

## Workshop "BioSensors and Nano-structures"

Location: WPI Seminar Room C 714 **Fri, 8. Jul (Opening: 11:00) - Fri, 8. Jul 11**

Organisation(s)  
WPI

Organiser(s)  
N.J. Mauser (WPI c/o U.Wien)  
C. Heitzinger (WPI and U.Cambridge)

### Talks in the framework of this event

- Bulyha, Alena (WPI c/o Uni Wien)** WPI Seminar Room C 714 **Fri, 8. Jul 11, 11:00**  
*"Modeling and Simulation of field effect sensors" / Thesis defense !*  
• Event: Workshop "BioSensors and Nano-structures" (2011)
- Boda, Dezso (Pannonia Univ.)** WPI Seminar Room C 714 **Fri, 8. Jul 11, 13:45**  
*"Simulation of steady state transport in globally non-equilibrium systems: the Local Equilibrium Grand Canonical Monte Carlo (LE-GCMC) method coupled to the Nernst-Planck equation"*  
• Event: Workshop "BioSensors and Nano-structures" (2011)
- Köck, Anton (AIT Wien)** WPI Seminar Room C 714 **Fri, 8. Jul 11, 14:15**  
*"Smart nanosensors for daily life applications"*  
• Event: Workshop "BioSensors and Nano-structures" (2011)
- Ringhofer, Christian (Arizona State Univ.)** WPI Seminar Room C 714 **Fri, 8. Jul 11, 14:45**  
*"Charged particle transport in narrow geometries under strong confinement with applications to the simulation of ion channels"*  
Kinetic transport in thin tubes, involving scattering of particles with a background, is modeled by classical sub-band type macroscopic equations for the density of particles (ions). The result is a diffusion equation with the projection of the (asymptotically conserved) energy tensor on the confined directions as an additional free variable, on large time scales. Classical transport of ions through protein channels is discussed as an example of the application of this methodology. (Joint work with N. Ben Abdallah and C. Heitzinger)  
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