EDWARD A. BOGUCZ

Curriculum Vitae
March 1994

Education

Ph.D., Mechanical Engineering, Lehigh University, January 1985.
Dissertation: *Analysis of the turbulent near wake at a sharp trailing edge.* Advisor: J.D.A. Walker.

M.Sc., Heat Transfer Engineering, University of London, Imperial College, January 1980.
Thesis: *Study of a general two-equation model of turbulence.* Advisor: D.B. Spalding.

B.S., Mechanical Engineering, Lehigh University, May 1978.
Senior thesis: *Instrumentation for two-phase flow.* Advisor: J.C. Chen

Academic Employment

Associate Chair, Department of Mechanical, Aerospace, and Manufacturing Engineering, Syracuse University, Syracuse, NY, July 1994-date.

Associate Director, Northeast Parallel Architectures Center, Syracuse University, Syracuse, NY, August 1993-date.

Director, Mechanical Engineering Program, Department of Mechanical, Aerospace and Manufacturing Engineering, Syracuse University, Syracuse, NY, August 1992-July 1994.

Associate Professor, Department of Mechanical, Aerospace and Manufacturing Engineering, Syracuse University, Syracuse, NY, 1992-date.

Assistant Professor, Department of Mechanical and Aerospace Engineering, Syracuse University, Syracuse, NY, 1985-1992.

Research Assistant, Department of Mechanical Engineering and Mechanics, Lehigh University, Bethlehem, PA, 1980-84.

Research Expertise

Analytical and computational fluid dynamics and heat transfer, turbulent flow, numerical methods, high-performance computing, applications of symbolic processing and expert systems.

Selected Publications and Conference Papers

[1]Willis, T.J., and Bogucz, E.A., "Coupling symbolic processing with parallel numeric computation," in *Proceedings of 6th SIAM Conference on Parallel Processing for Scientific Computing*, edited by R.F. Sincovec, D.E. Keyes, M.R. Leuze, L.R. Petzold, D.A. Reed, SIAM, Philadephia, March 1993, pp. 788-792.

[1]Chriske, D.M., and Bogucz, E.A., "Performance evaluation of the Connection Machine for panel method calculations," *AIAA 91-0439*, AIAA 29th Aerospace Sciences Meeting, Reno, NV, 1991.

Bogucz, E.A., "Asymptotic analysis of the k–ϵ turbulent boundary layer," in *Advances in Numerical Simulation of Turbulent Flows* (I. Celik, T. Kobayashi, K.N. Ghia, J. Kurokawa, eds.), ASME FED-Vol. 117 (proceedings of symposium held at ASME-JSME Fluids Engineering Conference, Portland, OR), 1991, pp. 107-114. Bogucz, E.A., "The symmetric turbulent plane wake downstream of a

[1]Undergraduate student.

sharp trailing edge," *AIAA 91-0612*, AIAA 29th Aerospace Sciences Meeting, Reno, NV, 1991.

Bogucz, E.A., and Mudawwar, M., "A symbolic manipulation toolkit for asymptotic analysis of viscous flows," *AIAA 91-0499*, AIAA 29th Aerospace Sciences Meeting, Reno, NV, 1991.

Bogucz, E.A., Dirik, E.A., and Lyman, F.A., "Unsteady stagnation-point heat transfer due to the motion of freestream vortices," *AIAA 88-3771-CP*, in *Proceedings of AIAA/ASME/SIAM/APS 1st National Fluid Dynamics Congress*, July 1988, pp. 1893-1990.

Bogucz, E.A., and Walker, J.D.A., "The turbulent near wake at a sharp trailing edge," *J. Fluid Mech.* **196**, 1988, pp. 555-584.

Fox, G.C., Bogucz, E.A., and McCracken, N.J., "Undergraduate research experiences in computational science," 7th National Conference on Undergraduate Research, University of Utah, Salt Lake City, Utah, Mar. 1993.

Bogucz, E.A., "Undergraduate research in computational fluid dynamics," invited presentation at the 50th annual meeting of the American Society for Engineering Educations St. Lawrence Section, Syracuse, NY, Oct. 1991.

Bogucz, E.A., and Weinman, V.E., editors, *Journal of Undergraduate Research in High-Performance Computing*, **3**, Technical Report SCCS-567, Northeast Parallel Architectures Center, Syracuse University, Syracuse, NY, November 1993.

Relevant Seminars

"Multidisciplinary Analysis and Design," Northeast Parallel Architectures Center, Syracuse University, Feb. 4, 1994.

"CAD opportunities in turbomachinery applications," Syracuse University Center for Computer Applications and Software Engineering (CASE Center) Summer Conference, July 1992.

"Expert system applications in air conditioner design," United Technologies Research Center, July 31, 1991.

"Modeling and simulation for thermal and fluid systems," CASE Center Technical Advisory Group, April 11, 1990.

"Development of an expert assistant for air conditioner design," Syracuse Univ., Oct. 1989.

"Air conditioner design using an expert interface to simulation software," CASE Center Summer Conference, July 1989.

Recent Undergraduate Research Project Supervision

Adams, E., "Calculation of unsteady boundary-layer flows using the Connection Machine CM-2," NSF Research Experiences for Undergraduates (REU) program, Syracuse University Department of Mechanical and Aerospace Engineering (SU/MAE), Summer 1991. (Mr. Adams won second place in the AIAA Northeast Region Student Papers Competition for his entry based on this work.)

Hofeldt, A., "Calculation of turbulent boundary layers," independent study project, Summer 1991.

Ash, E.L., "Performance evaluation of the Connection Machine CM-2 for unsteady heat conduction calculations," NSF REU program, SU/MAE, academic year 1990-91. (Mr. Ash won third place in the AIAA Northeast Region Student Oral Presentation Competition for his entry based on this work.)

Chriske, D.M., "Performance evaluation of the Connection Machine CM-2 for panel method calculation," NSF REU program, SU/MAE, 1989-90. (Mr. Chriske won second place in the AIAA Northeast Region Student Papers Competition for his entry based on this work.)