

**ADCOM – 2001**  
**9<sup>th</sup> INTERNATIONAL CONFERENCE ON**  
**ADVANCED COMPUTING AND COMMUNICATIONS**

**PRELIMINARY PROGRAM**



Bhubaneshwar, India December 16 –19, 2001  
[www.ADCOMxy.org](http://www.ADCOMxy.org), [www.kiit.org/adcom2001](http://www.kiit.org/adcom2001)

*Sponsored by ACS, India and IEEE Computer Society*

*Organized by Kalinga Institute of Industrial Technology (KIIT), Bhubaneswar*

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**Sponsored by:**

ACS, India and IEEE Computer Society  
*in co-operation with*  
Orissa Information Technology Society (OITS)

**Organized by:**

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Bhubaneswar

**Historical Tour:**

The conference is arranging a tour of historical places like Puri, Konark etc. on December 19<sup>th</sup>, 2001. This will be finalized soon.

The annual conference of Advanced Computing and Communications Society (ACS) is intended to provide a forum for integration amongst industries, professionals, researchers and government policy planners with a view to sharing ideas, report findings, discuss products and define future directions. ADCOM has grown over the years and has emerged as a major international event in India focused at the growing computing community. The conference will have various sessions devoted to contributed papers, invited talks, practical reports, panel discussions, tutorials and vendor exhibition.

### **Topics of interest include**

- Parallel, distributed and networked computing
- High speed networks
- Web based computing
- Business computing
- Multimedia systems
- Parallel and distributed databases and data warehousing
- EDI and e-commerce
- High performance graphics, visualization and virtual reality
- Secure computing
- Mobile computing

### **About Bhubaneswar:** <http://www.orissaindia.com>

Bhubaneswar, capital of the state of Orissa, is located in the eastern part of India. There are convenient air and surface transportation to Bhubaneswar. The areas round Bhubaneswar have several major attractions. The magnificent Sun Temple of Konark (known as Black Pagoda) is internationally renowned. Puri and Konark -- both within 30 miles of Bhubaneswar -- have beautiful beaches. Close to Bhubaneswar is Nandankanan Zoological Park, a botanical garden that includes the largest lion and tiger safari in India. The Udayagiri and Khandagiri hills at the outskirt of the city have a network of man-made caves dating from the fourth century B.C. Presently, Bhubaneswar offers a great promise to IT industries enthused by several liberalization policies of local government. Some nationally renowned IT industries have started operating from the city. It is the fastest growing city in the eastern regions of India.

### **About ACS:**

Advanced Computing and Communications Society (ACS) is engaged in fostering awareness about recent developments in computing and communication

systems. ACS organizes technical seminars, workshops and conferences. For more information, please contact P.S. Nagendra Rao (Secretary), Dept. of Electrical Engg., Indian Institute of Science, Bangalore, [nagendra@ee.iisc.ernet.in](mailto:nagendra@ee.iisc.ernet.in).

## Advance Program ADCOM 2001

### **December 16, 2001 (Sunday)**

**8:30 - 10:00 – Workshop on Mobile Ad-hoc Networks**

**Session W1**

(Invited Talk / Technical Paper Presentation)

10:00 - 10:30 - Tea Break

**10:30 - 12:00 – Workshop on Mobile Ad-hoc Networks**

**Session W2**

(Invited Talk / Technical Paper Presentation)

12:00 - 13:30 - Lunch

**13:30 - 15:00 - Workshop on Mobile Ad-hoc Networks**

**Session W3**

(Invited Talk / Technical Paper Presentation)

15:00 - 15:30 - Tea Break

**18:00 – 19:30 – Inauguration of the Conference**

19:30 – 20:30 – High Tea

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### **December 17, 2001 (Monday)**

**8:30 - 9:30 - Keynote Speech 1**

*Chair : S. Iyengar*

Speaker : *J. Barhen*, Oak Ridge National Laboratory, USA

Topic : Optical Computing

9:30 - 10:00 - Tea Break

**10:00 - 12:15 - Technical Paper Sessions 1 and 2**

**Session 1 : Architectures, Networks and Distributed Systems**

*Chair : Bharat Bhargava*

Fault-tolerant Scheduling in Hypercube Multicomputer Systems

*N.V. Satyanarayana*,

*Rajib Mall and Ajit Pal*

Routing of BPC Permutations in Optical MIN's with Minimum Number of Stages  
*Anjan Sarkar and Nabanita Das*

Concurrent Checkpoint Initiation and Recovery Algorithms on an Asynchronous Unidirectional Ring Network  
*Partha S. Mandal and K. Mukhopadhyaya*

On Design of Measurements for End-To-End Delay Minimization in Wide-Area Networks  
*Nageswara S. V. Rao*

A Simulator for Distributed Self-Stabilizing Protocols  
*N. Gururaj and Arobinda Gupta*

A differential Protection Scheme for Fault-tolerance in Qos Multicasting  
*Anirban Chakrabarti and M. Manimaran*

RSVP-based Multicasting in the Presence of Best-Effort Services and Network Failure: Simulation Model and Performance Impact on Applications  
*Suresh B. Muppala, Wen-Jung Hsin and Deepankar Medhi*

## **Session 2 : Algorithms**

*Chair : K. Mukhopadhyaya*

A Genetic Algorithm for SDST Scheduling  
*D. Laha, M. Chakraborty and U.K. Chakraborty*

An Incremental Algorithm For Maximum Flow Problem  
*Satish Kumar and Phalguni Gupta*

Parallel Suffix Sorting  
*Natsuhiko Futamura, Srinivas Aluru, and Stefan Kurtz*

Quickest Paths For Different Network Router Mechanisms  
*Nageswara S.V. Rao, William C. Grimmell, Sridhar Radhakrishnan and Young C. Bang*

Practical Load Distribution Algorithms for Distributed Web Server Systems  
*Subbarao Bhagavati and Sushil K. Prasad*

Generation of an Optimal Query Execution Plan in a Distributed Relational Database using a Randomized Algorithm  
*B. Vijayakumar and N. P. Gopalan*

An Allocation Algorithm for Generalized Bids in Combinatorial Auctions  
*K. Balaji, Rajkishore Barik, Arun Kumar and Ashish Kundu*

12:15 - 13:30 - Lunch

**13:30 - 14:30 – Keynote Speech 2**

*Chair : L. M. Patnaik*

Speaker : *R. L. Kashyap*, Purdue University, USA

Topic : Pattern Classification

**14:30 - 15:30 - Industry Track Session**

*Chair : Anirban Basu*

15:30 - 15:45 - Tea Break

**15:45 - 17:30 - Short Paper Sessions S1 and S2**

**Session S1 : Architectures, Networks and Distributed Systems**

*Chair : Suresh Rai*

Evaluating CORBA as a Cluster Middleware for Heterogeneous Cluster

*Arvind W. Kiwelekar, and Pradeep K. Sinha*

A Balanced Adaptive Routing Scheme For K-ary N-cube Network

*R. S. Rajesh, and S. Arumugam*

Optimization of Tree-Structured IIR/FIR Uniform-Band Filter Banks

*Elizabeth Elias*

New Strategies for Allocating Tasks in Real-Time Multiprocessor Systems

*Mahesh C. Govil, Padam Kumar and Kuldip Singh*

Visual Information Retrieval via a Bayesian Belief Network Framework

*Campbell Wilson, Bala Srinivasan and Siddheswar Ray*

Collective Load Sharing in Homogeneous Distributed Systems

*Anuraag Sarangi, Alok Shriram and Avinash Shankar*

**Session S2 : Mobile Computing, Multimedia and Internet Applications**

*Chair : D. Saha*

An Improved Adaptive Bandwidth Reservation Scheme for Multimedia Wireless Networks

*Saurav Sinha, H. K Pati and Rajib Mall*

A Context-Based Model for Programming Mobility.

*L.E. Nugroho, S.W.Loke, B. Srinivasan, A.S.M. Sajeev and I.K. Ibrahim*

Dimensioning and Optimization Strategies of GSM Control Channels

*Bhishma Bhardwaj, Sanjay Thakur and Anuj Kumar*

An Enhanced Differentiated Services for Internet  
*M Kiran Babu and Sukumar Nandi*

MTP: A New Transport Protocol for Multimedia Internet Transactions  
*Seth Noble, K. Thulasiraman, Anindya Das and John Canning*

D-MAC: Dynamic Media Access Control for the High Speed Wireless Ad Hoc LANs  
*Zhijun Cai and Mi Lu*

**18:30 - 19:30 - Cultural Function**  
**19:30 - 20:30 - Banquet Dinner**

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**December 18, 2001 (Tuesday)**

**8:30 - 9:30 - Keynote Speech 3**  
*Chair : L. Bhuyan*

*Speaker : Srikumar, DARPA, Defense Advanced Research Project Agency, U.S.A.*  
*Topic : Sensor Technology for the new Millennium.*

**9:30 - 10:00 - Tea Break**  
**10:00 - 12:15 - Technical Paper Sessions 3 and 4**

**Session 3 : Web, Business, Mobile and Secure Computing**  
*Chair : N. Das*

A Dynamic Virtual-Time based CPU Scheduler for Guaranteeing QoS to Multimedia Applications  
*Alok Nandan, Kausstubbh S. Patil, Rajib Mall and Anupam Basu*

A Service-Centric Multi-Agent Model  
*Manas R. Patra and Hrushikesh Mohanty,*

Managing Disconnection of Mobile Hosts in Distributed Clustering  
*O. B. V. Ramanaiah and Hrushikesh Mohanty*

Using Mobile Code to Improve Distribution Performance In Slow Wireless Environments  
*Heikki Tienari, Saku Kaukonen and Jaakko Sauvola*

A Location Counter Strategy For Fault Tolerance in a Wireless Mobile

Environment

*Yongho An*

GF (2 p ) Cellular Automata As A Message Digest Generator

Monalisa Mukherjee, Biplab K Sikdar, Niloy Ganguly and P Pal Chaudhuri

Cellular Automata Based Hamming Hash Family: Synthesis and Application

Niloy Ganguly, Biplab K Sikdar and P Pal Chaudhuri

#### **Session 4 : Real-Time Applications, Image and Signal Processing**

*Chair : Sumeet Dua*

Implementing 3-D Self-Organizing Map Based Color Quantization Process in  
FPGA

*N. Sudha, T. Srikanthan and Babu Mailachalam*

Application Centric Load Balancing Strategy Based on Prediction.

*Haresh S. Bhatt, Brajendra K. Singh and A.K. Aggarwal*

Application Level marking: a novel scheme to provide QoS in differentiated  
services

*N. Vidhya, Rajib Mall and Badrinath Ramamurthy*

Adaptive Connection Management For ATM With Explicit Support For Real  
Time And Mission Critical Applications

*Zoramthanga, Ranjan Pal and Rajib Mall*

Devanagari Pen-written Character Recognition

*Abhiram Ranade and Meghanad Ranade*

A Novel Idea for Speech Recognition of Indian Languages

*Amit K. Mishra*

Quantization effects on tree-structured IIR/FIR octave-band filter banks

*Elizabeth Elias*

12:15 - 13:30 - Lunch

13:30 - 14:30 - **Keynote Speech 4**

*Chair : R. N. Mahapatra*

Speaker : *V. Varanasi*, University of South Florida.

Topic : Error Correcting Codes.

**14:30 - 15:30 - Panel Discussion**

Topic: Networking for the Next millennium.

Details: (TBA).

**15:30 - 15:45 - Tea Break**

**15:45 - 17:30 - Poster Session P1**

*Chair : S. Kar*

Congestion Control with Dynamic feedback Threshold in ATM Networks-  
Fuzzy Approach.

*Mohan Lal, S. C. Sharma and Brijesh K. Gupta*

Image Restoration Using A Neural Detector And Wavelet Based Pre-Filter  
*G. Panda, B. Majhi, S. K. Meher, and P. K. Dash*

WEBMAPS: The Development of a WWW-Based Tourist Information System with Data Mining Capability.

*K. Sridharan and M. Jagan Babu*

Building a Large Data Warehouse for Citizen Facilitation.

*Pradeep K. Sinha*

On the performance of High-Bandwidth Applications over Bluetooth.

*Aaditeshwar Seth, Anand Kashyap, and R.K. Ghosh*

Case for Vertical Migration within the Secondary Storage layer for increased I/O Performance.

*Kameshwari .R. and K. Gopinath*

Design of a Simple Bandwidth Management Algorithm for Voice Packets over IP Network.

*Arunkumar T. and Navaneethan P.*

Mobile Agent Management in PMADE.

*R.B. Patel and Kumkum Garg,*

Current Trends In Evolutionary Computing Methods.

*A. K. Swain, A. M. Panda, S. Pattanai and M. Nayak*

Speech Enhancement Using a Soft-Decision Noise Suppression Filter.

*M.S. Sutaone, P.P. Bartakke and A.M. Sapkal*

**18:00 - 19:00 – ACS Meeting**

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**December 19, 2001 (Wednesday)**

## **Tutorials**

**8:30 - 10:00 - Tutorials 1 and 2**

### **Tutorial 1 :**

**Component Based Distributed Application Development Using Enterprise Java Beans.**

*Anup Kumar, University of Louisville, USA.*

### **Tutorial 2 :**

**Fractals and Computer Graphics.**

*A. K. Bisoi and S. N. Mishra, Indira Gandhi Institute of Technology, Orissa.*

**10:00 - 10:30 - Tea Break**

**10:30 - 12:00 - Tutorials 1 and 2**

**12:00 - 13:30 – Lunch**

**13:30 - 15:00 - Tutorials 3 and 4**

### **Tutorial 3 :**

**Mobile Database Technology.**

*Sanjay K. Madria, University of Missouri-Rolla, USA.*

### **Tutorial 4 :**

**Content –Based Image Retrieval Systems: Architecture, Query Processing, and Indexing Issues.**

*B. Srinivasan, M.V. Ramakrishna, and S. Ray, Monash University, Australia*

**15:00 – 15:30 – Tea Break**

**15:30 – 17:00 – Tutorials 3 and 4**

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