

**Peter E. Jenkins, Ph.D., P.E.**



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**Summary**

Extensive experience serving in administrative and management positions in both industry and academic institutions. Served as an officer of the University of Colorado Denver (Dean) and of an advanced technology and manufacturing company (Ex. V.P.) with experience in administration, strategic and financial planning. Experience as senior contract officer dealing with U.S. and foreign industrial and government agencies. Academic and industry experience includes serving as Dean, Department Chair, Associate Department Chair, Executive Vice President, and Director of Engineering.

**Education**

Ph.D. Purdue University, W. Lafayette, IN, 1974  
M.S. Southern Methodist University, Dallas, TX, 1969  
B.S. University of Kansas, Lawrence, KS, 1963-65  
U.S. Naval Academy, Annapolis, MD, 1961-63  
I.E.M. Harvard University, Cambridge, MA, 1994  
M.B.A. Pepperdine University, Malibu, CA, 1986

**Military Experience**

**United States Marine Corps**

**Academic Experience**

**United States Naval Academy, Annapolis, MD**

- Visiting Professor, Mechanical Engineering Dept., July 2007-August 2008
- Director, ONR Fuels Research Group

**United States Air Force Academy, Colorado Springs, CO**

- Distinguished Visiting Professor, Engineering Mechanics Dept., July 2004-May 2006
- Director, Energy Research Center
- Member of UAV Research Program

**United States Military Academy, West Point, NY**

- Distinguished Visiting Professor, Civil & Mechanical Engineering Dept.,
- Director, Energy Research Program
- July 2002-June 2003

**University of Colorado Denver, Denver, CO**

- Special Assistant to the Vice Chancellor for Academic Affairs, Jan.- July 2002
- **Dean, College of Engineering & Applied Science, 1992-2002**
- Professor of Mechanical Engineering, 1992-present
- Director, EASPhD Program, 2011-Present
- Deputy Director, CSI S Center, 2012-Present
- Director, International Technology Transfer Program, 1993-2002
- Director, Energy R&D Program, 1992-2002.

**University of Nebraska-Lincoln, Mechanical Engineering Department, Lincoln, NE**

- **Professor and Dept. Chair, 1986-1992**
- Director, Center for Engine Technology, 1986-1992

**Texas A&M University, Mechanical Engineering Department, College Station, TX**

- **Assoc. Dept. Head, 1980-1984**
- Professor, 1982-1984
- Associate Professor, 1978-1982
- Assistant Professor, 1975-1978
- Director, Turbomachinery Laboratory, 1978-1984

**Northern Arizona University, Flagstaff, AZ**

- Assistant Professor, 1974-1975

**Professional Experience**

**Engine Corporation of America, Fullerton, CA**

- Executive Vice President and Director of Engineering, 1984-1986

**Texas Instruments, Inc., Dallas, TX**

- Senior Design Engineer, 1966-1970

**L.T.V. Vought Aeronautics, Dallas, TX**

- Design Engineer, 1965-66

**Registration**

Professional Engineer, Texas (39287)

**Patents**

Received five patents

**Scientific and Professional Memberships**

**Colorado Society of Professional Engineers**

President, Metro Chapter, 1996-1997

Member, Board of Directors, 1996-1998

**American Society of Mechanical Engineering (ASME), 1964-present**

Fellow, since 1984

Member, Energy Committee, 1987-1988

Member, National Nominating Committee, 1981-1984

Member-at-large, Energy Resources Group, 1981-1986

Chairman, Technical Division, 1980-1981

Program Chairman, ASME Winter Annual Meeting, 1979  
 Member, Executive Committee, 1978-1982  
 Vice-chairman, Fluid Mechanics Section, 1975  
 Member, Gas Turbine Division, 1978-present  
**American Institute of Aeronautics and Astronautics (AIAA)**, 1974-present  
 Terrestrial Energy Systems Technical Committee, 1978-1979  
**Society of Automotive Engineering (SAE)**, 1978-present  
 Chairman, National NGV Conference, 1991  
 Advisor, Univ. of Nebraska Student Chapter, 1987-1992  
 SAE Research Committee, 1993-1999  
 SAE ABET Committee, 1993-1999  
**National Society of Professional Engineers (NSPE)**, 1975-present  
 Education Committee Chairman, 1991  
**American Society of Engineering Educators (ASEE)**, 1974-present  
 Member, Energy Division  
 Associate Chairman, Summer Annual Conference, 1989  
**American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE)**,  
 1976-present  
 Education and Research Committee, 1976-1978  
**Boy Scouts of America**, 1976-1986  
 Scoutmaster, Woodbadge Instructor, and Commissioner

## Honors and Awards

2013 Selected for the Coors Endowed Chair position at the US Air Force Academy  
 2012 Received both the Outstanding Research and Outstanding Service Awards from the ME Department.  
 2008 Received Letter of Commendation for teaching at the three military academies from the Deputy Secretary of Defense, Gordon England.  
 2007 Appointed Visiting Professor, U.S. Naval Academy, Annapolis, MD.  
 2007 Selected as a Distinguished Alumni, University of Kansas.  
 2004 Selected as a Distinguished Visiting Professor at the U.S. Air Force Academy.  
 2003 Received the U.S. Army's "Commander's Award for Outstanding Public Service" from the United States Military Academy, West Point, NY, May, 2003.  
 2002 Completed "ASCE EXCEED" Teaching Program at the U.S. Military Academy.  
 2002 Selected as a Distinguished Visiting Professor at the US Military Academy, West Point, NY.  
 2000 Selected as one of 50 participants in the Leadership Denver by the Denver Metro Chamber of Commerce.  
 1996 Elected President, Metro Chapter, Professional Engineers of Colorado.  
 1994 Selected to attend the IEM program at Harvard University.  
 1992 Elected to Tau Beta Pi Engineering Honorary Society.  
 1991 Elected to the New York Academy of Sciences.  
 1990 Invited to White House in Washington, DC to brief President Bush's staff on alternative fuels and engine technology.  
 1990 Recipient of the University Outstanding Teaching Award, University of Nebraska-Lincoln.  
 1989 Hosted President Bush and three Cabinet members at the Center for Engine Technology at UNL; Made technical presentation and gave tour of test facilities.  
 1987 SAE Senior Teetor Award Winner.  
 1985, 1988-1999 - Who's Who in America.  
 1984 Fellow, American Society of Mechanical Engineers.  
 1984 Received the National NUCEA Conferences and Institute Faculty Service Award.  
 1983-1984 Appointed as a member of the Propulsion Committee for the National Research

Council of the National Academy of Engineering.  
1983 Texas A&M University Faculty Distinguished Achievement Award.  
Member Pi Tau Sigma, Tau Beta Pi, Sigma Pi Sigma Outstanding Academic Societies.

### List of Significant Publications

1. "Biochar as a Sustainable Electrode Material for Electricity Production in Microbial Fuel Cells", T Huggins, H Wang, J Kearns, P Jenkins, and ZJ Ren *Bioresource Technology*, 2014, in press, <http://dx.doi.org/10.1016/j.biortech.2014.01.058> (5yr Impact Factor 5.3)

2. "Microbial Desalination Cell with Capacitive Adsorption for Ion Migration Control," Forrestal, C., Xu, P., Jenkins, P.E., and Ren, Z., *Bioresource Technology*, 2012, 10.1016/j.biortech.2012.06.044.

Highlights: Leading Journal in biotechnology (Impact Factor 5.3). The article reported that the capacitive adsorption solved the salt management problem in MDCs.

3. "Microbial Desalination Cells for Improved Performance in Wastewater Treatment, Electricity Production, and Desalination," Luo, H., Xu, P., Roane, T.M., Jenkins, P.E., and Ren, Z., *Bioresource Technology*, 2012, 105, 60-66. ( 5 yr Impact Factor 5.3)

Highlights: Leading Journal in biotechnology (Impact Factor 5.3). The article reported that electricity production from wastewater and desalination can be mutually beneficial in MDCs . It has been cited 4 times within 7 months.

4. "Ionic Composition and Transport Mechanisms in Microbial Desalination Cells," Luo, H., Xu, P., Jenkins, P.E., and Ren, Z., *Journal of Membrane Science*, 2012, 409-410, 16-23.

Highlights: Leading Journal in membrane science (Impact Factor 4.3). The article reported the characterization results and membrane scaling mechanisms in MDCs. It has been cited 2 times within 4 months.

5. "Long-term performance and characterization of microbial desalination cells in treating domestic wastewater", Luo, H., Xu, P., Jenkins, P.E., and Ren, Z.. *Bioresource Technology*, 2012, 120:187-93 (5yr Impact Factor 5.3).

6. "Electrochemical Corrosion of Carbon Steel Exposed to Biodiesel/Simulated Seawater Mixture," Wang, W., Jenkins, P.E., and Ren, Z., *Corrosion Science*, 2012, 57, 215-219.

Highlights: No.1 Journal in corrosion science (Impact Factor 3.7). The article reported the unique corrosion behavior of carbon steel in seawater and biodiesel interface.

7. "Concurrent Desalination and Hydrogen Generation Using Microbial Electrolysis and Desalination Cells," Luo, H., Jenkins, P.E., and Ren, Z., *Environmental Science & Technology*, 2011, 45(1), 340-344.

Highlights: No.1 Journal in Environmental Science and Engineering (Impact Factor 5.8). The article reported the first system for simultaneous desalination, H<sub>2</sub> production, and wastewater treatment. The article was featured by ES&T Water-Energy Virtual Issue as a promising technology for solving energy water problems. The findings were reported by more than 100 science news releases including *Science Daily*, *Scientific American*, *NASA technical review*, *C&EN News*, *ABC 7News*, *Desalination Report*, *Membrane Technology*, *UCDenver News*, *CU Faculty Newsletter*, etc. Received numerous interview requests from USA, UK, Brazil, China, etc. It has been cited 20 times within 19 months.

8. "Carbon Nanotube Modified Air-Cathodes for Electricity Production in Microbial Fuel Cells," Wang, H., Wu, Z., Jenkins, P., Plaseied, A., Simpson, L., Engtrakul, C., and Ren, Z., *Journal of Power Sources* 2011, 196(18), 7465-7469.

Highlights: No.1 Journal in Power Production (Impact Factor 5.0). The article reported the improved performance of MFC systems by using electrodes modified by carbon nanotubes. It has been cited 8 times within 2 years.

9. "Heterogeneous Corrosion Behaviour of Carbon Steel in Water Contaminated Biodiesel," Wang, W., Jenkins, P.E., and Ren, Z., *Corrosion Science* 2011, 53(2), 845-849.

Highlights: No.1 Journal in Corrosion Science (Impact Factor 3.7).The article reported the unique corrosion behavior of carbon steel in water contaminated biodiesel. It has been cited 7times within 2 years.

10. "Effect of CNF/CNT Surface Treatment on the Performance of Air-Cathodes in Microbial Fuel Cells," Wang, H., Hakimelahi, N., Wu, Z., Jenkins, P., Plaseied, A., Simpson, L., and Ren, Z., 2012, submitted to *Journal of Power Sources* (Impact factor 4.6).

11. "Long-term performance and characterization of microbial desalination cells in treating domestic wastewater", Luo, H., Xu, P., Jenkins, PE., and Ren, Z. , *Bioresource Technology*, 2012, 120:187-93 (5yr Impact Factor 5.3).

12. "Studies on Corrosion and Fouling Detection and Prevention Using Micro Electrode Arrays", Ren, Z and Jenkins, PE., US National Institute of Standards and Technology, July 23-24, CO, 2013

13. " Understanding and Solving the Key Challenges in Microbial Desalination Systems", Forrestal, C., Luo, H., Xu, P., Jenkins, P., and Ren, Z, NA-ISMET meeting, Cornell University, October 8-10, 2012

14. "Exploring new electrode materials for sustainable electricity production in microbial fuel cells", Wang, H., Wu, Z., Jenkins, P., and Ren, Z., 242nd ACS National Meeting, Denver CO, August 28 - September 1, 2011

15. " Corrosion mechanism of carbon steel in seawater contaminated biodiesel", Wang, W., Wang, H., Jenkins, P., and Ren, Z. 242nd ACS National Meeting, Denver CO, August 28 - September 1, 2011

16. "Improved Performance of Bioelectrochemical Systems by Integrating Energy Production with Water Desalination", Luo, H., Forrestal, C., Jenkins, PE., and Ren, Z.. 3rd International Microbial Fuel Cell Conference, Wetsus, The Netherlands, June 6-8, 2011

17. "Simultaneous energy production and desalination in microbial electrochemical systems", Luo, H., Xu, P., Jenkins, PE., and Ren, Z. 241th American Chemical Society (ACS) National Meeting, Anaheim , CA, March 27-31, 2011

18. "Concurrent desalination and H<sub>2</sub> generation using an integrated bioelectric system", Luo, H., Jenkins, PE., and Ren, Z. 1st North America BioElectric Systems Meeting, UMass, October 11-13, 2010

19. "Carbon Nanofiber Modified Air Cathodes for Improving Electricity Production in Microbial Fuel Cells", Wang, H. Wu, Z. Jenkins, P. Plaseied, A. Simpson, L. Engtrakul, C. and Ren, Z.. 239th American Chemical Society (ACS) National Meeting, San Francisco, CA, March 21-25, 2010
20. "Aerodynamic Bicycle Helmet Design Using a Truncated Airfoil with Trailing Edge Modifications," Jenkins, P.E., and Sims, B.W., presented at IMECE, Denver, CO, Nov. 11-17, 2011, Published in *IMECE 2011 Proceedings*, Paper No. IMECE2011-65411.
21. "An Experimental Study of Synthetic Fuel Blends Injected into a Rolls-Royce Model 250-C20B Turbohaft Gas Turbine," by Cerza, M. and Jenkins, P.E., presented at the ASME Turbo-Expo Conference, Glasgow, Scotland, June 14-18, 2010.
22. "UCD Sports Engineering Program," by Jenkins, P.E., Plaseied, A., and Khodaei, M., presented at the 8<sup>th</sup> Conference of the International Sports Engineering Association, Vienna, Austria, July 12-16, 2010. Published in *Procedia Engineering*, Vol. 2, Issue 2, June 2010, pp.2757-2762.
23. "It's Not About The Bike," by Plaseied, A., Khodaei, M., Jenkins, P.E., et.al, presented at the 8<sup>th</sup> Conference of the International Sports Engineering Association, Vienna, Austria, July 12-16, 2010. Published in *Procedia Engineering*, Vol. 2, Issue 2, June 2010.
24. "An Experimental Study on the Effects of Fisher-Tropsch (FT) Blends with Diesel #2 and JP-5 on the Performance of a Rolls-Royce Model 250-C20B Gas Turbine Engine," presented at the ASME Turbo-Expo Conference, Orlando, FL, June 8-12, 2009.
25. "Turbine Fuel Testing with Boron Nano-Particles," by Jenkins, P.E., presented at the Naval Research Lab (NRL) Alternative Fuel Workshop, Washington, DC, July 19-20, 2007.
26. "The Impact of Sulfur Free Diesel Fuel on Lubricity and Contamination," by Jenkins, P.E. and Tal, M., presented at the British Institution for Mechanical Engineers (with Honors), Sussex, England, April 26-28, 2004. Published in the *Total Vehicle Technology Conference*, 2004.
27. "Reversed Brayton Cycle Gas Turbine," by Jenkins, P.E., presented at the 2<sup>nd</sup> International HEFAT Conference, Victoria Falls, Zambia, Africa, June 23-26, 2003.
28. "Conversion/Training of High Tech Labor Resources," by Ferrigno, D. and Jenkins, P., presented at the 2<sup>nd</sup> European Systems Engineering Conference," Munich, Germany, September 13-15, 2000.
29. "A New Micro-Gas Turbine Engine," by Jenkins, P.E., presented at the ASME Gas Turbine Conference, Munich, Germany, May 8-11, 2000.
30. *Insulating Techniques and Radiation Characteristics of Materials in Advanced Engine Designs*, by Jenkins, P.E., for EPA, Ann Arbor, MI, June 3, 1997, 41 pages.
31. *High Temperature Materials Study for Advanced Engine Designs*, by Jenkins, P.E., for EPA, March 25, 1997, Ann Arbor, MI, 47 pages.

32. "International Technology Transfer Programs," by Jenkins, P.E., U.S. Dept. of Energy Conference on Environmental Opportunities in Mexico and the Border Countries, Washington, DC, June 20-21, 1994, pp. 131-146.
33. "Derivation of a Tumble Number for Accidents Involving Pedestrians," by Szydlowski, W.M. and Jenkins, P.E., SAE Technical Paper No. 933660, presented at the 1993 SAE International Congress & Exposition, Detroit, MI, March 1-5, 1993.
34. "Performance Analysis of SI Engines with Ethyl Tertiary Butyl Ethers (ETBE) as a Blending Component in Motor Gasoline and Comparison with other Blending Components," by Baur, C., Kim, B., Jenkins, P.E., and Cho, Y.S., *Proceedings 1990 Intersociety Energy Conversion Conference*, Vol. 4, pp. 337-342, Reno, NV, August 12-17, 1990.
35. "Performance Analysis of a Spark Ignited Engine with ETBE as a Blending Agent," by Jenkins, P.E., Cho, Y.S. and Kim, B., SAE Technical Paper No. 901520, presented at the Future Transportation Technology Conference, San Diego, CA., August 14-16, 1989.
36. "Performance Characteristics of a Multiple-Disk Centrifugal Pump," by Roddy, R., Morrison, G., and Jenkins, P.E., Paper No. 1949-WT, published in the ASME Transaction, *Journal of Fluids Engineering*, Vol. 109, pp. 51-57, March 1987.
37. "Flowfield and Performance Measurements in a Vaned Radial Diffuser," by Dutton, J.C., Piemsombon, P., and Jenkins, P.E., Paper No. 84-WA/FM-7, published in ASME Transaction, *Journal of Fluids Engineering*, Vol. 108, pp. 141-147, June 1986.
38. "Analysis of Component Power Losses in Centrifugal Pumps," by Peng, W.W. and Jenkins, P.E., presented at the Symposium on the Performance Characteristics of Hydraulic Turbines and Pumps, ASME Winter Annual Meeting, Boston, MA, November 1983, ASME *Journal of Fluids*, 1983.
39. "Heat Transfer and Film Cooling with Steam Injection through an Inclined Hole over a Flat Plate," by Han, J., Chan, H., and Jenkins, P.E., ASME-AICHE National Heat Transfer Conference, 83-HT-9, Seattle, WA, July 1983.
40. "Film Cooling with Steam Injection through Three Staggered Rows of Inclined Holes over a Straight Airfoil," by Conklin, G., Han, J., and Jenkins, P.E., ASME International Gas Turbine Conference, 83-GT-30, March 1983.
41. "A Fluidized-bed Combustion Heat Transfer Model using Finite Elements," by Jenkins, P.E. and Richardson, T.W., ASME 82-GT-169, 1982.
42. "The Prediction of Film Cooling Effectiveness of Steam," by Han, J. and Jenkins, P.E., ASME 82-GT-100, 1982.
43. "Comparison of the HTTT Reheat Gas Turbine Combined Cycle with the HTTT Non-Reheat Gas Turbine Combined Cycle," by Rice, I.G. and Jenkins, P.E., Paper No. 81-GT-69, published in the ASME Transaction, *Journal of Engineering for Power*, 1981, Vol. 194, pp. 129-142.
44. "Test Report of the Wind Baron (Multi-blade) High Performance Windmill," by Jenkins, P.E., tested at the Navajo Nation Master Test Site, Window Rock, AZ, *Texas A&M Turbomachinery Laboratories Report*, February 26, 1981.

## Research Projects

(Funded, unless indicated otherwise)

- 2012 Multi-electrode Array for Electrochemical Corrosion Control and Biofouling Prevention, ONR, 3 years, PI, \$270,000
- 2011 Wire Beam Electrode for Corrosion and Biofouling Control, ONR, PI, \$65,000
- 2010 Efficient Energy Production, Desalination, and Waste Treatment in Bioelectrochemical Systems, ONR, 2 years, PI, \$250,000
- 2010 Low-Energy Desalination and Electricity Generation in Bioelectrical Systems, ONR, 2 years, PI, \$99,433
- 2010 USNA-ONR Alternative Fuel Testing, ONR, 1 year, PI, \$44,000
- 2009 MFC Fuel Cell Program, ONR, 3 years, PI, \$450,000
- 2009 USNA-ONR JP5/FT Engine Alternative Fuel Testing Program, Phase 1&2, ONR, co-PI, \$49,000
- 2008 USNA Alternative Fuel Gas Turbine Testing Program, ONR, co-PI, \$209,800
- 2007 USNA Synthetic Fuel Development and Testing Program, ONR, co-PI, \$179,900
- 2005/6 Cadet Energy Research Training Program, US Air Force, \$5,300,000 (Proposed)
- 2005/6 Heavy-Fuel Engine for Small UAV Initiative, US Air Force, \$532,000 (Proposed)
- 2005/6 IED Detection: Acoustic Imaging, DoD, co-PI, \$2,200,000
- 2005/6 Technology Impact Analysis, DoD IED Program, co-PI, \$350,000
- 2005 Director, US Air Force Academy Energy Research Center, PI, \$48,731 (Proposed)
- 2004 US Air Force Academy, Colorado Springs, CO, IPA, PI, \$146,000
- 2004 Clean Diesel Training Program, FEV Engine Technology Corp., Auburn Hills, MI, co-PI, \$10,000
- 2002 US Military Academy, West Point, NY, PI, \$142,000
- 2000 Retraining Instruction for Telecommunications & Computer Science, Raytheon Company, PI, \$450,000
- 1999 Retraining Instruction for Telecommunications & Computer Science, US WEST, PI, \$2,185,000
- 1999 Lowry Engineering Program, Colorado Commission on Higher Education, PI, \$125,000
- 1999 Tetherless T3 and Beyond Workshop, National Science Foundation, PI, \$50,000
- 1997 Applying Educational Technologies to Undergraduate Engineering Programs, Colorado Commission on Higher Education, PI, \$169,000
- 1996 Lowry Engineering Program, Colorado Commission on Higher Education, 2 years, PI, \$259,000
- 1996 Distance Learning Course Development, Colorado Commission on Higher Education, PI, \$169,000
- 1995 Electronic Delivery Program, US GSA, co-PI, \$159,000
- 1995 Distance Learning Program, Colorado Commission on Higher Education, PI, \$29,000
- 1994 Project Colorado – Service to the Citizen, US Postal Service, PI, \$39,400
- 1992/3 International Technology Transfer Program, University of Colorado, PI, \$30,000
- 1990/1 Alternative Fuel Research Program, Nebraska Energy Office with several industries, PI, \$856,740
- 1989/90 Small Cogeneration System Development, Tahoe/Cogentech Corp., Phase II, PI, \$498,000
- 1989/90 Rotary Engine Development for RPV, US Navy/CSA Corp., Phase I, PI, \$50,000
- 1988/9 Small Engine Development/Demonstration Program, JKR Technology Company/Ssangyong Motor Company, Phase I, PI, \$350,000
- 1988/9 Small Cogeneration System Development Program, Tahoe/Cogentech Corp., Phase I, PI, \$250,000



- 1988/9 Metal Vapor Turbine-Alternator Development Program, Space Power, Inc./US  
Department of Defense, Phase I, PI, \$55,000
- 1987/8 Packaged Rotary Cogeneration Development Program, Power Systems Corporation/John  
Deere Inc., PI, \$220,000/yr
- 1987 Hydrogen Injection Studies in a Cummins Diesel Engine, Dual-Dynamics Corporation,  
PI, \$15,000
- 1986/7 Diesel Roto-Compound Engine Demonstration Program, Engine Corporation of  
America/General Motors, Phase I, PI, \$39,000

## **Collaborations and Other Affiliations**

### **Academies**

- Dr. Martin Cerza, U.S. Naval Academy, Annapolis, MD.
- Dr. Daisie Beitner, U.S. Military Academy, West Point, NY
- Dr. Mike Maixner, U.S. Air Force Academy, Colo. Springs, CO