

# **Raymond H. Johnson, Jr., MS, PE, FHPS, CHP, RSO**

**President, Academy Director,  
Senior Health Physicist**

## **EDUCATION**

Doctoral Studies in radiological health, radiochemistry, surface chemistry, instrumental analyses, quality control, and communications, 1966 – 1972, Rensselaer Polytechnic Institute

M.S. and Professional Engineer Degrees, Environmental Engineering (minor in radiological health and radioactive waste management), 1963, Massachusetts Institute of Technology and Harvard University

B.S., Civil Engineering (Sanitary Engineering minor), 1961, University of Vermont

## **CERTIFICATIONS and TRAINING**

Certified Health Physicist (CHP), American Board of Health Physics, 1983  
recertified: 1988, 1992, 1996, 2000, 2004

Licensed Maryland Radiation Machine (high-energy, x-ray) Inspector (2003)

Certified Radon Measurement Specialist, 1990  
(EPA, National Radon Safety Board, NJ, PA, and other states)

Johns Hopkins Fellow in Organizational and Community Systems. 1984 – 1985  
Studies in human resources, organizational development, behavioral science, and risk communications.

Certified to present the Myers-Briggs Type Indicator, 1984

Northeastern University, evening classes in mathematics, 1963 – 1966

Licensed Professional Engineer (Sanitary), Vermont, 1965

DOT & NRC Requirements for Shipping and Receiving RAM, June 2005

Nuclear Gauge Safety Training, Troxler Electronics, (included gauge transportation) June 2005

Over 125 special courses, workshops, and training programs in health physics, radiation protection, radiation measurements, health risk analyses, emergency response, management, psychology, and risk communications, 1963 – present

## **PROFESSIONAL EXPERIENCE**

### **1985 – Present      President, Radiation Safety Academy**

Health physics consulting, training, and auditing of radiation safety programs for government and industry. Provide introductory level training to over 5,000 new radiation workers, five-day courses to qualify over 1,300 persons as Radiation Safety Officers, courses to prepare for the CHP and NRRPT exams, and many other courses on radiation and x-ray safety, risk communication, and how to deal with the terror of nuclear terrorism. Specializing in radiation and x-ray safety program audits as well as radiation health risk communication training and management consulting on radiation issues involving understanding radiation, risk perceptions, emergency response, workers' "right to

know” about hazards in the workplace, and dealing with unions, attorneys, news media, and the general public. Provide management training in practical communication skills for implementing radiation safety programs that depend upon motivation, understanding, and cooperation of supervisors and staff. Research and consulting on communication effectiveness for government, business, and professional organizations. Certified to present the Myers-Briggs Type Indicator (MBTI) for management and communication training. Presented MBTI workshops to over 3000 professionals since 1985.

**1993 – 2006                      QA Manager, Radiation Safety Academy contractor to  
the National Institutes of Health**

Provided radiation safety program services, including radiation safety inspections of over 9,000 research laboratories a year. Direct a staff of 5 health physicists to conduct daily on-site inspections, calibrate over 2,500 radiation survey instruments annually, inspect and leak test over 100 sealed sources and irradiators, inspect the cyclotrons quarterly, operate the hot lab, conduct environmental monitoring program, conduct weekly security inspections, maintain the iodine therapy room, provide incidence response services, prepare samples for analysis in the NIH radioanalytical laboratory, and prepare monthly performance and quality assurance reports to NIH. Manage subcontract with RSO, Inc to perform daily laboratory analyses of swipe samples, provide equipment and supplies, and provide backup staff for the Academy contract.

**1998 – 2004                      Laboratory Director and QA Manager, Key Technology, Inc.**

Provided quality assurance and technical direction to the second largest radon measurement company in the US. Key Technology is a primary laboratory for radon measurements by charcoal canisters, alpha track, and radon in water with over 1,500,000 radon measurements since 1985. Key Technology provided radon measurement services throughout the U.S., Canada, and Europe. The company maintained a continuous listing with EPA’s radon measurement proficiency program and was certified in PA, NJ, IA, NY, many other states. Key was listed with the National Radon Safety Board and the National Environmental Health Association. Maintained a rigorous quality assurance program.

**1990 – 1998                      President of Key Technology, Inc.**

Directed a staff of 4 – 8 to provide quality assurance, technical, and management support to the second largest radon measurement company in the U.S. Brought the company through a ten-year settlement plan after Chapter 11 reorganization. Provided seminars and workshops in radon measurements, quality assurance, and radon health risks.

**1990 – 1997                      Primary Instructor, Rutgers Eastern Regional Radon Training Center and  
Northern Virginia Community College,**

Primary instructor for radon measurement operator courses and radon risk communications. Presented over 80 continuing education courses ranging from 4 hours to 4 days on radon measurements, radiation instrumentation, radon health risks, quality assurance, mitigation, radon in water, and radon risk communications.

**1988 – 1993                      Manager and Training Director at Radiation Service Organization  
(RSO, Inc.)**

Managed a contract with NIH for conducting over 8000 radiation safety inspections a year in over 2500 laboratories at NIH using radionuclides in research and nuclear medicine. Supervised team of 4 - 6 health physicists, directed quality control program, and served as liaison with management at

NIH. Managed RSO's training program for over 50 personnel. Prepared and presented one to five-day courses in radiation safety, radiation instruments, and emergency response as a consulting service to RSO's clients.

**1986 – 1988                      Vice-President and Director of the Radiation Measurements Laboratory, RSO, Inc.**

Set up and directed a staff of 6 – 9 for the radiochemistry and analytical measurements laboratory for RSO, Inc. Directed analytical programs for all radioactive wastes and health physics surveys of the National Institutes of Health and several other research facilities and hospitals with medical physics programs, environmental monitoring for Aberdeen Proving Ground, and a large program for indoor radon measurements. Implemented a program to check several thousand food products from Europe, potentially contaminated with fallout from Chernobyl. Implemented an effective Quality Assurance Program, including intercomparisons with NIH, NIST, and EPA. Established standardized analytical procedures, quality control audits, worker safety training requirements, and emergency response capabilities.

**1972 – 1985                      Chief of Radiation Surveillance Branch, U.S. Environmental Protection Agency, Office of Radiation Programs (on assignment from U.S. Public Health Service, Director Grade, Commission Officer, O - 6)**

Directed staff of 15 - 25 on studies of the radiological quality of the U.S. environment, including the operation of EPA's nationwide monitoring network, analysis and reporting of fallout from nuclear weapons testing, and conducted EPA's first evaluations of the health effects of radon in the U.S. population in 1972. Coordinator of emergency response for 7 Federal agencies for nuclear fallout events. Directed program for regulating the ocean dumping of radioactive wastes. Contributed to programs for emergency preparedness and decommissioning / decontamination guidance. Provided technical support to programs for regulating the nuclear fuel cycle, transuranic nuclides, the Clean Air Act, RCRA, and the Clean Water Act. Head of U.S. delegations to several IAEA and NEA scientific and policy groups on radioactive waste disposal. Presented public information, briefings, and testimony to government agencies, advisory boards, environmental groups, foreign governments, and Congressional hearings.

Directed EPA evaluations of DOE's Radiological Control and Emergency Response Programs for all DOE National Laboratories and the Nuclear Navy Shipyard Radiological Control Programs. Directed on-site evaluations of radiological programs at the Rocky Flats Plant, Bremerton Nuclear Navy Shipyard, and EPA's Eastern Environmental Radiation Facility and Las Vegas Facility (Nevada Test Site Monitoring). Represented EPA on investigations of radioactive waste leaks at Hanford and Federal Response to contaminated sites and radiation accidents. EPA representative to American National Standards Institute Committee N-13 (Radiation Standards) 1975 - 1985. Quality Assurance Officer for the Office of Radiation Programs (ORP) and member of EPA emergency response team for 10 years. Represented ORP on EPA task groups for standardizing exposure assessments and for certifying drinking water laboratories.

**1970 – 1972                      Deputy Laboratory Director and Chief of the Radioanalytical Section, U.S. Environmental Protection Agency, Northeastern Radiological Health Laboratory (on assignment from U.S. Public Health Service, Senior Sanitary Engineer, Commissioned Officer, O-5)**

Directed staff of 12 – 15 for performing radioactive material measurements in foods and environmental samples from the nationwide network for radiation monitoring. Conducted special studies on sources of environmental contamination from nuclear facilities. Conducted doctoral

research on the surface chemical properties of aluminum oxide for treating wastes from nuclear fuel reprocessing.

**1963 – 1970**                    **U.S. Public Health Service, Bureau of Radiological Health, Northeastern Radiological Health Program, Commissioned Officer, Senior Sanitary Engineer (O - 5)**

Directed staff of 2 – 5 for laboratory and field studies to develop radiation monitoring techniques and evaluated the operations of nuclear power plants, fuel reprocessing, and National Laboratories in the U.S. and Canada, including the Nuclear Fuel Services Reprocessing plant, Chalk River Nuclear Laboratories, and National laboratories at Hanford, Savannah River, and Oak Ridge. Conducted doctoral research on the properties of aluminum oxide for removing radionuclides from alkaline wastes.

**PUBLICATIONS and PRESENTATIONS**

Authored over 300 books and other publications and presented over 400 seminars, workshops, and courses on radiation protection, x-ray safety, radiation health risk analyses, environmental monitoring, emergency response, radioactive waste treatment, environmental monitoring, radon health risks, radon measurements and mitigation, quality assurance, government policies, congressional testimony, learning and teaching theories, risk communication, how to deal with the terror or nuclear terrorism, and communication skills. Co-author of book, “A Practical Guide to Radiation Health Risk Communication”(In draft). Author of monthly column, “Insights in Communication,” HPS Newsletter, 1984 - 1989 and 1994 to 2001. Editor and contributor to Baltimore-Washington Chapter Newsletter since 1983. Editor and contributor to Operational Radiation Safety magazine and RSO magazine since 1997. Co-Editor (with Dr.Allen Brodsky and Dr.Ronald Goans), Public Protection from Nuclear, Chemical, and Biological Terrorism, HealthPhysics Society 2004 Summer School, Medical Physics Publishing, Madison, WI, July 2004,

**PROFESSIONAL ASSOCIATIONS and ACHIEVEMENTS**

Active in the Health Physics Society and local chapters since 1966. HPS President-elect, President, Past President, 1998-2001, Fellow 2000, HPS Executive Committee 1992 to 2001. HPS Treasurer Elect, 1995-1996. HPS Treasurer and Chair of the Finance Committee 1996 - 1998. HPS Secretary, 1992 - 1995. Associate Dean, HPS Summer School, 2004. Head of US Delegation to IRPA 10, Hiroshima, Japan, 2000. Official HPS IRPA Delegate to Vienna, Austria, 1996. Founding member (1991) and President, HPS Radon Section, 1995 - 1996. Founding member of Steering Committee for HPS RSO Section, 1997. Secretary/Treasurer of RSO Section, 1997-2000. Co-chair of HPS Local Arrangements Committee for 1991 Annual meeting in Washington, D.C. HPS Public Information Committee 1985 - 1988. PEP, CEL, and AAHP instructor. HPS Journal and Operational Radiation Safety, Editor and reviewer. History Committee, 2004. Summer School Committee 2004.

President of the Baltimore-Washington Chapter 1990 - 1991 and honorary Life Member, since 1994. Public Information Chair for both HPS and American Nuclear Society local chapters 1983 - 1990. BW Chapter HPS Newsletter editor, 1983 – 1998 and 2001 to present. Newsletter Editor, Board of Directors, Education Chair for New England Chapter HPS, 1968 - 1972.

Charter member (1986) and President, 1995 - 1998, American Association of Radon Scientists and Technologists (AARST), Honorary Life Member – 2000, Charter member, Mid-Atlantic Chapter, Board of Directors and Chairman of Public Information and Media Relations for Annual AARST Conferences in 1988, 1989, 1991. Editor of AARST Newsletter, 1990 - 1993. Editor of Chapter Newsletter 1989 - 1991.

Founder and President, National Radon Safety Board, 1997 – 1999.

Member of Sigma Xi, the Scientific Research Society since 1967. Member of Society for Risk Analysis since 1984, American Academy of Health Physics since 1983, and the Association for Psychological Type since 1985. Member of American Nuclear Society since 1983. Member of Conference of Radiation Control Program Directors and American Industrial Hygiene Association, since 1997. Member of Canadian Radiation Protection Association since 1997. Between 1965 and the present, member or chair of over 15 national and international scientific committees.

Awarded HPS Fellow in 2000. Certified by the American Board of Health Physics in 1983. Recertified in 1988, 1992, 1996, and 2000. Diplomat of the American Academy of Health Physics, 1983. Licensed Professional Engineer since 1965. Certified to administer the Myers-Briggs Type Indicator, 1984. Accelerated promotion to Director Grade Commissioned Officer (O - 6) in the U.S. Public Health Service Commissioned Corps, 1979. Public Health Service Medal for extensive contributions to radiation surveillance, risk assessment, and improved methods for laboratory analyses, data evaluation, and reporting. Scholarships to M.I.T., Harvard, R.P.I., and University of Vermont. Service awards from the U.S. Environmental Protection Agency. Over 20 awards for service in the Health Physics Society and The American Association for Radon Scientists and Technologists. Honorary Life Member of the Baltimore-Washington Chapter since 1994. Honorary Life Member of the American Association of Radon Scientists and Technologists since 2000. Member of National Academy of Sciences Committee on Criteria for Battlefield Radiation Exposures, 1997-1999. Recipient of the first Canadian Radiation Protection Citation Award in 2001 for internationally recognized contribution to communications, training, and leadership in health physics and radiation protection.

## **RELATED ACTIVITIES**

Instructor at Rutgers University, George Washington University, Georgetown University, University of New Mexico, University of Washington, Northern Virginia Community College, and the National Institutes of Health. Technical consultant to over 100 government agencies, universities, professional societies, and companies in the U.S. and Canada since 1983. Leader and technical advisor on international negotiations for ocean disposal of radioactive wastes from 1979 - 1985. Supervised a research project on environmental radiation in Poland, 1976 - 1982. U.S. member of international research expedition on Mt. McKinley in 1978. Began psychotherapy practice in 1978 following two years of training with the Greater Washington Institute for Transactional Analysis. Lay leader, Certified Lay Speaker, Superintendent of Sunday Schools, Chairman of Council on Ministries, New Member Orientation Class leader, Sunday School Teacher, Retreat, and Bible Study Leader in Oakdale Emory United Methodist Church (1800 members) since 1973. Trained Stephen's Minister (care giver) since 2003. Scouting and Indian Princess leader 1972- 1983. Owner/Operator of Maryland's largest consignment shop, 1983 - 1988.

## **EXPERT WITNESS EXPERIENCE**

Served as expert witness on radon measurements and health risks and presented testimony at a jury trial on behalf of Plaintiffs, Peter Radakovich and Sue Ann Radakovich against Richard L. Fila and Sherry A. Fila, Phyllis Rosenfeld; Howard Hanna Real Estate Co; Virginia Celland; Elaine Debildt; the Prudential Preferred Realty; and Wayne Musser Property Co. Inc. as Defendants, Pittsburgh, PA, April 29-May 10, 1996. The jury found in favor of the plaintiff, fining the three real estate companies \$10,000 each for failure to disclose radon information at the time of sale of property to the Radakovichs.

Served as expert on radiation, radon health effects, and measurements and presented an eight-hour deposition on behalf of the Plaintiff, DCB Investment Company of Dallas, TX against Mission Viejo Company of Highlands Ranch, as Defendants, Denver, CO in 1997. The suit was for failure of Mission Viejo Company to disclose high radon and radiation levels in the sale of a large tract of land for a housing development. This case was settled out of court in favor of the Plaintiff after a year of pretrial investigations, reports, interrogatories, and depositions.

Served as expert witness and presented testimony on radiation and radiation risks at a jury trial in Orange County, CA December 2002 on behalf of Moravek Biochemical Co., defendants vs their former radiation safety officer, James N. Dykes the plaintiff, who claimed that the Moraveks had conducted unsafe radiation practices and he was wrongfully terminated for threats to become a whistleblower. The jury was not able to reach a decision. The Moraveks later settled out-of-court to avoid the expense and strain of defending their case again.

### **MILITARY SERVICE (29 years)**

1956 – 1957 Army National Guard, E - 2, Radar Technician

1957 – 1959 Air Force National Guard, E - 3, Radar Technician

1959 – 1961 Marine Corps, E - 5, Platoon Leaders Class

1961 – 1963 Marine Corps Reserve, O - 2, Commissioned Officer

1963 – 1985 U.S. Public Health Service, O - 6, Commissioned Officer.

Retired in June 1985 at age 45 with 29 years of uniformed service.