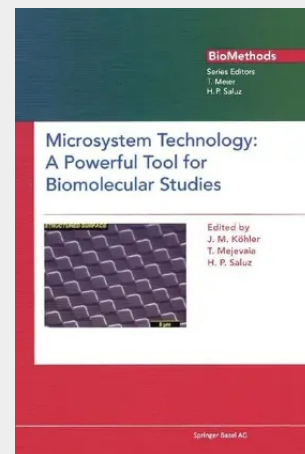


Microsystem Technology

A Powerful Tool for Biomolecular Studies

Biomolecular studies are the trial of Man to understand how Nature manages information at the molecular level. The understanding of molecular information handling in nature is essential for the molecular optimization in chemistry, molecular biology, molecular pharmacology and therefore - as an example - for the development of specifically acting drugs. The famous recent method of technical information management is digital electronics. Over the past few years, evidence has arisen that computerized and molecular information managements have many similar and overlapping aspects. For example, both technology and nature use digitized information and both use small structures for the efficient handling of information. Furthermore, they optimize their processes in order to gain a maximum of information with a minimum of invested energy. During the last two decades, novel experimental techniques in biomolecular sciences have paved the way for artificial biomolecular optimization. In the same time interval, the progress of micro system technology has been extended from the field of digital electronics and sensing to micro liquid handling, and the field of chip-supported substance handling began. It appears that the "marriage" of physical micro technology and molecular processing will be consummated soon. The contact of both fields has been realized in for example DNA chips. Such connections will also become relevant in additional fields in the near future. Biomolecular investigations are the first to profit from these fast growing scientific and technical connections between micro systems and molecular sciences.

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