

## BIOLOGY IN POSTGENOMIC PHASE

### S u m m a r y

The current postgenomic phase in biology is characterized by the occurrence of numerous novel research areas. Within the next twenty years or so, some of them will probably develop into well defined sub-disciplines, the other will disappear or transform into something completely new. Of the emerging directions, three seem particularly promising. They are: comparative genomics, deep analysis of the genomes and a search for the new ways of describing organisms. The recent exemplary achievements obtained by researchers pursuing these directions were the eluci-

dation of the role of segmental DNA duplications in the evolution of mammals, the discovery of the regulatory functions and the widespread occurrence in the genomes of the tiny RNA molecules, the microRNA, and the finding that such processes as karyokinesis or nuclear-cytoplasmic transport are controlled by the fields of interactions resulting from gradients of regulatory molecules.