



Second National Conference on Computer Vision,  
Pattern Recognition, Image Processing, and Graphics

**NCVPRIPG – 2010**

The LNM Institute of Information Technology  
Jaipur

**(Programme Schedule)**

**Day1**  
**(15<sup>th</sup> January, 2010)**

<b>Time</b>	<b>Programme</b>	<b>Venue</b>
08:30-09:15	Breakfast	Dinning Hall
09:30-10:15	Inaugural Ceremony	LT – 1
10:15-10:30	Tea Break	Outside LT1
10:30-13:00	Tutorial Session 1	LT – 5
11:15-13:00	Tutorial Session 2	LT – 4
13:00-14:00	Lunch Break	Dinning Hall
14:00-18:00	Tutorial Session 3	LT – 5
15:45-16:00	Tea Break	Outside LT1
20:00-Onwards	Dinner	Dinning Hall

**Day 2**  
**(16<sup>th</sup> January, 2010)**

<b>Time</b>	<b>Programme</b>	<b>Venue</b>
08:15-09:00	Breakfast	Dinning Hall
09:15-10:15	Key Note Address 1	LT – 1
10:15-10:30	Tea Break	Outside LT1
10:30-13:00	Pattern Recognition1	LT – 5
10:30-13:00	Application of Image Processing 1	LT – 4
13:00-14:00	Lunch	Dinning Hall
14:00-16:00	Image Processing -1	LT – 5
14:00-16:00	Pattern Recognition 2	LT – 4
16:00-16:15	Tea Break	Outside LT1
16:15-18:15	Pattern Recognition 3	LT – 5
16:15-18:15	Image Processing 2	LT – 4
18:30-20:00	Cultural Night	Auditorium
20:00 Onwards	Dinner	Dinning Hall

**Day 3**  
**(17<sup>th</sup> January, 2010)**

<b>Time</b>	<b>Programme</b>	<b>Venue</b>
08:15-09:00	Breakfast	Dinning Hall
09:15-10:15	Key Note Address 2	LT -1
10:15-10:30	Tea Break	Outside LT1
10:30-01:00	Application of Image Processing <sup>2</sup>	LT5
10:30-01:00	Pattern Recognition	LT4
01:00-02:00	Lunch	Dinning Hall
02:00-04:30	Image Processing <sup>3</sup>	LT5
02:00-04:30	Application of Image Processing 3	LT4
20:00 Onwards	Dinner	Dinning Hall

## Session wise Presentation

### Tutorial 1

(Date January 15, 2010 Time 10:30-13:00 Venue LT5)

**Title:** *Pattern Recognition Algorithms for Analysing Biological Data*

**Topic:** Over the past few decades, major advances in the field of molecular biology, coupled with advances in genomic technologies, have led to an explosive growth in the biological information generated by the scientific community. This deluge of genomic information has, in turn, led to an absolute requirement for computerized databases to store, organize and index the data, and for specialized tools to view and analyze the data. Bioinformatics can be viewed as the use of computational methods to make biological discoveries. It is an interdisciplinary field involving biology, computer science, mathematics and statistics to analyze biological sequence data, genome content and arrangement, and to predict the function and structure of macromolecules.

**Duration:** approx 3 hours

### **Speaker:** Prof. S. Bandopadhyay

Sanghamitra Bandyopadhyay is a Professor in the Machine Intelligence Unit, Indian Statistical Institute, Kolkata, India. She obtained her B. Sc. degree in Physics from Presidency College, Kolkata, B. Tech. in Computer Science and Engineering, Kolkata, M. Tech. in Computer Science and Technology from Indian Institute of Technology (IIT), Kharagpur and Ph.D. in Computer Science from Indian Statistical Institute, Kolkata in 1988, 1991, 1993 and 1998 respectively. She has worked in Los Alamos National Laboratory (Los Alamos, USA), University of New South Wales (Sydney, Australia), University of Texas (Arlington, USA), University of Maryland Baltimore County (Baltimore, USA), Fraunhofer Institute (Sankt Augustin, Germany), Tsinghua University (Beijing, China) and La Sapeinza University of Rome (Rome, Italy). Sanghamitra has also visited Nice University (Nice, France), Monash University (Melbourne, Australia), University of Illinois (Chicago, USA) and Imperial College (London, UK), NUS and NTU (Singapore), University of Aizu (Japan), Open University, University Kebangsaan Malaysia (Kuala Lumpur, Malaysia) and ICTP, Italy.

## Tutorial 2

(Date January 15, 2010 Time 11:15-13:00 Venue LT4)

**Title:** *Filtering: Bilateral and Wavelet-Based*

**Topic:** Image filtering is a fundamental operation that has been studied in great detail over the years. The purpose of this tutorial is NOT to present any new innovative filtering, nor indeed to claim this is the way to do filtering. Rather, it is to expose three fundamental tools -- that can possibly be useful elsewhere also. That said, these tools come from the recent study of Bilateral Filtering and Wavelets and Fast Gaussian filtering. This tutorial is intended for the novice; if the tutorial is successful, then the audience should be able to take away some fundamental concepts in filtering.

**Duration:** approx 2 hours

### **Speaker:** Prof. Sharat Chandran

Sharat Chandran holds a doctorate in Computer Science from the University of Maryland (1989) and an undergraduate degree in Electrical and Electronics Engineering from the Indian Institute of Technology, Bombay (1984). He has held academic or engineering appointments at the Indian Institute of Technology, Bombay; University of Maryland, College Park (USA); Stanford University (USA), Oracle Corporation, Redwood Shores (USA), NTT (Japan), and Schlumberger Corporation, Austin (USA).

Dr. Chandran's research interests are in computer graphics and vision, and in parallel computation. In these fields he has made noteworthy contributions in the form of archival journal articles and peer reviewed conference publications. About 35 students have graduated at the Masters level or higher under his supervision; a similar number of students have graduated with an undergraduate "honors" degree

## Tutorial 3

(Date January 15, 2010 Time 14:00-18:00 Venue LT5)

**Title:** *Soft Computing and Pattern Recognition for Data Mining*

**Topic:** Soft computing is a consortium of methodologies that work synergistically and provides, in one form or another, flexible information processing capabilities for handling real life ambiguous situations. Its aim, unlike conventional (hard) computing, is to exploit the tolerance for imprecision, uncertainty, approximate reasoning and partial truth in order to achieve tractability, robustness, low solution cost, and close resemblance with human like decision-making. At this juncture, Fuzzy Sets (FS), Artificial Neural Networks (ANN), Evolutionary Algorithms (EAs) (including genetic algorithms (GAs), genetic programming (GP), evolutionary strategies (ES)), Support Vector Machines (SVM), Wavelets, Rough Sets (RS), Simulated Annealing (SA), Swarm Optimization (SO), Memetic Algorithms (MA), Ant Colony Optimization (ACO), Tabu Search (TS), Chaos Theory and Case Based Reasoning (CBR) are the major components of Soft Computing.

**Duration:** approx 4 hours

**Speaker:** Prof. Ujjawal Maulik and Prof. Roberto Baragona

Dr. Ujjawal Maulik did his Masters and Ph.D in Computer Science in 1991 and 1997 respectively. He is currently a professor in the Department of Computer Science and Technology, Jadavpur University. He has served as the Head of the Computer Science and Technology Department of Kalyani Government Engineering College during 1996-1999. Dr. Maulik has worked in Center for Adaptive Systems Application and Los Alamos National Laboratories, Los Alamos, New Mexico, USA, in 1997, University of New South Wales, Sydney, Australia in 1999, University of Texas at Arlington, USA in 2001, University of Maryland at Baltimore county, USA in 2004, AIS laboratory in Fraunhofer Institute, in 2005, Tingsua University, China in 2007, University of Rome, Italy in 2008, German Cancer Research Center (DKFZ) and University of Heidelberg in 2009. He has received postdoctoral BOYSCAST fellowship from the Dept. of Science and Technology, Govt. of India in 2001. Dr. Maulik is a Fellow of Institution of Electronics and Telecommunication Engineers (IETE), India as well as Institute of Engineers (IE), India and a senior member of Institute of Electrical and Electronics Engineers (IEEE), USA. He has co-authored/edited several books and around 150 technical articles in international journals, book chapters and conference/workshop proceedings. He has served on the program committees of several International Conferences, and has delivered many invited talks and tutorials around the world. His research interests include, Soft Computing, Pattern Recognition, Data Mining, Bioinformatics and Parallel and Distributed Systems.

# Pattern Recognition 1

(Date January 16, 2010 Time 10:30-13:00 Venue LT5)

Paper ID: 111

Title: *Sequence based Temporal Segmentation of Cricket Videos*

Authors: *Binod Pal, Sharat Chandran*

Paper ID: 2

Title: *A multifactorial approach for video shot boundary detection using compressed domain features of H.264 for PVR enabled Set Top Boxes*

Author: *Tanushyam Chattopadhyay*

Paper ID: 101

Title: *Pose Invariant Face Recognition Based on a novel subspace decomposition method*

Authors: *A N Jagannatha, Anamika Dubey, Abhishek Sharma, R S Anand*

Paper ID: 1

Title: *Identification of Trademarks Painted on Ground and Billboards using Compressed Domain Features of H.264 from Sports Videos*

Authors: *Tanushyam Chattopadhyay, Ayan Chaki*

Paper ID: 70

Title: *Lip detection for Speech driven Facial Animation*

Authors: *Narendra Patel, Mukesh Zaveri*

## Application of Image Processing 1

(Date January 16, 2010 Time 10:30-13:00 Venue LT-4)

Paper ID: 37

Title: *Probing the relationship between Avian Flu (H5N1) virus and Severe Acute Respiratory Syndrome Coronavirus (SARS CoV) using Phylogenetic approach*

Authors: *Shobhit , Prof. Pankaj Roy Gupta*

Paper ID: 97

Title: *Rotation Invariant Classification using Three Image Based Photometric Stereo for Non Lambertian Surfaces*

Authors: *S Raju, B Sathyabhama, S Sandhya, A Pradeepa*

Paper ID: 95

Title: *A Novel Fusion algorithm for faster Background Modeling*

Authors: *Kshitiz Gupta, Sandarbh Jain, Ankush Mittal*

Paper ID: 52

Title: *Learning to detect intrusions*

Authors: *Satish Salunkhe, Vaishali Malpe*

## Image Processing 1

(Date January 16, 2010 Time 14:00-16:00 Venue LT-5)

Paper ID: 12

Title: *SPIHT based Partial Encryption of Digital Images*

Authors: *Nidhi Kulkarni, Balasubramanian Raman, Indra Gupta*

Paper ID: 60

Title: *Error control coding and image texture dependent watermarking scheme*

Author: *Mehul Raval*

## Pattern Recognition 2

(Date January 16, 2010 Time 14:00-16:00 Venue LT-4)

Paper ID: 77

Title: *Facial Expression Recognition using Virtual Neutral Image Synthesis*

Authors: *Abhishek Sharma, Anamika Dubey*

Paper ID: 107

Title: *Word-wise English, Devnagari and Kannada Script Identification*

Authors: *Srikanta Pal, Sukalpa Chanda, Umapada Pal, Katrin Franke*

Paper ID: 78

Title: *Multimodal Face Recognition using Hybrid Correlation Filters*

Authors: *Anamika Dubey, Abhishek Sharma*

## Pattern Recognition 3

(Date January 16, 2010 Time 16:15-18:15 Venue LT-5)

Paper ID: 80

Title: *Human Motion Tracking and Pose Estimation in varying Illumination Conditions using Single View*

Authors: *Himanshu Prakash Jain, Sukhendu Das, Binay Raj*

Paper ID: 92

Title: *Robust Lane Detection with Adaptive Tracking*

Authors: *Dr. Uma Mudenagudi, Khuram Syed, Shreya Raravi, Vikas S. Kantu, Samuel Derek Simon*

Paper ID: 79

Title: *Decision Tree Ensembles by Using Kernel Features*

Authors: *Amir Ahmad, Gavin Brown*

## Image Processing 2

(Date January 16, 2010 Time 16:15-18:15 Venue LT-4)

Paper ID: 5

Title: *Iris Image Based Biometric Technology*

Authors: *Swanirbhar Majumdar, Ashok Kumar, A. Dinamani Singh*

Paper ID: 62

Title: *Contrast Enhancement Algorithm for Fog-Degraded Images*

Authors: *Manoj Alwani, Hitendra Gupta, Dr. Kamalesh Kumar Sharma*

Paper ID: 93

Title: *An Adaptive Steganographic Scheme with JPEG Compressed Digital Images*

Authors: *Arijit Sur, Jayanta Mukhopadhyay*

## Application of Image Processing 2

(Date January 17, 2010 Time 10:30-01:00 Venue LT-5)

Paper ID: 69

Title: *An Evolutionary Computing Approach to De Novo Ligand Design*

Authors: *S. Sengupta, S. Bandyopadhyay, U. Maulik, R. Baragona*

Paper ID: 94

Title: *Optimal Placement of Light Sources for Visual Sensor Network*

Authors: Indu S, Sakar Arora, Shyam Sankaran, Santanu Chaudhury,  
Asok Bhattacharyya

Paper ID: 24

Title: *Visual Saliency and Node Centrality Measures*

Authors: Rajarshi Pal, Pabitra Mitra and Jayanta Mukerjee

Paper ID: 48

Title: *Faster Moving Object Segmentation in Wavelet Domain Using GP-GPU Programming Paradigm*

Authors: Sandarbh Sunil Jain, Kshitiz Gupta, Aripirala Manoj Kumar,  
Ankush Mittal

Paper ID: 85

Title: *Radiometric Correction for Structured-Light 3D Scanners*

Authors: Daljit Singh Dhillon, Venu Madhav Govindu

## Pattern Recognition 4

(Date January 17, 2010 Time 10:30-01:00 Venue LT-4)

Paper ID: 35

Title: *Color Based Urban Scene Classification Using High Resolution Satellite Imagery*

Authors: Sudhir Gupta, K S Rajan

Paper ID: 63

Title: *A Revised Off-Line Handwritten Signature Verification System by Using Pulse Coupled Neural Network Technique*

Authors: *Venkatesan Meenakshi Sundaram, Siva Venkatesawaran*

Paper ID: 67

Title: *Towards Unconstrained Online Bangla Handwriting Recognition*

Authors: *Kaushik Roy, Akash Bandyopadhyay, Ranju Mandal*

Paper ID: 86

Title: *Shape-based Deformation Detection in Silhouette for Occlusion Handling in Gait Analysis*

Authors: *Aditi Roy, Gaurav Harit, Shamik Sural*

## Image Processing 3

(Date January 17, 2010 Time 02:00-04:30 Venue LT-5)

Paper ID: 89

Title: *Lossless Compression of Digital Images Using Base Switching Method*

Authors: *Ravi Kumar Mulemajalu, Shivprakash Koliwad, Kusumadhara Sankadka*

Paper ID: 4

Title: *Still Image Compression using classification, based on Edge Detection with Vector Quantization for realizing higher Compression Ratios*

Author: *Amit Garg*

Paper ID: 98

Title: *Image fusion using robust registration and its quality measures*

Authors: *Ujwala Patil, Rohit Kalyani, Ravikiran Patil, Kumara Swamy V, Uma Mudenagudi*

Paper ID: 109

Title: *Signal Reconstruction using nonuniform samples in fractional Fourier domains*

Authors: *Ankur Agarwal, Kamalesh Sharma*

Paper ID: 61

Title: *A Medial Axis Based Thinning Strategy for Character Images*

Authors: *Soumen Bag, Gaurav Harit*

## Application Image Processing 3

(Date January 17, 2010 Time 02:00-04:30 Venue LT-4)

Paper ID: 22

Title: *A comparative study of SVM classifiers and Artificial Neural Networks application for rolling element bearing fault diagnosis using wavelet transform preprocessing*

Author: *Sunil Tyagi*

Paper ID: 34

Title: *Comparison of Popular Web Metrics*

Authors: *Vipul Mittal, Bhaskar Biswas, Karan Jain*

Paper ID: 57

Title: *Generalized Homomorphic and Root-Filtering in Fractional Fourier Transform Domains*

Authors: *Krishna Singh, Kamalesh Kumar Sharma*

[Paper ID: 73](#)

Title: *License Plate Extraction Based on Gradient Analysis and Mathematical Morphology*

Authors: *Chirag Paunwala, Suprava Patnaiak, Mita Paunwala*

[Paper ID: 87](#)

Title: *Vision-Assisted Shooting Range Simulator*

Authors: *Shamsuddin Ladha, Sharat Chandran*