

**Proposal for the Special Session in
“ World Congress On Nature and Biological Inspired Computing**

Title of the proposed special session:

Fusion and applications of nature inspired computing

Basic Information:

In the recent time, the research on soft computing techniques and their applications has grown tremendously, Nature Inspired soft tools are developed to meet the requirements of engineering and scientific applications. However to enhance the robustness, accuracy, flexibility, convergence, precision etc., there is requirement of fusion of nature inspired algorithms. This special session is proposed with an intention to discuss the multiple stages fusion of the recently developed algorithms to address the limitations of non-linearity, multiple task , multivariable and multidimensional problems . The topics of interest of this special session are but not limited to

Fusion of

- i. Bacterial Foraging Optimization and Biogeography Based Optimization
- ii. Bacterial Foraging Optimization and Particle Swarm Optimization
- iii. Artificial Neural Network and Bacterial Foraging Optimization
- iv. Artificial Neural Network and Particle Swarm Optimization
- v. Artificial Neural Network and Biogeography Based Optimization
- vi. Artificial Neural Network , Bacterial Foraging Optimization
,Biogeography Based Optimization,
- vii. ANN, BBO, PSO
- viii. ANN, PSO, BFO

Applications

- i. Design of antenna and microwave components using fused soft tools
- ii. Fault detection and analysis of Antenna array
- iii. Beam forming

- iv. MIMO and diversity techniques
- v. Cell Design
- ix. Denoising of Medical images
- x. Quality enhancement of medical video
- xi. Retrieval of medical images
- xii. Storing of Medical database
- xiii. Optimal solution to body center communication
- xiv. Super resolution of Medical images

Organizers' biography:

Prof.(Dr.) S. S. Pattnaik

Prof and Head, ETV and ECE

National Institute of Technical Teachers' Training and Research
Sector-26, Chandigarh-160019

Phone : 0172-2793895/2790424/2793898/2790425

Mobile: +919872879362

Fax: 0172-2791366/2793893



Received Ph.D. degree in Engineering from Sambalpur University , India in 1992. Joined as a faculty member in the Deptt. Of Electronics and Communication Engineering at NERIST , India in the year 1991. He worked in the department of Electrical Engineering, University of Utah, USA under Prof. Om. P. Gandhi . Since 2004, he is working as professor and Head of Educational Television Center and Electronics and Communication Engineering Departments of National Institute of Technical Teachers Training and Research, Chandigarh. He is a recipient of National Scholarship, BOYSCAST Fellowship, SERC visiting Fellowship, INSA visiting Fellowship, UGC Visiting Fellowship, Best Paper award etc. He has been a member of many important committees at national and international level. He is a fellow of IETE, Senior member of IEEE, life member of ISTE and has been listed in the Who's Who in the world. He has 177 technical research papers to his credit. He has conducted number of conferences and seminars. His areas of interest are soft computing and information fusion and their application to bio-medical imaging, antenna design, metamaterial antennas and video processing. 10 Ph.D. students and 14 M.E. Students are presently pursuing their thesis under the guidance of Prof.(Dr.) S.S. Pattnaik.

Dr. S. Devi

Assistant Professor ECE Dept

National Institute of Technical Teachers' Training and Research
Sector-26, Chandigarh-160019



Phone : 0172-2793895/2790424/2793898/2790425

Mobile: +919872973501

Fax: 0172-2791366/2793893

Received the B. Tech degree in Electronics Arunachal Pradesh, India in 1994. M.E. post graduate degree from Regional Engineering College (Presently NIT) , Raurkela, Orissa, India in 1997 and Ph.D in Engineering from Tezpur University in the year 2008. In 1997, she joined the Deptt. Of Radiology, University of Utah as Research Assistant. On return to India then she joined NERIST, India as a Lecturer in the Deptt. of Electronics and Communication and subsequently become a faculty in the Deptt. Of Computer Science and Engineering in same Institute in 1999. Presently she is an Assistant Professor in the Deptt. Of Electronics and Communication Engineering at National Institute of Technical Teachers' Training and Research, Chandigarh, India. Her interests include, Medical Image Processing and Soft computing Techniques. She has contributed 130 technical papers in various journals and conference. She is member of many professional societies and has completed 03 sponsored project.

B. K. Panigrahi

Assistant Professor,

Electrical Engineering department

Indian Institute of Technology,

Hauz Khas

New Delhi

Email: bkpanigrahi@ee.iitd.ac.in

Phone : +91(11)2569-6102, 2769-1071

Fax: +91(11) 2658-1606

is an Assistant Professor with the Department of Electrical Engineering, Indian Institute of Technology (IIT), New Delhi. Prior to joining IIT Delhi, he was a Lecturer at the University College of Engineering, Burla, Sambalpur, Orissa, for 13 years. His research interests are in the areas of intelligent control of FACTS devices, application of advanced DSP techniques for power quality assessment, and application of soft

computing techniques to power system operation and control. He is recipient of many awards. He has published many interesting papers in IEEE and other journals on soft computing and its applications.

Recommended Reviewers (Optional):

1. Dr. S.K. Mishra, IIT Delhi

Electrical Engineering department
Indian Institute of Technology, Hauz Khas
New Delhi
Email: skmisra@ee.iitd.ac.in
Phone : +91(11)2569-6102, 2769-1071
Fax: +91(11) 2658-1606

2. Dr. Sanjoy Das

Associate Professor (Tenured)
Electrical and computer Engineering
2063 Rathbone Hall
Kansas State University, USA
Phone: (785) 532-4642
Email: sdas@usk.edu

3. Swagatam Das

Assistant Professor

Department of Electronics and Communication Engg.
Jadhavpur University
Email : swagatamdass19@yahoo.co.in
Phone: +91-33-2414-6002 (O)
Mobile : +919831219774

Expected number of papers: 40 out of which only 10 will be presented.

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