

GATE is an advanced opensource software developed by the international OpenGATE collaboration and dedicated to numerical simulations in medical imaging and radiotherapy. GATE is based on the Geant4 toolkit.

It currently supports simulations of Emission Tomography (Positron Emission Tomography - PET and Single Photon Emission Computed Tomography - SPECT), Computed Tomography (CT), Optical Imaging (Bioluminescence and Fluorescence) and Radiotherapy experiments.

Using an easy-to-learn macro mechanism to configurate simple or highly sophisticated experimental settings, GATE now plays a key role in the design of new medical imaging devices, in the optimization of acquisition protocols and in the development and assessment of image reconstruction algorithms and correction techniques. It can also be used for dose calculation in radiation therapy, brachytherapy or any other application.

[https://gate.uca.fr/home-gate\(https://gate.uca.fr/home-gate\)](https://gate.uca.fr/home-gate(https://gate.uca.fr/home-gate))