



# Biomimetic Design Method for Innovation and Sustainability

By Yael Helfman Cohen, Yoram Reich

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**Biomimetic Design Method for Innovation and Sustainability** By Yael Helfman Cohen, Yoram Reich

Presenting a novel biomimetic design method for transferring design solutions from nature to technology, this book focuses on structure-function patterns in nature and advanced modeling tools derived from TRIZ, the theory of inventive problem-solving.

The book includes an extensive literature review on biomimicry as an engine of both innovation and sustainability, and discusses in detail the biomimetic design process, current biomimetic design methods and tools.

The structural biomimetic design method for innovation and sustainability put forward in this text encompasses (1) the research method and rationale used to develop and validate this new design method; (2) the suggested design algorithm and tools including the Find structure database, structure-function patterns and ideality patterns; and (3) analyses of four case studies describing how to use the proposed method.

This book offers an essential resource for designers who wish to use nature as a source of inspiration and knowledge, innovators and sustainability experts, and scientists and researchers, amongst others.

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### Editorial Review

From the Back Cover

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About the Author

**Yael Helfman Cohen** received a PhD in Biomimetic Design from Tel-Aviv university for her research titled: "Biomimicry design method for innovation and sustainability". She also holds an MSc in Management Science and a BSc in Industrial Engineering Management.

Since 2014, she has been a manager at the Biomimicry Lab at Tel Aviv University, and since 2009 she is co-founder and CEO of Biomimicry IL. An Editor of the Israeli biomimetic online journal, member of the Biomimetic ISO international committee and organizer of the yearly conference "Biomimicry- Academy & Industry", Dr. Helfman Cohen has years of teaching experience and is intensively involved in many academic activities. She has published several papers in journals and conference papers.

**Yoram Reich** is a Full Professor at the School of Mechanical Engineering, Tel Aviv University. He has practiced engineering design for more than 7 years and has held visiting positions at Carnegie Mellon University, Duke University, and Stanford University. He is the Editor-in-Chief of Research in Engineering Design, an associate editor of Design Science, and an editorial board member of 6 other international journals; a founder and past co-chair of the Design Theory special interest group of the Design Society, and an elected member of its Advisory Board.

He is also a Fellow of the Design Research Society. Previously, he was the chair of the Israeli chapter of the Society of Manufacturing Engineers and served several additional years on its managerial board. Prof. Reich's research focuses on product design methods and theories, flexible development processes, computer-aided design, data mining, and design research methodology. He has published over 200 papers on these subjects and advised more than 40 graduate and PhD students.

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The reason why? Because this Biomimetic Design Method for Innovation and Sustainability is an unordinary book that the inside of the guide waiting for you to snap the item but latter it will distress you with the secret it inside. Reading this book beside it was fantastic author who also write the book in such remarkable way makes the content interior easier to understand, entertaining method but still convey the meaning entirely. So , it is good for you for not hesitating having this ever again or you going to regret it. This excellent book will give you a lot of gains than the other book have got such as help improving your skill and your critical thinking way. So , still want to delay having that book? If I had been you I will go to the publication store hurriedly.

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