

# FTT09 Agenda

## International Short Course on Flow Transition and Turbulence

103 PKH, 411 S.Nedderman

University of Texas at Arlington, Arlington, TX 76019, USA

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### Monday, May 11, 2009

8:00 – 8:50 am Registration

8:50 – 9:00 am Welcome (C. Liu)

09:00 -10:20 am

Turbulence origin and its practical significance. Transition scenarios and shear-flow instabilities (Y. Kachanov)

10:20 – 10:40 am Break

10:40 - 12:00 noon

Recent achievements in investigations of 3D instabilities of 2D and 3D boundary layers. (Y. Kachanov)

12:00 – 1:40 pm Box Lunch

1:40 – 3:00 pm Introduction of DNSUTA, a high order DNS code, and compact scheme (C. Liu)

3:00 – 3:20 pm Break

3:20 – 5:00 pm Code release and practice at 315 PKH (M. Oliveira, L. Chen, X. Liu)

6:30 – 8:00 pm, Reception, Jumbo Buffet, South East Corner of S. Cooper & Pioneer (X. Liu & C. Liu)

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### Tuesday, May 12, 2009

09:00 -10:20 am

Most important mechanisms of localized and distributed boundary-layer receptivity to external disturbances (Y. Kachanov)

10:20 – 10:40 am Break

10:40 - 12:00 noon

Localized and distributed excitation of TS-waves and Cross-flow modes by acoustic waves, surface non-uniformities, and free-stream vortices. (Y. Kachnov).

12:00 – 1:40 pm Box Lunch

1:40 – 3:00 pm Governing Navier-Stokes equation in a curvilinear coordinate and source code DNSUTA (M. Oliveira)

3:00 – 3:20 pm Break

3:20 – 5:00 pm Code practice at 315 PKH (M. Oliveira, L. Chen, X. Liu)

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### **Wednesday, May 13, 2009**

09:00 -10:20 am

Main features of weakly-nonlinear stages of transition. Predominant role of resonances (Y. Kachanov)

10:20 – 10:40 am Break

10:40 - 12:00 noon

Vortical structures and events observed at late stages of transition (Y. Kachanov)

12:00 – 1:40 pm Box Lunch

1:40 – 3:00 pm Flow instability equation for flat plate and T-S wave generation code (L. Chen)

3:00 – 3:20 pm Break

3:20 – 5:00 pm Code practice at 315 PKH (M. Oliveira, L. Chen, X. Liu)

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### **Thursday, May 14, 2009**

09:00 -10:20 am

Universality of essentially nonlinear mechanisms of turbulence production in transitional and turbulent wall-bounded shear flows (Y. Kachanov)

10:20 – 10:40 am Break

10:40 - 12:00 noon

Deterministic turbulence – the modern advanced approach in turbulence research (Y. Kachanov)

12:00 – 1:40 pm Box Lunch

1:40 – 3:00 pm Orthogonal elliptic grid generation and source code (X. Liu)

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3:00 – 3:20 pm Break

3:20 – 5:00 pm Code practice at 315 PKH (M. Oliveira, L. Chen, X. Liu)

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**Friday, May 15, 2009**

09:00 -10:20 am

Transition prediction approaches and their peculiarities. (Y. Kachanov)

10:20 – 10:40 am Break

10:40 - 12:00 noon

Control of transitional and turbulent boundary layers. Efficient application of the deterministic turbulence method (Y. Kachanov)

12:00 – 1:40 pm Adjourn and Box Lunch

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