

## Preface

Numerous discussions have repeatedly made it clear to me that microbes are a mystery to most people. After all, they are invisible. Microbes cause disease; they are involved in all kinds of novel production processes; they can easily be manipulated genetically – so it's best to keep your distance! Besides, it requires some effort to fathom the secrets of these organisms. However, it is well worth the time. Microbes are fascinating in their diversity, activities, and achievements. Considering their abundance and their involvement in the global cycles of carbon, nitrogen, and sulfur, it is no exaggeration to say that microbes rule our planet. The object of this book is to spark interest in these multifaceted organisms. It consists of two parts, a reading section and a study guide which has been added to the thirty-two essays to allow this book to serve as an introductory text. Formulas and equations have been kept to a minimum whenever possible.

This book was written to include a fictitious conversation with someone who has an interest in the subject without being an expert and who asks questions every now and then. This form has been chosen to keep the text down-to-earth. Statements of highly respected colleagues have lent authenticity and brilliance to many of the chapters, for which I am truly grateful. I am also honored that they have read the respective chapters and complemented them in such a persuasive and competent manner. They are: for Chapter 1: Frank Mayer, Stade (DE); Chapter 2: Ralph Wolfe, Urbana, IL (US); Chapter 4: Manfred Eigen, Goettingen (DE), Gerald Joyce, La Jolla, CA (US); Chapter 5: Joachim Reitner, Goettingen (DE); Chapter 6: Karl Stetter, Regensburg (DE), Gregory Zeikus, East Lansing, MI (US); Chapter 7: Aharon Oren, Jerusalem (IL), Colleen Cavanaugh, Cambridge, MA (US), Antje Boetius, Bremen (DE); Chapter 8: William Whitman, Athens, GA (US), Karl-Heinz Schleifer and Wolfgang Ludwig, Munich (DE), Dieter Oesterhelt, Martinsried (DE), Volker Mueller, Frankfurt/Main (DE), Andrew Benson, Santa Barbara, CA (US); Chapter 9: Joerg Overmann, Munich (DE), Jack C. Meeks, Davis, CA (US); Chapter 10: Holger Brueggemann, Berlin (DE), Michael Blaut, Potsdam-Rehbruecke (DE); Chapter 11: Oliver Einsle, Freiburg (DE), Alfred Puchler, Bielefeld (DE); Chapter 12: Gijs Kuenen, Delft (NL); Chapter 13: Douglas Eideigh, New Brunswick, NJ (US), Rolf Thauer, Marburg (DE); Chapter 15: Peter Duerre, Ulm and Hubert Bahl, Rostock (DE), Michael Young, Aberystwyth (UK); Chapter 16: Douglas Clark, Berkeley, CA (US); Chapter 18: Hermann Sahm,

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This book tells the story of microbes and the discoveries revolving around these organisms. Some of the scientists involved in these discoveries have been mentioned, whereby the list of names makes no claim to be complete. If in connection with such discoveries the work of some colleagues has not been acknowledged, I would explicitly like to request their understanding.

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