The Virtual Soldier Program: A Future Vision of Battlefield Medical Response

Richard C. Ward, Line C. Pouchard, and Stewart P. Dickson
Oak Ridge National Laboratory

Michael N. Huhns
University of South Carolina

DARPA has initiated a new program under the Defense Sciences Office entitled Virtual Soldier. The motivation of this program is to revolutionize medical care for the soldier. The program will develop an information (computational) representation of the individual soldier that can be used to augment medical care on and off the battlefield. Oak Ridge National Laboratory is taking the lead role in developing the computational infrastructure for the Virtual Soldier Program. Our principal focus has been to create a middleware software to facilitate connections between the various forms of data (including X-ray/CT, MRI, ultrasound, and vital signs data), ontologies describing this data, and the modeling software. We are also involved in defining and developing the holographic medical electronic representation (holomer), which will display, in an integrated fashion, the soldiers physiological and anatomical information with model results for purposes of predicting outcomes of a wound or medical condition and making diagnosis and treatment. Early development of this computational infrastructure will be described and the future vision of the Virtual Soldier will be discussed.