In recent years the significance of Gaussian processes to communication networks has grown considerably. The inherent flexibility of the Gaussian traffic model enables the analysis, in a single mathematical framework, of systems with both long-range and short-range dependent input streams.

Large Deviations for Gaussian Queues demonstrates how the Gaussian traffic model arises naturally, and how the analysis of the corresponding queuing model can be performed. The text provides a general introduction to Gaussian queues, and surveys recent research into the modelling of communications networks. Coverage includes:

• Discussion of the theoretical concepts and practical aspects related to Gaussian traffic models.

• Analysis of recent research asymptotic results for Gaussian queues, both in the large-buffer and many-sources regime.

• An emphasis on rare-event analysis, relying on a variety of asymptotic techniques.

• Examination of single-node FIFO queuing systems, as well as queues operating under more complex scheduling disciplines, and queuing networks.

• A set of illustrative examples that directly relate to important practical problems in communication networking.

• A large collection of instructive exercises and accompanying solutions.
*Large Deviations for Gaussian Queues* assumes minimal prior knowledge. It is ideally suited for postgraduate students in applied probability, operations research, computer science and electrical engineering. The book’s self-contained style makes it perfect for practitioners in the communications networking industry and for researchers in related areas.

---

**ABOUT THE AUTHOR**

**Michel Mandjes**, Centre for Mathematics and Computer Science (CWI) Amsterdam, The Netherlands, and Professor, Faculty of Engineering, University of Twente.

At CWI Mandjes is a senior researcher and Director of the Advanced Communications Network group. He has published for 60 papers on queuing theory, networks, scheduling, and pricing of networks.

---

For additional product details, please visit [https://www.wiley.com/en-us](https://www.wiley.com/en-us)