

Curriculum Vitae: Yutai Katoh

Contact Information:

Oak Ridge National Laboratory
P.O.Box 2008 / 1 Bethel Valley Road
Oak Ridge, TN 37831-6138
Phone: (865) 576-5996, Fax: (865) 241-3650
e-mail: katohy@ornl.gov

Educational Qualification:

PhD in Materials Science	University of Tokyo, Japan, 1994
MS in Materials Science	University of Tokyo, Japan, 1991
BS in Metallurgy and Materials Science	University of Tokyo, Japan, 1988

Professional Experience:

Current position: Distinguished Research Staff; Leader – SiC ATF Technology Development; Program Manager – Fusion Materials Science; Materials Science and Technology Division, Oak Ridge National Laboratory.

Concurrent position: Joint Appointment Professor, Department of Nuclear Engineering, University of Tennessee, Knoxville.

7/2003 – present: Research Staff Member, Materials Science and Technology Division, Oak Ridge National Laboratory, Oak Ridge, TN, USA.

11/1996 – 7/2003: Associate Professor, Kyoto University, Kyoto, Japan (Joint appointment to Institute of Advanced Energy and Graduate School of Energy Science)

3/1995 – 10/1996: Assistant Professor, Research Operations Division, National Institute for Fusion Science, Toki, Japan

10/1994 – 2/1995: Post-doctoral Fellow, Department of Materials Science, University of Tokyo, Tokyo, Japan

Publications:

- >80 first-authored and >300 co-authored refereed publications in scientific journals with >10,000 citations, H=50 (Google Scholar, as of January 2019).
 - Numerous book editing and book chapter contributions.
 - A few of the recent publications below. Full list of publications is available upon request.
1. Katoh, Y., T. Nozawa, C. Shih, K. Ozawa, T. Koyanagi, W. D. Porter and L. L. Snead (2015). "High Dose Neutron Irradiation of Hi-Nicalon Type S Silicon Carbide Composites, Part 2: Mechanical and Physical Properties." *Journal of Nuclear Materials* 462(6): 450-457.
 2. Katoh, Y., L. L. Snead, C. H. Henager, Jr., T. Nozawa, T. Hinoki, A. Iveković, S. Novak and S. M. Gonzales de Vicente (2014). "Current Status and Recent Research Achievements in SiC/SiC Composites." *Journal of Nuclear Materials* 455(1): 387-297.
 3. Katoh, Y., L. L. Snead, T. Cheng, C. Shih, W. D. Lewis, T. Koyanagi, T. Hinoki, C. H. Henagar and M. Ferraris (2014). "Radiation-Tolerant Joining Technologies for Silicon Carbide Ceramics and Composites." *Journal of Nuclear Materials* 448: 497-511.

4. Katoh, Y., C. Shih, M. A. Fechter, L. L. Snead and T. D. Burchell (2014). Applicability and Limitations of Miniature Specimens for Properties Determination of Fine-Grained Graphite. ASTM STP1578 Graphite Testing for Nuclear Applications: The Significance of Test Specimen Volume and Geometry and the Statistical Significance of Test Specimen Population. A. Tzelepi and M. C. Carroll. Seattle, ASTM International. ASTM STP 1578: 65-83.
5. Katoh, Y., K. Ozawa, C. Shih, T. Nozawa, R. J. Shinavski, A. Hasegawa and L. L. Snead (2014). "Continuous SiC Fiber, CVI SiC Matrix Composites for Nuclear Applications: Properties and Irradiation Effects." Journal of Nuclear Materials 448: 448-476.
6. Y. Katoh, L.L. Snead, C.M. Parish, T. Hinoki, Observation and Possible Mechanism of Irradiation Induced Creep in Ceramics, Journal of Nuclear Materials, 434 (2013) 141-151.
7. S.K. Sundaram, P. Colombo, Y. Katoh, Selected Emerging Opportunities for Ceramics in Energy, Environment, and Transportation, International Journal of Applied Ceramic Technology, 10 (2013) 731-739.
8. Y. Katoh, L.L. Snead, I. Szlufarska, W.J. Weber, Radiation Effects in SiC for Nuclear Structural Applications, Current Opinion in Solid State & Materials Science, 16 (2012) 143-152.
9. Y. Katoh, L.L. Snead, T. Nozawa, T. Kondo, J.T. Busby, Thermophysical and mechanical properties of near-stoichiometric fiber CVI SiC/SiC composites after neutron irradiation at elevated temperatures, J. Nucl. Mater., 403 (2010) 48-61.
10. L.L. Snead, T. Nozawa, Y. Katoh, T.S. Byun, S. Kondo, D.A. Petti, Handbook of SiC properties for fuel performance modeling, J. Nucl. Mater., 371 (2007) 329-377.

Synergistic Activities:

1. Scientific research activities in areas of development and characterization of ceramics, graphite, composites and other advanced materials for high temperature and severe environment applications; neutron and high energy particle irradiation effects in metals, alloys and ceramics, emphasis on irradiation effects on properties and microstructures of silicon carbide ceramics and composites; influence of helium production on irradiation effects in metals and ceramics at elevated temperatures; development of accident-tolerant fuel materials and technologies for nuclear reactors.
2. Current primary programmatic roles: Lead for SiC ATF Technology Development, Advanced Fuels Campaign (DOE/NE, 2013 – present); Program manager for ORNL Fusion Materials Science programs (DOE/FES, 2013 – present).
3. Program manager and/or principal investigator for a number of current and recent Nuclear Materials Science and Technology programs including SiC/SiC Composite Codes and Standards (Advanced Reactor Technology, DOE/NE, 2012 – present).
4. Participations and lead roles in professional activities including: Chair, IEA Fusion Materials Implementing Agreement WG on SiC/SiC (2003 – present); Founding Member, ASME Composite Codes and Standards Committee, Subgroup on Graphite Core Components (SC III), Chair, ASTM Subcommittee C28.07 on Ceramic Matrix Composites (2006 – 2015);
5. Professional society memberships including: **Fellow** (2013), **Panel of Fellows** (2018-present), The American Ceramic Society; **Fellow** (2015), American Nuclear Society; Member, The Minerals, Metals, and Materials Society; Member, ASTM International.