

## Vitae -- JIM HENRY

Professor  
School of Engineering  
UNIVERSITY OF TENNESSEE AT CHATTANOOGA  
Chattanooga, TN 37403  
Phone 1-423-425-4398  
Fax 1-423-755-5229  
E-mail jim-henry@utc.edu

### Educational Background

1964 B.S. Rice University  
1964 B.S. Ch.E. Rice University  
1966 M.A. Princeton University  
1970 Ph.D. Princeton University  
Dissertation Title: Molecular Scattering Cross-Sections and the Intermolecular Potential  
Advisor: Ronald P. Andres  
Post-Doctoral, 1971 Yale University,  
Research Title: Classical Trajectory Calculations in Molecular Interactions  
Advisor: James P. Anderson

### Professional Background

1980-Present: Professor  
College of Engineering and Computer Science  
The University of Tennessee at Chattanooga  
Chattanooga, TN 37403  
  
1998: Sabbatical semester leave: Visiting Academic  
University of Edinburgh, Scotland  
  
1987-1988: Sabbatical leave: Fulbright Professor  
University of Jordan  
Amman, Jordan  
  
1976-1980: Associate Professor of Chemical Engineering  
Tulane University  
New Orleans, LA  
  
1971-1976: Chemical Research Engineer  
U.S. Department of Energy  
Pittsburgh, PA  
  
1970-1971: Lecturer and Applied Research Staff Scientist  
Yale University  
New Haven, Connecticut  
  
1968-1970: Associate Professor and Teaching Intern  
Prairie View A. and M. University and Woodrow Wilson Foundation  
Prairie View, Texas Princeton, N.J.

## Research and Development Areas

Web-based laboratory experimentation  
Teaching improvements for enhanced learning  
Integration of theory and practice in education  
Energy and resource conservation  
Process control system developments: classical, neural nets and fuzzy logic methods  
Process investigations: Distillation, Multi-tank level control

## External Grants -- recent 10 years

- 2008 Boeing Company, Development of Software for Implementation of Remotely Controlled Experimentation on the International Space Station.
- 2007 Engineering Information Foundation, cooperative laboratory development with the State Engineering University of Armenia.  
Travel Expenses, ASEE-Chemical Engineering Division Faculty Summer School, Pullman, Washington.
- 2006 NATO, Science for Peace and Security Program, cooperative laboratory development with the State Engineering University of Armenia.

## Professional & Consulting

Registered Professional Engineer, Louisiana.

Consultant: -- Total of 6 placements

Society Memberships:

Tau Beta Pi, Sigma Xi, American Institute of Chemical Engineers, American Society of Engineering Education

## Chemical Engineering Project Reports with Students -- total of 40

## Research Theses -- total of 15

## Publications, Presentation, Proposals, Workshops directed -- recent 10 years

- 2010 "Remote Experimentation on the ISS," NASA ISS Research Academy, League City, Texas  
"International Collaboration in Remote Laboratory Education," with Serge Zacher (KTH-RheinMain), REV2010, Stockholm, Sweden  
"WebLabs in Control Engineering Education: status and trends," with Serge Zacher (KTH-RheinMain), 7th Annual AALE Vienna, Austria
- 2009 "Global Cooperation in Laboratories: Armenia, Mexico, Germany & U.S." with Gaspariaryan (Armenia), Serales (Mexico) and Zacher (KTH- RheinMain), AIChE Annual Meeting, Austin.  
"Understanding Student Learning in Remote and Hands-on Laboratory Experiences," with DiBiasio (WPI) and Miletic (U Illinois), AIChE Annual Meeting, Austin.
- 2008 "Remote Vs. Hands-on Laboratory Experiences: What Works and What Doesn't," with DiBiasio (WPI), Clarke (WPI) and Miletic (U Illinois), AIChE Annual Meeting, Philadelphia.  
"Updating and Improving on Ziegler-Nichols Tuning formulas," with Marie LaBrie, AIChE Annual Meeting, Philadelphia.  
"Real Laboratories at a Distance," AIChE Annual Meeting, Philadelphia.  
"Backwards Teaching: Trial-and-error controller tuning followed by learning the whys and hows," with Zollars (Wash. State), ASEE Annual Meeting, Pittsburgh.

- "VARIETY OF WAYS OF LEARNING ABOUT DISTILLATION," with DiBiasio (WPI) and Miletic (U Illinois) , ASEE Annual Meeting, Pittsburgh.
- 2007 "Remote Laboratory Experimentation," Workshop at the ASEE Chemical Engineering Summer School, Pullman, Washington.  
 "PAPERNOL -- Recycle Paper to Ethanol," AIChE Annual Meeting, Salt Lake City.  
 "The Laboratory World is Flat," with Zollars (Wash. State), ASEE Annual Meeting, Honolulu.
- 2006 "Real Laboratories at a Distance," AIChE Annual Meeting, San Francisco.  
 "Learning-by-doing and Communications within a Process Control Class," with Zollars (Wash. State), ASEE Annual Meeting, Chicago.  
 "Laboratory-Driven Controls Teaching," ASEE Annual Meeting, Chicago.
- 2005 "Examples of Teaching Green Engineering in Engineering Courses," with Hesketh (Rowan), AIChE Spring Meeting, Atlanta  
 "Remote Experimentation in Unit Ops and Controls," AIChE Annual Meeting, Cincinnati.  
 "Introducing Reality into Process Control Classes," with Zollars (Wash. State), ASEE Annual Meeting, Portland.  
 "Green Engineering Across the Curriculum," with Hesketh and Slater (Rowan), SouthEast ASEE Meeting, Chattanooga.  
 "Remote Engineering Labs," workshop, SouthEast ASEE Meeting, Chattanooga.  
 "Modern Engineering Laboratories at a Distance," with Knight, International Journal of Engineering Education.
- 2004 "Teaching Green Engineering in Engineering Courses," with Hesketh (Rowan) et al, Workshop, AIChE Annual Meeting, Austin.  
 "Enhancing Classroom Demonstrations and Home Assignments with Remote Experiments," with Gatzke and Long (South Carolina), AIChE Annual Meeting, Austin  
 "Real or Simulation: Experiences Using Computer Simulation versus Remote Operation for Process Control," with Zollars (Wash. State), ASEE Annual Meeting, Salt Lake City.
- 2003 "Chemical Engineering Experimentation over the Internet," with Nuttall (New Mexico), AIChE Annual Meeting, San Francisco.  
 "Web-based Unit Operations and Process Control Experiments," with Nuttall, Dutta & Vadiiee (New Mexico), AIChE Annual Meeting, San Francisco.  
 "International Cooperation in Control Engineering Education using Online experiments," with Schaedel (KTH Cologne), European Journal of Engineering Education.  
 "Assessment of Remote Experiments and Local Simulations: Student Experiences, Satisfaction and Suggestions," with Zollars (Wash. State), ASEE Annual Meeting, Nashville.
- 2002 "Assessment: Engineering Laboratories," SouthEast ASEE Meeting, Gainesville.  
 "Outcomes and Assessments for Engineering Laboratories," with Knight, ASEE Annual Meeting, Montreal.  
 "Using the Modern Chemical Engineering Laboratory at a Distance," ASEE Annual Meeting, Montreal.  
 "International cooperation in control engineering education using online experiments: Enabling technology and learning systems," with Schaedel (KTH Cologne), ASEE International Meeting, Berlin.
- 2001 "Web-Based Laboratories: Technical and Pedagogical Considerations," AIChE Annual Meeting, Reno.  
 "Laboratory Remote Operation: Cures and Curses," ASEE National Meeting, Albuquerque.  
 "Remote Laboratory Operation: Web Technology Successes," with Naghedolfeizi (Fort Valley), ASEE National Meeting, Albuquerque.  
 "7 Years Experience with Web Laboratories," iNEER Annual Meeting, Valencia, Spain

