

**КОЛОКВИУМ „АЛЕКСЕЙ ШЕЛУДКО”**  
**СЕКЦИЯ „ПОВЪРХНОСТИ И КОЛОИДИ”**  
**ИНСТИТУТ ПО ФИЗИКОХИМИЯ НА БАН**

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**С Ъ О Б Щ Е Н И Е**

На **10 февруари 2017 г. (петък)** от **11:00 часа** в зала „Болцман” на ИФХ-БАН, ще се проведе заседание на Колоквиума със следния дневен ред:

1. Доклад на Веселин Тончев на тема:

**„THE FRACTAL DIMENSION OF ICE ON THE NANOSCALE:  
NUMERICAL PERSPECTIVE”**

We provide a numerical perspective on the dependence of fractal dimension of ice clusters on temperature reported recently [S.-C. Heidorn et al., Chem. Phys. Lett. 665, (2016) 1–5]. In our model an initial population of particles is placed on a square lattice with an initial seed (nucleus) in the center. The sticking of diffusing particle to the growing cluster occurs according to a Cellular Automaton rule - when a nearest neighbor to even one particle from the cluster. This rule is executed in parallel for all such particles. In a complementary module, called diffusional update, all non-aggregated particles try sequentially a diffusional hop. Increasing the number  $nDS$  of such updates per growth one causes transition from diffusion-limited ( $nDS=1$ ) to kinetics-limited ( $nDS \gg 1$ ) growth mode. It is quantified by an increase of the cluster's fractal dimension  $D_f$ . We obtain the dependence of  $D_f$  on  $nDS$  and attribute the seeming deviations from the experimental data in the region of higher temperatures/high  $nDS$  values to the increase of the attachment rate. Additionally, we monitor properties that are hard to be assessed in experiments, such as the time-evolution of the crystallization rate and the ratio of aggregated particles in different coordination.

2. Разни (съобщения, организационни и др. въпроси).