

JACOPO BUONGIORNO

TEPCO Professor, Nuclear Science and Engineering Department
Director, Center for Advanced Nuclear Energy Systems (CANES)
Director, Science and Technology, Nuclear Reactor Laboratory (NRL)

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] F. Antonello, J. Buongiorno, E. Zio, “A Methodology to Perform Dynamic Risk Assessment Using System Theory and Modeling and Simulation”, *Reliability Engineering & System Safety*, 228, 108769, 2022.
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Proceedings of Peer-reviewed Conferences

FULL PAPERS

- [1] M. Bucci, M. Bucci, J. Buongiorno, “Can force balance models accurately predict bubble departure?”, *19th International Topical Meeting on Nuclear Reactor Thermal Hydraulics (NURETH-19)*, Brussels, Belgium, USA, August 29 – September 3, 2022
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Invited Lectures

- [1] “Nuclear Batteries, a New Way in Energy”, MIT-KAIST Small Modular Reactor Symposium, December 5, 2022.
- [2] “Nuclear Batteries: Clean Energy On-Demand Everywhere”, Total Energies at MIT, Nov 17, 2022.
- [3] “The Future of Nuclear Energy: have we entered a new era?”, Brown Univ, Providence, Nov 17, 2022.
- [4] “Nuclear: a Versatile and Clean Energy Source for the 21st Century”, Schlumberger, Cambridge, Nov 9, 2022.
- [5] “The Transformative Power of Nuclear batteries and Advanced Industrial Production”, City Science Summit, MIT, October 27, 2022.
- [6] “The Future of Nuclear Energy: have we entered a new era?”, Talk to MIT Club of Northern California, Oct 13, 2022.
- [7] “The Transformative Power of Nuclear batteries and Advanced Industrial Production”, MIT Technology Review Climate Tech, October 13, 2022.
- [8] “Nuclear Batteries: clean energy on demand everywhere”, Forum on Carbon Neutrality and Sustainable Environment, City University of Hong Kong, October 7, 2022.
- [9] “Next Generation Nuclear Reactors. Is Small Beautiful?”, Talk to MPs and industry at Finnish Parliament, Helsinki, Sep 13, 2022.
- [10] “Nuclear Batteries, a New Way in Energy”, Frederic Joliot Otto Hanh Summer School on Nuclear Reactors, Cadarache, France, August 29, 2022.
- [11] “Next Generation Nuclear Reactors. Is Small Beautiful?”, Seminar on International Nuclear Cooperation, Seoul Korea, June 27, 2022.
- [12] “Nuclear Batteries, a New Way in Energy”, Norman Foster Foundation Workshop Madrid, April 25-26, 2022.
- [13] “Nuclear Batteries, a New Way in Energy”, NTNU Nuclear Power Workshop, Berlin, Mar 30, 2022.
- [14] “An Assessment of the Diablo Canyon Nuclear Plant for Zero-Carbon Electricity, Desalination, and Hydrogen Production”, The North CA MIT Alumni Club, Mar 16, 2022.
- [15] “Nuclear Batteries, a New Way in Energy”, SLAC Seminar Series, Stanford, Feb 28, 2022.
- [16] “Nuclear Batteries, a New Way in Energy”, Gray Society, MIT alumni, Feb 23, 2022.

- [17] “Nuclear Batteries, a New Way in Energy”, Lincoln Labs, MIT, Jan 31
- [18] “Nuclear Batteries, a New Way in Energy”, The Wilson Forum on Science & Technology, Dec 10, 2021.
- [19] “Nuclear: a Versatile and Clean Energy Source for the 21st Century”, Presentation at Nuclear Futures Institute, Bangor University, Wales, Dec 9, 2021.
- [20] “Next Generation Nuclear Reactors. Small is Beautiful?”, Exxon-Mobil, Dec 3, 2021.
- [21] “An Assessment of the Diablo Canyon Nuclear Plant for Zero-Carbon Electricity, Desalination, and Hydrogen Production”, Precourt Institute for Energy, Stanford University, Nov 8, 2021.
- [22] “Nuclear: a Versatile and Clean Energy Source for the 21st Century”, Presentation to Australian Minister Gillespie, Canberra, Oct 7, 2021.
- [23] “Small (and Modular) is Beautiful: The Future of Nuclear?”, CEEPR, Oct 6, 2021.
- [24] “Nuclear Batteries, a New Way in Energy”, ENGYF European Nuclear Young Generation Forum (ENYGF21), Sep 29, 2021.
- [25] “Next Generation Nuclear Reactors. Small is Beautiful?”, MIT Cape Cod Alumni Association, Sep 23, 2021.
- [26] “The Economic Potential of Nuclear Batteries”, LANL, August 19, 2021.
- [27] “The Economic Potential of Nuclear Batteries”, MIT Energy A+B Conference, August 13, 2021.
- [28] “Nuclear: a Versatile and Clean Energy Source for the 21st Century”, presentation to AusIMM International Uranium Conference, Aug 4, 2021.
- [29] “Nuclear Energy: the Need for Radical Innovation”, MIT-NSE Alumni Association, June 8, 2021.
- [30] “Nuclear Energy: the Opportunities for Radical Innovation”, Roundtable, Global America Business Institute (GABI), May 25, 2021.
- [31] “How to Facilitate Commercialization of New Nuclear Technologies”, 2021 Multilateral Nuclear Energy Dialogue, Global America Business Institute (GABI), May 19, 2021.
- [32] Panelist on the Role of Nuclear Energy in a Clean Energy Future, UIUC, May 6, 2021.
- [33] Panelist at the webinar on *Climate Crisis: Alternatives to a Carbon-Based Economy*, U-Mass, Amherst Apr 22, 2021.
- [34] “Nuclear: a Versatile and Clean Energy Source for the 21st Century”, presentation to Dutch Members of Parliament, e-Lise Foundation and Liberal Friends, Mar 15, 2021.
- [35] “Nuclear Energy in a Low-Carbon World: Essential Tool or Relic of the Past?”, workshop at NTHU, Taiwan, Mar 10, 2021.
- [36] “Nuclear Energy: the need for radical innovation”, panel on Roundtable on Nuclear Frontier Issues: At the Interface between Technology and Societies, Belfer Center, Harvard University, March 5, 2021.
- [37] “Nuclear: the need for radical innovation”, University of Illinois at Urbana-Champaign, online lecture, Feb 9, 2021.
- [38] “Nuclear: the need for radical innovation”, Sustainable Nuclear Energy Technology Platform (SNETP) webinar, Feb 3, 2021.
- [39] “Can Nuclear Batteries be economically competitive in large markets”, Fission Battery Workshop Series, INL, Jan 27, 2021.
- [40] “Nuclear energy: a new beginning?”, NNL-KAPL, Jan 5, 2021.
- [41] “New Nuclear: much more than just electricity”, Spanish Nuclear Society Annual Meeting, online presentation, Nov 17, 2020.
- [42] “Nuclear: the need for radical innovation”, Yale University, online lecture, Nov 12, 2020
- [43] “Nuclear: the need for radical innovation”, UC-Berkeley, online lecture, October 10, 2020

- [44] “Nuclear: a Versatile and Clean Energy Source for the 21st Century”, online presentation to the Dubai Nuclear Energy Committee, July 21, 2020.
- [45] “Nuclear Energy: why Europe should strongly support it”, online presentation to EU Members of Parliament, June 28, 2020.
- [46] “Nuclear energy: a new beginning?”, webinar at Stanford University, April 7, 2020.
- [47] “New Nuclear: small, robust, cheap and versatile”, webinar for the Electric Power Systems Center, MIT, February 28, 2020.
- [48] “Nuclear energy – a new beginning? And what role it might play in Australia”, University of Melbourne, Melbourne, Jan 29, 2020.
- [49] “Nuclear energy – a new beginning? And what role it might play in Australia”, Australian Nuclear Association, Sydney, Jan 28, 2020.
- [50] “Nuclear energy – a new beginning? And what role it might play in Australia”, ANSTO, Sydney, Jan 28, 2020.
- [51] Nuclear Batteries: why they could actually make a difference, Westinghouse Electric Company, Cranberry Township, PA, Dec 6, 2019.
- [52] Decarbonizing the Electricity Sector - Advances in Fission and Fusion, Panel at MIT Climate Action Symposium, MIT, Dec 4, 2019
- [53] “Nuclear energy – a new beginning?”, Presentation to delegation of Total S.A., MIT, Nov 18, 2019.
- [54] “The Future of Nuclear Energy in a Carbon-Constrained World - Findings from a Recent MIT study”, Yale University, online lecture, Nov 14, 2019.
- [55] “Nuclear energy – a new beginning?”, NEI Advisory Board, Boston, Nov 13, 2019.
- [56] “The Future of Nuclear Power”, Science on Tap, Manchester, New Hampshire, Nov 5, 2019.
- [57] “New nuclear or same old approach?”, Workshop on Advanced Nuclear Technologies Worldwide: Challenges and Opportunities, Madrid, Oct 17, 2019.
- [58] “Nuclear: Slow Decline or Beginning of a New Era?”, ARPA-E Program Directors Committee, DC, Oct 8, 2019.
- [59] “Nuclear energy – a new beginning?”, NEI Executive Committee, DC, Sep 19, 2019.
- [60] “New Nuclear Needs a DD&D Paradigm and Market Inversion”, NCSU, Raleigh, Sep 17, 2019.
- [61] “The Future of Nuclear Energy in a Carbon-Constrained World - Findings from a new MIT study”, Nuclear Safety Course, MIT, June 17, 2019.
- [62] “Nuclear energy – a new beginning? Findings from a Recent MIT Study”, Plant Modernization Workshop, EPRI, Charlotte, June 12, 2019.
- [63] “Nuclear energy – a new beginning?”, Applied Energy Conf. (MIT A+B), MIT May 22, 2019
- [64] “Advanced Nuclear technologies in the U.S.”, Keynote at ICAPP 2019, Juan les Pins, France, May 12-15, 2019.
- [65] “The Future of Nuclear Energy in a Carbon-Constrained World - Findings from a new MIT study”, Keynote at ICAPP 2019, Juan les Pins, France, May 12-15, 2019.
- [66] “The Future of Nuclear Energy in a Carbon-Constrained World - Findings from a new MIT study”, PPPL, Princeton, NJ, May 8, 2019
- [67] “Nuclear energy – a new beginning”, Senior Congressional Staff Seminar on Energy Options and Economic Opportunities for Decarbonization, MIT, April 24, 2019.
- [68] “The Future of Nuclear Energy in a Carbon-Constrained World - Findings from a new MIT study”, Conservation Law Foundation, Boston, April , 2019.
- [69] “The Future of Nuclear Energy in a Carbon-Constrained World - Findings from a new MIT study”, webinar of the European Nuclear Society, March 29, 2019.
- [70] “The Future of Nuclear Energy in a Carbon-Constrained World - Findings from a new MIT study”, Colorado School of Mines, Denver, March 6, 2019.

- [71] “The Future of Nuclear Energy in a Carbon-Constrained World - Findings from a new MIT study”, Swiss Nuclear Society, Zurich, February 12, 2019.
- [72] “The Future of Nuclear Energy in a Carbon-Constrained World - Findings from a new MIT study”, Poland Ministry of Energy, Warsaw, 22 January, 2019.
- [73] “The Future of Nuclear Energy in a Carbon-Constrained World - Findings from a new MIT study”, AGH Univ Science Cracow, 21 January, 2019.
- [74] “What are the key challenges for nuclear and how to address them - Findings from a new MIT study”, 2019 Energiforsk Nuclear Annual Conference on Flexible Nuclear Power and Ancillary Services, Stockholm, 23-24 January, 2019.
- [75] “The Future of Nuclear Energy in a Carbon-Constrained World”, Beijing, China, January 15, 2019.
- [76] “What role for nuclear energy in a carbon-constrained world?”, MIT-Seoul National University Symposium on the Future of Nuclear Energy in a Carbon Constrained World, Korean Press Center, Seoul, January 14, 2019.
- [77] “The Future of Nuclear Energy in a Carbon-Constrained World - Findings from a New MIT study”, Foro Nuclear, Madrid, November 20, 2018.
- [78] “Can Nuclear Energy Thrive in a Carbon-Constrained World? Findings from a new MIT study”, First strategic seminar of the Board of Directors, ORANO, Paris, November 19, 2018.
- [79] “The Future of Nuclear Energy in a Carbon-Constrained World - Findings from a New MIT study”, Lincoln Labs, MIT, November 13, 2018.
- [80] “Can Nuclear Energy Thrive in a Carbon-Constrained World? Findings from a new MIT study”, 1st Generation-IV and Small Modular Reactors Conference (G4SR-1), Ottawa, November 8, 2018.
- [81] “The Future of Nuclear Energy in a Carbon-Constrained World - Findings from a New MIT study”, Presentation to delegation of Total S.A., MIT, November 7, 2018.
- [82] “Protect the Present to Prepare the Future”, INPO Annual CEO conference, November 6, 2018.
- [83] “The Future of Nuclear Energy in a Carbon-Constrained World - Findings from a New MIT study”, Presentation to delegation of Masui, ILP, MIT, November 5, 2018.
- [84] “The Future of Nuclear Energy in a Carbon-Constrained World - Findings from a New MIT study”, NEI International Uranium Fuel Seminar, Boston, October 29, 2018.
- [85] “The Future of Nuclear Energy in a Carbon-Constrained World - Findings from a New MIT study”, MIT Energy Initiative Advisory Board meeting, MIT, October 23, 2018.
- [86] “The Future of Nuclear Energy in a Carbon-Constrained World - Findings from a New MIT study”, The MIT-Tokyo Tech Symposium on Future Nuclear Development and Deployment, Tokyo, October 9, 2018.
- [87] “The Future of Nuclear Energy in a Carbon-Constrained World - Findings from a New MIT study”, American Academy Advancement of Sciences, Washington DC, September 25, 2018.
- [88] “The Future of Nuclear Energy in a Carbon-Constrained World - Findings from a New MIT study”, FORATOM, Brussels, September 6, 2018.
- [89] “The Future of Nuclear Energy in a Carbon-Constrained World - Findings from a New MIT study”, Academie des Sciences, Paris, September 4, 2018.
- [90] “The Future of Nuclear Energy in a Carbon-Constrained World - Findings from a New MIT study”, Nuclear Industry Association, London, September 3, 2018.
- [91] “Can Nuclear Energy Thrive in a Carbon-Constrained World? Findings from a new MIT study”, University of Edinburgh, UK, August 29, 2018.
- [92] “Can Nuclear Energy Thrive in a Carbon-Constrained World? Findings from a new MIT study”, Duke Energy, Charlotte, August 14, 2018.
- [93] “Can Nuclear Energy Thrive in a Carbon-Constrained World? Findings from a new MIT study”, Nuclear Safety Course, MIT, June 14, 2018.

- [94] “Can Nuclear Energy Thrive in a Carbon-Constrained World? Findings from a new MIT study”, MIT Alumni Association of New Hampshire, Bedford, NH, June 11, 2018.
- [95] “Can Nuclear Energy Thrive in a Carbon-Constrained World? Findings from a new MIT study”, 49th Annual Meeting on Nuclear Technology (AMNT 2018), Berlin, Germany, May 29, 2018.
- [96] “The Future of Nuclear Energy in a Carbon-Constrained World: A New MIT study”, Nuclear Science and Engineering Dept., MIT, May 15, 2018.
- [97] “Can Nuclear Energy Thrive in a Carbon-Constrained World? Findings from a new MIT study”, Managing the Atom nuclear policy group, Harvard, May 3, 2018.
- [98] “Is there a Future for Nuclear in a Carbon-Constrained World? - Findings from a new MIT study”, ICAPP 2018, Charlotte, April 9, 2018.
- [99] “Nuclear Energy at the Carbon Crossroads: Thrive or Decline?”, Yale University, March 29, 2018.
- [100] “Nuclear, why bother?”, Workshop on Realizing the Value of Nuclear, MIT, March 26, 2018.
- [101] “Can Nuclear Energy Thrive in a Carbon-Constrained World? Findings from a new MIT study”, Forum of Indian nuclear industry, Kirloskar Brothers Limited’s (KBL) Corporate Office, Mumbai, January 19, 2018.
- [102] “Is Nuclear an Attractive Clean-Energy Option for Singapore?”, National University of Singapore (NUS), January 16, 2018.
- [103] “Can Nuclear Energy Thrive in a Carbon-Constrained World? Findings from a new MIT study”, Harvard School of Business, Harvard University, November 13, 2017.
- [104] “Reducing the Cost of New Nuclear: Innovations that Could Make a Difference”, Royal Academy of Engineering, London, November 8, 2017
- [105] “Can Nuclear Energy Thrive in a Carbon-Constrained World? Findings from a new MIT study”, Advanced Nuclear Technology’s Engineering, Procurement, and Construction (EPC) Workshop, EPRI, Charlotte, November 7, 2017
- [106] “The Future of Nuclear Energy in a Carbon-Constrained World: An MIT study”, MIT Energy Initiative Advisory Board meeting, MIT, October 26, 2017.
- [107] “Nuclear Energy in a Carbon-Constrained World: Thrive or Decline? - Findings from a new MIT study”, Commissariat a l’Energie Atomique (CEA), Saclay, France, October 13, 2017.
- [108] “Can Nuclear Energy Thrive in a Carbon-Constrained World? - Findings from a new MIT study”, Texas A&M, October 6, 2017.
- [109] “Can Nuclear Energy Thrive in a Carbon-Constrained World? - Findings from a new MIT study”, University of Houston, October 5, 2017.
- [110] “Can Nuclear Energy Thrive in a Carbon-Constrained World? - Findings from a new MIT study”, Zhejiang University, Hangzhou, September 3, 2017.
- [111] “Can Nuclear Energy Thrive in a Carbon-Constrained World? - Findings from a new MIT study”, Imperial College, London, June 20, 2017.
- [112] “Uncovering the Secrets of Boiling Heat Transfer with Advanced Diagnostics and Nano-engineered Surfaces”, Ljubljana University, Slovenia, June 19, 2017.
- [113] “The Future of Nuclear Energy in a Carbon Constrained World – An MIT Study”, Nuclear Energy Insider SMR Summit, Atlanta, March 30, 2107.
- [114] “What Role for Nuclear Energy in a Low-Carbon World?”, International Energy & Environment Summit, Dubai, UAE, March 18-20, 2017,
- [115] “What Will Make or Break Nuclear Energy in a Low-Carbon World – and the Potential Role of Australia”, Curtin University, Perth, Australia, January 19, 2017.
- [116] “What Will Make or Break Nuclear Energy in a Low-Carbon World – and the Potential Role of Australia”, RMIT, Melbourne, Australia, January 22, 2017.

- [117] “The Offshore Nuclear Plant (ONP) - A New Paradigm for Construction, Siting and Operations of Nuclear Plants”, Nuclear Innovation Bootcamp, University of California, Berkeley, August 4, 2016.
- [118] “What Will Make or Break Nuclear Energy in a Low-Carbon World”, EPRI Summer Seminar, Los Angeles, August 1-2, 2016.
- [119] “What Will Make or Break Nuclear Energy in a Low-Carbon World”, Oak Ridge National Laboratory, June 30, 2016
- [120] “Towards a New, Generally-Applicable, Validated Model for the Formation of the Microlayer Underneath a Growing Bubble”, International Workshop on New Understanding in Nanoscale/Microscale Phase Change, June 12-16, 2016, Trondheim, Norway.
- [121] “Nuclear Energy: Growth Opportunities/Challenges from Fuel Cycles and Small Modular Reactors”, 2016 Energy Day: Sustainable and Affordable Energy Challenge for the World, Columbia University, New York City, May 8, 2016
- [122] “Offshore nuclear: A New Paradigm for Construction, Siting and Operations of Nuclear Plants”, Oregon State University, Corvallis, Oregon, April 22, 2016
- [123] “How to Enable a Massive Expansion in the Use of Nuclear Energy to Combat Global Warming”, University of Michigan, Ann Arbor, MI, January 28, 2016
- [124] “How to Enable a Massive Expansion in the Use of Nuclear Energy to Combat Global Warming”, North Carolina State University (NCSU), Raleigh, NC, January 28, 2016
- [125] “How to Enable a Massive Expansion in the Use of Nuclear Energy to Combat Global Warming”, Federal Authority for Nuclear Regulation (FANR), Abu Dhabi, January 19, 2016
- [126] “Uncovering the Secrets of Boiling Heat Transfer with Advanced Diagnostics and Nano-engineered Surfaces”, Khalifa University, Abu Dhabi, January 18, 2016.
- [127] “Uncovering the Secrets of Boiling Heat Transfer with Advanced Diagnostics and Nano-engineered Surfaces”, Shanghai Jiao Tong University (SJTU), Shanghai, January 16, 2016.
- [128] “How to Enable a Massive Expansion in the Use of Nuclear Energy to Combat Global Warming”, Korea Advanced Institute of Science and Technology (KAIST), Daejeon, January 14, 2016
- [129] “How to Enable a Massive Expansion in the Use of Nuclear Energy to Combat Global Warming”, Hanyang University and Seoul National University, January 13, 2016
- [130] “Offshore nuclear: A New Paradigm for Construction, Siting and Operations of Nuclear Plants”, University of Wisconsin at Madison, November 16, 2015
- [131] “Near-term, innovative reactor concepts: how to enable a massive expansion in the use of nuclear energy to combat global warming”, MIT-China Low Carbon Energy Leaders Program, MIT, May 11, 2015.
- [132] “Can Corrosion and CRUD Deposition actually Improve Safety Margins in Light Water Reactors?”, Federal Authority for Nuclear Regulation (FANR), Abu Dhabi, January 21, 2015.
- [133] “Near-term, innovative reactor concepts: how to enable a massive expansion in the use of nuclear energy to combat global warming”, Kuwait Institute for Scientific Research (KISR), Kuwait City, Kuwait, January 18, 2015.
- [134] “Uncovering the Secrets of Boiling Heat Transfer with Advanced Diagnostics and Nano-engineered Surfaces”, Johns Hopkins Univ. Dec 5, 2014.
- [135] “Near-term, innovative reactor concepts: how to enable a massive expansion in the use of nuclear energy to combat global warming”, Presentation to delegation of Total S.A., MIT, November 14, 2014.
- [136] “Nuclear Reactors on Offshore Floating Platforms: Scalable and Economic Nuclear Energy to Combat Climate Change”, MIT Energy Initiative Fall Research Conference, MIT, Nov. 7, 2014.
- [137] “Uncovering the Secrets of Boiling Heat Transfer with Advanced Diagnostics and Nano-engineered Surfaces”, Georgia Institute of Technology, Atlanta, Georgia, October 24, 2014.

- [138] “Advanced Diagnostics and Surface Engineering for Boiling Heat Transfer and Quenching Phenomena”, Presentation at the kick-off meeting of the *Virtual International Research Institute of Two--Phase Flow and Heat Transfer*, EPFL, Lausanne, Switzerland, March 17, 2014.
- [139] “Can Small Modular Reactors Help to Expand the Use of Nuclear Energy Worldwide?”, Presentation to delegation of Total S.A., MIT, November 5, 2013.
- [140] “Can Small Modular Reactors Help to Expand the Use of Nuclear Energy Worldwide?”, MIT-China Low Carbon Energy Leaders Program, MIT, October 28, 2013
- [141] “Future Prospects for Nuclear Power”, MIT-China Low Carbon Energy Leaders Program, MIT, September 16, 2013.
- [142] “Enhancement of LWR Thermal Performance through the Use of Nanofluids and Nano-engineered Surfaces”, Korean Atomic Energy Research Institute (KAERI), Daejeon, Korea, May 24, 2013.
- [143] “Nanofluids and Nano-engineered Surfaces for Enhanced Thermal Performance of Nuclear Reactors”, State Nuclear Power Technology R&D Centre, Beijing, China, May 23, 2013.
- [144] Pandora’s promise screening at MIT, Panel, 24 April 2013.
- [145] “Thoughts about Advanced Diagnostics for Boiling Heat Transfer”, International Workshop on Micro and Nano Structures for Phase Change Heat Transfer, MIT Endicott House, April 23, 2013.
- [146] “Future Prospects for Nuclear Power after Fukushima”, Boston University, February 5, 2013.
- [147] “Future Prospects for Nuclear Power after Fukushima”, Presentation to delegation of Total S.A., MIT, November 6, 2012.
- [148] “Future Prospects for Nuclear Power after Fukushima”, MIT-China Low Carbon Energy Leaders Program, MIT, September 17 and October 25, 2012.
- [149] “ANS Perspective on Fukushima and the US Response to the Event”, The 9th International Topical Meeting on Nuclear Thermal-Hydraulics, Operation and Safety (NUTHOS-9), Kaohsiung, Taiwan, September 12, 2012.
- [150] “The Fukushima-Daiichi Accident: What Happened + Lessons Learned”, MIT-China Low Carbon Energy Leaders Program, MIT, August 30, 2012.
- [151] “Study of Boiling Phenomena through Direct Numerical Simulations and Advanced Experimental Techniques”, Universite Pierre et Marie Curie (Paris 6), Paris, June 28, 2012.
- [152] “Small is Beautiful? A Review of the Small Modular Reactor (SMR) Designs”, American Nuclear Society (ANS) Northeastern Section Meeting, Wellesley MA, June 21, 2012.
- [153] “Synchronized High-Speed Video, Infrared Thermometry and PIV Data for Validation of Interface-Tracking Simulations of Nucleate Boiling Phenomena”, (keynote) *ECI 8th International Conference on Boiling and Condensation Heat Transfer* Lausanne, Switzerland, June 3 2012.
- [154] “Study of Boiling Phenomena through Direct Numerical Simulations and Synchronized High-Speed Video, Infra-red Thermometry and PIV”, City College of New York, May 10, 2012.
- [155] “Advanced Diagnostics and Simulations for the Study of Boiling Heat Transfer Phenomena”, University of Houston, April 26, 2012.
- [156] “Future Prospects for Nuclear Power after Fukushima”, Laboratory for Nuclear Science, MIT, February 13, 2012.
- [157] “Nuclear Energy Beyond Fukushima”, Presentation to delegation of Total S.A., MIT, November 7, 2011.
- [158] “Impact of Fukushima on Nuclear Industry and NSE”, MIT Energy Initiative External Advisory Board, October 26-28, 2011.

- [159] “After Fukushima, Nuclear Energy 2.0: Environmental Benefits and Risks”, the MIT Energy Club, October 7, 2011.
- [160] “Nuclear Power after Fukushima: Lessons Learned and Future Prospects”, Laboratory for Nuclear Science, MIT, October 5, 2011.
- [161] “Advanced Experimental Methods for Boiling Heat Transfer”, at course on Multiphase Flow and Boiling Heat Transfer, Modern Approach and Recent Advances, Troy, NY, September 19-23, 2011.
- [162] “Enhanced LWR Thermal Performance with Nanofluids”, at course on Multiphase Flow and Boiling Heat Transfer, Modern Approach and Recent Advances, Troy, NY, September 19-23, 2011.
- [163] “Critical Evaluation of Heat Transfer Evaluation in Nanofluids”, Tufts University, April 7, 2011.
- [164] “Critical Evaluation of Heat Transfer Evaluation in Nanofluids”, Newcastle University, Newcastle, New South Wales, Australia, January 17, 2011.
- [165] “Advanced Computational Methods and Diagnostics for Two-phase Flow and Heat Transfer”, Third International Forum on 'Multidisciplinary Education and Research Center for Energy Science', Global COE, Ishigaki-jima Island, Okinawa, December 9-14, 2010.
- [166] “An Update on Nuclear Power”, 2010 IEEE Conference on Innovative Technologies for an Efficient and Reliable Electricity Supply, Waltham, MA, September 29, 2010.
- [167] “Nanofluids... when Glitzy Nanoscience meets Prosaic Engineering”, Brown University, Providence, RI, April 19, 2010.
- [168] “A Critical Investigation of Heat Transfer Enhancement in Nanofluids”, Argonne National Laboratory, Argonne, IL, March 8, 2010.
- [169] “Advanced computational methods and diagnostics for two-phase flow and heat transfer”, Oak Ridge National Laboratory, Oak Ridge, TN, January 15, 2010
- [170] “Advanced Light Water Reactors for the US Nuclear Industry”, Lincoln Labs - MIT, Lexington MA, January 11, 2010.
- [171] “Nanofluid Heat Transfer Enhancement for Nuclear Reactor Applications”, Keynote lecture at Micro/Nanoscale Heat Transfer International Conference (MNHT2009), Shanghai, China, December 18-21, 2009.
- [172] “Nanofluids for Enhanced Thermal Performance of Nuclear Reactors”, UNIST, Ulsan, South Korea, December 17, 2009.
- [173] “The ‘Renaissance’ of Nuclear Fission Energy: New Technologies ...and some Old Challenges”, Keynote lecture (in Italian) at Conferenza Nazionale di Radioprotezione, Frascati, Italy, October 28, 2009
- [174] “Advanced computational methods and diagnostics for two-phase flow and heat transfer”, MIT-Brazil Workshop on Innovations in Nuclear Technology, Sao Paulo, Brazil, October 6-7, 2009.
- [175] “Innovative Safety Aspects of Advanced LWRs”, MIT-Brazil Workshop on Innovations in Nuclear Technology, Sao Paulo, Brazil, October 6-7, 2009.
- [176] “Nanofluids... at the Intersection of Glitzy Nanotechnology and Prosaic Engineering”, Worcester Polytechnic Institute (WPI), September 23, 2009.
- [177] “Near-Term Advanced Reactors for the U.S. Nuclear Industry”, Princeton University, Princeton, New Jersey, February 26, 2009
- [178] “The Nuclear Renaissance in the U.S. – Fact or Fiction? – ”, Princeton Plasma Physics Laboratory (PPPL), Princeton, New Jersey, February 25, 2009
- [179] “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.

- [180] “Present and (Near) Future of Nuclear Energy in the U.S.”, presentation at the “Rocca Day”, Polytechnic of Milan, September 29, 2008. (in Italian)
- [181] “The Nuclear Renaissance in the U.S.”, Fermilab, Batavia, Illinois, July 30, 2008.
- [182] “Heat Transfer Enhancement in Nanofluids”, Caltech, Pasadena, California, April 22, 2008.
- [183] “Nanofluids and Nuclear Power”, University of California at Berkeley, April 21, 2008.
- [184] “Heat Transfer Enhancement in Nanofluids and Their Applications to Nuclear Power”, Rensselaer Polytechnic Institute (RPI), Troy (NY), April 16, 2008.
- [185] “Heat Transfer Enhancement in Nanofluids: The MIT Research Program”, University of Leeds, United Kingdom, March 28, 2008.
- [186] “Nanofluids for Enhanced Economics and Safety of Nuclear Reactors”, University of Wisconsin at Madison, March 25, 2008.
- [187] “New Safer Nuclear Reactors”, Rencontres de Physique de la Vallée d'Aoste, La Thuile, Italy, February 27, 2008.
- [188] “Enhancement of Transport Phenomena in Nanofluids”, King Abdulaziz City of Science and Technology (KACST), Riyadh, Kingdom of Saudi Arabia, January 22, 2008.
- [189] “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.
- [190] “Nucleate Boiling and CHF Characteristics of Nanofluids”, Engineering Conferences International (ECI) - Nanofluids: Fundamentals and Applications, Copper Mountain, Colorado, September 18, 2007.
- [191] “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.
- [192] “Nuclear Power Prospects in the U.S. – The MIT View”, Polytechnic of Milan, May 23, 2007. (in Italian)
- [193] “Use of Nanofluids for Enhanced Economics and Safety of Nuclear Reactors”, Paul Scherrer Institut (PSI), Zurich, May 21, 2007.
- [194] “The Potential of Nanofluids as Next-Generation Coolants”, Cairo 10th International Conference on Energy and Environment, Luxor, Egypt, March 11-15, 2007.
- [195] “An Innovative Assembly Concept for High Power Density BWRs”, Toshiba, Power and Industrial Systems Research and Development Center, Yokohama, November 29, 2006.
- [196] “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.
- [197] “Research on Innovative Nuclear Power Technology at MIT”, Royal Institute of Technology, Stockholm, October 9, 2006.
- [198] “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)
- [199] “Boiling Critical Heat Flux Enhancement in Nanofluids for Nuclear Applications”, Idaho National Laboratory, Idaho Falls, Idaho, July 10, 2006.
- [200] “Heat transfer enhancement in nanofluids”, Energy Nanotechnology International Conference (ENIC '06), Cambridge, June 26, 2006.
- [201] “Near-Term Advanced Nuclear Reactors and Related MIT Research”, Energy Short Course, MIT, June 16, 2006.
- [202] “The SuperCritical Water Reactor (SCWR): Introduction and Core Design Review”, KAPL SCWR Review Meeting, Albany, March 7, 2006.
- [203] “Nanofluid Coolants for Advanced Nuclear Power Plants”, Idaho National Laboratory, Idaho Falls, Idaho, June 28, 2005.

- [204] “Nanofluid Coolants for Nuclear Applications”, Texas A&M, College Station, Texas, December 8, 2004.
- [205] “The Supercritical Water Cooled Reactor (SCWR) and its Safety Characteristics”, U.S. Nuclear Regulatory Commission, Rockville, October 8, 2003.
- [206] “The Development of the Supercritical Light-Water-Cooled Reactor (SCWR) in the U.S.”, Seminars held at:
- [207] Ministry of Energy Technology of Japan (METI), Tokyo, July 16, 2003
- [208] Conference of Japan Nuclear Utilities and Vendors, Tokyo, July 17, 2003
- [209] Inland Northwest Research Alliance (INRA), Idaho Falls, October 27, 2003
- [210] Atomic Energy of Canada Limited (AECL), Chalk River, November 13, 2003
- [211] “Innovative Core Designs for the Supercritical Water Cooled Reactor”, Department of Nuclear Engineering of MIT, Cambridge, May 16, 2003.
- [212] “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.
- [213] “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
- [216] Department of Nuclear Engineering of MIT, Cambridge, December 12, 2002
- [217] Department of Engineering Physics of the University of Wisconsin at Madison, January 9, 2002
- [218] Idaho Office of the U.S. Department of Energy (DoE), Idaho Falls, January 22, 2002
- [219] Idaho State University, January 31, 2003
- [220] Westinghouse Electric Company, Pittsburgh, February 7, 2003
- [221] Argonne National Laboratory - West, Idaho Falls, March 11, 2003
- [222] Department of Nuclear Engineering of Texas A&M, College Station, April 14, 2003
- [223] Department of Nuclear Engineering of the University of California at Berkeley, November 24, 2003
- [224] “Evaluation of Polonium Extraction Technology for Lead-Bismuth Cooled Fast Reactors”. *Russia-Japan LBE Workshop*, Tokyo Institute of Technology, Tokyo, February 2001.
- [225] “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.
- [226] “Lead-Bismuth-Cooled Reactors for Actinide Burning and Power Production”, Department of Engineering Physics of the University of Wisconsin at Madison. May 2000.