

Jeremy Todd Busby

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Education

- Ph.D. in Nuclear Engineering: University of Michigan, Ann Arbor, MI
December 2000
- Masters of Science in Nuclear Engineering: University of Michigan, Ann Arbor, MI
December 1998
- Bachelor of Science in Nuclear Engineering: Kansas State University, Manhattan, KS
Cum Laude, December 1995

Professional and Relevant Program Experience

- Division Director for Reactor and Nuclear Systems Division, Oak Ridge National Laboratory, Oak Ridge, TN
January 2019 – present
- Division Director for Materials Science and Technology Division, Oak Ridge National Laboratory, Oak Ridge, TN
August 2015 – December 2018
- Group Leader for Nuclear Fuels and Materials Group, Oak Ridge National Laboratory, Oak Ridge, TN
April 2013 – August 2015
- Group Leader for LWRS Group, Oak Ridge National Laboratory, Oak Ridge, TN
April 2013 – August 2015
- Senior Research Scientist, Oak Ridge National Laboratory, Oak Ridge, TN
November 2004 – April 2013
- Technical Lead and Program Manager for Materials Aging and Degradation Pathway for Light Water Reactor Sustainability Program,
April 2008 – August 2015
- Technical Lead for DOE-NE Reactor Materials Cross-Cut
April 2008 – August 2015
- Adjunct Assistant Professor of Nuclear Engineering and Radiological Sciences, University of Michigan, Ann Arbor, MI
November 2004 – Present

Awards and Honors

- *Presidential Early Career Award for Science and Engineering, 2010*
 - For “excellence in research leading to the development of high performance cast stainless steels, a critical part of the U.S. Contributions to ITER project, and for mentoring of students both as an Adjunct Assistant Professor at the University of Michigan and at ORNL.”
- *Secretary of Energy Achievement Award, 2011*
 - “For contributions to DOE's response to the earthquake and subsequent tsunami in Japan on March 11.”
- *ORNL Early Career Award for Engineering Accomplishment, 2007*
 - For “excellence in engineering materials research and development of high-performance cast stainless steels for critical application in ITER”

Research Interests

Radiation-induced degradation in nuclear structural materials, radiation-induced segregation, embrittlement, radiation-induced phase transformations, stress corrosion cracking, development of advanced reactor materials, advanced characterization techniques, small specimen testing, and development of novel testing methods.

Publications

- H-index = 22 with over 100 citations per year since 2011 and over 200 citations in 2014
- Total of 112 authored or co-authored peer-reviewed publications (four are currently under review) with 32 as lead author
- Total of 85 peer-reviewed technical and programmatic reports (five are currently under review) with 39 as lead author
- Over 100 invited talks, presentations, seminars, and lectures

Selected Publication Highlights

- J.T. Busby, P.J. Maziasz, A.F. Rowcliffe, M. Santella, and M. Sokolov, “Development of High Performance Cast Stainless Steels for Shield Module Applications,” *J. Nucl. Mater.* Vol. **417**, 2011, p. 866-869.
- J.T. Busby, “Economic benefits of advanced materials in nuclear power systems,” *J. Nucl. Mater.*, vol. **392**, 2 (2009), p. 301-306.
- E.A. Kenik and J.T. Busby, “Radiation-induced degradation of stainless steel light water reactor internals,” *Mat. Science and Engineering R-Reports*, **73**, Issue 7-8 (2012), 67-83.
- J.T. Busby, G.S. Was, and E.A. Kenik, “Isolation of the Role of Radiation-Induced Segregation in Irradiation-Assisted Stress Corrosion Cracking of Proton-Irradiated Austenitic Stainless Steels,” *J. Nucl. Mater.* **302** (2002) 20-40.
- S.J. Zinkle and J.T. Busby, “Structural materials for fission & fusion energy,” *Materials Today*, **12**, Issue 11 (2009) 12-19.
- J.T. Busby, K.J. Leonard, and S.J. Zinkle, “Radiation-Damage in Molybdenum-Rhenium Alloys for Space Reactor Applications,” *J. Nucl. Mater.*, Vol **366**, 3 (2007) 388.