

# Structural Integrity and Durability of Advanced Composites

Innovative Modelling Methods  
and Intelligent Design

Edited by P.W.R. Beaumont, C. Soutis and A. Hodzic

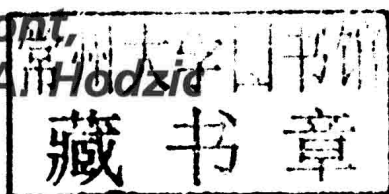
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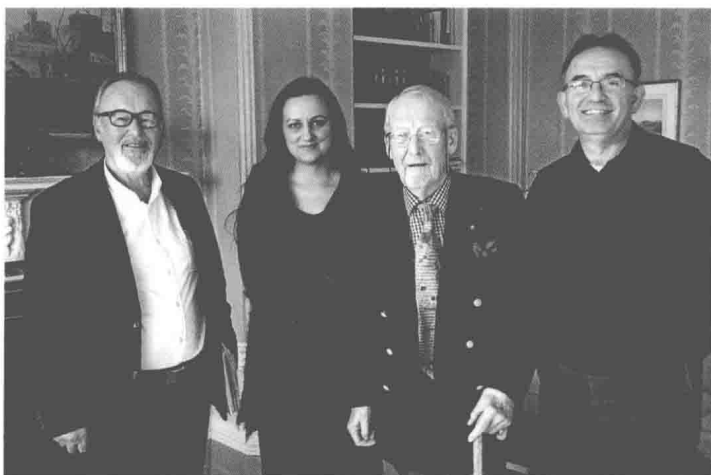
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This book is dedicated to the memory of, **Professor TONY KELLY** (1929–2014) of Cambridge University who played a major role in establishing the principles of fibre reinforcement of materials and thereby helped clear the ground for the emergence of contemporary composite materials in the new technology of engineering composite structures.



Tony Kelly and the editors assembled at a luncheon in 2014 when the progress in writing this book was assessed and the major themes of a Royal Society Research Meeting in 2016 based upon the book's chapters were considered.



## Editors' Foreword

It is an unusual privilege for us to assist in the writing of this book on such an occasion and on a topic in materials science and the various connecting branches of engineering. The subject matter is self-evident when the purpose of producing this book was to mark the 85th birthday of Anthony Kelly, known to those in the field of composite materials as Tony. It is with sadness that Tony died in the year of its preparation and never saw its completion.

Tony Kelly served on many bodies charting the development of materials of high-knowledge content, often referred to as *advanced materials*. His innovative contributions to materials in general and composite materials in particular were enormous, recognized and justly awarded with the highest accolades in science and engineering. He was a world-renowned researcher, scientist, Founding Fellow of Churchill College and Emeritus Professor of the Department of Materials Science at Cambridge University. Tony's brilliance, enthusiasm, unquenched intellectual curiosity and vision are inspirational as we shall see throughout the pages of this book.

It was to the speakers of a recent 3-day meeting at Queens' College, Cambridge to celebrate Tony's 85th that we turned for our chapter writers. We saw this occasion as an opportunity to bring together the viewpoints of top researchers and those tailoring material properties to today's needs. We hope this book will act as a spur to their alignment of objectives, from the exciting but rather academic goals in the attainment of specific properties and behaviour, to the pragmatic but still exciting objectives in the manufacture and performance of the final structure.

As editors, we were gratified by the extent to which the speakers accepted this brief and enriched their presentation in the writing of these chapters. This book is the better for the acceptance of a principal theme namely *Structural Integrity* and we hope that it will be the longer lasting because of it. While the *words of wisdom* of the speakers may not come across in the pages of this book, this assembly of chapters of significance does come through their excellence now presented.

We take this opportunity to thank the writers for their support in producing this book in honour of Tony Kelly.

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