**DR. JOHN M. RYSKAMP, P.E.**

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**Areas of Knowledge**

Nuclear Reactor Design/Experiment Design

Nuclear Reactor Physics/Nuclear Data Processing

Nuclear Materials Management/Plutonium Disposition

Business Development/Technology Roadmapping and Assessment

Project Engineering/Project Management/Staff Management

Reactor Operator Training/Computer Based Training

Steel Corrosion Experiments/Spent Nuclear Fuel

**Education**

B.S. 1976, M.E. 1976, Ph.D. 1979 ‑ Nuclear Engineering ‑ Rensselaer Polytechnic Institute, Troy, NY

**License, Patent, Awards, Publications**

Fellow – American Nuclear Society, 2006

Professional Engineer ‑ State of Idaho, 1982, Nuclear Engineering

U.S. Patent No. 4,764,339 High Flux Reactor, August 16, 1988

Associated Western Universities - Department of Energy Laboratory Distinguished Lecturer for the 1994-95 academic year

Lockheed Martin Top Performance Award, 1998

Bechtel BWXT Idaho Performance Plus Awards, 2002, 2004

Who's Who in Science and Engineering - Third Edition, 1996

Extra Kilometre Award - Oak Ridge National Laboratory, 1995

Best Paper Award ‑ Idaho National Engineering and Environmental Laboratory (INEEL), 1991

Best Paper Award ‑ American Nuclear Society Reactor Physics Division, 1988

The Gaerttner Prize ‑ Rensselaer Polytechnic Institute, 1976

Invention Disclosure Case No. S-92,132 – Pebble Bed Reactor Concept, 1998

Sigma Xi Scientific Research Society

List of publications includes 105 articles and reports on reactor design, reactor physics, technology roadmapping, reactor experiments, plutonium disposition, neutron filter design, sensitivity analysis, fuel cycle cost, and computer based training.

**Experience**

*6/2011 –10/2013 Consultant to Idaho National Laboratory (INL).*

* Advised an INL team restarting the Broad Application Test Reactor project that I led 20 years earlier. The team developed requirements and supporting technologies, and performed design studies for a Multiple Application Thermal Reactor for Irradiation eXperiments (MATRIX).

*1/2001 –4/2006 Idaho National Laboratory (INL or INEEL) with prime contractors Battelle Energy Alliance (BEA) and Bechtel BWXT Idaho (BBWI), Consulting Engineer/Scientist.*

* Led an experiment design to irradiate neptunium-uranium specimens in the Advanced Test Reactor (ATR). Won $2.3M proposal from Japan.
* Led the design of a new Fast Irradiation Test Reactor (FITR) with $250K/year internal funding.
* Coordinated the Independent Technology Review of Very High Temperature Reactor (VHTR) technology for the Next Generation Nuclear Plant (NGNP) ($650K DOE funding).
* Led the development of High-Level Functions and Requirements for the NGNP.
* Led the Generation IV Nuclear Energy Systems Initiative at the INL. Developed strategies and directed proposal development to acquire new business at INL related to Gen IV. Coordinated the growth of the Gen IV work at INL from 16 projects in FY-2001 with a budget of $5.1M (48% direct funding) to 31 projects in FY-2002 having a total authorized budget of $12.6M (76% direct funding). There were 37 projects in FY-2003 with an authorized budget of $14.8M (81% direct funding). Defined Gen IV mission needs and INL infrastructure requirements. Developed portions of the INL Nuclear Energy Strategic Vision.
* Led the US Gen IV Roadmapping effort as a member of the Roadmap Integration Team and as the INL Project Manager. This $8.5M project involved over 100 participants from 10 nations. Wrote monthly progress reports, arranged meetings, developed the master schedule with integrated costs, and coordinated the final editing and publishing of the 18 Gen IV Roadmap reports (2200 pages).

*10/99 – 12/00 INEEL with BBWI, Advanced Reactor Design Group Leader, Consulting Engineer/Scientist.*

* Supervised up to 13 engineers performing multidisciplinary design and analysis on the ATR, Modular Pebble Bed Reactor (MPBR), thorium-fueled reactors, lead-bismuth reactors, and spent nuclear fuel.

**Experience** (continued)

* Led the Generation IV Nuclear Energy System Initiative at the INEEL.
* Consulted on mixed oxide fuel testing and ATR new business development.
* Participated in the preliminary cost assessment for the disposition of weapon-grade plutonium withdrawn from Russia’s nuclear military programs.

*10/96 – 9/99 INEEL with prime contractor Lockheed Martin Idaho Technologies Co. (LMITCO), Reactor Physics Group Leader, Consulting Engineer/Scientist.*

* Supervised up to 10 reactor physicists performing work on the ATR, Neutron Capture Therapy, etc.
* Led the INEEL portion of the Fissile Materials Disposition Program Light Water Reactor Mixed Oxide (MOX) Fuel Irradiation Test Project ($5.3M over 8 years).
* Led the INEEL portion of a Modular Pebble Bed Reactor design project in collaboration with Massachusetts Institute of Technology ($250K/yr internal funding).
* Led a research reactor design integration project ($100K/yr internal funding) to provide the technical basis for the Advanced Design Initiative.
* Chaired the Reactor Physics Panel for the Nuclear Engineering Education Research proposal reviews in 1998 and participated as a member in 1999.

*8/90‑10/96 INEEL, Manager/Group Leader of Advanced Reactor Design. Consulting Engineer/Scientist since 1995. EG&G Idaho was INEEL contractor before 10/94.*

* Supervised up to 17 scientists and engineers performing multidisciplinary reactor design and analysis activities. This has included work on the Advanced Neutron Source, Broad Application Test Reactor, Space Reactors, Plutonium Disposition Reactors, New Production Reactor, Advanced Test Reactor, Simplified Boiling Water Reactor, and AP-600.
* Led the design and conduct of corrosion experiments on stainless steels used in dry storage canisters of spent nuclear fuel.
* Led the design of the Washington State University epithermal neutron beam extraction facility for Boron Neutron Capture Therapy.
* Managed and provided technical direction for the INEEL portion of the Advanced Neutron Source Project, an ultrahigh flux reactor design.
* Worked with the National Academy of Sciences to develop reactor designs for disposal of weapons-grade plutonium.
* Managed and provided technical direction for the Advanced Test Reactor (ATR) physics, experiments, and fuel management calculations. Led a study on mixed oxide fuel testing in ATR.

**Experience** (continued)

* Participated as a Safety and Operations Review Committee member for ATR.
* Managed and led the design of a new Broad Application Test Reactor.
* Managed a project to process ENDF/B‑VI nuclear data. Member of the Cross Section Evaluation Working Group since 1988.

*7/85-8/90 INEEL, Scientific Specialist/Senior Scientist, Nuclear Engineering*

* Designed an ultrahigh flux reactor for the Advanced Neutron Source. Principal investigator and project manager for INEEL portion of project ($450,000/year). Mentor for MIT masters student.
* Analyzed fast reactor benchmarks and recommended computer program improvements.
* Maintained ENDF/B (nuclear data) at INEEL and stored and ran the cross section processing codes.
* Conducted neutronics studies for isotope production.

*9/81-7/84 INEEL, Section Supervisor, Reactor Operator Training*

* Supervised up to 12 reactor training personnel and managed annual budget of $2.2M.
* Developed task scope, costs and schedules for training program improvements at ATR, LOFT, and PBF (research reactors).
* Performed duties as the principle investigator of the DOE Reactor and Nuclear Facility Training Coordination Programs.
* Controlled and directed the use of the PLATO computer-based education system at the INEEL.

*6/79-8/81 INEEL, Senior Engineer, Reactor Physics*

* Developed nuclear models to analyze reactor experiments and core safety.
* Developed computer programs to improve reactor fuel utilization.

*9/75-5/79 Rensselaer Polytechnic Institute, Troy, NY, Research Assistant, Nuclear Engineering*

* Studied the relationships of uncertainties in nuclear data to implications for nuclear fuel cycle parameters and costs.
* Developed an interactive graphics computer system involving sensitivity and uncertainty analysis, cost analysis, and reactor physics.

**Experience (continued)**

*1/75-5/75 Philadelphia Electric Company, Philadelphia, PA, Co-op Student*

*6/74-8/74*

* Prepared input for nuclear computer programs.
* Analyzed weather instruments data at reactor sites.

*1989-1993 University of Idaho, Affiliate Faculty member*

* Taught graduate level course Reactor Physics for Engineers ‑ 1989, 1992
* Advised Masters student on space reactor design ‑ 1991 and 1992

**Professional Membership**

 American Nuclear Society - National and Idaho Chapters

* Awarded Fellow Level – 2006
* Chair, Reactor Physics Division Nominating Committee - 2000-2001
* Chair, Reactor Physics Division Planning and Goals Committee - 2000-2001
* Chair, Reactor Physics Division - 1999-2000
* Vice Chair, Reactor Physics Division - 1998-1999
* Secretary, Reactor Physics Division - 1997-1998
* Treasurer, Reactor Physics Division - 1995-1997
* Executive Committee member of the Reactor Physics Division - 1992-2001
* Program Committee member of the Reactor Physics Division - 1989-1992
	+ Organized Special Sessions on ENDF/B-VI for 1991 ANS meeting, Research Reactor Physics for 1992 and 1995 ANS meetings, and Weapons Plutonium Disposition for 1994 ANS Reactor Physics Topical meeting
* Organized Special Sessions on Plutonium Disposition for the ASME Conference on Nuclear Engineering (ICONE-4) - 1996
* Technical Program Committee member for Reactor Physics topical meetings - 1988, 1990, 1994, 1998, 2000
* Reviewed articles for Nuclear Science and Engineering, Nuclear Technology, and Journal of Neutron Research

**Professional Membership (continued)**

* Session Chairman at several ANS meetings
* Judge at 1992 and 1993 ANS Midwest/Northeast Regional Student Conferences
* IANS Professional Division Liaison - 1991, 1992

 Neutron Scattering Society of America - member

 National Organization for Test, Research, and Training Reactors - member

 International Group on Research Reactors - member