DNA microarrays technology has probably contributed most to the consolidation of the "global" approach to biological experimentation that started with the human genome era. Given its potential in areas such as pharmacogenomics, diagnostics, and drug target identification, this technology has polarized the enthusiasm and the expectations of the scientific community and has been the hub of important investments by industrial and academic institutions. Furthermore, the advent of microarrays has given a strong impetus to computational biology through the need for new tools and algorithms for data analysis and has shortened the distance between areas such as molecular biology, clinical diagnostics, statistics, information technology, and epidemiology. At present, it seems clear that large-scale microarray studies are not a passing fashion, but are instead becoming a crucial aspect of a new way to conceive experimental biology, one involving large-scale, high-throughput assays.

In this book, the major results achieved since the first appearance of DNA microarrays in the scientific scene are outlined. The authors illustrate a number of successful applications and provide the readers with useful guidance on the main concepts and the philosophy driving these types of study. By integrating the description of the methodologies with the scientific achievements obtained in various research areas, the potential and the challenges offered by high-throughput approaches to modern biology are highlighted.

This book is designed for researchers and students in all areas of biosciences.

www.horizonbioscience.com

ISBN 978-1-904933-25-0