

PREFACE

This book owes its origins to a decision made by the University of Birmingham Medical School to place an emphasis on recruiting young scientists with an interest in various aspects of DNA damage repair pathways and DNA replication. Most of the contributors to this book are part of that cohort. Their range of interests within these broad research areas has allowed us to cover most aspects of DNA repair and replication whilst maintaining a reasonably coherent viewpoint.

Research into the DNA damage response at Birmingham began more than half a century ago in the Department of Cancer Studies, where there was a very strong interest in cytogenetics and the chromosomal abnormalities seen in a number of inherited diseases. In particular, for many years, strong emphasis had been placed on the study of ataxia telangiectasia. When the ATM gene was cloned in 1995, and it became clear that the protein played a key role in the response to DNA damage, interest in the DNA damage response pathways increased and this was reflected in the expanding department, which has now become the Institute of Cancer and Genomic Sciences.

The articles in the first part of this book cover most aspects of the DNA damage response with an emphasis placed on their relationship to DNA replication stress. The second part concentrates on the relevance of this to human disease, with emphasis on both the causes and treatments which make use of DDR pathways.