

Prof. Valentina Emilia Balas
Aurel Vlaicu University of Arad, Romania



Short Biography

Valentina E. Balas is currently Full Professor in the Department of Automatics and Applied Software at the Faculty of Engineering, “Aurel Vlaicu” University of Arad, Romania.

She holds a Ph.D. in Applied Electronics and Telecommunications from Polytechnic University of Timisoara. Dr. Balas is author of more than 270 research papers in refereed journals and International Conferences. Her research interests are in Intelligent Systems, Fuzzy Control, Soft Computing, Smart Sensors, Information Fusion, Modeling and Simulation.

She is the Editor-in Chief to International Journal of Advanced Intelligence Paradigms (IJAIP) and to International Journal of Computational Systems Engineering (IJCSysE), member in Editorial Board member of several national and international journals and is evaluator expert for national, international projects and PhD Thesis. Dr. Balas is the director of Intelligent Systems Research Centre in Aurel Vlaicu University of Arad and Director of the Department of International Relations, Programs and Projects in the same university.

She served as General Chair of the International Workshop Soft Computing and Applications (SOFA) in eight editions 2005-2018 held in Romania and Hungary.

Dr. Balas participated in many international conferences as Organizer, Honorary Chair, Session Chair and member in Steering, Advisory or International Program Committees.

She is a member of EUSFLAT, SIAM and a Senior Member IEEE, member in TC – Fuzzy Systems (IEEE CIS), member in TC - Emergent Technologies (IEEE CIS), member in TC – Soft Computing (IEEE SMCS).

Dr. Balas was past Vice-president (Awards) of IFSA International Fuzzy Systems Association Council (2013-2015) and is a Joint Secretary of the Governing Council of Forum for Interdisciplinary Mathematics (FIM), - A Multidisciplinary Academic Body, India.

Prof. Valentina Emilia Balas, Ph.D.

„Aurel Vlaicu” University of Arad

Faculty of Engineering

Department of Automation and Applied Informatics

Director of the Department of International Relations, Programs and Projects

Head of the Intelligent Systems Research Centre

IEEE Senior Member

77 B-dul Revolutiei

310130 Arad

Romania

Phone/Fax : 0040-257-250389

Mobile: 0040-740-059151

E-mail: balas@drbalas.ro; valentina.balas@uav.ro

Recent Developments
in
Nano-Architectures Brain –Inspired and Intelligent Systems

The lecture is focused on the new developments introduced by our research team in designing nano-architectures biologically inspired for integrated circuits. Based on latest discoveries we explain how the brain achieves ultra-low power and high reliability, while computers (silicon-based) cannot.

The presentation continues with some reasoning-based design of intelligent complex systems and practical applications. Our approach is to improve intelligent applications by providing them with elements of deterministic previous knowledge about the processes. Particular architectures for different applications are presented. The case studies proved to be useful in a wide field of applications.