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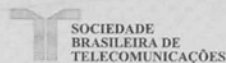
Rio de Janeiro 1999

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Symposium on Communication Theory
Symposium on Future Wireless Communication System



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Chair: George Thomas, University of Southwestern Louisiana, USA

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Chair: G. S. Kuo, National Central University, Taiwan

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Chair: *Sastri Kota, Lockheed Martin, USA*

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Chair: G. S. Kuo, National Central University, Taiwan

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Chair: Nirwan Ansari, New Jersey Institute of Technology, USA

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Chair: Yeheskel Bar-Ness, New Jersey Institute of Technology, USA

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Chair: Christian Rad, Telcordia Technologies, USA

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16:25-18:00, Intercontinental, Room Agata

Organizers: Mournir Hamdi, UST, Hong Kong; Ibrahim Matta, Boston University, USA

Chair: George Thomas

Sponsoring Committees: Transmission, Access and Optical Systems, Computer Communications

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	<i>George D. Kondylis and Gregory J. Pottie, University of California at Los Angeles, USA</i>	
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	<i>Timucin Ozugur, Georgia Institute of Technology; Mahmoud Naghshineh and Parviz Kermani, IBM Thomas J. Watson Research Center; John A. Copeland, Georgia Institute of Technology, USA</i>	
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SESSION TA-GC19

ATM Based Information Infrastructure

14:30-18:00, Sheraton, Room Gavea B

Organizer: Jong-Tae Park, Kyungpook National University, Korea

Chair: Cengiz Akgun, Telcordia Technologies, USA

Sponsoring Committee: Information Infrastructure

1	A Signaling Scheme for Multiple Pre-Established Connections in Mobile ATM Networks	592
	<i>Yoshihito Takahashi, Noriteru Shinagawa, and Takehiko Kobayashi, YRP Mobile Telecommunications Key Technology Research Laboratories, Japan</i>	

2	Performance of ATM Optical Wireless LANs with Fixed Channel Assignment	598
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	<i>Toshinori Tsuboi, Hiroshi Ohta, Ryoichi Iwase, Yoshihiko Uematsu, and Seiichi Takagi, NTT Network Service Systems Laboratories, Japan</i>	
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	<i>Ruixue Fan, Alexander Ishii, Brian Mark, G. Ramamurthy, and Qiang Ren, NEC, USA</i>	

SESSION WM-GC20

Packet Radio Resource Management

9:30-12:30, Intercontinental, Room Onix

Organizer: Yuqi Yao, Lucent Technologies, USA

Chair: Kwang-Cheng Chen, National Taiwan University, Taiwan

Sponsoring Committee: Personal Communications

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	<i>Gang Wu, Communications Research Laboratory, The State University of New Jersey; Yong Bai, Jie Lai, and Andy Ogielski, The State University of New Jersey, Japan</i>	
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	<i>Mathilde Benveniste, AT&T Labs, USA</i>	

SESSION WM-GC21

Coding and Modulation Issues in Wireless Systems

9:30-12:30, Intercontinental, Room Topazio

Organizers: Ning Yang, GTE Laboratories, Inc, USA; David Munoz, Centro de Electrónica y Telecomunicaciones, Mexico

Chair: Apostolis K. Salkintzis, The University of British Columbia, Canada

Sponsoring Committee: Radio Communications

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	<i>Soichi Watanabe, Takuro Sato, and Takeo Abe, Niigata Institute of Technology, Japan</i>	
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7	Analysis of Direct and Indirect Adaptive Linear Equalization for Slowly Varying Channels	712
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SESSION WM-GC22

Turbo Codes for Storage

9:30-12:30, Intercontinental, Room Turmalina

Organizer: Eric MacDonald, DataPath Systems, Inc., USA

Chair: Hemant Thapar, DataPath Systems, Inc.

Sponsoring Committee: Signal Processing for Storage

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2	Constrained Coding Techniques for Soft Iterative Decoders	723
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	<i>Aleksandar Kavcic, Harvard University, USA</i>	
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	<i>Tom Souvignier, Texas Instruments; Joe Caroselli, Quantum Corporation; Angelo Dati, ST Microelectronics/University of California-San Diego; Jack K. Wolf, University of California-San Diego, USA</i>	
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	<i>Tolga Duman, Arizona State University; Erozan Kurtas, Quantum Corporation, USA</i>	
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	<i>Hideki Sawaguchi and Seiichi Mita, Hitachi, Japan; Jack K. Wolf, University of California, USA</i>	

SESSION WM-GC23

Techniques for Providing QoS

9:30-10:40, Sheraton, Room Ipanema

Organizers: Sugih Jamin, University of Michigan; Mark Karol, Lucent Technologies, USA

Chair: Brett Vickers, Rutgers University, USA

Sponsoring Committee: Computer Communications

1	The Asymmetric Best-Effort Service	755
	<i>Paul Hurley, Jean-Yves Le Boudec, and Patrick Thiran, Ecole Polytechnique Fédérale de Lausanne, Switzerland</i>	
2	Server Based QoS Routing	762
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SESSION WM-GC24

TCP Issues

11:00-12:30, Sheraton, Room Ipanema

Organizers: Sugih Jamin, University of Michigan; Mark Karol, Lucent Technologies, USA

Chair: Brett Vickers, Rutgers University, USA

Sponsoring Committee: Computer Communications

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	<i>Chadi Barakat, Nesrine Chaher, Walid Dabbous, and Eitan Altman, INRIA, France</i>	

3	Improving the Performance of Cooperating TCP Connections	786
	<i>Dorgival Guedes, Federal University of Minas Gerais, Brazil; Larry Peterson, Princeton University, USA</i>	
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SESSION WM-GC25

Communications Service Software

9:30-12:30, Sheraton, Room Gavea B

*Organizers: Stan Moyer, Telcordia Technologies, USA; Algirdas Pakstas, University of Sunderland, United Kingdom**Chair: Ray Sundararaman, Lucent Technologies, USA**Sponsoring Committee: Communications Software*

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	<i>Soonchul Choi, Hyung-Ik Kim, Jung-Hak Jin, and Sung-Keun Lee, Korea Telecom, Korea</i>	
2	TMN-based Q-Adaptation Using Java Technology	802
	<i>Jae-Oh Lee, Korea Telecom, Korea</i>	
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	<i>Rebecca Isaacs and Richard Mortier, University of Cambridge, United Kingdom</i>	
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	<i>Odd Egil Oray and Jan Christian Kerlefsen, Norwegian Computing Centre, Norway</i>	
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SESSION WA-GC26

Wireless Receivers & Diversity

14:30-18:00, Intercontinental, Room Onix

*Organizer: Kainam Thomas Wong, Chinese University of Hong Kong, Hong Kong**Chair: Hector Corrales, Lucent Technologies, USA**Sponsoring Committee: Personal Communications*

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	<i>Martin V. Clark, AT&T Labs-Research, USA</i>	
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	<i>Lie-Liang Yang and Lajos Hanzo, University of Southampton, United Kingdom</i>	
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	<i>Stefan Kaiser, German Aerospace Center, Germany</i>	
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	<i>Zulfikar Sayeed and Vijitha Weerackody, Lucent Technologies, USA</i>	
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	<i>Stefan H. Müller-Weinfurter, University of Erlangen-Nuremberg, Germany</i>	
6	Combined Use of Space and Polarization Diversity on Mobile Cellular Networks	863
	<i>G. L. Siqueira, Pontifical Catholic University of Rio de Janeiro; R. A. Pimentel and R. A. Gomes, Ericsson; R. T. Martins, Telefonica Celular; C. B. Sampaio and E. J. A. Vázquez, Pontifical Catholic University of Rio de Janeiro, Brazil</i>	
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SESSION WA-GC27

Signal Design for Modern Communication Systems

14:30-18:00, Intercontinental, Room Topazio

Organizer: Nam Phamdo State University of New York, USA

Chair: Eduardo Esteves, Qualcomm Inc., USA

Sponsoring Committee: Communication Theory

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	<i>Brian S. Krongold, Kannan Ramchandran, and Douglas L. Jones, University of Illinois at Urbana-Champaign, USA</i>	
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7	Evaluation of Error Probabilities for General Signal Constellations	908
	<i>Jack W. Stokes, Microsoft Corporation; James A. Ritcey, University of Washington, USA</i>	
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	<i>Fengfang Yang, S. H. Leung, and C. Y. Ngan, City University of Hong Kong; Guangguo Bi, Southeast University, China</i>	

SESSION WA-GC28

Signal Processing for Storage

14:30-18:00, Intercontinental, Room Turmalina

Organizer: Eric MacDonald, DataPath Systems, Inc., USA

Chair: Eric MacDonald, DataPath Systems, Inc.

Sponsoring Committee: Signal Processing for Storage

1	Error Probability Bounds for Nonlinear Channels with Intersymbol Interference and Signal-Dependent Correlated Noise	918
	<i>Aleksandar Kavcic, Harvard University, USA</i>	
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	<i>Joshua C. Park, IBM Microelectronics; L. Richard Carley, Carnegie Mellon University, USA</i>	
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	<i>S. Bellini, Politecnico di Milano; P. Migliorati and G. Paltenghi, University of Brescia, Italy</i>	
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	<i>Runsheng He and Nersi Nazari, Marvell Semiconductor, Inc., USA</i>	
5	The Error Event Probability for a Viterbi Detector on a Magnetic Recording Channel with Electronic and Signal Dependent Media Noise	944
	<i>Patrick Lee, Stanford Telecom; Saeed Asgari, Quantum Corporation, USA</i>	
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	<i>Nick M. Zayed and L. Richard Carley, Carnegie Mellon University, USA</i>	
7	Single-Head Detection in the Presence of Offtrack Interference	955
	<i>Bong Gyun Roh, Seoul National University; Jaekyun Moon, University of Minnesota, USA; Sang Uk Lee, Seoul National University, Korea</i>	
8	Reduced-Complexity Sequence Detection for E ² PR4 Magnetic Recording Channel	964
	<i>Borivoje Nikolic, University of California; Michael Leung and Leo Fu, Silicon Systems, Inc.; Vojin G. Oklobdzija, Integration/University of California; Richard Yamasaki, Silicon Systems, Inc., USA</i>	

SESSION WA-GC29

Multi-user Detection Performance

14:30-18:00, Intercontinental, Room Quartzo A

Organizer: Mark Flanzbaum, USA

Chair: Mark Flanzbaum, USA

Sponsoring Committee: Tactical Communications

1	AMOUR - Generalized Multicarrier CDMA Irrespective of Multipath	965
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	<i>Melbourne Barton and Daniel Wong, Telcordia Technologies, USA</i>	
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	<i>E. Del Re, R. Fantacci, S. Morosi, M. Raugei, and G. Vivaldi, University of Florence, Italy</i>	
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	<i>Zartash Afzal Uzmi, Stanford University; Syed Aon Mujtaba, Lucent Technologies, USA</i>	
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	<i>Jinwen Ma and Hongya Ge, New Jersey Institute of Technology, USA</i>	
6	Exploring the UMTS WCDMA-Receiver Design Space Using a Semianalytical Approach	991
	<i>Gunnar Fock, Jens Baltersee, Peter Schulz-Rittich, and Heinrich Meyer, Aachen University of Technology, Germany</i>	
7	Rotated Constellation MC-CDMA System	996
	<i>Francisco M. Assis, Federal University of Paraiba, Brazil; Elvino S. Sousa, University of Toronto, Canada</i>	

SESSION WA-GC30

Optical Networks

14:30-18:00, Sheraton, Room Ipanema

Organizers: Mournir Hamdi, UST, Hong Kong; Ibrahim Matta, Boston University, USA

Chair: Mournir Hamdi, UST, Hong Kong

Sponsoring Committees: Transmission, Access and Optical Systems, Computer Communications

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	<i>Ling Li and Arun K. Soman, Iowa State University, USA</i>	
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	<i>Peng-Jun Wan, Liwu Lin, and Ophir Frieder, Illinois Institute of Technology, USA</i>	
4	Routing in All-Optical Packet Switched Irregular MESH Networks	1017
	<i>Gerardo Castañón, Ljubisa Tancevski, and Laksman Tamil, Alcatel Corporate Research Center, USA</i>	
5	Supporting Multiple Classes of Services in IP over WDM Networks	1023
	<i>Myungsik Yoo and Chunming Qiao, University at Buffalo, USA</i>	
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	<i>Latha Kant, Hyagon Kim, Deh-Phone Hsing, and Tsong-Ho Wu, Telcordia Technologies, USA</i>	
7	Impact of Topology on Wavelength and Switch-port Requirements in All-optical Hierarchical Multi-ring Networks	1035
	<i>Aikaterini Proestaki and Mark C. Sinclair, University of Essex, United Kingdom</i>	
8	Dimensioning of MP/WDM Networks with Failure Restoration	1042
	<i>Hiroaki Harai and Fumito Kubota, Communications Research Laboratory, Japan</i>	

SESSION WA-GC31

Traffic Modelling

14:30-18:00, Sheraton, Room Gavea A

Organizer: Mike Devetsikiotis, Carleton University, Canada

Chair: Mike Devetsikiotis, Carleton University, Canada

Sponsoring Committee: Communications Systems Integration and Modeling

1	Modeling Broadband Traffic Streams	1048
	<i>Timothy D. Neame and Moshe Zukerman, The University of Melbourne; Ronald G. Addie, University of Southern Queensland, Australia</i>	

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3	Traffic Modeling with Universal Multifractals	1058
	<i>N. Desaulniers-Soucy and A. Iuoras, EMS Technologies, Canada</i>	
4	Two Optimization Approaches for Parameter Determination of PNNI Complex Node Model	1066
	<i>Jin Liu, Zhisheng Niu, and Junli Zheng, Tsinghua University, China</i>	
5	Policing and Statistical Multiplexing of Self-Similar Sources	1071
	<i>Nelson L. S. Fonseca, State University of Campinas; Gilberto S. Mayor, McKinsey & Company; Cesar A. V. Neto, State University of Campinas, Brazil</i>	
6	A Case Study of Multiservice, Multipriority Traffic Engineering Design for Data Networks	1077
	<i>Debasis Mitra and K. G. Ramakrishnan, Lucent Technologies, USA</i>	
7	Performance and Efficiency Evaluation of Channel Allocation Schemes for HSCSD in GSM	1084
	<i>Dayong Zhou and Moshe Zukerman, The University of Melbourne, Australia</i>	
8	A Parameterization Method for Markov Traffic Model	1089
	<i>Shugong Xu and Herman D. Hughes, Michigan State University, USA</i>	

BAS on

Communications Software Engineering: Methods and Project Management Tools*

Sheraton Hotel, Wednesday Morning, Room Gavea A

Proposer: Algirdas Pakstas, University of Sunderland, United Kingdom

Communications Software Engineering: Methods and Project Management Tools	1094
<i>Algirdas Pakstas, University of Sunderland, United Kingdom</i>	

Symposium on Access Networking (V02)

SESSION WM-AN01

Systems and Services

9:30-12:30, Sheraton, Room Vidigal B + C

1	Economic Issues of Broadband Access Platform Evolution	1097
	<i>Ilari Welling, Nokia Research Center; Markku Lähteenoja, Telenor; Bart Broens and Yvonne Van Dam, KPN; Peter Vetter, Alcatel; Niels Engell Andersen, Tellabs, Finland</i>	
2	Advanced Return Channel System Architecture for Broadband Multimedia Communications via Satellite	1103
	<i>Payam Maveddat, Giridhar Boray, and Fred Homayoun, Nortel Networks, USA</i>	
3	Differentiated Services over Cable Networks	1109
	<i>Nada Golmie, Frederic Moutteux, and David H. Su, National Institute of Standards and Technology, USA</i>	
4	Planning of GSM-based Wireless Local Access via Simulcast Distribution Antennas over Fiber-Coax	1116
	<i>Vincent Roy, Microcell Connexions/University of Québec; Charles Despins, Télébec/ University of Québec, Canada</i>	
5	RTP Payload Multiplexing Between IP Telephony Gateways	1121
	<i>Barani Subbiah, Senthil Sengodan, and Jarno Rajahalme, Nokia Research Center, USA</i>	

SESSION WA-AN02

Techniques for High Performance

14:30-18:00, Sheraton, Room Vidigal B + C

1	Full Reach High-Speed Digital Subscriber Loops via Power Control	1128
	<i>Ahmed F. Shalash, Level One Communications, USA</i>	
2	Channel Gain Change Detection and Channel Profile Selection in a Multicarrier System	1133
	<i>Atul Salvekar, Carlos Aldana, Jose Tellado, and John M. Cioffi, Stanford University, USA</i>	
3	Filtered Multitone Modulation for VDSL	1139
	<i>Giovanni Cherubini, Evangelos Eleftheriou, and Sedat Ölçer, IBM Research, Switzerland</i>	
4	Joint Signaling Techniques for Crosstalk-Dominated Communication Channels	1145
	<i>Rohit V. Gaikwad and Richard Baraniuk, Rice University, USA</i>	

5 Power Backoff Strategies for Very High Bit Rate Digital Subscriber Line Transmission Systems 1150
Mathias Friese and Peter Havezov, Deutsche Telekom, Germany

6 Overcoming Reservation Latency for IP Traffic in an ATM PON 1155
Jack Brassil, Lucent Technologies, USA

7 A MAC Protocol Supporting IP with QoS Guarantees in a Wireless Local Loop 1162
A. Baiocchi and F. Cuomo, University of Rome "La Sapienza"; L. Dell'Uomo and U. Teloni, CoRiTel, Italy

BAS on

Multimedia Satellite Communications*

Sheraton Hotel, Monday Morning, Room Gavea A

Proposer: Harald Skinnemoen, Nera SatCom, Norway; Roger Rusch, TelAstra, USA

Multimedia Satellite Communications 1167
Harald Skinnemoen, Nera SatCom, Norway; Roger Rusch, TelAstra, USA

Symposium on High-Speed Networks (V02)

SESSION MM-HS01

Traffic Models

10:45-12:30, Sheraton, Room Leblon A + B

Chair: Nicola Blefari-Melazzi, University of Perugia, Italy

1 Data Traffic Characterization in Corporate Environment 1173
Firmiano Ramos Perlingeiro and Lee Luan Ling, State University of Campinas — UNICAMP, Brazil

2 On Aggregate Traffic Generation with Multifractal Properties 1179
Krishna Kant, Intel Corporation, USA

3 Markov-Modulated Self-Similar Processes: MPEG Coded Video Traffic Modeler and Synthesizer 1184
Hai Liu, Nirwan Ansari, and Yun Q. Shi, New Jersey Institute of Technology, USA

4 A Markov-based Model of MPEG-2 Audio/Video Traffic 1189
Alfio Lombardo, Giacomo Morabito, Sergio Palazzo, Giovanni Schembra, University of Catania, Italy

5 Clustering Method and Semi-Markov Processes for YBR Traffic Modeling in an ATM Network 1194
Hany D. Alsaiaty and John A. Silvester, University of Southern California, USA

PANEL MM-HS02

IP Over (ATM, SONET, WDM)?

10:45-12:30, Sheraton, Room Gavea B

Chair: Chunming Qiao, SUNY at Buffalo, USA

Organizers: Chunming Qiao, SUNY at Buffalo; Ender Ayanoglu, Cisco, USA

Speakers: Rick Barry, Sycamore; Joe Berthold, Ciena; Paul Bonenfant, Lucent; Richard Cardwell, Telcordia; Jeff Fitchett, Nortel; Evan Goldstein, AT&T; Larry McAdams, Cisco; Niall Robinson, Qtera; Charlie Rohrs, Tellabs

SESSION MA-HS03

Switch Architectures I

14:45-18:15, Sheraton, , Room Leblon A + B

Chair: Mohammed Atiquazzaman, University of Dayton, USA

1 Algorithms for Virtual Output Queued Switching 1203
Emilio Leonardi and Fabio Neri, Politecnico di Torino, Italy; Bülent Yener, Lucent Technologies, USA

2 Distributed Cell Scheduling Algorithms for Virtual-Output-Queued Switches 1211
Rainer Schoenen and Roman Hying, Aachen University of Technology, Germany

3 Lookahead Scheduling Algorithm for Input-Buffered Packet Switches 1216
Kwan L. Yeung, N. H. Liu, and Hai Shi, City University of Hong Kong, Hong Kong

4 Analytical Analysis of ATM Switches with Multiple Input Queues with Bursty Traffic 1222
Ge Nong, Mounir Hamdi, and Jogesh K. Muppala, The Hong Kong University of Science and Technology, Hong Kong

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5	Scheduling in Input-Queued Cell-Based Packet Switches	1227
	<i>M. Ajmone Marsan, A. Bianco, P. Giaccone, E. Leonardi, and F. Neri, Politecnico di Torino, Italy</i>	
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Chair: Byrav Ramamurthy, University of Nebraska-Lincoln, USA

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Design & Analysis of Various Network Protocols

16:40-18:15, Sheraton, Room Corcovado

Chair: Byrav Ramamurthy, University of Nebraska-Lincoln, USA

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2	An Adaptive Flow Classification Algorithm for IP Switching	1290
	<i>Jun Zheng, Victor O. K. Li, and Xiaochun Yuan, The University of Hong Kong, Hong Kong</i>	
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Chair: Oliver Yang, University of Ottawa, Canada

1	End-to-end Statistical Delay Guarantees using Earliest Deadline First (EDF) Packet Scheduling	1307
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	<i>Rahul Garg and Huzur Saran, Indian Institute of Technology Delhi, India</i>	
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	<i>Hemant M. Chaskar, Nokia Research Center; U. Madhow, University of Illinois, USA</i>	
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	<i>Robert Szabó, P. Barta, J. Biró, and F. Németh, Technical University of Budapest, Hungary; C-G. Perntz, Ericsson Applied Research-SwitchLab, Sweden</i>	

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Chair: Ibrahim Habib, City College of New York, USA		
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	<i>Axel Boeger and Martina Zitterbart, Technical University of Braunschweig; Joachim Sokol, Siemens AG, Germany</i>	
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	<i>Fahad Hoymany, King Abdulaziz City for Science and Technology, Saudi Arabia; Daniel Massé, University of Pittsburgh, USA</i>	
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	<i>Judith L. Jerkins, Telcordia Technologies; Jonathan L. Wang, Nets'n Bits, Inc.; Yi Chu, Sprint, USA</i>	
5	An Enhanced Method for the Estimation of End-to-End Cell Delay Variation for Real-time Services	1367
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	<i>David W. Petr and Gopi K. Vaddi, The University of Kansas; Yong-Qing Lu, Sprint Corporation, USA</i>	
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	<i>Mehmet Ali, Concordia University, Canada</i>	
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2	CLR in Multicast ATM Switches with Shared Memory and Buffer Management	1391
	<i>Yijun Xiong, Alcatel Corporate Research Center; Jayalekshmi Kanginakudru, Louisiana State University, USA</i>	
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	<i>Julian D. Ho, La Trobe University, Australia; Neeraj K. Sharma, Clarkson University, USA</i>	
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	<i>Marco Listanti and Luca Veltri, University of Roma "La Sapienza", Italy</i>	
5	Efficient Scheduling of Variable-Length IP Packets on High Speed Switches	1407
	<i>Ge Nong, Mounir Hamdi, and Khaled Ben Letaief, The Hong Kong University of Science and Technology, Hong Kong</i>	
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	<i>Udomkiat Bunworasate, Takayuki Muranaka, Terumasa Aoki, Hitoshi Aida, and Tadao Saito, University of Tokyo, Japan</i>	
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Chair: Andrea Fumagalli, University of Texas at Dallas, USA		
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Chair: Anwar Elwalid, Lucent Technologies, USA

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	<i>Ahmed Mokhtar, Teledesic Corporation; Murat Azizoglu, University of Washington, USA</i>	

SESSION WM-HS11

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Chair: Marwan Krunz, University of Arizona, USA

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