



9th International Workshop on the Physics of Compressible Turbulent Mixing Cambridge, UK 19-23 July 2004

Preface

The Centre for Mathematical Sciences in the University of Cambridge hosted some 125 participants from eight countries for the 9th International Workshop on the Physics of Compressible Turbulent Mixing (IWPCTM9). As with previous meetings in the series, presentations focused on flows where acceleration – either continuous or impulsive – acted on an inhomogeneous density field to drive the development of an instability. The papers spanned the range of available approaches to the problem, with many and varied presentations on theoretical, experimental and numerical approaches.

The series of Workshops, which began in Princeton in 1988, has mapped the development of our understanding of these complex, highly turbulent flows. The material presented, which continues to push the boundaries of our understanding and technical capabilities, still sparks healthy scientific debate. Although there appears to be a gradual convergence of our understanding of the simplest, idealised manifestations of the flows of interest, the real world represents a much more complex scenario.

The Proceedings of IWPCTM9 is more than just that. Following discussions with participants and the International Scientific Committee during the Workshop, it was decided that we should try to draw together all the proceedings from the previous Workshops in one convenient form. Unfortunately this task has taken longer than anticipated, so I must express apologies to participants at IWPCTM9 for the delay this has caused in making their valuable contributions available. I hope, however, that the reader will find the wait worth it, not only for the excitement of rediscovering the insight found in the presentations during IWPCTM9, but also in uncovering the wealth of material presented at previous Workshops, much of which is not replicated in mainstream scientific publications. At the time of writing it is intended that the collective proceedings will both be distributed on DVD to participants at IWPCTM9 and be made available on the internet for future researchers and those who were unable to attend the IWPCTM9. In the first instance the Proceedings will be found at www.damtp.cam.ac.uk/iwpc9/proceedings/, but we will be proposing to the International Scientific Committee that www.iwpc9.org is established as a community site and repository for these and future proceedings.

As Chair for the Workshop I am grateful to the International Scientific Committee, but relied heavily on my colleagues in the Local Organising Committee to ‘get the show on the road’. First and foremost must be David Youngs. Not only is this the second time he has helped run one (David was Co-Chair for IWPCTM4 in 1993 in Cambridge when I was a mere postdoc), but ultimately it was his suggestion that kicked off the whole series. Robin Williams (AWE) played a major role in the scientific organisation, and David Leppinen (DAMTP, Cambridge^{*}) relieved me of much of the local organisation. The Workshop logo is an adaptation of an experimental image by Joanne Holford (DAMTP, Cambridge[†]), who was also involved in the local organisation at its earliest stages.

^{*} Now at the Department of Applied Mathematics, University of Birmingham

[†] Now at the BP Institute, University of Cambridge

Thanks are also due to the generous sponsorship from AWE and CEA that enabled the registration fee to be kept at a modest level, and contributed significantly towards so many of our Russian colleagues being able to attend.

Finally, although none of us can yet predict how this series of Workshops will continue to develop, I feel confident that it will continue to provide a stimulating and exciting environment for scientific discourse for some time to come. As such, I hope (and expect) to see many of you in Paris in 2006 for IWPCTM10!

Stuart Dalziel
Chair of IWCPTM9
December 2005

