

## J. Mitch Wolff

Professor

**Date of Initial Appointment:** September 1, 1995 (15 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. Milligan, R., Eklund, D., Wolff, M., Gruber, M., and Mathur, T., "Dual Mode Scramjet Combustor: Analysis of Two Configurations," submitted to *AIAA Journal of Propulsion and Power*, Nov. 2010.
2. Estevadeordal, J., Marks, C., Sondergaard, R., and Wolff, M., "Curved Laser-Sheet for Conformal Surface Flow Diagnostics," *Experiments in Fluids*, on-line version available, 2010.
3. McQuilling, M., Wolff, M., Fonov, S., Crafton, J., and Sondergaard, R., "Experimental Investigation of a High-Lift Low Pressure Turbine Suction Surface," *AIAA Journal*, Vol. 48, No 11, Nov. 2010, pp. 2465-2471.
4. McQuilling, M., Wolff, M., Fonov, S., Crafton, J., and Sondergaard, R., "An Experimental Investigation of Low-Pressure Turbine Suction Surface Using a Shear and Stress Sensitive Film," *Experiments in Fluids*, Vol. 44, No. 1, January 2008, p. 73-88.
5. Corbett, M., Williams, J., Wolff, M., Walters, E., Wells, J., and Lamm, P., "Transient Turbine Engine Modeling and Real-Time System Integration Prototyping," 2006-01-3040, *SAE Transactions Journal of Aerospace*, March 2007, pp. 856-862.
6. Urbassik, R. M., Wolff, J. M., and Polanka, M. D., "Unsteady Aerodynamics and Interactions Between a High Pressure Turbine Vane and Rotor," *ASME Journal of Turbomachinery*, Vol. 128, No. 1, 2006, pp. 35-42.
7. Miller, C., Zumberge, J., Wolff, M., Boyd, M., and Bodie, M., "Hardware-in-the-Loop Electric Drive Stand Issues for Jet Engine Simulation," *SAE Paper 2010-01-1810*, SAE Power Systems Conference, Fort Worth, TX, Nov. 2-4, 2010.
8. Zumberge, J., Wolff, M., McCarthy, K., O'Connell, T., Walters, E., Russell, G., and Lucas, E., "Integrated Aircraft Electrical Power System Modeling and Simulation Analysis," *SAE Paper 2010-01-1804*, SAE Power Systems Conference, Fort Worth, TX, Nov. 2-4, 2010.
9. Corbett, M., and Wolff, M., "Double Bypass Turbofan Engine Modeling including Transient Effects," *SAE Paper 2010-01-1800*, SAE Power Systems Conference, Fort Worth, TX, Nov. 2-4, 2010.
10. Wolff, M., Zumberge, J., Bodie, M., Russell, G., McCarthy, K., O'Connell, T., Lucas, E., and Walters, E., "Integrated Thermal/Power/Propulsion/Vehicle Modeling Issues Related to a More Electric Aircraft Architecture," *RTO-MP-AVT-178 #28*, NATO Specialists Meeting, System Level Thermal Management for Enhanced Platform Efficiency, Bucharest, Romania, Oct. 4-7, 2010.
11. Wolff, M., Corbett, M., Zumberge, J., Miller, C., and Bodie, M., "Hardware in the Loop – Aircraft Electric Laboratory," *RTO-MP-AVT-178 #23*, NATO Specialists Meeting, System Level Thermal Management for Enhanced Platform Efficiency, Bucharest, Romania, Oct. 4-7, 2010.
12. Sanders, D., Nessler, C., Sondergaard, R., Polanka, M., Marks, C., Wolff, M., and O'Brien, W., "A CFD and Experimental Investigation of Unsteady Wake Effects on a Highly Loaded Low Pressure Turbine Blade at Low Reynolds Number," *ASME GT2010-22977*, ASME Turbo Expo, Glasgow, UK, June 14-18, 2010.
13. Bodie, M., Russell, G., McCarthy, K., Lucas, E., Zumberge, J., and Wolff, M., "Thermal Analysis of an Integrated Thermal/Propulsion/Vehicle Model," *AIAA Paper 10-0288*, 48th Aerospace Sciences Meeting, Orlando, Florida, January 4-7, 2010.
14. Walters, E., McCarthy, K., Amrhein, M., O'Connell, T., Raczkowski, B., Wells, J., Iden, S., Lamm, P., Wolff, M., Yerkes, K., Borger, W., and Wampler, B., "INVENT Modeling, Simulation, Analysis and Optimization," *AIAA Paper 10-00287*, 48th Aerospace Sciences Meeting, Orlando, Florida, January 4-7, 2010.

15. Milligan, R., Eklund, D., Wolff, M., Mathur, T., and Gruber, M., "Dual Mode Scramjet Combustor: Analysis of Two Configurations," *AIAA Paper 10-1254*, 48th Aerospace Sciences Meeting, Orlando, Florida, January 4-7, 2010.
16. Marks, C., Nessler, C., Sondergaard, R., Wolff, M., Crafton, J., and Fonov, S., "High-Lift LPT Blade Suction Surface Flow Investigation Using Surface Stress Sensitive Film," *AIAA Paper 09-5106*, 45th AIAA/ASME/SAE/ASEE Joint Propulsion Meeting, Denver, CO, August 2-5, 2009.
17. Marks, C., Sondergaard, R., Wolff, M., and Estevadeordal, J., "PIV Investigation of a Highly-Loaded LPT Blade Using a Curved Laser Sheet," *AIAA Paper 09-0301*, 47th Aerospace Sciences Meeting, Orlando, Florida, January 5-8, 2009.
18. Boyd, M., McNichols, J. M., Barnes, C., Wolff, M., Corbett, M., and Lamm, P., "Hardware-in-the-Loop Power Extraction Using Different Real-Time Platforms," *SAE Paper 2008-01-2909*, SAE Power Systems Conference, Seattle, WA, Nov. 5-7, 2008.
19. Corbett, M., Lamm, P., Boyd, M., and Wolff, M., "Effects of Transient Power Extraction on an Integrated Hardware-in-the-Loop Aircraft/Propulsion/Power System," *SAE Paper 2008-01-2926*, SAE Power Systems Conference, Seattle, WA, Nov. 5-7, 2008.

### **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 (95-08), Curriculum Committee (96-08), Faculty Search (1 position) (07-08) Chair.

College Committees: Ph.D. Publicity Committee – (04-08), Mechanical & Materials Engr Dept. Chair Search (05-06) Co-chair, Seminar Coordination Committee (05-06) Chair, Scholarship Committee (06-08) – (07-08) Chair, HFE, BIE & BME Dept. Chair 5-yr. Review (07-08).

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: *ASEE Campus Representative 1996-2008*; *Ohio Space Grant Consortium WSU Representative 2000 to 2008*; International Society for Air Breathing Engines (ISOABE), US National Committee Member 2001-present, *33rd Dayton-Cincinnati Aerospace Science Symposium*, Experimental Facilities Session Chair, March 4, 2008, Dayton, Ohio, *45th AIAA/ASME/SAE/ASEE Joint Propulsion Meeting*, Denver, CO, August 2-5, 2009, Session Chair – Compressor – I Session, *ISHM Conference*, Covington, KY, August 10-13, 2009, Organizing Committee, *ISHM Conference*, Covington, KY, August 10-13, 2009, Session Chair – Subsystems Application Session, Ohio Northern University Mechanical Engineering Advisory Committee, 2005 to present.

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

von Karman Institute for Fluid Dynamics, Wright State University, Dayton, OH, "Advances in Turbomachinery Aero-Thermo-Mechanical Design and Analysis," VKI Lecture Series, Nov. 27-30, 2006, The University of Tennessee Space Institute, Dayton, OH, "Aero-Propulsion Systems, Technology, Test and Evaluation," Continuing Education Lecture Series, April 21-25, 2008, von Karman Institute for Fluid Dynamics, Wright State University, Dayton, OH, "Advances in Laminar-Turbulent Transition Modeling," VKI Lecture Series, Jan. 12-15, 2009, AFRL/RB & NASA, Dayton, OH, "Sensitivity Analysis and Uncertainty Quantification Short Course," May 12-13, 2009, Wright State University/AFRL/WBI, Dayton, OH, "Introduction to Design of Experiments (DOE) Short Course," June 1-2, 2010, Wright State University/AFRL/WBI, Dayton, OH, "Design with Constructal Theory Short Course," June 3-4, 2010, von Karman Institute for Fluid Dynamics, Wright State University, Dayton, OH, "Hypersonic Propulsion," VKI Lecture Series, Nov. 29-Dec. 1, 2010.