

# IEEE JOURNAL ON SELECTED AREAS IN COMMUNICATIONS

A PUBLICATION OF THE IEEE COMMUNICATIONS SOCIETY



FEBRUARY 2007

VOLUME 25

NUMBER 2

ISACEM

(ISSN 0733-8716)

**COOPERATIVE COMMUNICATIONS AND NETWORKING**  
**B. Aazhang, R. S. Blum, J. N. Laneman, K. J. R. Liu, W. Su, and A. Wittneben**

Guest Editorial .....	<i>B. Aazhang, R. S. Blum, J. N. Laneman, K. J. R. Liu, W. Su, and A. Wittneben</i>	241
<i>Relay Channels</i>		
Finite-SNR Diversity-Multiplexing Tradeoffs in Fading Relay Channels .....	<i>E. Stauffer, O. Oyman, R. Narasimhan, and A. Paulraj</i>	245
Asymptotically Optimal Cooperative Wireless Networks with Reduced Signaling Complexity .....	<i>P. Elia, F. Oggier, and P. V. Kumar</i>	258
Cooperative Lattice Coding and Decoding in Half-Duplex Channels .....	<i>A. Murugan, K. Azarian, and H. El Gamal</i>	268
Low Density Parity Check Codes for the Relay Channel .....	<i>A. Chakrabarti, A. de Baynast, A. Sabharwal, and B. Aazhang</i>	280
<i>Cooperative Wireless Communications and Networking</i>		
Statistical Channel Knowledge-Based Optimum Power Allocation for Relaying Protocols in the High SNR Regime .....	<i>R. Annavajjala, P. C. Cosman, and L. B. Milstein</i>	292
Lifetime Maximization via Cooperative Nodes and Relay Deployment in Wireless Networks .....	<i>T. Himsoon, W. P. Siriwongpairat, Z. Han, and K. J. R. Liu</i>	306
Energy Aware Power Allocation Strategies for Multihop-Cooperative Transmission Schemes .....	<i>S. Savazzi, and U. Spagnolini</i>	318
Joint Optimization of Relay Strategies and Resource Allocations in Cooperative Cellular Networks .....	<i>T. C.-Y. Ng and W. Yu</i>	328
CoopMAC: A Cooperative MAC for Wireless LANs .....	<i>Pi Liu, Zi Tao, S. Narayanan, T. Korakis, and S. S. Panwar</i>	340
Cooperative Relay Service in a Wireless LAN .....	<i>L. Guo, X. Ding, H. Wang, Q. Li, S. Chen, and X. Zhang</i>	355
Grouping and Partner Selection in Cooperative Wireless Networks .....	<i>A. Nosratinia and T. E. Hunter</i>	369

(Contents Continued on Back Cover)

(Contents Continued from Front Cover)

<i>Protocol Designs for Relay Channels</i>	
Spectral Efficient Protocols for Half-Duplex Fading Relay Channels .....	<i>B. Rankov and A. Wittneben</i> 379
Optimal Relay Functionality for SNR Maximization in Memoryless Relay Networks .....	<i>K. S. Gomadam and S. A. Jafar</i> 390
<i>MIMO Channels</i>	
Cooperative Distributed MIMO Channels in Wireless Sensor Networks .....	<i>A. Del Coso, U. Spagnolini, and C. Ibars</i> 402
Multi-Source Cooperation with Full-Diversity Spectral-Efficiency and Controllable-Complexity .....	<i>A. Ribeiro, R. Wang, and G. B. Giannakis</i> 415
Partially-Coherent Distributed Space-Time Codes with Differential Encoder and Decoder .....	<i>Kiran T. and B. S. Rajan</i> 426
<i>Decoding/Detection and Decentralized Data Fusion</i>	
Collaborative Decoding in Bandwidth-Constrained Environments .....	<i>A. Nayagam, J. M. Shea, and T. F. Wong</i> 434
Joint Optimization of Relay-Precoders and Decoders with Partial Channel Side Information in Cooperative Networks .....	<i>Z. Yi and I.-M. Kim</i> 447
Energy Efficiency of Dense Wireless Sensor Networks: To Cooperate or Not to Cooperate .....	<i>T. Q. S. Quek, D. Dardari, and M. Z. Win</i> 459
Cooperative Routing for Distributed Detection in Large Sensor Networks .....	<i>Y. Sung, S. Misra, L. Tong, and A. Ephremides</i> 471
<i>Cooperative Diversity in Broadcasting</i>	
On Broadcasting with Cooperative Diversity in Multi-hop Wireless Networks .....	<i>G. Jakllari, S. V. Krishnamurthy, M. Faloutsos, and P. V. Krishnamurthy</i> 484
On the Power Efficiency of Cooperative Broadcast in Dense Wireless Networks .....	<i>B. Sirkeci-Mergen, and A. Scaglione</i> 497

---

**Upcoming Issues of the  
IEEE JOURNAL ON  
SELECTED AREAS IN COMMUNICATIONS**

---

Topic	Publication Date
Adaptive Spectrum Agile and Cognitive Wireless Networks	April 2007
Cross-Layer optimized Wireless Multimedia Communications	May 2007
Traffic Engineering for Multi-Layer Networks	June 2007
Non-cooperative Behavior in Networking	August 2007
Optimization of MIMO Transceivers for Realistic Communications	September 2007
Vehicular Networks	October 2007
Advanced P2P Streaming System	December 2007

---

**Calls for Papers**

---

Topic	Manuscript Due Date	Page
Cognitive Radio: Theory and Applications	March 1, 2007	508
Advances in Peer-to-Peer Streaming Systems	March 1, 2007	509
Equalization Techniques for Wireless Communications — Theory & Applications	April 1, 2007	510
Control and Communications	May 1, 2007	511
Multiuser Detection for Advanced Communication Systems and Networks	June 1, 2007	512

---