

Curriculum Vitae

ANDREW T. HSU

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PROFESSIONAL EXPERIENCE

2013 – present	SAN JOSE STATE UNIVERSITY Dean of Engineering Professor of Mechanical Engineering	SAN JOSE CALIFORNIA
2010 – 2013	WRIGHT STATE UNIVERSITY Associate Vice President for Research and Dean of the Graduate School Professor of Mechanical and Materials Engineering	DAYTON OHIO
1999 – 2010	INDIANA UNIVERSITY PURDUE UNIVERSITY INDIANAPOLIS Founding Director, Richard G. Lugar Center for Renewable Energy (2007 – 2010) Associate Dean for Research and Graduate Programs, Purdue School of Engineering (2004 – 2010) Professor of Mechanical Engineering (2003 – 2010) Associate Professor of Mechanical Engineering (1999 – 2003)	INDIANAPOLIS INDIANA
6/2008 – 6/2009	THE OHIO STATE UNIVERSITY Office of the President American Council on Education (ACE) Fellow, Mentor: President E. Gordon Gee	COLUMBUS OHIO

2007 – Present	PURDUE UNIVERSITY Professor of Mechanical Engineering (Courtesy Appointment, 2007 – 2010) Adjunct Professor (2010 – Present)	WEST LAFAYETTE, IN
1997 – 1999	UNIVERSITY OF MIAMI Associate Professor of Mechanical Engineering Director, Aerospace Program	CORAL GABLES FLORIDA
1995 – 1997	ROLLS-ROYCE NORTH AMERICA Staff Scientist	INDIANAPOLIS INDIANA
1987 – 1995	NASA GLENN RESEARCH CENTER Supervisor, Computational Physics Section (Sverdrup), (1990-1995) Senior Research Engineer (Sverdrup) (1987 – 1990)	CLEVELAND OHIO
1986 – 1987	GEORGIA INSTITUTE OF TECHNOLOGY Post-doctoral Research Fellow, School of Aerospace Engineering	ATLANTA GEORGIA

EDUCATION

1986	Ph.D.	Georgia Institute of Technology, Aerospace Engineering
1982	M.S.	Georgia Institute of Technology, Aerospace Engineering
1980	M.S.	Tsinghua University, Beijing, China, Hydraulic Engineering
1978	B.S.	North China Institute for Hydraulic and Hydropower Engineering

LEADERSHIP EXPERIENCE

The Don Beall Dean of Engineering, Charles W. Davidson College of Engineering, San Jose State University, 2013 – present

Oversee the largest engineering programs in the California State University system with over 5000 graduate and undergraduate students.

Associate Vice President for Research and Dean of the Graduate School, Wright State University, 2010 – 2013

As the Associate VP for Research, I led several initiatives in the research arena:

- Initiated and carried out the establishment of university-industry partnerships through joint faculty appointment, shared IP, and shared facilities. The initiative was recognized by the Ohio Board of Regents as a model for future university-industry collaborations.
- Worked with WSU's Lake Campus on the development of a multidisciplinary Inland Lake Restoration Institute.
- Led an effort to identify and support suitable research projects for technology transfer and commercialization, including allocating internal funds and seeking state support.
- Worked with the Research Council to develop a Conflict of Interest Policy.

As the Dean of the Graduate School, I set the following goals. The major accomplishments are listed after each goal.

1. Strategic Planning

Implemented a Graduate School (GS) strategic planning process Fall 2010 that continued through Spring 2011. During this time, we reached out broadly to faculty, students, and local communities; three comprehensive surveys were conducted to solicit input from these three constituencies. A strategic planning committee was formed with members of the faculty, graduate students, and local business and government leaders. Strategic planning sessions of the committee led to a 5 year Strategic Plan of the GS.

2. Faculty Constitution

Worked with the Faculty Senate and its Quadrennial Review Committee to revise the section of the Faculty Constitution concerning the administration of graduate programs and the Graduate Council to address faculty concerns and to better reflect the needs of the campus community.

3. Streamline and Balance the Budget for Graduate School

Worked with upper administration and the GS to streamline and achieve a balanced budget. Created additional income through increased application fees to fund marketing initiatives.

4. Marketing, Recruitment, Retention, and Completion

Developed detailed marketing plan with the help of faculty, students, external advisory board, and marketing consulting firms. Implemented a marketing budget through creating innovative revenue sources within the Graduate School. The marketing and recruitment initiative resulted in a phenomenon 18% increase in graduate application and admission for the 2012-13 academic year.

Began several new recruitment initiatives, including online search engine marketing and traditional media marketing through radio and press. Also initiated small grant opportunities for individual programs to enhance their recruitment efforts.

Started a retention program and implemented retention management software.

Conducted a survey of all the graduate programs to gauge enrollment and growth capacity. Established realistic enrollment goals for all programs. Drafted a marketing plan.

Applied for and received a Council of Graduate Schools grant to study degree completions.

Introduced 4+1 combined bachelor's/master's degree programs to the campus and assisted individual programs to develop and implement such programs.

Established domestic and international partnerships with other universities to offer joint or combined degree programs and other venues for enrollment growth and quality improvement.

Successfully secured campus approval for the name change of "School of Graduate Studies" to "the Graduate School" for more efficient marketing and better name recognition.

5. Improve Administrative Efficiency

Initiated an effort to develop an electronic admission process to improve efficiency and accountability.

Introduced auto-admissions procedures that would allow expedient processing of well qualified applicants.

Worked with AVP of International Affairs and University Center for International Education (UCIE) to move the international admission function into the Graduate School. Collaborated with UCIE to improve graduate student admission efficiency.

6. Policies

Worked with the Graduate Council and the Faculty Senate to update and improve the Graduate School's policies. Notable policy changes include: the

creation of a new combined-degree policy that allows for the creation of five-year degree programs; a reworking of the rules on Graduate Faculty membership, streamlining the process to allow speedy approval, and placing more responsibility back into the hands of colleges and schools; a substantial revision to the transfer credit rules, allowing for greater flexibility in the acceptance of transfer credit, especially for military and civilian personnel at WPAFB, and for international students whose home institutions are not “regionally accredited”; and the update of the Policies & Procedures manual to reflect the new faculty constitution and the upcoming transition to semesters. Implemented a regular and systematic process to communicate with all colleges, schools, and graduate programs to get continuous feedback on our existing policies and determine when additional changes are needed in the future.

7. Fundraising

Worked with the Graduate School Advisory Board and the VP University Advancement office to develop plans and strategies for fund raising. Acquired resources for university-industry jointly appointed faculty positions. Participated in planned gift discussions with donors. Successfully raised funds for graduate tuition scholarships.

ACE Fellow, The Ohio State University, 2008-2009

I spent one year at The Ohio State University as an ACE Fellow. Under the mentorship of President E. Gordon Gee, I not only learned a great deal about American higher education and higher education administration, but also about the art of leadership, about the need for and the mechanics of initiating cultural and structural changes, and about the philosophy of being a leader.

In addition to being one of the most experienced university presidents in the country, Dr. Gee is also one of the most experienced mentors for ACE Fellows: President Gee has mentored many ACE Fellows during his 29 years as a university president (at West Virginia, Colorado, The Ohio State, Brown, and Vanderbilt), and several of them have gone on to become presidents and provosts themselves. President Gee helped me design the one-year fellowship experience so that I not only had the opportunity to spend time with the president himself but also the opportunity to work with most of the important senior vice presidents through a comprehensive rotation schedule. The rotation took me through the president’s office, provost’s office, the office of business and finance (including facilities and public safety, etc.), and the offices of student life, university communications, human resources, the board of trustees, and some colleges.

I participated in two important projects at The Ohio State University: (1) the reorganization of the College of Arts and Sciences, which involved the enormously complex task of combining five existing colleges to create one of the country’s largest college of arts and sciences, and (2) the organization of a President’s Council on Sustainability on the OSU campus, which included coordination of campus sustainability activities.

The rotation and special projects not only gave me an overall understanding of the important operational areas of a large university but provided me with a deep

understanding of the complexity of a large campus and the skills needed to manage scale and complexity.

The three week-long ACE Seminars for the Fellows helped to tie the experience I gained at The Ohio State University to theory. The topics covered in the seminars included:

- Strategic Planning
- Financial Management
- Fundraising
- Higher Education Marketing
- Enrollment management and recruitment
- Governing Board
- Team Building
- History of Higher Education
- Higher Education Trends
- Leadership
- Diversity

Director, Richard G. Lugar Center for Renewable Energy, IUPUI, 2007 – 2010

Responsibilities:

1. Strategic planning and implementation.
2. Coordinate interdisciplinary research activities among faculty members from diverse backgrounds, including those of Schools of Engineering, Science, Public and Environmental Affairs, and Medicine.
3. Serve as the Liaison with Federal and State funding agencies, industry, and Indiana congressional delegates to secure research funding for the Lugar Center.
4. Establish strategic partnerships with government laboratories, industry, and other academic institutions nationally and internationally to promote research, education, and applications.
5. Develop core faculty expertise through (a) strengthening existing expertise and transitioning the research of existing interested faculty members to research key areas; (b) hiring new faculty members with expertise in the key areas.
6. Establish a cluster of state-of-the-art laboratories for renewable energy research.
7. Develop a high profile education and outreach program.
8. Fundraising.

Accomplishments:

1. As the founding director of the Richard G. Lugar Center for Renewable Energy, I was instrumental in the establishment of the center, including the inception of idea, proposal development, and contacting the senior senator of Indiana, the Honorable Richard G. Lugar, to propose the naming of the center in honor of the Senator's outstanding leadership in shaping the US energy strategy and policy.

2. Organized strategic planning and served as the primary author of the Lugar Center's strategic plan.
3. The Center received two multi-million dollar grants and several competitive DOE and DOD grants.
4. Fundraising efforts resulted in over \$500K of philanthropic contributions.
5. Organized and recruited an advisory board consisting of experts from other academic institutions and government labs, industry and government leaders.
6. Planned and organized a biannual series of Indiana Renewable Energy Forums to reach out to the general public and industry in Indiana and to promote renewable energy research and applications. Featured keynote speakers included senators and congressmen, Assistant Secretary of US DOE, and distinguished scientists. Secured corporate and private foundation sponsorship for the Forum.
7. Established strategic partnerships between the Lugar Center and the Army Research Laboratory, Crane Naval Warfare Center, the National Renewable Energy Lab, and the Argonne National Lab that resulted in multiple joint research proposals and grants.
8. Worked with the IU Federal Relations Director and the Indiana congressional delegation to secure congressional research funding for the center.
9. Oversaw center development that included transitioning faculty research interests, acquiring new lab space, and the hiring of new faculty members.
10. Appointed by Indiana Governor Mitch Daniels to chair the Indiana Bioproducts Commission in 2008 to study biofuel strategies for the State of Indiana.
11. Served on international delegations led by Indianapolis Mayor Greg Ballard.
12. Co-organized IUB-IUPUI Energy Conference in 2009 and co-authored an IU Energy White Paper that was submitted to IU President Michael McRobbie.
13. Working with Indiana Energy Systems Network to co-found an Indiana Battery Institute.
14. Collaborated with Purdue WL, Notre Dame, and Ivy Tech on a proposal that resulted in a \$6.1M grant for Indiana workforce development in the area of vehicle electrification.

Associate Dean for Research and Graduate Programs, School of Engineering, Indiana University – Purdue University Indianapolis, 2004 -2010

Responsibilities:

(1) **Research:** Promote Excellence in Research, Scholarship, and Creative Activity within the Purdue School of Engineering, IUPUI. Supervise the School's research office that provides support for faculty and staff to increase scholarly activity and external research funding. Functions of the office include:

- (a) Develop and implement strategic plans for research.

- (b) Develop policies and procedures to promote research.
 - (c) Faculty development: provide training to faculty on proposal preparation and grant administration.
 - (d) Help faculty prepare proposals, reviewing and approving budgets, and processing proposals for submission, providing administrative support for awards, contracts, and research account management.
 - (e) Serve as the liaison between the School and government funding agencies, foundations, industry, and campus administration.
 - (f) Responsible for research compliance within the School, including conflict of interest, export control, and Responsible Conduct of Research.
 - (g) Assist faculty in technology transfer and commercialization activities.
 - (h) Provide leadership to the Dean's Industrial Advisory Council and its Research Subcommittee to develop outreach and collaboration with industry.
- (2) **Graduate Education:** Serve as the chief academic officer for graduate programs for the School; enhance infrastructure for graduate education.
- (a) Supervise the staff within the School's graduate office that is responsible for student admission and student records.
 - (b) Improve existing and develop new policies and procedures for the School to improve education and increase graduate enrollment.
 - (c) Serve as the liaison between the School and the campus and university. Serve as the representative of the School on the IUPUI Graduate Affairs Committee and the Purdue University Graduate Council.

Accomplishments:

As the associate dean, I developed strategic plans for the School's research and graduate programs and oversaw their implementation. The achievements listed below are the result of carrying out the action items of the strategic plans.

Research:

1. Implemented a strategic plan that resulted in rapid growth in research at the School in which research grant dollars per year grew from \$2M to \$10M in a period of five years.
2. Identified need for centers of excellence in the strategic plan (before the campus signature center initiative). Initiated efforts to establish interdisciplinary centers within the Purdue School of Engineering to improve the research environment of the School, resulting in the establishment of three IUPUI Signature Centers: the Richard G. Lugar Center for Renewable Energy, the Transportation Active Safety Institute, and the Center for Biomechanics and Biomaterials.
3. Served as interface between school and funding agencies as well between school and other university units. Visited funding agencies on a regular basis, including DOD, DOE, and NSF program managers. Worked with Indiana University Director of Federal Relations on funding opportunities. The work resulted in two (three-year) grants that total \$10M.

4. Worked with representatives from IUPUI Office of Research and Sponsored Programs to improve research and contract grant administration. A service agreement template aimed at expediting industry grants and contracts was developed and approved by the university as a result of these activities.
5. Worked with Indiana University Research & Technology Corporation, the technology transfer arm of Indiana University, to help faculty members patent their technology and develop commercialization strategies. Several startup companies owned by engineering faculty members were created during my tenure as the Associate Dean. One faculty-owned company was sold in 2008 for \$80M, which resulted in considerable income for the School.
6. Re-organized the School's Research Committee as part of a series of efforts to change the School's research culture and promote research in all academic departments.
7. Implemented training program using Collaborative Institutional (CITI) Training Module to satisfy NSF Responsible Conduct of Research requirements and worked with campus Research and Sponsored Programs (R&SP) on compliance issues related to federal grants.
8. Worked with university General Council and R&SP to develop school policies and procedures on export control and conflict of interest.
9. Met regularly with administrators from other IU and Purdue campuses, including the Associate Vice President for Research, Purdue University, and the Associate Dean for Research of the College of Engineering at Purdue University, to foster a close collaboration with IU Bloomington and Purdue West Lafayette.
10. Chaired a School action group on Discipline Based Research that resulted in a number of policy-related proposals to fundamentally improve the School's research infrastructure as well as research culture.
11. Developed the Undergraduate Research Program. Served as co-PI on a proposal to establish the Multidisciplinary Undergraduate Research Institute (MURI) and received funding. MURI supports 10-15 undergraduate students annually to conduct research, participate and publish in national student conferences.

Graduate Education:

1. Since taking over the administration of the graduate programs at the School of Engineering, I raised several policy-related issues at the School, campus, and university levels. These issues included tuition waiver for graduate research and teaching assistants in the IU system, new course request approval procedures and roles of stewardship in the Purdue University system, etc. A number of these issues were successfully resolved.
2. As a member of the Purdue University Intercampus Graduate Education Administration Committee, I helped develop a new system-wide policy that eliminated the stewardship concept and established a peer relationship among all campuses with an emphasis on the one Graduate School concept.
3. As a member of the ad hoc Graduate Faculty Certification Committee of Purdue University, I participated in the development of a new Graduate Faculty Appointment Policy that eliminated the seven levels of graduate faculty

certification and established a single level of graduate faculty certification for the entire Purdue system.

4. As an action item of the strategic plan, several new graduate degrees were developed. I oversaw the development of a new M.S. in Technology program from the proposal preparation stage to its implementation stage. As a result of this effort a new M.S. in Technology program was approved in fall 2005, and was successfully implemented in 2006. Student enrollment increased from 0 to 40 in two years. I also took the initiative to lead the discussion on an agreement for two new Ph.D. programs in Engineering to be offered on the IUPUI campus.
5. To facilitate the development of new graduate programs, I proposed and implemented an incentive mechanism within the School for technology departments and faculty to develop and teach graduate level courses.
6. I proposed and helped to establish a new policy at the School level to provide tuition waiver for all Ph.D. candidates, as well as to all research assistants at the MS level.
7. I took the initiative and organized the development of two new graduate certificate programs - one in systems engineering, the other in facility management and logistics.
8. As the Chair of the Purdue Area C Curriculum Committee, I provided leadership for curriculum development for all Purdue University campuses.
9. As a member of the Purdue Graduate Council, I exerted influence in working with Purdue Graduate School and Purdue Graduate Council in shaping Purdue Graduate School Policies: Recommended the establishment of policies and procedures for the application and approval of dual-degree programs that resulted in a new policy being passed by graduate council in February 2006.
10. I worked with the IUPUI campus to develop a proposal for an independent multidisciplinary PhD program and with the Kelly School of Business to establish an engineering management MS program.

Director of Aerospace Program, University of Miami, Coral Gables, FL, 1997 - 1999

Responsibilities:

As the Director of the Aerospace Program within the Mechanical Engineering Department at the University of Miami, I was responsible for all issues related to managing the academic program, including curriculum development, student and faculty recruitment, and representing the program in college and university settings.

Accomplishments:

1. Developed curriculum and the related new courses necessary for an aerospace track within the Department of Mechanical Engineering.
2. Worked with department chair on teaching assignment of faculty in the aerospace engineering area.
3. Recruited students into the Aerospace program.

4. Developed research programs related to aerospace engineering at both the graduate and undergraduate programs.

Staff Scientist, Rolls-Royce North America, Indianapolis, 1995 - 1997

Responsibilities:

Served as a senior researcher and senior advisor to the Research and Development Department. Supervised junior researchers.

Accomplishments:

1. Successfully introduced technologies developed at NASA into production software used for aircraft engine design.
2. Established team effort and team spirit in software development.
3. Successfully brought large research awards from NASA to the company.

Supervisor, Computational Physics Section, NASA Glenn (Lewis) Research Center, 1990 - 1995

Responsibilities:

Supervised a group of eight Ph.D. level researchers to carry out research for NASA as on-site contractors. Served as the liaison between the contract company and NASA administrators. Ensured funding for the support of company employees. Functions of the position included:

1. Budgeting
2. Hiring
3. Performance appraisal
4. Salary raise recommendations

Accomplishments:

1. Successfully proposed to NASA and obtained funding for three large scale projects, and organized teams of researchers to complete these multi-year projects and introduce the technologies to the aero-propulsion industry. The projects were: (1) Probability Density Function (PDF) Method for Turbulence Simulations, (2) Large Scale Parallel Computing Using the Lattice Boltzmann Method, and (3) Turbulence Modeling using Generic Algorithms for model development which resulted in publications that won the Most Outstanding Paper from the *International Journal of Numerical Methods for Heat and Fluid Flow*.
2. Successfully resolved conflicts between NASA administrators and contract employees. Implemented measures that resolved the problem of salary compression.
3. Successfully built team spirit within the group and resolved conflicts among team members.

4. The group won several NASA's "Best Publication" awards.

MANAGEMENT TRAINING

- 2008-2009, ACE Fellowship, The Ohio State University
- January 2007 – December 2007, Indiana University Leadership Development Program: IU LeaD Training Series.
- 1990-1995, Attended yearly American Management Association (AMA) leadership development workshops

UNIVERSITY SERVICE (Wright State University)

University Committees

Chair, University Graduate Council
Member, Semester Transition Committee
Member, Council of Deans

UNIVERSITY SERVICE (IUPUI)

Department Committees

Member, ME Tenure and Promotion Committee, 2004 – 2010
Member, ME Graduate Education Committee, 1999 – 2005
Member, ME Undergraduate Education Committee, 1999 – 2004
Member, ME Equipment Committee, 2000 – 2004
Chair, Seminar Committee, 1999 – 2002
Chair, Thermal-Fluid Curriculum Sub-Committee, 2000 – 2001

School Committees:

Chair, E&T Graduate Education Committee, 2002 – 2004
Chair, Administrative Review Committee, 1999 – 2000
Member, Faculty Senate, 2000 – 2004
Alternate Member, Faculty Senate, 1999 – 2002
Member, Research Sub-Committee, Dean's Industrial Advisory Council, 2002 – 2010

University Committees

Member, Purdue University Graduate Council, Purdue University, West Lafayette, 2004 – 2010
Chair, Graduate Council Area C Curriculum Committee, Purdue University, West Lafayette, 2004 – 2006
Member, Graduate Council Area C Curriculum Committee, Purdue University, West Lafayette, 2004 – 2010
Member, IUPUI Graduate Affairs Committee, 2004 – 2010
Member, IUPUI Research Deans' Council, 2004 – 2010
Member, IUPUI Internal Grants Proposal Review Committee, 2001 – 2010

UNIVERSITY SERVICE (University of Miami)

Department Committees

Graduate Committee, 1997 – 1999
Undergraduate Committee, 1997 – 1999
Curriculum Committee, 1997 – 1999

College Committees

ME Chair Search Committee, 1998 – 1999
Undergraduate Education Committee, 1998 – 1999

PROFESSIONAL SOCIETIES

Fellow, American Council on Education (ACE)

Associate Fellow, American Institute of Aeronautics and Astronautics (AIAA)

Member, American Society of Mechanical Engineers (ASME)

Member, American Society of Engineering Education (ASEE)

CIVIC AND COMMUNITY ACTIVITIES

- Trustee, Science and Engineering Foundation of Dayton, 2011 - present
- Member, Board of Governors, Edison Materials Technology Center (EMTEC), 2010 - 2012
- Member, Executive Committee of Board of Governors, Edison Materials Technology Center (EMTEC), 2010 - 2012
- Member, Board of Governors, the University Clean Energy Alliance of Ohio, 2011 - present
- Speaker and Facilitator, American Council on Education Leadership Academy for Department Chairs, Miami University, Oxford, Ohio, July, 2012
- Member, Professional Development Committee, American Council on Education Council of Fellows, 2010-2012
- Session Chairman, "Hydrogen" Session, the Energy and Materials Research Conference, Malaga, Spain, June, 2012.
- Panelist, Bingham-McHale Legislative Conference, served on the Alternative Energy Panel with two state legislators. Indianapolis, IN, December 11, 2008.
- Panelist, Lugar-Visclosky Energy Forum and Expo. Served on a panel with Senator Richard Lugar and US Congressman Pete Visclosky. Calumet, IN, October 7, 2008.
- Chair, Indiana Bioproducts Commission (IBC). IBC is an ad hoc commission enacted by the Indiana legislature; its chair is appointed by Governor Mitch Daniels, 2008 - 2009
- Chair, Organizing Committee, and Speaker, 2nd Indiana Renewable Energy Forum, Indianapolis, IN, September 15, 2008
- Keynote Speaker, "Need to Go Green" Conference, Fort Wayne, June 21, 2008
- Panelist, Greater Indianapolis Chamber of Commerce Pancake & Politics Breakfast, June 17, 2008
- Presenter, Going Green Symposium, IUPUI, April 24, 2008
- Keynote Speaker, Ice Miller Green Industries Initiative Announcement, March 6, 2008
- Keynote Speaker, Joint Meeting of the Indiana Chapter of IEEE – PES/IAS (Institute of Electrical and Electronics Engineers, Power & Energy Society, Industry Application Society), Indianapolis, February 12, 2008
- Chair, Organizing Committee, and Speaker, 1st Indiana Renewable Energy Forum, Indianapolis, IN, January 4, 2008
- Banquet Keynote Speaker, American Society of Naval Engineers Annual Conference, Bloomington, IN, November 13, 2007
- Organized the IUPUI Chapter of Pi Tau Sigma Engineering Honor Society and serve as Faculty Advisor, 1999 - 2003
- American Institute of Aeronautics and Astronautics (AIAA) Faculty Advisor, University of Miami, 1997-1999

- Chairman, AIAA Northern Ohio Section, 1991-1992
- Seminar-Chair, AIAA Northern Ohio Section. Organized monthly dinner seminars, 1990-1991
- Organized workshops on PDF methods for turbulent combustion at NASA Lewis Research Center, 1992-1994

RESEARCH PUBLICATIONS

Refereed Journals

1. **Hsu, A.T.**, He, H., and Huang, L., (2012) "Non-precious metal catalytic materials for auto-thermal reforming," *Advanced Materials Research*, Vols. 479-481, pp 481-487
2. Huang, L., Zhang, F., Wang, N., Chen, R., and **Hsu, A.T.**, (2012) "Nickel-based perovskite catalysts with iron-doping via self-combustion for hydrogen production in auto-thermal reforming of Ethanol," *International Journal of Hydrogen Energy*, volume 37, issue 2, 1272 - 1279
3. Huang, L., Liu, Q., Chen, R., **Hsu, A.T.**, (2011) "Hydrogen production via auto-thermal reforming of bio-ethanol: The role of iron in layered double hydroxide-derived Ni_{0.35}Mg_{2.65}AlO_{4.5±} catalysts", *Applied Catalysis A: General* 393 302–308.
4. Sun, W., **Hsu, A.T.** and Chen, R., (2011) "Palladium-coated manganese dioxide catalysts for oxygen reduction reaction in alkaline media", *J. Power Sources*, 196 4491–4498.
5. Sun, W., **Hsu, A.T.** and Chen, R., (2010) "Carbon supported tetragonal manganese oxide catalysts for oxygen reduction in alkaline media", *J. Power Sources*, 196, 627-635.
6. Jiang, L., **Hsu, A.T.**, Chu, D and Chen, R., (2010) "A highly active Pd coated Ag electrocatalyst for oxygen reduction reactions in alkaline media", *Electrochimica Acta*, 55, 4506-4511.
7. Huang, L., Chen, R., Chu, D., **Hsu, A.T.**, (2010) "Hydrogen production through auto-thermal reforming of bio-ethanol over Co-based catalysts: effects of iron in Co/Al₂O₃ catalysts," *International Journal of Hydrogen Energy*, 35 1138-1146
8. Jiang, L., **Hsu, A.T.**, Chu, D and Chen, R., (2010) "Ethanol electro-oxidation on Pt/C and PtSn/C catalysts in alkaline and acid solutions," *International Journal of Hydrogen Energy*, 35 365-372
9. Guo, J., **Hsu, A.T.**, Chu, D and Chen, R., (2010) "Ethanol electro-oxidation on Pt/C and PtSn/C catalysts in alkaline and acid solutions," *Journal of Physical Chemistry C*, 114 4324-4330
10. Huang, L., Chen, R., Chu, D., **Hsu, A.T.**, (2010) "Nanorod alumina-supported Ni-Zr-Fe/Al₂O₃ catalysts for hydrogen production in auto-thermal reforming of ethanol," *Materials Research Bulletin*, v 45, n 1, p 92-96
11. Jiang, L., **Hsu, A.T.**, Chu, D and Chen, R. (2009) "Size-Dependent Activity of Palladium Nanoparticles for Oxygen Electroreduction in Alkaline Solutions," *Journal of The Electrochemical Society*, 2009, Vol. 156, No. 5, pp. B643–B649
12. Jiang, L., **Hsu, A.T.**, Chu, D and Chen, R. (2009) "Oxygen reduction reaction on carbon supported Pt and Pd in alkaline solutions", *Journal of Electrochemical Society*, Vol. 156 (3) Pages B370 – B376.
13. Huang, L., Xie, J., Chen, R., Chu, D., **Hsu, A.T.**, (2009) "Fe Promoted Ni-Ce/Al₂O₃ in Auto-Thermal Reforming of Ethanol for Hydrogen Production", *Catalysis Letters*, 2009, 130 (3-4): 432-439.
14. Huang, L., Xie, J., Chen, R., Chu, D., **Hsu, A.T.**, (2009) "Iron-promoted nickel-based catalysts for hydrogen generation via auto-thermal reforming of ethanol", *Catalysis Communications* Volume 10, Issue 5, 25 January 2009, Pages 502-508
15. Jiang, L., **Hsu, A.T.**, Chu, D., and Chen, R., (2009) "Oxygen reduction on carbon supported Pt and PtRu catalysts in alkaline solutions", *Journal of Electroanalytical Chemistry*, Vol. 629, Pages 87-93.

16. Huang, L., Xie, J., Chen, R., Chu, D., **Hsu, A.T.**, (2008) "Effect of iron on durability of nickel-based catalysts in auto-thermal reforming of ethanol for hydrogen production", *International Journal of Hydrogen Energy*, 33 7448-7456.
17. Wang, G., Ramesh, N., **Hsu, A.T.**, Chu, D., and Chen, R., (2008) "Density Functional Theory Study of the Adsorption of Oxygen Molecule on Iron Phthalocyanine and Cobalt Phthalocyanine", *Molecular Simulation*, 34 1051-1056.
18. Zhang, P., Su, M., Liu, Y., **Hsu, A.T.**, and Yokota, H. (2007) "Knee-Loading Dynamically Alters Intramedullary Pressure in Mouse Femora," *Bone* 40:538-543.
19. Hu, N., Chen, R. and **Hsu, A.T.** (2006, August) "Molecular Simulation of the Glass Transition and Proton Conductivity of 2, 2'-Benzidinedisulfonic Acid (BDSA) and 4, 4'-Diaminodiphenylether-2, 2'-Disulfonic Acid (ODADS) Based Copolyimides as Polyelectrolytes for Fuel Cell Applications," *Polymer International* 55, 8:872-882.
20. Su, M., Jiang, H., Zhang, P., Liu, Y., Wang, E., **Hsu, A.T.**, and Yokota, H. (2006) "Load-Driven Molecular Transport in Mouse Femur with Knee-Loading Modality," *Annals Biomedical Eng.* 34:1600-1606.
21. Chen, J, Bai, G; Shen, Z; Li, X; **Hsu, A.T.** (2005, November) "Prediction of Failure Rate of Rotary Machine Using Computer Simulation," *Journal of Manufacturing Science and Engineering*, Transactions of the ASME, 768-772.
22. Koh, J, Akay, H, Liou, M., and **Hsu, A.T.** (2005, June) "Analysis of Overall Heat Balance in Self-Heated Proton-Exchange-Membrane Fuel Cells for Temperature Predictions," *Journal of Power Sources*, 144, 1:122-128.
23. Hu, N; Sun, X; **Hsu, A.T.** (2005, April) "Monte Carlo Simulations of Hydrogen Absorption in Alkali-Doped Single-Walled Carbon Nanotubes," *Journal of Chemical Physics*, 123, 4:044708.
24. Sun, C.; **Hsu, A.T.** (2004, December) "Multi-Level Lattice Boltzmann Model on Square Lattice for Compressible Flows," *Computers and Fluids*, 33, 10:1363-1385.
25. Guo, Y. and **Hsu, A.T.** (2004, December) "Extension of CE/SE Method to 2D Viscous Flows," *Computers and Fluids*, 33, 10:1349-1361.
26. Sun, C.; **Hsu, A.T.** (2003, July) "Three-Dimensional Lattice Boltzmann Model for Compressible Flows," *Physical Review E*, 68, 1 2:16303/1-16303/14.
27. Guo, Y., He, G. and **Hsu, A.T.** (2001, August) "Application of Generic Algorithms to the Development of a Variable Schmidt Number Model for Jet-in-Crossflows," *International Journal of Numerical Methods for Heat and Fluid Flow*, 11, 8: 744.
28. **Hsu, A.T.**, He, G., and Guo, Y. (2000, November) "Unsteady Simulation of a Jet-in-Crossflow," *International Journal of Computational Fluid Dynamics*, 14, 1:41-54.
29. **Hsu, A.T.**, and He, G. (2000) "Probability Density Function Model of Turbulent Flames," *Applied Energy*, 67, 117-135.
30. Yun, X., **Hsu, A.T.**, and Hwang, N. (2000) "Coupled Fluid and Solid Motions in a Leaflet Type Artificial Heart Valve: Numerical and Experimental Verifications," *ASAIO Journal*, 46, 2.
31. He, G. and **Hsu, A.T.** (1999) "Effect of Schmidt Number on Scalar Mixing in Jet-in-Crossflows," *International Journal of Heat and Mass Transfer*, 42, 20:3727-3738.
32. **Hsu, A.T.**, Yun, X., and Hwang, N. (1999). "The Development of an Unstructured Grid Algorithm for Artificial Heart Valve Simulations," *ASAIO Journal*, 45, 6.
33. **Hsu, A.T.**, and He, G. (1999) "Probability Density Function Method for Turbulent Hydrogen Flames," *International Journal of Hydrogen Energy*, 24, 1:65-74.

34. Anand, M.S., **Hsu, A.T.**, and Pope, S. (1997, July) "Calculations of Swirl Combustors Using Joint Velocity-Scalar Probability Density Function Method," *AIAA Journal*, 35, 7.
35. Baurle, R.A., **Hsu, A.T.**, and Hassan, H.A. (1995, November – December) "Comparison of Assumed and Evolution PDF's in Turbulent Combustion Calculations," *Journal of Propulsion and Power*, 11, 6.
36. **Hsu, A.T.**, Tsai Y.L., and Raju, M.S. (1994) "A PDF Approach for Compressible Turbulent Reacting Flows," *AIAA Journal*, 32, 7.
37. **Hsu, A.T.** and Shih, T.H. (1993, August) "Effect of Coriolis Force on Compressible Turbulence--DNS Results," *Turbulent Shear Flows*.
38. **Hsu, A.T.** and Liou, M.S. (1991, March) A Computational Analysis of Under-Expanded Jets in the Hypersonic Regime, *Journal of Propulsion and Power*, 7, 2.
39. **Hsu, A.T.** and Chen, J.Y. (1991) A Continuous Mixing Model for PDF Simulations and its Applications to Combusting Shear Flows, *Turbulent Shear Flows*.
40. **Hsu A.T.** and Wu, J.C. (1988) "A Vortex Flow Model for the Blade-Vortex Interaction Problem," *AIAA Journal*, 26, 5.

Patents

1. Chen, R., Wang, G., Xie, D., and **Hsu, A.T.**, "Anion exchange membranes," WIPO International Patent Number: WO089355A1, 2009

Conference Publications

1. **Hsu, A.T.**, He, H. and Chen, R., (2012) "Efficiency of Catalysts in Rechargeable Lithium-Air Batteries," The Energy and Materials Research Conference, Torremolinos, Malaga, Spain, June, 2012.
2. Guo, J., **Hsu, A.T.**, Chu, D., and Chen, R., (2010) "Carbon-Supported Ag and Ag-based catalysts for oxygen reduction reaction in alkaline solution", the 218th ECS Meeting, Las Vegas, USA, Oct., 2010.
3. H. He, **A. Hsu** and Chen, R., (2010) "The influence of LiCoO₂ with spinel symmetry on lithium-ion batteries performance and electrochemical properties", the 218th ECS Meeting, Las Vegas, USA, Oct., 2010.
4. Xu, Q., **Hsu, A.T.**, Cheng, R, and Chen, R., (2010) "ECSTM Investigations on the Stability of Ag Nanoparticles Deposited on HOPG in an Alkaline Electrolyte Solution", the 218th ECS Meeting, Las Vegas, USA, Oct., 2010.
5. Chen, R., Li, H., **Hsu, A.T.**, Chu, D., and Wang, G., (2010) "Unraveling ORR Mechanisms on Carbon Supported Fe- and Co-Phthalocyanine Catalysts in Alkaline Media", the International Conferences on Modern Materials and Technologies (CIMTEC 2010) in Montecatini Terme, Tuscany, Italy, June 2010.
6. Guo, J., **Hsu, A.T.**, Chu, D., and Chen, R., (2010) "Oxygen Reduction Reaction Activities of Carbon-Supported Ag Nanoparticles in Alkaline Media", the 217th ECS Meeting, Vancouver, Canada, April 26, 2010.
7. Chen, R., Sun, W., Wang, **Hsu, A.T.**, and Xie, D., (2009) "Factors Affecting Performance of Alkaline Membrane Fuel Cells", 216th ECS Meeting, Vienna, Austria, Oct. 2009.

8. Jiang, L., **Hsu, A.T.**, Chu, D., and Chen, R., (2009) "Comparison study of ethanol electro-oxidation on Pt/C and PtSn/C catalysts in alkaline solutions," *216th ECS Meeting, Vienna, Austria, Oct. 2009.*
9. Huang L., Chen R., Chu D., Xie J., and **Hsu, A.T.**, (2009) "Ni-Fe binary metal catalysts for hydrogen production via auto-thermal reforming of ethanol", *AIChE National Meeting 2009, Tampa, FL (April 09).*
10. Huang L., Chen R., Chu D., and **Hsu A.**, (2009) "Auto-thermal reforming of bio-ethanol for hydrogen production over Cobalt-based catalysts", *36th Northeast Regional Meeting of ACS, Hartford, CT. (2009, Oct)*
11. Jiang, L., **Hsu, A.T.**, Chu, D., and Chen, R., (2009) "Size-Dependent Activity of Palladium Nano-particles for Oxygen Reduction Reactions in Alkaline Solutions", *215th ECS meeting, May 2009, San Francisco, CA.*
12. Huang L., Chen R., Xie J., **Hsu A. T.**, and Chu D. (2009, August) "Hydrogen Production via Auto-thermal Reforming of Bio-ethanol over Improved Ni-based Catalysts," *238th ACS Fall National Meeting & Exposition, Washington, DC.*
13. Jiang, L., **Hsu, A.T.**, Chu D., and Chen, R., (2008) "Investigation of Carbon Supported Pd, Ag, and Au Catalysts in Alkaline Solutions", *2008 Fuel Cell Seminar & Exposition, Oct. 28-30, 2008, Phoenix, Arizona.*
14. Huang L., Xie J., Chen R., Chu D., and **Hsu, A.T.** (2008) "A Study of Non-Precious Metal Catalysts for Auto-Thermal Reforming of Ethanol," *2008 Fuel Cell Seminar & Exposition, Phoenix, AZ.*
15. Reed, M., Wang, G., **Hsu, A.T.**, Chu, D., and Chen, R., (2008), "Design Macrocyclic-Catalysts for Alkaline Anion Exchange Membrane Fuel Cells: Coupling Computational Simulation with Electrochemical Measurements", *2008 Fuel Cell Seminar & Exposition, Oct. 28-30, 2008, Phoenix, Arizona.*
16. Jiang, L., **Hsu A.T.**, Chu, D., And Chen R., (2008) "Oxygen Reduction Reaction on Carbon Supported Pt and Pd in Alkaline Solutions", *214th ECS - Pacific Rim Meeting on Electrochemical and Solid-State Science, Honolulu, Oct. 15, 2008.*
17. Huang L., Chen R., Chu D., Xie J., and **Hsu, A.T.** (2008) "Study on Iron Promoted Non-Precious Metal Catalysts for Oxidative Reforming of Ethanol," *214th ECS Meeting, Honolulu, HI.*
18. Huang L., Xie J., Chen R., Chu D., and **Hsu, A.T.** (2008) "Improved Durability of Iron Promoted Non-Precious Metal Catalysts for Hydrogen Generation through Bio-ethanol Reforming," *ECS Transactions, 214th ECS Meeting, Honolulu, HI.*
19. Koh, J, Akay, H, Liou, M., and **Hsu, A.T.** (2004) "Analysis of Overall Heat Balance in Self-Heated Proton-Exchange-Membrane Fuel Cells for Temperature Predictions," *Fuel Cell Seminar, Houston, TX.*
20. **Hsu, A.T.**, Hu, N., Sun, X. (2004) "Monte Carlo Simulations of Hydrogen Adsorption in Alkali-Doped Single-Walled Carbon Nanotubes," *Material Research Society Annual Meeting, Boston, MA.*
21. **Hsu, A.T.** and Hu, N. (2004, November) "Molecular Simulation of the Water Uptake and Glass Transition of Sulfonated Copolyimides as Polyelectrolytes for Fuel Cell Applications," *Material Research Society Annual Conference, Boston, MA.*
22. **Hsu, A.T.**, Yang, T., Lopez, I., and Ecer A. (2003, May) "A Review of Lattice Boltzmann Models for Compressible Flows," *Parallel Computational Fluid Dynamics, Moscow.*
23. **Hsu, A.T.**, Yang, T., Sun, C., and Lopez. I. (2002, July 7-10) "A Lattice Boltzmann Method for Turbomachinery Simulations," *AIAA/ASME/SAE/ASEE Joint Propulsion Conference, Indianapolis, IN.*

24. **Hsu, A.T.**, Huang, J., and Sheng, J. (2002, July 7-10) "A New PDF Based Monte Carlo Scheme for Two-Phase Flows Simulations," *AIAA/ASME/SAE/ASEE Joint Propulsion Conference, Indianapolis, IN.*
25. **Hsu, A.T.**, Yang, Y., Ecer, A., and Lopez, I. (2002, May 20-23) "On the Parallelization of the Lattice Boltzmann Method for Turbomachinery Applications," *Parallel CFD 2002 Conference, Nara, Japan.*
26. **Hsu, A.T.** and Yang, T. (2002, May 12-17) Molecular Dynamics Simulation of Nano Scale Channel Flows, ASME First International Conference on Nanoscale/Molecular Mechanics, Honolulu, HI.
27. **Hsu, A.T.**, Sun, C., T. Yang, A. Ecer, and Lopez, I. (2001, October) Parallel Computation of Multi-Species Flow Using a Lattice-Boltzmann Method, Proceedings of Parallel CFD 2001 Conference, Elsevier Press.
28. **Hsu, A.T.**, Sun, C., Wang, C., Ecer, A. and Lopez, A., (2001, October) Parallel Computing of Transonic Cascade Flows Using the Lattice Boltzmann Method," Proceedings of Parallel CFD 2001 Conference, Elsevier Press.
29. Guo, Y., **Hsu, A.T.**, Yang, Y., and Oyediran, A. (2000, July 17-19) Numerical Simulation of 2D Combustion Flows with the CE/SE Method, 36th AIAA/ASME/SAE/ASEE Joint Propulsion Conference, Huntsville, AL.
30. **Hsu, A.T.**, Sun, C. (2000) Parallel Computation of Compressible Flows Using Lattice Boltzmann Method, Proceedings of Parallel CFD 2000 Conference, Elsevier Press.
31. Guo, Y., **Hsu, A.T.**, Yang, Z., and Oyediran, A. (2000, January 10-13) Numerical Simulation of 2D Combustion Flows with the CE/SE Method, 38th AIAA Aerospace Sciences Meeting, Reno, NV.
32. He, G., and **Hsu, A.T.**, Brankovic, A., Syed, S., and Liu, N.-S. (1999) The Development of a Variable Schmidt Number Model Using Genetic Algorithms, 37th AIAA Aerospace Sciences Meeting, Reno, NV.
33. **Hsu, A.T.**, Yun, J.X., and Hwang, N.H.C. (1998, October) Coupled Fluid-Structure Dynamic Simulation of a Single Leaflet Artificial Heart Valve, ASME Biomedical Engineering Meeting, Cleveland, OH.
34. **Hsu, A.T.**, Yun, J.X., and Hwang, N.H.C. (1998, April) The Development of an Unstructured Grid Algorithm for Artificial Heart Valve Simulations, 44th Annual Conference American Society for Artificial Internal Organs, New York, NY.
35. **Hsu, A.T.**, Anand, M.S., and Razdan, M.K. (1997, June) Calculation of a Premixed Swirl Combustor Using the PDF Method, ASME International Gas Turbine & Aeroengine Congress.
36. **Hsu, A.T.**, Anand, M.S. and Razdan, M.K. (1996, January) An Assessment of PDF versus Finite-Volume Methods for Turbulent Reacting Flow Calculations, AIAA Paper 96-0523, 34th Aerospace Sciences Meeting.
37. Anand, M.S., **Hsu, A.T.** and Pope, S.B. (1996, January) PDF Calculations for Swirl Combustors, AIAA Paper 96-0522, 34th Aerospace Sciences Meeting.
38. Norris, A.T. and **Hsu, A.T.** (1994, June) Comparison of PDF and Moment Closure Methods in the Modeling of Turbulent Reacting Flows, AIAA Paper 94-3356, 30th AIAA/ASME/SAE/ASEE Joint Propulsion Conference.
39. Baurle, R.A., **Hsu, A.T.**, and Hassan, H.A. (1994, June) Comparison of Assumed and Evolution PDF's in Turbulent Combustion Calculations, AIAA Paper 94-3356, 30th AIAA/ASME/SAE/ASEE Joint Propulsion Conference.

40. **Hsu, A.T.**, Raju, M.S., and Norris, A.T. (1994, January) Application of a PDF Method to Compressible Turbulent Reacting Flows, AIAA Paper 94-0781, 32nd Aerospace Sciences Meeting.
41. **Hsu, A.T.**, Tsai, Y.T. and Raju, M.S. (1993, June) A PDF Approach for Compressible Turbulent Reacting Flows, AIAA Paper 93-0087, 31st Aerospace Sciences Meeting.
42. **Hsu, A.T.** (1991, June) The Study of PDF Turbulence Models in Non-Equilibrium Hydrogen Diffusion Flames, AIAA Paper 91-1780, AIAA 22nd Fluid Dynamics, Plasma Dynamics and Lasers Conference, Honolulu, HI.
43. **Hsu, A.T.** (1991, April) Progress in the Development of PDF Turbulence Models, 10th National Aero-Space Plane Technology Symposium.
44. **Hsu, A.T.** (1991, March) On Recontamination and Directional-Bias Problems in Monte Carlo Simulation of PDF Turbulence Models, Proceedings CFD 1991 Conference, Moffett Field, CA.
45. Shih, T.H. and **Hsu, A.T.** (1991, January) An Improved K- Model for Near-Wall Turbulence, AIAA Paper 91-0611, 29th Aerospace Sciences Meeting, Reno, NV.
46. **Hsu, A.T.**, and Shih, T.H. (1990, November) A New Near-Wall k-e Turbulence Model, Bul. American Phy. Soc.
47. **Hsu, A.T.**, (1990, November) The Study of PDF Turbulence Models in Combustion, Proceedings, 9th NASP Symposium, Orlando, FL.
48. **Hsu, A.T.** and Liou, M.S. (1990, August) Numerical Study of Unsteady Shockwave Reflections Using an Upwind TVD Scheme, NASA TM 103251.
49. Lytle, J.K. and **Hsu, A.T.** (1990, July) Three-Dimensional Compressible Jet-in-Crossflow Calculations Using Improved Viscosity Models and Adaptive Grid, AIAA Paper 90-2100, AIAA/SAE/ASME/ASEE 26th Joint Propulsion Conference, Orlando, FL. .
50. **Hsu, A.T.** and Lytle, J.K. (1989, June) An Algebraic Grid Adaptation Scheme with Applications to Two- and Three-Dimensional Flow Problems, Proceedings of the AIAA 9th Computational Fluid Dynamics Conference, Buffalo, NY.
51. Liou, M.S. and **Hsu, A.T.** (1989, June) A Time Accurate Finite Volume High Resolution Scheme for Three Dimensional Navier-Stokes Equations, Proceedings of the AIAA 9th Computational Fluid Dynamics Conference, Buffalo, NY.
52. **Hsu, A.T.** (1989, January) The Effect of Adaptive Grid on Hypersonic Nozzle Flow Calculations, AIAA Paper 89-0006, 27th Aerospace Sciences Meeting, Reno, NV.
53. **Hsu, A.T.** and Liou, M.S. (1988, August) A Computational Analysis of Under-Expanded Jets, AIAA Atmospheric Flight Mechanics Conference, Minneapolis, MN.
54. **Hsu, A.T.** and Wu, J.C. (1987) Viscous Flow Over Finite Wings, Proceedings of the Symposium on Heat and Mass Transfer, University of Illinois, Urbana-Champaign, IL.
55. **Hsu, A.T.** and Wu, J.C. (1987) The Unsteady Forces and Moments Induced by Blade-Vortex Interaction, Proceedings of the AHS Specialists' Meeting on Aerodynamics and Aeroacoustics, Arlington, TX.
56. **Hsu, A.T.** and Wu, J.C. (1986) Theoretical and Numerical Studies of a Vortex-Airfoil Interaction Problem, AIAA Paper 86-1094, AIAA/ASME 4th Fluid Mechanics, Plasma Dynamics and Lasers Conference, Atlanta, GA.

57. Wu, J.C., **Hsu, A.T.**, Tang, W., and Sankar, N.L. (1985) Viscous Flow Results for the Vortex-Airfoil Interaction Problem, AIAA paper 85-4053, AIAA 3rd Applied Aerodynamics Conference, Colorado Springs, CO.
58. Wu, J.C., Sankar, N.L., and **Hsu, A.T.** (1983) Some Applications of a Generalized Aerodynamic Forces and Moments Theory, AIAA Paper 83-0543, AIAA 21st Aerospace Sciences Meeting, Reno, NV.

Invited Lectures

1. Hsu, A.T. (2008, May 12) Renewable Energy Research at Richard G. Lugar Center of Renewable Energy, Idaho National Lab, Idaho Falls, ID.
2. Hsu, A.T. (2008, April 4) Renewable Hydrogen Generation through Ethanol Reforming, International Energy Agency Hydrogen Agreement Implementation Specialist Meeting, Tokyo, Japan
3. Hsu, A.T. (2008, February 16) The Need for Renewable Energy, Indiana University Winter College, Sanibel Island, FL
4. Hsu, A.T. (2007, October 1) Fuel Cell and Renewable Hydrogen Research at Richard G. Lugar Center of Renewable Energy, Argonne National Lab, Chicago, IL.
5. Hsu, A.T. (2007, April 17) Introducing Richard G. Lugar Center of Renewable Energy, Argonne National Lab, Chicago, IL.
6. Hsu, A.T. (2006, October 7) Direct Ethanol Fuel Cells and Renewable Energy, US Army Research Labs, Adelphi, MD
7. Hsu, A.T. (2006, May 23) Fuel Cell and Fuel Reformer Technologies, Tongji University, Shanghai, China.
8. Hsu, A.T.. (2003, May) Parallel Computational Fluid Dynamics, Moscow.
9. Hsu, A.T. (1999, March) Unsteady Flow Simulations of Turbulent Jet-In-Crossflows, Center for Turbulence Research, Stanford University, Palo Alto, CA.
10. Hsu, A.T. (1998, May) Unsteady Flow Simulations And Deterministic Models of Turbulence In Jet-In-Crossflows, Pratt & Whitney, West Palm Beach, FL.
11. Hsu, A.T. (1998, June) Unsteady Flow Simulations And Deterministic Models of Turbulence In Jet-In-Crossflows, NASA Lewis Research Center, Cleveland, OH.
12. Hsu, A.T. (1997, September 14) Turbulence Models for Jet-in-Crossflows," Pratt & Whitney, West Palm Beach, FL.
13. Hsu, A.T. (1993, April 20) Numerical Simulation of Turbulent Reactive Flow simulations, Department of Mechanical and Aerospace Engineering, North Carolina State University, Raleigh, NC.
14. Hsu, A.T. (1992, September 28) Probability Density Function Method for Turbulent Combustion, Center for Modeling of Turbulence and Transition, Ohio Aerospace Institute, Cleveland, OH.
15. Hsu, A.T. (1992, February 19-21) PDF Turbulence Models for Reacting Flows Workshop on Combustion Simulations, NASA Lewis Research Center, Cleveland, OH.
16. Hsu, A.T. (1991, March 10) Probability Density Function Model for Turbulent Reactive Flow Simulations, George Washington University, Washington DC.

17. Hsu, A.T. (1990, September 20) A New Near Wall Turbulence Model, Center for Modeling of Turbulence and Transition, Ohio Aerospace Institute, Cleveland, OH.
18. Hsu, A.T. (1988, June) High Speed Nozzle Flow Simulations, NASA Ames Research Center, Moffett Field, CA.

PROFESSIONAL HONORS, FELLOWSHIPS, AWARDS, AND RESEARCH SUPPORT

Honors and Awards

1. Fellow, American Council on Education, August, 2008 – June 2009
2. Abraham M. Max Distinguished Professor, IUPUI, 2004
3. Trustee's Teaching Award, IUPUI, 2003
4. Outstanding Publication Award, The Literati Club Awards for Excellence Journal Publications, 2002
5. Dean's Special Recognition Award, E&T, IUPUI, 2001
6. 2001-2002 teaching award (by popular student ballot)
7. Received Honors from Advanced Research & Technology Institute, Indiana University, for actively collaborating with local industry, 2000, 2001
8. NASA Summer Faculty Fellow, 1998
9. Technical Paper of the Year, NASA Lewis Research Center, 1993

External Research Grants

Wright State University

1. "Completion and Attrition in STEM Master's Programs," Principal Investigator, Agency: Council of Graduate Schools, Type: Research Grant, September, 2011 – August, 2012, \$30,000
2. "Advanced Power Source for Future Soldiers," Principal Investigator, Agency: US Army Research Laboratory / Indiana University, Type: Federal Government Research Grant, September, 2010 – August, 2012, \$204,200

IUPUI

3. "Lithium Ion Battery Safety and Early Failure Detection," Principal Investigator, Agency: Office of Naval Research and Crane Naval Surface Warfare Center, Type: Federal Government Research Grant, September, 2009 – September, 2011, \$2,900,000.
4. "Transportation Electrification Education Program: Indiana Advanced Electric Vehicle Training and Education Consortium." Co-Principal Investigator, serving as PI from IUPUI, in collaboration with Purdue University, West Lafayette and University of Notre Dame, Agency, US Department of Energy, October 2009 – September 2011 \$6,100,000; IUPUI Share: \$600,000
5. "Energy Security and National/Economic Security," Principal Investigator, Agency: Pew Charitable Trust, May 2009 – December 2009, \$75,000.
6. "Green Cell Phone Towers," Co-Principal Investigator, Agency: Indiana Office of Energy and Defense, October 2009 – March 2010, \$10,000.

7. "Renewable Energy through Ethanol Fuel Cell and Fuel Reformer Technologies," Co-Principal Investigator, Agency: US Army Research Laboratory, Type: Federal Government Research Grant, March, 2007 – March, 2011, \$4,540,000.
8. "Multi-Scale Methodology for the Design of Active Materials," Principal Investigator Agency: Indiana 21st Century Research & Technology Fund, Type: State Government Research Grant, March, 2004 – August, 2007, \$573,467.
9. "Large Scale Parallel CFD with Lattice Boltzmann Method, Principal Investigator, Agency: NASA, Type: Federal Research Grant, Renewal, April, 2003 – April, 2004, \$98,000.
10. "The Development of a Probability Based Model for Heat Transfer in Two-Phase Flows," Principal Investigator, Agency: TRW Foundation, Type: Non-profit Foundation Research Grant Renewal, January, 2002 – December, 2002, \$26,000.
11. "Large Scale Parallel CFD with Lattice Boltzmann Method," Principal Investigator, Agency: NASA, Type: Federal Research Grant, April, 2001 – December, 2002, \$95,717.
12. "The Development of a Probability Based Model for Heat Transfer in Two-Phase Flows," Principal Investigator, Agency: TRW Foundation, Type: Non-profit Foundation Research Grant, January, 2001 – December, 2001, \$25,000.
13. "New Computational Methods for Massively Parallel Computational Fluid Dynamics," Principal Investigator, Agency: NASA, Type: Federal Research Grant, April, 2000 – March, 2001, \$93,797.
14. "Steady/Unsteady Chemically Reacting Flow Simulation," Principal Investigator, Agency: AYT Corp., Type: Non-Federal Research Grant, January, 2000 – December, 2002, \$81,692.
15. "Cardiovascular Hemodynamics Measurements," Principal Investigator, Agency: Eli Lilly and Company, Type: Non-Federal Research Grant, September, 2000 – August 2001, \$19,000.
16. "Development of CE/SE Method for Combustion Simulations," Principal Investigator, Agency: AYT Corp., Type: Non-Federal Research Grant, September, 1999 – August 2000, \$32,000
17. "Deterministic Stress Modeling of Turbulent Mixing in Jet-in-Crossflow," Principal Investigator, Agency: Pratt & Whitney, Type: Non-Federal Research Grant, October, 1999 – August 2000, \$21,069
18. "Heat Management Analysis for High Power Density Motors," Principal Investigator, Agency: General Motors, Type: Non-Federal Research Grant, April, 2000 – June, 2000, \$3,120
19. "Numerical Simulation of Large Internal Combustion Engines," Co-Principal Investigator, Agency: Dresser-Rand, Type: Non-Federal Research Grant, September, 2000 – December, 2000, \$19,131

Miami University

20. "Numerical Simulation of Aircraft Engine Combustor Related Jet-in-Crossflows," Principal Investigator, Agency: Pratt & Whitney, Type: Non-Federal Research Grant, October, 1999 – August 2000, \$62,870.
21. "Development of Comprehensive Computer Models for Simulation of Fuel Cells," Co-Principal Investigator, Agency: US Department of Energy, Type: Federal Research Grant, October, 1997 – September, 1999, \$158,000.

22. "Numerical Simulation of Hemodynamics in Artificial Heart Valves." Principal Investigator, Agency: UM Biomedical Engineering Program, Type: Non-Federal Research Grant, October, 1997 – June 1999, \$43,200.
23. NASA-ASEE Summer Faculty Fellowship, Agency: NASA, Type: Federal Research Grant, Summer, 1998, \$15,000.
24. "Development of PDF Turbulent Combustion Module for the National Combustion Code," Principal Investigator, Agency: NASA, Type: Federal Research Grant, May, 1995 – April, 1997, \$240,000.

Internal Research Grants

1. "Hydrogen Fuel Cell Power Systems for Portable Applications." IUPUI Principle Investigator, Intercampus Applied Research Program (IARP), IUPUI, 2008-2009, \$50,000.
2. "Turbulent Combustion Simulation," Agency: University of Miami, Type: New Research Initiative Grant, 1997 - 1998, \$30,000.