K A R L F. V O N R E D E N

Senior Research Specialist, Department of Geology and Geophysics
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Objective:

Leading position in interdisciplinary research and development involving applications of experimental nuclear physics methods in the environmental and life sciences.

Education:

M.S. (Diploma)	Nuclear Physics, University of Hamburg, FRG, 1979 *Thesis Title: ^{3}He - induced Radiation Damage in Silicon Detectors.*
Ph.D. (Dr. rer. nat.)	Nuclear Physics, University of Hamburg, FRG, 1983 Thesis Title*: Elastic and Inelastic Proton Scattering from the Even Palladium Isotopes.* Advisor: Gunnar Andersson-Lindström

Professional Activities:

1999-Present	Senior Research Specialist, Department of Geology and Geophysics, W.H.O.I. Tandetron Accelerator Mass Spectrometry (AMS) operations and development project leader, Co-principal Facility Investigator.
1989-1999	Research Specialist, Department of Geology and Geophysics, W. H. O. I. AMS – engineering – computer network operations supervisor, Co-principal Investigator.
1987-1989	Research Technical Staff, Massachusetts Institute of Technology, Cambridge, MA. Intermediate energy accelerator physics experiments with up to 1 GeV electron beams; polarized gas targets.
1983-1987	Research Associate, Nuclear Physics Laboratory, University of Pittsburgh, PA. Experiments at the Pittsburgh dual tandem accelerators and the Indiana University Cyclotron Facility; meson physics experiments at Los Alamos National Laboratory; electron and virtual photon experiments at MIT's Bates Linear Accelerator Laboratory.
1976-1983	Research/Teaching Assistant, Physics Department, University of Hamburg, FRG.

Main Projects: Founding member and Co-Principal Investigator in the Development and Operation of the National Ocean Sciences Accelerator Mass Spectrometry Facility at W.H.O.I. under a Cooperative Agreement with the U.S. National Science Foundation (NSF).
Co-Principal Investigator on "Development of a Compact System for Continuous-flow Accelerator Mass Spectrometry", NSF Major Research Initiative award.

Member: American Geophysical Union
International Advisory Board of the International Conferences on Accelerator Mass Spectrometry: Vienna (1999) - Nagoya (2002) – Rome (2008).
Chair: Technical Staff Evaluation Council, W.H.O.I.
Retirement Task Force, W.H.O.I.

Awards: C.H. & I.M. Green Technology Award for "Development of a durable carbon nanotube foil for electron stripping in accelerator mass spectrometry (AMS)", 2003, W.H.O.I.

Patent: Utility Patent pending: Carbon nanotube foil stripper for tandem accelerators

Over 50 publications in peer-reviewed journals.