Proceedings of CHT-15
ICHMT International Symposium on Advances in Computational Heat Transfer

May 25-29, 2015, Rutgers University, Piscataway, USA

CHT-15-269

DEVELOPMENT OF CHT: AN EXCITING JOURNEY

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ABSTRACT The lecture will begin with an autobiographical description of the development of computational fluid dynamics and heat transfer, starting in mid 1960s. The historical milestones include the switch from integral methods to discretization methods, the change of focus from boundary layers to recirculating flows, and the efforts to move from two-dimensional situations to three-dimensional ones. While the intricate details of the calculation methods were being worked out, a number of fundamental principles emerged that guided the method development. The lecture will discuss these principles in detail as they are important for understanding the choices in the past methods and for constructing new methods. Whereas a significant advance has taken place, a number of aspects of the current methods require further development. These represent challenges for the future. Also, the ongoing changes in computer hardware may require rethinking of the choices made in the construction of the computational methods.