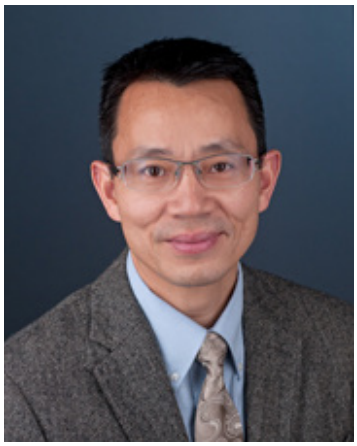
UNIVERSITY OF MARYLAND

THE BURGERS PROGRAM FOR FLUID DYNAMICS PRESENTS THE JOINT FLUID DYNAMICS REVIEWS AND AEROSPACE ENGINEERING SEMINAR

TOWARDS INDUSTRIAL LARGE EDDY SIMULATION WITH THE FR/CPR METHOD



Thursday, October 26, 2017
3:00-4:00p.m.
2164 Martin Hall, DeWalt Seminar Room

DR. Z.J. WANG

Spahr Professor of Aerospace Engineering
University of Kansas

ABSTRACT

Large eddy simulation (LES) has been shown to be very promising in computing vortex-dominated turbulent flows. The proliferation of high-order methods capable of handling complex geometries has significantly reduced the cost of such simulations comparing with 1st or 2nd order methods. In this talk, we present recent progress in several key areas which has enabled LES for industrial applications:

- High order space-discretization
- Sub-grid scale models
- High-order mesh generation

We conclude the talk with several demonstration cases, and possible future work.

BIO

Z.J. Wang, Spahr Professor at the University of Kansas (KU), received his Ph.D. in Aerospace Engineering from the University of Glasgow in 1990. Then he conducted post-doctoral research in Glasgow and Oxford before joining CFD Research Corporation in Huntsville, Alabama in 1991 as a Research Engineer, and later becoming a Technical Fellow. In 2000, he joined the faculty of Michigan State University as an Associate Professor of Mechanical Engineering. In 2005 he returned to Aerospace Engineering at Iowa State University, served as the Director of CFD Center from 2008 to 2012, and became the Wilson Professor of Engineering in 2011. In 2012 he joined KU's Aerospace Engineering Department, and served as the Chair of Aerospace Engineering for 5 years. Dr. Wang has been at the forefront of high-order CFD method development for over a decade. He has edited a book, written many review articles, (co-)organized multiple International Workshops on High-Order CFD Methods, and advocated their applications for real world flow problems. He has published over 200 journal and conference papers on CFD algorithms and applications. He was awarded the degree of Doctor of Science in Engineering by the University of Glasgow in 2008, and is a Fellow of AIAA.

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