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Education
Ph.D., Geology, Research School of Earth Science, Victoria University, Wellington, New Zealand, 1985. Dissertation: "Geology and Petrology of Ruapehu Volcano…"
M.S., Earth Science, Case Western Reserve University, Cleveland, Ohio, 1977
B.A., Geology, Franklin and Marshall College, Lancaster, Pennsylvania, 1974

Professional Registrations and Memberships
Registered Professional Geologist #704, State of Idaho
Member, Geological Society of America
Life Supporting Member, American Geophysical Union

Work History and Professional Expertise

Principal Scientist, Integrated Science Solutions, Inc. (ISSI), 2003-present
Preparation, review and integration of Igneous Disruptive Events documents and the Safety Analysis Report (SAR), supporting the U.S. Department of Energy License Application for a proposed nuclear waste repository at Yucca Mountain, Nevada.
2005-2007: member of the expert panel, Probabilistic Volcanic Hazard Analysis Update (PVHA-U) for the Yucca Mountain Project.

Independent Consulting Geologist, WRH Associates, 1994 to present
Assessment of volcanic and seismic hazards at the Idaho National Laboratory (INL); geologic and geomorphic aspects of performance assessment for waste-storage facilities at the INL; U.S. Department of Energy Expert Panel member for probabilistic volcanic-hazard assessments (1996 PVHA and 2008 PVHA update) of the proposed high-level, nuclear waste repository at Yucca Mountain, Nevada; DOE assessment of volcanic hazards and energy infrastructure in the Western U.S.; consultant to private industry for volcanic hazard analysis, development of exploration models for volcanic-hosted precious metal deposits, and bulk commodity exploration, production and quality control. Member of the INL Seismic Evaluation Team (SET) for update of probabilistic seismic and volcanic hazard analyses at the INL (2009-2010).

EG&G Idaho Inc, Scientific Specialist, Idaho National Engineering Laboratory, 1990-1993
Planning, technical management, compilation and documentation of comprehensive geologic and geophysical data for the site selection, safety analysis and volcanic/seismic

hazards analysis of critical facilities at the INL. These facilities include the Radioactive Waste Management Complex, Test Area North, and the proposed New Production Reactor. Principal Investigator for DOE-funded basic research on INL subsurface geology and geophysics. Spokesman for geologic, geophysical, seismic- and volcanic-hazard issues at the INL.

Idaho State University, Associate and Assistant Professor of Geology, 1982-1990
Tenured 1988. Responsible for graduate and undergraduate teaching, research, and public service; research grants for volcanism and regional tectonics of Idaho. Courses taught include general geology, mineralogy, igneous and metamorphic petrology, volcanology and hydrothermal systems, special topics, technical photography and summer field camp.

U.S. Geological Survey, Geologist (WAE status; summer appointments), 1988-1990
Responsible for field and laboratory research with the Conterminous U.S. Minerals Assessment Program [CUSMAP] in central Idaho.

Other Professional Activities and Public-Service
Reviewer for National Science Foundation and three professional journals; IAVCEI Working Groups on Explosive Volcanism and Volcanogenic Sediment; President and Vice President, Idaho State University Chapter of Sigma Xi (1986-1988); U.S. Department of Energy Working Groups on volcanic- and seismic-risk assessments for INL and other DOE facilities in the western U.S. (1990-1996); U.S. Department of Energy Expert-Panel member for probabilistic volcanic-hazard analyses (PVHA, 1996; PVHA Update, 2008) of the proposed nuclear waste repository at Yucca Mountain, Nevada; Facilitator, Henrys Fork Watershed Council (1994-1999); Vice Chairman of the Board of Directors and Research Committee Chairman, The Henry's Fork Foundation Inc.(1993-1999 and 2004 to 2010); President of the Board of Trustees, Unitarian Universalist Church of Ogden Utah (2005 to 2009); Expert Panel Member, Seismic Evaluation Team, Idaho National Laboratory (2009-2010).

Research Grants
Principal Investigator, NSF grant EAR-8618629 RUI: Stratigraphy, geochemistry, and K-Ar dating of Eocene ... Challis volcanic field, central Idaho, 1987-1989.
Principal Investigator, REU supplementals, 1987, 1988
INEL study WIS-13-89: "Characterization & stratigraphy of RWMC lava flows", 1989

Honors and Awards
William Manlove Award, The Henry's Fork Foundation, 2003
Jerome S. Bigelow Award (Sigma Xi) for excellence in science teaching, 1989
Idaho State University Outstanding Educator Award, 1986

Publications and Invited Presentations
More than thirty invited presentations at U.S. and overseas universities, at professional meetings, and for the INL Speakers Bureau. Distinguished Visiting Professor, Nihon University, Tokyo, Japan (1987). Keynote speaker, International Volcanological Congress, New Zealand, 1986.

Sole and co-author, since 1984: 30 refereed professional-journal articles; 40 research abstracts; 5 encyclopedia articles; book chapter on Snake River Plain geology; 2 book chapters on paleoseismology of volcanic environments. **Editor** of *Guidebook to the Geology of Central and Southern Idaho* (1988), and *Geohydrologic Story of the Eastern Snake River Plain*, 1986.

Selected Publications
Houghton, B.F., Latter, J.H., and **Hackett, W.R.**, 1987, Volcanic hazard assessment for Ruapehu composite volcano, Taupo Volcanic Zone, New Zealand: Bulletin of Volcanology, v. 49, no. 6, p. 737-751.

Link, P.K., and **Hackett, W.R.**, editors, 1988, *Guidebook to the Geology of Central and Southern Idaho:* Idaho Geological Survey Bulletin 27, 340 p.

Moye, F.J., **Hackett, W.R.**, Blakley, J.D., and Snider, L.G., 1988, Regional geologic setting and volcanic stratigraphy of the Challis volcanic field, central Idaho, *in* Link, P.K., and Hackett, W.R., editors, *Guidebook to the Geology of Central and Southern Idaho:* Idaho Geological Survey Bulletin 27, p. 87-98.

Hackett, W.R., and Morgan, L.A., 1988. Explosive basaltic and rhyolitic volcanism of the eastern Snake River Plain, Idaho, *in* Link, P.K., and Hackett, W.R., editors, *Guidebook to the Geology of Central and Southern Idaho:* Idaho Geological Survey Bulletin 27, p. 283-304.

Rodgers, D.W., **Hackett, W.R.**, and Ore, H.T., 1990, Extension of the Yellowstone Plateau, eastern Snake River Plain and Owyhee Plateau: Geology, v. 18, p. 1138-1141.

Hackett, W.R., and Smith, R.P., 1992, Quaternary volcanism, tectonics and sedimentation in the Idaho National Engineering Laboratory area, *in* James R. Wilson, editor, *Field guide to geologic excursions in Utah ... Idaho and Wyoming:* Utah Geological Survey Miscellaneous Publication 92-3, p. 1-18.

Kuntz, M.A., Betty Skipp, Lanphere, M.A., Scott, W.E., Pierce, K.L., Dalrymple, G.B., Morgan, L.A., Champion, D.E., Embree, G.F., Smith, R.P., **Hackett, W.R.**, and Rodgers, D.W., 1994, Geologic map of the INEL and adjoining areas, eastern Idaho: U.S. Geological Survey Misc. Inv. Ser. Map I-2330.

Hackett, W.R., and Bill Bonnichsen, 1994, Chapter 2: Volcanic Crescent, *in* Todd Shallat and others, editors, *Snake, The Plain and its People:* Hemingway Western Studies Series, Boise State University Press, Boise, Idaho, p. 24-59.

Heiken, G., Murphy, M., **Hackett, W.R.**, and Scott, W.E., 1995, Volcanic hazards and energy infrastructure - United States: U.S. Dept of Energy, document LA-UR 95-1087, 20 pp. with 2 map supplements.

Smith, R.P., Jackson, S.M., and **Hackett, W.R.**, 1996, Paleoseismology and seismic hazards evaluations in extensional volcanic terrains: Journal of Geophysical Research, v. 101, no. B3, p. 6277-6292.

Hackett, W.R., Jackson, S.M., and Smith, R.P., 1996, Chapter 4: Paleoseismology of volcanic environments, *in* James P. McCalpin, editor, *Paleoseismology*, Academic Press, New York, p. 147-181.

Hackett, W.R., Smith, R.P. and Soli Khericha, 2002, Volcanic hazards of the Idaho National Engineering and Environmental Laboratory, southeast Idaho, in Bill Bonnichsen, C.M. White, and Michael McCurry, editors, *Tectonic and Magmatic Evolution of the Snake River Plain Volcanic Province*: Idaho Geological Survey Bulletin 30, p. 461-482.

Payne, S.J., **Hackett, W.R.**, and Smith, R.P., 2009, Chapter 4: Paleoseismology of Volcanic Environments, *in* James P. McCalpin, editor, *Paleoseismology*, Second Edition, Academic Press, New York, p. 271-314.