Vladimir Zaborovsky

Vladimir Zaborovsky's major achievements include telematics processor, stealth security network appliances, nonlinear dynamics, and digital processing in network environment.

Vladimir Zaborovsky received his degrees in Computer Science (M.Sc. in 1979, PhD in 1983) from Polytechnic University of Saint Petersburg, Russia.

In 1993 he joined RUSnet Ltd. as a Senior Manager responsible for R&D - start-up IP Telecommunication Company. At that time the field of his interest included ATM protocol and multimedia application. In cooperation with Newbridge Networks and FORE Systems he proposed an innovative concept of cell-switch infrastructure for industrial application, mainly oriented for energy and service provider companies that operate in Saint-Petersburg.

During 1993-1995 V. Zaborovsky had research in collaboration with Department of Computer Science at KTH, Stockholm, and together with NORDUnet colleagues took part in the Russian IP over fiber optic network project that it was the first phase of Russian University Network program.

In 1996 RUSnet and JAMES network, at that time world's largest experimental network based on equipment from many different vendors, in collaboration with Alenia Spacio and Saint-Petersburg Robotics Institute, established an ambitious project with the main goal to create an ATM terrestrial control environment for the space manipulator designed for Russian space shuttle "Buran". The results of this world first experiment of application ATM technology for a space robotics have been successfully demonstrated at the International Astronautical Forum, October 1997, Turin, Italy.

After 20 years of engineering and research experience he has received Dr.Sci.Tech degree and in 1999 he starts the activity as a full professor of Telematics Department at Polytechnic University. Based on practical understanding of modern trends of network technologies he developed a new approach to design network processor, telematics appliances, and transport protocols. He gave theoretical explanation to fractal property of network traffic based on equations of fractional derivatives and p-adic metrics. At that time he focused on research of scalable network architecture for real-time application including data processing, routing, VoIP and WebTV applications, as well as on the innovative network components including WDM, MPLS, and IPv6. In 2000 - 2001 Vladimir Zaborovsky has conducted the researches aiming to estimate possibility of uses these new protocols for creation of high speed and secure network systems.

In 2004 Vladimir led the Info-telecom Center of Polytechnic University, where he co-ordonated a wide spectrum of researches in computer science, telematics, and nanotechnology. His current activity includes GRID application for high-performance computing, protocol design, ternary logic, quantum computing, nano components and single electron transistors for embedded digital processor.

Vladimir Zaborovsky has published more then 100 refereed papers, three books, and was granted several innovative patents. He has been invited as member of the Technical Committee of several Conferences organized by IARIA. His research interests are steered by the vision that modern network environment is a new class of virtual quantum system with ultrametrics (p-adic space) and fractal superposition of dynamic processes.

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