

# Preface

This book came about as a result of a discussion which took place at a Microscopy and Microanalysis meeting. Although the number of research groups working in the field of biological surface chemistry, modification and characterization have increased during the past few decades, a number of advances have been made to standard surface analytical instrumentation, and a number of new instruments have been introduced, only two books on the subject of surface analysis of biological systems have been published (see Refs. [44] and [45] in Chap. 1) and are both now outdated. We felt the time was right for a book which went into more detail on the main surface analysis techniques that are being used to study biological specimens and systems.

The process of editing a book is very rewarding, as you are tasked with identifying best-in-class researchers in their respective fields of study and helping them assemble and refine the content. I very much appreciate that each of the chapter authors took time from their busy schedules to write their chapters. The technical content described in this book is very high. The compilation of chapters will help the biological research community realize the benefits that surface analysis provides. We look forward to seeing a larger number of biologists and medical specialists start using the techniques discussed in this book.

New analysis instruments (such as the QSTAR and the Ionoptika J105 3D Chemical Imager, which are discussed in the future outlook section of Chap. 4) are continuously being developed and introduced to the scientific community; we look forward to seeing what the future has in store. I am also excited to see the next generation of medical devices, which will benefit from surface analysis and will help our society.

Niskayuna, NY, USA

Vincent S. Smentkowski

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Smentkowski, V.S. (Ed.)

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