

Preface

Initially the Internet was designed for research purposes—so was the World Wide Web. Yet, society deviated from this intended use and as such many aspects of our daily lives have changed drastically over the past 20 years. The Internet has changed our ways of communicating, watching movies, interacting, shopping, and travelling. Many tools offered by the Internet have become second nature to us. At first, the net was designed as a plain data transfer network for researchers, yet it has since morphed into a vivid, transforming, living network. The evolution of the Internet came with barely foreseeable cultural changes, affecting core elements of our society, such as collaboration, government, participation, intellectual property, content, and information as a whole.

Novel online research tools pop up constantly and they are slowly but surely finding their way into research culture. A culture that grew after the first scientific revolution some 300 years ago and that has brought humanity quite far is on the verge of its second profound metamorphosis. It is likely that the way that researchers publish, assesses impact, communicate, and collaborate will change more within the next 20 years than it did in the past 200 years.

This book will give researchers, scientists, decision makers, politicians, and stakeholders an overview on the *basics*, the *tools*, and the *vision* behind the current changes we see in the field of knowledge creation. It is meant as a starting point for readers to become an active part in the future of research and to become an informed party during the transition phase. This is pivotal, since research, as a sensitive, complex process with many facets and millions of participants, hierarchies, personal networks, and structures, needs informed participants.

Many words are used to describe the future of research: ‘Science 2.0’, ‘Cyber-science 2.0’, ‘Open Research’, ‘Open Science’, ‘Digital Humanities’, ‘eScience’, ‘Mode 2’, etc. ... They may trigger feelings of buzzwordism, yet at the same time the struggle for precise definitions highlights the current uncertainty regarding these and shows the many possible outcomes the current changes in research might bring.

It seems contradictory in itself to publish a ‘traditional’ book on this topic—why don’t we simply go online? The book is and will be an important medium in research, just as papers and abstracts, and most importantly human interactions, will continue to be. However, all will be supplemented by novel tools, and accordingly so is this book. You can find, download, and even edit the entire book online at www.openingscience.org. It is published under the Creative Commons

license, and everyone is invited to contribute to it and adopt and reuse its content. The book was created using a collaborative authoring tool, which saved us many meetings and tedious synchronizations of texts among authors. We made this book a living example of the communication culture research can have—not only in the future—but already today.

We thank all authors; their contributions and invested efforts are highly appreciated. The authors participated in the review process of the book. Besides our authors, many thanks go to our discussion partners and reviewers of our work, and to those who have not (yet) contributed a particular text, who are Annalies Gartz, Ayca-Nina Zuch, Joeseeph Hennawi, Prof. Fabian Kiessling, Christine Kiefer, Thomas Rodt, Kersten Peldschus, Daniel Schimpfoessl, Simon Curt Harlinghausen, Prof. Wolfhard Semmler, Clemens Kaiser, Michael Grasruck, Carin Knoop, Martin Nissen, Jan Kuntz, Alexander Johannes Edmonds, Aljona Bondarenko, Prof. Marc Kachelrieß, Radko Krissak, Johannes Budjan, Prof. Henrik Michaely, Thomas Henzler, Prof. Christian Fink, Prof. Stefan O. Schönberg, Tillmann Bartling, Rajiv Gupta, and many others ...

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