

James A. Menart

Associate Professor

Date of Initial Appointment: September 1, 1996 (9 years of service)

Education

Institution	Field of Study	Degree/Date
University of Minnesota	Mechanical Engineering	Ph.D., 1996
University of Illinois	Mechanical Engineering	M.S., 1988
University of North Dakota	Mechanical Engineering	B.S.M.E., 1984

Professional Experience

Position	Institution	Dates
Associate Professor	Wright State University, Mech. & Mat. Eng.	09/02-Present
Assistant Professor	Wright State University, Mech. & Mat. Eng.	09/96-08/03
NRC Research Fellow	Air Force Research Laboratory (AFRL/VAAA)	06/03-08/03
NRC Research Fellow	Air Force Research Laboratory (AFRL/VAAA)	06/02-08/02
NRC Research Fellow	Air Force Research Laboratory (AFRL/VAAA)	06/01-08/01
AFRL Faculty Research Fellow	Air Force Research Laboratory (AFRL/VAAA)	06/00-08/00
NASA Faculty Research Fellow	NASA Glenn Research Center	06/99-08/99
NASA Faculty Research Fellow	NASA Glenn Research Center	06/98-08/98
NASA Faculty Research Fellow	NASA Glenn Research Center	06/97-08/97
Research Assistant	ERC Plasma Aided Manufacturing	06/94-08/96
NASA Graduate Student Fellow	NASA Glenn Research Center	09/91-06/94
Research Assistant	University of Minnesota	01/88-08/91
Research Assistant	University of Illinois	08/86-12/87
Research Engineer	Sunstrand Corporation	02/85-08/86

Principal Publications (Last 5 Years)

1. "Total Drag and Lift Measurements in a Mach 5 Flow Affected by a Plasma Discharge and a Magnetic Field" 2005, AIAA Paper No. 2005-0948, 43rd AIAA Aerospace Sciences Meeting and Exhibit, Reno, NV, January 10 – 13, (with Shang, J., Atzbach, C., Magoteaux, S., Slagel, M., and Bilheimer, B.)
2. "Application of Plasma Discharge Arrays to High-Speed Flow Control" 2005, AIAA Paper No. 2005-0946, 43rd Aerospace Sciences Meeting and Exhibit, Reno, NV, January 10 – 13, (with Kimmel, R., Hayes, J., and Shang, J.)
3. "Computational Study of Primary Electrons in the Cusp Region of an Ion Engines's Discharge Chamber" 2004, AIAA Paper No. 2004-4109, 40th AIAA/ASME/SAE/ASEE Joint Propulsion Conference and Exhibit, Fort Lauderdale, FL, July 11 – 14, (with Deshpande, S. and Mahalingam, S.)
4. "Effect of magnetic Fields on Surface Plasma Discharges at Mach 5" 2004, AIAA Paper No. 2004-2661, 34th AIAA Fluids Conference and Exhibit, Portland, OR, June 28-July 1, (with Kimmel, R., Hayes, J., and Shang, J.)
5. "DC Plasma Discharge Effects on a Mach 5 Flow Between Small Plate Electrodes," 2004, AIAA Paper No. 2004-2264, 35th AIAA Plasma Dynamics and Lasers Conference, Portland, OR, June 28-July 1, (Henderson, S., Shang, J., Kimmel, R., and Hayes, J.)
6. "Study of Surface and Volumetric Heating Effects in a Mach 5 Flow," 2004, AIAA Paper No. 2004-2262, 35th AIAA Plasma Dynamics and Lasers Conference, Portland, OR, June 28-July 1, (Henderson, S., Atzbach, C., Shang, J., Kimmel, R., and Hayes, J.)
7. "Equilibrium Properties of High Temperature Air for a Range of Pressures," 2004, AIAA Paper No. 2004-2159, 35th AIAA Plasma Dynamics and Lasers Conference, Portland, OR, June 28-July 1, (with Henderson, S. and Wolff, M.)
8. "Data Reduction Analysis for a Cylindrical, Double Langmuir Probe Operating in a Flowing Plasma" 2004, AIAA Paper No. 2004-0360, 42nd AIAA Aerospace Sciences Meeting and Exhibit, Reno, NV, January 5-8 (with Henderson, S., Shang, J., Kimmel, R., and Hayes, J.)
9. "Effect of Surface Plasma Discharges on Boundary Layers at Mach 5" 2004, AIAA Paper No. 2004-0509, 42nd AIAA Aerospace Sciences Meeting and Exhibit, Reno, NV, January 5-8 (with Kimmel, R., Hayes, J., and Shang, J.)

10. "Blunt Body in Hypersonic Electromagnetic Flow Field", *AIAA Journal of Aircraft*, Vol. 40, No. 2, pp. 314 – 322, 2003 (with Shang, J. S., Hayes, J., Miller, J.).
11. "Technique for Making Microwave Absorption Measurements in a Small Plasma Discharge," 2003, AIAA Paper No. 2003-3748, 36th Plasma Dynamics and Lasers Conference, Orlando, FL, June 23-26 (with Kurpik, A., Shang, J., Kimmel, R., and Hayes, J.).
12. "Effects of Magnetic Fields on a Plasma Generated in a Mach 5 Wind Tunnel," 2003, AIAA Paper No. 2003-4165, 36th Plasma Dynamics and Lasers Conference, Orlando, FL, June 23-26 (with Shang, J., Kimmel, R. and Hayes, J.).
13. "Survey of Plasmas Generated in a Mach 5 Wind Tunnel," 2003, Paper No. 2003-1194, 41th AIAA Aerospace Sciences Meeting & Exhibit, Reno, NV, January 6 –9 (with Shang, J., Henderson, S., Kurpik, A., Kimmel, R. and Hayes, J.).
14. "Net Emission Coefficients for Argon-Iron Thermal Plasmas," 2002, *Journal of Physics D: Applied Physics*, Vol. 35, pp. 867-874, (with Malik).
15. "Hypersonic Flow Over a Blunt Body with Plasma Injection," *AIAA Journal of Spacecraft and Rockets*," 2002, Vol. 39, pp. 367 – 375, (with Shang and Hayes).
16. "Primary Electron Modeling in the Discharge Chamber of an Ion Engine," 2002, AIAA Paper No. 2002-4262, 38th AIAA/ASME/SAE/ASEE Joint Propulsion Conference & Exhibit, July 7 – 10, 2002 (with Mahalingam).
17. "Spike-tipped Blunt body in Weakly Ionized Hypersonic Stream," 33rd AIAA Plasmadynamics and Lasers Conference and 14th International Conference on MHD Power Generation and High Temperature technologies, Paper No. 2002-2167, May 20-23, 2002, Maui, Hawaii. (with Shang and Hayes).
18. "Magneto-Aerodynamic Interactions in Weakly Ionized Hypersonic Flow," 40th AIAA Aerospace Science Meeting & Exhibition, Paper No. 2002-0349, January 14 - 17, 2002, Reno, NV. (with Shang, Hayes, and Miller).
19. "A Model for Multi-University Design Projects," 2001, *American Society for Engineering Education Annual Conference & Exposition*, June 24 - 27, 2001 (with Kinzel and Johnson).

Professional Memberships

American Society for Engineering Education (ASEE), 1998-Present; American Institute of Aeronautics and Astronautics (AIAA), 1998-Present; Tau Beta Pi, 2002-Present; American Society of Mechanical Engineers (ASME), 1986-Present.

Honors and Awards (Since Joining WSU)

1) Excellence in Teaching Award from Wright State University College of Engineering and Computer Science as nominated by students, 2004 2) Outstanding Teaching Award from Wright State University College of Engineering and Computer Science as nominated by students, 2004 3) Best paper award from the 26th AIAA Dayton-Cincinnati Aerospace Science Symposium, 2001 4) Outstanding Teaching Award from Wright State University College of Engineering and Computer Science as nominated by students, 1999.

Institutional and Professional Service (Last 5 years)

Department Committees: ABET A-K Committee (Chair), Winter 04-Present; Teaching Committee (Chair), Fall 03-Present; Honors and Awards Committee (Chair), Fall 97-Present; Thermo/Fluids Committee, Fall 97-Present.

College Committees: Petitions Committee (Chair) Fall 02- Spring 02, member Fall 01 – 03; Excellence in Teaching Awards Committee, Fall 99 – Spring 03, Fall 04-Spring 03; Scholarship Committee Fall 99 – Spring 02; Academic Mediations Committee, Fall 99 – Spring 01; Administrative Review Committee for Dr. Richard Bethke, May 2001;

University Committees: Faculty Senate, Fall 03-Present; Parking Advisory & Appeals Committee, Fall 02-Spring 03; Petitions Committee, Fall 01 – Spring 03; Budget Review Committee Fall 00 – Spring 02.

Reviewer for Professional Journals: *Journal of Spacecraft and Rockets*, *Numerical Heat Transfer*, *Plasma Sources: Science and Technology*, *IEEE Transactions on Plasma Science*, *Journal of Thermophysics and Heat Transfer*; *International Journal of Heat and Mass Transfer*

Other Professional Service: Faculty Advisor, AIAA WSU Student Section, Fall 2003-Present; Session Chair, Dayton-Cincinnati Aerospace Science Symposium, March 2005.

Professional Development Activities (Last 5 years)

Completed workshop at the Center for Teaching and Learning entitled, "Electronic Classroom Workshop", January 19, 2004; Attended GCCCU/SOCHE Regional Higher Education Conference entitled "Measuring and Improving Student Success" February 6, 2004; Organized five part faculty workshop on Improving Pedagogy in Winter quarter 2003; Organized "Active/Cooperative Learning" workshop put on by the Foundation Coalition at Wright State, December 6, 2001; Organized "Technology-Enabled Learning" workshop put on by the Foundation Coalition at Wright State, December 6, 2001; Attended "National Teaching College Workshop," workshop at the University of

Illinois, March 15 and 16 of 2001 and August 6, 7 and 8 of 2001; Attended one day workshop on the use of WebCT for online course presentation.