



## Experimental assessment of indoor radon and soil gas variability: the RADON project

S. M. Barbosa (1), A. J. S. C. Pereira (2), L. J. P. F. Neves (2), G. Steinitz (3), H. Zafrir (3), R. Donner (4), and H. Woith (5)

(1) University of Lisbon, IDL, Lisboa, Portugal (sabarbosa@fc.ul.pt), (2) IMAR, Department of Earth Sciences, University of Coimbra, Portugal, (3) GSI, Geological Survey of Israel, Jerusalem, Israel, (4) PIK Postdam Institute for Climate Impact Research, Potsdam, Germany, (5) GFZ German Research Centre for Geosciences, Potsdam, Germany

Radon is a radioactive noble gas naturally present in the environment, particularly in soils derived from rocks with high uranium content. Radon is formed by alpha decay from radium within solid mineral grains, but can migrate via diffusion and/or advection into the air space of soils, as well as into groundwater and the atmosphere. The exhalation of radon from the pore space of porous materials into the atmosphere of indoor environments is well known to cause adverse health effects due to the inhalation of radon's short-lived decay products. The danger to human health is particularly acute in the case of poorly ventilated dwellings located in geographical areas of high radon potential. The RADON project, funded by the Portuguese Science Foundation (FCT), aims to evaluate the temporal variability of radon in the soil and atmosphere and to examine the influence of meteorological effects in radon concentration. For that purpose an experimental monitoring station is being installed in an undisturbed dwelling located in a region of high radon potential near the old uranium mine of Urgeiriça (central Portugal). The rationale of the project, the set-up of the experimental radon monitoring station, and preliminary monitoring results will be presented.