

## Training Course on Image Processing and Artificial Neural Networks

7-18 June, 2010

Management Information System (MIS) Division,  
PINSTECH, P.O. Nilore, Islamabad

### Registration Form \*

Name: \_\_\_\_\_

Father's Name: \_\_\_\_\_

CNIC No.: \_\_\_\_\_

(Please attach CNIC copy)

Highest Qualification: \_\_\_\_\_

Experience: \_\_\_\_\_

Designation/Post: \_\_\_\_\_

Organization/Establishment: \_\_\_\_\_

Mailing Address: \_\_\_\_\_

E-mail: \_\_\_\_\_

Ph. Off: Home: \_\_\_\_\_

Mobile: \_\_\_\_\_

Signature (Participant): \_\_\_\_\_

Date: \_\_\_\_\_

**\*Note:** Participants from Universities/ academic institutions and other non-strategic organizations are required to submit **Security Clearance Form (copy attached)** alongwith two photographs at least two weeks before start of training course.

Recommendation by the Head of nominating  
Establishment:

Signature \_\_\_\_\_

PHOTO  
1" x 1.5"

### Organizers

*Patron-in-Chief* **Dr. Shoaib Ahmad**  
Member (Physical Sciences), PAEC

*Patron* **Dr. Jamshed H. Zaidi, T.I, CS**  
Director General, PINSTECH

*Advisory  
Committee* **Dr. Riffat M. Qureshi**  
Director Coordination  
**Dr. Malik M. Ishfaq**  
Director System & Services

**Engr. Nisar Ahmad**  
Director Technology

**Dr. J. I. Akhtar**  
Director Science

*Organizing  
Committee* **Dr. Riffat M. Qureshi**  
Director Coordination, PINSTECH

**Abdul Karim**  
Head MIS, PINSTECH

**Shahid Riaz Khan**  
Head HRD, PINSTECH

**Waqar A. Butt**  
Head SID, PINSTECH

**Dr. Asmatullah**  
Pr. Scientist, HRD, PINSTECH

*Faculty  
Members* **Dr. Asloob A. Muddassar**  
Pr. Scientist, PIEAS

**Dr. Saira Butt**  
Pr. Scientist, PINSTECH

**Dr. Asmatullah**  
Pr. Scientist, PINSTECH

**Dr. Asifullah Khan**  
Pr. Scientist, PIEAS

**Dr. Abdul Basit**  
Sr. Scientist,, PINSTECH

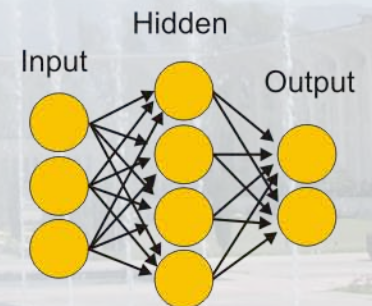
**Mr. Muhammad Kashif**  
Sr. Scientist, PINSTECH

*Course  
Coordinator* **Dr. Asmatullah**  
Principal Scientist, HRD, PINSTECH  
Ph: 051-9248801-7 Ext. 3556/ 3552  
Fax: 051-2207374  
e-mail: [asmat@pinstech.org.pk](mailto:asmat@pinstech.org.pk)



## Training Course on Image Processing and Artificial Neural Networks

7-18 June, 2010



Management Information System Division  
Directorate of Coordination  
Pakistan Institute of Nuclear Science &  
Technology (PINSTECH)  
P.O. Nilore, Islamabad

## Introduction

Digital computers are being used as powerful tool to solve a variety of problems of scientific and engineering concerns. Among these, one important area of applications is Digital Image Processing (DIP) & Artificial Neural Networks (ANNs).

Digital Image Processing consists of various processes whose inputs and outputs could be images and/or attributes extracted from images for data classification and pattern recognition. Fundamental steps in DIP include image acquisition, image enhancement, image restoration, morphological image processing and image recognition. Pertinent applications of DIP are medical imaging, computer vision, biometrics, watermarking, remote sensing, defense purpose and industrial applications.

An artificial neural network is a mathematical model that tries to simulate the structure and/or functional aspects of biological neural networks. It consists of an interconnected group of artificial neurons and processes information using a connectionist approach. Modern non-linear neural networks are being successfully used to model complex relationships between inputs and outputs or to find patterns in data. Applications of ANNs include function approximation, time series prediction, fitness approximation, modeling, pattern recognition, novelty detection, decision making, robotics and image processing.

## Purpose of Training Course

This training course is designed for scientists, engineers, academicians and students to provide a comprehensive introduction/overview of fundamental and advanced concepts and methodologies of Digital Image Processing and Artificial Neural Networks. The training course is equally useful for beginners in the domains of DIP and ANNs. The main objectives of the training course are:

- (i) To develop a foundation that can be used for further study and research in the areas of DIP and ANNs
- (ii) To enhance collaboration among researchers & specialists working in the field of DIP & ANNs

## Course Programme

- Lecture Session
- Practical Session
- Technical Tour
- Panel Discussions
- Certificate Distribution (closing day)

## Eligibility

Scientists, engineers, academicians, researchers and students well versed with use of computers.

## Registration

Registration Form duly recommended by the Head of Establishment should reach the Course Coordinator on or before May 24, 2010.

*(Soft copy of Registration Form is available at <http://www.sidnlps.org.pk>)*

## Course Fee

Rs.10,000/- per participant

*(Payable at Registration Desk by cross cheque in favor of Head LAO, PINSTECH, A/C# 19693-3)*

Course fee covers cost of course material, regular lunch, intersession tea etc.

## Course Venue

PINSTECH, Nilore, Islamabad

## Accommodation/ Travel

Participants will have to make arrangement of stay in Islamabad or Rawalpindi at their own. Also, TA/DA is the responsibility of nominating establishment.

*(For further information, please contact Mr. Athar Farooq, PE 051-9248801, Ext. 4413, e-mail: [athar@pinstech.org.pk](mailto:athar@pinstech.org.pk))*

## Pick & Drop to PINSTECH

Enroute pick & drop from Rawalpindi / Islamabad to the training course venue (PINSTECH, Nilore) will be provided by the course organizers.

*(For further information, please contact Mr. Zahid Munir, PS 051-9248801-7, Ext. 4407, e-mail: [zmunir@pinstech.org.pk](mailto:zmunir@pinstech.org.pk))*