

# Table of Contents

- Prologue: ToF-SIMS—An evolving mass spectrometry of materials (*John C. Vickerman*)
- The history of Static SIMS—A personal perspective (*Alfred Benninghoven*)
- Status of cascaded theory (*Herbert M. Urbassek*)
- Fundamentals of organic SIMS: insights from experiments and models (*Arnaud Delcorte*)
- Molecular speciation analysis of inorganic compounds (*Luc van Vaeck*)
- Molecular dynamics simulations, the theoretical partner to dynamic cluster SIMS experiments (*Barbara J. Garrison and Zbigniew Postawa*)
- Cationisation (*Birgit Hagenhoff*)
- Laser post-ionisation—fundamentals (*Andreas Wucher*)
- Time-of-flight mass analysers (*Bruno W. Schueler*)
- Analysis beams used in ToF-SIMS (*Rowland Hill*)
- Cluster and polyatomic primary ion beams (*John S. Fletcher and Christopher Szakal*)
- Molecular depth profiling (*Alex Shard, Ian Gilmore and Andreas Wucher*)
- Role of operating conditions in ToF-SIMS (*Ian Gilmore*)
- Laser post-ionisation for elemental and molecular surface analysis (*Nicholas P. Lockyer*)
- Sample handling for ToF-SIMS (*Fraser Reich*)
- Qualitative interpretation of spectra (*David Briggs and Ian W. Fletcher*)
- Multivariate analysis of SIMS spectra (*Alex Henderson*)
- ToF-SIMS image analysis (*Bonnie J. Tyler*)
- Characterisation of polymeric materials (*Lutao Weng and Chiming Chan*)
  
- li>Functional modification of surfaces using self-assembled monolayers (*Amy Walker*)
  
- Application of SIMS to study of biological systems (*Alain M. Piwowar and Nicholas Winograd*)
- Medical and biological applications of cluster ToF-SIMS (*David Touboul, Oliver Laprevote and Alain Brunelle*)

- Depth profiling of inorganic materials (*Ewald Niehuis and Thomas Grehl*)
- Depth profiling in organic electronics (*Ewald Niehuis*)
- Contamination monitoring and failure analysis (*Arwa Ginwalla, Thomas, F. Fister and Ian A. Mowat*)
- Photographic and digital graphic materials (*Luc van Vaeck, Yannick Vercammen, Jens Lenaerts, Roel de Mondt, Jaymes van Luppen and Frank Vangaeveer*)
- Applications of ToF-SIMS in cosmochemistry (*Thomas Stephan and Ian C. Lyon*)
- Index