New York Institute of Technology is well known for its avant-garde work in computer graphics. But there is much more there than many people realize. Computer Graphics Laboratories, Inc., is a subsidiary company of the New York Institute of Technology, dedicated to the research and development of computer graphics products for television broadcast, simulation, training, and pre-press applications.

CGL's initial technologies were made available from its parent, NYIT, which is a research-oriented, independent institution of higher learning. (Fully accredited programs at NYIT lead to associate, bachelor's, and master's degrees, and to the Doctor of Osteopathy through the New York College of Osteopathic Medicine. Courses range from art and architecture to science, engineering, and medicine.

Consistent with its mission, NYIT and Howard University have now formed a consortium which will be applying modern communications and learning technologies to major educational and social problems.

CGL has accumulated several patents in computer graphics, which include Three Dimensional Animation, Graphic Display Systems, Systems for Colorizing Video, and Automatic Coloration and Shading of Images.

The Lab is currently producing a feature-length motion picture entitled Strawberry Fields. It is using many of its special imaging techniques in the production of this action adventure. The picture will incorporate contemporary versions of music originally composed and produced by the Beatles. Michael Jackson is among the artists producing new music for this fully computer-generated film.

Among the most outstanding research at NYIT is the development of the only true high-definition television (HDTV) transmission system which is totally compatible with today's broadcast standards. This technological breakthrough allows broadcasters (terrestrial, cable, and satellite) to provide to the home both advanced HDTV images (equivalent to 35-mm theater presentations) and the present NTSC standard transmission.

CGL's products range from peripheral personal computer products to real-time, 3D computer image generators, capable of computing 65 million floating-point calculations each second. The Lab has licensed to Commodore a board-level product that permits the capture and digitization of a video image, hosted and genlocked to the Amiga 2000.
You've bought it

When a CGL product is purchased, a complete support staff provides each customer with a number of services, including field engineering, telephone technical assistance, and training. That's where the artist who did this month's cover, Jeff Brice, comes into the picture. Brice conducts IMAGES II+ and Insta- Mation training courses both at CGL's training center and at customer sites. Brice also stands ready, along with the other support staff members, to answer customer questions.

Teacher as painter

Brice is an artist in his own right, as demonstrated by SIGGRAPH 87's selection of this month's cover picture, Lips, for showing in the SIGGRAPH art show. But the lips of Medusa are only a part of the whole. Brice has created an entire Medusa (see Figure 1). He has also split off many parts of his Medusa to create separate pictures (see Figures 2 and 3, as well as the cover). Each can stand entirely on its own, but can also become a part of the magnificent whole work.

To create this month's cover, Brice used CGL's new Big N'Fast high-resolution illustration and retouching package. In addition to Big N'Fast, CGL offers many high-resolution input and output options including CCD scanners and film recorders. Brice's picture was output on Ektachrome film using a CELCO 8000A film recorder.

The new tape transfer package, with pre-press-system scanners, gives CGL "the ability to exchange digital data with existing pre-press systems, which opens up a whole new market for CGL's IMAGES II+ system," explains Larry Green, market program manager.

Put it to use

Who uses IMAGES II+? Green says the systems are used by post-production facilities, broadcast stations, corporate communications departments, animation studios, and audio-visual houses. New markets in the graphic arts industry include pre-press trade shops and retouching studios. Nabisco, Warner-Lambert, Saatchi & Saatchi, DFS Compton, and GM are just a few of those who have opted to incorporate this child of computer graphics research into their establishments.

When an IMAGES II+ system is purchased, an instructor is immediately assigned to that customer. Included with the purchase is a four-day training course tailored to the specific applications of each customer. Brice usually gets together with his students for follow-up training a month or so after the initial training. Most students take the course at CGL's training center. However, some opt to have Brice visit their site, especially if there is a large group of students who need training. Brice is only one member of a team of experienced instructors and customer-service representatives.

Meanwhile, Brice learns more and more about this wonderful machine by exploring new applications. Some of the projects he has worked on include graphic designs and patterns for silk screening and Cibachrome prints. The creative environment at CGL helps encourage him to experiment with new ways of putting his imagination and his IMAGES II+ to work. Brice's art-
Figure 4. A computer-generated simulated installation by Brice, which stands seven feet high.

Figure 5. Another computer-generated simulated installation by Brice, which stands five feet high.

Figure 6. A five-foot-high computer simulation.

Figure 7. A silkscreen on canvas (polymer paint), from the collection of NYNEX.

Brice's work tends to be fine-arts oriented, and his images have been hung in a long list of shows, including SIGGRAPH's art show, the University of Massachusetts, ISETYAN Museum in Tokyo, and the Three Rivers Arts Festival. People viewing simulations in museums, Brice informs us, often believe they are actually viewing photographs. An aficionado, however, would know better (see Figures 4-7).

Brice is, in fact, the artist you would expect to find teaching at CGL, the commercial company that has grown out of the renowned NYIT research laboratory.