



Technical Meeting on the Development, Testing and Harmonization of Models and Data for Radiological Impact Assessment (MODARIA II)

**IAEA Headquarters
Vienna, Austria**

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Prospectus

A. Background Information

The International Atomic Energy Agency's (IAEA's) Modelling and Data for Radiological Impact Assessments (MODARIA) programme ran from 2012 to 2015. In common with earlier IAEA programmes in the area of environmental modelling, such as the Validation of Model Predictions (VAMP) programme, the Biosphere Modelling and Assessment (BIOMASS) programme, as well as the two Environmental Modelling for Radiation Safety (EMRAS I and EMRAS II) programmes, MODARIA had the following general objectives: (i) to improve environmental assessment models and modelling methods through model testing and comparison; (ii) to harmonize, where appropriate, environmental modelling philosophies, approaches, and parameter values; (iii) to address radionuclide transfer in a wide range of environmental conditions, including those prevailing in subtropical and tropical regions; (iv) to provide an international focal point for the exchange of information on environmental assessment modelling; and (v) to assist Member States in implementing the IAEA safety standards relevant to the control of exposures to the public and the environment.

The MODARIA programme concentrated on areas where uncertainties remain in the predictive capability of environmental models. It covered these topics in particular: the remediation of areas affected by enhanced levels of man-made or natural radioactivity, uncertainties and variability of assessment models, exposures and effects on biota, and modelling the dispersion of radionuclides in the marine environment.

There were ten working groups under the MODARIA programme, which could count on the active and direct participation of some 140 specialists from more than 40 countries. The final reports of the working groups are currently being prepared for publication, but the following website already provides some detailed information about the programme and all the meetings held within its framework: <http://goto.iaea.org/modaria>.

The MODARIA II programme is being launched to continue the IAEA's activities in the field of testing and comparing models to assess exposures to humans and radiological impacts on the environment, as well as in the development of guidance on the application of such models. The results of radiological assessments are used, for example, in the evaluation of the radiological relevance of routine and accidental releases of radionuclides, to support decision-making in remediation work and for the performance assessment of radioactive waste disposal facilities.

B. Purpose

The purpose of the meeting is to launch, as a follow-up to the original MODARIA programme, the international model testing and comparison programme MODARIA II, which will continue the IAEA's activities in the field of assessment of radiological impacts to people and the environment arising from radionuclides being released into or already existent in the environment.

MODARIA II aims to facilitate the implementation of the radiation protection requirements set out in the IAEA safety standards that deal with exposures to the public and the environment in planned, existing and emergency exposure situations. A proposal for the MODARIA II programme as a whole has been elaborated, and working groups for the following specific topics are suggested:

- Remediation and decision making;
- Exposures in urban and rural environments following accidents;
- Modelling radionuclide releases to the environment;
- Analysis and evaluation of radioecological data, including radionuclide transfer in tropical and subtropical environments;
- Radiation exposures and effects on wildlife;
- Biosphere modelling for long term safety assessments of waste disposal facilities; and
- Marine modelling.

The proposals will be presented and discussed in full during the first MODARIA II Technical Meeting, during which participants will be invited to present any further proposals regarding the working groups.

A general programme proposal can be downloaded from:

<https://gnsn.iaea.org/RTWS/modaria/Shared%20Documents/MODARIA%20II>

C. Scope

Like previous IAEA environmental modelling programmes, MODARIA II will serve as an international focal point in this field and will help Member States to develop and maintain knowledge and competence in the areas of environmental modelling and radiation assessment.

D. Meeting Outputs

This meeting is intended to formally launch the MODARIA II programme and to define and establish the roadmap for the programme's development over its planned three-year duration from 2016 to 2019.