

DAVID M. HAMBY, Ph.D.

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Department of Nuclear Engineering and Radiation Health Physics

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EDUCATION

Ph.D. in Health Physics, University of North Carolina, Chapel Hill, NC, 1989

Dissertation: "Measurement of Radial Ionization Probability in Microscopic Volumes for 2.90 and 3.79 MeV Alpha Particles"; D.J. Crawford-Brown, Advisor

M.S. in Health Physics, University of North Carolina, Chapel Hill, NC, 1986

Thesis: "A Microdosimetric System for use in the Measurement of Specific Energy Distributions for 15 MeV Electrons in Water"; D.J. Crawford-Brown, Advisor

B.S. in Physics, Mercer University, Macon, GA, 1984

PROFESSIONAL EXPERIENCE

09/04 – present Professor in Radiation Health Physics, Department of Nuclear Engineering and Radiation Health Physics, College of Engineering, Oregon State University, Corvallis.

01/06 – present Clinical Professor, Department of Radiation Oncology, School of Medicine, Oregon Health and Science University, Portland.

12/06 – present Graduate Faculty, School of Electrical Engineering and Computer Sciences, Oregon State University, Corvallis.

07/05 – present Graduate Faculty, Department of Public Health, College of Health and Human Sciences, Oregon State University, Corvallis.

09/03 – 06/08 Lecturer, Radiologic Technology Program, Linn-Benton Community College, Albany.

05/95 – 09/99 Faculty Appointee, Environmental Assessment Division, Argonne National Laboratory, Argonne, Illinois.

12/99 – 08/04 Associate Professor in Radiation Health Physics, Department of Nuclear Engineering and Radiation Health Physics, College of Engineering, Oregon State University, Corvallis.

David M. Hamby

- 12/99 – 08/03 Adjunct Associate Professor of Environmental Health, Department of Environmental Health Sciences, School of Public Health, University of Michigan, Ann Arbor.
- 07/94 – 12/99 Assistant Professor of Radiological Health, Department of Environmental and Industrial Health, School of Public Health, University of Michigan, Ann Arbor.
- 01/89 – 07/94 Principal Research Scientist, Waste Management and Environmental Technology Department, Savannah River Technology Center, Westinghouse Savannah River Company, Aiken, SC.

UNIVERSITY SERVICE

- 09/07 – 01/09 College of Engineering, Graduate Council
- 09/05 – 01/09 Chair, Departmental Graduate Committee
- 09/07 – 01/09 Chair, Departmental Promotion and Tenure Committee
- 09/00 – 09/03 Chair, Departmental Graduate Committee

COMMUNITY SERVICE

- 01/07 – present Corvallis City Councilor, Ward 8 (2007-08; 2009-10)
- 01/07 – present Member, Corvallis Urban Services Committee
(Chair, Sept 1, 2007 – Dec 31, 2007; Chair, Sept 1, 2008 – Dec 31, 2008; Chair, May 1, 2009 – Aug 31, 2009; Chair, May 1, 2010 – Aug 31, 2010)
- 01/07 – present Member, Corvallis Budget Commission
- 07/04 – 06/07 State of Oregon, Board of Radiologic Technology
(Vice-Chair, July 1, 2004 – June 30, 2007)
- 10/04 – 12/06 City of Corvallis, Planning Commission
- 07/04 – 12/06 City of Corvallis, Watershed Management Advisory Commission
(Chair, July 1, 2005 – Dec 31, 2006)
- 02/03 – 12/06 City of Corvallis, Airport Commission
(Chair, July 1, 2005 – Dec 31, 2006)

SCIENTIFIC COMMITTEES, AFFILIATIONS, AWARDS

- 2009 - present Editorial Board for *Journal of Environmental Protection Science*

David M. Hamby

- 1999 - present Editorial Advisory Board for *Environmental Monitoring and Assessment*
- 1996 - present Associate Editor for *Health Physics* (journal of the Health Physics Society)
- 1985 - present Member, National Health Physics Society (1985-present); North Carolina Chapter HPS (1985-1989); Savannah River Chapter HPS (1989-1994); Great Lakes Chapter HPS (1994-2000); Cascade Chapter HPS (2000-2004).
- 2003 - 2009 Member, Oregon State University, Reactor Operations Committee
- 2000 - 2008 Reviewer, U.S. Civilian Research and Development Foundation, Proposals for awards to International Science and Technology Centers.
- 1996 - 2006 Member, National Council on Radiation Protection and Measurement (NCRP) scientific subcommittee on "Cesium in the Environment" (SC#64-23).
- 2000 - 2004 Reviewer, American Institute of Biological Sciences, U.S. Army Medical Research and Material Command - and - Military Operational Medicine to the Office of Naval Research
- 2000 - 2004 Member, ANSI N13.60, Standards for Late Phase Protection Actions in Post-Nuclear Accidents.
- 2000 - 2002 Member, ATSDR Expert Panel for Environmental Tritium. Atlanta, GA.
- 1999 - 2000 Member, EPA/ORD Selection Committee for the STAR Graduate Environmental Study Fellowships; Health Risk Assessment Specialization
- 1997 - 1999 Board of Directors, Health Physics Society Great Lakes Chapter
- 1995 - 1999 Member, University of Michigan, Radiation Policy Committee
- 1994 - 1999 Faculty Advisor for the University of Michigan Student Chapter of the Health Physics Society
- 1990 - 1999 Member, DOE/ORISE Health Physics Fellowship Selection Committee and University Participation Panel
- 1987 - 1999 Member, Radiation Research Society
- 1998 Expert in Radiological Health for the International Atomic Energy Agency (IAEA). Lithuania.
- 1998 Reviewer, "Hanford Site Environmental Report for Calendar Year 1997".

David M. Hamby

- 1997 Fulbright Scholar Award, Environmental Health. Bishkek, Kyrgyzstan.
- 1996 Consultant, National Academy of Science, Environmental Management Technology subcommittee on the DOE/EM decision-making process.
- 1994 Panelist, Centers for Disease Control and Prevention (CDC). Environmental Radiological Dose Reconstruction in the US and the former Soviet Union, Atlanta, GA.
- 1992 Member, ANSI/ANS-8.23 Writing Group, Nuclear Criticality Accident Emergency Planning & Response
- 1992 Invited Panelist, EPA/ORP Workshop on Mathematical Modeling - Meteorological Models, Bethesda, MD.
- 1984 - 1989 Department of Energy/ORAU Health Physics Fellow

PATENTS

Farsoni, A.T.; Hamby, D.M. Simultaneous Beta and Gamma Spectroscopy. Assignee: The State of Oregon Acting by and through the State Board of Higher Education on Behalf of Oregon State University; Application No. 12/221675; August 4, 2008. <http://www.faqs.org/patents/inv/322911>

PRIMARY RESEARCH INTERESTS

Research interests: 1) nuclear instrumentation development; 2) radiation dosimetry; 3) uncertainty/sensitivity analysis; 4) environmental assessment; and 5) biokinetic modeling of trace minerals.

DIDACTIC COURSES

- 2010 - present NE/RHP 236: Radiation Detection and Instrumentation (Oregon State)
- 2009 - present RHP 590: Internal Dosimetry (Oregon State)
- 2009 - present NE/RHP 435/535: Radiation Shielding & External Dosimetry (Oregon State)
- 2005 - 2009 NE/RHP 536: Advanced Radiation Detection and Measurement (Oregon State)
- 2004 - 2008 Radiation Biology (LBCC)
- 2004 - 2008 Radiation Protection (LBCC)
- 2003 - 2008 NE/RHP 236: Radiation Detection and Instrumentation (Oregon State)
- 2003 - 2007 Radiation Production and Characteristics (LBCC)

David M. Hamby

2001 - 2008	NE/RHP 490/590: Radiation Dosimetry (Oregon State)
2001 - 2008	NE/RHP 235: Nuclear and Radiation Physics II (Oregon State)
2001 - 2003	NE/RHP 585: Environmental Aspects of Nuclear Systems (Oregon State)
2000 - 2003	RHP 483/583: Radiation Biology (Oregon State)
1999 - 2002	RHP 592: Radiological Risk Evaluation (Oregon State)
1999	EHS 581: Principles of Radiological Health (Univ of Michigan)
1997 - 1999	EHS 693: Health Physics Instrumentation: Theory and Practice (Univ of Michigan)
1994 - 1999	EHS 679: Radiological Risk Evaluation (Univ of Michigan)
1994 - 1999	EHS 672: Environmental Radiological Assessment (Univ of Michigan)

REVIEWER FOR THE FOLLOWING SCIENTIFIC JOURNALS

- Health Physics
(Associate Editor since 1996)
- Env. Monitoring and Assessment
(Editorial Advisory Board since 1999)
- Journal of Environmental Protection Science
(Editorial Board since 2009)
- Radiation Measurements
- Radiation Research
- Ecological Modelling
- Journal of Environmental Radioactivity
- Nuclear Safety
- Nuclear Instruments and Methods (Sec. A)
- Environmental Pollution
- Journal of Aerosol Science
- The Science of the Total Environment
- J. of Statistical Computation and Simulation
- Env. Science and Technology
- Toxicological and Environmental Chemistry
- Am. Assoc. of Pharmaceutical Scientists
- Air, Soil and Water Research

GRANTS AWARDED (\$5.4M)

OSU. Distance Education Program Development Grant. "Digitized Instrumentation Lab for Distance Students" (with D. Vasquez). \$8,220 (3 months). July 2009.

David M. Hamby

National Nuclear Security Administration. US Department of Energy. "Actively-Shielded Radioxenon Phoswich Detection System". \$1,100,000 (A.T. Farsoni, PI) (3 yrs). July 1, 2009.

National Academy for Nuclear Training. INPO Fellowships. \$50,000. (1 yr). September 2008.

U.S. Department of Defense. Defense Threat Reduction Agency. "The Presentation of Uncertainty for CBRNE Decision-Making". \$952,487 (J.A. Edwards, PI). (3 yrs). July 2008.

U.S. Nuclear Regulatory Commission. "Improving the Photon Dosimetry Model for VARSKIN". \$553,701. (2 yrs). May 1, 2008.

National Academy for Nuclear Training. INPO Fellowships. \$50,000. (1 yr). September 2007.

National Nuclear Security Administration. US Department of Energy. "A Multi-Layer Phoswich Radioxenon Detection System". \$1,254,787 (3 yrs). May 1, 2006.

Nuclear Engineering Education Research Grant Program. US Department of Energy. "Enhancing State-of-the-Art Beta Detection and Dosimetry". \$358,170. (3 yrs). July 2005.

National Academy for Nuclear Training. INPO Fellowships. \$42,000. (1 yr). September 2003.

Nuclear Engineering Education Research Grant Program. US Department of Energy. "Advanced Beta Dosimetry Techniques". \$337,553. (3 yrs). June 2002.

National Academy for Nuclear Training. INPO Fellowships. \$42,000. (1 yr). September 2002.

Westinghouse Savannah River Company. Savannah River Technology Center. "Probabilistic Dose Estimates for Environmental Dosimetry at the Savannah River Site". \$31,637. August 2001 - March 2003.

National Academy for Nuclear Training. INPO Fellowships. \$42,000. (1 yr). September 2001.

National Institutes of Health. Centers for Disease Control and Prevention. "Atmospheric I-131 Dose Estimates: Comparative Uncertainties". \$377,482 (4 yrs). August 1999.

UM. Phoenix Grant. "Neutron Activation Analysis to Trace the Fate of Iron in Processed Foods: A Feasibility Study". \$5,775 (1 yr). January 1999.

UM. Office of the Vice President for Research and the Horace Rackham Graduate School Spring/Summer Research Grant. Environmental Fate and Transport Modeling of Radiocesium. \$3,000 (1 yr). April 1998.

UM. Undergraduate Research Opportunity Program and the Office of the Vice President for Research. "Uptake and Retention Kinetics in Bluegill Following Acute Dosing of Radiocesium in Aqueous and Organic Forms". \$2,800 (1 yr). February 1998.

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Sprint PCS. "Spectral Analysis and Power Density Assessment Near Sprint PCS Transmission Towers". \$13,390 (10 mos.). March 1997.

United States Civilian Research and Development Foundation, National Science Foundation. "Radiological Characterization in the Vicinity of Lake Issyk-Kul, Republic of Kyrgyzstan". \$50,000 (2.5 yrs). February 1997.

NATO Assistant Secretary General for Scientific and Environmental Affairs. Radiation Levels in the Vicinity of Lake Issyk-Kul, Kyrgyzstan. \$18,600 (3 yrs). October 1996.

Department of Energy, Office of Environmental Management. "Study of Field Methods and Worker Risks for Processing Alternatives to Support Guiding Principles for FUSRAP Waste Materials". \$130,000 (J.E. Martin, PI) (3 yrs). April 1996.

UM. Dean of the School of Public Health and the Office of the Vice President for Research. "A High-Sensitivity Gamma Spectroscopy System". \$7,990 (1 yr). July 1995.

UM. Phoenix Grant. "Design of an Ultra-Low-Background Gamma Spectroscopy System". \$6,000 (1 yr). December 1994.

MANUSCRIPTS IN PREPARATION AND SUBMITTED

Frey, W.D.; Hamby, D.M.; Farsoni, A.T. Use of BC-523a Liquid Scintillator for Simultaneous Neutron Spectroscopy and Gamma Counting with the Implementation of a Neutron History Reconstruction Algorithm. *Nuclear Instruments and Methods in Physics Research – Section A*. in progress. Nov. 2009.

Frey, W.D.; Hamby, D.M. Use of MCNP to Quantify Neutron Energy Losses that do not Produce Measureable Scintillation Photons in BC-523a. *Nuclear Instruments and Methods in Physics Research – Section A*. in progress. Oct. 2009.

Frey, W.D.; Hamby, D.M. Phoswich Design to Achieve Low Pulse Magnitude Discrimination of Neutrons and Gamma-Rays in a Plastic Scintillation Material. *Nuclear Instruments and Methods in Physics Research – Section A*. to be submitted. Sept. 2009.

Frey, W.D.; Hamby, D.M. Improvement of the Boron Gated Liquid Scintillation Technique Using a Neutron History Reconstruction Algorithm. *Nuclear Instruments and Methods in Physics Research – Section A*. to be submitted. Sept. 2009.

Farsoni, A.T.; Hamby, D.M. MCNP modeling of photon and beta interactions in a three-layer phoswich detector. *IEEE Transaction on Nuclear Science*. submitted. March 2009.

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BOOK CHAPTERS

Whicker, F.W.; Garten, C.T.; Hamby, D.M.; Higley, K.A.; Hinton, T.G.; Kaplan, D.I.; Rowan, D.J.; Schreckhise, R.G. Cesium-137 in the Environment: Radioecology and Approaches to Assessment and Management. National Council on Radiation Protection and Measurements. NCRP Report No. 154. Bethesda, MD. November 2006.

Hamby, D.M.; Tynybekov, A.K. Uranium, Thorium, and Potassium in Soils along the Shore of Lake Issyk-Kyol in the Kyrghyz Republic. Environmental Monitoring. G.Bruce Wiersma (ed). CRC Press. New York. pg. 371-378; March 2004.

PEER-REVIEWED PUBLICATIONS

Farsoni, A.T.; Hamby, D.M. A system for simultaneous beta and gamma spectroscopy. *Nuclear Instruments and Methods in Physics Research - Section A*. 578: 528-536. 2007.

Harvey, R.P.; Hamby, D.M.; Palmer, T.S. Uncertainty of the thyroid dose conversion factor for inhalation intakes of ^{131}I and its parametric uncertainty. *Radiation Protection Dosimetry*. 118(3): 296-306; 2006.

Tavakoli-Farsoni, A.; Hamby, D.M. MCNP analysis of a multilayer phoswich detector for beta particle dosimetry and spectroscopy. *Nuclear Instruments and Methods in Physics Research - Section A*. 555(1-2): 225-230; 2005.

Harvey, R.P.; Hamby, D.M.; Palmer, T.S. A modified ICRP 66 iodine gas uptake model and its parametric uncertainty. *Health Physics*. 87(5): 490-506; 2004.

Kriss, A.A.; Hamby, D.M. Beta spectroscopy with a large-area avalanche photodiode module and a plastic scintillator. *Nuclear Instruments and Methods in Physics Research - Section A*. 525(3): 553-559; June 2004.

Simpkins, A.A.; Hamby, D.M. Uncertainty in transport factors used to calculate historical dose from ^{131}I releases at the SRS. *Health Physics*. 85(2); 194-203; 2003.

Harvey, R.P.; Hamby, D.M.; Benke, R.R. Age-specific uncertainty of the ^{131}I dose conversion factor. *Health Physics*. 84(3): 334-343; 2003.

Weber, A.H.; Buckley, R.L.; Parker, M.J.; Harvey, R.P.; Hamby, D.M. The creation of an historical meteorological database for environmental dose assessment. *Environmental Monitoring and Assessment*. 83(3): 255-281. 2003.

Harvey, R.P.; Hamby, D.M. Age-specific uncertainty in particulate deposition for 1 μm AMAD particles using the ICRP 66 lung model. *Health Physics*. 82(6): 807-816; 2002.

Hamby, D.M. The Gaussian atmospheric transport model and its sensitivity to the joint frequency distribution and parametric variability. *Health Physics*. 82(1): 64-73; 2002.

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Harvey, R.P.; Hamby, D.M. Uncertainty in particulate deposition for 1 μm AMAD particles in an adult lung model. *Radiation Protection Dosimetry*. 95(3): 239-247; 2001.

Hamby, D.M.; Palmer, T.S. Analysis of an internal kinetic model for free and bound tritium. *Health Physics*. 81(4): 426-437; 2001.

Hamby, D.M.; Tynybekov, A.K. Uranium, thorium, and potassium in soils along the shore of Lake Issyk-Kyol in the Kyrghyz Republic. *Environmental Monitoring and Assessment*. 73(2): 101-108; 2002.

Nedveckaitė, T.; Motiejunas, S.; Kucinskas, V.; Mazeika, J.; Filistovic, V.; Jusciene, D.; Maceika, E.; Morkeliunas, L.; Hamby, D.M. Environmental releases of radioactivity and the incidence of thyroid disease at the Ignalina nuclear power plant. *Health Physics*. 79(6): 666-674; 2000.

Simpkins, A.A.; Marx, D.R.; Hamby, D.M. Ingestion pathway model developed for use with an acute atmospheric dose model – AXAIRQ. *Health Physics*. 79(3):266-273; 2000.

Garten, C.T.; Hamby, D.M.; Schreckhise, R.G. Radiocesium discharges and subsequent environmental transport at the major U.S. weapons production facilities. *The Science of the Total Environment*. 255(1-3): 55-73; 2000.

Breeden, W.F.; Hamby, D.M.; Carey, J.E.; Eckerman, K.F.; McPherson, D.W.; Knapp, F.F. In vivo biodistribution of ^{125}I PIP and internal dosimetry of ^{123}I PIP radioiodinated agents selective to the muscarinic acetylcholinergic receptor complex. *Medical Physics*. 27(4):778-786; 2000.

Hamby, D.M.; Tynybekov, A.K. A screening assessment of external radiation levels on the shore of Lake Issyk-Kyol in the Kyrghyz Republic. *Health Physics*. 77(4):427-430; 1999.

Hamby, D.M. Uncertainty of the tritium dose conversion factor. *Health Physics*. 77(3):291-297; 1999.

Hamby, D.M.; Benke, R.R. Uncertainty of the iodine-131 ingestion dose conversion factor. *Radiation Protection Dosimetry*. 82(4):245-256; 1999.

Hamby, D.M.; Zometsky, J.R. A method for in situ depth profiles of alpha and beta contaminants in soil using scintillators and fiber optic light guides. *Radiation Protection Management*. 15(5):26-32; 1998.

Kock, A.; Hamby, D.M. Variation in environmental tritium dose estimates due to meteorological data averaging and uncertainties in pathway model parameters. *Environmental Monitoring and Assessment*. 53:321-335; 1998.

Hamby, D.M.; Simpkins, A.A. Three-parameter model for estimating atmospheric tritium dose at the Savannah River Site. *Health Physics*. 75:269-277; 1998.

David M. Hamby

Bush, S.P.; Hamby, D.M. Initial investigations into developing a wall-less proportional counter for use in radiologically contaminated soils. *Radiation Protection Management*. 15(2):43-47; 1998.

Famiano, M.A.; Hamby, D.M. Demonstration of a time-integrating microdosimeter. *Nuclear Instruments and Methods in Physics Research - Section A*. 389(3):479-490; 1997.

Ng, K.L.; Hamby, D.M. Fundamentals for establishing a risk communication program. *Health Physics*. 73:473-482; 1997.

Simpkins, A.A.; Hamby, D.M. Predicted versus measured tritium oxide concentrations at the Savannah River Site. *Health Physics*. 72:179-185; 1997.

Hamby, D.M. Remediation techniques supporting environmental restoration activities. *The Science of the Total Environment*. 191(3):203-224; 1996.

Hyman, T.C.; Hamby, D.M. Parameter uncertainty and sensitivity in an aqueous dose model. *Environmental Monitoring and Assessment*. 38:51-65; 1995.

Hamby, D.M. A comparison of sensitivity analysis techniques. *Health Physics*. 68:195-204; 1995.

Hamby, D.M. A review of techniques for parameter sensitivity analysis of environmental models. *Environmental Monitoring and Assessment*. 32:135-154; 1994.

Hamby, D.M.; Bauer, L.R. The vegetable-to-air concentration ratio in a specific activity atmospheric tritium model. *Health Physics*. 66:339-342; 1994.

Hamby, D.M. A probabilistic estimation of atmospheric tritium dose. *Health Physics*. 65:33-40; 1993.

Hamby, D.M.; Addis, R.P.; Beals, D.M.; Boni, A.L.; Cadieux, J.R.; Carlton, W.H.; Dunn, D.L.; Hall, G.; Hayes, D.W.; Heffner, J.D.; Lorenz, R.; Kantello, M.V.; Taylor, R.W. Environmental monitoring and dose assessment following the December 1991 K-Reactor aqueous tritium release. *Health Physics*. 65:25-32; 1993.

Hamby, D.M. A methodology for estimating the radiological consequence of an acute aqueous release. *Health Physics*. 62:567-570; 1992.

O'Kula, K.R.; Olson, R.L.; Hamby, D.M. Consequences of tritium release to water pathways from postulated accidents in a DOE production reactor. *Fusion Technology*. 21:659-667; 1992.

Hamby, D.M. Site-specific parameter values for the Nuclear Regulatory Commission's food pathway dose model. *Health Physics*. 62:136-143; 1992.

David M. Hamby

Bauer, L.R.; Hamby, D.M. Relative sensitivities of existing and novel model parameters in atmospheric tritium dose estimates. *Radiation Protection Dosimetry* . 37:253-260; 1991.

OTHER PUBLICATIONS AND PRESENTATIONS

Farsoni, A.T.; Hamby, D.M. Beta/Gamma Coincidence Measurements of Radioxenon Using a Triple-Layer Phoswich Detector. Nuclear Science Symposium Medical Imaging Conference. Orlando, FL. October 25-31, 2009.

Farsoni, A.T.; Hamby, D.M. Characterization of triple-layer phoswich detector for radioxenon measurements. NNSA Monitoring Research Review – Ground-Based Nuclear Explosion Monitoring Technologies. Tucson, AZ. September 21-23, 2009.

Cazalas, E.; Hamby, D.M. Farsoni, A.T. Novel beta/gamma dosimeter design and experimental results. Proceedings of the Fifty-fourth Annual Meeting of the Health Physics Society. Minneapolis, MN. *Health Physics*. July 2009.

Makinson, K.A.; Hamby, D.M. Tissue weighting factors derivation and analysis: ICRP 26, 60, 103. Proceedings of the Fifty-fourth Annual Meeting of the Health Physics Society. Minneapolis, MN. *Health Physics*. July 2009.

Ryan, M.; Lodwick, C.J.; Hamby, D.M.; Saba, M.; Sherbini, S. The new VARSKIN 4 photon dosimetry model of the skin. Proceedings of the Fifty-fourth Annual Meeting of the Health Physics Society. Minneapolis, MN. *Health Physics*. July 2009.

Hamby, D.M. The new VARSKIN 4 photon dosimetry model. Workshop on Dose Assessment Techniques for Contamination on Skin and Clothing. Whitby, Ontario, Canada. June 12, 2009.

Makinson, K.A.; Hamby, D.M. Tissue weighting factors derivation and analysis. Columbia Chapter of the Health Physics Society. Spring Conference. Corvallis, OR. May 8, 2009.

Cazalas, E.; Hamby, D.M.; Farsoni, A.T. A beta/gamma skin dosimeter design and experimental results. Columbia Chapter of the Health Physics Society. Spring Conference. Corvallis, OR. May 8, 2009.

Ryan, M.; Lodwick, C.J.; Hamby, D.M. The VARSKIN 4 photon skin dosimetry model. Columbia Chapter of the Health Physics Society. Spring Conference. Corvallis, OR. May 8, 2009.

Cazalas, E.; Hamby, D.M.; Farsoni, A.T. Novel beta/gamma dosimeter design and experimental results. American Nuclear Society Student Conference. Gainesville, FL. April 1-5, 2009.

Makinson, K.A.; Hamby, D.M. Tissue weighting factors derivation and analysis: ICRP 26, 60, 103. American Nuclear Society Student Conference. Gainesville, FL. April 1-5, 2009.

David M. Hamby

Ryan, M.; Lodwick, C.J.; Hamby, D.M. The new VARSKIN 4 photon dosimetry model of the skin. American Nuclear Society Student Conference. Gainesville, FL. April 1-5, 2009.

Lee, C.S.; Farsoni, A.T.; Hamby, D.M. A two-channel FPGA-based system for beta-gamma coincidence detection using multi-layer phoswich detectors. The Medical Imaging Conference and 16th International Room Temperature Semiconductor Detector Workshop. IEEE. Dresden, Germany. October 19-25, 2008.

Farsoni, A.T.; Hamby, D.M.; Lee, C.S.; Elliott, A. Preliminary experiments with a triple-layer phoswich detector for radioxenon detection. NNSA Monitoring Research Review – Ground-Based Nuclear Explosion Monitoring Technologies. Portsmouth, VA. September 23-25, 2008.

Hay, T.R.; Higley, K.A.; Hamby, D.M. Evaluation of the FDA derived intervention levels and the exposure rate of $0.4 \mu\text{R hr}^{-1}$ using NARAC Web atmosphere and diffusion modeling system. Proceedings of the Fifty-third Annual Meeting of the Health Physics Society. Pittsburg, PA. *Health Physics*. 95(1): S4; July 2008.

Farsoni, A.T.; Hamby, D.M. Digital processing of detector pulses in FPGA devices. 15th Topical Meeting of the Radiation Protection and Shielding Division of ANS. Callaway Gardens, GA: April 13-18, 2008.

Hamby, D.M.; Farsoni, A.T. Phoswich detectors and digital pulse shape-analysis. 15th Topical Meeting of the Radiation Protection and Shielding Division of ANS. Callaway Gardens, GA: April 13-18, 2008.

Farsoni, A.T.; Hamby, D.M.; Ropon, K.D.; Jones, S.E. Improving radioxenon measurements using a two-channel phoswich detection system. 2007 Informal Xenon Monitoring Workshop. Las Vegas, NV. November 5-9, 2007.

Farsoni, A.T.; Hamby, D.M. An FPGA-based data acquisition system for a multi-layer phoswich detector. IEEE Nuclear Science Symposium and Medical Imaging Conference. Honolulu, HI. October 27 – November 3, 2007.

Farsoni, A.T.; Hamby, D.M.; Ropon, K.D.; Jones, S.E. A two-channel phoswich detector for dual and triple coincidence measurements of radioxenon isotopes. NNSA Monitoring Research Review – Ground-Based Nuclear Explosion Monitoring. Denver, CO. September 26-28, 2007.

Farsoni, A.T.; Hamby, D.M. Proof of concept for a digital phoswich spectrometer. Proceedings of the Fifty-second Annual Meeting of the Health Physics Society. Portland, OR. *Health Physics*. 93(1): S102; July 2007.

Hamby, D.M.; Farsoni, A.T. A system for simultaneous beta and gamma spectroscopy and its application to nuclear non-proliferation. International Safeguards Workshop for Advanced Sensors for Safeguards. International Atomic Energy Agency. Santa Fe, NM. April 23-27, 2007.

David M. Hamby

Jones, S.; Farsoni, A.T.; Hamby, D.M. Fundamentals of the XEPHWICH project and light capture efficiency research. American Nuclear Society Student Conference. Corvallis, OR. March 29-31, 2007.

Ropon, K.D.; Farsoni, A.T.; Hamby, D.M. Optimization of a phoswich detector for radioxenons. American Nuclear Society Student Conference. Corvallis, OR. March 29-31, 2007.

Hamby, D.M. Radiobiology and the Need for Radiation Protection. Oregon Society of Radiologic Technologists. District I Winter Symposium. Hillsboro, OR. February 24, 2007.

Farsoni, A.T.; Hamby, D.M. Simultaneous Beta and Gamma-Ray Digital Spectroscopy Using a Triple-Layer Phoswich Detector. 2006 Nuclear Science Symposium. Medical Imaging Conference and 15th International Room Temperature Semiconductor Detector Workshop. IEEE. San Diego, CA. Oct. 29 – Nov. 4, 2006.

Hamby, D.M. Radiobiology Primer. 19th Annual Diamond Lake Seminar. Oregon Society of Radiological Technologists. Diamond Lake, OR. September 30, 2006.

Hamby, D.M. Radiation Interactions and Safety. 19th Annual Diamond Lake Seminar. Oregon Society of Radiological Technologists. Diamond Lake, OR. September 30, 2006.

Farsoni, A.T.; Hamby, D.M. Study of a Triple Layer Phoswich Detector for Beta and Gamma Spectroscopy with Minimal Crosstalk. NNSA Seismic Research Review. Orlando, FL. September 19-21, 2006.

Hamby, D.M. Radiation Safety in the Operating Room. 12th Annual Mini-Congress of the Oregon State Council of Perioperative Nurses. Newport, OR. May 20, 2006.

Hamby, D.M. Radiological Terrorism. Linn-Benton Community College, Albany, OR. May 19, 2006.

Hamby, D.M. The Fundamentals of Radiation and Radioactivity. Linn-Benton Community College, Albany, OR. May 19, 2006.

Hamby, D.M.; Farsoni, A.T. Phoswich Detectors and Digital Pulse Analysis for Simultaneous Beta/Gamma Spectroscopy. Western New York Chapter of the Health Physics Society. Buffalo, NY. April 21, 2006.

Hamby, D.M. Radiation Safety and Shielding. Surgery In-service. Providence Newberg Hospital. Newberg, OR. November 2005.

Hamby, D.M. Book review: Physics of Radiology 2nd edition. A.B. Wolbarst. *Health Physics*. accepted. October 2005.

Hamby, D.M. Radiobiology Review. 18th Annual Diamond Lake Seminar. Oregon Society of Radiological Technologists. Diamond Lake, OR. August 2005.

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Hamby, D.M. An Overview of the Oregon Board of Radiological Technology. Annual Meeting of the Oregon Society of Radiologic Technologists. Eugene, OR. April 2005.

Hamby, D.M. Radiation Use and Safety. Linn-Benton Community College. A Focus on Safety. Albany, OR. November 2004.

Hamby, D.M. Radiology Biology Primer. Linn-Benton Community College. A Focus on Safety. Albany, OR. November 2004.

Tavakoli-Farsoni, A.; Hamby, D.M.; Bush-Goddard, S. A performance study on a triple-layer phoswich detector for beta spectroscopy. Proceedings of the Forty-ninth Annual Meeting of the Health Physics Society. Washington, DC. *Health Physics*. 86(6): S144; 2004.

Kriss, A.; Hamby, D.M. Beta spectroscopy and dosimetry with a large area avalanche photodiode module and plastic scintillators. Proceedings of the Forty-ninth Annual Meeting of the Health Physics Society. Washington, DC. *Health Physics*. 86(6): S193; 2004.

Kriss, A.; Hamby, D.M. Scintillation beta dosimetry and spectroscopy utilizing a large area avalanche photodiode. Proceedings of the Forty-eighth Annual Meeting of the Health Physics Society. San Diego, CA. *Health Physics*. 84(6): S168; 2003.

Higley, K.A.; Klein, A.C.; Reyes, J.N.; Higginbotham, J.F.; Hamby, D.M. The health physics ABET accreditation experience at Oregon State University. Proceedings of the Forty-eighth Annual Meeting of the Health Physics Society. San Diego, CA. *Health Physics*. 84(6): S271; 2003.

Kriss, A.; Hamby, D.M. A Phoswich Detector for Beta Spectroscopy. Cascades Chapter of the Health Physics Society. Corvallis, OR; March 14, 2003.

Hamby, D.M. Book review: Principles of Radiological Health and Safety. J.E. Martin. *Health Physics*. 84(5): 668. 2003.

Harvey, R.; Hamby, D. Age-Specific uncertainty of the ¹³¹I ingestion dose conversion factor. Proceedings of the Forty-seventh Annual Meeting of the Health Physics Society. Tampa, FL. *Health Physics*. 82(6): S150; 2002.

Simpkins, A.A.; Hamby, D.M. Uncertainty estimates for parameters used for dose calculations from atmospheric releases of I-131 at SRS from 1955-1961. In: Proceedings of the 35th Midyear Health Physics Topical Symposium. January, 2002.

Hamby, D.M. Book review: Radiation Dosimetry, Instrumentation and Methods. G. Shani. *Health Physics*. 81(4): 470; 2001.

Hamby, D.M. Book review: Waste is a Terrible Thing to Mind: Risk, Radiation, and Distrust of Government. J. Weingart. *The Science of the Total Environment*. to appear; 2001.

David M. Hamby

Weber, A.H.; Buckley, R.L.; Parker, M.J.; Harvey, R.P.; Hamby, D.M. The creation of an historical meteorological database for dose reconstruction. Westinghouse Savannah River Company, Aiken, SC: WSRC-TR-2001-00275. June 2001.

Kannan, S.; Hamby, D.; Green B. Selenium in dry beans (*phaseolus vulgaris*): A neutron activation analysis approach. *FASEB J.* 15(5): A969. Part II. March 2001.

Osborne, R.V.; Hamby, D.M.; Johnson, J.; Kahn, B.; Strome, T. Environmental tritium evaluations at SRS and LLNL with emphasis on the monitoring and dosimetry of organically-bound tritium. DRAFT. Tritium Expert Panel for the Agency for Toxic Substances and Disease Registry. March. 2001.

Nedveckaite, T.; Hart, K.; Filistovic, V.; Maceika, E.; Hamby, D.M. Stable iodine deficiency and radioiodine speciation-dependent thyroid doses in the vicinity of the Ignalina NPP. Proceedings of the Forty-sixth Annual Meeting of the Health Physics Society. Cleveland, OH. *Health Physics.* 80(6): S98-99; 2001.

Hamby, D.M.; Garten, C.T.; Schreckhise, R.G. Environmental transport of discharged radiocesium at the major U.S. weapons production facilities. In: Proceedings of Radiation Protection for our National Priorities: Medicine, the Environment, and the Legacy. American Nuclear Society. Spokane, WA; pg. 197-204; September 17-21, 2000.

Hamby, D.M.; Nedveckaite, T.; Motiejunas, S.; Filistovic, V.; Maceika, E.; Morkeliunas, L. Environmental dose conversion factors for the Ignalina nuclear power plant, Lithuania. In: Proceedings of Radiation Protection for our National Priorities: Medicine, the Environment, and the Legacy. American Nuclear Society. Spokane, WA; pg. 215-221; September 17-21, 2000.

Harvey, R.P.; Hamby, D.M.; Uncertainty of the age-specific inhalation model-deposition. In: Proceedings of Radiation Protection for our National Priorities: Medicine, the Environment, and the Legacy. American Nuclear Society. Spokane, WA; pg. 393-400; September 17-21, 2000.

Harvey, R.P.; Hamby, D.M. Uncertainty of the inhalation model. Proceedings of the Forty-fifth Annual Meeting of the Health Physics Society. Denver, CO. *Health Physics.* 78(6): S116; 2000.

Hamby, D.M. Sensitivity of the Gaussian atmospheric transport model to parametric variability. Proceedings of the Forty-fifth Annual Meeting of the Health Physics Society. Denver, CO. *Health Physics.* 78(6): S142; 2000.

Hamby, D.M.; Tynybekov, A.K. Environmental radioactivity in the Kyrgyz Republic. Presentation to the Cascade Chapter of the Health Physics Society. Kelso, WA: February 11, 2000.

Hamby, D.M. Book review: Environmental Radiochemical Analysis. G.W.A. Newton (ed.). *The Science of the Total Environment.* 243/244: 356; 1999.

David M. Hamby

Hamby, D.M.; Tarantola, S. Exploring sensitivity analysis techniques for the assessment of an environmental transport model. In: Proceedings of ESREL '99 - The Tenth European Conference on Safety and Reliability. Garching, Germany. September 13-17, 1999.

Hamby, D.M. The ^{131}I ingestion dose factor and its uncertainties. Nuclear Engineering Symposium. Oregon State University. August 23, 1999.

Tynybekov, A.K.; Hamby, D.M.; Doronova, A.K. Radiological description of the coastal zone of Lake Issyk-Kul. In: Environmental Surroundings and People's Health. Ministry of Public Health. Bishkek, Kyrgyz Republic. Vol. 7: pg. 100-108; June 1999 (in Russian).

Bush, S.P.; Hamby, D.M. Techniques for beta spectroscopy using Monte Carlo methods and spectral deconvolution. Health Physics Society Annual Meeting. Philadelphia, PA; June 28, 1999. *Health Physics*. 76:S109; 1999.

Hakimi, R.; Rocha, R.; Durbin, P.W.; Raymond, K.N.; Xu, J.; Guilmette, R.A.; Hamby, D.M. Competitive binding of plutonium and americium with bone mineral and novel chelating agents. Health Physics Society Annual Meeting. Philadelphia, PA; June 28, 1999. *Health Physics*. 76:S173; 1999.

Hamby, D.M. Uncertainty of the ^3H and ^{131}I internal dose conversion factors and their impact on dose reconstruction. Health Physics Society Annual Meeting. Philadelphia, PA; June 28, 1999. *Health Physics*. 76:S176; 1999.

Hamby, D.M. Radiation protection in Lithuania. In: Proceedings of the 1999 Great Lakes Chapter Spring Symposium. Ann Arbor, MI. May, 1999.

Tynybekov, A.K.; Hamby, D.M. Radiological description of the southern coast of Lake Issyk-Kul. In: A Collection of Works. Ministry of Labor and Social Protection. Bishkek, Kyrgyz Republic. Vol. 2: pg. 9-17; April 1999 (in Russian).

Hamby, D.M. Uncertainty of the ^{131}I ingestion dose factor. Nuclear Engineering Symposium. Texas A&M University. February 15, 1999.

Hamby, D.M. Practical applications of sensitivity analysis in environmental modeling (invited). Second International Symposium on Sensitivity Analysis of Model Output. University of Venice. Venice, Italy; April 19-22, 1998.

Perez, R.; Ahsoak, J.; Hamby, D.M. Short-term uptake and long-term retention of cesium in bluegill (*Lepomis macrochirus*). Undergraduate Research Opportunity Program Spring Research Symposium. University of Michigan. Ann Arbor, MI: April 8, 1998.

Bush, S.P.; Hamby, D.M. Development of a screened cathode gas flow proportional counter for in-situ field determination of alpha contamination in soil. Health Physics Society Annual Meeting. San Antonio, TX; July 1, 1997. *Health Physics*. 72:S53; 1997.

David M. Hamby

Busby, B.A.; Kearfott, K.J.; Samei, E.; Hamby, D.M. Simulation of factors affecting performance of a novel method for depth dose determinations using pulsed laser heating of thermoluminescent dosimeters. Health Physics Society Annual Meeting. San Antonio, TX; July 1, 1997. *Health Physics*. 72:S33; 1997.

Hamby, D.M. Time dependency of energy deposition on free-radical neutralization. Department of Nuclear Engineering and Radiological Sciences. University of Michigan. Ann Arbor, MI; April 11, 1997.

Hamby, D.M. Environmental radiological assessment. In: Proceedings of Mountain Research - Challenges and Directions for the 21st Century. Bishkek, Kyrgyz Republic. October 14-18, 1996. The International University of Kyrgyzstan. Bishkek, Kyrgyzstan: 1996.

Bush, S.P.; Hamby, D.M. In situ field determination of radioactive contamination in soil using a wall-less gas flow proportional counter. Health Physics Society Annual Meeting. Seattle, WA; July 23, 1996. *Health Physics*. 70:S39; 1996.

Famiano, M.A.; Hamby, D.M. Time specific measurements of energy deposition from radiation fields in simulated sub-micron tissue volumes. Great Lakes Chapter of the Health Physics Society Spring Symposium. Ann Arbor, MI; March 29, 1996.

Famiano, M.A.; Hamby, D.M. Time-specific measurements of energy deposition from radiation fields in simulated sub-micron tissue volumes. *Health Physics*. 70:S16; 1996.

Kock, A.L.; Hamby, D.M. Variations in environmental tritium doses due to meteorological data averaging and uncertainties in pathway model parameters. *Health Physics*. 70:S38; 1996.

Hamby, D.M. Uncertainty Analysis in Environmental Risk Assessment. University of Michigan-Dearborn. Dearborn, MI; October 27, 1995.

Hamby, D.M. The use of neural networks in environmental decision making. Michigan Section of the American Nuclear Society. Ann Arbor, MI; September 28, 1995.

Hamby, D.M.; Famiano, M.A. Neural network applications in environmental decision making. Great Lakes Chapter of the Health Physics Society Spring Symposium. Ann Arbor, MI; March 29, 1995.

Kock, A.; Hamby, D.M. The effects of differential doses of x-ray irradiation on byssal thread adhesion in *Dreissnea Polymorpha*. Great Lakes Chapter of the Health Physics Society Spring Symposium. Ann Arbor, MI; March 29, 1995.

Hamby, D.M. Parameter sensitivity and uncertainty in a tritium dose model. University of Michigan. Ann Arbor, MI; February 3, 1994.

Hamby, D.M. Uncertainty in atmospheric dose estimates at the Savannah River Site. Iowa State University. Ames, IA; November 4, 1993.

David M. Hamby

Hamby, D.M. Environmental impacts of K-Reactor tritium release. Georgia Institute of Technology. Atlanta, Ga; June 5, 1992.

Hamby, D.M. Food production and consumption near the Savannah River Site. In: Proceedings of the 25th Midyear Health Physics Topical Symposium. Dearborn, MI; January, 1992.

Hamby, D.M. An overview of operations at the Savannah River Site. Mercer University. Macon, GA; November 20, 1991.

Bauer, L.R.; Murphy, C.E.; Hamby, D.M. Modeling chronic atmospheric releases of tritium from the Savannah River Site: Observations and recommendations. Health Physics Society Annual Meeting. Washington, D.C.; Report No. WSRC-MS-91-253; July, 1991.

Hamby, D.M. Measurement of radial ionization probability in microscopic volumes for 2.90 and 3.79 MeV alpha particles. Doctoral Dissertation. National Technical Information Service. Washington, DC: Report No. DE90017509XSP; 1989.

Hamby, D.M.; Shyr, L.J.; Crawford-Brown, D.J. Design of a microscopic GM detection system for testing properties of track structure calculations. In: Proceedings of the Thirty-Fifth Annual Meeting of the Radiation Research Society. Atlanta, GA; February 21-26; 1987.

Hamby, D.M. Microdosimetric System for Use in the Measurement of Specific Energy Distributions for 15 MeV Electrons in Water. Master's Thesis. National Technical Information Service. Washington, DC: Report No. DE86010836XSP; 1986.

Hamby, D.M.; Quisenberry, D.R.; Mills, H.A. The controlled current distribution (CCD) antenna. In: Proceedings of the Sixty-First Annual Meeting of the Georgia Academy of Science. Statesboro, GA. Georgia Journal of Science. 42(1-2):24; 1984.

Hamby, D.M. An investigation of the optical properties of thin spherical lenses. In: Proceedings of the Sixtieth Annual Meeting of the Georgia Academy of Science. Marietta, GA. Georgia Journal of Science. 41(1-2):29; 1983.

DIRECTOR OF GRADUATE RESEARCH

Makinson, K. "Space Dosimetry". **Doctoral Dissertation**. In progress.

Cazalas, E. "A Modified Skin Contamination Dosimeter". **Doctoral Dissertation**. In Progress.

Kaiser, K. "Experimental Confirmation of Electron and Photon Dosimetry at Shallow Depths in Tissue". Master's Thesis. In progress.

Thuong, K. "Photon Skin Dosimetry at Depth". Master's Thesis. In progress.

David M. Hamby

Vasquez, D. "The Design, Use and Implementation of Digital Radiation Detection and Measurement Equipment for the Purpose of Distance Instruction". Master's Thesis. In progress.

Cazalas, E. "Design, Construction, and Analysis of a Skin Contamination Dosimeter". Master's Thesis. November 2009.

Makinson, K. "Tissue Weighting Factors for Radiation Protection: Derivation and Parametric Analysis". Master's Thesis. July 2009.

Frey, W. "Neutron Spectroscopy with Liquid Scintillators". **Doctoral Dissertation**. June 2009.

Elliott, A. "Radioxenon Generation Using HEU". Master's Thesis. June 2008.

Jones, S. "An Investigation of the Light Capture Properties of the XEPHWICH, a Phoswich Radiation Detection System". Master's Thesis. June 2008.

Hay, T. "Creation of an Emergency Response Laboratory at Oregon State University". Master's Thesis. June 2008.

Newman, E. "A Comparison Between Deterministic and Simulated Models of Tungsten Based Medical Transport Pigs". Master's Thesis. June 2007.

Farsoni, A.T. "Simultaneous Beta/Gamma Digital Spectroscopy". **Doctoral Dissertation**. December 2006. (published in Nuclear Instruments and Methods)

Gambone, K. "Neutron and Gamma Dose Mapping of a TRIGA-based Neutron Radiography Facility". Master's Thesis. June 2006.

Kaye, W. "Kaye Calculations: Software to Educate Nuclear Scientists and Engineers". Honors College Thesis. June 2006.

Junell, S. "Analysis of MAPCHECK Quality Assurance in Intensity Modulated Radiation Therapy". Honors College Thesis. June 2006.

Lopez, A.U. "Determination of Phoswich Detector Response Using MCNP Analysis to Enhance Radioxenon Measurement". Master's Thesis. April 2006.

Frey, W. "Investigation into the Effects of Subsurface Ice Deposits on the Shielding of Fast Spectrum Nuclear Reactors Using Martian Regolith". Master's Thesis. December 2005.

Kriss, A.A. "A Beta Dosimeter and Spectrometer Utilizing Plastic Scintillator Volumes and a Large Area Avalanche Photodiode". **Doctoral Dissertation**. June 2004. (published in Nuclear Instruments and Methods)

Mallory, S. "Shielding Design of a Diagnostic X-ray Teaching Facility". Master's Thesis. December 2003.

David M. Hamby

Rock, M.K. "Characterization of a 70% Efficiency High Purity Germanium Detector". Master's Thesis. June 2003.

Harvey, R.P., "The ICRP 66 Lung Model and the Behavior of Gases Iodine", **Doctoral Dissertation**. April 2003. (published in Radiation Protection Dosimetry and Health Physics)

Miklos, J.A., "Unique Specification of Beta-Particle Sources", **Doctoral Dissertation**. April 2002.

Carlson, C.A., "The Role of the Retinoblastoma Protein in UV-Induced Apoptosis", **Doctoral Dissertation**. March 2002. (published in Radiation Research)

Bush, S.A., "Beta Spectroscopy Using Deconvolution and Spectral Stripping Techniques with a Triple Layer Phoswich Detector", **Doctoral Dissertation**, April 2000.

Yan, C., "Effect of NaI Crystal Thickness on Image Quality of a Dual-Head Scintillation Camera", Master's Thesis, May 1999.

Hakimi, R., "Competitive Binding of Plutonium and Americium with Bone Mineral and Novel Chelating Agents", Master's Thesis, April 1999.

Harcek, B.G., "A Comparison of Leukemia Risk from Strontium-90 in Milk and Mortality Rates in the State of Michigan", Master's Thesis, July 1998.

Marx, D.R., "Development of an Ingestion Pathway Model for AXAIRQ, an Atmospheric Dose Model used at the Savannah River Site for Prospective Accident Assessment", Master's Thesis, June 1998. (published in Health Physics)

Sadowski, K., "Spectral Analysis and Power Density Assessment Near PCS Transmission Towers", Master's Thesis, April 1998.

Breeden, W.K., "In Vivo Biodistributions of [125I]PIP and Internal Dosimetry of [123I]PIP Radioiodinated Agents Selective to the Muscarinic Acetylcholinergic Receptor Complex", Master's Thesis, November 1997. (published in Medical Physics)

Nagle, C.C., "Characterization of Hot Particles Using Gas-Filled Detectors", Master's Thesis, August 1997. (published in Radiation Protection Management)

Nestle, D.R., "Comparison of Cesium Retention Kinetics in Bluegill (*Lepomis macrochirus*) Following Acute and Chronic Dosing", Master's Thesis, July 1997.

Busby, B., "Refined Simulation of a Novel Method for Mixed Beta/Gamma Field Dosimetry Using Pulsed Laser Heating of LiF Thermoluminescent Materials", Master's Thesis (co-chair with K. Kearfott, Nuclear Engineering and Radiological Sciences), July 1997.

David M. Hamby

Zometsky, J., "Radiological Assessment of In-Situ Soils Using Plastic Scintillators and Fiber Optics", Master's Thesis, June 1997. (published in Radiation Protection Management)

Bush, S., "Development of a Screened Cathode Gas Flow Proportional Counter for In-Situ Determination of Radioactive Contamination in Soil", Master's Thesis, February 1997. (published in Radiation Protection Management)

Kock, A., "Variations in Environmental Tritium Doses Due to Meteorological Data Averaging and Uncertainties in Pathway Model Parameters", Master's Thesis, May 1996. (published in Environmental Monitoring and Assessment)

Famiano, M.A., "Time-Specific Measurements of Energy Deposition from Radiation Fields in Simulated Sub-Micron Tissue Volumes", Master's Thesis, April 1996. (published in Nuclear Instruments and Methods)

Kim, N., "Establishing a Risk Communication Program", Master's Report, December 1995. (published in Health Physics)

Hyman, T.C., "An Uncertainty and Sensitivity Analysis of Exposure Pathways for Aqueous Releases of Radioactive Materials", Master's Thesis, April 1993. (published in Environmental Monitoring and Assessment)

ADDITIONAL THESIS AND DISSERTATION COMMITTEES

“Preliminary Investigation of X-Ray CT Imaging of BANG Polymer Gel Dosimeter” (C. Sath, MS, 2009).

“Dose to the Female Breasts from Nuclear Medicine and Diagnostic Radiology” (A. Patel, MS, 2008).

“A Study of Residual Cesium-137 Contamination in Southwestern Utah Soil Following the Nuclear Weapons Tests at the Nevada Test Site in the 1950’s and 1960’s” (R.B. Bentley, MS, 2008).

“Simulated Antineutrino Signatures of Nuclear Reactors for Nonproliferation Applications” (A. Misner, PhD, 2008).

“Spectroscopic Investigation and Radiometric Measurement of Beach Sediment Samples Collected from Pondicherry to Porto-Novo, Tamilnadu, India”, Annamalai University, Annamalai Nagar, Tamilnadu, India (E. Manikandan, PhD, 2006).

“Radiation Health and Safety of a Radioisotope Powered Micro Fuel Cell” (K. Maloy, MS, 2006).

“Determining the Bioavailability of Soil Associated Radium Using In Vitro Methodology” (K. Tack, MS, 2006).

David M. Hamby

“Post-Accident Radiocesium Uptake in Eastern Oregon Wheat Crops: A preliminary Estimate Using a Modified “PATHWAY” Model” (J. Palotay, MS, 2005).

“Evidence-Based Safe Patient Handling: A Proposed Conceptual Model for Knowledge Transfer and Executive-Level Decision-Making” (D. Fell-Carlson, MS, 2005).

“Characterizing the Neutron Spectra in Various Irradiation Facilities within the Oregon State University TRIGA® Reactor” (E. Ashbaker, MS, 2005).

“Assessing and Evaluating the Energy and Angular Dependence of the Self-Indicating Instant Radiation Alert Dosimeter” (A. Bak, MS, 2005).

“Assessing and Evaluating the Self-Indicating Instant Radiation Alert Dosimeter (SIRAD) for Gamma and Neutron Response” (M. Stewart, MS, 2005).

“Health Risk Assessment and Distribution of Bioavailable Metals and Butyltin Compounds in Willamette River at a Portland Harbor, Oregon Superfund Site” (O. Krissanakriangkrai, PhD, 2004).

“Implementation of Radiation Film Dosimetry System to be Used for the Verification of a 3-D Electron Pencil-Beam Algorithm on a Radiation Treatment Planning System” (Q. Jones, MS, 2004).

"Determining Cross Sections for Potential Medical Radioisotopes" (J.Coleman, MS, 2003).

"The Ability of the Field Instrument for Detecting Low Energy Radiation in Detecting Hot Particle Contamination in Reference to New Technology Involving Positioning System and Data Logging" (C. Marianno, PhD, 2000).

"Production of Industrial and Medical Radioisotopes in Accelerator Production of Tritium (APT)" (K. Tiyapun, PhD, 2000).

“Removal of Fecal Coliform Bacteria by Zebra Mussels” (P. Klangsin, PhD, 2000).

“The Development of a Personal Direct-Reading Instrument Employing a Surface-Acoustic Wave Microsensor Array for Measuring Organic Vapor Exposures” (J. Park, PhD, 2000).

“Multipathway Exposure and Risk Assessment from Air Pollution Sources” (Y. Huang, PhD, 1999).

“Scattered Electron Beams Shaped by a Multileaf Collimator” (J. Moran, PhD, 1999).

“Determination of a Maximum Drinking Water Level (MDWL), Maximum Allowable Level (MAL), and a Short-Term Exposure Limit (STEL), for 11-Aminoundecanoic Acid, an Indirect Additive to Drinking Water” (N. Sachs, MS, 1999).

David M. Hamby

"Assessing the Atmospheric Transport and Wet Deposition of Mercury to Lake Michigan: Identifying the Relative Importance of Local and Regional Anthropogenic Sources" (M. Landis, PhD, 1998).

"Is a Functional Mismatch Repair Phenotype Required for p53 Induction?" (S. Clarke, MS, 1998).

"Estimating Metal Emissions from a Cement Manufacturing Facility Burning Liquid Hazardous Waste Using Soil Monitoring and Deposition Predictions" (D. Ward, MS, 1997).

"External Exposure to the General Public, in Hospitals, Resulting from Patients Who Have Received a Therapeutic Dose of I-131: An Evaluation of the Impact of 10CFR20" (G. Matcek, MS, 1997).

"Radiation-Induced Apoptosis in Conjunction with EGFR Kinase Inhibition in MDA-MB-468 Human Mammary Carcinoma Cells" (C. Carlson, MS, 1997).

"A Method to Correct Bonner Sphere Spectrometer Counting Losses in Pulsed Neutron Fields" (E. Semones, MS, 1997).

"Development and Utilization of a Method for Performing In-Situ Gamma-Ray Spectroscopy of an Operating Commercial Nuclear Power Plant Site Grounds in the Presence of a Varying Background Radiation Field" (R. Simonsen, MS, 1996)

"The Radiological Health Significance of Activated Pharmaceuticals and Food Products in Airport Passenger Luggage from Thermal Neutron Activation Machines" (K. Coble, MS, 1996)

"Assessment of In-Vivo SPRINT II Measurements and Reduced Sacrifice Methods as Alternatives to Determining the Biodistribution in Rats of Carbon-11 Labeled Radiopharmaceuticals" (M. Wrobel, PhD, 1996)

"A Literature and Current Procedure Review of Thorium Soil Extractions" (R. Porter, MS, 1996)

"Radiation Dose to Physicians from Fluoroscopy During Cardiac Catheterization Procedures" (K. Foether, MS, 1996)

"Investigation of Potential Contamination of Sewage Sludge at the Donald C. Cook Nuclear Power Plant" (S. Ritts, MS, 1996)

"Environmental Fate of I-131 Released to the Ann Arbor Sewer System" (F. Fenner, MS, 1996)

"Neutron Radiation Fields Outside Shielding at the Fermilab Tevatron" (M. Torres, PhD, 1996)

"The Radiological Significance of X-Ray Beam Equalization on Mammographic Imaging" (R. Morton, MS, 1995)

David M. Hamby

"Comparison of Neutron Activation Analysis and Inductively-Coupled Plasma - Mass Spectrometry for the Determination of Metals in Lechate" (J. Eggart, MS, 1995)

"Operational Strategy for Soil Concentration Predictions of Strontium/Yttrium-90 and Cesium-137 in Surface Soil at the West Valley Fuel Reprocessing Site" (J. Myers, MS, 1995)

"In-Vivo Quantification of Human Gallbladder Activity Using Triple-Head SPECT with Intrinsic Attenuation and Dual-Energy-Window Scatter Correction: A Phatom Study" (V. Gates, MS, 1995)

"Surface Contamination Detection and Measurement: An Inter-Laboratory Comparison Study" (A. Keebler, MS, 1995)

"Pathway Analysis of a Pool Water Release from the Ford Nuclear Reactor at the University of Michigan" (M. Carpentier, MS, 1994)

"The Dosimetry of a Low-Dose Cs-137 Irradiation Device" (B. Hanes, MS, 1994)

GOVERNMENT REPORTS

Weber, A.H.; Buckley, R.L.; Parker, M.J.; Harvey, R.P.; Hamby, D.M. The creation of an historical meteorological database for dose reconstruction. Westinghouse Savannah River Company. Aiken, SC: Report No. WSRC-TR-2001-00275; 2001.

Porter, R.D.; Hamby, D.M.; Martin, J.E. Treatment methods and comparative risks of thorium removal from waste residues. Office of Environmental Management. Department of Energy. Grant No. DE-FG05-96EW00001. University of Michigan. Ann Arbor, MI: July 1997.

Bush, S.P.; Hamby, D.M.; Martin, J.E. Preliminary development of a wall-less gas-filled proportional counter for in-situ field analysis of nuclear contamination in soil. Office of Environmental Management. Department of Energy. Grant No. DE-FG05-96EW00001. University of Michigan. Ann Arbor, MI: March 1997.

Hamby, D.M. Compilation of field monitoring and remediation techniques supporting environmental remediation activities. Argonne National Laboratory. Argonne, IL: Report No. DOE/ANL; 1995.

Hamby, D.M. A dose assessment for tank-farm workers at Tank 16. Westinghouse Savannah River Company. Aiken, SC: Report No. WSRC-TR-94-0141; 1994.

Hamby, D.M. Verification of the MAXIGASP and POPGASP computer codes for environmental dose assessment. National Technical Information Service. Washington, DC: Report No. DE95060074XSP; 1994.

David M. Hamby

Hamby, D.M. Guidelines for acceptable soil concentrations in the Old F- and H-Area Retention Basins. National Technical Information Service. Washington, DC: Report No. DE94011687XSP; 1994.

Hamby, D.M. RESRAD soil concentration guidelines for the Old F-Area Retention Basin. National Technical Information Service. Washington, DC: Report No. DE94014864XSP; 1994.

Hamby, D.M. MAXINE: An improved methodology for estimating maximum individual dose from chronic atmospheric radioactive releases. National Technical Information Service. Washington, DC: Report No. DE94013207XSP; 1994.

Hamby, D.M. Radiological impacts of 1992 operations at the Savannah River Site. National Technical Information Service. Washington, DC: Report No. DE94004425XSP; 1993.

Hamby, D.M. IRRIDOSE: An electronic spreadsheet designed to calculate ingestion dose resulting from irrigating with Savannah River water. Westinghouse Savannah River Company. Aiken, SC: Report No. WSRC-RP-93-1174; 1993.

Hamby, D.M. Soil concentration guidelines for the Savannah River Site using the DOE/RESRAD methodology. Westinghouse Savannah River Company. Aiken, SC: Report No. WSRC-TR-93-304; 1993.

Hamby, D.M. Review of sensitivity analysis techniques. National Technical Information Service. Washington, DC: Report No. DE94007192XSP; 1993.

Hamby, D.M. Numerical comparison of sensitivity analysis techniques. National Technical Information Service. Washington, DC: Report No. DE94007191XSP; 1993.

Carlton, W.H.; Hamby, D.M. Individual and population dose to users of the Savannah River following K-Reactor tritium release. National Technical Information Service. Washington, DC: Report No. DE93019464XSP; 1992.

Hamby, D.M. Verification of the GASPAS dose assessment module used in MAXIGASP and POPGASP. National Technical Information Service. Washington, DC: Report No. DE93009888XSP; 1992.

Hamby, D.M. Radionuclide detection limits required to estimate health effects in CERCLA risk assessments. National Technical Information Service. Washington, DC: Report No. DE93009892XSP; 1992.

Hamby, D.M.; Whicker, F.W. Background information for the PAR pond safety and health hazard analysis. National Technical Information Service. Washington, DC: Report No. DE93004256XSP; 1992.

Hamby, D.M. Radiological effects of 1991 Savannah River Site operations. Westinghouse Savannah River Company. Aiken, SC: Report No. WSRC-RP-92-591; 1992.

David M. Hamby

Hamby, D.M.; Addis, R.P.; Beals, D.M.; Cadieux, J.R.; Carlton, W.H.; Dunn, D.L.; Hall, G.; Hayes, D.W.; Lorenz, R.; Kantelo, M.V.; Taylor, R.W. Emergency response and environmental monitoring activities following the K-Reactor aqueous tritium release of December 1991. National Technical Information Service. Washington, DC: Report No. DE92014364XSP; 1992.

Hamby, D.M. Environmental dose assessment manual. Westinghouse Savannah River Company. Aiken, SC: Report No. WSRC-IM-91-1; 1991.

Hamby, D.M. LADTAP XL: An improved electronic spreadsheet version of LADTAP II. National Technical Information Service. Washington, DC: Report No. DE93003179XSP; 1991.

Hamby, D.M. Food production and consumption near the Savannah River Site. National Technical Information Service. Washington, DC: Report No. DE92009796XSP; 1991.

Carlton, W.H.; Hamby, D.M. Radiological impact of PAR pond drawdown from liquid effluent pathways. National Technical Information Service. Washington, DC: Report No. DE92017933XSP; 1991.

O’Kula, K.R.; Olsen, R.L.; Hamby, D.M. Consequences of tritium release to water pathways from postulated accidents in a DOE production reactor. National Technical Information Service. Washington, DC: Report No. DE92009820XSP; 1991.

Hamby, D.M.; Parker, M.J. Gaussian dispersion and dosimetric modeling sensitivity to area-specific 1982-86 meteorological data collected at the Savannah River Site. National Technical Information Service. Washington, DC: Report No. DE92016896XSP; 1991.

Hamby, D.M. Radiological effects of SRS operations - 1990. Westinghouse Savannah River Company. Aiken, SC: Report No. WSRC-RP-91-668; 1991.

Murphy, C.E., Jr.; Bauer, L.R.; Hayes, D.W.; Marter, W.L.; Zeigler, C.C.; Stephenson, D.E.; Hoel, D.D.; Hamby, D.M. Tritium in the Savannah River Site environment. Westinghouse Savannah River Company. Aiken, SC: Report No. WSRC-RP-90-424-1, Rev. 1: 1991.

Hamby, D.M. Land and water use characteristics in the vicinity of the Savannah River Site. National Technical Information Service. Washington, DC: Report No. DE91013543XSP; 1991.

Hamby, D.M. Verification of the AXAIR89Q dose assessment code. Westinghouse Savannah River Company. Aiken, SC: Report No. WSRC-RP-90-1222; 1990.

Hamby, D.M. Radiological effects of SRS operations for 1989. Westinghouse Savannah River Company. Aiken, SC: Report No. WSRC-RP-90-770; 1990.

Hamby, D.M. F-Canyon exhaust air facilities project: Determination of downwind pollutant concentrations. Westinghouse Savannah River Company. Aiken, SC: Report No. WSRC-RP-89-1056; 1989.

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Hamby, D.M.; Bauer, L.R. Consolidate incineration facility tank farm: Emission dispersion calculations. Westinghouse Savannah River Company. Aiken, SC: Report No. WSRC-RP-89-42; 1989.