



Center for Next Generation Video (CNGV)

Rensselaer Polytechnic Institute (lead) and New Jersey Institute of Technology

Addressing the full range of issues involved in the generation, storage, processing, retrieval, and communication of digital video and multimedia

*A National Science
Foundation
Industry/University
Cooperative
Research Center
since 1998*

Center Mission and Rationale

The Industry/University Cooperative Research Center for Next Generation Video (CNGV) has two sites: Rensselaer Polytechnic Institute (RPI) and New Jersey Institute of Technology (NJIT). The mission of CNGV is to perform research in the communication, transmission, storage, retrieval, and processing of digital video and multimedia.

Research Program

The research areas pursued in the CNGV encompass the broad scope of problems associated with the generation, storage, communication, and delivery of digital video to the user. These areas include the following: digital image processing; filtering; image, video and audio compression; communications (terrestrial, cable, and satellite transmission and reception); networked video and high-speed switching; and multimedia storage, retrieval, and security.

Facilities

Facilities and space of the CNGV are shared with the Center for Image Processing Research (CIPR) at Rensselaer. The CIPR is an organization within the School of Engineering which, through an NSF infrastructure grant, a DARPA high-definition video program grant, and a large grant in equipment received from Hewlett-Packard, has equipped itself with a modern workstation-based image processing laboratory. Within a space of 1,500 square feet is a large array of networked computer workstations and equipment dedicated to image and video processing.

At NJIT, the CNGV operates in cooperation with the New Jersey Center for Multimedia Research. The laboratory at NJIT covers an area of 1,600 square feet and includes 14 Sun workstations and a Real-Time Color Video Research Workstation.

Organization

The CNGV operates within the CIPR as an autonomous unit with funds earmarked directly to it. The authority to disperse the funds resides with the CNGV's Director, Professor John Woods, who reports directly to the Dean of the School of Engineering. The funds are used to support research projects proposed by investigators of the CNGV, who belong either to Rensselaer or NJIT, as well as by the Industrial Advisory Board (IAB). The Director acts with advice from the Center Evaluator, the University Policy Committee (UPC), and

the IAB. The IAB consists of one designated representative from each of the companies or agencies with full membership in the CNGV and meets semi-annually to review, assess, and discuss the current and future activities of the CNGV. Since facilities are shared with CIPR, funds are spent jointly to maintain the facilities and equipment and pay technical staff. The CNGV is supported by its industrial and agency members, whereas the CIPR is the repository of contract research to Rensselaer from non-CNGV member sources. The UPC was established to address issues such as patents and licensing and the impact of center research on academic affairs. The UPC consists of the Associate Dean of Research, the Chairman of the ECSE Department, the Director of the CIPR, the Director of the Office of Technology Commercialization, and analogous representatives of deans, department chairs, and center directors of university partners in the CNGV.

Center Headquarters

Rensselaer Polytechnic Institute
110 8th Street
7012 Jonsson Engineering Center
Troy, NY 12180-3590
Tel (518) 276-8525 • Fax (518) 276-8715
Homepage: www.rpi.edu/web/NGV/

Center Director: Dr. John W. Woods
woods@ecse.rpi.edu

Center Evaluator: Dr. S. George Walters
(910) 329-0824 • s.george.walters@worldnet.att.net