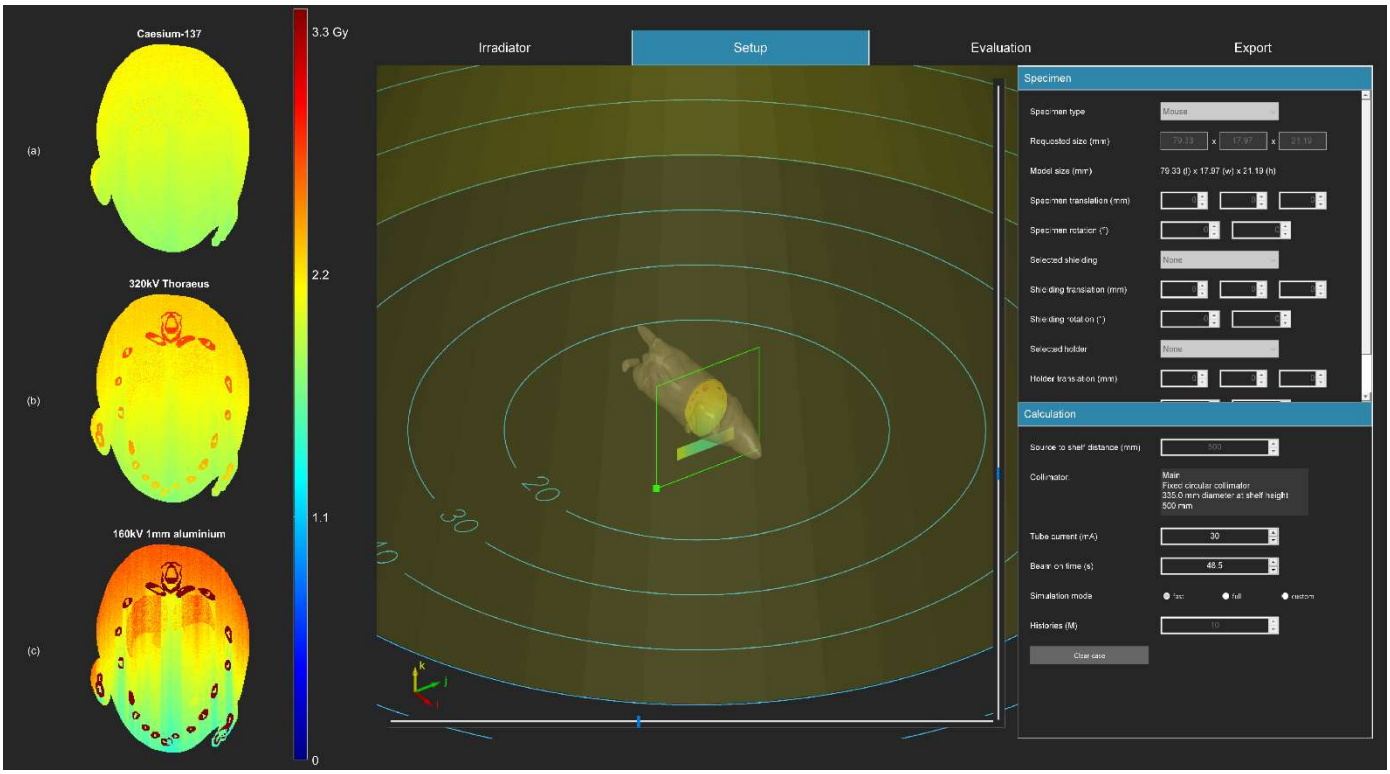
# SmART-RAD

## Dose calculation software for Non-Image Guided Irradiators

### Calculating dose distributions and standardized reporting in pre-clinical radiobiology research made easy

- Dose calculations by hand based on calibration data of central dose fields provide no information about the dose distribution inside specimens, are inaccurate and not feasible for complex setups.
- The switch from Cs-137 to X-ray irradiation significantly changes dose gradients and 3D dose distributions.
- Dosimetry reporting needs to be accurate and complete to allow for reproducible results.




*Dose calculations using 3 different radiation sources to deliver 2 Gy mean dose to the liver. Note significant differences in 3D dose distribution between (a) Cs-137, and (b) 320 kVp X-rays with a Thoraeus filter and (c) 160 kVp with a 1mm aluminium filter.*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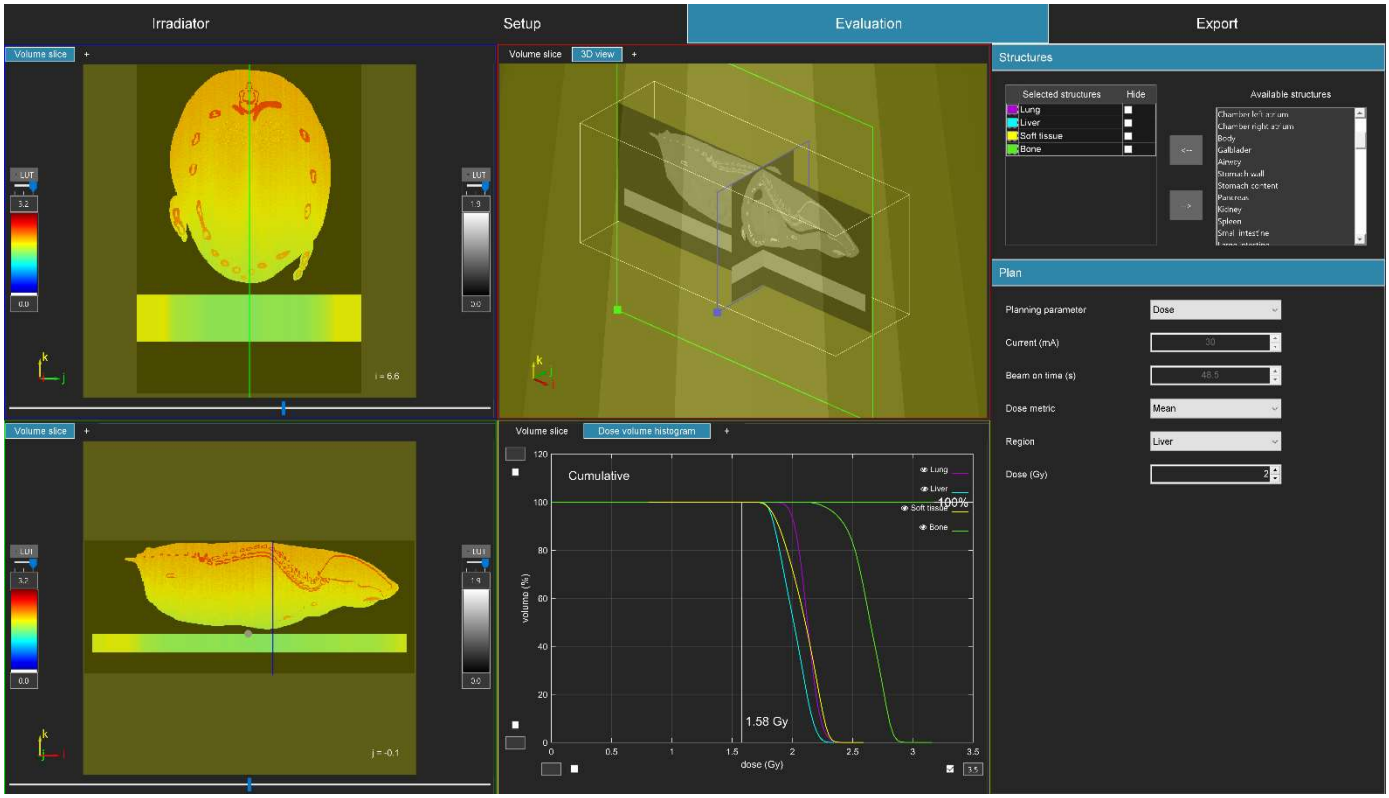


## SmART-RAD features

- User-friendly interface which does not require dosimetry expertise
- Large animal model database (more than 6000 rodent models)
- Fully customizable Monte Carlo 3D dose calculation
  - material composition of the specimen, geometric setup, shielding or fixation material, field size, energy spectrum, source to axis distance, backscatter material
- Customizable geometries such as shielding, added tumors, well plates,…
- Advanced dose display and analysis tools
- Publication-grade graphics
- Dose calculations can be completed in advance, during or after treatment
- Runs on standalone computer
- Automated calculations improve workflow, accuracy and reproducibility
- Standardized reporting following published guidelines

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