

JACOPO BUONGIORNO

Associate Professor of Nuclear Science and Engineering;
Carl R. Soderberg Professor of Power Engineering

Email: jacopo@mit.edu

Phone: 617-253-7316

Fax: 617-258-8863

MIT Department of Nuclear Science and Engineering
77 Massachusetts Avenue, 24-206
Cambridge, MA 02139-4307
USA

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Papers in Refereed Journals

- [1] *M. Memmott, J. Buongiorno, P. Hejzlar, “On the Use of RELAP5-3D as a subchannel analysis code”, *Nuclear Engineering Design*, submitted 2009.
- [2] *C. Gerardi, D. Cory, J. Buongiorno, L. W. Hu, “Effect of nanoparticle/fluid interface structure on thermal conductivity of aqueous alumina nanofluids”, *Appl. Phys. Lett.*, submitted 2009.
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- [4] *A. Karahan, J. Buongiorno, M. S. Kazimi, “A Large-Assembly with Small-Pins Concept for High Power Density BWRs”, *Nuclear Technology*, submitted, 2009.
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- [1] J. Buongiorno, L. W. Hu, “Nanofluid Heat Transfer Enhancement for Nuclear Reactor Applications”, (invited keynote paper) MNHMT2009-18062, *Proceedings of Micro/Nanoscale Heat Transfer International Conference (MNHT2009)*, December 18-21, 2009, Shanghai, China. (submitted)
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Invited Lectures

- “Nanofluid Heat Transfer Enhancement for Nuclear Reactor Applications”, Keynote lecture at *Micro/Nanoscale Heat Transfer International Conference (MNHT2009)*, December 18-21, 2009, Shanghai, China.
- “Nanofluids... at the Intersection of Glitzy Nanotechnology and Prosaic Engineering”, Worcester Polytechnic Institute (WPI), September 23, 2009.
- “Near-Term Advanced Reactors for the U.S. Nuclear Industry”, Princeton University, Princeton, New Jersey, February 26, 2009
- “The Nuclear Renaissance in the U.S. – Fact or Fiction? – ”, Princeton Plasma Physics Laboratory (PPPL), Princeton, New Jersey, February 25, 2009
- “Two-phase heat transfer diagnostic capabilities to meet R7 validation requirements”, presentation at the workshop on “Verification and Validation, Sensitivity Analysis, and Uncertainty Quantification of a Next Generation System Safety Analysis Code”, Idaho Falls, January 12, 2009.
- “Present and (Near) Future of Nuclear Energy in the U.S.”, presentation at the “Rocca Day”, Polytechnic of Milan, September 29, 2008. (in Italian)
- “The Nuclear Renaissance in the U.S.”, Fermilab, Batavia, Illinois, July 30, 2008.
- “Heat Transfer Enhancement in Nanofluids”, Caltech, Pasadena, California, April 22, 2008.
- “Nanofluids and Nuclear Power”, University of California at Berkeley, April 21, 2008.
- “Heat Transfer Enhancement in Nanofluids and Their Applications to Nuclear Power”, Rensselaer Polytechnic Institute (RPI), Troy (NY), April 16, 2008.

- “Heat Transfer Enhancement in Nanofluids: The MIT Research Program”, University of Leeds, United Kingdom, March 28, 2008.
- “Nanofluids for Enhanced Economics and Safety of Nuclear Reactors”, University of Wisconsin at Madison, March 25, 2008.
- “New Safer Nuclear Reactors”, Rencontres de Physique de la Vallée d’Aoste, La Thuile, Italy, February 27, 2008.
- “Enhancement of Transport Phenomena in Nanofluids”, King Abdulaziz City of Science and Technology (KACST), Riyadh, Kingdom of Saudi Arabia, January 22, 2008.
- “Nanofluids for Enhanced Economics and Safety of Nuclear Reactors”, GCEP-MIT Workshop on Nuclear Fission, Opportunities for Fundamental Research and Breakthrough in Fission University Park Hotel at MIT, Cambridge, Massachusetts, November 29, 2007.
- “Nucleate Boiling and CHF Characteristics of Nanofluids”, Engineering Conferences International (ECI) - Nanofluids: Fundamentals and Applications, Copper Mountain, Colorado, September 18, 2007.
- “Towards an Explanation of the Mechanism of Boiling Critical Heat Flux Enhancement in Nanofluids”, Keynote lecture at 5th International Conference on Nanochannels, Microchannels and Minichannels (ASME-ICNMM2007), June 18-20, 2007, Puebla, Mexico.
- “Nuclear Power Prospects in the U.S. – The MIT View”, Polytechnic of Milan, May 23, 2007. (in Italian)
- “Use of Nanofluids for Enhanced Economics and Safety of Nuclear Reactors”, Paul Scherrer Institut (PSI), Zurich, May 21, 2007.
- “The Potential of Nanofluids as Next-Generation Coolants”, Cairo 10th International Conference on Energy and Environment, Luxor, Egypt, March 11-15, 2007.
- “An Innovative Assembly Concept for High Power Density BWRs”, Toshiba, Power and Industrial Systems Research and Development Center, Yokohama, November 29, 2006.
- “Use of Nanofluids for Enhanced Economics and Safety of Nuclear Reactors”, 2nd International Symposium on Innovative Nuclear Energy Systems (INES-2), organized by the Tokyo Institute of Technology, Yokohama, Japan, November 26-30, 2006.
- “Research on Innovative Nuclear Power Technology at MIT”, Royal Institute of Technology, Stockholm, October 9, 2006.
- “The Nuclear Renaissance in the U.S.”, in the roundtable on nuclear power (“Un nuovo nucleare: un’ipotesi concreta?”) at the 2006 Festa Nazionale della Margherita, Caorle, September 10, 2006. (in Italian)
- “Boiling Critical Heat Flux Enhancement in Nanofluids for Nuclear Applications”, Idaho National Laboratory, Idaho Falls, Idaho, July 10, 2006.
- “Heat transfer enhancement in nanofluids”, Energy Nanotechnology International Conference (ENIC ’06), Cambridge, June 26, 2006.
- “Near-Term Advanced Nuclear Reactors and Related MIT Research”, Energy Short Course, MIT, June 16, 2006.
- “The SuperCritical Water Reactor (SCWR): Introduction and Core Design Review”, KAPL SCWR Review Meeting, Albany, March 7, 2006.
- “Nanofluid Coolants for Advanced Nuclear Power Plants”, Idaho National Laboratory, Idaho Falls, Idaho, June 28, 2005.
- “Nanofluid Coolants for Nuclear Applications”, Texas A&M, College Station, Texas, December 8, 2004.
- “The Supercritical Water Cooled Reactor (SCWR) and its Safety Characteristics”, U.S. Nuclear Regulatory Commission, Rockville, October 8, 2003.
- “The Development of the Supercritical Light-Water-Cooled Reactor (SCWR) in the U.S.”, Seminars held at:
 - Ministry of Energy Technology of Japan (METI), Tokyo, July 16, 2003
 - Conference of Japan Nuclear Utilities and Vendors, Tokyo, July 17, 2003

- Inland Northwest Research Alliance (INRA), Idaho Falls, October 27, 2003
- Atomic Energy of Canada Limited (AECL), Chalk River, November 13, 2003
- “Innovative Core Designs for the Supercritical Water Cooled Reactor”, Department of Nuclear Engineering of MIT, Cambridge, May 16, 2003.
- “Thermal-Hydraulic and Safety Needs for the SCWR System”, Generation-IV Workshop on the Thermal-hydraulics of Generation-IV reactors, Idaho Falls, March 18-19, 2003.
- “The Supercritical Light-Water-Cooled Reactor and its Potential for Improved Economics”. Seminars held at: American Nuclear Society 2002 Winter Meeting, November 18, 2002
General Electric (GE) Nuclear, San Jose, December 5, 2002
 - Department of Nuclear Engineering of MIT, Cambridge, December 12, 2002
 - Department of Engineering Physics of the University of Wisconsin at Madison, January 9, 2002
 - Idaho Office of the U.S. Department of Energy (DoE), Idaho Falls, January 22, 2002
 - Idaho State University, January 31, 2003
 - Westinghouse Electric Company, Pittsburgh, February 7, 2003
 - Argonne National Laboratory - West, Idaho Falls, March 11, 2003
 - Department of Nuclear Engineering of Texas A&M, College Station, April 14, 2003
 - Department of Nuclear Engineering of the University of California at Berkeley, November 24, 2003
- “Evaluation of Polonium Extraction Technology for Lead-Bismuth Cooled Fast Reactors”. *Russia-Japan LBE Workshop*, Tokyo Institute of Technology, Tokyo, February 2001.
- “Conceptual Design of a Lead-Bismuth Cooled Fast Reactor with In-Vessel Direct-Contact Steam Generation”, Department of Engineering Physics of the University of Wisconsin at Madison. February 2001.
- “Lead-Bismuth-Cooled Reactors for Actinide Burning and Power Production”, Department of Engineering Physics of the University of Wisconsin at Madison. May 2000.