Symposium to mark 10th anniversary of UCSD's Center for Magnetic Recording Research

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SYMPOSIUM TO MARK 10TH ANNIVERSARY OF UCSD'S CENTER FOR MAGNETIC RECORDING RESEARCH

When the Center For Magnetic Recording Research (CMRR) opened its doors 10 years ago at the University of California, San Diego, U.S. computer companies were dubbing their hard disk drives with names like "icebox" and "dishwasher" because of their bulky size.

Now, those same companies produce disk drives that store the same amount of data in a product about the size of a good book.

To help illustrate the dramatic leaps made in magnetic storage technology, CMRR's industry sponsors plan to display examples of their leading edge products from both 1983 and 1993 at a symposium marking the center's 10th anniversary to be held May 4.

The symposium, titled "Magnetic Storage Manufacturing by the Year 2000," will represent a who's who of the U.S. magnetic storage industry, with 18 top executives from the center's industrial sponsors attending. The participating companies account for a total of about $18 billion of annual sales in disk and tape storage products.

The meeting will focus on the need for industry, universities and government to develop a collaborative initiative to ensure that U.S. companies dominate the manufacture of magnetic recording and storage products in the next century, said Sheldon Schultz, director of CMRR.

"The CMRR sponsor companies comprise the vast majority of U.S. magnetic storage manufacturing, and they currently represent a majority of worldwide production," Schultz said. "This is the group that has to maintain that leadership and we are suggesting that the proposed collaboration is a way of helping to do just that."

Featured speakers at the symposium, to be held from 2 p.m. to 4 p.m. in the center's auditorium, will include: Raymond Abulayyad, vice president and general manager, IBM/ADSTAR; Brendan Hegarty, Sr., senior vice president and chief technical officer, components, Seagate Corp.; Jean-Pierre Patkay, vice president operations, Quantum Corp.; and John Squires, executive vice president, R&D, Connor Peripherals.

The speakers also will be available at 4:30 p.m. for interviews with reporters. Members of the news media are invited to attend a reception to be held from 4:30 p.m. to 6 p.m.

CMRR already has teamed up with industry on a research and development initiative in magnetic recording and storage through the National Storage Industry Consortium. The consortium, which is headquartered in San Diego, announced in March that it had received a two-year, $10.7 million grant from the Advanced Research Projects Agency to support research on advanced recording technologies.

CMRR received $1.1 million of the grant, Schultz said.

The money will be used to support the five-year goals of the consortium. One of the chief goals is to develop technologies that will allow magnetic disk storage densities of 10 gigabits (10 billion bits) per square inch -- about 100 times the current capacity of a typical hard drive found in a personal computer.

The consortium also plans to develop magnetic tape recording technologies capable of storing 1 terabyte (1 trillion bytes) of data per cubic inch. One byte is the equivalent of eight bits.

The new technologies promise to revolutionize the computer capabilities available to consumers, Schultz said.

"What you see coming is this multimedia concept, where people want to be able to add audio and all types of other media," he said. "Although these programs are now the types of things done by the film studios and the very expensive advertising presentations, as time goes on more and more power of handling multimedia will be put at the disposal of the average user. The programs will be very user-friendly, but they are going to require an enormous amount of memory and upgraded performance."

Multimedia can be used to combine text, sound, still images, motion pictures, and animations. By using a computer, users can interact with the information not only by choosing to read about a topic, but also by selecting films or pictures about it. All this can be accompanied by a spoken presentation or music.

The ability to pack more and more data into smaller areas of magnetic tape also will open the way for such innovations as people having access to their lifetime medical histories, including such things as copies of X-rays and CAT scans.

"You may be on a trip and get sick and need to see a doctor who might say, 'I want to see the CAT scan that you had taken 10 years ago in Oklahoma,' and they'll be able to bring it up on a (fiber optic) network in real time," Schultz said.

Last year, the National Storage Industry Consortium also was awarded a five-year, $5.5 million grant from the Advanced Technology Program of the Department of Commerce to support a separate program aimed at developing ultra-high density magnetic recording heads. CMRR received about $720,000 from the ATP funds.

The upcoming symposium, however, will address the need for a manufacturing initiative that would complement the consortium's research efforts, Schultz said.

"What we are saying is, 'You can't wait until you know exactly how to do everything and then start thinking about the manufacturing,' " he said. "In today's world, you really have to do research and manufacturing in parallel."

CMRR was established in 1983 as the first joint industry- university research effort outside Japan devoted solely to improving magnetic recording technology. The center grew out of the fear that the nation's $30 billion-a-year magnetic recording industry would lose ground to foreign companies without the establishment of major academic centers devoted to magnetic recording research and education.

Industrial sponsors committed $3 million to help pay for construction of the center's 44,000 gross-square-foot facility. They also established four endowed professorships. UCSD committed land and $1 million. Major industrial sponsors of the center continue to provide ongoing funding to support the center's research efforts.

The center's chief goals are to attract and educate students in the basics of magnetic recording technology and to stimulate and support research related to magnetic recording.

Graduate students from departments such as physics, electrical engineering and computer sciences, applied mechanics and engineering sciences, and chemistry are given the opportunity to work on state-of-the-art research projects with center-affiliated faculty. CMRR provides research support for the four endowed faculty chairs.

In addition to the four scheduled speakers, executives from CMRR's industrial sponsors participating in the upcoming symposium include: Richard Balanson, president, Applied Magnetics Corp.; Chris Bjorek, director, advanced technology, IBM; John Brenan, vice president, Metrum Information Storage; Charles Christ, vice president, mass storage systems, Digital Equipment Corp.; David Dunn, chairman of the board, IOMEGA.; Paul Frank, vice president, research and development, Applied Magnetics Corp.; Lowell T. Gooch, executive vice president, operations, Storage Technology Corp.; James M. McCoy, chairman of the board, MAXTOR Corp.; Shyam Parikh, group manager, storage architecture, Digital Equipment Corp.; William Phillips, vice president, direct access storage systems, Storage Technology Corp.; Robert Scranton, director, storage systems and technology, IBM Almaden Research Center; Gordon Smith, president, Kodak Data Tape; Leon Staciokas, senior vice president, operations, IOMEGA; Fred Wenninger, president, IOMEGA.

The companies are among 15 industrial members of the National Storage Industry Consortium.

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