



Content

		<i>Page</i>
Preface		1
Project area A: Molecular biology of product formation		9
A1	Production of recombinant glycosyltransferases using <i>Bacillus megaterium</i> and <i>Aspergillus niger</i>	11
A6	Systems biology of chaperones for the production of antibodies with <i>Bacillus megaterium</i>	29
A7	Structural biology of glycosyltransferases for the optimization of biotechnical processes	43
Project area B: Systems biotechnology of product formation		61
B3	Influence of the environment on the morphology and productivity of filamentous fungi (<i>Aspergillus niger</i>)	63
B4	Systems biology of product and pellet formation by <i>Aspergillus niger</i>	81
B7	Micromechanic properties of filamentous fungi	99
B8	Holistic bioprocess engineering of antibody fragment secreting <i>Bacillus megaterium</i>	119
B9	Integrative databases, bioinformatics tools, analysis and modeling for systems biology with <i>B. megaterium</i> and <i>A. niger</i>	131
B10	Systems biotechnology of glycosyltransferase production with <i>Bacillus megaterium</i>	147
B11	Metabolic network dynamics for production of recombinant glycosyltransferases	165
Project area C: Process technique		179
C2	Continuous chromatographic separation of ternary and pseudo-ternary mixtures	181
C6	Nanoanalytics for protein production processes	195
C7	Protein purification with functionalized magnetic nanoparticles	211
Project area D: Application technique		227
D1	Drug delivery systems for the controlled release of proteins	229
D2	Microchips for protein analytics and diagnostics	247