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### **Education**

M.S., Environmental Health Physics, Colorado State University, Fort Collins, Colorado, 1997  
B.S., Biology, Southwest Missouri State, Springfield, Missouri, 1993

### **Professional Experience**

#### **Bridger Scientific, Inc.**

*President/Owner*, Belgrade, Montana (2002–present)

President and owner of Bridger Scientific, Inc., which specializes in various aspects of environmental health physics, including environmental sampling and measurement, tabular and spatial data management and interpretation, environmental transport, exposure and risk assessment, database design and management, custom analytical and reporting functionality, and communication and presentation of technical information.

Currently supporting Risk Assessment Corporation (RAC) to evaluate exposure and dose related to radionuclides and chemicals released to the environment for a variety of projects. Specific involvement in these projects includes:

- Managing existing information and implementing dose calculation methodology to estimate doses for veterans involved with nuclear weapons tests at the Nevada Test Site and Pacific Proving Grounds
- Analyzing and interpreting monitoring data to characterize the extent and magnitude of site impact on the surrounding environment
- Evaluating potential human exposures to facility radionuclide releases and assessing and comparing predicted concentrations related to historical releases with observed environmental measurements
- Developing an independent and comprehensive data access and risk assessment process called RACER<sup>®</sup> to guide understandable, consistent, and transparent management and communication of risk from both chemicals and radionuclides in the environment
- Implementing different aspects of the RACER process for various clients
- Presenting technical material to various panels and committees and interested members of the public and working with the public and Site personnel to obtain data and understand issues of concern.
- Supporting multiple legal cases related to evaluation of radioactive materials in the environment.

Past projects with RAC have included studies for the Centers for Disease Control and Prevention and the Colorado Department of Public Health and Environment, which focused on reconstructing historical releases of radioactive and nonradioactive materials and estimating potential exposure and risk to surrounding populations.

For the Savannah River Site Dose Reconstruction Project, summarized environmental monitoring data and evaluated their usefulness for direct exposure assessment and source term model validation. For Task Order 5, reconstructed, screened, and prioritized historical radionuclide releases from the Idaho National Laboratory. For Task Order 6, managed and coordinated the review of historical documents to identify information useful for completing a future detailed dose reconstruction at the Idaho National Laboratory.

Participated in three technical audits focused on assessing the Los Alamos National Laboratory's compliance with the Clean Air Act. Evaluated the accuracy and completeness of radionuclide usage at Site facilities and reviewed various other components of the compliance program.

Assessed the appropriateness of soil action levels or cleanup criteria for the Rocky Flats Environmental Technology Site. Evaluated distributions and assessed uncertainty and sensitivity for the parameters used in a dose calculation model.

Evaluated exposure and risk through both the air and surface water pathways as a result of the Cerro Grande Fire at the Los Alamos National Laboratory. Managed the collection and compilation of all relevant environmental monitoring data, as well as data available for source term characterization of contaminated sites impacted by the fire. Documented observations and recommendations resulting from the process of completing this risk assessment.

Provided assistance to the San Ildefonso Pueblo in New Mexico with their Tribal Risk Assessment process and communicating human health impacts to the Pueblo community.

Worked with RAC to implement a data management and evaluation system called RACER for Waste Control Specialists, Exelon, and PSEG. Managed the collection and compilation of environmental and effluent measurement data. Created custom query and reporting capabilities to evaluate doses associated with both environmental concentrations and gaseous and liquid effluent releases. Developed custom calculation and reporting functionality related to dosimeter analysis, effluent summary reporting, and key performance indicators.

### **Independent Consultant**

Belgrade, Montana (1997-2001)

Worked with RAC on several projects related to exposures and potential risks from both historical and contemporary releases of radionuclides and chemicals to the environment.

### **Colorado State University**

*Research Associate*, Fort Collins, Colorado (September 1996–January 1997)

Performed gamma spectra analyses of Rocky Flats Plant soil samples. Operated and calibrated HPGe and Ge(Li) detector and conducted spectral analysis and interpretation.

*Laboratory Technician* (September 1993–May 1994)

Collected and prepared soil samples for actinide analysis.

### **Additional Experience**

#### **Courses Taught**

Environmental Risk Assessment for the Nuclear Regulatory Commission, Bethesda Maryland, April 2015.

#### **Courses Attended**

Microsoft Access advanced programming course for application developers (summer 1999)

Enhanced understanding of the data modeling requirements for developing a relational database. Focused on the programming necessary for custom database design as well as the fundamental structural elements of a relational database.

#### **Research**

U.S. Department of Energy's Par Pond Radioecology Laboratory  
Savannah River Site, Aiken, South Carolina (summer 1994)

Conducted M.S. thesis research, which focussed on evaluating temporal trends of  $^{137}\text{Cs}$  in an aquatic system. Also involved the development of a multi-compartment model to predict the distribution of  $^{137}\text{Cs}$  in various ecosystem compartments.

#### **U.S. Department of Energy Health Physics Fellow**

Idaho National Engineering Laboratory, Idaho Falls, Idaho (summer 1996)

Analyzed the effects of building downwash for facility regulatory compliance using current air dispersion codes (ISC3) and software (Surfer® and GIS ARC/INFO®).

### **Honors**

U.S. Department of Energy Applied Health Physics Fellowship, 1994–1996  
Burton J. Moyer Memorial Fellowship, 1994–1995  
Colorado Graduate Fellowship, 1994–1995  
Soutwest Missouri State University Scholar (undergraduate academic scholarship)  
Graduated Magna Cum Laude in the Honors College  
Member of Phi Eta Sigma (honor society)

### **Peer-Reviewed Publications**

#### **In preparation**

Caffrey, E.A., Rood, A.S., Grogan, H.A., Mohler, H.J., Meyer, K.R., and Till, J.E. In preparation. Atmospheric Releases of Radionuclides from Residue Piles Derived from

Uranium Refining at the Mallinckrodt Chemical Works in St Louis, Missouri. In preparation.

### Published

- J. E. Till, H.L. Beck, J.W. Aanenson, H.A. Grogan, **H.J. Mohler**, S.S. Mohler, P.G. Voillequé. 2022. “Dosimetry associated with veterans who participated in nuclear weapons testing.” *Int. J. of Radiation Biology*, special issue. (in press).
- J.E. Till, H.L. Beck, J.D. Boice Jr, **H.J. Mohler**, M.T. Mumma, J.W. Aanenson, H.A. Grogan. 2022. “Asbestos exposure and mesothelioma mortality among atomic veterans.” 2022. .” *Int. J. of Radiation Biology*, special issue. (in press).
- Mohler, H.J.**, A.S. Rood, H.A. Grogan, E.A. Caffrey, and J.E. Till. 2020. “Analysis of Environmental Data to Support Quantification of Historical Releases from a Former Uranium Processing Facility in Apollo, Pennsylvania.” *Health Physics*, 120 (5), 495-509.
- Caffrey, E.A., P.G. Voillequé, A.S. Rood, H.A. Grogan, **H.J. Mohler**, K.R. Meyer, and J.E. Till. 2020. “Reconstruction of Enriched Uranium Released to Air from the Former Apollo Facility, Apollo, Pennsylvania, USA.” *Health Physics*, 120 (4), 417-426.
- Rood, A.S., H.A. Grogan, **H.J. Mohler**, K.R. Meyer, P.G. Voileque, and J.E. Till. 2020. “Reconstruction of Atmospheric Concentrations of Enriched Uranium from the Former Apollo Facility, Apollo Pennsylvania”, USA. *Journal of Environmental Radioactivity*, 211: 1-24.
- Rood, A.S., H.A. Grogan, **H.J. Mohler**, J.R. Rocco, E.A. Caffrey, C. Mangini, J. Cartwright, T. Mathews, C. Shaw, M.E. Packard, and J.E. Till. 2019. “Use of Routine Environmental Monitoring Data to Establish A Dose-Based Compliance System for a Low-Level Radioactive Waste Disposal Site.” *Health Physics*, Jan;118(1):1-17. DOI: 10.1097/HP.0000000000001116.
- J.E. Till, H.L. Beck, J.D. Boice, Jr., **H.J. Mohler**, M.T. Mumma, J.W. Aanenson, and H.A. Grogan. 2019. “Asbestos Exposure and Mesothelioma Mortality among Atomic Veterans.” *Int. J. of Radiation Biology*. 93(10) 1128-1144. January 8, 2019. <https://doi.org/10.1080/09553002.2018.1551641>.
- J.E. Till, H.L. Beck, J.W. Aanenson, H.A. Grogan, **H.J. Mohler**, S.S. Mohler, and P.G. Voillequé. 2018. “Dosimetry Associated with Veterans Who Participated in Nuclear Weapons Testing.”. *International Journal of Radiation Biology*, DOI, 10.1080/09553002.2018.1551639
- J.E. Till, H.L. Beck, J.W. Aanenson, H.A. Grogan, **H.J. Mohler**, S.S. Mohler, and P.G. Voillequé. 2014. “Military Participants at U.S. Atmospheric Nuclear Weapons Testing—Methodology for Estimating Dose and Uncertainty.” *Radiation Research*, 181, 471-484.
- Till, J.E., H.A. Grogan, **H.J. Mohler**, J.R. Rocco, and S.S. Mohler. 2012. “RACER: An Integrated Approach to Data Management, Risk Assessment, and Decision Making.” *Health Physics*, 102 (4). April.
- Mohler, H.J.**, H.A. Grogan, J.R. Rocco, R.F. Kiefer, and J.E. Till. 2012. “RACER: Dynamic Use of Environmental Measurement Data for Decision Making and Communication.” *Operational Radiation Safety* 102, Suppl 1. February.
- Mohler, H.J.**, K.R. Meyer, H.A. Grogan, J.W. Aanenson, and J.E. Till. 2004. “Application of NCRP Air Screening Factors for Evaluating both Routine and Episodic Radionuclide Releases to the Atmosphere.” *Health Physics* 86 (2): 135–144.

- Till, J.E., A.S. Rood, P.G. Voillequé, P.D. McGavran, K.R. Meyer, H.A. Grogan, W.K. Sinclari, J.W. Aanenson, H.R. Meyer, **H.J. Mohler**, S.K. Rope, and M.J. Case. 2002. "Risks to the Public from Historical Releases of Radionuclides and Chemicals at the Rocky Flats Environmental Technology Site." *Journal of Exposure Analysis and Environmental Epidemiology* 12: 355–372.
- Mohler, H.J.**, F.W. Whicker, and T.G. Hinton. 1997. "Temporal Trends of  $^{137}\text{Cs}$  in an Abandoned Reactor Cooling Reservoir." *Journal of Environmental Radioactivity* 37 (3): 251–268.

### Technical Reports

- Risk Assessment Corporation (RAC). 2009. Contributing Authors: J.W. Aanenson, H.A. Grogan, B. Jacobs, G.G. Killough, K.R. Meyer, **H.J. Mohler**, S. Mohler, J.R. Rocco, A.S. Rood, P. Shanahan, E.A. Stetar, L. Hay Wilson, J.E. Till. *Risk Analysis, Communication, Evaluation, and Reduction at LANL. Ranking Tool Methodology*. RAC Report No. 35-RACER LANL-2008-FINAL. Risk Assessment Corporation, Neeses, South Carolina. April.
- Hay Wilson, L., J.R. Rocco, S.S. Mohler, and **H.J. Mohler**. 2005. *Decision Support Tool Methodology*. RAC Report No. 18-RACER LANL-2005-DRAFT. Risk Assessment Corporation, Neeses, South Carolina. November.
- Aanenson, J.W., J. Goldberg, H.A. Grogan, L. Hay Wilson, G.G. Killough, K.R. Meyer, **H.J. Mohler**, S. Mohler, J.R. Rocco, A.S. Rood, P. Shanahan, W.K. Sinclair, C. Slack, E.A. Stetar, P.G. Voillequé, J. Wilson, and J.E. Till. 2004. *Risk Analysis, Communication, Evaluation, and Reduction at LANL. Contemporary Risk Assessment: Demonstration of an Integrated Methodology*. RAC Report No. 11-RACER LANL-2004-DRAFT. July.
- K.R. Meyer, **H.J. Mohler**, J.W. Aanenson, and J.E. Till. 2002. *Identification and Prioritization of Radionuclide Releases from the Idaho National Engineering and Environmental Laboratory*. Task Order 5-Center for Disease Control and Prevention. RAC Report No. 3-CDC Task Order 5-2000-FINAL. Risk Assessment Corporation, Neeses, South Carolina. October 8.
- Aanenson, J.W., H.A. Grogan, S.J. Maheras, **H.J. Mohler**, A.S. Rood, P.G. Voillequé, J.E. Till. 2002. *Independent Technical Audit of Los Alamos National Laboratory for Compliance with the Clean Air Act, 40 CFR 61, Subpart H in 2001*. RAC Report No. 6-DOJ-LANL Audit-2002-FINAL. Risk Assessment Corporation, Neeses, South Carolina. October.
- Rood, A.S., J.W. Aanenson, S.S. Mohler, P.D. McGavran, **H.J. Mohler**, H.A. Grogan, and J.E. Till. 2002. *Analysis of Exposure and Risks to the Public from Radionuclides and Chemicals Released by the Cerro Grande Fire at Los Alamos. Task 1.7: Final Report on Estimated Risks from Releases to Air*. RAC Report No. 3-NMED-2002-FINAL(Rev.1). June 12.
- Rocco, J.R., K.R. Meyer, **H.J. Mohler**, J.W. Aanenson, L. Hay Wilson, A.S. Rood, P.D. McGavran, and J.E. Till. 2002. *Analysis of Exposure and Risks to the Public from Radionuclides and Chemicals Released by the Cerro Grande Fire at Los Alamos. Task 2.7: Estimated Risks from Releases to Surface Water*. Final Report, RAC Report No.4-NMED-2002-FINAL(Rev.1). Risk Assessment Corporation, Neeses, South Carolina. June 12.

- Mohler, H.J.**, K.R. Meyer, J.W. Aanenson, H.A. Grogan, and J.E. Till. 2002. *Analysis of Exposure and Risks to the Public from Radionuclides and Chemicals Released by the Cerro Grande Fire at Los Alamos. Task 3: Calculating and Communicating Risks: Observations and Recommendations*. RAC Report No.15-NMED-2001-FINAL(Rev.1). Risk Assessment Corporation, Neeses, South Carolina. June 12.
- Aanenson, J.W., Boelter, P.J., M.J. Case, M. Dreicer, H.A. Grogan, M.O. Langan, P.D. McGavran, K.R. Meyer, R. Meyer, **H.J. Mohler**, A.S. Rood, R.C. Rope, S.K. Rope, L.A. Stetar, J.E. Till, P.G. Voillequé, T.F. Winsor, W. Yang. 2001. *Evaluation of Materials Released from the Savannah River Site. Savannah River Site Environmental Dose Reconstruction Project. Phase II: Source Term Calculation and Ingestion Pathway Data Retrieval*. RAC Report No.1-CDC-SRS-1999-Final. Risk Assessment Corporation, Neeses, South Carolina. April 30.
- Aanenson, J.W., **H.J. Mohler**, P.G. Voillequé, S.J. Maheras, A.S. Rood, H.A. Grogan, and J.E. Till. 2000. *Independent Technical Audit of Los Alamos National Laboratory for Compliance with the Clean Air Act, 40 CFR 61, Subpart H in 1999*. RAC Report No. 4- DOJ-LANL Audit-2000-Final. Risk Assessment Corporation, Neeses, South Carolina. November.
- Weber J.M., S.J. Maheras, **H.J. Mohler**, P.G. Voillequé, and J.E. Till. 1999. *Independent Audit of Los Alamos National Laboratory for Compliance with the Clean Air Act, 40 CFR 61, Subpart H*. RAC Report No. 3-DOJ-LANL Audit-1998-Final. Risk Assessment Corporation, Neeses, South Carolina. November.
- Grogan, H.A., P.D. McGavran, H.R. Meyer, K.R. Meyer, **H.J. Mohler**, A.S. Rood, W.K. Sinclair, P.G. Voillequé and J.M. Weber. 1999. *Technical Summary Report for the Historical Public Exposures Studies for Rocky Flats Phase II*. RAC Report No. 14-CDPHE-RFP-1999-FINAL. Radiological Assessments Corporation. Neeses, South Carolina. September.
- Whicker, F.W., T.E. Hakonson, and **J. Mohler**. 1997. *Environmental Plutonium at Hanford: A Review of Literature and Monitoring Data*. Prepared for Kirkland and Ellis, Chicago, Illinois. May.

### Other Papers

- Rood, AS, B. Jacobs, P. Shanahan, **H.J. Mohler**, J.W. Aanenson, J.R. Rocco, L. Hay Wilson, H.A. Grogan, and J.E. Till. 2009. "Overview of Environmental Transport Models Contained in the Risk Analysis, Communication, Evaluation, and Reduction (RACER) Software Tools at Los Alamos National Laboratory." Paper number 9070. Waste Management for the Nuclear Renaissance, WM09 Conference, Phoenix, Arizona, March 1–5.
- H.A. Grogan, J.W. Aanenson, P.D. McGavran, K.R. Meyer, S.S. Mohler, **H. J. Mohler**, J.R. Rocco, A.S. Rood, J.E. Till and L.H. Wilson. 2006. "Applied Modeling of the Cerro Grande Fire at Los Alamos: An Independent Analysis of Exposure, Health Risk, and Communication with the Public." In *Applied Modeling and Computations in Nuclear Science*. ACS Symposium Series 945. Edited by T.M. Semkow, S. Pommé, S.M. Jerome, and D.J. Strome. American Chemical Society, Washington, D.C.
- Mohler, H. Justin**, Jill Weber Aanenson, Helen Grogan, and John Till. 2005. "Creating Spatially-Linked Data and Risk Evaluation Tools to Support Community Participation and

Decision Making for a Contaminated Site.” Presented at the 19th International Conference on Informatics for Environmental Protection, Masaryk University Brno, Brno, Czech Republic, Informatics for Environmental Protection – Networking Environmental Information (Volume 2), ISBN: 80-210-3780-6, p. 937–940, September 7–9.

Grogan, H.A., J.E. Till, K.R. Meyer, and **H.J. Mohler**. 2004. “Involving Stakeholders and Tailoring Environmental Databases for Shared Analysis of a Contaminated Site.” Proceedings of the 18th International Conference Informatics for Environmental Protection, Sharing, CERN, Geneva, Switzerland, Editions du Tricorne, ISBN: 28 29 30 275-3, p. 242–245. October 21–23.