

Tanju Sofu

Computational Fluid Dynamics Project Leader

Professional Experience

- Manager, Engineering Simulation and Safety Analysis Section, Nuclear Engineering Division, Argonne National Laboratory (2001-present)
- Section Manager, Reactor Analysis and Engineering Division, Argonne National Laboratory (1999-2001)
- Nuclear Engineer, Reactor Analysis and Engineering Division, Argonne National Laboratory (1998-1999)
- Assistant Nuclear Engineer, Reactor Analysis Division, Argonne National Laboratory (1994-1997)
- Post Doctoral Research Associate, Reactor Analysis Division, Argonne National Laboratory (1992-1993)
- Graduate Research Assistant, Research Reactors Division, Oak Ridge National Laboratory (1988-2002)

Research

- Development of simulation models for engineering systems analyses involving multi-dimensional, multi-scale, multi-physics phenomena
- Supervising a wide range of large-scale computational physics and fluid dynamics simulations on high-performance computing platforms
- Overseeing the lab's core liquid-metal cooled fast reactor safety analysis missions

Educational Background

- Ph.D., Nuclear Engineering, University of Tennessee, Knoxville
- M.S., Nuclear Engineering and B.S., Physics, Hacettepe University, Ankara, Turkey

Selected Publications

- "Thermal Analysis of an Off-Road Machine with Conjoint 3-D CFD and 1-D Network Flow Simulation Package," T. Sofu, et al., Intl. Journal of Heavy Vehicle Systems, accepted for publication (MS#2006_52).
- "Measurement and Analysis of Underhood Ventilation Air Flow and Temperatures for an Off-Road Machine," T. Sofu, et al., in The Aerodynamics of Heavy Vehicles: Trucks, Buses, and Trains, pp373-383, R. McCallen, F. Browand, J. Ross editors, Springer (2004).
- "Commercial CFD Code Validation for Heavy-Vehicle External Aerodynamics Simulation," W. D. Pointer, T. Sofu, D. P. Weber, in The Aerodynamics of Heavy Vehicles: Trucks, Buses, and Trains, pp473-483, R. McCallen, F. Browand, J. Ross editors, Springer (2004).
- "Innovative Model for Underhood Thermal Analysis Aims to Improve Energy Efficiency," T. Sofu, TransForum Research Reviews, Volume 7, Fall 2006, http://www.transportation.Argonne National Laboratory.gov/publications/transforum/tf_v7.html .
- "CFD truck stop," D. Pointer, T. Sofu, D. P. Weber, CD/adapco Dynamics, Issue 23, Fall 2004, <http://www.cd-adapco.com/news/23/truck.htm> .

- “Cool solutions off road for Caterpillar”, T. Sofu, S. Malipeddi, CD adapco Dynamics, Issue 22, Fall 2003, http://www.cd-adapco.com/press_room/dynamics/21/caterpillar.html .

Selected Presentations

- “Computational Fluid Dynamics for Hydraulics Research,” International Hydraulics Research Forum, Turner-Fairbank Highway Research Center, McLean, Virginia, June 5-6, 2007.
- “Applicability of Commercial CFD Tools for Assessment of Heavy Vehicle Aerodynamic Characteristics,” W. D. Pointer, T. Sofu, J. Chang, D.P. Weber, Intl. Conference on Aerodynamics of Heavy Vehicles-II: Trucks, Buses, and Trains, Lake Tahoe, California, Aug 26-31, 2007.
- “Development of Guidelines for the Use of Commercial CFD in Tractor-Trailer Aerodynamic Design,” D. Pointer, T. Sofu, and D. P. Weber, 2005 SAE Commercial Vehicle Engineering Conference, Rosemont, Illinois, November 1-3, 2005.