

## J. Mitch Wolff

Professor

**Date of Initial Appointment:** September 1, 1995 (10 years of service)

### Education

Institution	Field of Study	Degree/Date
Purdue University	Mechanical Engineering	Ph.D., 1995
Purdue University	Mechanical Engineering	M.S.M.E., 1989
Purdue University	Mechanical Engineering	B.S.M.E., 1983

### Professional Experience

Position	Institution	Dates
Professor	Wright State University, Mech. & Mat. Eng.	09/03-Present
Associate Professor	Wright State University, Mech. & Mat. Eng.	09/00-08/03
Assistant Professor	Wright State University, Mech. & Mat. Eng.	09/95-08/00
Development Engineer	Dean Pump Company	07/84-05/86
Development Engineer	Ohio Brass Company	06/83-04/84

### Principal Publications (Last 5 Years)

1. Zhou, X. and Wolff, J. M., "Unsteady Tip Leakage, Bow Shock, IGV Wake Interaction in a Compressor," *International Journal of Turbo and Jet Engines*, in press.
2. Zhou, X. and Wolff, J. M., "CFD Analysis of Unsteady Separated Transonic Oscillating Cascade Aerodynamics," *International Journal of Turbo and Jet Engines*, Vol. 21, No 3, 2004, pp. 143-153.
3. Harff, M. R., Wolff, J. M., Copenhaver, W. W., Car, D., and Estevadeordal, J., "Stator Cascade Flow Vectoring Through Counter Flow Blowing," *International Journal of Turbo and Jet Engines*, Vol. 21, No 3, 2004, pp. 155-168.
4. Hutton, T. M., Leger, T. J., Johnston, D. A., and Wolff, J. M., "High Spatial Resolution Upstream Forced Response in a Transonic Compressor," *AIAA Journal of Propulsion and Power*, Vol. 20, No 4, 2004, pp. 790-792.
5. Leger, T. J., Johnston, D. A., and Wolff, J. M., "Flex Circuit Sensor Array for Surface Unsteady Pressure Measurements," *AIAA Journal of Propulsion and Power*, Vol 20, No 4, 2004, pp. 786-789.
6. Maple, R. C., King, P. I., Wolff, J. M. and Orkwis, P. D., "Split-Domain Harmonic Balance Solutions to Burger's Equation for Large Amplitude Disturbances," *AIAA Journal*, Vol 41, No 2, Feb. 2003, pp. 206-212.
7. Zhou, J., Dasgupta, S., Kobayashi, H., Wolff, J. M., Jackson, H. E., and Boyd, J. T., "Optically Interrogated MEMS Pressure Sensors for Propulsion Applications," *Optical Engineering*, Vol. 40, No. 4, April 2001, pp. 598-604.
8. Koch, P., Probasco, D. P., Wolff, J. M., Copenhaver, W. W., and Chriss, R., "Transonic Compressor Influences on Upstream Surface Pressures with Axial Spacing," *AIAA Journal of Propulsion and Power*, Vol. 17, No. 2, 2001, pp. 474-476.
9. Probasco, D. P., Leger, T. J., Wolff, J. M., Copenhaver, W. W., and Chriss, R., "Variations in Upstream Vane Loading with Changes in Back Pressure in a Transonic Compressor," *ASME Journal of Turbomachinery*, Vol. 122, No. 3, 2000, pp. 433-441.
10. Urbassik, R. M., Wolff, J. M., and Polanka, M. D., "Unsteady Aerodynamics and Interactions Between a High Pressure Turbine Vane and Rotor," *ASME 2004-GT-53607*, 2004 ASME Turbo Expo, Vienna, Austria, June 14-17, 2004.
11. Harff, M. R., Wolff, J. M., and Copenhaver, W. W., "A CFD Investigation of IGV Flow Vectoring by Counter Flow Blowing," *ASME 2004-GT-53941*, 2004 ASME Turbo Expo, Vienna, Austria, June 14-17, 2004.
12. Zhou, X. and Wolff, J. M., "Transonic IGV/Rotor Interaction Simulation with Fluid Structure Interaction," *AIAA Paper 04-5292*, 22nd Applied Aerodynamics Conference, Providence, Rhode Island, August 16-19, 2004.
13. Moore, K., Wolff, J. M., Sondergaard, R., and Polanka, M., "A Large Scale Investigation of Pulsed Vortex Generator Jets Using PIV," *11<sup>th</sup> International Symposium on Flow Visualization*, University of Notre Dame, Notre Dame, IN, Aug. 9-12, 2004.
14. Zhou, X. and Wolff, J. M., "Unsteady Tip Leakage, Bow Shock, IGV Wake Interaction in a Compressor," *11<sup>th</sup> International Symposium on Flow Visualization*, University of Notre Dame, Notre Dame, IN, Aug. 9-12, 2004.

15. Moore, K., Wolff, J. M., Polanka, M., and Sondergaard, R., "A PIV Study of Large Scale Pulsed Vortex Generator Jets" *AIAA Paper 04-3927*, 40th AIAA/ASME/SAE/ASEE Joint Propulsion Meeting, Fort Lauderdale, FL, July 11-14, 2004.
16. Urbassik, R. M., Wolff, J. M., and Polanka, M. D., "Spanwise Variations of Forcing Functions in a High Pressure Turbine Stage with Loading and Reynolds Number," *16<sup>th</sup> International Symposium on Airbreathing Engines*, ISABE-2003-1036, Cleveland, OH, August 31-September 5, 2003.
17. Hutton, T. M., Johnston, D. A., Kinatader, K., and Wolff, J. M., "Blade-to-Blade Variability Analysis of Experimental Transonic Compressor Data," *16<sup>th</sup> International Symposium on Airbreathing Engines*, Cleveland, OH, ISABE-2003-1143, August 31-September 5, 2003.
18. Zhou, X. and Wolff, J. M., "CFD Analysis of Unsteady Separated Transonic Oscillating Cascade Aerodynamics," *16<sup>th</sup> International Symposium on Airbreathing Engines*, ISABE-2003-1131, Cleveland, OH, August 31-September 5, 2003.

### **Professional Memberships**

1) American Society for Engineering Education (ASEE), 1993-Present. 2) American Institute of Aeronautics and Astronautics (AIAA), 1994-Present, Associate Fellow. 3) Society of Automotive Engineers, 1995-Present. 4) American Society of Mechanical Engineers (ASME), 1986-Present, Fellow.

### **Honors and Awards (Since Joining WSU)**

1) Affiliate Societies Council, Dayton, Outstanding Engineers & Scientists Award, 2003. 2) College of Engineering and Computer Science Outstanding Faculty Member, 2001. 3) College of Engineering and Computer Science Outstanding Teacher Award, 1999. 4) ASEE Dow Outstanding New Educator Award, 1999 5) SAE Ralph R. Teetor Educational Award, 1999.

### **Institutional and Professional Service (Last 5 years)**

Department Committees: Thermo/Fluids Committee (95-05), Curriculum Committee (96-05).

College Committees: Academic Computing Committee, (01-03), Chair (02-03); Ph.D. Coordination Committee - Computational Design (96-03); Teaching Committee - Faculty Evaluation & Review (98, 01); Teaching Awards Committee (99-02); Ph.D. Affairs Committee (02-04).

University Committees: Faculty Senate (01-03) - Elected; University Technology Committee (02-03); Honors Committee (99-01); Academic Letters Committee (98-00); Internet 2 Committee (99-01)

Reviewer for Professional Journals: *ASME Journal of Turbomachinery*; *AIAA Journal of Power and Propulsion*; *Journal of Fluids and Structures*; *Journal of Aerospace Engineering*; *Journal of Sound and Vibration*; *International Journal of Modelling and Simulation*

Other Professional Service: Faculty Advisor, ASME WSU Student Section, 1997-2003; *ASEE Campus Representative 1996-present*; *Ohio Space Grant Consortium WSU Representative 2000 to present*; *ASME Dayton Section Executive Committee 1997-2003*; *West District Science Day Judge, 1996-present*; *AIAA Dayton-Cincinnati Aerospace Science Symposium Organization Committee 2002-present*; *42nd AIAA Aerospace Science Meeting*, Reno, Nevada, Jan. 5-8, 2004, Technical Organizer – Air Breathing Propulsion; International Society for Air Breathing Engines (ISOABE), US National Committee Member 2001-present.

### **Professional Development Activities (Last 5 years)**

Major Shared Resource Center, WPAFB, "MDICE Short Course," CFD Research Center, July 26-28, 2000; ASME Regional Faculty Advisor Retreat, Buffalo, NY, Sept 22-23, 2000; NASA Glenn Research Center, Revolutionary Aeropropulsion Concepts Workshop, OAI, Cleveland, OH, June 14, 2001; . "Practical Aspects of Rotor Dynamics and On-line Condition Monitoring with Diagnostics," by J.S. Rao, Honolulu, HI, February 15-16, 2002; Fluent, "Agile Engineering Design System Seminar for Automotive Turbomachinery," Detroit, MI, Oct. 7, 2003; National Computational Science Institute Workshop, "Incorporating Computational Science Tools and Techniques into Undergraduate Courses," Wright State University, Dayton, OH, Dec. 1-5, 2003; ASC/Major Shared Resource Center, WPAFB, "TURBO Workshop", Dayton, Ohio, Dec. 18-19, 2003; von Karman Institute for Fluid Dynamics, Brussels, Belgium, "Critical Technologies for Hypersonic Vehicle Development," RTO AVT/VKI Lecture Series, May 10-14, 2004; Concepts NREC, "Centrifugal Compressor/Pump/Fan Design Software Workshop", Wilder, VT, September 20-24, 2004.