



# Computational Network Theory: Theoretical Foundations and Applications

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E-Book	ISBN: 978-3-527-69154-8	May 2015	£85.99
Hardcover	ISBN: 978-3-527-33724-8	October 2015	£95.00

## DESCRIPTION

This comprehensive introduction to computational network theory as a branch of network theory builds on the understanding that such networks are a tool to derive or verify hypotheses by applying computational techniques to large scale network data.

The highly experienced team of editors and high-profile authors from around the world present and explain a number of methods that are representative of computational network theory, derived from graph theory, as well as computational and statistical techniques.

With its coherent structure and homogenous style, this reference is equally suitable for courses on computational networks.

## ABOUT THE AUTHOR

**Matthias Dehmer** studied mathematics at the University of Siegen (Germany) and received his Ph.D. in computer science from the Technical University of Darmstadt (Germany). Afterwards, he was a research fellow at Vienna Bio Center (Austria), Vienna University of Technology, and University of Coimbra (Portugal). He obtained his habilitation in applied discrete mathematics from the Vienna University of Technology. Currently, he is Professor at UMIT - The Health and Life Sciences University (Austria) and also holds a position at the Universität der Bundeswehr München. His research interests are in applied mathematics, bioinformatics, systems biology, graph theory, complexity and information theory. He has written over 180 publications in his research areas.

**Frank Emmert-Streib** studied physics at the University of Siegen (Germany) gaining his PhD in theoretical physics from the University of Bremen (Germany). He received postdoctoral training from the Stowers Institute for Medical Research (Kansas City, USA) and the University of Washington (Seattle, USA). Currently, he is an associate professor at the Queen's University Belfast (UK) at the Center for Cancer Research and Cell Biology heading the Computational Biology and Machine Learning Laboratory. His main research interests are in the field of computational medicine, network biology and statistical genomics.

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