



I.T. TIMES

Volume 3, No. 1 • Information Technology News of the University of California, Davis • September 1995

Long Distance Classroom Learning Project Draws Three UC Campuses Together

by Anne Jackson, Information Technology Publications

With the world changing so fast, how can the university possibly keep up with appropriate course offerings and new programs? Particularly in the face of declining budgets and early faculty retirements, how do we meet the need for graduates trained in new fields—or even keep existing programs afloat when key professors leave or go on sabbatical?

Applied Science Professor Meera Blattner and her colleagues have one answer: combining the resources of UC campuses through distance learning.

'In ten years we'll be able to teach students at opposite ends of the earth and it will be as if the student were sitting in the classroom.'

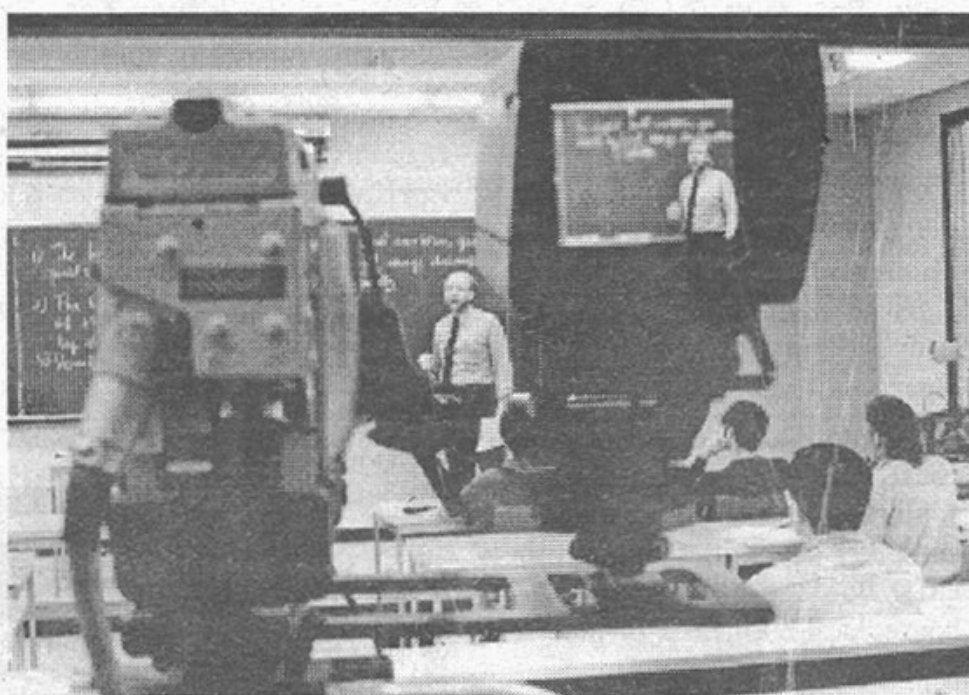
— Meera Blattner

audio courses aimed at adult students working at full-time jobs.

But what Blattner and 19 other professors on three UC campuses have in mind is using the latest in distance learning technology to enable faculty from different campuses to work together to present courses—and eventually programs—to full-time students. The idea is to offer the same courses to students at several campuses at the same time, and to not just replicate a traditional classroom, but to improve on the traditional classroom by taking advantage of sophisticated new interactive, multimedia classroom tools to present information.

Says Blattner, "It's hard to develop a new area at a university. It takes years for students to work through a program and get a degree, so you can't start new programs and drop old programs easily. And there's no point in having one professor on a campus trying to hold down a whole area. The answer seems to be to work across campuses, to have

The distance learning idea is nothing new. The university has been offering distance learning courses for at least 20 years, most of them one-way video, two-way



UC Davis professor Todd Reed uses distance learning technology to beam his Image Sequence Processing class simultaneously to students at UC Berkeley and UC Santa Cruz. Reed is a professor of electrical and computer engineering.

faculty at many campuses who interact and work together to form new areas."

Blattner, who teaches at UCD's Livermore site, was prompted to begin thinking about the possibilities of distance learning by the exploding demand for graduates trained in

the field of digital engineering, one of the most rapidly evolving areas in computer engineering and information science. Digital engineering, which combines audio, video, graphics, and computer networks, has begun to reach across the face of

Continued on Page 4

Technology Support Program Poised for October Lift-off

Having access to a personal I.T. representative was cited as one of the greatest benefits of the Technology Support Program (TSP) by those who participated in the summer pilot.

As Kathy Miner of Economics put it, "just knowing I had an initial contact to call has been so nice."

Miner was one of 21 Technology Support Coordinators who participated in the TSP pilot, which concludes on Sept. 12. Miner and other pilot participants were invited to 15 technology training courses and worked with program coordinator Tim Lehane to outline departmental technology plans. Brown bag presentations, technology updates, and access to an electronic discussion group also were part of the program.

In October, the benefits enjoyed by pilot participants will be extended to others, as Information Technology prepares for full implementation of the Technology Support Program.

TSP orientations are scheduled

regularly throughout the academic year. If you have questions or would like your department to participate in the program send e-mail to tsp@ucdavis.edu

Purchasing a PC? Program Can Save You Money

Campus departments planning to purchase new personal computers (DOS/Windows platform) can receive substantial discounts by participating in a bulk purchasing program coordinated by Information Technology.

The purpose of the program is to give campus departments an opportunity to buy high-end personal computers at reduced rates. At least 100 new Pentium computers will be purchased through the program in October.

I.T. is now accepting orders for the bulk purchase. For complete details, contact Charles Raley at cmrale@ucdavis.edu or 757-8790.

New Schedule for I.T. Times

In response to requests for more frequent communication about technology news and developments, the I.T. Times begins a new publication schedule today. We will publish monthly during the academic year, with a combined December/January edition. The I.T. Calendar, once distributed as a separate handout, now appears here. You can also look for regular Network 21 project updates, case studies, and sites to visit on the World Wide Web.

Along with the new schedule comes a new look created by Doug Gentry and Marianne Post of Repro Graphics.

Contributions are welcome. Send them to itpubs@ucdavis.edu or call 752-5965. If you are interested in learning more about what Information Technology has to offer, come visit us on the World Wide Web at:

<http://www.ucdavis.edu/IT/>

Technology Tip

To subscribe to an e-mail listserv:

Send e-mail to listproc@ucdavis.edu.

Leave the subject line blank.

In the body of the message type subscribe <name of list> <your first name> <your last name>.

Example:

Subscribe net21info Susan Smith

Faculty Online



Gabriel Unda of I.T.'s Creative Communication Services works on Photoshop with Alessa Johns at the Summer Institute for Technology and Teaching held on campus in July. Information about online resources and Information Technology services are found in the Faculty Services Guide to be published at the end of this month.

Quotables

"Following decades of predictions and years of gaining experience, a large number of colleges and universities are now in a position to exploit the classroom potential of electronic technology."

— American Council on Education
Annual Campus Trends Report

Courtesy of Edupage

Inside I.T.

Instructor Turned Matchmaker

People plus information equals potential. Make that unlimited potential.

This is the equation — or philosophy, mind you

— that has plunged Information Technology's Tim Leehane into the depths of technological resources at UC Davis. (See TSP Article on Page 1)

And it is the philosophy that has Leehane playing consultant one moment and matchmaker the next.

Many faculty and staff have met Leehane in the computer lab, where as an instructor he has guided them through the ins and outs of e-mail, wordprocessing, the World Wide Web, and a host of other software applications.

This summer, as coordinator of the Technology Support Pilot Program, Leehane has been helping 21 departments integrate technology into both day-to-day operations and long-term plans.

UC Davis, like the rest of the world, is in the midst of a technological explosion, and campus departments are full of questions and hungry for answers.

"People want answers faster than ever, and they want to be in touch with the people who have the answers," says Leehane. "The Technology Support Program (TSP) will address these needs by giving every department on campus an individual I.T. representative, who will provide personal assistance to that department's support person."

"Sometimes, that assistance will be matching the department with an expert on campus who can provide the answers and solutions."

With technology advancing so rapidly, one lesson has become very clear. No one individual or organization can hold all the answers. But as the technology leader on campus, I.T. can facilitate technical growth by acting as an information clearinghouse — or technological matchmaker.

So while the number of technical networks on campus mushroomed, TSP coordinator Tim Leehane will be seeing that information flows through the personal networks, as well.



Tim Leehane

Oracle Manager Put to the Test

Oracle database manager, Tim Olesen, recently spent two days in New Jersey working with Educational Testing Services (ETS) to develop a certification exam for Oracle database administrators. ETS is a national certification organization that specializes in educational testing and produces such exams as the SAT and GRE. As a result of his efforts, Olesen will become one of the first certified Oracle database administrators.

Art Annex Storehouse Closes

In August, Information Technology discontinued direct sales of computer parts and accessories to the campus through its Art Annex Computer Storehouse.

Campus customers may purchase computer cables, network adapter cards, and other popular computer accessories through the UCD Bookstore, Central Storehouse, local businesses, or mail order catalogs.

Rapidly changing technologies, overlapping campus inventories, and declining sales, all influenced I.T.'s decision to close the Art Annex Storehouse.

"Vendors are offering customers complete computer packages, and departments are purchasing computers which come bundled with network adapters, modems and upgraded memory options. This coupled with the proliferation of convenient mail order service is eliminating the need for an I.T.-supported computer store," says Denny Gagne, who managed the storehouse for Information Technology.

"Our sales were down 50 percent during the 1994-95 year, and we saw that trend continuing," Gagne says. For information call 752-5137 or send e-mail to dfgagne@ucdavis.edu.

Have a High-tech Headache? Call Now for CPR

Despite all the downsizing, resizing, and outsourcing that has gone on in Information Technology, of one thing you can be sure — Computer & Printer Repair (otherwise known as the Apple Service Center) is alive and well. Like an anchor in a sea of change, it is still located in the same place, Art Annex, and has the same working hours, Monday - Friday, 8 a.m. to noon and 1 - 5 p.m.

The name is slightly different



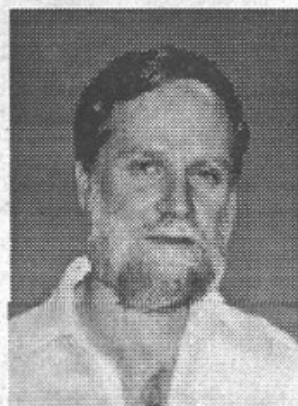
— Computer & Printer Repair —
I.T. - CPR for short.

As an Authorized Apple Service Provider Plus, I.T. - CPR specializes in the repair of Macintosh computers and Apple printers. The center also repairs and conditions many models of Hewlett Packard printers.

Further information is available at <http://itcpr.ucdavis.edu> on the World Wide Web. Call 752-7762.

I.T.'s Very Own Globe Trotter

As part of the I.T.-ANSA group (Advanced Networked & Scientific Applications), Paul Grant's job is to help support academic computing on campus. That's a mission that has taken him literally all over the map. During the past year, for instance, he has helped develop a new minor on campus in Geographic Information Systems (GIS) and Spatial Analysis — which means using computers to perform spatial analysis on geographic data and display the results visually.



Paul Grant

Grant's role has been to handle the lab portion of the classes, teaching students to use the GIS software, Arc/Info, while Wes Wallender from Hydrologic Science and Dick Plant from Agronomy teach the lecture portion. For Spring Quarter they added an Advanced GIS class — uncharted territory that required Grant to develop his own textual material. He also lectures on GIS to classes in Hydrologic Science, Computer Science, and Landscape Architecture. In addition, he has been instrumental in evaluating software on campus, including X Windows emulators — a software windowing system for PCs — and scientific visualization packages, software designed to present scientific data visually.

This spring Grant's contributions in helping to proliferate GIS on campus were recognized with a \$500 Scientific Development Award — money he immediately put to good use by attending a conference put on by Environmental Systems Research Institute, the developers of Arc/Info.

Says Grant, "My biggest satisfaction is working with the people. I enjoy helping them solve problems on the computer, getting their research moving forward and devising instructional material and seeing how they work for the students. I have high regard for the students here; they're pretty amazing people — they're just really interested in learning."

At Home on the Web

Center for Advanced Information Technology (CAIT)

<http://cait.ucdavis.edu/>

The CAIT Home Page includes a calendar of CAIT events, a listing of local technology-related exhibitions and conferences, current technologies on display, how-to documentation, software and hardware available for alpha and beta testing, software evaluations, and workstation support resources. You can also read about the history, mission, and functions of the CAIT, and meet the CAIT staff.

Environmental Studies

<http://www.des.ucdavis.edu/>

Here you will find information about environmental issues on both a local and global scale. In addition to course descriptions and materials, Earth Day updates, opportunities for undergraduate and graduate students, and department events, the Environmental Studies Home Page includes:

- ▶ The California Program for Protecting Biological Diversity
- ▶ Assorted Items Related to the Environment Links to government servers containing environmental information
- ▶ A link to the Information Center for the Environment Home Page

UC Benefits

<http://www.ucop.edu/bencom>

Although still under construction, this page contains a great deal of useful information, including the UCRS Board Election Results, benefits-related phone numbers, links to investment-related Web pages, a link to the UC Office of the President Home Page, and descriptions of the performance of the Defined Contribution Plan & Tax-Deferred 403(b) Plan.

UC Benefits is currently working to add the following items to this page:

- ▶ The UC Savings Program
- ▶ Checklists about benefits during important life events
- ▶ Group Insurance Plans
- ▶ Downloadable benefits forms

Technology Training

<http://it-training.ucdavis.edu/>

This page contains information related to I.T.'s Technology Training program, including: course information, descriptions of instructional programs, a What's New page, and links to downloadable software and other electronic resources.

— Compiled by Bonnie Johnston

Do you have a home page you would like published? Send your submissions to us at itpubs@ucdavis.edu

CASE STUDY

Network Brings Files to the Desktop

by Catherine Curran, Information Technology Publications

Marilyn Kays hasn't installed any new filing cabinets lately. Well, make that filing cabinets with metal drawers.

When appointed Management Services Officer for Pomology and Environmental Studies, Kays knew she had to work efficiently to get the job done.

"I don't have time to go running upstairs because I have to get a file," says Kays, sitting in her office on the first floor of Wickson and pointing the other office she manages above.

So she created electronic filing cabinets.

Always at her fingertips, most of Kays' files rest in her Pentium computer. Contents include personnel information, salary scales, benefits updates, purchase requisitions, campus directives, and all the other information needed to manage a workforce of more than 400 faculty, staff, and students.

To keep her files up to date, Kays depends on her network connections and scanners. Local Area Networks (LANs) connect staff in both Pomology and Environmental Studies. The Environmental Studies LAN is connected to the campus network (and Internet), providing Kays with electronic access to Purchasing, Benefits, Office of the President, and virtually

any other information port in the world.

To navigate the network and ac-

cess the information she needs, Kays uses a World Wide Web browser — usually Netscape. She then uses e-mail (Microsoft Mail) to send memos, di-

rectives, and Web addresses to interested individuals.

"I can find answers to almost any question I have on the network," says Kays, who downloads salary scales from the Office of the President and researches knowledge-bases for software solutions.

To facilitate the transfer of files across the network and save time, Kays installed a variety of software programs on her desktop. For instance, she uses Word and Wordperfect for wordprocessing and Excel and Quattro Pro for spreadsheets.

While network connections have enabled Kays to meet the challenge of managing two campus departments, she is most enthused about what the future will bring. She sees the same economies provided by distributed databases like the BANNER Student Information System becoming possible in finance, purchasing, and other areas, as well.

"Some of these things are just in an infant stage, and I see really good things coming down the road," says Kays.

If you are interested in learning more about streamlining your office functions or joining the Access 2.0 Users' Group, contact Marilyn Kays at mmlkays@ucdavis.edu.

You can visit Environmental Studies on the World Wide Web at

<http://www.des.ucdavis.edu/>

The Individual: Marilyn Kays, Management Services Officer for Environmental Studies and Pomology.

The Challenge: To serve as the MSO for two different departments located on the first and second floors of Wickson Hall.

The Solutions:

- ▶ Local Area Networks (LANs) in both departments.
- ▶ Internet access.
- ▶ Access to more than one software program for wordprocessing and database management.
- ▶ Office network administrator.
- ▶ The same phone number for both offices

The Tools:

- ▶ Windows for Workgroups
- ▶ Access 2.0
- ▶ Netscape
- ▶ E-mail
- ▶ World Wide Web
- ▶ Spreadsheets (Excel & Quattro Pro)
- ▶ Scheduling Program
- ▶ CorelDraw graphics program

Her Advice:

- ▶ Use online resources.
- ▶ Send memos, forms, and other communications through e-mail whenever possible.
- ▶ Form personal networks, so you can learn from the experience of others. Kays has formed an Access 2.0 database workgroup on campus.



Marilyn Kays

PROJECT UPDATE

NetWork 21

The long-awaited Network 21 Project is underway. The project, which will interconnect the campus with a high-speed fiber optic network, is scheduled for completion in June 1997. It will be completed in four phases:

- ▶ Phase I: Communication closet renovation
- ▶ Phase II: Placement of high-speed fiber optic cable
- ▶ Phase III: Installation of electronic routers and hubs
- ▶ Phase IV: Installation of horizontal wiring in buildings

When Network 21 is fully configured, individuals will be able to plug computers into the campus network in much the same way telephone connections are made.

Closet Renovation

Work on the first phase of the Network 21 project — communication closet renovation — began in July. To make sure existing infrastructure is compatible with Network 21 technology, communications closets in many campus buildings must be renovated — and in some cases expanded — to provide adequate electrical capacity and ventilation. Closet renovation will

be conducted in phases, and departments located in campus buildings where renovation work is scheduled have been notified.

Contact Diana Ross at dlross@ucdavis.edu or 754-8186 if you have questions about the closet renovations.

Preparing for Bids

Contractors and subcontractors representing nine pre-qualified vendors gathered on campus July 26 & 27 for the Network 21 Campus Fiber Optic Cable System Project Pre-Bid Conference. UC Davis is soliciting bids from contractors to design and build the fiber optic cable system that will form the backbone for Network 21. Jim Burns, project manager for the campus fiber optic cable system, coordinated the event.

Archaeologists at Work

As I.T. prepares to move the campus into the 21st century with construction of Network 21, archaeologists will be making sure the past is preserved. Pacific Legacy of Woodland has been selected as archeological consultant for the Network 21 project. Before trenches are dug for placement of



The pre-bid conference for the Network 21 Campus Fiber Optic Cable system was held on campus in July.

the network's fiber optic cable, Pacific Legacy will survey and sample the area for archaeological finds. Any significant resources that are recovered will be donated to an appropriate cultural or historical center. When Native American archaeological, ethnographic, or spiritual resources are found, identification and handling of those resources will be conducted jointly by an archeologist and Native American representatives who are approved by the local Native American community as scholars of their cultural traditions.

Buildings Connected by Network 21

When complete, Network 21 will connect over 200 buildings on campus. For a current list of buildings to be connected by Network 21, send e-mail to itpubs@ucdavis.edu or call 752-

5965. In the message, please include your name, department, and e-mail address. Also, indicate how you would like to receive the list — through e-mail or on paper.

The list of buildings can be viewed on the World Wide Web at

<http://cr.ucdavis.edu/>

E-mail Updates

To receive regular updates about the Network 21 project, you may subscribe to the electronic mailing list net21info. To subscribe send e-mail to listproc@ucdavis.edu. Leave the subject line blank and in the body of the message type: Subscribe net21info <your firstname> <your lastname>.

As a subscriber you will receive Network 21 Briefs, an electronic newsletter.

I.T. CALENDAR

SEPTEMBER 1995

S	M	T	W	T	F	S
					1	2
3	4	5	6 Macintosh Internet Tools	7	8	9
10	11	12	13 Telephone Training	14	15	16
17	18	19 Filemaker Intermediate	20 Voice Mail	21 Visual Data Analysis '95	22	23
24	25	26	27 Library Resources	28	29	30

September

- 6** Macintosh Internet Tools: (two-part course offered Sept 6 & 8) Staff Development, 8:30-11:30 a.m., 40 Mrak; 752-1766.
- Voice Mail Training: Communications Resources, 10:30 a.m. - Noon; Communications Bldg. 752-6888.
- 19** Filemaker Intermediate: (two-part course offered Sept 19 & 21) Staff Development, 8:30-11:30 a.m., 40 Mrak; 752-1766.
- 13** Telephone Training: Communications Resources. Multiline training from 10:30 a.m. - Noon and Single line training from 1:30 - 3 p.m.; Communications Bldg. 752-6888.
- 20** Voice Mail Training: Communications Resources, 1:30 - 3 p.m.; Communications Bldg. 752-6888.
- 21** Visual Data Analysis '95 I.T.'s Advanced Networked & Scientific Applications will host the annual Visual Data Analysis colloquium.
- The event will



showcase hardware and software available for research computing at UC Davis. Topics to be covered include Geographic Information Systems, Obtaining Data on the World Wide Web, Biological and Chemical Computing, Statistics, Symbolic Mathematics, and Scientific Visualization.

Space is limited. For more information and to register contact Stephanie Rice at 752-0141 or slrice@ucdavis.edu.

- 27** Overview of Library and Internet Resources: Library Services, 10:30-11:30 a.m., 2nd Floor Instruction Room, Shields Library; 752-1678 or e-mail klfirestein@ucdavis.edu.

October

- 11** Internet Using Netscape: (two-part course offered Oct 11 & 13) 1:30-4:30 p.m., 40 Mrak; 752-1766.
- 17** Campus Service Fair: Technology Training, Photography & Illustration, Voice Mail, and Computer & Printer Repair are among the many Information Technology services to be featured at this all-day campus event in Freeborn Hall.

Site License Agreements Benefit Workstation Users

Information Technology has negotiated extended site license agreements for software that runs on SUN, DEC, and SGI workstations.

Under the new agreements, scientific researchers and other workstation users will continue to have access to software, support, and documentation. In addition, the cost to renew SGI software site licenses will be discounted.

Interested individuals can benefit from the site-license agreements

by joining the I.T. Vendor Software Library. Membership in the Library provides access to the software of choice and reduced consulting rates.

For rates, software information, and other details on the SUN, DEC, and SGI software site license programs, contact either Hugh Everett or Earl Bertram of Information Technology by sending e-mail to vsl@ucdavis.edu. You also may call 752-2548 and press 4 at the prompt for further information.

Oracle Users to Receive Discounts

As part of an agreement between Oracle and University of California Office of the President, UC Davis has restructured its software license agreement and commitment to Oracle.

Voice Mail Upgrade

The campus voice mail system was upgraded in August, and new user guides have been distributed to all departments. Several new features are available. For complete details of the voice mail upgrade call 752-4603 and ask for a Customer Service Representative.

The terms of the new agreement include, but are not limited to:

- ▶ a 75% discount on all server products (20% discount on development and future products)
- ▶ a 50% discount on documentation ordered direct from Oracle
- ▶ reduced rates on training direct from Oracle

For details of the new agreement, contact Bob Boyd, at 757-8907 or send e-mail to rpboyd@ucdavis.edu. Interested individuals should subscribe to the ucd-oracle mailing list.

Distance Learning Project Draws Three UC Campuses Together

From Page 1

society, affecting science, engineering, education, home entertainment, medicine, business, and the arts.

Yet, digital engineering does not fit comfortably into any one traditional university department, and no one UC campus has had enough students and qualified faculty to offer the needed courses or to successfully launch a digital engineering program. UCD/Livermore has three digital engineering professors, but partly because of its geographical isolation 80 miles from the UC Davis campus, lacked enough students to be able to offer advanced classes on a regular basis. UC Berkeley has lost critical faculty in digital engineering to early retirement, and UC Santa Cruz, with a growing computer engineering department, needed additional faculty to enlarge its course offerings.

Says Blattner, "I thought, wouldn't it be nice if we could group together to present a sequence of courses in this vital new area."

The result was a pilot project, funded by the UC Office of the President and conducted this spring, in which faculty from UCB, UCD, UCSC and Lawrence Livermore Lab shared the teaching of two graduate courses and one graduate seminar in digital engineering, with instruction beamed simultaneously to students at the four sites. Todd Reed of the Department of Electrical and Computer Engineering presented the course emanating from UCD—Image Sequence Processing (EEC 209).

Digital engineering, which requires examining complex design details and therefore requires high quality media transmission for real-time audio, video, graphics, and image processing, has presented an ideal testbed for the new distance learning technology.

With traditional distance learning technology, students can see and hear the instructor and be heard in return, but they cannot be seen, interact freely with the instructor and other students, or participate in hands-on activities, and they may have trouble getting needed materials.

But the technology now available brings distance learning students into the full classroom experience. Students and instructors are able to see one another in life-size displays projected on a screen and to talk back and forth in real-time. Collaborative tools allow professors at different sites to share data sets, graphics, and images to create a product interactively in a virtual shared workspace. With the incorporation of desktop technology, students can interact one-on-one with an instructor, use a projected whiteboard to draw sketches and correct notes, or work with the instructor to annotate documents and databases. Any needed materials can be transmitted to the student electronically. And just around the corner is virtual reality technology, which will allow students to use a projected three-dimension image, for instance, to dissect a frog, with the movements translated electronically into an actual dissection, or to learn to use a potter's wheel in virtual space.

The technology is expensive and not all of it is available yet on the UCD campus—the pilot project



Meera Blattner

had to make due with more limited capability—but Blattner and the other distance learning project participants hope to change all that. A new proposal, to be considered this fall, would build on the pilot project, expanding the courses offered to nine. The proposal includes enough funds to incorporate new desktop technology and interaction techniques, and will bring project participants closer to the goal of establishing an intercampus digital engineering program.

And a third proposal, still pending, would allocate \$1 million to create classrooms with the full range of multimedia and interaction capabilities, allowing faculty to conduct office hours, tutoring, and student-to-student collaborations via desktop.

Whatever else happens, says Blattner, distance learning is the movement in higher education. "In ten years we'll be able to teach students at opposite ends of the earth and it will be as if the student were sitting in the classroom."

Other I.T. Publications

To facilitate your use of technical resources, the Division of Information Technology publishes a variety of reference materials and how-to documents. Updated versions of *Recommended Solutions*, *Quick Tips*, the *Faculty Services Guide*, and other I.T. publications will be published at the beginning of Fall Quarter and distributed to faculty and campus units. Copies will be available at *Information Express* on the first floor of Shields Library. If you would like to receive copies of all I.T. publications, send e-mail to itpubs@ucdavis.edu.

I.T. TIMES

The I.T. Times is published by the Division of Information Technology, University of California, Davis, to inform the campus community and others of information technology services, facilities, and activities at UC Davis. It is distributed free of charge to members of the user community and to other universities.

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Editor: Catherine Fehr Curran 752-5965
 Writer: Anne Jackson 754-8302
 Assistant: Bonnie Johnston 752-1009
 Designer: Marianne Post
 Masthead: Doug Gentry

Contributors to this issue:
 Meera Blattner
 Tim Leahane
 Kevin Roddy
 Charles Raley
 Tim Olesen
 Paul Grant
 Marilyn Kays
 Diana Ross
 Doug Hartline
 Kent Kuo
 Earl Bertram
 Pete Peterson

Joyce Johnstone
 Ken Firestein
 Gabriel Unda
 Denny Gagne
 Robert Rabston
 Faust Gorham
 Sandy Duncan
 Jim Burns
 Marsha Reoddick
 Bob Boyd
 Hugh Everett