Dr. Robert Anthony Joseph III

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Experience	**Oak Ridge National Laboratory** One Bethel Valley Road, Oak Ridge, TN 37831
July 2008- present	R&D Staff

- Control Account Manager of 'System Analysis and Integration' within DOE-NE-82's Integrated Waste Management Program
- Subject matter expert of performing systems analyses on the US spent nuclear fuel waste management system
- Has led team developing tool to study the implications of deploying fleets of advanced reactors
- Work package manager of the Centralized Used Fuel Resource for Information Exchange (CURIE) and the Systems analysis work packages
- Serves as chair of the Nuclear Science and Engineering Directorate's Educational Committee

	B&W Y-12 National Security Complex 602 Scarboro Road, Oak Ridge, TN 37831
May 2007- July 2008	Criticality Safety Engineer

- Performed reviews of fissile material processes
- Performed NCS evaluations of fissile material processes
- Approved implementing documents and created models in KENO and MCNP

	University of Tennessee Nuclear Engineering Department 1412 Circle Drive, Knoxville, TN 37996
May 2006-May 2007	Graduate Research Assistant working at ORNL- 20 hours/week

- Helped implement arbitrary polyhedral mesh capability into a S_N code
- Programmed significantly in FORTRAN 90
- Collaborated with experts in the field of computational geometry

	Oak Ridge National Laboratory Oak Ridge, TN
June 2004-August 2005	Intern Working on Space Nuclear Power Safety

- Estimated radiation doses to astronauts on a mission to Mars
- Helped write a nuclear launch safety plan
- Studied active vs. passive reactivity control systems for a space reactor

Education	**Ph.D. in Nuclear Engineering**
June 2007- May 2018	University of Tennessee, Knoxville
	GPA: 3.94/4.0
	Dissertation topic: "Multi-criteria Decision Analysis Applied to a Potential U.S. Commercial Spent Nuclear Fuel Allocation Queue Strategy"
	114 total credit hours
June 2005-May 2007	**M.S. in Nuclear Engineering**
	University of Tennessee, Knoxville
	GPA: 3.95/4.0
	42 total credit hours
May 2006- May 2007	**Certificate in Nuclear Criticality Safety**

University of Tennessee, Knoxville
12 total credit hours

August 2002-May 2006   **B.S. in Nuclear Engineering**
University of Tennessee, Knoxville
GPA 3.73/4.0
128 total credit hours

Public Publications:

R. JOSEPH III, et al., "Analysis of Potential Standardized Canister Deployments at Commercial US Nuclear Reactor Sites," Transactions of the American Nuclear Society, Vol. 122, Virtual Conference, June 8-11, 2020.

R. Joseph, et al., "The Next Generation System Analysis Model: Capabilities for Simulating a Waste Management System", March 3-7, 2019, Phoenix, Arizona.

R. Joseph, et al., "Commercial Spent Fuel Pickup Schedules: Analysis, Impacts, and Conclusions", April 14-18, 2019, Phoenix, Arizona.

G. M. Petersen, S. E. Skutnik, J. Ostrowski, R. A. Joseph III, "Determining Optimal Used Fuel Allocation Strategies", Nuclear Technology, October 2017.

R. A. Joseph III, J. Jarrell, R. Cumberland, E. Kalinina, G. Petersen, R. Howard, M. Nutt, "Standardized Canisters for Spent Nuclear Fuel: Their Potential Impacts and a Proposed Path Forward", Waste Management Journal, Volume 2, Issue Number 3, July 2017.

J. Jarrell, R. A. Joseph II, R. Howard, R. Cumberland, G. Petersen, M. Nutt, J. Carter, T. Cotton, "Potential Cost Implications of an Interim Storage Facility for Commercial SNF," WM2017 Conference, March 5-9, 2017, Phoenix, Arizona.

J. Jarrell, R. A. Joseph III, R. Cumberland, R. Howard, M. Nutt, "A Proposed Path Forward for Standardization," WM2017 Conference, March 5-9, 2017, Phoenix, Arizona.

R. A. Joseph III, R. L. Howard, and M. Nutt. "System Architecture Interaction Matrix." WM Symposia 2016, Phoenix, Arizona, USA, March 06—10, 2016.

J. J. Jarrell, R. A. Joseph III, Riley M. Cumberland, G. M. Petersen, J. Fortner, E. Kalinina, T. Severynse, "An Evaluation of Standardized Canisters in the Waste Management System," Proc. WM2016, Phoenix, AZ, March 6-10, 2016.

R. A. Joseph III, R. E. Hale, G. M. Petersen, R. L. Howard, and M. Nutt. "Process Flow Diagrams and Node Descriptions (PFDNDs) for the Waste Management System ." International High Level Radioactive Waste Management (IHLRWM) 2015, Charleston, South Carolina, USA, April 12—16, 2015.

J. Jarrell, R. A. Joseph III, J. Fortner, R. Hale, R. Howard, E. Kalinina, G. Petersen, R. Wilkerson, "Initial Evaluation of Standardized Canisters in the Waste Management System," Proc. ANS International High-Level Radioactive Waste Management Conference, Charleston, SC, April 12 – 16, 2015.

W. Nutt, E. Morris, F. Puig, R. Howard, J. Jarrell, R. Joseph III, and T. Cotton, "Waste Management System Architecture Evaluations," Proc. Waste Management 2014, Phoenix, AZ, March 2-6, (2014).

J. McFarlane, J. R. Bell, D. Felde, R. A. Joseph III, A. L. Qualls, and S. P. Weaver. "Performance of a Thermally Stable Polyaromatic Hydrocarbon in a Simulated Concentrating Solar Power Loop ." *AIMS Energy* 2, no. 1, 41—70, (2014).

B. B. Bevard, R. J. Ellis, R. L. Howard, S. E. Fisher, and R. A. Joseph III. *The Use of MOX Fuel in the United States: Bibliography of Important Documents and Discussion of Key Issues.* ORNL/LTR-2012/315. Oak Ridge, TN: Oak Ridge National Laboratory.2012.

A. L. Qualls, R. A. Joseph III, C. S. Chadwell, and E. F. Hancock. "The Fission Power System Control Drive Motor Testing." Nuclear and Emerging Technologies for Space, The Woodlands, Texas, USA, March 21—23, 2012.

R. A. Joseph III, C. O. Slater, T. M. Evans, S. W. Mosher, and J. O. Johnson. "Sensitivities and Uncertainties Related to Numerics and Building Features in Urban Modeling." *Nuclear Technology* 175, no. 1, 286—300, (2011).

Technology Skills:
- Proficient in NGSAM, TSL-CALVIN, TOM, Microsoft Excel, and Microsoft Project
- Working knowledge of Matlab, Fortran90, and AUTOCAD, Gurobi, MCNP, TSM, HEATING 7.0, KENO.V, KENO.VI, TSUNAMI, Java, and Fault Tree Plus