AbstractID: 12855 Title: Designing a community of practice in nuclear medicine based on the grid technologies

Purpose: This paper analyzes the current development of a virtual community of practice in nuclear medicine using the grid technology with the objective to improve cooperative learning of nuclear medicine professionals.

Method and Materials: The project started from the identification of technological premises and organizational constraints in nuclear medicine services in Brazil. The interface was developed considering partners' infrastructure, as well as security issues and accessibility. The interface allows the interaction between users and dynamic content. Three image databases are available: clinical cases, experimental images and Monte Carlo simulated images. Scientific articles, and supporting materials related to the discussed themes are available. The portal allows the submission of Monte Carlo simulations using GATE, with the use of high performance computational resources. The interface was designed using Moodle for documentation and communication; Globus for grid; and Crono/Torque for cluster. The community of practice is formed by nuclear medicine users with knowledge and practice in clinical environment. The users are able to discuss using a forum anonymously or not, mediated by expert in nuclear medicine.

Results: The website is a collaborative portal at www.pucrs.br/fisica/pesquisas/nimed/frida2008 (Fig. 1). The databases, documentations and forums are related mainly to topics chosen by nuclear medicine professionals: myocardial perfusion; image acquisition; and image processing. The content is continuously being built along the interaction, in a dynamic process (Fig. 2). We validated a SPECT system to perform Monte Carlo simulations using NCAT phantom. The simulations status can be accompanied by the users (Fig. 3).

Conclusion: We developed a friendly portal to improve collaborative learning in nuclear medicine in Portuguese. We believe that the learning process improves when professionals interacts discussing about their practice, using patient cases, simulating images, and exchanging supporting materials. This technology can provide new educational approaches, using resources sharing and cooperative support to promote cooperative learning.