

RESUME
for
James S. Bogard

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EDUCATION

1974-1977 **Ph.D.**, Chemistry, 1977
The University of Texas at Austin
Dissertation: "Electron Diffraction Studies of Gases at Elevated Temperatures:
Carbon Tetrachloride, Trichloromethyl, and Chlorobenzene"

1970-1974 **M.A.**, Chemistry, 1974
The University of Texas at Austin
Thesis: "A Study of Aerosol Formation in the Propylene-Ozone Reaction:
Spectroscopic Chemical Analysis and Dependence of Particulate Production
on Water and Reactant Concentrations"

1966-1970 **B.S. with Honors**, Chemistry, 1970
Southwest Texas State University, San Marcos

EXPERIENCE

2/1993 - LIFE SCIENCES DIVISION, OAK RIDGE NATIONAL LABORATORY, OAK
Present RIDGE, TENNESSEE

Dosimetry Applications Research (DOSAR) Program Leader. Responsible for directing radiation dosimetry and monitoring instrumentation research, development, testing, calibration and intercomparison programs at DOSAR and the ORNL Radiation Calibration Laboratory.

9/1999 - LIFE SCIENCES DIVISION, OAK RIDGE NATIONAL LABORATORY, OAK
9/2000 RIDGE, TENNESSEE

Acting Head, Assessment Technology Section. Management responsibility for research and development programs in environmental assessment, life cycle analysis, nuclear medicine, and radiation dosimetry.

4/1997 - COLLEGE OF ARTS AND SCIENCES, THE UNIVERSITY OF TENNESSEE,
Present KNOXVILLE.

Adjunct Professor, Department of Anthropology. Research in determining the ages of archeological artifacts using thermoluminescence dosimetry and electron paramagnetic resonance spectrometry.

6/1991 - ENVIRONMENTAL, SAFETY, AND HEALTH COMPLIANCE DIRECTORATE,
1/1993 OAK RIDGE NATIONAL LABORATORY, OAK RIDGE, TENNESSEE

ORNL State Oversight Coordinator. Responsible for coordinating at ORNL the implementation of requirements of the TN/DOE Oversight Agreement (TOA) to provide public assurance that health, safety, and environment are protected at DOE sites. Provide technical support for State activities (including participation as a party to the Federal Facilities Agreement for the Environmental Restoration of the Oak Ridge Reservation, oversight, monitoring, access, and emergency response initiatives) at ORNL to ensure compliance with applicable laws and regulations.

7/1985 - OFFICE OF ENVIRONMENTAL & HEALTH PROTECTION, OAK RIDGE
6/1991 NATIONAL LABORATORY, OAK RIDGE, TENNESSEE

Head, Radiation Monitoring Section. Managed personnel radiation dosimetry (*in-vivo* and *in-vitro* radioassay, internal dose assessment, thermoluminescent dosimetry), radiation standards and health physics instrument calibrations, and dosimetry data

management programs in support of radiation protection for ORNL employees and visitors. Served as Technical Project Manager for an Energy Systems project to develop the Harshaw Model 8800 Thermoluminescent Dosimetry (TLD) System. The radiobioassay and TLD programs were cited in 1990 by a Department of Energy Tiger Team as *Noteworthy Practices* for emulation by other DOE sites. An IR-100 Award was presented to Energy Systems and Harshaw Corporation in 1990 for development of the Harshaw Model 8800 TLD system. A General Plant Project completed during this period provides a Radiation Standards and Calibration Laboratory addition for low-scatter (neutron and soft X-ray) and very high range (neutron and γ -ray) calibrations for instruments and TLDs. The ORNL Whole-Body Counter was upgraded with the addition of a scanning bed and with greatly improved quality control. Management of all the personnel monitoring programs was improved with quality assurance plans, quality control programs, and standard operating procedures.

10/1981 - HEALTH, SAFETY, ENVIRONMENT AND ACCOUNTABILITY DIVISION,
7/1985 OAK RIDGE Y-12 PLANT, OAK RIDGE, TENNESSEE

Health Physics Supervisor. Managed *in-vivo* radioassay, health physics instrument calibration, dosimetry records, plant radiological emergency response, and radiation safety training programs in support of radiation protection for Y-12 employees and visitors. Administered thermoluminescent dosimetry and *in-vitro* radioassay programs at the Y-12 Plant.

4/1979 - DEVELOPMENT DIVISION, OAK RIDGE Y-12 PLANT, OAK RIDGE,
10/1981 TENNESSEE

Development Associate. Investigated improved methods for residual gas analysis and for environmental air and water characterization.

4/1977 - CHEMICAL ENGINEERING DIVISION, ARGONNE NATIONAL
4/1979 LABORATORY, ARGONNE, ILLINOIS

Postdoctoral Appointee. Developed improved analytical techniques for analysis of ammonium, sulfate, and nitrate ions in atmospheric aerosols.

PROFESSIONAL SOCIETIES

Health Physics Society
American Academy of Health Physics
Council on Ionizing Radiation Measurements and Standards

PROFESSIONAL CERTIFICATIONS

Certified by the American Board of Health Physics, 1986 - present
Registered with the National Registry of Radiation Protection Technologists, 1986 - present

OTHER PROFESSIONAL ACTIVITIES

Chairman, HPSSC/ANSI N13.27 Working Group, "Performance Specifications for Pocket-sized Alarming Dosimeters/Ratemeters," 1993 - Present
Chairman, HPSSC/ANSI N13.22 Working Group, "Bioassay Programs for Uranium," 2004 - Present (member 1990-2004)
Member, NCRP Scientific Committee 57, Task Group 15, "Uranium: Radiation Protection Guidelines," 1988-present
Member, American Board of Health Physics Comprehensive Certification Panel of Examiners, 1990-1995
Member, Health Physics Society Laboratory Accreditation Policy Committee, 1997-1999
Member, American Board of Health Physics *ad hoc* Committee on Basic Ionizing-Radiation Protection Standards, 1993
General Chairman, **Fourth Conference on Radiation Protection and Dosimetry**, Orlando, Florida, October 23-27, 1994
President-Elect, East Tennessee Chapter of the Health Physics Society, 1993
President, East Tennessee Chapter of the Health Physics Society, 1994
Contributor to the Health Physics Society 'Ask the Experts' web feature (<http://hps.org/>), 2002-present
Interim Editor for Radiation Fundamentals section of the Health Physics Society 'Ask the Experts' web feature (<http://hps.org/>), 2003
President-Elect designate of the American Academy of Health Physics, 2004 (installation as President-Elect is scheduled in February, 2005)

HONORS AND AWARDS

Oak Ridge National Laboratory *Director's Award 1990* (Team)
Martin Marietta Energy Systems *Awards Night 1990, Operations and Support* (Team)
Oak Ridge National Laboratory *World-Class Teamwork Award 1999* (Team)

BOOKS

J. E. Turner, J. S. Bogard, J. B. Hunt, and T. A. Rhea, **Problems and Solutions in Radiation Protection**, Pergamon Press, New York NY, 1988.

CONSENSUS STANDARDS

A. Brodsky, M. A. Austin (deceased), J. S. Bogard, B. Manninen, S. A. McGuire, E. R. Wagner, L. M. Scott, C. Sun, and C. M. West (Members, Working Group on Uranium Bioassay), HPS N13.22-1995, **Bioassay Programs for Uranium**, Health Physics Society, McLean VA, 1996.

JOURNAL PUBLICATIONS

Andrew Kramer, Tony Djubiantono, Fachroel Aziz, James S. Bogard, Robert A. Weeks, Daniel C. Weinand, Willis E. Hames, J. Michael Elam, Arthur C. Durband, Agus, "The first hominid fossil recovered from West Java, Indonesia" (submitted to *Journal of Human Evolution*).

Robert A. Weeks, James S. Bogard, J. Michael Elam, Daniel C. Weinand and Andrew Kramer, "Effects of Thermal Annealing on the Radiation Produced Electron Paramagnetic Resonance Spectra of Bovine and Equine Tooth Enamel: Fossil and Modern," *Journal of Applied Physics*, Vol. 93, No. 12, pp. 9880-9889 (June 15, 2003).

Joon Myong Song, Brian M. Cullum, Joel Mobley, James S. Bogard, Marko Moscovitch, Gary W. Phillips, & Tuan Vo-Dinh, "Crossed-beam Two-photon Readout System for Three-dimensional Radiation Dosimeters," *Review of Scientific Instruments*, Vol. 73, No. 12, pp. 4214-4217 (December, 2002).

M. Moscovitch, G. W. Phillips, B. M. Cullum, J. Mobley, J. S. Bogard, D. Emfietzoglou and T. Vo-Dinh, "Radiation Dosimetry Using Three-Dimensional Optical Random Access Memories," *Radiation Protection Dosimetry*, Vol. 101, No. 1-4, pp. 17-22 (2002)(Invited).

Andrew Kramer, Daniel C. Weinand, Tony Djubiantono, Fachroel Aziz, Willis E. Hames, J. Michael Elam, James S. Bogard, Robert A. Weeks, Iman Sumarinda, Agus, and Arthur C. Durband, "Multidisciplinary Paleoanthropological Excavations in the Rancah District of West Java: Report from the 1999 Field Season," *Geol. Res. Dev. Centre, Spec. Publ.*, **27**, pp. 67-79, Department of Energy and Mineral Resources, Bandung, Indonesia (November, 2001).

S. Mahurin, M. McGinnis, J. S. Bogard, L. D. Hulett, R. M. Pagni, R. N. Compton, "Effect of Beta Radiation on the Crystallization of Sodium Chlorate from Water: A New Type of Asymmetric Synthesis," *Chirality* Vol. 13 (2001), pp. 636-640.

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B. M. Cullum, J. Mobley, J. S. Bogard, M. Moscovitch, G. W. Phillips, T. Vo-Dinh, "Three-Dimensional Optical Random Access Memory (3D-ORAM) Materials for Use as Radiation Dosimeters," *Analytical Chemistry* Vol. 72, No. 22 (2000), pp. 5612-5617.

J. Mobley, J. S. Bogard, M. Moscovitch, and T. Vo-Dinh, "Signal Expressions and Initial Design for a 3-D ORAM Radiation Dosimeter Reader," *Environmental Monitoring and Remediation Technologies*, T. Vo-Dinh and R. L. Spellicy, Eds., SPIE Publishers, Bellingham, WA, 1999, Vol. 3534.

J. S. Bogard, K. L. Yuracko, M. E. Murray, R. A. Lowden, and N. L. Vaughn, "Application of Life Cycle Analysis: The Case of Green Bullets," *Environmental Management and Health*, Vol. 10, No. 5, (1999). (Available from DOE Office of Scientific and Technical Information on the World-Wide Web at URL <<http://www.osti.gov/bridge/>>.)

M. Thein, J. S. Bogard, and K. F. Eckerman, "Estimation of Cm-244 Intake by Bioassay Measurements following a Contamination Incident," Proceedings of the 2nd International Conference on Low-Level Measurements of Actinides and Long-Lived Radionuclides in Biological and Environmental Samples, Akita City, Japan, May 16-20, 1988, *Journal of Radioanalytical and Nuclear Chemistry*, Vol. 38, No. 1 (1990), pp. 73-81.

S. A. Johnson, R. Kumar, P. T. Cunningham, and J. S. Bogard, "Quantitative Analysis of Nitrate Ion in Ambient Aerosols by Fourier-Transform Infrared Spectroscopy," *Environmental Science & Technology*, Vol. 16, No. 3 (1982), pp. 136-140.

J. R. Brock, M. S. Wu, and J. S. Bogard, "Particle Formation in the Ozone-Propylene Reaction," *Journal of Environmental Science and Health*, Vol. A13, No. 8 (1978), pp. 571-584.

J. Rosinski, G. Langer, and J. S. Bogard, "Generation of Secondary Particles from Single Large Soil Particles Upon Impact," ERDA Symposium Series **38**, *Atmosphere-Surface Exchange of Particulate and Gaseous Pollutants* (1974), pp. 638-647.

MAGAZINE ARTICLES

K. L. Yuracko, B. E. Tonn, M. I. Morris, and J. Bogard, *Decisions, Decisions, Decisions ... Better D&D Decision-Making Through Life Cycle Analysis*, **Radwaste Magazine**, pp. 31-37, July/August, 1999.

REPORTS

J. S. Bogard, M. E. Murray, R. A. Weeks, D. C. Weinand, J. M. Elam and A. Kramer, *Age of an Indonesian Fossil Tooth Determined by Electron Paramagnetic Resonance*, **ORNL/TM-2004/85**, Oak Ridge National Laboratory, Oak Ridge, Tennessee, April 2004. (Available from DOE Office of Scientific and Technical Information on the World-Wide Web at URL <<http://www.osti.gov/bridge/>>.)

R. R. Rawl, K. F. Eckerman, and J. S. Bogard, *A Risk-Informed Basis for Establishing Non-Fixed Surface Contamination Limits for Spent Fuel Transportation Casks*, **NUREG/CR-6841 (ORNL/TM-2003/225)**, U.S. Nuclear Regulatory Commission Office of Nuclear Regulatory Research, Washington, DC, November, 2003.

J. S. Bogard, *DOSAR/CalLab OPERATIONS MANUAL: Protocols for Operating the Dosimetry Applications Research Calibration Laboratory at Oak Ridge National Laboratory*, **ORNL-6904/R2**, Oak Ridge National Laboratory, Oak Ridge, Tennessee, March 2000. (Available from DOE Office of Scientific and Technical Information on the World-Wide Web at URL <<http://www.osti.gov/bridge/>>.)

Revision 3 - **ORNL-6904/R3**, October 2003

R. L. Coleman, J. S. Bogard and M. E. Murray, *Initial Evaluation of a New Electromechanical Cooler for Safeguards Applications*, **ORNL/TM-2002/236**, Oak Ridge National Laboratory, Oak Ridge, Tennessee, September, 2002.

R. L. Coleman and J. S. Bogard, *Supplemental Release Limits for the Directed Reuse of Lead in Shielding Products by the Department of Energy*, **ORNL/TM-2001/36**, Oak Ridge National Laboratory, Oak Ridge, Tennessee, August, 2001.

P. J. Chiaro, Jr., E. R. Tapp, J. S. Bogard, *Detector Characterization Report: Response Related to Linear Movement and Radiation Levels for an Oak Ridge National Laboratory (ORNL)-Developed Ion Chamber and a Commercial Ion Chamber*, **ORNL/TM-2000/308**, Oak Ridge National Laboratory, Oak Ridge, Tennessee, October, 2000.

J. S. Bogard, J. C. Ashley, K. S. Brown, C. A. England, R. N. Hamm, J. E. Turner, *Correlation of External Exposure and Dose Equivalent Rates with Uranium Surface Contamination*, **ORNL-6918**, Oak Ridge National Laboratory, Oak Ridge, Tennessee, June, 1999. (Available from DOE Office of Scientific and Technical Information on the World-Wide Web at URL <<http://www.osti.gov/bridge/>>.)

J. S. Bogard, *RADCAL Operations Manual: Radiation Calibration Laboratory PROTOCOL*, **ORNL-6904/R1**, Oak Ridge National Laboratory, Oak Ridge, Tennessee, December, 1998. (Available from DOE Office of Scientific and Technical Information on the World-Wide Web at

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URL <<http://www.osti.gov/bridge/>>.)

Hazardous Waste Remedial Actions Program, *Assessment of the 1997 Environmental Management Industry*, sponsored by the U. S. Department of Energy, Office of Environmental Management, Office of Science and Technology, through the Oak Ridge Operations Office, December, 1998.

J. S. Bogard, R. N. Hamm, J. C. Ashley, J. E. Turner, C. A. England, D. E. Swenson, K. S. Brown, *Total Effective Dose Equivalent Associated with Fixed Uranium Surface Contamination*, **ORNL-6913**, Oak Ridge National Laboratory, Oak Ridge, Tennessee, April, 1997. (Available from DOE Office of Scientific and Technical Information on the World-Wide Web at URL <<http://www.osti.gov/bridge/>>.)

J. S. Bogard, R. N. Hamm, K. S. Brown, J. C. Ashley, J. E. Turner, and C. A. England, *Applicability of 1994-1995 USRADS® Surveys of Bear Creek Valley Flood Plain and Operable Unit 1 to the Radiological Characterization of Y-12 Grassy/Wooded Areas*, **ORNL-6911**, Oak Ridge National Laboratory, Oak Ridge, Tennessee, March, 1997. (Available from DOE Office of Scientific and Technical Information on the World-Wide Web at URL <<http://www.osti.gov/bridge/>>.)

Esther M. Kim, Kenneth W. Crase, James S. Bogard, and Kimberly L. McMahan, *Neutron Dose and Spectral Measurements at Oak Ridge National Laboratory's Radiation Calibration Laboratory*, **ESH-HPT-960034**, Westinghouse Savannah River Company, Aiken, South Carolina, July 10, 1996.

J. S. Bogard and C. S. Sims, *OPERATIONS MANUAL - Radiation Calibration Laboratory - PROTOCOL*, **ORNL-6904**, Oak Ridge National Laboratory, Oak Ridge, Tennessee, June, 1996. (Available from DOE Office of Scientific and Technical Information on the World-Wide Web at URL <<http://www.osti.gov/bridge/>>.)

J. S. Bogard, *Review of Uranium Bioassay Techniques*, **ORNL-6857**, Oak Ridge National Laboratory, Oak Ridge, Tennessee, April, 1996. (Available from DOE Office of Scientific and Technical Information on the World-Wide Web at URL <<http://www.osti.gov/bridge/>>.)

J. L. Weaver and J. S. Bogard, *Oak Ridge National Laboratory Program Management Plan for the Tennessee/DOE Oversight Agreement*, **ORNL/M-1954**, Oak Ridge National Laboratory, Oak Ridge, Tennessee, February 1992.

D. C. Parzyck, T. A. Rhea, J. S. Bogard, and E. D. Copenhaver, "Developing a Flexible and Verifiable Integrated Dose Assessment Capability," **PNL-SA-14043 (CONF-860146, UC-41)**, *Proceedings of the DOE Workshop on Radiobioassay and Internal Dosimetry*, Albuquerque, New Mexico, January 20-22, 1986.

S. G. Snow, J. L. Cochran, J. S. Bogard, *et al.*, *An Evaluation of the Precision and Accuracy of*

Portable Field Survey Instrument Measurements of Uranium Contamination on Shoes, Report Y/DW-104, Union Carbide Corporation, Oak Ridge, Tennessee, December 17, 1982.

PRESENTATIONS

G. Espinosa, J.I. Golzarri, J. Bogard and J. García-Macedo, Commercial optical fiber as TLD material, 14th International Conference on Solid State Dosimetry, New Haven CT, June 27 – July 2, 2004.

G. W. Phillips, J. Span, J. S. Bogard, T Vo Dinh, D. Emfietzoglou, R. Devine and M. Moscovitch, “Neutron Spectrometry Using CR-39 Track Etch Detectors”, 14th International Conference on Solid State Dosimetry, New Haven CT, June 27 – July 2, 2004.

A. M. Krichinsky, P. J. Bereolos, J. S. Bogard, A. J. Lucero, E. S. Meyers, and C. C. Scheffing, “Quantitative U-233 Determination Using Energy-dependent Photon Attenuation”, submitted for presentation at the 7th International Conference on Facilities Operations Safeguards Interface in Charleston, South Carolina, February 29 - March 4, 2004.

M. Moscovitch, G. W. Phillips, J. M. Song, B. M. Cullum, J. Mobley, J. S. Bogard, and T. Vo-Dinh, “A New Type of Microdosimeter Based on 3D Computer Optical Memories,” presented at the World Congress on Medical Physics and Biomedical Engineering, Sydney, Australia, August 24-29, 2003. (Invited paper.)

J. S. Bogard, “Touch of Grey: A 20-Year Retrospective on Radiation Dosimetry,” Keynote Address presented at the Harshaw TLD Users’ Group Symposium, St. Anthony Hotel, San Antonio, Texas, May 19-23, 2002.

D. C. Weinand, J. M. Elam, A. C. Durband, A. Kramer, T. Djubiantono, F. Aziz, W. E. Hames, R. Weeks and J. Bogard, “Electron Spin Resonance (ESR) Dating of Fossil Bovid Teeth from Rancah, West Java,” presented at the conference, *Towards Ahead: The Geological Museum in a Changing World*, Bandung, West Java, Indonesia, August 23, 2000. (Invited paper.)

M. B. McGinnis, R. N. Compton, R. M. Pagni, S. Mahurin, J. S. Bogard, L. D. Hulett, and J. D. Haney, “The Effect of Beta Radiolysis and Other Perturbations on the Resolution of Sodium Chlorate Crystals,” presented at the Southeast Regional Meeting of the American Chemical Society (SERMACS-99), Hyatt Regency Hotel, Knoxville, Tennessee, October 17 - 20, 1999.

B. Cullum, J. Mobley, J.S. Bogard, M. Moscovitch, and T. Vo-Dinh, “Development of Instrumental 3D-ORAM System for Radiation Dosimetry,” poster presentation at the *SPIE*

Symposium on Environmental and Industrial Sensing, International Conference on Environmental Monitoring and Remediation Technologies II, Boston MA, September 20, 1999.

M. Moscovitch, G. W. Phillips, A. K. Readshaw, G. O. Brown, R. G. Weiss, N. A. Guardala, J. L. Price, S. C. Mueller, D. Emfietzoglou, J. Mobley, J.S.Bogard, and T. Vo-Dinh, "Current Status and New Developments in the Use of Three-Dimensional Computer Optical Memories for Radiation Dosimetry," page 108, **Proceedings of the NASA 10th Space Radiation Health Investigators' Workshop**, held in Upton, New York, June 13-16, 1999. (Invited paper.)

J. Mobley, J. S. Bogard, M. Moscovitch, and T. Vo-Dinh, "Signal Expressions and Initial Design for a 3-D ORAM Radiation Dosimeter Reader," presented at The International Symposium on Industrial and Environmental Monitors and Biosensors, Hynes Convention Center, November 2-5, 1998, Boston, Massachusetts, and published in **Proceedings of SPIE, Environmental Monitoring and Remediation Technologies**, Vol. 3534 (T. Vo-Dinh and R. L. Spellicy, eds.).

D. C. Kocher, G. D. Kerr, J. S. Bogard, P.A. Scofield, F. R. O'Donnell, S. J. Cotter, and C. R. Mattsen, "Systematic Assessment of Exemptions for Source and Byproduct Materials," presented at the Annual Meeting of the Health Physics Society, Minneapolis Convention Center, July 12-16, 1998, Minneapolis, Minnesota.

J. S. Bogard, K. L. Yuracko, M. E. Murray, R. A. Lowden, and N. L. Vaughn, "Application of Life Cycle Analysis: The Case of Green Bullets," presented at the U.S. Department of Energy Pollution Prevention Conference XIV, Doubletree Hotel, June 1-4, 1998, Seattle, Washington. (Also available as ORNL/CP--98264 from DOE Office of Scientific and Technical Information on the World-Wide Web at URL <<http://www.osti.gov/bridge/>>. Proceedings published on the World Wide Web at URL <<http://www.hanford.gov/polprev/conference/proceedings.htm>>.) Presented also at Spectrum '98, September 13-18, 1998, Adam's Mark Hotel, Denver, Colorado, and published in *Spectrum '98, Proceedings of the International Conference on Decommissioning and Decontamination and on Nuclear and Hazardous Waste Management*, Vol. 1, American Nuclear Society, La Grange Park, Illinois, September 13-18, 1998, pp. 382-389.

R. A. Weeks, J. M. Elam, J. S. Bogard, and C. Davenport, "Age of the Harrison Street Beast: Electron Paramagnetic Resonance Spectra from Tooth Enamel," presented at the Annual Meeting of the Society for American Archaeology, Washington State Convention and Trade Center and the Sheraton Hotel, March 25-29, 1998, Seattle, Washington. (Available from DOE Office of Scientific and Technical Information on the World-Wide Web at URL <<http://www.osti.gov/bridge/>>.)

J. S. Bogard, "Status of the Revision of ANSI N13.27, *Performance Specifications for Pocket-Sized Alarming Dosimeters/ Ratemeters*," revised as development of the standard progressed and presented at the following symposia and conferences:

- Northeast Regional Symposium on Emerging Issues and Technologies in Health Physics, November 4, 1994, at the University of Massachusetts, Amherst, Massachusetts (invited presentation);
- Fourth Conference on Radiation Protection and Dosimetry, October 23-27, 1994, at the Sheraton Plaza Hotel, Orlando, Florida;
- Thirteenth Annual International Panasonic TLD Users Symposium, June 7, 1994, at the Fort Magruder Inn and Conference Center, Williamsburg, Virginia (invited presentation);
- Southeast Regional Meeting of the Health Physics Society, March 3-4, 1995, at the Lenox Inn, Atlanta, Georgia (invited presentation and panel discussion on active vs. passive dosimetry);
- North Carolina Chapter - Health Physics Society Spring Meeting, March 27-28, 1996, at the Holiday Inn Sunspree Resort, Wrightsville Beach, North Carolina (invited presentation);
- Harshaw♦NE Users Symposium, October 7 - 11, 1996, at the Sheraton Cleveland City Center, Cleveland, Ohio (invited presentation and panel discussion on electronic dosimeters).
- NIST/NRC Electronic Dosimetry Workshop, October 14-16, 1997, at the Gaithersburg Hilton Hotel, Gaithersburg, Maryland (invited presentation).

E. B. Lee, J. S. Bogard, W. H. Casson, L. F. Miller, "Accident Dosimetry Using Lithium Tetraborate," poster session presented at the 39th Annual Meeting of the Health Physics Society, June 26-30, 1994, at the Hilton Hotel, San Francisco, California.

J. S. Bogard, "The Martin Marietta Energy Systems Associated Laboratories for Excellence in Radiation Technology (ALERT)," **CONF-9304128**, *Department of Energy 1993 Radiation Protection Workshop Proceedings*, Las Vegas, Nevada, April 13-15, 1993, pp. B11-B13.

J. S. Bogard, "Statistical Performance Measures for Thermoluminescent Dosimetry," presented at the Solon Technologies, Inc., TLD Users Symposium, November 9-13, 1992, at the Hyatt Regency Hotel, San Antonio, Texas.

J. S. Bogard, D. J. Downing, and J. E. Turner, "Limitations of Gaussian Performance Measures in Very-Low-Background Counting Regimes," presented at the 37th Annual Conference on Bioassay, Analytical and Environmental Radiochemistry, October 7-11, 1991, at the Chimo Hotel, Ottawa, Ontario, Canada.

M. Thein, B. D. Gonzalez, J. S. Bogard, H.-L. Hwang, M. Hotchandani, R. D. Myers, R. L. Ferguson, and J. L. Miller, "Radiochemical Determination of Am, Cm, and Cf in Urine - A

Followup," presented at the 37th Annual Conference on Bioassay, Analytical and Environmental Radiochemistry, October 7-11, 1991, at the Chimo Hotel, Ottawa, Ontario, Canada.

J. S. Bogard, "The DOE Laboratory Accreditation Program (DOELAP) Experience at Martin Marietta Energy Systems, Inc.," presented at the Englehard Corporation/Harshaw Crystal and Electronic Products 1990 TLD User Group Meeting, June 4-7, 1990, at the Clarion Four Seasons Hotel, Albuquerque, New Mexico.

M. Thein, B. D. Gonzalez, and J. S. Bogard, "Radiochemical Determination of Americium, Curium, and Californium in Urine," presented at the 32nd Annual Conference on Bioassay, Analytical and Environmental Radiochemistry, October 21-23, 1986, at the National Bureau of Standards, Gaithersburg, Maryland.

P. T. Cunningham and J. S. Bogard, "The Identification and Determination of Nitrogenous Contaminants in the Environment," presented at the Symposium on Environmental Analytical Chemistry, Brigham Young University, Provo, Utah, June 21-23, 1978.

TRAINING COURSES PRESENTED

J. S. Bogard, D. J. Downing, and J. E. Turner, **Statistics for Health Physicists**, presented by Consultec Scientific, Inc., on the dates and at the locations shown below:

- November 8-12, 1993, at the Luxbury Hotel, Knoxville, Tennessee;
- April 11-15, 1994, at the Pellissippi Center, Knoxville, Tennessee;
- October 3-7, 1994, at the Pellissippi Center, Knoxville, Tennessee;
- April 3-7, 1995, at the Pellissippi Center, Knoxville, Tennessee..

J. S. Bogard, J. E. Turner, and H. A. Wright, **Introduction to Health Physics**, presented by Consultec Scientific, Inc., on the dates and at the locations shown below:

- April 11-15, 1994, at the Pellissippi Center, Knoxville, Tennessee;
- October 3-7, 1994, at the Pellissippi Center, Knoxville, Tennessee;
- April 3-7, 1995, at the Pellissippi Center, Knoxville, Tennessee;
- October 2-6, 1995, at the Pellissippi Center, Knoxville, Tennessee.

J. S. Bogard, L. C. Emerson, and S. D. McGhee, **Preparation for the NRRPT Exam**, presented by Consultec Scientific, Inc., on the dates and at the locations shown below:

- April 24-28, 1995, at the Pellissippi Center, Knoxville, Tennessee.