*Seminar*: "Geometry&Physics@DFT"

*Location*: seminar room DFT (IFIN-HH),
(http://events.theory.nipne.ro/gap/index.php/seminar)

*Date*: Friday, June 21, 2013, 12 am

*Title*: **On some new forms of lattice integrable equations**

*Speaker*: **Corina BABALIC**

*Abstract*: "Inspired by the forms of delay-Painleve equations, we consider some less known differential-discrete systems of KdV, mKdV and Sine-Gordon type related by simple Miura transformations to classical ones. Using Hirota bilinear formalism we construct their new integrable discretizations, some of them having higher order. In particular, by this procedure, we show that the integrable discretization of intermediate Sine-Gordon equation is exactly lattice mKdV and also we find a bilinear form of the recently proposed lattice Tzitzeica equation. Also the travelling wave reduction of these new lattice equations is studied and it is shown that all of them, including the higher order ones, can be integrated to Quispel-Roberts-Thomson (QRT) mappings".