

## Lance L Snead, PhD

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### **Professional Summary**

Specialized in theory and experimental conduct of radiation materials science studies in support of fission and fusion power systems. Areas of research include fundamental studies of radiation effects in ceramics and ceramic fuels, graphite, composite materials, and metallic alloy systems. Early career interest focused on development of materials possessing inherently low induced radioactivity for nuclear power applications, in particular silicon carbide and other ceramic composite systems. More recently, career emphasis has been on the development of accident tolerant fuel forms and fusion reactor materials research for the Department of Energy.

### **Educational and Professional Background**

Bachelor of Science in Nuclear Engineering (1986), Rensselaer Polytechnic Institute  
Bachelor of Science in Physics (1986), State University of New York  
Master of Science in Nuclear Engineering (1988), Rensselaer Polytechnic Institute  
Doctor of Philosophy in Nuclear Engineering (1992), Rensselaer Polytechnic Institute

Massachusetts Institute of Technology, Senior Research Scientist, 2015-present  
Oak Ridge National Laboratory, 1990-2015

- Research Staff beginning 1992. Retired as Corporate Fellow.

Oak Ridge National Laboratory, Fusion Materials Program Manager, 2011-2015

Department of Energy, Fuel Cycle R&D Technical Lead, LWR Fuel Cladding, 2013-2015

Oak Ridge National Laboratory, Associate Division Director, Materials Science & Technology Division, 2013-2015

### **Honors and Awards**

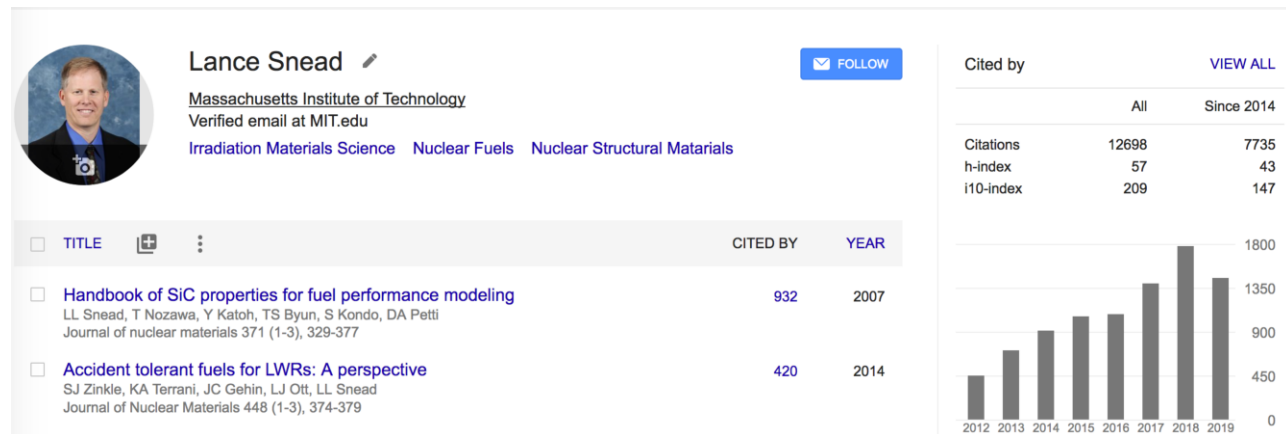
- American Nuclear Society Seaborg Medal (2015) for outstanding scientific or engineering research contributions to the development of peaceful uses of nuclear energy.
- UT Battelle Oak Ridge National Laboratory Corporate Fellow, 2014.
- UT Battelle, Directors Award for Outstanding Accomplishments in Science and Technology, 2012
- UT Battelle, Distinguished Engineer Award, 2012
- American Nuclear Society Mishima Award (2012)
- Fellow of the American Nuclear Society, 2010
- Fellow of the American Ceramic Society, 2010
- American Nuclear Society Materials Science & Technology Division Literary Award (2007)
- American Ceramic Society Richard M. Fulrath Award (2007).
- American Ceramic Society Nuclear & Environmental Technology Division Literary Award (2007)
- American Nuclear Society Materials Science and Technology Division Literary Award (2006)
- American Ceramic Society best paper award (2006)

## Honors and Awards-contd

- American Nuclear Society Fusion Energy Division Technical Achievement Award (2004).
- Miya-Abdou Nuclear Technology Award, 2002 (inaugural recipient).
- Fusion Power Associates David J. Rose Excellence in Fusion Engineering Award (2001).
- UT-Battelle (ORNL) Technical Achievement Award (2000).
- Distinguished Alumnus, State University of New York (1999).
- ORNL Significant Achievement Award (1996).
- Rensselaer Gerhardt Prize (1992).
- American Nuclear Society Fusion Energy Division Technical Award (1992).
- Rensselaer Walthousen Research Award (1986).

## Scientific Publication and Organization of Major Symposia

More than 270 lead- or co-authored papers in refereed scientific publications: Greater than 12,600 open literature citations (Google Scholar): Lead inventor on two patents.



## Book Chapters

- Book Chapter. L. L. Snead “Refractory Alloys: Vanadium, Niobium, Molybdenum, tungsten” in Steels and Nickel-Based Alloys for Nuclear Energy Applications. Edited by G. R. Odette and S J Zinkle. Elsevier (2019)
- Book Chapter. L. L. Snead, “SiC and Silicon Carbide Composites” In: Konings R. J. M., (ed.) Comprehensive Nuclear Materials, Volume 4, pp. 215-240. Amsterdam, Elsevier (2012).
- Book Chapter. L. L. Snead and M. Ferraris. “Graphite as a Fusion Plasma-Facing Material. In: Konings R. J. M., (ed.) Comprehensive Nuclear Materials, Volume 4, pp. 583-620. Amsterdam, Elsevier (2012)

## Patents

- Patent US 9,299,464 B2, “Fully Ceramic Micro-Encapsulated Nuclear Fuel Form.” Publication Date Mar. 29, 2016.
- Patent US 201002557, “Nuclear Fuel Assembly and Related Methods for Spent Nuclear Fuel Reprocessing and Management.” Pub. Dec. 29, 2011.
- Patent US 2017/0025192 “Method for Fabrication of Fully Ceramic Microencapsulated Nuclear Fuel” Pub. Jan. 26, 2017.