Simulation by Monte Carlo methods of a medical X-ray system

GlobalDiagnostiX is a consortium developing a robust, high-tech & low-cost medical x-ray system for low and middle-income countries.

The involvement of hepia Geneva (University of Applied Sciences Western Switzerland technology, architecture and landscape) consists of the study of the entire system from a security standpoint. We are qualified in the study of radiation protection and our responsibility is to define how to work properly with the device produced by the GlobalDiagnostiX consortium.

The next step of the project is the elaboration of a built-in tutorial that will allow the working staff to be guided through the use of the device.

The idea is to make the working staff aware of the concept of radiation and dose monitoring. By doing so, the staff members will be able to protect themselves at work.

The concepts of zoning and cartography will be used to draw zones during the examination, so the working staff and the medical patients will know where they should not be placed.

All the simulations have been realised with RayXpert® Software produced by TRAD, Tests & Radiations, France.