

# About SASTRA

SASTRA University is located on the outskirts of one of the cultural heritages of India, Thanjavur. Situated on the Trichy-Thanjavur highway, the campus houses an area of 125 acres. The University which started as Shanmugha Polytechnic College in 1984 has now grown leaps and bounds. It offers an artistic infrastructure and provides an ideal ambiance for development and growth of its students. Its students are its biggest strength and are a bunch of highly motivated young people who excel not only academically but also take part in a multitude of activities - both co curricular and extra curricular - thus making SASTRA a landmark on the global academic map. The standard of its courses is reflected in the grades awarded by the National Assessment and Accredition Council (NAAC). It represents a comprehensive approach to personal and professional evolution.

SASTRA provides various Undergraduate and Postgraduate degrees in a wide range of disciplines that offers a set up that will aid in unleashing the creativity of students to prove their mettle and emerge victorious.



# About NeuroConnect

'NeuroConnect' is a National level Seminar, conducted by the BioEngineering Department, School of Chemical and Biotechnology, SASTRA University on February 6,2016. The Seminar aims to bring to light the different facets of Neuroscience.

This exciting field is a discipline that probes one of the last biological frontiers in understanding ourselves. As such, the field takes on a clear interdisciplinary character. It has been a field of particularly active growth and progress for the past two decades, and it is ascertained to be an area where important and exciting developments will continue to occur.

The lectures will be delivered by renowned Research Scientists and Doctors in the country covering various areas such as Neurosurgery, Psychiatry, Cognitive Computing, Neural Networks, Neural Imaging and Brain Mapping. This seminar aims to encourage students to come up with new and innovative ideas in this fascinating field of Science.



## Lectures

## Neural Networks

An Artificial Network (ANN) is an information processing idea that is inspired by how the biological nervous system processing. The brain in particular has a novel way of processing information which is the main key of this idea. It is composed of a large number of interconnecting processing elements resembling neurons which work in unison to solve a problem. These networks have the remarkable ability to extract information from complicated and imprecise data and so are used to extract patterns and detect trends that are complex to be noticed.

## Prof. Govindan Rangarajan

Prof. Govindan Rangarajan obtained his PhD from the University of Maryland, College Park, USA. He then worked at the Lawrence Berkeley Lab, University Of California, Berkeley before returning to India in 1992. He is currently a Professor of Mathematics at the Indian Institute Of Science, Bengaluru. His research interests include non-linear dynamics and chaos, time series analysis and brain machine interface. He is a J. C. Bose National Fellow. He is also a fellow of the Indian Academy of Sciences, India. He was knighted by the Government of France: Knight ( Chevalier ) of the Order of Palms. He was also a Homi Bhabha Fellow.

## Cognitive Computing and SyNAPSE CHIP

We are entering a new period of computing history — the cognitive computing era. Cognitive Computing offers fundamental differences in how systems are built and interact with humans. These systems are able to build knowledge and learn, understand natural language, and reason and interact more naturally with human beings than traditional systems.

A new kind of computer chip, SyNAPSE, unveiled by IBM, takes design cues from the wrinkled outer layer of the human brain. The chip consumes less power, and is vastly better suited to processing images, sound and other sensory data.

## Dr. Raghavendra Singh

Raghavendra Singh is a Research Staff Member at IBM Research. He is currently a member of the Cognitive Computing group. He did his PhD in Electrical Engineering from the University of Southern California (2001). His Undergraduate degree is from BITS Pilani, India (1993). He is a Senior Member of IEEE. His research interests are in the area of information theory, signal processing and representation as applied to a spectrum of problems in neuroscience, compression and transmission of multimedia data, and monitoring of large scale data centers.

#### Neurosurgery

Neurosurgery is the surgical specialization that treats diseases and disorders of the brain and spinal cord. As there is a higher risk of further nerve damage and infection which may result in paralysis, high degree of skill and concentration is required for this type of surgery.

#### Dr. L. Murugan

Dr.L.Murugan is one of the finest doctors in Apollo hospital groups. He did his MBBS and his MCh in Neurosurgery at Madras Medical College, Chennai. He currently ventures out in search for how technology can help the real life crisis faced by many surgeons and doctors in the event of an operation that affects the intricate locations such as the brain and the spinal cord. His expertise includes minimal invasive Brain & spine surgery, neuroendoscopy and other similar fields that uses cutting edge technologies in the field of medical treatment.

#### **Psychiatry**

Psychiatry is the medical specialty devoted to the study, diagnosis, treatment and prevention of mental disorders. With the increasing level of stress due to modernization of life, psychiatric illnesses remain a major cause of morbidity to mankind. About 10-15% of the population suffer from a form of psychiatric problem. Still many areas remain unearthed in psychiatry.

#### Dr. G. Ramanujam

Dr.G.Ramanujam obtained his MBBS from Tirunelveli medical college. He obtained his M.D (Psychiatry) from Madurai Medical College. He is currently the Professor and Head Department of Psychiatry Tirunelveli Medical College. He is interested in teaching and research in Psychiatry. He has served as guide to short term student research projects for MBBS students in psychiatry and also for post graduate students. The Department of Psychiatry has ongoing research projects under the guidance of Indian Council of Medical Research. He has delivered talks on various forums in Psychiatry, his area of and Bipolar illness.

#### Neural Imaging Techniques

Neuroimaging methodologies continue to develop at a remarkable rate, providing more sophisticated techniques for investigating brain structure and function. These techniques allows the doctors and researchers to view activities within the human brain, without invasive surgery.

## Mr. T. Anbuselvan

Mr. Anbuselvan works as a Service Manager for GE HealthCare and represents them to enlighten us about the various advances in the neural imaging techniques that have been developed and how GE HealthCare contributes to mankind.

## Forensic Psychology and Brain Mapping

Forensic psychology emphasizes the application of research and experimentation in other areas of psychology (e.g., cognitive psychology, social psychology) to the legal arena. The purpose and goal of brain mapping is to advance the understanding of the relationship between structure and function in the human brain.

#### Mr. D. Bhaskar

Mr. Bhaskar is the Assistant Director of the Forensic Sciences Department, Chennai. He is a Forensic Expert with many years of field experience which in turn makes him an engaging orator.

## **Events**

## Tickle Your Grey Matter

The rules are simple. 2 per team. General Science and Technology Quiz.

All you require is the ability to answer the questions WHY, WHAT, WHEN and HOW regarding Science.

Entry Fee : ₹ 20/- per team

Eureka!

Have an Idea that can blow our minds?? Then all you need to do is this :

Form a team of 1 to 3. Pen a 250 worded abstract and mail it to us by January 20, 2016. Get a chance to showcase your idea on the day of the Seminar.

Entry Fee : ₹ 30/- per team

<u>UberGeek</u>

The Search for the Ultimate Biology Nerd. Multiple quirky rounds to filter out the One.

An Individual Event because you are the One and no one else is.

**Entry Fee : Free** 

#### Amalgam

Who said Science is boring?? The mixture of Tinto, Dumb Charades and Pixie to satiate the needs of the Geekdom.

3 Geeks per team. 2 Rounds to conquer.

Entry Fee : ₹ 20/- per team

Panorama

Create a Big Bang through your small lens. Become a Director.

Choose the face of Neuroscience that interests you the most. Lead a team of 2 to 4. Adapt it with a camera of your choice. Limit it to 1 to 2 minutes. Mail it to us by January 24, 2016. Get an opportunity to be screened at the Seminar.

Entry Fee : ₹ 20/- per team

# **REGISTRATION**

## Mode of Registration

Registration can be made online through the website link provided below:

www.sastra.edu/nc2016

## **Registration Fee**

Student : ₹ 500/-

Research Scholar : ₹750/-

Faculty : ₹ 750/-

Industrialist : ₹ 1000/-

## Mode of Payment

Payment can be made through any one of the following means:

- DD drawn in favor of "BE AT SASTRA" payable at "SASTRA, THANJAVUR, TAMIL NADU" and post it to us.
- > Through NEFT (Kindly Contact Us for more details)
- > At your nearest PR

# CONTACT US

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