

- Simulation of Particle Transport in A stochastic Lung Structure J. Aeros. Sci., 21, 661 (1990).
- [6] International Commission on Radiological Protection (ICRP), "Human Respiratory Tract Model for Radiological Protection," Pergamon Press, Oxford, ICRP Publication 66 (1994).
- [7] Zock, C., Porstendorfer, J. and Reineking, A., "The Influence of Biological and Aerosol Parameters of Inhaled Short-Lived Radon Decay Products on Human Lung Dose," Radiat. Prot. Dosim., 63, 197 (1996).
- [8] Reineking, A., Becker, K. H. and Porstendorfer, J., Measurements of Activity Size Distributions of the Short-Lived Radon Daughters in the Indoor and Outdoor Environment, Radiat. Prot. Dosim. 24, 245-250 (1988).
- [9] Hopke, P. K., Ramamurthi, M. and Li, C. S. Measurement of the Size Distributions of Radon Progeny in Indoor Air. In Aerosol: Science, Industry, Health and Environment, Masuda, S and Takashi, K., eds, Vol. 2, Pergamon Press, Ltd, Oxford, 842-847 (1990).
- [10] Shimo, M., Guo, Q., Ikebe, Y. and Minato S., "Tn Daughters Concentration in Several Indoor and Outdoor air and Lung Dose due to Rn and Tn Daughters", In: Proc. 25th annual meeting of the Japanese health physics society. Tsukuba, Japan. 54 (1990).
- [11] Tu, K. W., Knutson, E. O. and George, A. C., Indoor Radon Progeny Aerosol Size Measurements in Urban, Suburban, and Rural Regions, Aerosol Sci. Technol. 15, 170-178 (1991).
- [12] Guo, Q., Shimo, M., Ikebe, Y. and Minato, S., "The Study of Thoron Progeny and Radon Progeny Concentrations in Different Kinds of Dwellings in Japan", Radiat. Prot. Dosim., 45, 357 (1992).
- [13] Reineking, A., Knutson, E. A., George, A. C., Solomon, S. B., Kesten, J., Butterweck, G. and Porstendorfer, J. Size Distribution of Unattached and Aerosol-Attached Short-Lived Radon Decay Products: Some Results of Intercomparison Measurements, Radiat. Prot. Dosim. 56, 113-118 (1994).
- [14] Doi, M. and Kobayashi, S., "Characterization of Japanese Wooden Houses with Enhanced Radon and Thoron Concentrations," Health Phys., 66, 274 (1994).
- [15] Bochicchio, F., Campos, G., Venuti, C., Nuccetelli, S., Risica, . and Tancredi, F., "Indoor Measurements of Rn-220 and Rn-222 and their Decay Products in a Mediterranean Climate Area," Environment Internat., 22, s633 (1996).
- [16] Butterweck-Dempewolf, G., Shuler, Ch. and Vezzu, G., "Size Distribution of the Unattached Fraction of Radon Progeny," European Conference on Protection against Radon at Home and at Work. Praha, Czech Republic, June 2-6 (1997).
- [17] Papastefanoy, C. and Ioannidou, A. Activity Size Distribution of Radioactive Aerosols in the Atmosphere. J. Aerosol Sci. 29, 569-570 (1998).
- [18] Reineking, A., Porstendorfer, J., Dankelmann, V. and Wendt, J. The Size Distribution of the Unattached Short-lived Radon Decay Products, Radioaktivität in Mensch und Umwelt, Band I, 503-508, Publication Series: Progress in Radiation Protection, ISSN 1013-4506 (in German), (1998).
- [19] Huet, C., Tymen, G., Reineking, A., Wendt, J., Inter-comparison measurements of the activity size distribution of aerosol attached short-lived radon decay products in a dwelling located in Brittany, J. Aerosol Sci. 29, 1311-1312 (1998).
- [20] Harley, N. H., Chittaporn, P., Fisenne, I. M. and Perry, P. 222Rn Decay Products as Tracers of Indoor and Outdoor Aerosol Particle Size. J. Environ. Radioact. 51, 27-35 (2000).
- [21] Porstendorfer, J., Zock, C. and Reineking, A. Aerosol Size Distribution of the Radon Progeny in Outdoor Air. J. Environ. Radioact. 51, 37-48 (2000).
- [22] Shimo, M. and Saito, H. Size Distribution of Radon Progeny Aerosols in Indoor and Outdoor Air. J. Environ. Radioact. 51, 49-57 (2000).
- [23] Cheng, Y. S., Chen, T. R., Yeh, H. C., Bigu, J., Holub, R., Tu, K., Knutson, E. O. and Falk, R. Intercomparison of Activity Size Distribution of Thoron Progeny and a Mixture of Radon and Thoron Progeny. J. Environ. Radioact. 51, 59-78 (2000).
- [24] Cavallo, A. J. Understanding Mine Aerosols for Radon Risk Assessment. J. Environ. Radioact. 51, 99-119 (2000).
- [25] Georges, M., (2000) Risk Assessment of Exposure to Radon Decay Products Final Report, Commission of the European Communities C.E.C.
- [26] Piotr, T. W., Anthony, C. J., (2000) Unattached fraction measuring technique and radon lung dose, Journal of Environmental Radioactivity 51(1), 137-151.
- [27] Huet, C., Tymen, G., Boulaud, D., Size distribution, equilibrium ratio and unattached fraction of radon decay products under typical indoor domestic conditions, The Science of the Total Environment 272, 97-103(2001).
- [28] Porstendorfer, J. Physical Parameters and Dose Factors of the Radon and Thoron Decay Products. Radiat. Prot. Dosim. 94, 365-373 (2001).
- [29] Yu, K.N., (2001). Theoretical foundation for a simple method for simultaneous measurements of the unattached fraction and activity median diameter of attached radon progeny. Applied Radiation and Isotopes 54 961-965.
- [30] Porstendorfer, J. Influence of Physical Parameters on Doses from Radon Exposures. Int. Congr. Ser. 1225, 149-160 (2002).
- [31] Kendall, G. M. and Smith, T. J. Doses to Organs and Tissues from Radon and Its Decay Products. J. Radiol. Prot. 22, 389-406 (2002).
- [32] Yamasaki, K., Oki, Y., Yamada, Y., Tokonami, S. and Iida, T. Optimization of Measuring Methods on Size Distribution of Naturally Occurring Radioactive Aerosols. Int. Congr. Ser. 1276, 297-298 (2005).
- [33] Tokonami, S., Fukutsu, K., Yamada, Y., Yatabe, Y., (2005) Particle size measurement of radon decay products using MOUDI and GSA, International Congress Series 1276, 278- 280.
- [34] Mohamed, A. Influence of Radioactive Aerosol and Biological Parameters of Inhaled Radon Progeny on Human Lung Dose, Radiat. Prot. Dosim. 113, 115-122 (2005).
- [35] Vaupotič, J. Nano-Size Radon Short-Lived Progeny Aerosols in Slovenian Kindergartens in Winter time. Chemosphere 69, 856-863 (2007).
- [36] Michielsen, N. and Tymen, G. Semi-Continuous Measurement of the Unattached Radon Decay Products Size Distributions from 0.5 to 5 Nm by an Array of

Annular Diffusion Channels. *J. Aerosol Sci.* 38, 1129-1139 (2007).

- [37] Kranrod, C., Tokonami, S., Ishikawa, T., Sorimachi, A., Janik, M., Shingaki, R., Furukawa, M., Chanyotha, S., Chankow, N., (2009) Mitigation of the effective dose of radon decay products through the use of an air cleaner in a dwelling in Okinawa, Japan, *Applied Radiation and Isotopes* 67, 1127–1132.
- [38] Mishra, R., Mayya, Y. S., Kushwaha, H. S., (2009) Measurement of $^{220}\text{Rn}/^{222}\text{Rn}$ progeny deposition velocities on surfaces and their comparison with theoretical models, *Aerosol Science* 40, 1–15.
- [39] James, A. C., Cross, F. T., Durham, J. S., Briant, J. K., Gehr, P., Masse, R., Cuddihy, R. G. and Birchall, A. Dosimetry Model for Bronchial and Extrathoracic Tissues of the Respiratory Tract. *Radiat. Prot. Dosim.* 37, 221–230 (1991).
- [40] James, A. C., Bradford, G. F. and Howell, D. M. Collection of Unattached RaA Atoms Using Wire Gauge. *J. Aerosol Sci.* 3, 243–254 (1972).
- [41] Tomas, J. W. and Hinchliffe, L. E. Filtration of 0.001 mm Particles with Wire Screens. *J. Aerosol Sci.* 3, 387–393 (1972).
- [42] George, A. C. Measurement of Uncombined Fraction of Radon Daughters with Wire Screens. *Health Phys.* 32, 390–392 (1972).
- [43] Reineking, A., Scheibel, H. G., Hussin, A., Becker, K. H. and Porstendörfer, J. Measurements of Stage Efficiency Functions Including Interstage Losses for Sierra and Berner Impactor and Evaluation of Data by Modified Simplex Method. *J. Aerosol Sci.*, 15, 376–380 (1984).
- [44] Lurzer, C. Über die Bestimmung von Multimodalen Grossenverteilungen Atmosphärischer Aerosole. Mittels unterdrückter Kaskaden Impaktoren, Dissertation, Wien, Austria (1980).
- [45] Mohammed, A. ACTIVITY SIZE DISTRIBUTIONS OF SHORT-LIVED RADON PROGENY IN INDOOR AIR, *Radiation Protection Dosimetry* Vol. 86, No. 2, pp. 139–145 (1999)
- [46] Mohamed, A. Ahmed A. A., Ali, A. E. Yunes, M. ATTACHED AND UNATTACHED ACTIVITY SIZE DISTRIBUTION OF SHORT-LIVED RADON PROGENY (^{214}Pb) AND EVALUATION OF DEPOSITION FRACTION, *Journal of Nuclear and Radiation Physics*, Vol. 3, No. 2, 2008, pp. 101-108.
- [47] Cheng, Y. S., Su, Y. F., Newton, G. J. and Yeh, H. C. Use of a Graded Diffusion Battery in Measuring the Activity Size Distributions of Thoron Progeny, *J. Aerosol Sci.* 23, 361-372 (1992).
- [48] Hinds, C. W, 2nd edn., Wiley, New York *Aerosol Technology. Properties, Behavior, and Measurement of Airborne Particles*, (1999).
- [49] Amer Mohamed, Moustafa Abd El-hady, Mona Moustafa, Mostafa Yunes: Deposition pattern of inhaled radon progeny size distribution in human lung. *Journal of Radiation Research and Applied Sciences.* 7,3, 333-337(2014)

Author Profile



Mostaf Yunes received the B.S. and M.S. degrees in physics department, faculty of science in Minia University Egypt in 2005 and 2010, respectively. During 2005-2010, he stayed in physics department as demonstrator. From 2010 till now he is ass lecture in the same department. Now he is a PhD student in Ural Federal University in Yekaterinburg Russia.