

About the Authors

Dr Vince Darley is currently CEO of Eurobios UK where he manages an excellent team of scientists and developers, delivering highly optimised solutions to a wide variety of routing, distribution and supply chain problems, applying complexity science techniques to simplify and solve the world's most difficult practical business problems.

Vince started his academic life with a Mathematics degree from Cambridge University, then moved through Theoretical Physics and Computer Science degrees before being seduced into Complexity by the Santa Fe Institute. He received the first PhD in Complex Systems from Harvard University, writing his doctoral dissertation on the natural dynamics of large systems of autonomous, optimising agents, and how to design local interactions in order to bring about particular global goals.

At Bios Group, in Santa Fe, he applied these insights to understanding the behaviour of stock markets, service organisations and supply chains using agent-based simulation, and developing more robust, dynamic scheduling algorithms.

Alexander Outkin developed an interest in complex self-organizing systems while studying Theoretical Physics at the Moscow State University, and then at the Russian Academy of Science under the guidance of Academician V V Struminsky. He received a Muskie Fellowship to study Economics in the US and started his research in complexity and emergent behaviours in socio-economic and financial systems, including his work in Game Theory with Hans Haller. He defended his doctoral thesis "Local Interactions, Learning and Automata Networks in Games" and received his PhD in Economics in 1998. He joined the Bios Group the same year, where he worked with Nasdaq on research described in this book. At present, Alexander works as a scientist at the Los Alamos National Laboratory, where he leads a multi-year effort to build a model of the financial system that incorporates individual agent behaviours, payment systems, markets, telecommunications systems, and interactions between them. This effort is endorsed and supported by various government agencies and private institutions.