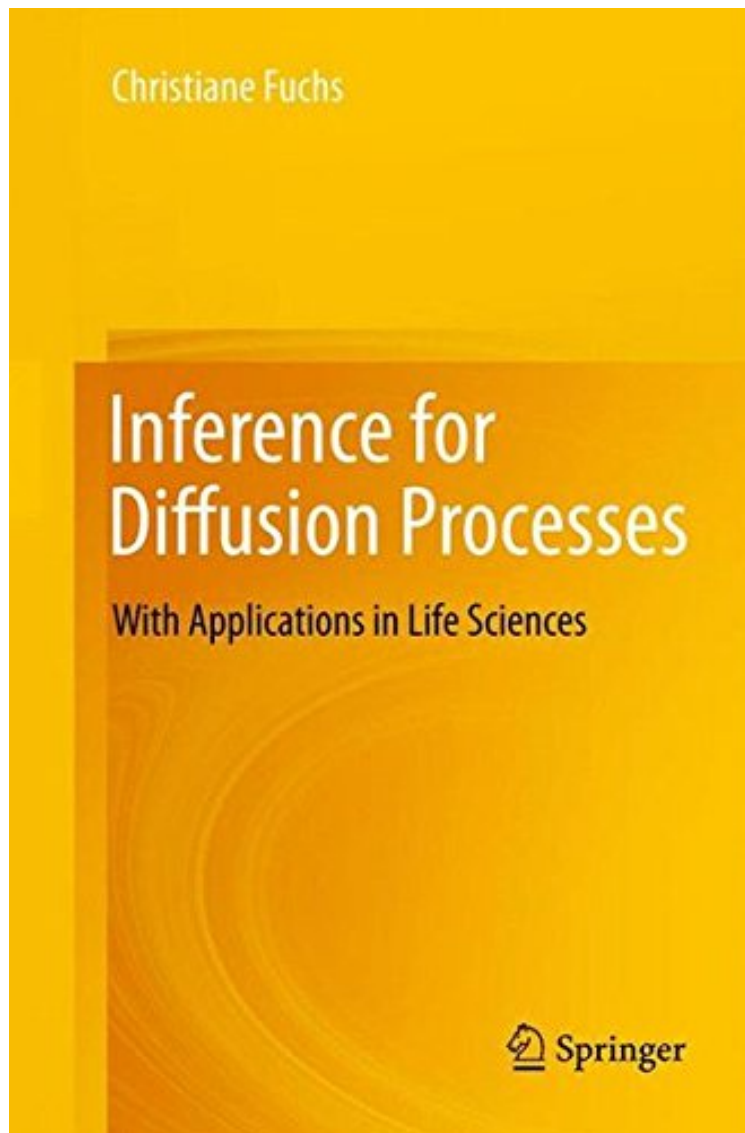


(Download free ebook) Inference for Diffusion Processes: With Applications in Life Sciences

# Inference for Diffusion Processes: With Applications in Life Sciences

*Christiane Fuchs*

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**Christiane Fuchs : Inference for Diffusion Processes: With Applications in Life Sciences** before purchasing it in order to gage whether or not it would be worth my time, and all praised Inference for Diffusion Processes: With Applications in Life Sciences:

Diffusion processes are a promising instrument for realistically modelling the time-continuous evolution of phenomena not only in the natural sciences but also in finance and economics. Their mathematical theory, however, is challenging, and hence diffusion modelling is often carried out incorrectly, and the according statistical inference is considered almost exclusively by theoreticians. This book explains both topics in an illustrative way which also addresses practitioners. It provides a complete overview of the current state of research and presents important, novel insights. The theory is demonstrated using real data applications.

From the reviews: The book under review is aimed at introducing both modelling and inference for diffusions and applying the statistical estimation of complex diffusion models to real data sets. It addresses to theoreticians (e.g., mathematicians and statisticians) as well as practitioners (e.g., bioinformaticians and biologists) with basic knowledge about deterministic differential equations, probability theory and statistics. the book under review is recommended to researchers with strong background through deterministic differential equations, probability theory and statistics. (Iris Burkholder, zbMATH, Vol. 1276, 2014) From the Back Cover Diffusion processes are a promising instrument for realistically modelling the time-continuous evolution of phenomena not only in the natural sciences but also in finance and economics. Their mathematical theory, however, is challenging, and hence diffusion modelling is often carried out incorrectly, and the according statistical inference is considered almost exclusively by theoreticians. This book explains both topics in an illustrative way which also addresses practitioners. It provides a complete overview of the current state of research and presents important, novel insights. The theory is demonstrated using real data applications. About the Author Christiane Fuchs received an MSc degree in Computational Mathematics from Brunel University West London in 2003 and a Diploma in Mathematics from the University of Hanover in 2005. In 2010 she completed her doctorate in Statistics at the Ludwig-Maximilians-Universitt Munich. After an interim research stay at the University of Warwick in 2010 she is currently a postdoctoral fellow at the Helmholtz Centre in Munich.