

# Foreword

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The generic subject of enzyme technology has a largely industrial and commercial purpose. Consequently it behoves researchers to operate within a culture of awareness of the constraints implicit on industrial practice. These are often reflected in allowable costs leading to the primacy of yield and limitations on the use of recovery, separation and purification processes to achieve saleable product. Because of the nature of the products, the process conditions and the raw materials, industrial safety is a significant feature. Also, as many of the products are used in food and food related applications, product safety is often paramount. Appreciation is also required of the product targets such as formulation, purity, activity, dispense, handling, stability, storage, specificity, safety, uses and conditions of use.

In contrast, the industrial practitioner needs an acute awareness of the underpinning science and the range of practical choices that can be explored to create a process and product, which both exploits the available science and meets the industrial and commercial constraints. Such 'process synthesis' represents one of the most elegant, intellectually challenging and ultimately satisfying achievements of any technology, and together with the desirable product characteristics is often referred to as 'product engineering' to emphasise the primacy of saleable product material as its objective.

In 'Enzyme Technology' the Editors have set out to provide a snap-shot of current practice and research which will assist both the researcher and the industrial technologist meet their respective goals. This has been achieved by providing an extensive basis of industrial enzymology, examples of industrial success covering the production and uses of many industrial enzyme products, and by illustrations of evolving practice. These 'developed areas' are complemented by descriptions of speciality process practices and descriptions of pioneering work concerned with improving the enzymes themselves, using protein engineering and other techniques, for use in industrial conditions with commercial objectives, and in the creation of new diagnostic and therapeutic products.

Enzyme technology is applied by companies, large and small, on a worldwide basis as part of their industrial production, often a very small part. The Editors have brought together this widespread custom and practice through a catholic range of authors, to give a worldview of a fascinating subject. To achieve coherence they have guided the contributors towards a presentational 'template' to provide a balance of information, style and format – and in this they are to be congratulated.

Overall, you will find a text which not only benefits researchers and practitioners but also provides a kaleidoscope of images of enzyme technology for those entering the area.

**Bernard Atkinson**