# 14.03.02 Nuclear Physics and Engineering

## Radiation Ecology. Human and Environmental Safety

**Program objective**

To train multi-skilled researchers in nuclear and radiation safety

**Key research areas**

- interaction of radiation with matter
- propagation of ionizing radiation through matter
- radiation shielding design and calculation
- handling of used nuclear fuel and radioactive nuclear wastes.

**Main fundamental and professional courses**

- theory of transport of ionizing radiation
- physics of radiation shielding
- radiation dosimetry, detection and spectroscopy
- instrumental techniques in radiation safety
- fundamentals of nuclear technologies
- nuclear safety, risk assessment and risk management
- medical and biological grounding of radiation safety,
- safe handling of radioactive nuclear wastes and used nuclear fuel
- human physiology and biological effects of ionizing radiation.