Abstract:
In this talk, the speaker introduces the concept of algebraic systems that can be presented by finite state machines, e.g., finite automata. He gives main definitions and many examples of such systems. He also outlines some of the basic proofs. The area is relatively new and its systematic study began in the mid of 90s by the speaker and Nerode. In recent years there has been an increasing interest in the area due to the following facts. The first order theory of any automata presentable system is decidable. There are some natural characterizations of linearly ordered sets, finitely generated groups, Boolean algebras that have finite automata presentations. If time permits, he will present some of these results. The work is joint with Nerode, Nies, Stephan, and Rubin.

About this speaker:
Prof. Bakhadyr Khoussainov received his PhD degree in 1988 from Algebra and Logic Department, Novosibirsk University, Russia. He has had visiting positions at the University of Chicago, University of Wisconsin-Madison, Cornell University, Japan Advanced Institute of Science and Technology. In 1996, he moved to computer science department, Auckland University, New Zealand. His research interests are in logic and computability with an emphasis on automata theory and its applications, computable algebra and model theory, games on graphs and graph algorithms, Kolmogorov complexity, and algebraic specifications of abstract data types.