

Preface

This book explores the development of systems biology as a new approach to life. It is based on an empirical social study of science and analyzes the epistemic preconditions, infrastructural requirements, innovative potentials, and policy implications of emerging and expanding concepts and practices of systems biology. In conducting the research that provided the basis for this publication we were interested not only in systems biology's capacity to give rise to a better understanding of complex biological entities such as cells or organisms but also in its cognitive, social, and policy framings and contexts. The results of the study show that systems biology is as complex as its objects of research, and that it also is an interdisciplinary enterprise which will most likely have a profound impact on our perception of life as well as on science itself.

The overall aim of this book is to contribute to a better understanding of the implications nestling in the current shift in molecular biology towards a systems-oriented perspective for science and society. It was written for specialists of different academic disciplines as well as for experts coming from nonacademic fields. Talking about experts from academia, we do not only think about those from biology, informatics, physics or other natural sciences, or medicine but also think about scholars from the social and cultural studies of science, from history and philosophy of science, or from linguistics. And when we talk about experts from nonacademic fields, we mean anyone interested in scientific developments such as systems biology coming from science policy, science administration, or the media reporting about science. It is our mission to make science, its presuppositions and preconditions, as well as its implications, as transparent and accountable as possible. Therefore we tried—and we hope succeeded—to use a language that makes a complex, but

nevertheless highly topical and important subject accessible to all of those who are interested in a more than superficial understanding of science and of how it shapes and is shaped by us, by society, and by culture.

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Contextualizing Systems Biology

Presuppositions and Implications of a New Approach in
Biology

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