

*Modern Calculations in innovation processes*

*The workshop was held on the 3<sup>th</sup> of July 2014 with the following program:*

**11:00 am.: "Introduction of game elements in learning systems: theoretical and technological perspective"** by Prof Christo Dichev, Winston-Salem State University, USA.

The main purpose of the lecture was to examine the motivational aspects of games and psychological aspects that determine justification. On this basis, the concept of extraction and separation of the motivating factors specific to the games and their incorporation into training systems, which is the material expression of the concept (gamification), was introduced. The lecture concluded with a critical analysis of practical use of learning systems based on gaming technology elements and approaches to their improvement.

**13:00 pm.: "Gamification in Education: What, Why, How?"** by Prof Darina Dicheva, Winston-Salem State University, USA.

One of the serious problems in modern traditional education is the lack of motivation and commitment of the students. For most of them learning is boring, difficult or not challenging enough. Among the most promising approaches concerning the awaking of interest in the students are educational video games, which not only support the implementation and consolidation of knowledge, but also help to create skills for problem solving, collaboration and communication.

Traditional and electronic games use different mechanisms to encourage people to play, often without any reward except participation in the game and a wish to win. However, the creation of interesting and engaging training games is quite difficult, time consuming and expensive. Furthermore, they often require appropriate equipment and are focused on a single topic / skill of the respective object. An alternative approach is to use not the "complete" games but principles and techniques of these game for structuring and organizing the training, which is attractive, motivating and engaging for students.

The approach to the introduction of gaming techniques and design elements in non-game situations and applications (Gamification) is widely applied in many areas. In the last two years there has been an increasing interest in it and in education. This lecture introduced the concept of this approach, as well as opportunities for its suitability in the learning process. At the end followed an overview of the current status and trends in the use of gaming techniques in education internationally.

**14:00 pm.: "How learning can be game"** by Darin Madjarov ([www.ucha.se](http://www.ucha.se)).

The lecture presented one of the most popular portals for e-Learning in Bulgaria: Ucha.se, followed by a discussion about the opportunities of integrating it in the educational system.