Special Session on

Nature-Inspired Generative Models in AI

in conjunction with

15th World Congress on Nature and Biologically Inspired Computing (NaBIC 2023)

December 13-15, 2023

Website: http://www.mirlabs.org/nabic23/

Hybrid Mode – Online & Offline

Onsite Venues: http://mirlabs.org/nabic23/venue2.php

Objectives and Scope

This special session aims to explore the advancements and applications of nature-inspired Generative Models in the field of Artificial Intelligence (AI). Generative models have gained significant attention in recent years due to their ability to create new and realistic data samples. Nature-inspired approaches have shown great potential in improving the performance and diversity of generated samples. This session will provide a platform for researchers and practitioners to present their latest research findings, exchange ideas, and discuss the challenges and opportunities in using nature-inspired approaches for generative AI. Nature-inspired approaches draw inspiration from biological and natural processes, such as evolutionary algorithms, swarm intelligence, and artificial life, among others. These approaches have demonstrated significant potential in improving the capabilities of generative models across various domains, including computer vision, natural language processing and data synthesis. By harnessing the power of nature-inspired techniques, researchers can explore novel avenues for generating data that exhibit enhanced diversity, realism, and creativity. This special session invites researchers and practitioners to contribute their original research papers, focusing on the utilization of nature-inspired generative models in AI.

Subtopics
The topics include, but are not limited to:

- Evolutionary algorithms for generative modelling
- Swarm intelligence-based generative models
- Artificial life and digital organisms in generative AI
- Membrane computing for generative modelling
- Hybrid approaches combining nature-inspired techniques with deep learning for generative AI
- Generative models inspired by biological systems
- Quantum computing for generative modelling
- Applications of nature-inspired generative models in image synthesis, text generation, music composition, etc.
- Explainable AI empowered by evolutionary algorithms

Paper publications

- Proceedings will be published in Lecture Notes in Networks and Systems, Springer (https://www.springer.com/series/15179)
- Indexed by SCOPUS, INSPEC, WTI Frankfurt eG, zbMATH, SCImago
- Papers maximum length is 10 pages
- Papers must be formatted according to Springer format (Latex/word) available at: https://www.springer.com/de/authors-editors/book-authors-editors/manuscript-preparation/5636#c3324
- Submission Link: http://www.mirlabs.org/nabic23/submission.php

Important Dates

Paper submission due: **September 30, 2023**
Notification of paper acceptance: **October 31, 2023**
Registration and Final manuscript due: **November 10, 2023**
Conference Date: **December 13-15, 2023**

Special Session Chairs

- **K. Anitha Kumari**, Department of Information Technology, PSG College of Technology, Coimbatore, TN, India.
- **S. Sangeetha**, Department of Artificial Intelligence and Data Science, Kumaraguru College of Technology, Coimbatore, TN, India.
- **S. Kannimuthu**, Department of CSE, Karpagam College of Engineering, Coimbatore, TN, India.

Information Contact: Dr. K. Anitha Kumari <anitha.psgsoft@gmail.com>