**ERU Research Dissemination Program
July 2010**

Organized by the

Department of Computer Science & Engineering

29th July 2010 at 11.00 am

at the

**Seminar Room,
Department of Computer Science & Engineering**

The speakers and topics covered in this program are as follows

1. **What should you do to have more friends in facebook? Analyzing mixing patterns in complex networks**
   Presented by M. Piraveenan

2. **Self-Organization of Wireless Acoustic Sensor Networks for Ground Target Tracking**
   Presented by Malaka Walpola

3. **Effective use of e-learning**
   Presented by Shantha Fernando

For more information please contact Shantha Fernando
(Ext 3113 , shantha@uom.lk)

Note: Abstract of the presentation is attached herewith

Abstracts

[1]
Title: What should you do to have more friends in facebook? Analyzing mixing patterns in complex networks
Presenter: M. Piraveenan

Abstract- It is well known that, in complex networks, nodes do not connect with other nodes randomly, and the probability of two nodes connecting depends on the properties of both nodes. The tendency of nodes making links to similar nodes to themselves is called assortativity. Assortativity can be used to quantify and interpret mixing patterns in complex networks in a number of domains, including social, technical and biological networks. Local assortativity quantifies a single node's contribution to network assortativity, and could be used in network design.

[2]
Title: Self-Organization of Wireless Acoustic Sensor Networks for Ground Target Tracking
Presenter: Malaka Walpola

Abstract- With the developments in computing and communication technologies, wireless acoustic sensor networks have become popular in wide range of application areas such as target tracking and habitant monitoring. Traditionally, acoustic sensor arrays built in linear, circular or other regular shapes are used for tracking acoustic sources. The maintaining of relative geometry of the acoustic sensors in the array is vital for accurate target tracking, which greatly reduces the flexibility of the sensor network. To overcome this limitation, we propose using only a single acoustic sensor at each sensor node. With only a single sensor at each sensor node the self-organization of sensor nodes into virtual arrays to perform the target localization is essential. We developed a distributed self-organization algorithm for target tracking using wireless acoustic sensor networks. The algorithm selects a near-optimal localization sensor group to minimize the target tracking errors.

[3]
Title: Effective use of e-learning
Presenter: Shantha Fernando

Abstract- e-Learning refers to electronically facilitated, enhanced and managed learning, and it goes very much beyond mere hosting of web pages. Effective use of e-learning depends on how well a learning management system (LMS) is used by the learners, academics, content developers and other stake holders. Use of proper content to achieve the course objectives, improvement of interactivity and learner participation, monitoring the feedback and timely mentoring, teamwork and synergy, appropriate use of technology, institutional support, etc. are some of the aspects that are important for effective use of e-learning. In this context, this presentation will focus on how e-learning can be effectively used in our university environment, with illustrations of practical examples.