

## **Global Resources for On-line Education (GROE)**

### **Vision of the Workshop in Brighton England July 4-5, 2009**

Dr. Beverly Park Woolf, Principal Investigator  
Department of Computer Science  
University of Massachusetts Amherst

The goal of GROE is to engage leaders from several disciplines (primarily computer science and education) in a creative conversation that casts computation as a basis for education, in core ideas as well as simulations and data management, and recommends a research agenda for federal funding.

Our intention is to expand computer research, encourage large-scale deployment, and assure real educational impacts. This process is intended to provide the rationale for increased government funding to solve the education challenge, to identify big ideas that are not being pursued, and to target computational models, reasoning, experimentation and implementation of mobile and ubiquitous pedagogical software. Issue topics addressed at the workshop include:

Social Learning. Distributed cognition, learning communities, networking, collaboration, mobile and ubiquitous computing to create seamless social learning.

Intelligent Virtual Environments. Customized instruction; user-models; intelligent tutors; gaming environments; adaptive hypermedia.

Rich Computer Interfaces. Intelligent agents; multimedia; learning companions; teachable agents; detecting and responding to student emotion.

Wireless, Pervasive and Ubiquitous Learning. Accessing digitized artifacts anytime, anywhere; effectively invisible computing from many computers; augmenting physical space; aggregating across all students; technical, physical and security considerations.