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To our students

Preface

Back in 2020 we had an idea for a new philosophy of science course. The course was inspired by our joint work with engaging researchers, practitioners, and students in critical reflections about the philosophical foundation of science. Specifically, we have discussed how research methods, norms, and practices are motivated by philosophical assumptions that often remain implicit, what we call *philosophical bias in science*. Since our university offered almost exclusively interdisciplinary programs, students would encounter lecturers with diverse backgrounds and equally diverse perspectives. Disagreement could be over what counts as the best scientific methods, which results are more trustworthy, how to interpret and use scientific results, and what would be the best course of action given the available evidence. By teaching the students how to identify a range of philosophical assumptions, they were given some tools to understand and tackle the disagreement in a constructive way. Specifically, they learned to analyse scientific controversies where the disagreement among experts is not over the empirical facts, but how to interpret and evaluate those facts.

We wanted to write a book that is relevant for both philosophers and scientists, written by a philosopher and a scientist. The content is based on our individual and joint teaching and research. With this book, students can learn what we teach in our philosophy of science courses, and teachers can use it to develop their own courses. We hope to show the reader how one can apply and use philosophy to analyse and disentangle real cases of expert disagreement, but also to understand how scientific consensus requires some degree of philosophical consensus. In this respect, the book offers an introduction to philosophy of science that focuses on the application of philosophy to science.

This book has benefitted from insightful discussions and invaluable feedback from students, colleagues, and reviewers. We are grateful to the series editor, Vittorio Bufacchi, for giving us this opportunity and for encouragement and support along the way. We are indebted to the two anonymous reviewers for their constructive suggestions that significantly improved the quality of the book. A special note of

thanks goes to our students at the Norwegian University of Life Sciences, who are the inspiration behind this book and to whom it is dedicated.

Ås, Norway

Rani Lill Anjum
Elena Rocca

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