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## **The Journal of Adhesion**

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### **Foreword**

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## Foreword

This special issue of *The Journal of Adhesion* honors Anthony J. (Tony) Kinloch, the 1992 winner of the Adhesion Society Award for Excellence in Adhesion Science, Sponsored by 3M. Tony was recognized “for his contributions to the application of fracture mechanics and surface science to the study of failure mechanisms in structural adhesive bonds.” Members of the adhesion community who have been active in these areas were invited to contribute relevant articles, and this special issue contains those contributions. Included are papers on fracture, fatigue, toughening, surface treatment and analysis, and durability. As a result, the issue is an excellent reflection of Tony’s influence and contributions to the field of adhesion.

Tony’s career in adhesion began with his graduate work at Queen Mary College, University of London. He studied the mechanics of adhesive failure between an elastomer and various substrates. This work, which developed new insights and predictive theories for failure behavior, exhibited the critical trait which has made his work over the last 20 years so strong. The studies involved mechanics but, because of his training in chemistry and materials science, the results extended well beyond simple reporting of property data. The papers produced a real understanding of basic mechanisms and molecular level insights that were directly applicable to the development of improved materials.

From 1972 to 1984, Tony worked with the Ministry of Defence in Waltham Abbey, first as Research Team Leader and then as Principal Scientific Officer and Head of the Research Section on Adhesives and Mechanical Properties of Polymers. In 1984 he moved to the Mechanical Engineering Department at Imperial College, University of London. He began as a Reader in Engineering Adhesives and, in 1990, was promoted to Professor of Adhesion.

Tony’s work has covered an extraordinary range of topics including toughening, fracture, fatigue, impact, and durability of adhesives, polymers, and propellants. Although the achievements are too numerous to detail here, a few examples are illustrative. Tony’s two-article review on “The Science of Adhesion” published in the *Journal of Materials Science* was a tremendous success. His work on crack blunting as a mechanism for toughening is widely accepted and helped produce the first successful toughening of a bismaleimide. His book with R. J. Young on “Fracture Behavior of Polymers” is a classic reference in the field, while his studies of durability and surface treatment have helped to bring modern surface analysis to the field of adhesion. The most recent work on impact and delamination has led to improved test methods that are becoming international standards.

An important key to the success of Tony’s career is his ability to generate cooperative programs with others. The number of scientists that have co-authored papers

with him is extraordinary. This reflects not only the high quality of his work but also his ability to inspire cooperation with many of the best scientists in the world. I have been fortunate enough to have participated in this cooperation and can describe the interaction as exceedingly rewarding, productive, and enjoyable.

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