

## CONTENTS

### Special Issue of the 6th International Symposium on Engineering Turbulence Modelling and Measurements – ETMM6

|                                                                                                                                                                        |     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Preface                                                                                                                                                                | 747 |
| <i>Selected papers from the sixth of the International Symposia on Engineering Turbulence Modelling and Measurements</i>                                               |     |
| Active control of turbulent separated flows over slanted surfaces<br>A. Brunn and W. Nitsche                                                                           | 748 |
| Turbulence modelling of statistically periodic flows: Synthetic jet into quiescent air<br>S. Carpy and R. Manceau                                                      | 756 |
| The pressure–velocity correlation in oscillatory turbulent flow between a pair of bluff bodies<br>S. Obi and N. Tokai                                                  | 768 |
| Interface conditions for hybrid RANS/LES calculations<br>A. Keating, G. De Prisco and U. Piomelli                                                                      | 777 |
| Approximate near-wall treatments based on zonal and hybrid RANS–LES methods for LES at high Reynolds numbers<br>F. Tessicini, L. Temmerman and M.A. Leschziner         | 789 |
| LES, T-RANS and hybrid simulations of thermal convection at high $Ra$ numbers<br>S. Kenjereš and K. Hanjalić                                                           | 800 |
| Large-eddy simulation of natural convection boundary layer on a vertical cylinder<br>D.G. Barhaghi, L. Davidson and R. Karlsson                                        | 811 |
| A stress–strain lag Eddy viscosity model for unsteady mean flow<br>A.J. Revell, S. Benhamadouche, T. Craft and D. Laurence                                             | 821 |
| Behaviour of turbulence models near a turbulent/non-turbulent interface revisited<br>P. Ferrey and B. Aupoix                                                           | 831 |
| Nonlinear eddy diffusivity model for wall-bounded flow with arbitrary rotating axes<br>H. Hattori, N. Ohiwa and Y. Nagano                                              | 838 |
| An analytical wall-function for turbulent flows and heat transfer over rough walls<br>K. Suga, T.J. Craft and H. Iacovides                                             | 852 |
| Stochastic modelling of conjugate heat transfer in near-wall turbulence<br>J. Pozorski and J.-P. Minier                                                                | 867 |
| First stages of the transition to turbulence and control in the incompressible detached flow around a NACA0012 wing<br>Y. Hoarau, M. Braza, Y. Ventikos and D. Faghani | 878 |
| Parametric study of surfactant-induced drag-reduction by DNS<br>B. Yu and Y. Kawaguchi                                                                                 | 887 |
| Numerical simulation of compressible mixing layers<br>S. Fu and Q. Li                                                                                                  | 895 |

*Continued*

|                                                                                                                                                                                 |     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|
| Direct numerical simulation of large-eddy-break-up devices in a boundary layer<br>P.R. Spalart, M. Strelets and A. Travin                                                       | 902 |
| LES of a free annular swirling jet – Dependence of coherent structures on a pilot jet and the level of swirl<br>M. García-Villalba and J. Fröhlich                              | 911 |
| Experimental characterization and modelling of inflow conditions for a gas turbine swirl combustor<br>R. Palm, S. Grundmann, M. Weismüller, S. Šarić, S. Jakirlić and C. Tropea | 924 |
| Modelling turbulent collision rates of inertial particles<br>L.I. Zaichik, V.M. Alipchenkov and A.R. Avetissian                                                                 | 937 |
| Dynamic self-organization in particle-laden channel flow<br>B.J. Geurts and B. Vreman                                                                                           | 945 |
| $k$ - $\varepsilon$ Macro-scale modeling of turbulence based on a two scale analysis in porous media<br>F. Pinson, O. Grégoire and O. Simonin                                   | 955 |
| Effects of adverse pressure gradient on heat transfer mechanism in thermal boundary layer<br>T. Houra and Y. Nagano                                                             | 967 |