# *SEMINAR ANNOUNCEMENT*

## "Estimation of residential radon doses from the exhalation rate measurements- A correlation of experimental and theoretical calculations"

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The annual effective radon doses for residents of 92 dwellings in Jazan City are calculated from the radon concentration and equilibrium factor F, measured using passive technique. The overall average (±SE) of radon concentration, equilibrium factor and annual effective dose is 118±12 Bqm-3, 0.3±0.02 and 2.32±0.17 mSv respectively. Although 93% of the dwellings have radon concentrations below the reference level, about 24% of the dwellings have annual effective radon doses within the range of recommended action level of 3-10 mSv. The quality of the results was assured by correcting the results for back diffusion effect and calculates the uncertainty of the results taking into consideration all possible sources of uncertainty. The exhalation rate of radon from different environmental samples (soil, building and decorative materials) was measured in lab. and used in theoretical calculations to estimate the annual effective dose of radon at different conditions of ventilation and dwelling size. The correlation between the experimental measurements and theoretical estimation of radon doses is good at high ventilation rate (low F) and shows some deviation at low ventilation rate (high F). The theory gives lower radon doses than those measured especially at low ventilation, and is likely attributed to the influence of building design and the variety of living style at the homes. The results promote the development and/or the update of databases of radon levels in Jazan, Saudi Arabia