

Result: Awarded (June 2002-May 2007)

Principle Investigator

## **B. Funded Internal Grants and Contracts**

1. "Radiation Protection Management Experience in the Former Yugoslavia"

Michigan Memorial-Phoenix Project Faculty Research Grant

Amount Requested: \$6,000 October 1993

Result: Funded \$5,000 (3/1/94 - 3/1/95) by U. M. O. V. P. R.

Principal Investigator

2. "Encouraging Academic Excellence: Undergraduate Women of Color in the College"

U. M. Women of Color in the Academy Project

Result: Funded \$500 (1995)

Co-sponsor with Derrick Scott

3. "The College of Engineering Female Students of Color: the Input of College Expectations on the Engineering Pipeline"

U. M. Women of Color in the Academy Project

Result: Funded \$700 (1995)

Co-sponsor with Derrick Scott

4. "Biography of Elda E. Anderson"

Rackham Faculty Research Grant

Amount Requested; \$15,000. Submitted October 1995 (for 1/96-12/97)

Result: Funded \$15,000 (1/1/96 - 12/31/97)

Principal Investigator

5. "Gender and Access in Engineering Education at the University of Michigan"

U. M. Institute for Research on Women and Gender Program for Support for Scholarly Activities on Women or Gender

Amount Requested: \$10,000. Submitted Fall 1995

Result: Funded \$2,000 (5/1/96-5/1/98)

Principal Investigator

6. "Limitations of Assumptions and Enhancement of Methodologies for ICRP Approach to Internal Radiation Dose Assessment"

D. Manuca, Student

U. M. Graduate Experience Project Sloan Summer Fellowship Program

Amount Requested: \$5,200 (\$2,600 from NERS). Submitted Winter 1996

Result: Funded \$5,200 (Summer 1996)  
Faculty Sponsor

7. "Usage of Augmented and Virtual Reality for Radiation Protection"

C. J. Branch, Student

U. M. Graduate Experience Project Sloan Summer Fellowship Program

Amount Requested: \$5,200 (\$2,600 from CEE). Submitted Winter 1998

Result: Funded \$5,200 (Summer 1998)

Faculty Sponsor

8. "A Stereoscopic High Fidelity Display for Radiographs for Course Enhancement" (NERS 580)

Department of NERS Equipment Budget

Amount Requested: \$10,000. Submitted Fall 1998

Amount Funded: \$10,000 January 1999

Principal Investigator with M. Flynn

9. "Hazard Detection using Augmented Reality"

U. M. 1997 Presidential Initiatives Fund

Amount Requested: \$180,000 (1997-2000). Submitted Winter 1997

Result: Funded \$110,000 (1997-2000)

Participating Faculty (B. Stojadinovic, PI)

10. "Applied Environmental Radiation Measurements Laboratory"

Elizabeth Caroline Crosby Research Fund

Amount Requested: \$20,000. Submitted April 2002.

Result: Funded \$20,000 (2002-2003)

Principal Investigator

11. "Applied Environmental Radiation Measurements Laboratory"

College of Engineering, Associate Dean for Academic Affairs

Amount Requested: \$9,500. Submitted April 2002.

Result: Funded \$9,500 (2002-2003)

Principal Investigator

12. "Applied Environmental Radiation Measurements Laboratory"

College of Engineering, Associate Dean for Research

Amount Requested: \$9,500. Submitted April 2002.

Result: Funded \$9,500 (2002-2003)

Principal Investigator

13. "Applied Environmental Radiation Measurements Laboratory"

College of Engineering, NERS Department

Amount Requested: \$9,500. Submitted April 2002.

Result: Funded \$9,500 (2002-2003)

Principal Investigator

14. "Applied Environmental Radiation Measurements Laboratory"

Office of Vice President for Research

Amount Requested: \$19,333. Submitted April 2002.

Result: Funded \$19,333 (2002-2003)

Principal Investigator

15. "Design of a Radon Measurement System Shield"

University Research Opportunities Program (UROP)

Amount Requested: \$3,000. Submitted October 2002.

Result: Funded \$3,000 (2002-2003)

Principal Investigator

## **VI. SERVICE**

### **A. National Professional Leadership Activities**

#### Active

None at present.

#### Previous

1. Member, National Technological University, Health Physics Planning Committee, 1990.
2. Spokesperson, U.S. Council for Energy Awareness, 1991-93.
3. Member, National Council on Radiation Protection and Measurements (NCRP) Scientific Subcommittee 57 (Dosimetry and Metabolism of Radionuclides), 1992-96.
4. Member, National Technological University, Health Physics Program Curriculum Committee, 1992-93.
5. Member, Working Group on Graduate Programs in Health Physics, Westinghouse Savannah River Company/G. I. T., 1992-93.
6. Representative for Health Physics Society, Nuclear Regulatory Commission Enhanced Participatory Rulemaking Workshop on Radiological Controls for Decommissioning, Atlanta, 1993.
7. Member, Subcommittee on Radiation Cleanup Standards, National Advisory Council for Environmental Policy and Technology, U. S. Environmental Protection Agency, Office of Radiation and Indoor Air, 1993-1995.
8. Member, Organizing Committee for 1994 Symposium on Radiation Measurements and Applications, 1993-94.
9. Councilor for U.M., Oak Ridge Associated Universities, 1996-1999.
10. Participant, Department of Energy, Nuclear Energy Research Advisory Committee (NERAC) Subcommittee for Long-term Nuclear Energy Research and Development Plan Workshop, October 1999
11. Participant, Department of Energy, Nuclear Energy Research Advisory Committee (NERAC) Subcommittee for Long-term Nuclear Energy Research and Development Plan Writing Session, February 2000.
12. Member, Advisory Committee of the U. S. Transuranium and Uranium Registries (USTUR), Washington State University, 1998-2001.
13. Member, Technical Committee for the iTRS First International Symposium on Radiation Safety and Detector Technology (ISORD-1), July 18-19, 2001.
14. Member, Committee on Long-term Research Needs for Managing Transuranic and Mixed Wastes at DOE Sites, National Academy of Science, 2001-2002.

### **B. Professional Society Memberships**

#### Active

1. Member, American Association of Physicists in Medicine, 1979-present.
2. Member, American Nuclear Society, 1980-present. (Lifetime Member). Professional Divisions: Radiation Protection and Shielding; Nuclear Criticality Safety; Biology and Medicine; Education and Training; Isotopes and Radiation; Decommissioning, Decontamination, and Reutilization; Operations and Power
3. Member, Society of Nuclear Medicine, 1981-present.
4. Member, Sigma Xi, 1981-present. (Lifetime Member) (Honorary Society)
5. Member, Association of Women in Science, 1981-present.
6. Member, Eta Kappa Nu, 1985-present. (Honorary Society)
7. Member, American Association of University Women, 1985-present.
8. Member, Institute of Electrical and Electronics Engineers, 1986-present.
9. Member, Society of Women Engineers, 1986-present. (Lifetime Member)



10. Member, Health Physics Society, 1986-present.
11. Member, Order of the Engineer, 1988 - present. (Honorary Society)
12. Member, American Society for Engineering Education, 1990-present.
13. Member, Great Lakes Chapter Health Physics Society, 1993-present.
14. Member, Great Lakes Chapter American Association of Physicists in Medicine, 1993-present.
15. Member, Michigan Local Section of American Nuclear Society, 1993-present.
16. Member, International Radiation Physics Society, 1994-present.
17. Member, Women in Nuclear Science (WINS), 1996-present.
18. Member, Society of Radioactive Women, 1999-present.

*Previous*

1. Member, Radiological Society of North America, 1981-84.
2. Member, Society for Cerebral Blood Flow and Metabolism, 1981-87.
3. Member, Arizona Chapter of Health Physics Society, 1985-89.
4. Member, Society for Computer Applications in Radiology, 1988-1991.
5. Member, Atlanta Chapter of Health Physics Society, 1989-93
6. Member, Atlanta Chapter of American Nuclear Society, 1989-93.
7. Member, Alabama Chapter of Health Physics Society, 1991-93.
8. Member, Women in Engineering Program Advocates Network, 1992-97.
9. Member, National Association for Female Executives, 1993-98.
10. Affiliate Member, Conference of Radiation Control Program Directors, 1994-98.
11. Member, American Industrial Hygiene Association, 1995-97.
12. Member, Michigan Industrial Hygiene Association, 1995-97.
13. Member, Radiation Research Society, 1995-1997.
14. Member, National Association of Women in Education (NAWE), 1995-97.

**C. Professional Society Activities**

***American Nuclear Society***

*Active*

1. Member, Executive Committee of Education and Training Division, American Nuclear Society, 1997-2000, 2000-2003 (elected).
2. Member, Planning Committee, American Nuclear Society, 1997-2000, 2000-2003.
3. Member, Executive Committee of the Radiation Protection and Shielding Division (Group II), 2000-2003 (elected).
4. Member, ANS President's Blue Ribbon Task Group on Workforce Needs, 2001-present.
5. Division Memberships: Radiation Protection and Shielding; Education and Training; Biology and Medicine; Isotopes and Radiation; Decommissioning, Decontamination, and Reutilization; Nuclear Criticality Safety; Operations and Power

*Previous*

1. Advisor, A. S. U. American Nuclear Society Student Chapter, 1984-89.
2. Member, Arizona American Nuclear Society, Finance Committee, 1986-87.
3. Member, Arizona American Nuclear Society, Program Committee, 1986-87.
4. Member, Executive Committee, Michigan Local Section of American Nuclear Society, 1993-95 (elected).
5. Member, Program Committee, American Nuclear Society University Working Conference, 1994-95.
6. Member, Professional Women in the American Nuclear Society Committee, American Nuclear Society, 1996-99.
7. Member, Scholarship Policy and Coordination Committee, American Nuclear Society, 1997-2000; Vice-Chair 1998-99.
8. Member, American Nuclear Society ad hoc Committee on Yucca Mountain Standards, 1999.
9. Board Liaison to Health Physics Society, American Nuclear Society, 1998-2000.
10. President, American Nuclear Society Michigan Section, 1999-2000 (elected).
11. Participant, ANS Strategic Planning Retreat, Sept. 2000.
12. Member, ANS Program Committee, Operations and Power Division, 2000-2001.

13. Board Liaison to Isotopes and Radiation Division, ANS Board of Directors, 2000-2001.
14. Nominator, ANS National Historic Landmark for Michigan Memorial Phoenix Project (successful), May, 2000.
15. Member, Board of Directors, American Nuclear Society, 1996-99, 1999-2002 (elected).
16. Board Liaison to Education and Training Division, ANS Board of Directors, 2001-2002.
17. Member, Technical Program Committee, ANS Radiation Protection and Shielding Division (RPSD), Biennial RPSE Topical Meeting, "Radiation Serving Society", Santa Fe, NM, April 14-18, 2002.
18. Reviewer, Radiation and Protection Shielding Division (RPSD) Annual Meeting Abstracts, Summer 2002, Winter 2003.
19. Reviewer, Education and Training Division (ETD) Annual Meeting Abstracts, Winter 2003.

### ***Health Physics Society***

#### *Active*

1. Public Media Contact for Academic Programs for Health Physics and Radiation Science, Health Physics Society, 1999-present. (appointed)
2. Advisor, U. M. Health Physics Society Student Branch, 2000-present.
3. Section Memberships: Decommissioning, Environmental, Medical Health Physics, Power Reactors

#### *Previous*

1. Member, Board of Directors, Arizona Health Physics Society, 1985-87 (elected).
2. President-Elect, Arizona Health Physics Society, 1987-88 (elected).
3. President, Arizona Health Physics Society, 1988-89 (elected).
4. Member, Health Physics Society, Manpower and Professional Education Committee, 1990-1992.
5. Member, Health Physics Society, Steering Committee for Formation of Health Physics Program Directors Organization, 1990-91.
6. Advisor, G. I. T. Health Physics Student Organization, 1990-92.
7. Advisor, G. I. T. Student Branch of Health Physics Society, 1992-93.
8. Member, Atlanta Health Physics Society, Admissions Committee, 1990-92.
9. Co-chair, Health Physics Society, Manpower and Professional Education Committee, 1991-92.
10. Member, Board of Directors, Health Physics Society, 1992-95 (elected).
11. Member, Steering Committee/Executive Board, Medical Health Physics Section, Health Physics Society, 1990-95 (elected).
12. Member, Part 1 Passing Point Workshop, American Board of Health Physics, 1994, 1999.
13. Member, Liaison Committee representing American Nuclear Society, Health Physics Society, 1999-2000.

### ***Society of Nuclear Medicine***

#### *Previous*

1. Member, Society of Nuclear Medicine, PET Task Force, 1990-95.

### ***Society of Women Engineers***

#### *Previous*

1. Secretary, Atlanta Society of Women Engineers, 1990-91, 1991-92 (elected).
2. Advisor, U. M. Society of Women Engineers Students Chapter, 1996-97.

### ***American Association of Physicists in Medicine***

#### *Previous*

1. Member, American Association of Physicists in Medicine, Nuclear Medicine Committee, 1991-93.

### ***International Radiation Physics Society***

#### *Previous*

1. Vice President for North America, International Radiation Physics Society, 1997-99 (elected).

#### **D. On-Campus Committees and Service**

##### ***Arizona State University (previous)***

1. Member, A. S. U. College of Engineering, Human Laboratory Subjects Committee, 1984-89.
2. Member, A. S. U. Dept. of Electrical and Computer Engineering, Energy Area Committee, 1984-86, 1988-89.
3. Member, A. S. U. Dept. of Electrical and Computer Engineering, Telecommunications Area Committee, 1984-85.
4. Chair, A. S. U. Dept. of Electrical and Computer Engineering, Committee on Nuclear Electrical Engineering, 1984-86.
5. Member, A. S. U. College of Engineering, Interdepartmental Biomedical Engineering Committee, 1984-89.
6. Member, A. S. U. College of Engineering, Affirmative Action Committee, 1984-86. (Affirmative Action Monitor, Mechanical Engineering, 1986).
7. Member, A. S. U. Dept. of Electrical and Computer Engineering, Undergraduate Curriculum Committee, 1985-89.
8. Chair, A. S. U. Dept. of Electrical and Computer Engineering, Energy Area Committee, 1985-86.
9. Member, A. S. U. Dept. of Electrical and Computer Engineering, Systems and Circuits Area Committee, 1985-86.
10. Member, A. S. U. Committee to Review Human Subjects Committee, 1985.
11. Member, A. S. U. Dept. of Electrical and Computer Engineering, Committee of Committee Chairs, 1985-86.
12. Member, A. S. U. Radiation Protection Committee, 1986-88.
13. Member, A. S. U. Search Committee for Radiation Safety Officer, 1986.
14. Member, A. S. U. College of Engineering, Interdepartmental Bioengineering Center Committee, 1986-87.
15. Member, A. S. U. Dept. of Electrical and Computer Engineering, Core Curriculum Committee, 1986-88.
16. Member, A. S. U. Dept. of Electrical and Computer Engineering, Energy and Instrumentation Committee, 1986-87.
17. Member, A. S. U. Dept. of Electrical and Computer Engineering, Search Committee for Electric Power Systems Faculty, 1986.
18. Member, A. S. U. Dept. of Electrical and Computer Engineering, Search Committee for Antenna/Radar Staff, 1987.
19. Member, A. S. U. Committee for Interdisciplinary Research on Diet, Physical Activity and Bone Mineral Loss/Osteoporosis, 1987.
20. Member, A. S. U. Animal Care and Use Committee, 1987-89.
21. Member, A. S. U. Patricia Roberts Harris Fellowship Proposal Selection Committee, Summer 1987, Fall 1987.
22. Member, A. S. U. Faculty Senate, 1987-89 (elected).
23. Member, A. S. U. Human Laboratory Subjects Committee, 1988-89.
24. Chair, A. S. U. Committee on Committees, 1988-89 (elected).
25. Member, A. S. U. Executive Committee, 1988-89.
26. Member, A. S. U. Dept. of Electrical and Computer Engineering, Committee for ECE 301 Laboratory, 1988.
27. Member, A. S. U. Dept. of Electrical and Computer Engineering, Search Committee for Nuclear Sciences Faculty, 1988-89.
28. Member, A. S. U. Dept. of Electrical and Computer Engineering, Executive Committee, 1988-89 (elected).
29. Member, A. S. U. Dept. of Electrical and Computer Engineering, Affirmative Action Committee, 1988-89.
30. Chair, A. S. U. Dept. of Electrical and Computer Engineering, Undergraduate Curriculum Committee, 1988-89.
31. Member, A. S. U. College of Engineering, Search Committee for Electrical and Computer

- Engineering Department Chair, 1988-89.
32. Faculty Associate, A. S. U. College of Engineering, Center for Energy Systems Research, 1988-89.
  33. University Representative (A. S. U.), Argonne National Laboratories, Science and Engineering Research Semester, 1988-89.

***Georgia Institute of Technology (previous)***

1. Chair, G. I. T. Search Committee for NE/HP Faculty in Waste Management, 1989-90.
2. Member, G. I. T. NE/HP External Relations Committee, 1989-90.
3. Member, G. I. T. NE/HP Laboratory Committee, 1989-91.
4. Member, G. I. T. NE/HP Research Committee, 1989-91.
5. Member, G. I. T. NE/HP Graduate Student Recruitment Committee, 1989-91.
6. Member, G. I. T. Health Physics Faculty Committee, 1989-1990.
7. Fellowship Coordinator (G. I. T.), Oak Ridge Associated Universities, Nuclear Engineering and Health Physics, Operational Health Physics, and Environmental Restoration/Waste Management Fellowship Programs, 1989-93.
8. Member, G. I. T. NE/HP Strategic Planning Committee, 1990-91.
9. Member, G. I. T. NE/HP Ph.D. Preliminary Examination Committee, 1990-91.
10. Chair, G. I. T. NE/HP Faculty Recruiting Committee, 1990-91.
11. Member, G. I. T. School of Mechanical Engineering, Faculty Awards Committee, 1990-91.
12. Fellowship Coordinator (G. I. T.), Oak Ridge Associated Universities, Civilian Radioactive Waste Management and Nuclear Regulatory Commission Fellowship Programs, 1991-93.
13. Member, G. I. T. Committee for M. S. Radiological Engineering, 1991.
14. Member, G. I. T. School of Mechanical Engineering Graduate Committee, 1991-92, 1992-93.
15. Member, G. I. T. School of Mechanical Engineering Self-assessment, Goals, and Strategic Planning, 1991-92.
16. Member, G. I. T. School of Mechanical Engineering Graduate Committee, Subcommittee on Health Physics, 1991-92, 1992-93.
17. Member, G. I. T. Ph.D. Preliminary (Qualifier) Examination Committee for the Health Physics Program, Fall 1991, Fall 1992, Spring 1993.
18. Member, G. I. T. Futurescape Speaker's Bureau, 1991-92.
19. Member, G. I. T. School of Mechanical Engineering, Committee on NE Faculty Recruiting, 1992.
20. Chair, G. I. T. School of Mechanical Engineering, Committee for Evaluation of Applications for Adjunct Health Physics Faculty Status, 1992.
21. Member, G. I. T. School of Mechanical Engineering, Faculty Advisory Committee, 1992-93 (elected).
22. Chair, G. I. T. School of Mechanical Engineering, Health Physics (Radiological Engineering) Research Area Committee, 1992-93.
23. Chair, G. I. T. School of Mechanical Engineering, Committee on Medical Physics, 1993.

***University of Michigan***

*Active*

1. Member, U. M. Department of Nuclear Engineering and Radiological Sciences, Curriculum Committee, 1994-2000, 2001-present.
2. Member, U. M. Dept. of NERS, Committee for Preparation of Doctoral Examinations in Radiological Health Engineering and Nuclear Imaging and Measurements, 1993-present.
3. Member, U. M. Radiation Policy Committee, 1999-present.
4. Chair, REM option, 2001-present.
5. Member, U. M. Radioactive Drug Research Committee (RDRC) Subcommittee on Human Use of Radioisotopes (SHUR), Dosimetrist, 2003-present.

*Previous*

1. Member, U. M. School of Public Health, Dept. of Environmental and Industrial Health, Search Committee for Radiological Health Faculty, 1993-94.
2. Member, U. M. Department of Nuclear Engineering and Radiological Sciences, Executive Committee, 1993-95, 1998-2000 (elected).

3. Chair, U. M. Dept. of Nuclear Engineering, Committee on Radiological Engineering, 1993-94.
4. Member, U. M., Michigan Memorial Phoenix Project Management Review Team, 1993-94.
5. Member, U. M., President's Advisory Commission on Women's Issues, 1993-95, 1995-96.
6. Member, U. M., Rackham College, Divisional Review Board in Physical Sciences and Engineering, 1994-96, 1999-01; Chair, 1995-96.
7. Member, U. M. College of Engineering, Tenure Committee for M. A. Carroll, 1994.
8. Program Advisor, U. M. College of Engineering, M. Eng. in Radiological Health Engineering, 1994-2000.
9. Member, U. M. Dept. of Nuclear Engineering, Library Committee, 1994-2000.
10. Member, U. M. Department of Nuclear Engineering, Department Chair Search Committee, 1994.
11. Member, U. M. Panel of Inquiry into Federally-Sponsored Human Radiation Research at the University of Michigan in the Post-World War II Period, 1994-96.
12. Facilitator, U. M. College of Engineering, Faculty Engineering Women (FEW) group, 1994-97.
13. Co-Leader of Discussion Group for the Americas, U. M. College of Engineering, Meeting of National Advisory Committee (theme: International Programs), 1994.
14. Chair, U. M. Dept. of Nuclear Engineering, Radiological Health Engineering Committee, 1994-2000.
15. Member, U. M. Dept. of Nuclear Engineering, Search Committee for Senior Faculty in Radioactive Waste Management, 1994-96.
16. Member, U. M. Office of Vice President for Minority Affairs, Faculty Awards Review Committee, Summer 1995, Fall 1995.
17. Participant, U. M. Senate Advisory Committee on University Affairs, Senate Assembly Retreat with the President, June 1, 1995.
18. Member, U. M. Bioengineering Program, Committee on Undergraduate Bioengineering Curriculum, 1995.
19. College Representative, U. M. College of Engineering, Interview of Dr. J. Penner for Faculty in AOSS, 1995.
20. Member, U. M. Dept. of NERS, Search Committee for Faculty in Medical Imaging, Radiological Health Engineering, and Radioactive Waste Management, 1995-97.
21. Faculty Affiliate for U. M. Minority Engineering Program Office (MEPO), 1996-97.
22. Participant, U. M. Dept. of NERS, Open House, November 1995.
23. Participant, U. M. Dept. of NERS, First Year Student Seminars (Nuclear Engineering and Radiological Sciences, and Engineering Physics), January 1995, January 1996, October 1996, January 1997, February 1997.
24. Participant, U. M. College of Engineering, Amazin' Blue Preview, February 1996.
25. Member, U. M. Ad Hoc Committee for Selection of Sloan Staff, 1995, 1996.
26. Member, U. M. Rackham School for Graduate Studies, Barbour Scholarship Review Panel, 1996-99.
27. Member, U. M. Interdepartmental (Environmental Industrial Health and Nuclear Engineering and Radiological Sciences Departments) Committee on Radiological Health Programs at U. M., 1997.
28. Member, U. M. College of Engineering Honors and Awards Committee, 1997-99.
29. Member, U. M. College of Engineering, Curriculum Committee, 1999-2000 (elected).
30. Commencement Marshall, U. M., December 2000.
31. Assisted with Marie Curie Program, Summer/Fall 2000. (arranged keynote speaker (G. Marcus), panelist (P. Oferle, Detroit Edison), speaker (R. Weiner), and spear-headed successful fund-raising at Consumers Power and Detroit Edison, designed and prepared two museum displays (E. E. Anderson, and Atomic Kitsch).
32. Member, U. M. Rackham School for Graduate Studies, Divisional Board II Grant Review Panel, 1999-2001.
33. Participant, U. M. College of Engineering Graduate Information Day, October 2002.

## **E. Engineering Consulting**

1. M. D. Anderson Cancer Center, University of Texas, Houston, TX. PET Project, 1984.
2. Methodist Medical Center of Illinois, Peoria, IL. PET Acquisition and Instrument Intercomparison, 1987, 1988.
3. Impra Inc., Tempe, AZ. Catheter Quality Assurance, 1987, 1988.
4. Sun Health Corporation, Sun City, AZ. PET Cost Analysis, 1987.
5. Samaritan Health Services, Phoenix, AZ. PET Clinical Applicability Analysis, 1987.
6. Holt, Rinehart and Winston, New York, NY. Textbook Competitive Market Review, 1987.
7. Cigna Healthplan of Arizona, Inc., Phoenix, AZ. Medical Physics Surveys for Radiography, Fluoroscopy, and Mammography, 1988.
8. St. Joseph's Hospital, Phoenix, AZ. Fluoroscopy/Angioscopy Survey, 1989.
9. W. L. Gore and Associates, Medical Products Division, Flagstaff, AZ. Radiography and Angiography Room Design, 1989.
10. Mayo Clinic, Rochester, NM. Visiting Faculty. PET Evaluation, 1989.
11. United States District Court of Arizona, Phoenix, AZ. Expert Witness on Radiation Health Effects, Murder I Trial, 1989.
12. National Broadcasting System, Tempe, AZ. Technical Set Consultant, 1989.
13. University of Arizona Optical Sciences Center, Tucson, AZ. N. I. H. Program Project Pre-Review, 1989.
14. Arizona Disease Control Research Commission, Phoenix and Tucson, AZ. Radon Mitigation Work, 1990-91.
15. Auburn University, Auburn, AL. Investigation of X-ray Diffractometer Exposure. 1991.
16. Advanced Systems Technology, Atlanta, GA. Cyclotron-producible Radionuclides for Medicine, 1991.
17. Reviewer, John Wiley and Sons, Inc., Publishers, New York, NY, Encyclopedia of Electrical and Electronics Engineering, 1998.
18. Nuclear Regulatory Commission, Washington DC. Advisory Committee on Nuclear Waste (ACNW), 1999-2001.
19. MJW Corporation, Williamsville, NY. 1999-2000. Historical Internal Dose Assessments for the Department of Energy, 1999-2000.
20. Bartlett Nuclear, Detroit Edison, Monroe, MI. Fermi 2 Nuclear Plant Refueling Outage 7 (RF07), Radiation Technologist, April-May 2000.
21. Consumers Power, Big Rock Point Restoration Project, Charlevoix, MI. Bulk Materials Release Program Review, June 2000.
22. University of Hong Kong, People's Republic of China, External Reviewer for Faculty of Science, October 2000.
23. Bartlett Nuclear, Consumers Power, South Haven, MI. Palisades Nuclear Plant Refueling Outage 2001 (RF2001), Senior Radiation Technologist, April 2001.
24. Park Metallurgical Laboratory, Detroit, MI. Evaluation of Radiation Exposures due to Naturally Occurring K-40 in Potassium-Containing Products, Consultant, May 2001.
25. John Wiley and Sons, Inc., Review of Principles of Radiological Health, by James Martin, October 2001.
26. John Wiley and Sons, Inc., Review of Practical Gamma Ray Spectroscopy, by G. R. Gilmore, October 2002.
27. Consumers Power Company, Review and Public Hearing on Landfill Disposal of Construction Debris, February 2003.

## **F. Civic Activities**

1. Member, St. Luke's Hospital Research Committee, 1984-89.
2. Member, Good Samaritan Research Committee, 1987-89.
3. Member, Arizona Public Service Project Voice Consumer Advisory Panel, Specialist on Indoor Air Quality, 1988.
4. Delegate, District 5, Georgia Democratic Convention, 1990.

5. Organizer, Recorder and Related Musical Instruments Group, First Unitarian Universalist Church of Ann Arbor, 1999-2002.
6. Organizer, ad hoc Women's Sweatlodge Ceremonies, First Unitarian Universalist Church of Ann Arbor, 2002-present

## **VII. LOCAL, NATIONAL and INTERNATIONAL PROFESSIONAL RECOGNITION**

### **A. Honors and Awards**

1. Full University Scholarship, St. Mary's University, 1973-75.
2. Governor General's Medal (Canada), St. Mary's University, 1975.
3. Summa Cum Laude, St. Mary's University, 1975.
4. Engineering Medal, St. Mary's University, 1975.
5. U.S. E. R. D. A. Traineeship, University of Virginia, 1975-77.
6. Ida Green Fellowship, Massachusetts Institute of Technology, 1977-78.
7. N. I. H. Fellowship, Massachusetts Institute of Technology, 1978-79.
8. Whitaker Health Sciences Fund Fellowship, Massachusetts Institute of Technology, 1979-80.
9. Peter A. Neurath Award (Best Paper), New England American Association of Physicists in Medicine, 1980.
10. Presidential Young Investigator Award, National Science Foundation, 1985-91.
11. Instrument Innovator's Contest Award, Kiethley, 1988.
12. Membership Recruitment Award, Health Physics Society, 1989.
13. Arizona Lung Association Research Award, 1989.
14. Best Paper Award, Southeast American Association of Physicists in Medicine, 1991.
15. Tetalman Memorial Award, Society of Nuclear Medicine, 1991.
16. Elda E. Anderson Award, Health Physics Society, 1992.
17. U. S. Environmental Protection Agency Innovative Radon Mitigation Design Competition, 1992.
18. Service Award, University of Michigan, Department of Nuclear Engineering, 1994.
19. Career Development Award, University of Michigan, 1995.
20. Women's Achievement Award, American Nuclear Society, 1995.
21. Service Award, University of Michigan, College of Engineering, 1996.

### **B. Invited Conference Session Chairs**

1. American Association of Physicists in Medicine Annual Meeting: Session on Positron Emission Tomography (PET) and Single Photon Emission Computed Tomography (SPECT), June 1988.
2. Health Physics Society Annual Meeting: Session on Indoor Radon, July 1991.
3. Health Physics Society Annual Meeting: Student Poster Session, July 1993.
4. Ninth Pacific Basin Nuclear Conference: Nuclear Medicine Technology, May 1994.
5. Health Physics Society Annual Meeting: Student Poster Session, June 1994.
6. (Reviewer) Health Physics Society Annual Meeting: Student Poster Session, June 1995.
7. Health Physics Society Annual Meeting: Medical Health Physics Session, July 1996.
8. (Reviewer) Health Physics Society Annual Meeting: Student Poster Session, July 1996.
9. American Nuclear Society Annual Meeting, President's Special Session "Low Level Radiation Health Effects: Regulation and Science", June 1999. (primary organizer and chair)
10. Health Physics Society Midyear Topical Meeting, Session on Power Reactor Health Physics Innovations, February 2001.

### **C. Professional Registrations**

1. National Registry of Radiation Protection Technologists (NRRPT), 1993-2000, 2001-2005.
2. American Board of Health Physics (ABHP), Certified Health Physicist (CHP), 1994-1997, 1998-2001, 2002-2005.
3. Northeast Utilities Examination, May 2001.

**D. Editorial and Reviewer Work for Technical Journals and Other Publications**

1. Reviewer, Journal of Nuclear Medicine, 1985-present.
2. Reviewer, Health Physics Journal, 1988-present.
3. Reviewer, I.E.E.E. Transactions on Medical Imaging, 1988-present.
4. Associate Editor (Operational Topics), Health Physics Journal, 1991-present.
5. Reviewer, Medical Physics, 1995-present.
6. Reviewer, American Ceramic Society, 1997.
7. Reviewer, Nuclear Instrumentation and Methods Phys Rev A, 1999-present.
8. Reviewer, National Research Council/National Academy of Science, The Characterization of Remote-Handled Transuranic Wastes for the Waste Isolation Pilot Plant, November 2001.
9. Reviewer, Nuclear News, "Putting Nuclear Threats in Perspective", January 2002.

**E. Reviewer Work for Grant and Fellowship Programs**

1. Reviewer, G. T. E. Foundation Lectureship Program, Education Testing Services, 1988.
2. Reviewer, Barry M. Goldwater Scholarship, Education Testing Services, 1989.
3. Reviewer, N. I. H. Special Study Section B2 on Imaging Technology, November 1989.
4. Reviewer, Oak Ridge Associated Universities Health Physics and Operational Health Physics Graduate Fellowship Program (Fellowships and Universities), March 1990.
5. Reviewer, Oak Ridge Associated Universities Environmental Restoration and Waste Management Young Faculty Award Program, July 1990.
6. Reviewer, Oak Ridge Associated Universities Environmental Restoration and Waste Management Undergraduate Scholarship Program (Universities), July 1990.
7. Reviewer, Oak Ridge Associated Universities Health Physics and Operational Health Physics Fellowships, March 1991.
8. Reviewer, Oak Ridge Associated Universities Health Physics and Operational Health Physics Fellowships, March 1992.
9. Reviewer, Oak Ridge Associated Universities Environmental Restoration and Waste Management Young Faculty Award Program, April 1992.
10. Reviewer, Oak Ridge Institute for Science and Education, Health Physics Faculty Research Award Program, May 1993.
11. Reviewer, Computer and Instrumentation Young Investigator's Competition (abstracts), Society of Nuclear Medicine, 1994.
12. Reviewer, National Science Foundation, Graduate Research Fellowship Program (Engineering), 1998.
13. Reviewer, Department of Energy Nuclear Engineering Education Research (NEER) Program, Radiological Engineering Area, 1998.
14. Reviewer, U. S. Civilian Research and Development Foundation (CRDF) for the Independent States of the Former Soviet Union, Center and Research Proposals. ISTC #2039, August 2001; Uzb-73 October 2001; STCU #2005 January 2002; ISTC #2353 August 2002.



Dept. of Electrical Engineering and Computer Science, The University of Michigan, Ann Arbor, MI 48109-2212, USA. 2. Mathematical and Computational Sciences Division, Natl. We are grateful to Professors Dianne O'Leary from the Univ. of Maryland and Joseph Shinnerl from UCLA for their help with computing the CS decomposition in Matlab; to Gavin Brennen at NIST and Jun Zhang at UC Berkeley for their helpful comments, and the authors of quant-ph/0406003, whose package Qcircuit.tex produced almost all figures. Quantum Computation and Quantum Information. Cambridge University Press, 2000. [23] M. Oskin, F.T. Chong, I. Chuang, and J. Kubitowicz, Building quantum wires: the long and the short of it. 1Department of Nuclear Engineering and Radiological Sciences, University of Michigan, 2355 Bonisteel Boulevard, Ann Arbor, MI 48109-2104. The only conflict of interest declared by the authors is the modest donation of Radon Eyes (retailing at \$180) for testing by Radonftlabs. Marco Carmona is currently a rising senior in the Department of Nuclear Engineering and Radiological Sciences at the University of Michigan. His work has focused mainly on radon, being involved in several projects in this area at the Radiological Health Engineering Lab. He has presented his work at the Annual Health Physi University of Michigan. Department of Nuclear Engineering and Radiological Sciences. R.M. Gilgenbach. R.M. Gilgenbach. University of Michigan | U-M Department of Nuclear Engineering and Radiological Sciences. 42.85. Ph.D. Two accelerators at the University of Michigan are applicable to these experiments: (1) Febetron with long-pulse modules operating at parameters: vo View. Innovative lasers for uranium isotope separation.