

**SUMMARY VITA - William H. Sutton, Ph.D., P.E.**  
**Professor and Dean**

**Years of Service:** First year at UTC, originally appointed as Professor 7/1/2008

**Degrees:**

12/1981 PhD ME	North Carolina State University
5/1975 MME	North Carolina State University
5/1973 BSME	North Carolina State University

**Other Related Experience:**

6/2003 – 6/2008 - University of Alabama, Department of Mechanical Engineering – Professor and Department Head  
7/1982 – 5/2003 - University of Oklahoma, School of Aerospace and Mechanical Engineering – Assistant Professor, Associate Professor, Professor, Interim Director of School (5/2000 – 6/2001).  
7/1979 – 6/1982 - Carolina Power and Light Company (now Progress Energy), Raleigh, NC - Analytical Engineer, Technical Services; Engineer, Senior Engineer, Nuclear Plant Engineering (12/1979 – 6/1982).  
5/1977 – 6/1979 - Rockwell International, Flow Control Division (now Edward Valve), Raleigh, NC, Associate Design Engineer, Design Engineer.  
9/1973 – 12/1981(Part Time) - North Carolina State University, Mechanical and Aerospace Engineering, Raleigh, NC, Graduate Assistant, Graduate Research Assistant.  
5/1973 – 8/1973 - Phillips Fibers, Rocky Mount, NC, Process Development Engineer

**Consulting, Patents, etc.:**

Method of Dissolving a Gaseous Hydrocarbon into a Liquid Hydrocarbon - William H. Sutton, Carlos Borrás, Mauricio Sanchez, and Richard G. Mallinson - US Provisional Patent 60/514,392, US Patent filed 10/2004.  
Sverdrup Technology, Arnold AFS, TN - Heat Transfer, Solid Fuel Rocket Exhaust (1986).  
CMI Corporation, Oklahoma City, OK - Rotating Drum Asphalt Heat Transfer, Combustion (1989-1990).  
General Motors, Warren, MI - A/C Heat Transfer, Glass Radiative Properties, Passenger Comfort (1990), Thermography (1991).  
Metalines, Inc., Oklahoma City, OK - Analysis of Heat Transfer in Multilayer Insulation for Fire Protection (1992-1993).  
Gohlke and Associates, Norman, OK - Engineering Research and Development for Fire Barriers (1993-1995).  
Engineering and Materials Technology, Norman, OK & Dallas, TX - Heat Transfer, Testing (1987-1999).  
Stephenson and Webber, Watonga, OK and Oklahoma City, OK Diesel/Turbocharger Fires (1988-1999).

**Registration:**

Professional Engineer, North Carolina (9327), 1980  
Professional Engineer, Oklahoma (13965), 1984  
Professional Engineer, Alabama (26461), 2004  
Professional Engineer, Tennessee (112658), 2008

**Research Interests:**

Alternative fuels systems and infrastructure, energy systems, combined modes of heat and mass transfer, multidimensional radiative transport, thermophysical properties, thermal modeling.

**Principal Publications of Last Five Years:**

1. (with Xuelei Chen) “A General Integration Method for Radiative Transfer in 3-D Non-Homogeneous Cylindrical Media with Anisotropic Scattering”, Journal of Quantitative Spectroscopy and Radiative Transfer, pp. 65-103, Vol. 84, Issue 1, 2004.
2. (with M.A. Sanchez) “Measurement and use of a Reflectance Function Based on the Discrete-Ordinates Method”, AIAA Journal of Thermophysics and Heat Transfer, pp. 9-23, Vol. 18, No. 1, 2004.
3. (with M.A. Sanchez and C.A. Sanchez), “ Simulations of Thermal Performance for One and Two Dimensional Insulation and Aluminum Foil Fire Barrier Materials” ASME 12th International Conference on Nuclear Engineering, Arlington, Virginia, April 25-29, 2004.

4. (with M.A. Sanchez), "Hemispherical Scatter Instrument for Reflectance Function Measurement Based on the Discrete-Ordinates Method", Proceedings of SPIE, Vol. 5431, Targets and Backgrounds X: Characterization and Representation (5431-27), Defense & Security Symposium 2004, Orlando, Florida, April 12-16, 2004.
5. (with Xuelei Chen and M.A. Sanchez), "Numerical Investigation on the Conjugate Heat Transfer in Double-Pipe Heat Exchangers with Propane Flow Boiling", HT-FED-2004-56240, ASME Heat Transfer/ Fluids Engineering Summer Conference, Charlotte, North Carolina, July 11-15, 2004.
6. (with Xuelei Chen) "Enhancement of Heat Transfer: Combined Convection and Radiation in the Entrance Region of a Circular Duct with Porous Insert", International Journal of Heat and Mass Transfer , pp. 5460-5474, Vol. 48, Issues 25-26, December 2005.
7. (with J. Parham and Y. Guo) "A Numerical Study on Performance of Hydrogen Storage Tanks Under Static and Dynamic Loading and Pre-Stressing", 2005 ASME/IMECE Conference, IMECE2005-80114, Orlando, FL, November 2005.
8. (with G. Ge) "Analysis and Test of Compressed Hydrogen Interface Leakage by Commercial Stainless Steel (NPT) Fittings", SAE World Congress, 2006-01-0130, Detroit, MI, April 2006.
9. (with G. Vishwanathan and M. Sharif) "Study of autoignition of H<sub>2</sub>-O<sub>2</sub>-Ar mixtures using computational fluid dynamics with detailed chemical kinetics in a rapid compression machine," 44<sup>th</sup> AIAA Aerospace Sciences Meeting and Exhibit, Propellants and Combustion, AIAA-2006-1453, Reno, NV, January 2006.
10. (with G. Vishwanathan) "Numerical Study of Autoignition of Hydrogen-Oxygen-Argon mixtures in a Rapid Compression Machine, Central States Section Combustion Institute", Cleveland, May 2006.

**Scientific and Professional Society Memberships:**

American Society for Engineering Education (ASEE)  
 National Society of Professional Engineers (NSPE), Alabama Society of Professional Engineers (ASPE)  
 American Society of Mechanical Engineers (ASME)  
 Society of Automotive Engineers (SAE)  
 American Institute of Aeronautics and Astronautics (AIAA)

**Honors and Awards:**

Jasper P. Baldwin Award "for Excellence in Undergraduate Teaching" (1987) – University of Oklahoma (OU).  
 OU Associates Distinguished Lecturer (1986-87,1987-88,1988-89).  
 Brandon Griffith Award - Participation in Undergraduate Activities(1987,1993,1994) – OU Engineering.  
 Purple Shaft Award, OU Pi Tau Sigma (1986,1993,1997), UA Pi Tau Sigma (2006).  
 2001 Innovator of the Year, On the Brink Category - Journal Record (Oklahoma) Newspaper

**Institutional and Professional Service:**

Mechanical Engineering Department Head

***UA Faculty Advisor SAE; Formula SAE Advisor***

SAE Alabama Section – Founding Board Member; Vice-Chair Programs  
 SAE International – Sections Board  
 OU College of Engineering Library Committee - Chair  
 OU University Patent Committee  
 OU Faculty Advisor SAE; Formula SAE Advisor

**Professional Development Activities in the Last Five Years:**

SAE SOLS Training, Chicago, 2007  
 ASPE Professional Ethics Workshop, 2006