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The status of art and possible future predictions on laminar-turbulent flow transition (transition control via sinusoidal oscillations): Now, tomorrow, the day after tomorrow

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The state of art on the “time-dependent process of transition” to turbulence of a laminar flow field is the topic of presentation. Although there exists numerous efforts on the manner regarding both internal and external fields, the theory is not complete and we still have to do more to increase our understanding thereby utilizing some critical facts in everyday life now and future. The experience of the author on the pulsatile flow theory with particular emphasis on conducted experimental research on flow physics and nature of time -dependent transition in a time-periodic - sinusoidal internal flow fields are outlined herein. The aim of the presentation is to have a current picture, have a critical analysis on future research possibilities and some predictions on the critical points of importance for Mechanical and Aerospace Engineering. Now and tomorrow we tried to be specified with the estimations for the day after tomorrow.

Biography

Melda Ozdinc Carpinlioglu received BSc, MSc and PhD degrees in Mechanical Engineering from Middle East Technical University; METU -Turkey in 1983, 1986 and 1992. She worked as a Research Assistant in 1983-1986 at METU, as an Instructor in 1987-1992 at the University of Gaziantep-Turkey. She has teaching and research experience in undergraduate and graduate as an Assistant Professor and an Associate Professor in 1992-1997 and 1997-2003 at the University of Gaziantep. She has been working as a Professor at the University of Gaziantep since 2003. She has held a number of administrative roles including Head of the Mechanical Engineering Department (9 years) Dean of the Faculty of Engineering (3 years) Director of European Union Center (3 years), Head of Thermodynamics (9 years). Her main research interests are Boundary Layer Flow, Boundary Layer Transition, Two-Phase Flow Fields- Pneumatic Conveying, Unsteady-Pulsatile Flow Dynamics etc. She is the author of 24 (26 IN 2013) *Journal Papers* (*Web of Science Thomson Reuters*) with 168 citations.

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