IMPLEMENTATION
- Premises, furniture, laboratory conditions
- Equipment
  - Automated scanning system
  - Microscope
  - Fume hood, biosafety cabinet
  - Incubator
  - Autoclave and other small laboratory equipment
- Methodological help from IAEA
- Staff training
- Preparation of documentation
- Preparation of dose-response curve
- Integration into international biological dosimetry community

FUNCTIONS OF LABORATORY
- **EMERGENCY PREPAREDNESS** routine basis
- Application of cytogenetic methods in a **routine basis**
- **Precaution** (all radiation workers in Lithuania with annual dose on top personal protection higher than 50 mSv must be tested using biodosimetry assays)
- **Radiosensitivity scientific project** (co-operation with hospital in examining cancer patients before the radiotherapy treatment with the intention for comparing the results with the side effects of treatment in order to gather data for future treatment optimisation)

CONCLUSION
Biological dosimetry, as valuable dose assessment method, creates new opportunities to evaluate risk of radiation exposure and provides guidance for appropriate regulatory and governmental authorities.

QUALITY MANAGEMENT SYSTEM OF RADIATION PROTECTION CENTRE

ACREDITED to carry out the tests of:
- The activity of concentrations of gamma radionuclides, strontium, tritium and gross alpha and gross beta activity
- The doses accumulated in personal dosimeters,
- Medical diagnostic X-ray devices,
- Dose rate and dose,
- Surface radioactive contamination.

PROBLEM STATEMENT
- Over the years Lithuania saw a significant increase in the application of nuclear technologies, especially in the areas of cancer care and sustainable energy development.
- There are plans for new NPP and the old one is under decommissioning.
- Despite strict regulations and safety measures, accidents or unplanned exposures may occur.
- Until 2013 there were no technical capabilities to evaluate doses by other means than using thermoluminescent dosimeters (TLD) or by reconstructing the dose by using known data.

THE MAIN OBJECTIVE
To establish the **Biological Dosimetry Laboratory** in order to elucidate environmental, occupational, clinical and accidental exposures to radiation of different qualities at low and high dose levels human risk assessment.

IAEA national technical cooperation project LIT/6/005: “The Establishment of the National Biological Dosimetry Laboratory for Cytogenetic Analysis of Ionizing Radiation Exposure and Biological Dose Assessment”

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