

# Faculty Development Programme

FDP

“Workshop on Neural Networks and its implementation with MATLAB”

January 17-18, 2014

Training  
on the go!



**BHARATI VIDYAPEETH UNIVERSITY  
INSTITUTE OF MANAGEMENT AND RESEARCH**

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## **ABOUT BVIMR**

The Bharati Vidyapeeth University Institute of Management and Research, New Delhi was incepted in the year 1992. It is a major constituent unit amongst 182 institutions of Bharati Vidyapeeth University, Pune. Since its inception, BVIMR is committed to provide quality education and programmes for Industrial exposures through experienced faculty members and updated and relevant curricular.

BVIMR is an ISO 9001: 2008 & Certified ISO 14001:2004 Institute. It is ranked among the **top “50” Business Schools in India and top “5” in Delhi by Business India** The MBA programme of the Institute is accredited by National Board of Accreditation-AICTE. It has been **awarded National B-School Leadership Award 2011 by Star News**. Management education in the recent past has undergone radical changes to keep pace with enormous challenges. Faculty Members, therefore need to keep abreast of the latest development and teaching pedagogy to provide the desired inputs to students.

## **OBJECTIVES**

In the present context, very few educators are conversant with the application of automated tools to be applied in computational research. The purpose of these FDPs is to acquaint them with the mathematical tool available for research and their application, exposing the participants to contemporary research methodology; provide them with hands on approach to conduct research, application of MATLAB and establishment of network of researchers. The FDP will also enrich the Knowledge of participants on Research Paper Writing skills. The Schedule of FDPs is as under:-

### **FDP**

## **“Two-Day workshop on Neural Networks and its Implementation with MATLAB”**

**Date & Time: January 17-18, 2014 from 9.00 AM to 5.00 PM**

**Venue: Bharati Vidyapeeth University Institute of Management & Research,  
A-4, Paschim Vihar, (East Paschim Vihar Metro Station),  
New Delhi-63.**

## **KEY RESOURCE PERSONS INVITED**

*Dr. Manu Pratap Singh*

*Professor  
Department of computer science  
Dr B.R Ambedkar University  
Agra*

## **THEME: FDP**

### **Day 1 Pre Lunch Session: (Theoretical concepts and mathematical formulation) 17<sup>th</sup> January, 2014**

- Introduction of neural network and its modeling.
- Different models of artificial neural network, topologies and basic learning laws.
- Hebbian supervised and unsupervised learning for pattern association.
- Perceptron learning rule for pattern classification.
- **Day 1 Post Lunch: (Practical with MATLAB and hands on practice with MATLAB)**
- Exposure with MATLAB environment, its common functions.
- Programming for modeling of neural networks, Perceptron learning and Hebbian learning.
- Work with neural network toolbox for Perceptron model.

### **Day 2 Pre Lunch Session: (Theoretical Concepts, mathematical formulation and working with MATLAB) 18th January, 2014**

- Feed forward neural network architecture and generalize pattern classification.
- Pattern mapping, pattern mapping network, function approximation and Backpropagation learning rule.
- Discussion of Backpropagation learning rule and its characteristics with its limitations and enchantments.
- Implementation for feed forward neural network in MATLAB environment through command window and programming using in built functions for pattern classification, pattern mapping, generalization, approximation and predication.
- Implementation for feed forward neural network in MATLAB environment through Neural network toolbox using in built functions for pattern classification, pattern mapping, generalization, approximation and predication.
- **Day 2 Post Lunch Session: (Theoretical Concepts, mathematical formulation and working with MATLAB)**
- Feedback neural network, associative memory, Hopfield neural network & its energy functions analysis.
- Pattern storage and recalling in Hopfield neural networks, concept of stability, global minimum and false minima problem.
- MATLAB implementation for Hopfield model through programming and command window.
- Implementation of competitive learning in MATLAB for pattern clustering.

## **CERTIFICATION**

After successful completion of the programme the participant will be awarded Participation Certificate by Bharati Vidyapeeth University Institute of Management and Research, New Delhi.

## **WHO CAN PARTICIPATE**

Research scholars of computer engineering, faculty members Engg & Computer Application and practitioners/professionals.

## **WORKSHOP FEE**

**For professionals/Corporates/faculty members-Rs 1000/- each candidate**

**For Research scholar & student – Rs 500/- each candidate**

## **ORGANISING TEAM**

**Dr Ashutosh Gaur                    9212569896                    Ms. Swati Sah**

**Mr Ajay kumar                    9953007789**

**For more information visit our website [www.bvimr.com](http://www.bvimr.com), Or E-Mail [bvimr.fdp@gmail.com](mailto:bvimr.fdp@gmail.com)**

**Dr. Nitin Nayak**

**Director - BVIMR, New Delhi.**



**BHARATI VIDYAPEETH DEEMED UNIVERSITY,  
INSTITUTE OF MANAGEMENT & RESEARCH, NEW DELHI  
“Workshop on Neural Networks and its implementation with MATLAB “**

1. Name Dr./Mr./Miss/Mrs. \_\_\_\_\_
2. Subject / Department \_\_\_\_\_
3. Institutional Address \_\_\_\_\_
4. Name of the Affiliating University \_\_\_\_\_
5. Address for Correspondence \_\_\_\_\_  
\_\_\_\_\_
- Contact No. \_\_\_\_\_ Mobile: \_\_\_\_\_
- E-mail: \_\_\_\_\_ Fax: \_\_\_\_\_
6. (a) Date of Birth: \_\_\_\_\_ (b) Qualification : \_\_\_\_\_
7. (a) Designation: \_\_\_\_\_ (b) Grade : \_\_\_\_\_
8. Publication if any \_\_\_\_\_  
(Books, Papers etc.)(Attach separate details)
9. Research Experience: Ph.D \_\_\_\_\_ Year of Completion \_\_\_\_\_ Project of Research Works: \_\_\_\_\_.
10. Date of joining the Institute / University \_\_\_\_\_ (Please state the nature if appoinment, Ad-hoc/Temporary/  
Permanent /Any other)
11. Write thrust areas you may be interested in \_\_\_\_\_
12. Details of the SDP / Orientation / Refresher Courses attended: (Attach separate details)

Date	Course	Institution

13. Payment Details:

We hereby enclose a demand draft/cheque of Rs. \_\_\_\_\_ No. \_\_\_\_\_ Dated \_\_\_\_\_

In favour of **Director, Bharati Vidyapeeth University Institute of Management & Research**, Payable at New Delhi.

**(Signature of the applicant)**

Recommendation of the forwarding authority:

I hereby certify that the application of the above named teacher is forwarded with the recommendation that when selected he/she will be relieved in time to participate in the course.

**(Signature and Seal of HOD/Principal)**

Please send it to:  
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