

CALL FOR PAPERS
IEEE Journal on Selected Areas in Communications
Economics of Communication Networks and Systems

The Internet over time has evolved from a simple, small-scale, yet robust communication system carrying low data rate traffic into a very large scale and highly complex network carrying heterogeneous traffic in diverse environments, owned and operated by multiple, independent, profit-making entities. At the same time, legislation around the world considers the access to the global Internet as a universal service that should be available to all at reasonable costs. Increasingly, the network architecture, algorithms, and protocols cannot be simply designed without considering the socio-economic aspects involved. Past history has shown that sound technologies based on pure engineering considerations often fail to get adopted. New debates, such as over network neutrality, often have significant impact on the capacity, quality of service, reliability, and future evolution of communication networks. The architecture, and protocols of communication networks must take the economics of the communication resources into account. Local area networks, wireless systems and other networks are also at that cusp of their evolution, where key research areas such as dynamic spectrum sharing and new communication schemes requiring cooperation among various wireless devices bring economics and incentive issues to the fore. With wireless systems, there is an opportunity to build economic incentives into the network architecture and protocols currently under active development, and avoid problems that have arisen on the Internet due to their lack thereof.

The aim of this proposed issue is to bring state-of-the-art research contributions to network economics that address major opportunities and challenges of economic and incentive issues in communication networks and systems, using both game-theoretic as well as other economic theoretic models, with emphasis on new formulations, novel analytical techniques and varied application scenarios. We seek original completed and unpublished work not currently under review by any other journal/magazine. Topics of interest include (but are not limited to):

- Economic analysis and mechanism design for communication networks
 - Medium access, and network routing games
 - Network pricing and congestion control
 - Bandwidth market design
 - Network neutrality and multiple service provider interactions
 - Economic issues in universal broadband access
- Communication games and incentives in wireless systems
 - Wireless resource allocation and power control games
 - Spectrum auctions and other mechanisms
 - Information theoretic games
 - Incentives for cooperative relaying
 - Coalition formation games in hierarchical communications
- New incentive-aware network architectures
 - Social network-aware network architectures
 - Incentive-aware network protocols
 - Reputation-based systems for communication systems
 - Incentive-based mechanisms for network security
 - Incentives in peer-to-peer and overlay networks
- Economic and game-theoretic modeling and techniques for communication networks
 - Algorithmic game theory, and equilibrium computation for networks
 - Learning in communication games
 - Dynamic mechanism design for networks
 - New equilibrium and non-equilibrium concepts relevant to communication systems
 - Strategic behavior in queueing networks

The first submission should be no longer than 20 double-spaced pages (12-point font, approximately 26 lines per page with 6.5-inch line length) excluding figures, and the total length should not exceed 25 pages. Final submissions can be upto 7 pages long without incurring overlength charges. Authors are encouraged to typeset their paper according to the IEEE formatting rules to get an accurate idea of the length of the paper. The format of final manuscript, page charges, and all other issues will strictly follow the IEEE JSAC regulations at <http://jsac.ucsd.edu/Guidelines/info.html>. All papers should be submitted in the PDF format to <http://edas.info>, according to the following timetable:

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