

Lectures by Professor Zaitsev in New York and New Jersey

While on internship at the [Innovation Computer Laboratory](#), Knoxville, USA, with the support of the [Fulbright Foundation](#) grant, Professor Dmitry Zaitsev will give on October 10 and 11 invited lectures at [Stony Brook University](#), New York and [New Jersey University of Technology](#), Newark.

September 22, Professor Zaitsev spoke at the Laboratory of Innovative Computing with a lecture "Clans of linear systems", dedicated to the acceleration of the processes of solving linear systems by composing their clans, as well as the implementation of the corresponding software on modern supercomputers.



Lecture "Sleptsov nets computing" will be held on October 10 at the Computer Science Department of the University of Stony Brook

<https://www.cs.stonybrook.edu/about-us/News/Faculty-Colloq-Sleptsov-Net-Computing-Oct-10>

The lecture "Infinite Petri nets" will be held on October 11 at the Technological University of New Jersey under the aegis of the section "System, Man and Cybernetics" of the Institute of Electrical and Electronics Engineers (IEEE SMC)

<https://meetings.vtools.ieee.org/m/47179>

The main material of the lectures was published in the Encyclopedia of Information Science and Technology in [2017](#) and [2014](#) respectively, as well as in [recent articles](#) in the world's leading scientific journals, and supplemented by the latest developments.

Sleptsov's networks were offered to the outstanding scientist of Ukraine Anatoly Ilyich Sleptsov in 1988. They are Petri nets with a modified rule for firing a transition at a step, the so-called multiple firing. Such, at first glance, a minor modification, allowed the development of a modern theory of massively parallel computations, the component parts of which will be presented at the lecture. The main practical aspects are the hardware implementation of the Sleptsov net processor and computer, as well as programming technology on the Sleptsov nets. The advantage of the approach is to preserve the natural parallelism of the domain while programming and the high speed of massively parallel computations.

Infinite Petri nets are an abstraction that was proposed in the implementation of a project supported by a [NATO grant](#) to verify complex network protocols that form the basis of computer security. Infinite networks are designed to work in parametric form with models describing the interaction of a previously unknown number of systems, and obtaining a proof of security for an arbitrary number of systems. In the implementation of subsequent projects on the modeling of computing grids, new threats to network security were discovered; relevant countermeasures are being developed.