Foreword

With the emergence of numerous interfaces and standards in the domain of wireless communication systems, the world has witnessed a substantial amount of research towards developing high-end and compatible devices that are lighter and quicker in respect of seamless connectivity as well as user end requirement. While initial development was on infrastructure-based networks, which represented an integration of wireless and wired networks, the latest research has focused on purely wireless networks without any fixed backbone called as ad-hoc networks in which wireless entities form a network among themselves as and when required. Various classes of ad hoc networks have been developed, namely Mobile Ad hoc Networks (MANET), VANET, et cetera. The underlying principle that differentiates these variations of networks is in the entities involved in formation of the ad hoc network. While a VANET is formed between fixed devices mounted on high speed vehicles, a MANET is formed between low speed portable devices with low end computing needs. Interests in MANETs arose due to its ability to provide distributed and instant wireless networking solution in situations where infrastructure based networks are infeasible and/or expensive to be deployed. Moreover, they have greater flexibility towards congestion and robustness against single-point failures.

Mobile Ad hoc Networks (MANETs) have special resource requirements and topology features, which make them different from classic computer networks in resource management, routing, media access control, and QoS provisioning. Some of our day-to-day situations directly relate to ad hoc wireless network applications, such as self-organization, mobility management, and energy efficient design.

With more than twenty self-contained chapters, this volume provides a complete survey of the state-of-the-art research that encompasses all areas Mobile Ad hoc. Written by distinguished researchers in the field, these chapters focus on the theoretical and experimental study of advanced research topics involving security and trust, broadcasting and multicasting, power control and energy efficiency, and QoS provisioning.

This book is a great reference tool for graduate students, researchers, and mathematicians interested in studying mobile ad hoc and sensor networks.

This is the best book to give you a quick overview of all important aspect of Mobile Ad Hoc Networks, as this book covers technical study and real time performances in the area of ad hoc networks.

I feel proud fro Dr. Kamaljit and his authors, for working on such project and gather all utmost emerging information on MANET technology in a single book.

I recommend this book for four reasons; first, this book’s logic and chapter flow make sense about this technology. Second, this book includes such basic concept for each aspect and raises this concept to
advance most level of experiment and usage for MANET technology. Third, this book represents almost all real-world implementation, and four, the information presented in this book is definitely in current demand for researcher and scientists.

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