

Curriculum Vitae

LEE S. LANGSTON

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PERSONAL DATA:

9/2013

Born: April 15, 1937, Tarrytown, New York
Home 199 Jenny Cliff, Manchester, CT 06040
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EDUCATION:

Ph.D. Stanford University, 1964, Mechanical Engineering
M.S. Stanford University, 1960, Mechanical Engineering
B.S. The University of Connecticut, 1959, Mechanical Engineering, with Honors.

EXPERIENCE SUMMARY:

Mechanical Engineering Department, The University of Connecticut, Storrs, Connecticut

Professor Emeritus, June 2003 – present

Interim Dean, School of Engineering, The University of Connecticut, Storrs, 1997-98

Professor, 1983-June 2003

Associate Professor, 1977-1983

Adjunct Professor, 1966-1972

Mechanical Engineering Department, Thermosciences Division, Stanford University, Stanford, California

Visiting Professor, 1995

Pratt and Whitney Aircraft, United Technologies Corporation, East Hartford, Connecticut

Senior Assistant Project Engineer, 1972-1977

Associate Research Scientist, 1967-1972

Assistant Project Engineer, 1964-1967

INDUSTRIAL EXPERIENCE

Senior Assistant Project Engineer, 1973-1977

Assigned to the Turbine Aerodynamic Research Group to form and head a group for research on turbine endwall aerodynamics. The group consisted of two to four senior analytical engineers. Efforts in this assignment consisted of planning basic analytical and experimental programs, selling these programs to management and/or governmental agencies, and working with engineers to carry them out. The turbine endwall three-dimensional fluid flow studies carried out have become a standard in the gas turbine community.

Senior Assistant Project Engineer, 1972-1973

Assigned to the Turbine Heat Transfer Group to do experimental and analytical work on heat transfer problems in axial flow, air-cooled turbines. Conceived and wrote the first heat transfer program for the prediction of film effectiveness on film cooled (multihole) turbine airfoils and endwalls.

Associate Research Scientist, 1967-1972

Assigned to the Scientific Analysis Group as head of a small subgroup to work on analytical solutions to general jet engine heat transfer and thermodynamic problems. Carried out analytical work on many problems, including:

- development work on the first large fan jet engines for the first Boeing 747's
- prediction of temperature distributions around electron beam welds
- thermodynamic analysis of jet engine steam ingestion for Navy carrier aircraft
- titanium compressor blade fires
- heat conduction during blade casting of single crystal turbine airfoils
- general three-dimensional, finite element heat conduction program for turbine airfoils

Assistant Project Engineer, 1964-1967

Hired by the Advanced Power Systems Group to do heat transfer and thermodynamics research work on space power systems, such as the Apollo fuel cell (used on the NASA Moon Mission and later on the Space Shuttle). Initially worked on the analysis of various thermal energy storage systems, and fuel cell stability. Won the first heat pipe contract awarded by NASA, in 1965. Carried out some of the earliest basic analytical and experimental work on heat pipes, for space and aircraft engine applications.

ACADEMIC EXPERIENCE

School of Engineering, The University of Connecticut, Storrs, Connecticut

Interim Dean, School of Engineering, 1997-98

Chief Administrative officer of the School of Engineering, with 87 faculty members, 53 staff members, an operating budget of \$14M/year, a research budget of \$14M/year and a gift budget of \$3M/year. During term of office, undergraduate enrollment was increased and development funding was improved.

Mechanical Engineering Department, The University of Connecticut, Storrs, Connecticut

Professor Emeritus, June 2003 - present

Professor, 1983 - June 2003

Associate Professor, 1977-1983

Teaching and research in the areas of heat transfer, fluid mechanics, and thermodynamics.

Teaching: undergraduate courses on heat transfer and fluid mechanics; graduate courses on heat conduction, heat and mass convection, and fundamental fluid mechanics. Have generally taught one graduate course and one undergraduate course each semester since 1977.

Research: Experimental and analytical studies of three-dimensional flows and heat transfer, both in general and with specific application to turbomachines. Nine Ph.D. theses and seven Masters theses have directly resulted from this research. Equipment acquired, constructed or purchased with grants include:

- a closed-loop water tunnel (0.5 x 2 foot test section)
- a large low-speed wind tunnel (1 x 6 foot test section)
- a smaller, low-speed wind tunnel (30-inch square test section)
- a closed-loop water and salt water pipe flow apparatus for

- testing electromagnetic velocimeters
- a free jet flow rig to develop and test nozzle designs for creep feed grinding coolant applications
- a large scale low-speed wind tunnel for turbomachinery cascade testing

GRANTS:

The University of Connecticut Research Foundation grant, \$3,900, 1978.

National Aeronautics and Space Administration grant for Turbine Endwall Two-Cylinder Program, \$99,410, 1979-1982.

National Aeronautics and Space Administration grant for Turbine Endwall Two-Cylinder Program, \$45,087, 1982.

National Aeronautics and Space Administration grant for Turbine Endwall Single Cylinder Program, \$52,065, 1984-1985.

The University of Connecticut Research Foundation grant, \$7033, 1988-1992.

U.S. Navy grant for testing and development of an electromagnetic velocimeter, \$67,300, 1991-1993.

Department of Energy grant for heat pipe turbine vane studies (with A. Faghri), \$89,208, 1995-97.

Senior Design grants from industry for 1997, 1998, 1999, 2000, 2001 and 2002, \$30,000.

Pratt & Whitney, United Technologies Corp., for gas turbine endwall loss reduction program, 2002, \$150,000.

Pratt & Whitney, United Technologies Corp., for continued research on endwall loss reduction, \$50,000, 2003.

National Science Foundation, for thermal and flow control for airfoil-endwall junctures, 2004-2007, \$198,187.

PROFESSIONAL AND HONORARY SOCIETY MEMBERSHIP:

American Society of Mechanical Engineers (ASME)
American Society for Engineering Education (ASEE)
Sigma Xi
Pi Tau Sigma
Tau Beta Pi

ACADEMIC COMMITTEES:

Chairman or Member of Search Committee for a faculty position in the thermosciences area, 1980-81, 1987-88, 1998-01.

Chairman of the Area Review Committee, 1981-1982, and member, 1986-88.

Secretary of the Faculty for the School of Engineering, 1978-80.

Faculty Advisor for Pi Tau Sigma, 1979-80.

Member of Promotion, Tenure and Reappointment Committee, 1980-81, 1989-91 and 1995-96.

Member of Open House Committee, 1981-82.

Member of Thermal Sciences Ph.D. Committee, 1982-84, 1988-91, 1996-98, 1999-2002.

Member of Search Committee for the Dean of Engineering, 1983-84.

ABET Coordinator 1985-86.

Chairman of Search Committee for a Department technician, 1988.

Member of Ad Hoc Engineering Accreditation Team, 1987-90.

Member of General Education Assessment Committee (FIPSE) 1988-91.

Member of the Graduate Faculty Council, 1988-91.

Member of the Graduate Research Support Committee, 1989-91.

External Examiner (Ph.D. thesis and thesis defense), Carleton University, Mechanical Engineering Dept., Ottawa, Canada, 1990.

Elected Member of the Dean's Advisory Council for Promotion, Tenure and Reappointment, 1992-94, 1996-98, and 1999-01. Chairman of Council, 1993-94.

Member of the School of Engineering Courses and Curriculum Committee, 1993.

Chairman, Fluids and Thermal Engineering Group, 1993-94.

Organizer of PhD Oral Examinations, 1994, 1996-97.

Member of the Faculty Review Board for the University, 2000-03, Chair, 2003.

PROFESSIONAL SOCIETY AND COMMITTEE ACTIVITIES:

Reviewer for Journal of Turbomachinery (ASME), Journal of Engineering for Gas Turbines and Power (ASME), Journal of Fluids for Engineering (ASME), Journal of Heat Transfer (ASME), International Journal of Heat and Mass Transfer, AIAA Journal, and Experiments in Fluids.

Member of the Organizing Committee and Session Chairman, 2nd International Symposium on Performance Enhancement for Marine Applications, Newport, Rhode Island, October 1990.

Activities for the International Gas Turbine Institute (IGTI) of the American Society of Mechanical Engineers (ASME) as follows:

Session or general organizer, or session chairman at the following IGTI meetings:

- Houston, Texas, March 1981
- London, England, April 1982
- Phoenix, Arizona, March 1983
- Amsterdam, Netherlands, June 1984
- Houston, Texas, March 1985
- Beijing, China, September 1985 (Special)
- Dusseldorf, West Germany, June 1986
- Anaheim, California, June 1987
- Amsterdam, Netherlands, June 1988
- Toronto, Canada, June 1989
- Brussels, Belgium, June 1990
- Orlando, Florida, June 1991
- Cologne, Germany, June 1992
- Cincinnati, Ohio, May 1993
- Bournemouth, England, September 1993
- The Hague, The Netherlands, June 1994
- Portland, Oregon, October 1994
- Houston, Texas, June 1995
- Vienna, Austria, August 1995
- Birmingham, UK, June 1996
- Jakarta, Indonesia, November 1996
- Orlando, Florida, June 1997
- Singapore, September 1997
- Stockholm, Sweden, June 1998
- Indianapolis, Indiana, June 1999
- Munich, Germany, May 2000
- New Orleans, June 2001
- Amsterdam, June 2002
- Atlanta, June 2003
- Vienna, June 2004

- Reno, June 2005
- Barcelona, May 2006
- Montreal, June 2007
- Berlin, June 2008
- Orlando, June 2009
- Glasgow, June 2010
- Vancouver, June 2011
- Copenhagen, June 2012
- San Antonio, June 2013

Chairman of the Turbomachinery Committee, June, 1985 to July, 1987 (Vice Chairman 1984-1985). The Committee consists of over 100 members, worldwide, and reviews 100-150 technical papers per year.

Member of the Awards Committee, 1987-1990.

Program Chairman, 35th International Gas Turbine Congress and Exhibit, Brussels, Belgium, June 1990. (394 papers, 98 sessions, attendance of 5075 from 56 countries).

Member of the Board of Directors, International Gas Turbine Institute of ASME, July 1, 1990-July 1, 1996 and July 1, 1999-July 1, 2000.

Review Chairman, 1991-1992, for the 37th International Gas Turbine Congress, Cologne, Germany, June 1992 (439 papers, 100 sessions) and for the 6th International Symposium on Gas Turbines in Cogeneration and Power, Houston, Texas, September 1992.

Chairman of Conferences, 1992-1993, responsible for the overall organization of two major gas turbine conferences in Cincinnati, Ohio (May, 1993) and Bournemouth, England (September 1993).

Vice Chairman of IGTI Board of Directors, 1993-94

Chairman of IGTI Board of Directors, 1994-95

Past Chairman of IGTI Board of Directors, 1995-96

ASME Vice President, IGTI, 1997-2000

Member of the National Nominating Committee, ASME, 2003-2005

Member, New York Academy of Sciences, 2000-2002

Member, World Energy Council (London), Committee on the Performance of Generating Plant (USA), 2001- 2003.

Chairman of the Energy Production, Use, and Conservation Technical Board, Connecticut

Academy of Science and Engineering, 2003-2007.

Member of IGTI, Board of Directors, 2005-07 and 2012-2014, Treasurer.

Member of the ASME Technical Committee on Publications and Communications, 2009-2014

HONORS, AWARDS AND FELLOWSHIPS:

Westinghouse Scholar, 1958.

William Wallace Fellow, 1959.

ASME International Gas Turbine Institute Award for Committee Chairmanship, 1988.

U.S. Navy-ASEE Summer Fellow, Naval Underwater Systems Center, New London, CT. June-August 1989, and June-August 1990.

ASME Fellow, elected September, 1994.
ASME Life Follow, 2000.

ASME Dedicated Service Award, 1995.

Connecticut Academy of Science and Engineering, elected to membership, 2002.

University of Connecticut, School of Engineering, Academy of Distinguished Engineers, 2010.

CONSULTING:

Consultant to Pratt & Whitney Aircraft, East Hartford, Connecticut, 1977-1980, in the areas of turbine aerodynamics and gas turbine heat transfer.

Consultant to General Electric Company, Research and Development Center, Schenectady, New York, 1980-1984, in the area of aerodynamic design of steam turbines.

Consultant to General Dynamics, Electric Boat Division, Groton, Connecticut, 1980-1981, in the area of auxiliary power systems for submarines.

Consultant to AVCO Lycoming Division, Stratford, Connecticut, 1982-1983, in the area of gas turbine heat transfer.

Expert witness in the area of fluid mechanics for the law firm of Kahan, Kerensky, Capossela, Levine & Breslaw, Vernon, Connecticut, 1982-1983.

Consultant to Emhart Corporation, Glass Machinery Group, Windsor, Connecticut, 1983-1984, in the area of forehearth heat transfer.

Consultant to Norton Company, Worcester, Massachusetts, 1984, in the area of fluid mechanics.

Consultant to Pratt & Whitney Aircraft, East Hartford, Connecticut, 1985-1989, in the area of turbomachinery secondary flows.

Consultant to US Navy, Naval Underwater Systems Center, New London, Connecticut, 1988, in the area of fluid mechanics.

Consultant to Black and Decker, Emhart Industries, Windsor, Connecticut, 1989-92, in the area of the fluid mechanics of a molten glass flow.

Consultant to R.E. Phelon Company, East Longmeadow, Massachusetts, 1993, in the area of centrifugal compressor testing.

Consultant to Clarkson University, Potsdam, New York, 1994-1996, in the area of turbomachinery secondary flows.

Expert Witness, for Sutherland, Asbill & Brennan, Attorney at Law, Washington, D.C., 2002-2004.

Consultant to Institute of Material Science, University of Connecticut, 2008-2014.

INVITED LECTURES:

"Secondary Flows in Turbines", General Electric Corporate Research and Development Center, Schenectady, New York, May 28, 1980.

"Review--Internal Flow Phenomena", ASME Fluid Engineering Conference, New Orleans, Louisiana, February 13, 1984.

"Secondary Flows around Cylinders and in Turbomachinery", Department of Mechanical Engineering Seminar, University of Rhode Island, Kingston, Rhode Island, April 15, 1986, General Electric Company, Aircraft Engines, Cincinnati, Ohio, July 29, 1988, and Department of Mechanical Engineering, University of Connecticut, April 10, 1989.

"Research on Cascade Secondary and Tip-Leakage Flows - Periodicity and Surface Flow Visualization", NATO AGARD Specialists' Meeting, Luxembourg, September 1, 1989.

"Analysis and Application of a New Electromagnetic Velocimeter for Fluid Flow", Naval Underwater Systems Center, New London, CT, August 22, 1990; Department of Mechanical Engineering, University of Connecticut, February 25, 1991; Department of Mechanical Engineering, University of Rhode Island, Kingston, Rhode Island, October 26, 1993; Department of Mechanical Engineering, Thermosciences Division, Stanford University, Stanford, California, January 25, 1995.

"What is a Gas Turbine? The World Demand?", Gas Turbines: Connecticut's Engine for Growth, Conference Sponsored by the State of Connecticut Legislature, East Hartford, CT., June 14, 1993.

"Some Aspects of the Three-Dimensional Flow in Axial Turbine Cascades", Colloquium on Turbomachinery - 1993, Seoul National University, Seoul, Korea, June 27-29, 1993.

"Market Drivers for Industrial Gas Turbines", United Technologies Research Center, East Hartford, CT, May 23, 1996.

"Power Generation Reformation: The Gas Turbine and IGTT", DOE/EPA/GTI Forum on Advanced Technology for Distributed Power Generation, Portland, Maine, May 20, 1997.

"Gas Turbine Future Technology Directions", DOE Next Generation Gas Turbine Power Systems Strategic Visioning Workshop, Barton Creek Conference Center, Austin, Texas, February 9-10, 1999.

"Secondary Flows in Axial Turbines – A Review", invited keynote address, Turbine – 2000, International Symposium on Heat Transfer in Gas Turbine Systems, Izmir, Turkey, August 13-18, 2000.

"Reflections on Mountains and the Motive Power of Heat", ASME New England Regional Meeting, Storrs, CT, April 7, 2001.

"An Overview of the Gas Turbine Industry", United Technologies Research Center, East Hartford, CT, May 24, 2001, and ISO New England, Holyoke, MA, September 28, 2001.

"History and Contributions of ASME Turbo Expo to Gas Turbine Technology", Heritage Dinner Speech, TURBO EXPO, Reno-Tahoe, Nevada, June 5, 2005.

"The Role of Gas Turbines in Global Energy Conversion", Invited Seminar on Globalization, University of Minnesota, Department of Mechanical Engineering, October 26, 2005; University of Dayton, October 30, 2006; Hong Kong Polytechnic University, March 30, 2007; United Technologies Research Center, November 20, 2008; Stanford University, November 9, 2010; Technical University of Denmark, June 8, 2012.

"Gas Turbine Progress and Research Directions", invited keynote address, 10th International Symposium on Experimental and Computational Aerothermodynamics of Internal Flows, Brussels, Belgium, July 4, 2011.

GENERAL PUBLICATIONS:

Langston, L.S., "Heat Transfer from a Nonspherical Bubble Rising in an Isothermal Liquid", Ph.D. Thesis, Stanford University, 1964.

Kunz, H.R., Langston, L.S., Hilton, B.H., Wyde, S.S. and Nashick, G.H., "Vapor-Chamber Fin Studies", NASA CR-812, June 1967.

Barber, T.J., and Langston, L.S., "Three-Dimensional Modelling of Cascade Flows", AIAA paper 79-0047, Aero. Sci. Meeting, January 1979.

Eckerle, W.A. and Langston, L.S., "Measurements of a Turbulent Horseshoe Vortex Formed Around a Cylinder", NASA CR-3986, June, 1986.

Langston, L.S., "Research on Cascade Secondary and Tip-Clearance Flows - Periodicity and Surface Flow Visualization", NATO AGARD publication AGARD-CPP-468/469, 1990, pp. 19-1 - 19-15.

LaFleur, R.S., and Langston, L.S., "Iceformation Design of a Cylinder/Hull Junction with Horseshoe Vortices and Unsteady Wake", Proc. of the 2nd International Sym. on Performance Enhancement for Marine Applications, October 14-16, 1990, pp. 87-98.

Sobanik, J.B., Langston, L.S. and Spencer, D.E., "Tensor Cubes and Their Application to the Derivations of the Constitutive Equations of Fluid Mechanics", ASEE Annual Meeting, New Orleans, June 4, 1991, Conference Proceedings.

Langston, L.S., and Kasper, R.G., "Analysis of an Electromagnetic Boundary Layer Probe for Low Magnetic Reynolds Number Flows", ASME Fluids Engineering Conference, Washington, D.C., June 20-24, 1993, Conference Proceedings, Vol. 159, pp. 41-49.

Langston, L.S., "Some Aspects of the Three-Dimensional Flow in Axial Turbine Cascades", Proceedings of Colloquium on Turbomachinery, Seoul National University, Seoul, Korea, June 27-29, 1993, pp. 35-57.

Langston, L.S. and Opdyke, G., "Gas Turbines", Chapter 67 in The Engineering Handbook, R.C. Dorf, Editor, CRC Press, 1996, pp. 693-701.

Zuo, Z.J., Faghri, A. and Langston, L., "Numerical Analysis of Heat Pipe Turbine Vane Cooling", Proceedings, Third Biennial Joint Conference on Engineering Systems, July 1-4, 1996, Montpellier, France.

Langston, L.S. and Abraham, B.M., "Vorticity Estimation Utilizing the Rotation of finite Line Segments", Proceedings of the Fluids Engineering Div., ASME, July 7-11, 1996, FED-Vol. 237, p. 871-879.

Zuo, Z.J., Faghri, A., and Langston, L., "A Parametric Study of Heat Pipe Turbine Vane Cooling", ASME paper 97-6T-443, ASME TURBO EXPO, Orlando, FL, June 2-5, 1997.

Langston, L.S., "1999 Technology Report Overview", 1999 Technology Report and Product Directory, ASME International Gas Turbine Institute, January, 1999, pp. 9-11.

Langston, L.S., “Gas Turbine Industry Overview”, 2000 IGTI Technology Report and Product Directory, ASME International Gas Turbine Institute, January, 2000, pp. 7-9, and in Global Gas Turbine News, Vol. 40, No. 1, 2000, pp. 5-8.

Langston, L.S., “Gas Turbine Industry Overview”, 2001 IGTI Technology Report and Product Directory, ASME International Gas Turbine Institute, January, 2001, pp. 7-11.

Langston, L., “A Record Breaking Year”, Turbine Technology Supplement, Modern Power Systems, April 2002, p. 4.

Langston, L.S., “Gas Turbine Industry Overview”, American Society of Mechanical Engineers web site, www.asme.org/igti, July, 2002, pp. 1-12.

Becz, S., Majewski, M.S., and Langston, L.S., “Leading Edge Modification Effects on Turbine Cascade Endwall Loss” CD-ROM, Proceedings of ASME TURBO EXPO Gas Turbine Congress, Atlanta, GA, June 20, 2003, pp. 1-9.

Becz, S., Majewski, M. and Langston, L.S., “An Experimental Investigation of Contoured Leading Edges for Secondary Loss Reduction”, CD-Rom, Proceedings of ASME TURBO EXPO Gas Turbine Congress, Vienna, June 16, 2004, pp. 1-9.

Langston, Lee S., “Turbines, Gas”, Encyclopedia of Energy, volume 6, Elsevier, 2004, pp. 221-230.

Holley, B.M., Becz, S. and Langston, L.S., “Measurement and Calculation of Turbine Cascade Endwall Pressure and Shear Stress”, CD-Rom, Proceedings of ASME TURBO EXPO Gas Turbine Congress, Reno, June 7, 2005, pp. 1-11.

Holley, B. and Langston, L.S., “Surface Shear Stress and Pressure Measurements in a Turbine Cascade”, *ASME Turbo Expo*, GT2005-90580, pp. 1-10, Barcelona, Spain, May 8-11, 2006.

Langston, L.S., and Abraham, B.M., “Vorticity Estimation Utilizing the Rotation of Finite Line Segments”, CD-Rom, Proceedings of the 5th International Conference on Heat Transfer, Fluid Mechanics and Thermodynamics, Sun City, South Africa, July 3, 2007, Paper No. LL1, pp. 1-11.

Langston, Lee, “Thermodynamics and Energy, Part 1 (December 20, 2007), Part II - The First Law (January 10, 2008), Part III - The Second Law of Thermodynamics (February 14, 2008)”, Newspaper in Education Column, Hartford Courant, Hartford, CT.

Langston, Lee, “The Future of Nuclear Power in Connecticut”, Bulletin of the Connecticut Academy of Science and Engineering, Vol. 26.1, Spring 2011, pp. 1-2, 8.

LANGSTON ARTICLES PUBLISHED IN MECHANICAL ENGINEERING MAGAZINE

“The Return of Gaslight”, July 1999, pp. 34-36.

“Flight and Light”, May, 2000, pp. 10-13.

“Good Times with a Double Edge”, June, 2001, pp. 14-17.

“Electrically Charged”, June, 2002, pp. 50-52.

“Bubble Buster”, June, 2003, pp. 6-7.

“A Year of Turbulence”, June, 2004, pp. 2-6.

“New Horizons”, June, 2005, pp. 4-7.

“Crown Jewels”, February, 2006, pp. 31-33.

“Wild Blue Yonder”, May, 2006, pp. 36-39.

“Campus Heat and Power”, December, 2006, pp. 28-31.

“Fahrenheit, 3600”, April, 2007, pp. 34-37.

“Pebbles Making Waves”, February, 2008, pp. 34-38.

“Changing the Game”, May, 2008, pp. 26-30.

“Plowing New Ground”, May, 2009, pp. 40-44.

“Fitting a Pitch”, December, 2009, pp. 38-42.

“Air Race”, May, 2010, p. 34-38.

“Asking for Trouble”, July, 2010, pp. 28-31.

“Mounting Troubles”, March, 2011, pp. 46-49.

“Powering Ahead”, May, 2011, pp. 30-33.

“Breaking the Barriers”, May, 2012, pp. 32-37.

“Not so Simple Machines” January, 2013, pp. 46-51.

“Riding the Surge”, May, 2013, pp. 36-41.

LANGSTON ARTICLES PUBLISHED IN THE GLOBAL GAS TURBINE NEWS

“Combined Cycle Power Plants - A Primer for Aeroengine Engineers and Others”, February 1994, pp. 24-25.

“Market Drivers for Electric Power Gas Turbines: Reasons for the Revolution”, Vol. 36, No. 3, 1996, pp. 7-10.

“Introduction to Gas Turbines for Non-Engineers”, Vol. 37, No. 2, 1997, pp. 4-9. (with G. Opdyke).

“New DOE Gas Turbine Program to Start the New Millennium”, Vol. 39, No. 2, 1999, pp. 4-5.

“Gas Turbine Certification...An Update”, Vol. 40, No. 3, 2000, p. 13.

“Journal of Engineering for Gas Turbines and Power – Important News”, Vol. 41, No. 2, 2001, pp. 22-23.

“A Bright Natural Gas Future”, February, 2010 p. 3.

“Visiting the Museum of the World’s First Gas Turbine Powerplant”, April, 2010, p. 3.

“Focus on Fans”, August, 2010, p. 3.

“The Elephant in the Room - Gas Turbine Power”, December, 2010, p. 53.

“Gas Turbine Progress through Trouble”, February, 2011, p. 51.

“Jet engines and Erupting Volcanoes”, April, 2011 p. 51.

“PBMR - A Future Failsafe Gas Turbine Nuclear Power Plant?” August, 2011 pp. 54, 59.

“First IGTI Forum on Jet Engine Volcanic Ash Ingestion”, December, 2011, p. 58.

“Some IGTI History”, February, 2012, p. 49.

“The Coming Single-Aisle, Narrow-body Aircraft Bonanza”, April 2012, p. 53-59.

“Cogeneration: Gas Turbine Multitasking”, August, 2012, p. 50.

“Birds and Jet Engines”, December, 2012, p. 51.

“Gas Turbines and Natural Gas Synergism”, February 2013, p. 57.

“Gears Galore!”, April, 2013, p. 51, 54.

“Blade Tips - Clearance and its Control”, August, 2013 pp. 64, 69.

JOURNAL PUBLICATIONS:

Langston, L.S., and Kunz, H.R., "Liquid Transport Properties of Some Heat Pipe Wicking Materials", Heat Pipes, Chang-Lin, ed., AIAA Selected Reprint Series, XVI, 1973.

Langston, L.S., Nice, M.L., and Hooper, R.N., "Three-Dimensional Flow Within a Turbine Cascade Passage", Trans. ASME, J. of Engr. Power, 99(1), pp. 21-28, 1977.

Langston, L.S., "Crossflows in a Turbine Cascade Passage, Trans. ASME, J. of Engr. Power, 102(4), pp. 866-874, October 1980.

Langston, L.S., "Heat Transfer from Multidimensional Objects Using One-Dimensional Solutions for Heat Loss", Int. J. Heat Mass Transfer, 25(1), pp 149-150, January 1982.

Langston, L.S., and Boyle, M.T., "A New Surface-Streamline Flow-Visualization Technique", J. of Fluid Mech., 125 pp. 53-57, 1982.

Eckerle, W.A., and Langston, L.S., "Horseshoe Vortex Formation around a Cylinder", Trans. ASME, J. of Turbomachinery, 109 (2), pp. 278-285, April 1987.

Boyle, M.T., and Langston, L.S., "Asymmetrical Boundary Layer Separation at the Base of a Two Cylinder Geometry", Trans. ASME, J. of Fluids Engineering, 111, pp. 443-448, December 1989.

LaFleur, R.S. and Langston, L.S., "Drag Reduction of a Cylinder/Endwall Junction Using the Iceformation Method", Trans. ASME, J. of Fluids Engineering, 115, pp. 26-32, March 1993.

Langston L.S., and Kasper, R.G., "Analysis of an Electromagnetic Boundary Layer Probe for Low Magnetic Reynolds Number Flows", Trans. ASME, J. of Fluids Engineering, 115, pp. 726-731, December, 1993.

Zuo, Z.J., Faghri, A., and Langston, L., "Numerical Analysis of Heat Pipe Turbine Vane Cooling", Trans. ASME, J. of Engr. For Gas Turbines and Power, 120, pp. 735-743, October, 1998.

Langston, L.S., "Secondary Flows in Axial Turbines – A Review," Heat Transfer in Gas Turbine Systems, Annals of the New York Academy of Science, 934, pp. 11-26, May, 2001.

Langston, L.S., "Editorial", Trans. ASME, J. of Engineering for Gas Turbines and Power, 124, pp. 1-2, January, 2002.

Langston, L.S., "Editorial", Trans. ASME J. of Engineering for Gas Turbines and Power, 127, pp 229-230, April, 2005.

Holley, B. M., Becz, S., and Langston, L. S., "Measurement and Calculation of Turbine Cascade Endwall Pressure and Shear Stress", ASME Trans. Journal of Turbomachinery, 128, pp. 232-239, February, 2005.

Holley, B. M., and Langston, L. S., "Analytical Modeling of Turbine Cascade Leading Edge Heat Transfer Using Skin Friction and Pressure Measurements", ASME Trans. Journal of Turbomachinery, 130, 021001-1 - 021001-9, April, 2008.

Holley, B. M., and Langston, L. S., "Surface Shear Stress and Pressure Measurements in a Turbine Cascade", ASME Trans. Journal of Turbomachinery, 131, 031014-1 - 031014-8, July, 2009.

Langston, L. S. and Holley, B. M., "Turbine Airfoil Leading-Edge Stagnation Aerodynamics and Heat Transfer - A Review", Heat Transfer Research, 42, No. 1, pp. 3-23, 2011.

EDITORSHIPS AND PUBLISHERSHIPS:

Editor, 1991 International Gas Turbine and Aeroengine Technology Report, published by the International Gas Turbine Institute, ASME.

Editor (with D.H. Cooke, S.H. Borglin and H.W. Holland), "Proceedings of the 6th International Conference on Gas Turbines in Cogeneration and Utility, Industrial and Independent Power Generation", September, 1992, ASME.

Associate Editor, Trans. ASME, Journal of Turbomachinery, 1991-93.

Associate Editor, Trans. ASME, Journal of Engineering for Gas Turbines and Power, 1991-93.

Chairman of Editorial Board, Global Gas Turbine News, 1993-95.

Publisher of School of Engineering Newsletter, University of Connecticut, 1997-98.

Editor, Transactions of the ASME, Journal of Engineering for Gas Turbines and Power, 2001-06, with an Editorial Board of Six Associate Editors.

GOVERNMENT SERVICE:

Reviewer of proposals submitted to the National Science Foundation, National Aeronautics and Space Administration, and the United States Navy.

Member of the State of Connecticut Gas Turbine Task Force, formed by Special Act 91-35 of the Connecticut General Assembly to aid and accelerate the commercialization of gas turbines (1992-98).

Advocate for establishing a cogeneration combined-cycle power plant for the University of Connecticut since 1994, resulting in a project to construct a 25 megawatt, \$80M unit in Storrs,

starting in 2003, online in 2006 and now supplying all heat, cooling and electrical power for the Storrs campus.

PATENTS:

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