

# Preface

Enhancing the surface finish and integrity of engineered components is increasingly important, particularly for the workparts used in electronic and optical devices and systems. Significant progress has been made in recent years to develop new and advanced surface finishing technologies as well as to fundamentally understand the surface finishing technologies in order to adequately predict, control and optimise the surface finishing processes in practice.

This book is a collection of selected papers from the submissions to the 9th International Symposium on Precision Surface Finishing and Deburring Technology (ICSD2007), one of the academic conferences originated by the International Society for Precision Surface Finishing & Deburring Technology, held in Suzhou, China, from 5 to 7 November, 2007. All the papers included in this book have gone through a peer-review process for their originality and quality.

The aim of the Symposium is to offer an opportunity to bring together academic researchers and industrial practitioners for the interchange of information on the latest development and applications in advanced precision surface finishing and deburring technologies, and to promote friendship and interdisciplinary research collaborations. During the Symposium, an exhibition will be held to demonstrate some development of new equipment and tools for surface finishing, polishing and deburring.

The topics covered in this book include:

- Modelling and simulation of super-finish surfacing processes and mechanisms
- Precision and super-precision grinding and finishing techniques for advanced materials
- Advanced techniques/technologies and fundamental studies for enhancing component surface properties and characteristics
- Super-finish surface topography, integrity and characterisation
- Advanced deburring techniques and theories
- Advanced abrasives and equipment for surface finishing processes

We believe that this book provides a valuable reference for researchers in the field of surface finishing and deburring technologies who wish to further understand the underlying mechanisms and create new and practical technologies, systems and processes. It should also be particularly useful for practicing engineers in precision manufacturing who are responsible for the efficient and effective operations.

We would like to thank all the authors for their contributions to the book and the referees for their constructive comments on the papers.

The Editors

30 July, 2007