

John G. Brisson II

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Education:

Ph.D. in Applied Physics, Harvard University, Cambridge, Massachusetts, June 1990.
Studies of Third Sound in Helium on Molecular Hydrogen Substrates.

M.S. in Applied Physics, Harvard University, Cambridge, Massachusetts, 1983.

B.E., Stevens Institute of Technology, Hoboken, New Jersey, 1981.

Employment:

2019-Present J-WEL Advisory Committee Chair J_WEL Higher Education- Massachusetts Institute of Technology-Cambridge, MA

2019-Present Head Magnets and Cryogenics, PSFC, Plasma Science and Fusion center- Massachusetts Institute of Technology-Cambridge, MA

2017-2018 *Associate Department Head of Education, MechE Department- Massachusetts Institute of Technology-Cambridge, MA*

2012-present *Director of Cryogenics Engineering Lab- Massachusetts Institute of Technology- Cambridge, MA*

2012 -2019 *Director, MIT-SUTD Collaboration*

2007- present *Professor with Tenure- Massachusetts Institute of Technology- Cambridge, MA*

2000-2007 *Associate Professor with Tenure- Massachusetts Institute of Technology - Cambridge, MA*

1999 - 2000 *Associate Professor - Massachusetts Institute of Technology - Cambridge, MA*

1993- 1999 *Assistant Professor- Massachusetts Institute of Technology - Cambridge, MA*

1990- 1993 *Post Doc with G. Swift at Los Alamos National Laboratories, Los Alamos, New Mexico. Development and Characterization of a Superfluid Stirling Cycle Refrigerator.*

1982-1990 *Research Assistant for I. Silvera, Department of Physics, Harvard University, Cambridge, Massachusetts. Designed and assisted in several third sound and spin polarized hydrogen experiments.*

Honors:

McCarthy Assistant Professor of Mechanical Engineering (1996-1998)

Everett More Baker Memorial Award Excellence in Undergraduate Teaching (honorable mention) (1998)

Hatsopoulos Assistant Professor of Mechanical Engineering (1995-1996)

National Honors Society for Engineers.

International Scholars Program, Stevens Institute. Spent 1979-1980 academic year at St. Andrews University, St. Andrews, Scotland.

Den Hartog Teaching Award for Outstanding Teaching (1999)

Everett More Baker Memorial Award Excellence in Undergraduate Teaching (1998)

2006 Joel & Ruth Spira Award for Teaching Excellence (2006)

Cryogenics Best Paper Award 2008

Publications

Papers

1. "Superfluid Stirling Refrigerator with a Counterflow Regenerator," J.G. Brisson and G.W. Swift, *Proceedings of the 7th International Cryocoolers Conference*, PL-CP-93-1001, Pt. 2, pp. 461-470, (Nov 1992).
2. "Measurements and Modeling of a Recuperator for a Superfluid Stirling Refrigerator," J.G. Brisson and G.W. Swift, *Cryogenics*, **34**, (12), pp. 971-982 ,(Dec 1994).
3. "A Recuperative Superfluid Stirling Refrigerator," J.G. Brisson and G.W. Swift, *Advances in Cryogenic Engineering*, **39B**, pp.1393-1397, (Jul 1993).
4. "The Superfluid Stirling Refrigerator, A New Method for Cooling Below 0.5 K," J.G. Brisson, V. Kotsubo, and G.W. Swift, *Physica B*, **194**, pp. 45-46, (Feb 1994).
5. "Measurements with a Recuperative Superfluid Stirling Refrigerator," A. Watanabe, G.W. Swift, and J.G. Brisson, *Advances in Cryogenic Engineering*, **41**, pp. 1527-1533, (Jul 1996).
6. "Superfluid Joule-Thomson Refrigeration, A New Concept for Cooling Below 2 Kelvin," J. G. Brisson, *Journal of Low Temperature Physics*, **120**, (1-2), pp. 151-168, (Jul 2000).
7. "Proof-of-Principle Measurements of the Superfluid Joule-Thomson Refrigerator Concept," *Journal of Low Temperature Physics*, **141** (3-4), pp. 179-190, (Nov 2005).
8. "The Experimental Evaluation of a Proof of Principle Superfluid Joule-Thomson Refrigerator," F. K. Miller and J. G. Brisson, *Advances of Cryogenic Engineering*, Vol. 51, pp 946-953. (2006).
9. "Analysis of a Supercritical Hydrogen Liquefaction Cycle," W. J. Statts, J. L. Smith, Jr. and J. G. Brisson, *Cryocoolers*, pp. 721-730, (2010).
10. "Effect of Condenser Layers in a Multiple Condenser Heat Pipe with Interdigitated Impeller Blades (HT2012-58378)," *ASME Summer Heat Transfer Conference*, Rio Grande, PR, USA, July 8-12, 2012

Patents

1. John G Brisson, Joseph L Smith, Teresa S Baker: Frozen Food Production. Jul, 20 2006: US 20060159821.
2. Evelyn N Wang, John G Brisson, Stuart A Jacobson, Jeffrey H Lang, Matthew McCarthy: Heat exchangers and related methods. Massachusetts Institute of Technology Jul, 8 2010: US 20100170660.
3. John G Brisson II, Joseph L Smith Jr, Teresa S Baker: Frozen food production. Massachusetts Institute of Technology Aug, 24 2010: US 7781006.
4. Nalin Walpita, John G. Brisson:Heat Engine with Cascaded Cycles. November 10, 2011: US 20110271676
5. Sandeep Verma, John G. Brisson, Eric L. Stabinski, Quincy K. Elias: Method for Active Cooling of Downhole Tools Using the Vapor Compression Cycle. May 24, 2012: US 20120125614
6. Kevin J. DiGenova, George A. Huff, JR., Barbara B. Botros, John G. Brisson: Fischer Tropsch Reactor with Integrated Organic Rankine Cycle.April 11,2013: US 20130090395
7. Nalin Walpita, John G. Brisson, David P. Anderson: Reciprocating Expander Valve Operating Apparatus, System and Method. October 10,2013: US 20130263803
8. Evelyn N. Wang, John G. Brisson, Stuart A. Jacobson, Jeffrey H. Lang, Matthew McCarthy: Heat Exchangers and Related Methods. March 25, 2014: US 8678075
9. Kevin J. DiGenova, George A. Huff, Jr., Barbara B. Botros, John G. Brisson: Fischer Tropsch Reactor with Integrated Organic Rankine Cycle. November 18, 2014: US 8889747
10. Leslie Bromberg, Alexander Sappok, John G. Brisson, William H. Green: Engine Chemical Reactor With Catalyst. December 25, 2014: US 20140374660
11. Sandeep Verma, John G. Brisson, Eric L. Stabinski, Quincy K. Elias: Method for Active Cooling of Downhole Tools Using Vapor Compression Cycle. June,14, 2016: US 9366111