

学术报告会

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Mechanism Design for Resource Allocation in Wireless Networks

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Abstract:

We consider resource management problems in wireless networks whereby the goal is to find the optimal combination of resource allocation strategies. In many settings (e.g. heterogeneous networks) the implementation of efficient resource management protocols must rely on users truthfully reporting privately held information such as downlink channel states. However, individual users can manipulate the resulting resource allocation (by misreporting their private information) if this ultimately improves their performance (e.g. rate). In this talk we present recent results in the design of efficient resource management protocols for wireless networks that are "strategy-proof", i.e. it is a dominant strategy for the users to truthfully report private information.

Biography:

Dr. Alfredo Garcia is Associate Professor of Systems and Information Engineering at the University of Virginia. He received a B.Sc.degree in Electrical Engineering from Universidad de los Andes (Bogota, Colombia) in 1991, a Diplome d'Études Approfondies DEA in Control Systems in 1992 from Université Paul Sabatier (Toulouse, France) in 1992 and Ph.D. in Industrial and Operations Engineering from the University of Michigan in 1997. During 1996-99, he worked for the Colombian Government (Energy and Gas Regulatory Commission, CREG) in a number of engineering-economic issues related to the deregulation of electricity and natural gas industries. His research interests include dynamic optimization and dynamic games, the economic regulation of network industries (electricity, gas, telecom) and distributed algorithms for optimization and learning.