

DHI YANTRA '11 - 6TH WORKSHOP ON "BRAIN MODELING AND SUPERCOMPUTING"

conducted by

WARan Research FoundaTion, WARFT,Chennai, TN, India.
Valluvar Institute for Rural Development, Karur, TN, India.
Valluvar College of Science & Management, Karur, TN, India.

DATE: July 21 - July 24, 2011

VENUE

**Valluvar College of Science & Management, Karur, TamilNadu,
India.**

DAY 1

Tutorial Sessions: Neuroscience

- **10:00 - 11:00 AM: Inauguration**
- **11:00 - 11:20 AM: Tea Break**

- **11:20 - 11:50 AM**
Introduction to Neuroscience
Three Parallel Sessions by Mr. S.R. Vignesh, Mr. S. Sharan & Mr. Naren
- **11:50 - 12:20 PM**
Neuron Models: Current based approach
Three Parallel Sessions by Mr. S. Sharan, Mr. K. Dinesh & Mr. T.S. Thiagarajan
- **12.20 - 01:05 PM: Lunch**
- **01.05 - 01:50 PM**
Intra-Neuronal Cell: Anatomy & Energetics
Three Parallel Sessions by Mr. S.R. Vignesh, Mr. Naren & Mr. K. Dinesh.

- **01:50 - 02:20 PM**
Modelling & Petri Nets: Introduction
Three Parallel Sessions by Mr. N.K. Sharath, Mr. T.S. Thiagarajan & Mr. Rm. Subbu.
- **02:20 - 02:40 PM: Tea Break**
- **02:40 - 03.40 PM**
Simulation & Optimization Basics
Three Parallel sessions by Mr. Rm. Subbu, Mr. A. Vignesh & Mr. S. Sharan.
- **08:00 PM: Dinner**

DAY 2

Tutorial Sessions: Supercomputing

- **09:00 - 10:00 AM**
Keynote 1: "Differential Equations & Neuroscience"
Prof. S. Udayabaskar- Computational Neuroscientist
- **10:00 - 10:45 AM**
Keynote 2: "Search Engines"
Mr. Kumar Natarajan - Director , Eyes On Watch India Pvt. Ltd
- **10:45 - 11:05 AM: Tea Break**
- **11:05 - 11:50 AM**
Introduction to Processor Architecture
Three Parallel Sessions by Mr. H. Rajagopal, Mr. Vinesh & Mr. M. Prashanth
- **11:50 - 12:35 AM**
Memory Hierarchy Design
Three Parallel Sessions by Mr. S. Aswin Kumar, Mr. A. Vignesh & Mr. M. Prashanth.
- **12:35 - 01:20 PM**
Multi-Core Architectures
Three Parallel Sessions by Mr. S. Aswin Kumar, Mr. A. Vignesh & Mr. H. Rajagopal.

- **01:20 - 02:05 PM: Lunch**
- **02:05 - 02:50 PM**
Cluster Network Topologies
Three Parallel Sessions by Mr. V.S. Vignesh, Mr. Prashanth Thina & Mr. S. Vigneshwaren
- **02:50 - 03:20 PM**
Introduction to Supercomputing Clusters
Three Parallel Sessions by Mr. V.S. Vignesh, Mr. Ram Srivatsa & Mr. Prashanth Thina.
- **03:20 - 03:40 PM: Tea Break**
- **03:40 - 04:25 PM**
Algorithm and Applications
Three Parallel Sessions by Mr. S. Vigneshwaren, Mr. Ram Srivatsa & Mr. Prashanth Thina.
- **06:00 - 07:00 PM**
Keynote 3:
Dr. Srinivasan Murali, EPFL, Switzerland.
- **07:00 - 08:00 PM**
Documentary Film on Sir C.V. Raman Nobel Laureate, Sir Chandrasekhar Nobel Laureate, and the great mathematician Ramanujam,
- **08:00 PM: Dinner**

DAY 3

Presentations: Neuroscience

- **09:00 - 10:30 AM**
Keynote 4:
Mr. Rajesh Ramasamy, Senior Research Scholar, MOSAIC Research Group, ETH Zurich, Switzerland
- **10:30 - 10:50 AM: Tea Break**

- **10:50 - 11:20 AM**
3D Biological Neuronal Structure Generation: Geometrical Aspects
Three Parallel Sessions by Mr. K. Dinesh, Mr. S. Sharan & Mr. S.R. Vignesh.
- **11:20 - 11:50 AM**
3D Biological Neuronal Structure Generation: Biophysical Aspects
Three Parallel Sessions by Mr. K. Dinesh, Mr. S. Sharan & Mr. S.R. Vignesh.
- **11:50 - 12:35 PM: Dhi Yantra Quiz (Written Quiz)**
Participation in the Dhi Yantra '11 written quiz on Day 1 & 2 tutorials (FOR STUDENTS ONLY) Carries Cash award
Team size: Maximum of four students
First Prize per team Rs.10000
Second Prize per team Rs.6000
Third Prize per team Rs.3000
- **12:35 - 01:20 PM: Lunch**
- **01:20 - 01:50 PM**
3D Biological Neuronal Structure Generation: Biochemical Aspects
Three Parallel Sessions by Mr. K. Dinesh, Mr. S. Sharan & Mr. S.R. Vignesh.
- **01:50 - 02:35 PM**
Intra Cellular Energetics Model: Introduction
Three Parallel Sessions by Mr. T.S. Thiagarajan, Mr. K. Dinesh & Mr. S.R. Vignesh.
- **02.35 - 03:05 PM**
Petri nets based implementation
Three Parallel Sessions by Mr. N.K. Sharath, Mr. Rm. Subbu & Mr. T.S. Thiagarajan.
- **03:05 - 03:25 PM: Tea Break**
- **03:25 - 04:10 PM**
Energetics: Time-Frequency Analysis

Three Parallel Sessions by Mr. K. Dinesh, Mr. S. Sharan & Mr. Naren.

- **04:10 - 05:30 PM**

WARFT Biological Neuronal Network Simulator: Demonstration
Presenters: Mr. Rm. Subbu, Mr. T.S. Thiagarajan & Mr. N.K. Sharath.

- **05:30 - 06:00 PM: Break**

- **06:00 - 06:45 PM**

Keynote 5: "Introduction to Non-linear dynamics"
Mr. M.J. Shankar Raman,(Senior Research Scholar, IIT Madras)

- **06:45 - 08:15 PM**

Banquet Speech:

Dr. C. Mohan, Head, IBM Almaden Labs, IEEE Fellow, ACM Fellow

- **08.15 PM: Banquet Dinner**

DAY 4

Presentations: Supercomputing

- **08:30 - 09:15 AM**

Keynote 7:

Mr. Sanjay Kalra,Former CEO, Tech Mahendra

- **09:15 - 10:00 AM**

Keynote 8:

Prof. V. Kamakoti, Dept. of CSE, IIT Madras

- **10:00 - 10:20 AM: Tea Break**

- **10:20 - 11:20 AM**

CUBEMACH Design Paradigm

Three Parallel Sessions by Mr. Ram Srivatsa, Mr. Prashanth Thina & Mr. H. Rajagopal.

- **11:20 - 12:30 PM**

WARFT Multi-Core Architecture Simulator Demonstration

Presenters: Mr. S. Aswin Kumar, Mr. A. Vignesh & Mr. V. S. Vignesh.

- **12:30 - 01:00 PM**

High Reliability Space Robots: WARFT Simulator Demonstration

Presenter: Prahasaran Raja.

- **01:00 - 01:45 PM: Lunch**

- **01:45 - 03:45 PM:**

Certificate Distribution

Feedback and interaction

Session Chair : Prof.Venkiteswaran, BITS Pilani