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Special Issue of Journal of Network and Computer Applications on
“Control and Optimization over Wireless Networks”

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Scope:

Wireless networks, including Wireless LAN, PAN, cellular network, wireless sensor network, and ad-hoc and mesh networks etc, are a rapidly emerging technology providing users with network connectivity without being tethered off of a wired network. Ideally, wireless users want to have the same services and capabilities that they have commonly come to expect with wired networks. However, to meet these objectives, the wireless community faces certain challenges and need an excellent understanding of all aspects of wireless networks. Wireless networks are large complex entities. This complexity brings to the many problems, such as network planning, resource management, Quality of Service scheduling, congestion and flow control, connection admission control, and Medium Access Control. These problems are outside the traditional communications background. They can be properly addressed with methodologies such as optimization, estimation, adaptation, fuzzy control, games control, robust stability, distributed control, hybrid control. For instance, recently, there has been a surge in research activities that utilize optimization techniques to analysis and design wireless networks. The purpose of this special issue is to bring research papers addressing the theme of control and optimization for wireless networks. Subject areas of interest include, but not limited to, the following:

• Applications of control theory to wireless network problems
• Admission control, power control, and congestion control of wireless networks
• Control system design base on wireless networks
• Network utility maximization for wireless networks
• Allocation of wireless network resources such as bandwidth, rate, or power
• Optimization-based models of network traffic and topology
• Digital communications signal processing algorithms via optimization methods
• Cross-layer design through nonlinear optimization decomposition
• Modeling and performance evaluations for wireless networks

Submission Format:

The submitted papers must be written in English and describe original research which is not published nor currently under review by other journals or conferences. Author guidelines for preparation of manuscript can be found at www.elsevier.com/locate/jnca. For more information, please contact the Editor-in-Chief, Mohammed Atiquzzaman (atiq@ou.edu)