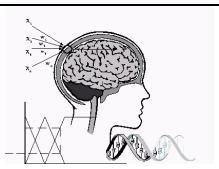
International

Innovation in Knowledge Based and Intelligent Engineering Systems



INVITED SESSION SUMMARY

Title of Session: Reasoning-based Intelligent Applied Systems

Name of Chair: Jair Minoro Abe, Dr, Paulista University - Brazil
Co-Chair: Ari Aharari, PhD, Sojo University - Japan

Details of Session:

Reasoning-based Intelligent Applied Systems (RIAS) integrate logical reasoning and computational intelligence to solve complex, dynamic problems across various fields. These systems combine artificial intelligence techniques—such as machine learning, rule-based reasoning, and natural language processing—with logical frameworks that enable structured, contextual decision-making. A core feature of RIAS is their ability to interpret vast amounts of data, assess conditions, and generate decisions or predictions that align with specific goals. The reasoning component allows these systems to handle uncertainty and/or coflicting data, adapt to new information, and follow structured rules, providing a robust alternative to purely statistical models.

This invited session provides a forum for exchanging ideas from all types of intelligent systems based on reasoning having as underlying logic a non-classical logic, not only theoretical contributions but also contributions of practical application. We are especially interested in dealing with imprecise, conflicting or incomplete concepts in the same coherent data system, such as intelligent systems based on imprecise, paraconsistent, paracomplete and non-alethic reasoning.

Topics of Interest, but are not limited to:

- Non-classical Logic-based Intelligent Systems
- Industrial and Commercial Applications of Non-classical Logic Reasoning-Based Intelligent Systems
- Non-classical Logic-based Intelligent Control
- Non-classical Logic: Cybernetic Security
- Non-classical Logic: Generative AI
- Non-classical Logic: Logistics
- Non-classical Logic: Automation & Robotics
- Non-classical Logic-based Intelligent Information Systems, Information Technology, Advanced Machine Learning
- Non-classical Logic and Non-classical Logic Program Applied to Intelligent Systems
- Non-classical Logic: foundation and applications - Informal Reasoning-based Intelligent Systems
- Soft Computing Applied to Technology
- Non-classical Logic-based Intelligent Systems for Production Engineering and Correlated Areas
- Non-classical Logic-based Intelligent Systems for Bioinformatics
- Web Intelligence
- Non-classical Logic-based Intelligent Systems in Industry 4.0
- Non-classical Logic-based Intelligent Systems in**Society 5.0**

Main Contributing Researchers / Research Centres (tentative, if known at this stage): **Young Researchers, Professional Researchers, and those interested in the topics covered by this Invited Session in general, PhD Students/researchers/professors – Paulista University, Brazil, Santa Cecília University, Brazil, Sojo University - Japan, Universities, and Research centers.**
Website URL (if any):
Email & Contact Details: jairabe@uol.com.br Prof. Dr Jair Minoro Abe - Paulista University/Brazil aharari@cis.sojo-u.ac.jp Prof. **Ari** Aharari, PhD, Sojo University - Japan