Editorial Preface

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In this issue, we bring to you three research papers and one research essay.

The first paper "Optimized Replication Strategy for Intermittently Connected Mobile Networks" by C. Poongodi and A. M. Natarajan discusses about techniques to allow eventual message delivery, when a path from source to destination is never available continuously in wireless networks where, due to mobility of nodes and lack of connectivity, there may be often disconnections among the nodes. Such challenged networks termed as Intermittently Connected Networks are primarily MANETs wherein link disruptions result due to node mobility but may also happen as a result of disconnection due to power management or interference. So messages are to be flooded or multiple replications are needed to reduce delay and to achieve high delivery ratio. But multiple replications lead to increase in network overhead and high resource consumption because of uncontrolled replication. This paper introduces a new simple scheme which applies knapsack policy based replication strategy in replicating the messages to get rid of the aforesaid problems as much as possible.

The second paper is on "A Cooperative Cell Model in Computational Mobile Grid" where Kaushik and Vidyarthi propose a model for the cooperation amongst the cells of the cellular network system to support the communication for the computational mobile grid. The authors design a model by instigating substantive cooperation among underutilized and the overloaded cells, considering importance to the frequency reuse and assigning priority to the on-going computation in the computational mobile grid. The model seeks cooperation by grouping the cells in different sizes to reduce the blocking and dropping of the computation. The cooperation becomes very important in mobile grid as it may be disastrous if an on-going computation terminates due to non-availability of channels. Their observations are useful for choosing the desired number of cells in a cluster group to optimize the use of available channels.

In the third paper, Sridhar, Casey, and Hämmäinen discuss the spectrum policies and management as applicable in emerging economies with specific reference to India. The authors use a Systems Dynamics approach to build a causal model of various factors that affect spectrum policy options for meeting the growing demand of wireless data services. The authors hypothesize that emerging countries with their unique market structure and legacy of spectrum management are better suited to create active secondary markets. Various secondary market options including spectrum sharing, trading, and dynamic allocation are explored along with early market indicators regarding the same.

In the research essay, "Computer Aided Planning for Wireless Systems" Umar explains the challenges in planning new IT systems, inte-

gration of new systems with the existing legacy ones, securing the ICT assets, and administrating the resulting complex ICT systems, especially in developing countries. The problem is further compounded by the rapid pace of growth and adoption of wireless mobile systems. The paper provides an overview of the "Computer Aided Planner (Planner)", part of the "UN eNabler Toolset," that enables production of detailed strategic plans for a wide range of e-Government services taking in to account the complexities of wireless systems. A case study on mobile health clinic is also presented in which the tool is used to develop strategic plans for mobile clinical support systems.

We hope that you enjoy reading this issue as much as we do in compiling the interesting articles in it.

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Debashis Saha is a full professor with the MIS Group, Indian Institute of Management (IIM)-Calcutta. Previously, he was with CSE Department at Jadavpur University (Kolkata, India). He received his BE (Hons) degree from Jadavpur University (Kolkata, India), and the MTech and PhD degrees from the Indian Institute of Technology (IIT-Kharagpur, India) all in electronics and telecommunications engineering. His research interests include telecom design and analysis, pervasive communication and computing, network operations and management, wireless networking and mobile computing, ICT for development, and network economics. He has supervised thirteen doctoral theses, published about 280 research papers in various conferences and journals, and directed four funded research projects on networking. He has co-authored several book chapters, a monograph, and five books including Networking Infrastructure for Pervasive Computing: Enabling Technologies and Systems *(Norwell, MA: Kluwer, 2002) and* Location Management and Routing in Mobile Wireless Networks *(Boston, MA: Artech House, 2003). Dr. Saha is the recipient of the prestigious career award for Young Teachers from AICTE, Government of India, and is a SERC Visiting Fellow with the Department of Science and Technology (DST), Government of India. He is a Fellow of West Bengal Academy of Science and Technology (WAST), Senior Life Member of Computer Society of India, Senior Member of IEEE, member of ACM, member of AIS, and member of the International Federation of Information Processing Working Group's 6.8 and 6.10. He was the founding Chair of Calcutta Chapter of IEEE Communications Society (2003-2008).*

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