# EURADOS COORDINATED ACTION ON RESEARCH, QUALITY ASSURANCE AND TRAINING OF INTERNAL DOSE ASSESSMENTS

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The EURADOS group on internal dosimetry (WG7) is operating as a network whose main aims are the coordination of research on internal dosimetry, the promotion and implementation of quality assurance on internal dose assessments and the dissemination of scientific knowledge.

Concerning coordination of research, three tasks are well defined within the working group program:
(1) **Application and quality assurance of biokinetic models**, supporting on-going ICRP developments. Activities being carried out include the evaluation of the influence of changes of the structure and the default absorption parameters for the ICRP Human Respiratory Tract Model, the calculation of blood uptake and lymph retention functions for the seven default categories of the NCRP Wound Model, the implementation and comparison of new systemic models for iodine and caesium, the evaluation of the differences of various sex-averaging procedures in the calculation of effective dose per unit content and the evaluation of stable isotope studies of the biokinetics in volunteers.
(2) **Towards a DTPA-therapy model**. The CONRAD approach for biokinetic modeling of DTPA decorporation therapy is developed further in order to improve the estimate of plutonium intake and dosimetric benefit for workers treated with DTPA. Results of on-going animal experiments as well as a more realistic representation of DTPA biokinetics will contribute to improve the model. EURADOS WG7 and The United States Transuranium and Uranium Registries (USTUR) have established a scientific collaboration, permitting the access of WG7 members to the USTUR health physics and autopsy database of internally exposed workers, in order to compare the model prediction with actual monitoring and tissue content data.
(3) **Monte Carlo (MC) applications to in-vivo assessment of intakes.** Two main activities are considered here: (1) Intercomparison of measurements and MC calculations with the USTUR Leg Phantom containing real contaminated bone and (2) Intercomparison on MC modelling of in-vivo measurements of enriched uranium in the lungs of a Livermore Phantom.

With reference to the Quality Assurance on internal dose assessments, WG7 is **updating the IDEAS Guidelines** to generate a reference document for the internal dosimetry community. This activity contributes to the harmonization on the methodology for the assessment of intakes of radionuclides to be applied by internal dosimetry services, as an indispensable element of its Quality Assurance System; taking also into consideration the forthcoming **ISO Standard 27048** "Dose Assessment for Occupational Exposures". Uncertainty studies on internal dose assessments are also under the scope of the current WG7 work.

A training action for disseminating the scientific results of WG7 was the "EURADOS/IAEA Advanced Training Course on Internal Dose Assessment" organized at TU-Prague in February 2009, having as objectives the application of IDEAS Guidelines and the dissemination of the results of EC FP6 CONRAD Project.
One of the outcomes of EURADOS WG7 actions is the maintenance of the Internal Dosimetry Network beyond CONRAD, with the actual participation of 20 European Laboratories and 3 American Institutes (USTUR, LANL, HML).

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