

CURRICULUM VITA

George P. G. Huang

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EDUCATION

<u>Institution</u>	<u>Concentration</u>	<u>Degree/Date</u>
University of Manchester Institute of Science and Technology, England	Mechanical Engineering	Ph.D., 1986
McGill University, Canada	Chemical Engineering	M.Eng., 1984
Chung Yuan University, Taiwan	Chemical Engineering	B.S., 1979

ACADEMIC EXPERIENCE

<u>Institution</u>	<u>Position</u>	<u>Dates</u>
University of Kentucky	Director of Graduate Studies	2000-now
University of Kentucky	Professor	2002-now
University of Kentucky	Associate Professor	1996-2002
MCAT/Eloret Institute/NASA Ames	Senior Research Scientist	1991-1996
Stanford University	Research Associate	1989-1991
Michigan Technological University	Assistant Professor	1986-1989

OTHER PROFESSIONAL MEMBERSHIP

<u>Institution</u>	<u>Position</u>	<u>Dates</u>
National Cheng Kung University, Taiwan	Adjunct Professor	2005-now
AGARD, NATO	Consultant	1997-1998

PROFESSIONAL MEMBERSHIP

<u>Association</u>	<u>Status</u>	<u>Dates</u>
American Society of Mechanical Engineers	Member	2004-present
American Institute of Aeronautics and Astronautics	Senior Member	1986-present
American Society for Engineering Education	Member	2005-present

PROFESSIONAL AWARDS

<u>Title of Award</u>	<u>Granting Association</u>	<u>Date</u>
Silver Award	Royal Aeronautical Society	2006
Ackroyd Stuart prize	Royal Aeronautical Society	2006
Best Teacher Award, University of Kentucky	ASME Student Chapter, University of Kentucky	2006
Best Teacher Award, University of Kentucky	ASME Student Chapter, University of Kentucky	2004
Best Teacher Award, University of Kentucky	ASME Student Chapter, University of Kentucky	1999
Software of the year award, honorable mention	NASA	1998
Gordon Bell Prize, honorable mention	Supercomputing 2000	2000

PRINTED SCHOLARSHIP

Peer-Reviewed Journal Publications

(1) S. M. Yih and P. G. Huang, "Solid dissolution with or without chemical reaction in laminar non-Newtonian falling liquid film", J. Chinese Institute of Chemical Engineering, vol.11, 71-84, 1980.

(2) S. M. Yih and P. G. Huang, "Gas Absorption with or without Chemical Reaction in laminar non-Newtonian falling liquid film", Chemical Engineering Science, vol. 36, 387-397, 1981.

(3) A. S. Mujumdar and P. G. Huang, "A transient simulation model for combined impingement and through drying", J. of Indian Pulp and Paper Technical Association, vol. 19, No. 2, 65-71, 1982.

(4) P. G. Huang, B. E. Launder and M. A. Leschziner, "Discretization of non-linear convection Processes: A broad range comparison of four schemes", Computational Methods in Applied Mechanics and Engineering, Vol. 48, 1-24, 1985.

(5) S. Fu, P. G. Huang, B. E. Launder and M. A. Leschziner, "A comparison of algebraic and differential second-moment closure for axisymmetric turbulent shear flows with and without swirl", J of Fluids Eng., vol. 110, 216-221, 1988.

(6) R. W. Claus, P. G. Huang, J. M. MacInnes, "Time-accurate simulation of a shear layer forced at a single frequency", AIAA Journal, vol 28, no 2, 267-275, 1990.

(7) P. G. Huang, P. Bradshaw and T. J. Coakley, "Skin Friction and Velocity Profile Family for Compressible Turbulent Boundary Layers", *AIAA Journal.*, Vol. 31, No. 9, pp. 1600 - 1604, 1993.

(8) P. G. Huang, P. Bradshaw and T. J. Coakley, "Turbulence Models for Compressible Boundary Layers", *AIAA Journal.*, Vol32, 4, PP 735-740,1994.

(9) P. G. Huang and G. N. Coleman., "Van Driest Transformation and Compressible Wall-Bounded Flows", *AIAA Journal.*, Vol. 32, No. 10, pp. 2110-2113, 1994.

(10) P. G. Huang and P. Bradshaw, "The Law of the Wall for Turbulent Flows in Pressure Gradients", *AIAA Journal.*, Vol 33, No. 4, pp. 624-632, 1995.

(11) Peter Bradshaw and George P Huang, "The Law of the Wall in Turbulent Flows", *Proc. Roy. Soc. Lond. A*, vol. 451, pp. 165-188, 1995.

(12) P. G Huang, G. N. Coleman and P. Bradshaw, "Compressible turbulent channel flows - DNS results and Modeling", *Journal of Fluid Mech.* 305, pp. 185-218, 1995.

(13) P. G. Huang, "Application of wall functions to generalized nonorthogonal curvilinear coordinate", *AIAA Journal.*, vol. 33, no. 12, pp. 2445-2446, 1996.

(14) J. G. Marvin and P. G. Huang, "Status and Future Direction for Turbulence Modelling," *Sadhana, Indian Academy of Science*, vol 23, pt 5 & 6, pp. 481-503, 1998.

(15) W. W. Liou, P. G. Huang and T. H. Shih, "Turbulence Model Assessment for Shock Wave/Turbulent Boundary-Layer Interaction in Transonic and Supersonic Flows," *Computers & Fluids* 29, pp 257-299, 2000.

(16) Y. B. Suzen and P. G. Huang, "Modeling of Flow Transition Using an Intermittency Transport Equation," *Journal of Fluids Engineering*, , vol 122, pp. 273-284, 2000.

(17) G. Xiong, P. G. Huang, C. A. Saunders and P. J. Heink, "CFD Simulation of Laser Printhead – A Case Study on Noise Reduction," Invited Paper, *Transaction of the Aeronautical and Astronautical Society of the Republic of China*, Vol.33, No.1, pp. 001-006, 2001.

(18) Y. B. Suzen, G. Xiong, P. G. Huang, "Predictions of Transitional Flows in a Low-Pressure Turbine Using an Intermittency Transport Equation," *AIAA Journal*, 40, 2, pp. 254-266, February, 2002.

(19) Z. Wang and P. G. Huang, "An Essentially Non-Oscillatory High Order Pade-Type (ENO-Pade) Scheme" *Journal of Computational Physics*, 177, pp 37-58, 2002.

(20) Y. B. Suzen, P. G. Huang,, L. S. Hultgren, D. E. Ashpis., "Predictions of Separated and Transitional Boundary Layers Under Low-Pressure Turbine Airfoil Conditions Using an Intermittency Transport Equation," *Journal of Turbomachinery*, Vol. 125, No. 3, pp. 455-464, July 2003.

(21) A. Wala, J. Jacob, J. Brown and G. Huang, "New Approaches to Mine-Face Ventilation," *Mining Engineering*, 55, 3, pp. 25-30, March, 2003.

(22) G. Wang, P. G. Huang and Y. Zhang, "Simulation of Metal Transfer in Gas Metal Arc Welding," *Journal of Metallurgical and Material Transactions B*, 34B June, pp. 345-353, 2003.

(23) Th. Hauser., T. I. Mattox, R. P. LeBeau, Jr., H. G. Dietz, and P. G. Huang, "Code optimizations for complex microprocessors applied to CFD software," *SIAM Journal of Scientific Computing*, v 25, n 4, p 1461-1477, 2003.

(24) Huang, L., P.G. Huang, R.P. LeBeau, Th. Hauser, "Numerical study of suction and blowing control mechanism on NACA0012 airfoil". *Journal of Aircraft*. Vol. 41, No. 5, pp. 1005-1013. September–October 2004.

(25) G. Wang, P. G. Huang and Y. Zhang, "Numerical Analysis of Gas Metal Arc Welding under Pulsating Current Conditions," *Journal of Metallurgical and Material Transactions* vol. 35B, pp. 857-66, 2004.

(26) Suzen, Y.B and Huang, P.G., "Comprehensive Validation of an Intermittency Transport Model for Transitional Low-Pressure Turbine Flows," *The Aeronautical Journal*, vol 109, number 1093, pp.101-118, March, 2005,

(27) Suzen, Y.B. and P. G. Huang, "Numerical Simulation of Unsteady Wake/Blade Interaction in Low Pressure Turbine Flows Using an Intermittency Transport Equation," *Journal of Turbomachinery*, Vol. , No. 3, pp. 431-444, July 2005.

(28) Suzen, Y.B., Huang, P.G., Volino, R.J., Corke, T.C., Thomas, F.O., Huang, J., Lake, J.P. and King, P.I., "A Comprehensive CFD Study of Transitional Flows in Low-Pressure Turbines Under a Wide Range of Operating Conditions," accepted by *Journal of Turbomachinery* (scheduled in July issue).

(29) Menter, F.R., Langtry, R.B., Likki, S.R., Suzen, Y.B., Huang, P.G., Volker, S., "A Correlation Based Transition Model using Local Variables Part I - Model Formulation," accepted by *Journal of Turbomachinery* (scheduled in July issue).

(30) Langtry, R.B., Menter, F.R., Likki, S.R., Suzen, Y.B., Huang, P.G., Volker, S., "A Correlation Based Transition Model using Local Variables Part II - Test Cases and Industrial Applications," accepted by *Journal of Turbomachinery* (scheduled in July issue).

Invited Conference Papers

(1) P. G. Huang, "Comment on the present state and the future direction of second order closure models for compressible flows", invited comment paper, Workshop on Engineering Turbulence Modeling, CMOTT, ICOMP, NASA Lewis Research Center, Cleveland, OH, Aug. 21-22, 1991.

(2) Peter Bradshaw and George P. Huang, "The Law of the Wall in Turbulent Flows", invited paper given at the Osborne Reynolds Centenary Symposium, May 24, University of Manchester Institute of Technology, 1994.

(3) J. G. Marvin and P. G. Huang, "Turbulence Modeling – Progress and Future Outlook", Keynote lecture presented at the 15th International Conference on Numerical Methods in Fluid Dynamics, Monterey, CA, June 24-28, 1996, also as a NASA TM-110414, August, 1996.

(4) P. G. Huang, "Validation of Turbulence Models – Uncertainties and Measures to Reduce Them," Invited lecture presented at 1997 ASME Fluids Engineering Division Summer Meeting, paper number FEDSM97-3121, Vancouver, B.C., Canada, June 22-26, 1997.

(5) P. G. Huang, "Physics and Computations of Flows with Adverse Pressure Gradients," Invited paper, ICASE/LaRC/AFOSR Symposium on Modeling Complex Turbulent Flows, Hampton, VA, August 11-13, 1997.

(6) P. G. Huang and G. Xiong, "Prediction of Transitional Flows in the Low Pressure Turbine," Invited paper presented at Workshop on Boundary Layer Transition in Turbomachines, Minnowbrook II, Sept. 7-10, 1997.

(7) J. G. Marvin and P. G. Huang "Status and Future Directions for Turbulence Modeling," Invited paper presented at the 7th Asia Congress on Fluid Mechanics, Madras, India, Dec. 8-12, 1997.

(8) P. G. Huang, "Turbulence Modeling, Validation and Technology Transfer," Invited presentation at the 35th Annual Meeting of the Society of Engineering Science, Washington State University in Pullman, WA, Sept. 27-30, 1998.

(9) P. G. Huang, "Industrial Applications of Computational Fluid Dynamics", Invited presentation at American Society of Mechanical Engineers, Blue Grass Section Meeting, Oct 22, 1998.

(10) P. G. Huang, "Applications of Large Eddy Simulation to Engineering Problems", Invited panel talk at International Mechanical Engineering Congress and Exposition, ASME Meeting, Anaheim, CA, November 15-20, 1998.

(11) P. G. Huang, "Turbulence Modeling - Recent Research Trend in the US", Invited presentation at TRA³/KTA⁴ Workshop on Complex Viscous Flow Phenomena, ONERA Toulouse, June 16, 1999.

(12) P. G. Huang, "Turbulence Modeling Status and its impact on code validation; Experience in promoting code validation - future direction", invited talk at ASME Fluids Engineering Summer Conference, Boston, June 11th - 15th, 2000.

(13) P. G. Huang and Y. B. Suzen, "Predictions of Transitional Flows in a Low Pressure Turbine Using an Intermittency Transport Equations", Invite presentation Workshop on Boundary Layer Transition and Unsteady Aspects of Turbomachinery Flow, Minnowbrook III, August 20-22, 2000.

(14) P. G. Huang, "A roadmap for the application of CFD tools to engineering designs," Invited presentation at 37th Annual Technical Meeting of the Society of Engineering Science (SES 2000), Columbia, South Carolina, Oct 23-25, 2000.

(15) P. G. Huang, "Roadmap for the Application of CFD Tools to Engineering Designs", Invited presentation at the Mini-Symposium on CFD and Flow Acoustics, Fall 2000 Meeting of the Vibro-acoustics Consortium, Lexington, KY, November 16-17, 2000.

(16) P. G. Huang, "Future Capability for Predicting High Reynolds Number Turbulent Separated Flows at Flight Conditions", ICASE/LaRC Turbulence Workshop, Reno, NV, January 12-13, 2001.

(17) P. G. Huang, "High Cost CFD on a Low Cost PC Cluster," the 8th National CFD Conference, August 18-20, E-land, Taiwan, 2001.

(18) P. G. Huang, "Status of Turbulence Modeling & CFD Code Validation, Possible Approaches to Validation," Invited panel talk, ASME Fluids Engineering Summer Conference, Montreal, Canada, July 14-18, 2002.

(19) Z. Huang and P. G. Huang, "Numerical Solution of Incompressible Fluid Flows with a High Order ENO-Pade Scheme," Invited paper, the 9th National CFD Conference, August 24-26, Taiwan, 2002.

(20) K. E. Rouch, G. P. Huang, K. Saito, and W. Murphy, "A Perspective on EC 2000: A Seven Year Experience in a Mechanical Engineering Department," invited paper, iCEER-2005 iNEER Conference for Engineering and Research, Tainan, Taiwan, March 1-5, 2005.

(21) F. R. Menter, R. Langtry, S. Volker and P. G. Huang, "Transition Modelling for General Purpose CFD Codes," invited paper, ERCOFTAC International Symposium on Engineering Turbulence Modelling and Measurement, ETMM6, Sadina, Italy, May 23-25, 2005.

(22) P. G. Huang, "Whither adaptive refinement? Moving on to the polynomial adaptation," invited paper, the 6th Asian Computational Fluid Dynamics Conference, Taipei, Taiwan, Oct 24-27, 2005.

(23) L. Huang, P. G. Huang, R. P. LeBeau and Th Hauser, "Optimization of Blowing and Suction Control On NACA 0012 Airfoil Using EARND Genetic Algorithm with Diversity Control ", invited lecture, ERCOFTAC 2006, Design Optimisation Methods & Application, Gran Canaria, Canary Islands, Spain, April 5-7, 2006.

Contribution to Book Chapters

(1) A. S. Mujumdar, P. G. Huang and W. J. M. Douglas, "Prediction of heat transfer under a plane turbulent impinging jet including effects of crossflow and wall motion", Drying'82, Hemisphere Pub Corp., N.Y., 1982.

(2) P. G. Huang and A. S. Mujumdar, "A transient simulation model for combined impingement and through drying of a permeable web", Drying'82, Hemisphere Pub Corp., N.Y., 1982.

(3) P. G. Huang and J. M. MacInnes, "Modeling and numerical prediction of transport processes", course note, Department of Mechanical Engineering, Michigan Technological University, 1986.

(4) J. G. Marvin and P. G. Huang, "Turbulence Modeling – Progress and Future Outlook," Computational Fluid Dynamics Review, World Scientific Publication Cp Pte Ltd, 1998.

(5) P. G. Huang, "Physics and Computations of Flows under Adverse Pressure Gradients," Modeling Complex Turbulent Flows, ICASE/LaRC Interdisciplinary Series in Science and Engineering, editors: M D Salas, J. N Hefner, L Sakell, Kluwer Academic Publishers, pp. 245-258, 1999.

(6) Hauser, Th. and Huang, P. G.: "Shared Memory Parallelization of an implicit ADI-type CFD code", Parallel computational fluid dynamics, development and applications of parallel technology, Editors: C.A. Lin et. al, Elsevier Science B.B, p 145-152, 1999.

Peer-Reviewed Conference Publications

(1) P. G. Huang, A. S. Mujumdar and W. J. M. Douglas, "Numerical prediction of fluid flow and heat transfer under a turbulent impinging slot jet with surface motion and crossflow", 1984 ASME winter Annual Meeting, New Orleans, 84-WA/HT-33.

(2) P. G. Huang and M. A. Leschziner, "Comparison of turbulence models in predicting IAHR test problems", presented at the IAHR Working group on Refined Modelling of Flows, 9th Meeting, January 1985, Marseille, France.

(3) P. G. Huang and M. A. Leschziner, "Stabilization of recirculating-flow computation performed with second-moment closure and third-order discretization" presented at the 5th symposium on Turbulent Shear Flows, Cornell University, NY, August, 1985.

(4) P. G. Huang and M. A. Leschziner, "Assessment of density fluctuating influences in high temperature axisymmetric turbulent jets", presented at the SIAM Conference on Numerical Combustion, San Francisco, March, 1987.

(5) P. G. Huang and J. M. MacInnes, "Modeling the outwash flow arising from two colliding turbulent jets", paper no. 88-3609, presented at the First National Fluid Dynamics Congress, Cincinnati, July, 1988.

(6) P. G. Huang and E. W. King, "Time Accurate Simulation of Diesel Spray Structures", presented at 1989 International Conference on Mechanics of Two-Phase Flows, Taipei, Taiwan, June, 1989.

(7) J. M. MacInnes, R. W. Claus and P. G. Huang, "Time-Dependent Calculation of a Forced Mixing Layer Using a $k-\epsilon$ Turbulence model", Presented at the 7th symposium on Turbulent Shear Flows, Stanford University, CA, August, 1989.

(8) P. G. Huang and T. J. Coakley, "Modeling Hypersonic Boundary-layer Flows with Second-moment Closure", presented at the International Conference on Near-Wall Turbulent Flows, Tempe, Arizona, Mach 15 - 18, 1993.

(9) P. G. Huang and T. J. Coakley, "Calculations of Supersonic and Hypersonic Flows Using Compressible Wall Functions", presented at the 2nd International Symposium on Engineering Turbulence Modelling and Measurements, Florence, Italy, May 31 - June 2, 1993.

(10) P. G. Huang and W. W. Liou, "Numerical Simulation of Shock-wave/boundary-layer flow interactions", presented at 1st International Conference on Flow Interactions, Hong Kong, Sept. 5-9, 1994.

(11) W. W. Liou and P. G. Huang, "Calculations of oblique shock wave/turbulent boundary-layer interactions with new two-equation turbulence models," presented at the 2nd Symp. on Transitional and Turbulent Compressible Flows, 1995 Joint ASME/JSME Fluids Engineering Conference, S. C., Aug. 13-18, 1995.

(12) P. G. Huang, "Relations between viscous diffusion and dissipation of the turbulent kinetic energy" presented at the tenth Symposium on Turbulent Shear Flows, Penn. State U., Aug. 14-16, 1995.

(13) P. G. Huang and P. Batten, "Transonic Bump Computations Using the Spalart-Allmaras and Shear-Stress-Transport Models," Proc. of ERCOFTAC STG Workshop on Shock-Wave/Boundary-Layer Interaction, UMST, March 25-26, 1997.

(14) P. G. Huang, "Computation of Turbulent Flows using Upwind-bias 5th order schemes," presented at the Eleventh Symposium on Turbulent Shear Flows, Grenoble, France, Sept 8-11, 1997.

(15) P. G. Huang and J. D. Jacob, "On the Development of an Intelligent Code Validation System for the Rapid Transfer of Turbulence Model Technology", 1998 ASME Fluid Engineering Summer Meeting, Washington D. C., June 21-25, 1998.

(16) Th. Hauser and P. G. Huang, "A hierarchical parallelization concept for a high-performance Navier-Stokes solver," in Proceedings of International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'99), Las Vegas, NV, June 28 - July 1, 1999.

(17) Y. B. Suzen, G. Xiong and P. G. Huang, "Predictions of Transitional Flows in a Low Pressure Turbine Using an Intermittency Transport Equation," Fluids 2000 Conference, paper No. 2000-2654, Denver, CO, Jun. 2000.

(18) G. Xiong, P. G. Huang, C. Saunders and P. J. Heink, "CFD Simulation of Laser Printhead - A Case Study on Noise Reduction," ISSM3 Conference, Nagoya, Japan, Sept. 2000.

(19) Th. Hauser, T.I. Mattox, R. P. LeBeau, H. G. Dietz, and P. G. Huang, "High-Cost CFD on a Low-cost Cluster," the Gordon Bell Price award and regular paper at Super Computing 2000, or SC2000, Dallas, TX, November 4-10, 2000.

(20) D. Ranjan, P. G. Huang, and C. Knapp, "CFD Analysis of a Blood Sampling Device," 3rd International Symposium on Computational technologies for Fluid/Thermal/Chemical System with Industrial Applications, Atlanta, GA July 22-26, 2001.

(21) J. T. Brown, P. G. Huang, W. M. Kelly and G. R. Furnish, "CFD Design of Hand Drying Device," 3rd International Symposium on Computational technologies for Fluid/Thermal/Chemical System with Industrial Applications, Atlanta, GA July 22-26, 2001.

(22) Th. Hauser, R. P. LeBeau, T. I. Mattox, P. G. Huang, H. G. Dietz, "A Comparative Study of the Performance of a CFD program across different Linux Cluster Architectures", The Third LCI International Conference on Linux Clusters: The HPC Revolution 2002, St. Peterburg, Florida, October 23-25, 2002.

(23) Suzen, Y.B., Huang, P.G., "Numerical Simulation of Unsteady Wake/Blade Interaction in Low Pressure Turbine Flows Using an Intermittency Transport Equation," ASME-GT2004-53630, ASME Turbo-Expo 2004, Vienna, Austria, June 2004.

(24) Menter, F.R., Langtry, R.B., Likki, S.R., Suzen, Y.B., Huang, P.G., Volker, S., "A Correlation Based Transition Model using Local Variables Part I - Model Formulation," ASME-GT2004-53452, ASME Turbo-Expo 2004, Vienna, Austria, June 2004.

(25) Langtry, R.B., Menter, F.R., Likki, S.R., Suzen, Y.B., Huang, P.G., Volker, S., "A Correlation Based Transition Model using Local Variables Part II - Test Cases and Industrial Applications," ASME-GT2004-53454, ASME Turbo-Expo 2004, Vienna, Austria, June 2004.

(26) Viti, V., Huang, P. G. and Bradshaw, P., "Comparative Study of Reynolds Stress Turbulence Models in Free-Shear and Wall-Bounded Flows" Proceedings of the International Conference on Computational Fluid Dynamics 3, Toronto, Canada, July 12-14, 2004.

(27) Chen, H., Huang, P.G. and LeBeau, R.P., "Parallel 2D/3D Unsteady Incompressible Viscous Flow Computations using an Unstructured CFD Code," Proceedings of the International Conference on Computational Fluid Dynamics 3, Toronto, Canada, July 12-14, 2004.

(28) Suzen, Y. B. and Huang, P. G. "Modeling Plasma Actuators for Flow Control Application," the 6th Asian Computational Fluid Dynamics Conference, Taipei, Taiwan, Oct 24-27, 2005.

(29) T. Hauser, R.P. LeBeau, & P.G. Huang "Performance Evaluation of Different Cluster Architectures for CFD Applications," the 6th Asian Computational Fluid Dynamics Conference, Taipei, Taiwan, Oct 24-27, 2005.

(30) C. H. Chang, Huang, P. G. and LeBeau, R. P., "Implicit Space-time Spectral Difference Euler Solver with Adaptive Polynomials," the 6th Asian Computational Fluid Dynamics Conference, Taipei, Taiwan, Oct 24-27, 2005.

(31) V S. K. Vytla, Huang, P. G. and Kaufman, K. C., "CFD Modelling of Heat Recovery Steam Generator Using Fluent, ," the 6th Asian Computational Fluid Dynamics Conference, Taipei, Taiwan, Oct 24-27, 2005.

(32) Wala, A. M., Vytla, S., Taylor, C. D. and Huang, P. G., "The Mine Face Ventilation: a comparison of CFD results against the benchmark experiments for the CFD code validation," preprint 06-76, AME Annual Meeting, St. Louis, MO, March 26-29, 2006.

Unreviewed Conference Publications

(1) E. C. Chiang, P. G. Huang, Z. Chang and J. J. Johnson, "A One-dimensional Transient Compressible Flow Model for Cooling Airflow Rate Computation", SAE 900721, 1990.

(2) T. J. Coakley and P. G. Huang, "Evaluation of Turbulence Models for Hypersonic Flows", 8th National Aero-Space Plane Technology Symposium, paper no 24, Monterey, March 26-30, 1990.

(3) T. J. Coakley, J. R. Viegas, P. G. Huang and M. W. Rubesin, "An assessment and Application of Turbulence Models for Hypersonic Flows", 9th National Aero-Space Plane Technology Symposium, paper no. 106, Orlando, Florida, Nov. 1-2, 1990.

(4) T. J. Coakley and P. G. Huang, "Modeling for Compressible High Speed Flows", Tenth National Aero-Space Plane Technology Symposium, paper no. 210, Monterey, California, April, 23-26, 1991.

(5) P. G. Huang and T. J. Coakley, "An Implicit Navier-Stokes Code for Turbulence Flow Modeling", AIAA-92-0547, 30th Annual Meeting, Reno, Nevada, Jan 6-9, 1992.

(6) T. J. Coakley and P. G. Huang, "Turbulence Modeling for High Speed Flows", AIAA-92-0436, 30th AIAA Annual Meeting, Reno, Nevada, Jan 6-9, 1992.

(7) P. G. Huang and T. J. Coakley, "Turbulence Modeling for Complex Hypersonic Flows", AIAA-93-0200, 31st AIAA Annual Meeting, Reno, Nevada, 1993.

(8) B. Masson, P. G. Huang and P. Bradshaw, "Compressible Navier-Stokes Calculations of the flow over airfoil sections. Comparison of 1st- and 2nd-order turbulence models", presented at SAE Aerotech Conference, Paper no. 932510, Costa Meca, CA, Sept 27-30, 1993.

- (9) T. J. Coakley, P. G. Huang, J. Bardina and J. R. Viegas, "Modeling of Turbulence for Complex High Speed Flows", Second U.S. National Congress on Computational Mechanics, Washington, D.C., Aug. 16-18,1993.
- (10) P. G. Huang, G. N. Coleman and P. Bradshaw, "Compressible turbulent channel flows - a close look using DNS data", presented at the 33rd AIAA Aerospace Meeting and Exhibit, Reno, NV, AIAA-95-0584, Jan. 9-12,1995.
- (11) J. E. Bardina., P. G. Huang and T. J. Coakley., "Turbulence Modeling Validation," 13th AIAA Computational Fluid Dynamics Conference, Snowmass, Co, AIAA-97-2121, June 29-July 2, 1997.
- (12) P. G. Huang and G. Xiong, "Transition and Turbulence Modeling of Low Pressure Turbine Flows," ,AIAA 98-0339, 36th AIAA Aerospace Science Meeting, Reno, Jan 12-15, 1998.
- (13) Z. Wang and P. G. Huang, "An Essentially Non-Oscillatory High-Resolution Pade-Type (ENO-Pade) Scheme", AIAA-2000-0918, Jan.10-13, Reno, Nevada, 2000.
- (14) Y. B. Suzen, P. G. Huang, "An Intermittency Transport Equation for Modeling Flow Transition," AIAA Paper No: 2000-0287, AIAA 38th Aerospace Sciences Meeting and Exhibit, Reno, Nevada, January 10-13, 2000.
- (15) Y. B. Suzen, P. G. Huang, L. S. Hultgren, and D. E. Ashpis, "Predictions of separated and Transitional Boundary Layers Under Low-Pressure Turbine Airfoil Conditions Using an Intermittency Transport Equation," AIAA 2001-0446, AIAA 39th Aerospace Sciences Meeting and Exhibit, Reno, NV, Jan 8-11, 2001.
- (16) D. Munday, J. Jacob and G. Huang, "Active Flow Control of Separation on a Wing with Oscillatory Camber," AIAA 2002-0413, 2002.
- (17) Y.B. Suzen, P.G. Huang, "Numerical Simulation of Wake Passing on Turbine Cascades," AIAA Paper No: 2003-1256, AIAA 41st Aerospace Sciences Meeting and Exhibit, January 6-10, 2003, Reno, Nevada.
- (18) M.C. Hsu, K. Voyages, and P.G. Huang, "Validation and Implementation of Advanced Turbulence Models in Swirling and Separated Flows," AIAA Paper No: 2003-0766, AIAA 41st Aerospace Sciences Meeting and Exhibit, January 6-10,2003, Reno, Nevada.
- (19) Suzen, Y.B., Huang, P.G., Volino, R.J., Corke, T.C., Thomas, F.O., Huang, J., Lake, J.P., King, P.I., "A Comprehensive CFD Study of Transitional Flows in Low-Pressure Turbines Under a Wide Range of Operating Conditions", AIAA 2003-3591, 33rd AIAA Fluid Dynamics Conference, Orlando, FL, 23-26 June 2003.
- (20) Hauser, Th., R.P. LeBeau, Jr., T.I. Mattox, P.G. Huang, and H.G. Dietz, "Improving the performance of Computational Fluid Dynamics codes on Linux Architectures," 16th AIAA Computational Fluid Dynamics Conference, Orlando, FL, June 23-26, 2003.
- (21) Suzen, Y.B., Huang, P.G., "Numerical Simulations of Transitional Flows as Affected by Passing Wakes," AIAA-2004-0103, 42nd Aerospace Sciences Meeting and Exhibit, Reno, NV, January 2004.
- (22) Suzen, Y.B., Huang, P.G., "Comprehensive Validation of an Intermittency Transport Model for Transitional Low-Pressure Turbine Flows," AIAA-2004-1121, 42nd Aerospace Sciences Meeting and Exhibit, Reno, NV, January 2004.

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