ACM SIGGRAPH 2003 CONFERENCE

I used the first part of the Campbell McConnell grant given to me to attend the ACM SIGGRAPH (Association for Computing Machinery, Special Interest Group/computer GRAPHics) Conference in San Diego, California on July 27–31, 2003. The conference’s organizers estimated that 20,000 people and 200 exhibitors participated in the conference. The conference featured technical talks, short courses, panel discussions, a gallery of digital art, a screening of computer-generated films, and studios in which attendees could experiment with a variety of hardware and software products.

The number and sophistication of applications of computer graphics in the entertainment industry impressed me. I recall seeing a greater relative emphasis on scientific and medical applications when I last attended SIGGRAPH (in 1992, in Chicago, with Professors deLaubenfels and Freeman, and three of our students—Jennifer Freeman, Atur Kasha, and Chad Reed). This year, at every turn I saw people explaining their roles in the creation of “The Matrix,” “Terminator,” “Finding Nemo,” “Sinbad,” “Harry Potter,” “Lord of the Rings,” or games that feature similar action, animation, and special effects.

Some of our graduates have found careers in the entertainment industry: Chad Walker writes online games for Yahoo and Justin Love designs video games for Creative Electronics and Software. A prospective student told me that he was considering enrollment at DigiPen Institute of Technology, a college and Freeman, and three of our students—Jennifer Freeman, Atur Kasha, and Chad Reed). This year, at every turn I saw people explaining their roles in the creation of “The Matrix,” “Terminator,” “Finding Nemo,” “Sinbad,” “Harry Potter,” “Lord of the Rings,” or games that feature similar action, animation, and special effects.

Applications of computer graphics to entertainment appeal to current and prospective students more than they do to me. I have little familiarity with the games that students play on their computers. (Despite or because of that, last year I accepted an invitation from students to be the faculty sponsor for Consoles and Desktops, a computer gaming club on our campus). Before going to San Diego, I knew only a little about the many schools that have sprung up in the past decade to prepare students for entry into the motion picture and game industries. I wanted to know more about the prospects and opportunities available to students with those interests.

To this end, I attended a forum entitled “Imparting Non-Technical Skills in Digital Media Students,” where I heard film-makers call for a broader education of students headed toward their industry. I met with one of the panelists, Pam Hogarth of the Gnomon School of Visual Effects, later in the day to continue the conversation. I also interviewed representatives of the Rochester Institute of Technology School of Design, the Ringling School of Art and Design, the Art Institutes, and other schools. On the flight home from San Diego to Chicago, I enjoyed a long conversation
with Jacquelyn Martino, an alumna of Mount Holyoke College who taught at the Pratt Institute and is now a doctoral student in the Design and Computation program in MIT’s Department of Architecture. She is chairing the committee that will plan the program of short courses for next year’s conference.

This year’s courses provided me with an opportunity to extend my own knowledge of computer graphics and to see and hear some of the people whose books and articles I have especially appreciated over the years. I participated in courses on “Non-Uniform Rational B-Splines” (given by David Rogers), “L-Systems and Beyond” (given by Przemyslaw Prusinkiewicz), “Geometric Data Structures for Computer Graphics” and “SVG and SMIL for Interactive Multimedia Documents.” The common theme of these courses was the search for compact, efficient, versatile ways to mathematically encode descriptions of geometry. Geometric modeling is the aspect of computer graphics that most interests me.

A very large number of young people are competing for a small number of opportunities in Hollywood’s studios. In our conversation, Pam Hogarth acknowledged that the odds are long that a student will land a job in Hollywood. However, she pointed out, the skills required to make a feature film can also be used to make the kinds of videos that corporations in a wide spectrum of industries use to train employees and market products. To learn more about those more abundant and attainable opportunities, I had breakfast with Steve Dupuis. Steve is a graduate of the United States Naval Academy and former naval aviator. His company, MotionMaker, Inc., produces such videos. We spoke about how he launched his company, the variety of clients he serves, the technology he uses, and the profiles of the people he hires.

In addition to SIGGRAPH, my work this summer also took me to Clemson University for a week to read the Advanced Placement examinations for the Educational Testing Service. I traveled to DePauw University, where, with my student Brian McMillin, I took part in a week long workshop sponsored by the Midwest Instructional Technology Center. I taught a course in the Advanced Placement Teachers’ Training Institute at the University of Iowa’s Belin-Blank Center. With my partners in those enterprises, I have planted the seeds for projects I hope to develop in the coming year. A group that includes DePauw’s Dave Berque, Kalamazoo’s Alyce Brady, and me has received encouragement from the Midwest Instructional Technology Center and the Educational Testing Service for our proposal to adapt the ETS’ Major Field test for use in liberal arts colleges. The University of Iowa has invited Steve Strong and me to develop a proposal for an on-line course in computer science for the state’s high school students.