Seminar: "Geometry&Physics@DFT"

Location: seminar room DFT (IFIN-HH),
(http://events.theory.nipne.ro/gap/index.php/seminar)
(http://www.nipne.ro/indico/categoryDisplay.py?categId=5)

Date: Wednesday, 17 December 2014, 12:00 noon

Title: **Discrete Painlevé Equations**

Speaker: **Dr. Anton Dzhamay**
(School of Mathematical Sciences, University of Northern Colorado, USA)

Abstract: "The goal of this talk is to give a general introduction into the theory and classification of discrete (primarily, difference) Painlevé equations using the geometric approach due to H. Sakai. We begin by showing how discrete Painlevé equation appear from Backlund transformations of the usual differential Painlevé equations using P_{II} and alt. $d - P_I$ as an example. We then show how to construct, from the resulting difference Painlevé equation, a certain rational algebraic surface that is called the space of the initial conditions (or the Okamoto surface) of the equation. We then explain that the process can be reversed and show how to recover the equation starting from its Okamoto surface. Along the way we will introduce all of the main ingredients that are needed to explain the general classification scheme of H.Sakai for discrete Painlevé equations. We conclude the talk by presenting this general classification scheme."