



Calcutta Chapter

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## CMATER PROJECT, CSE Dept, Jadavpur University

ANNOUNCES

### IEEE COMSOC CHAPTER LECTURE MEETING

Two lecture meetings, organized by the Calcutta Chapter of IEEE Communications Society, in collaboration with the CMATER Project of Computer Science & Engineering Department, Jadavpur University, will be held on August 11, 2006 (details below). All interested persons are welcome to attend.

**Venue:** CAMATER Lecture Room, (2<sup>nd</sup> floor), Room # T-3-11,  
Computer Science & Engg (CSE) Department, Jadavpur University

**Date:** 11<sup>th</sup> August (Friday)                      **Time:** (2:00 – 4:30) PM [Tea break:: 3:00-3:30 PM]

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### LECTURE 1 :: (2:00 – 3:00) PM

#### **A SELF-STABILIZING GRAPH ALGORITHM: Bridge-Connected Components Detection**

Pranay Chaudhuri

Professor of Computer Science and Head, Department of Computer Science, Mathematics and Physics  
University of the West Indies, Cave Hill Campus, Bridgetown, Barbados

Abstract- A distributed algorithm is said to be self-stabilizing if starting from an arbitrary state, the algorithm is guaranteed to converge to the desired state in a finite number of steps. In this seminar, a self-stabilizing algorithm for detecting the bridge-connected components of a connected undirected graph will be presented. An edge of a graph is a *bridge* if its removal disconnects the graph. The *bridge-connected components* detection consists of finding the maximal connected subgraphs (components) of a given graph such that none of the components contains a bridge. An outline of the proof of correctness of the algorithm and complexity results will also be provided.

*Pranay Chaudhuri received his B.Sc. and B.Tech. from Calcutta University, and M.E. and Ph.D. from Jadavpur University. He is currently a Professor of Computer Science at the University of the West Indies. Professor Chaudhuri is also Head of the Department of Computer Science, Mathematics and Physics – a multidisciplinary department offering degree programmes in Computer Science, Information Technology, Mathematics, Physics and Electronics. Prior to*

joining the University of the West Indies, Professor Chaudhuri has held faculty positions at the Indian Institute of Technology Kharagpur, James Cook University of North Queensland, University of New South Wales and Kuwait University. Professor Chaudhuri's research interests include Parallel and Distributed Algorithms, Self-stabilization and Graph Theory. In these areas, he has extensively published in leading international journals. Professor Chaudhuri is also the author of a book on Parallel Algorithms (Parallel Algorithms: Design and Analysis, Prentice-Hall, 1992).

TEA BREAK [3:00 – 3:30] PM

**LECTURE II :: (3:30 – 4:30) PM**

**Signaling System for GSM Networks**

Rabindranath Nandi\* & Rahul Ghosh\*\*,

\* Professor, ETCE Dept. Jadavpur University, Kolkata 700 032

\*\* Final Year Student, ETCE Dept. Jadavpur University, Kolkata 700 032

**ABSTRACT-** In a telecommunication network, prior to any voice communication and even after the completion of a call, a good number of signaling information are exchanged between the called party and the calling party. The most popular mode of signaling system which is currently used in almost all GSM networks is the **Signaling System No. 7 (SS7)**. It is the heart of any communication network and is extensively used for cellular communication for the purpose of call setup, roaming and messaging. This presentation will discuss how SS7 has evolved and its different network components. Apart from the brief overview of the SS7 protocol structure, the talk will also cover two user parts – ISUP (ISDN User Part) and SCCP (Signaling Connection Control Part).

**Rabindranath Nandi** is a Professor in the Dept. of Electronics & Tele-Communication Engg., Jadavpur University. His areas of interest are Analog Signal Processing, Digital Signal Processing, Computer Communication. He has authored more than 110 research papers in National/International Journals and some in Conferences/Seminars. He served as the Head of ETCE Dept., JU during 1999-2001 and served as the Chair of IEEE Calcutta Section during 2003-2005. He has taught in various Institutes abroad.

**Rahul Ghosh** is a Final year B.E.Tel.E. student of Jadavpur University and working under the guidance of Prof. R. Nandi. He is a Student Member of IEEE and also a member of IEEE Communications Society (ComSoc). He has won the 3rd Prize in All India M. V. Chauhan Students' Paper Contest (MVCSPC) 2005 conducted by IEEE India Council. He has presented a paper on 'Clustering Scheme for MANETs' in the 28th General Assembly of International Union of Radio Science (URSI) held at New Delhi, during Oct. 2005, and another paper on 'Social Networking for Mobile nodes' was accepted and presented in the International Workshop on Distributed Computing (IWDC 2005) held at IIT-KGP during Dec. 2005 which also appeared in the LNCS series of Springer Verlag, Germany. The extended work of the above paper has been published in Journal of Networks (JNW), Finland in 2006. His current research interest includes wireless communication and mobile ad-hoc networks.