

## Nano-Net 2009, Lucerne, Switzerland

### Tutorial on Brain Inspired Interconnects for Nano Electronics

#### Speaker's Biography



**VALERIU BEIU** (S'92–M'95–SM'96) received the MSc in CE from the “Politehnica” University of Bucharest (Romania), in 1980, and the PhD with *summa cum laude* in EE from the Katholieke Universiteit Leuven (Belgium), in 1994. Upon graduation, for two years he has been working on high-speed CPUs and FPU's with the Research Institute for Computer Techniques (Bucharest, Romania), prior to rejoining the “Politehnica” University of Bucharest. In 1990 he co-founded Spring Software Consult (Bucharest, Romania), and since 1991 has been *on leave of absence*: Katholieke Universiteit Leuven (1991–1994, Leuven, Belgium), King's College London (1994–1996, London, UK), and Los Alamos National Laboratory (1996–1998, Los Alamos, USA). In 1998 he co-founded RN2R (Dallas, USA) a VLSI IP startup company, and was its Chief Technical Officer (1998–2001). In 2001 he joined the School of EE&CS, Washington State University (Pullman, USA). Since 2005 he is a Visiting Professor with the School of Computing & Intelligent Systems, University of Ulster (Londonderry, UK), and since 2006 he is also the Associate Dean for Research and Graduate Studies, College of Information Technology, United Arab Emirates University (Al Ain, UAE). He was the PI or co-PI on over 40 research contracts totaling over US\$ 65M. He holds 11 patents, has received over 50 grants, given over 270 talks (out of which over 150 invited keynote/tutorials/lectures), and authored over 180 technical papers, and is working on three forthcoming books, out of which one on *emerging brain-inspired nano-architectures* and another one on the *VLSI complexity of discrete neural networks*. His main research interests are VLSI-efficient designs (*i.e.*, very low-power and highly reliable), and emerging nano-architectures (massively parallel, communication starved, adaptive/reconfigurable, fault-tolerant, and neural inspired) as well as their optimized designs (like cellular and systolic arrays, artificial neural networks, and hybrid combinations), being the founder of the *Centre for Neural Inspired Nano Architectures* as well as co-PI of the *Emirates Centre for Nanoscience and Nanoengineering*.

Dr. Beiu is a *Senior Member of the IEEE* (since 1996), a founding member of the European Neural Network Society (since 1991), and a member of: the International Neural Network Society, the Association for Computing Machinery, and the Marie Curie Fellowship Association. He has organized over 30 conferences and over 10 workshops, chaired over 40 conference sessions, was the Program Chairman of the IEEE Los Alamos Section (1997), and an Associate Editor of the *IEEE Transactions on Neural Networks* (2005–2008). He is a member of the *SRC-NNI Working Group on Novel Nano-architectures* (since 2003), of the *IEEE CS Task Force on Nanoarchitectures* (since 2005), and a contributor to the *International Technology Roadmap for Semiconductors – Emerging Research Devices* (since 2004).

Dr. Beiu has received seven Best Paper Awards and five fellowships including: Fulbright (1991), Human Capital and Mobility (1994–1996) with King's College London (“Programmable Neural Arrays” project), Director's Funded Postdoc (1996–1998) with Los Alamos National Laboratory (“Field Programmable Neural Arrays” project, under the Deployable Adaptive Processing Systems initiative), and Fellow of Rose Research (1999–2001).