**Faculty Profile: J. Steven Brown**

Professor

Department: Mechanical Engineering

School: School of Engineering

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Education: Ph.D., Mechanical Engineering, Massachusetts Institute of Technology, 1991

**Research Interests and Expertise:**

low global warming potential working fluids, measurements of thermodynamic properties, equation of state modeling, “design” of “ideal” working fluids, analysis of potential working fluids, optimization studies, nanolubricants, condensation and boiling heat transfer measurements of low global warming potential working fluids, refrigeration and organic Rankine cycle simulation modeling

**Biography:**

Steve Brown is currently Senior Vice Provost for Academic Administration and Dean of Graduate Studies. As Senior Vice Provost for Academic Administration, he provides administrative leadership and support for the university’s entire academic division, and as Graduate Dean, he provides leadership and support for the university’s graduate mission and is responsible for graduate admissions, financial support, budgeting, academic policies, academic appeals, and curricular oversight. He also is responsible for the university-level tenure and promotion processes for faculty. He received his Bachelor of Mechanical Engineering from Georgia Tech in 1987 and his Ph.D. in Mechanical Engineering from M.I.T. in 1991. He joined the University in 1998 and is now Ordinary (full) Professor of Mechanical Engineering. During his tenure at the University, he has served as Chairperson of the Mechanical Engineering Department and as Associate Dean of Engineering. Prior to joining the University, he worked for General Electric and Ford Motor Company.Heis the recipient of the Outstanding Faculty Teaching Achievement Award from the School of Engineering in 1999, the Ralph Teetor Educational Award from the Society of Automotive Engineers in 2001, the DuPont Young Professor Award in 2001, the Kaman Excellence in Teaching Award from the School of Engineering in 2004, the Best Paper Award for 2009 from ASHRAE Journal, the Provost's Overall Teaching Award in 2011, the Best Paper Award for 2013/2014 from the International Journal of Refrigeration, and the ASHRAE Distinguished Service Award in 2015. He served as an Associate Editor of Science and Technology for the Built Environment from 2010-2018 and as an ABET Program Evaluator 2006-2018. He is a Fellow of ASHRAE, and a member of ASME, IIR (International Institute of Refrigeration), and is a registered professional engineer in the State of Maryland, though his license is not being maintained since January 2020.

**Five Selected Papers:**

[1] Brown, J.S., Zilio, C., Cavallini, A. 2010. Thermodynamic properties of eight fluorinated olefins. *International Journal of Refrigeration,* 33(2): 235-241.

[2] Brown, J.S., Nicola, G.D., Zilio, C., Fedele, L., Bobbo, S., Polonara, F. 2012. Subcooled liquid density measurements and PvT measurements in the vapor phase for trans-1,3,3,3-tetrafluoroprop-1-ene (R1234ze (E)). *Journal of Chemical & Engineering Data,* 57(12): 3710-3720.

[3] Brown, J.S., Domanski, P.A., 2014. Review of alternative technologies. *Applied Thermal Engineering*, 64(1-2): 252-262.

[4] McLinden, M.O., Brown, J.S., Brignoli, R., Kazakov, A.F., Domanski, P.A., 2017. Limited options for low-global-warming-potential refrigerants. *Nature Communications*, 8: 14476.

[5] Brown, J.S., Coccia, G. Tomassetti, S., Pierantozzi, M., Di Nicola, G., 2018. Vapor phase PvTx measurements of binary blends of *trans*-1-chloro-3,3,3-trifluoroprop-1-ene + isobutane and *cis*-1,3,3,3-tetrafluoroprop-1-ene + isobutane. *Journal of Chemical & Engineering Data*, 63: 169–177.