Aerosols are solid or liquid particles suspended in the air. Workplace aerosols have been and continue to be an important occupational health concern because many occupational activities and processes such as welding, grinding, and spraying can generate high concentration aerosols in the workplace. The inhalation and the consequent deposition of aerosols in worker’s respiratory tract could lead to adverse health effects like occupational asthma, pulmonary impairment, or even lung cancer. Therefore, from the viewpoint of occupational health, it is vital to investigate the deposition of inhaled aerosols in the human respiratory tract for the purpose to correctly estimate the aerosol inhalation dosimetry. This presentation will talk about the past, current, and future of occupational health-related aerosol respiratory deposition experiments based on the speaker’s research experience.