



## Geofizički odsjek

Prirodoslovno-matematički fakultet, Sveučilište u Zagrebu

Horvatovac 95, 10000 Zagreb

Tel. (01) 4605-900, fax: (01) 4680-331

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## O B A V I J E S T

Dana **29.11.2010. (ponedjeljak!)** u 14<sup>15</sup> održat će se u okviru seminara i kolokvija na Geofizičkom odsjeku PMF-a sljedeće izlaganje:

**Dr. Carmen J. Nappo, senior scientist**

(*CJN Research Meteorology, Knoxville, Tennessee, U.S.A.*):

**The effects of wind shear near the ground surface  
on the dispersion of pollens and spores  
in the convective boundary layer**

**ABSTRACT:** Concern for unwanted air-borne spread of genetically modified maize, mold spores, or other biological agents has led to the development of a Lagrangian Statistical (LS) model for predictions of ground surface concentrations from area sources in the convective boundary layer. A Lagrangian framework is required because we must track air parcels that contain chemically and biologically active substances. The horizontal scale of interest in this model is  $\sim 10^3$  m. In the daytime boundary layer, the effect of wind shear on horizontal dispersion is considered generally small compared with the effects of vertical mixing by convection. However, near the ground surface and especially in the surface layer, wind shear can strongly influence horizontal dispersion from ground sources. Current LS models do not consider wind shear in the surface layer.

In this seminar, the physics of the LS model is described, and details of new parameterizations to include wind shear driven turbulence in the surface layer are presented. Comparisons are made between the new model and the standard model for conditions ranging from strongly unstable to near neutral. It is shown that for strong convection and weak winds including wind shear leads to concentrations less than the non-shear case, but during near-neutral conditions and strong winds, wind shear results in greater downwind concentrations than predicted by the non-shear model.

Pozivaju se studenti, apsolventi i svi zainteresirani da prisustvuju predavanju, koje će se održati u predavaoni br. 2 Geofizičkog odsjeka PMF-a, Horvatovac 95, Zagreb. Studentima 2. godine diplomskog sveučilišnog studija fizika - geofizika je prisustvovanje predavanjima u sklopu Geofizičkog seminara obavezno.