

## Guest editorial

---

# Special issue on soft computing applications

Valentina Emilia Balas\*

*Department of Automatics and Applied Software, Faculty of Engineering, Aurel Vlaicu University of Arad, Arad, Romania*

Soft Computing (SC) techniques are oriented towards the analysis and design of intelligent systems covering an interdisciplinary methodological framework. Such techniques include **fuzzy logic, genetic algorithms, artificial neural networks, machine learning, deep learning, expert systems**, and hybrids of these techniques. All these components are complementary rather than competitive.

Soft computing as it was defined by Professor Lotfi Zadeh is a collection of methodologies that cope with the main disadvantage of the conventional (hard) computing the poor performances when working in uncertain conditions. There are many applications in control, decision making, robotics, pattern recognition and many others. In this case the systems are tolerant to uncertainty, imprecision, and even partial truth.

With many successful applications of SC, we observe that the impact of such techniques will continue to increase in coming years. Soft computing will continue to play an important role, and its influence may be extended much farther.

In our special issue we have 50 papers addressing both theoretical aspects and practical applications from different fields. Leading researchers and

scholars put together their experiences on various aspects of intelligent systems. This special issue offers a platform to discuss and disseminate the most recent innovations, challenges and solutions in the realm of advanced intelligent systems.

We would like to express sincerely thanks to Prof. Reza Langari, Editor in Chief of the Journal of Intelligent & Fuzzy Systems, for acceptance to edit this Special Issue.

Our thanks and appreciations go to IOS Press, especially to Maarten Fröhlich and Carry Koolbergen for their wonderful collaboration, and kind assistance of this volume.

We are thankful to all authors for their important contributions and to many reviewers who shared their support and provided critical evaluations and good comments to the papers.

We are confident that this issue will offer good information to graduated students, professors, and researchers working in the realm of soft computing and intelligent systems.

Valentina Emilia Balas  
Aurel Vlaicu University of Arad, Romania

---

\*Corresponding author. Valentina Emilia Balas. E-mail: [balas@drbalas.ro](mailto:balas@drbalas.ro).