Engineer Explores Laser Potential In Silicon Chips

It could be argued that silicon, that unremarkable element found in sand, made the modern computer age possible. It has long been the material of choice in the modern semiconductor electronics industry, because of its abundant availability and exceptional electrical properties.

However, it is not the only semiconductor material. In fact, silicon has not been the material of choice for semiconductor photonic devices, such as light-emitting and detecting devices. But research being conducted by Professor Greg Sun of the Engineering Program may change that. If his research results in a process for using silicon in semiconductor laser applications, it may pave the way for the development of a “superchip” that will be able to process both electronic and optical signals through the same material.

A recent development in the area of semiconductor laser devices has opened the door for Sun and his colleagues to explore a new way to produce lasing in silicon. “Silicon is a so-called “indirect bandgap material,” Sun explains. “In semiconductors, there are usually two energy bands: the conduction band and the valence band. They are separated by a bandgap. Depending on how the bands line up, the gap is either direct or indirect.” Materials of direct bandgap are desirable for making photonic devices because of efficient interaction with photons while electrons make transitions between the two bands.

“Scientists have recently discovered a new optical process which involves transitions inside either band, but not necessarily between the bands. This means that it is potentially possible to achieve lasing in silicon-based materials,” Sun says. Silicon would have several advantages over other semiconductor materials, such as the availability of substrates (flat pieces) in larger sizes, a higher degree of crystal perfec-

continued on page 12
Honoring King’s Principles

The Seattle Times distributed a memorable public service message last year. Below a photograph of the Rev. Dr. Martin Luther King Jr. are the words “arrested,” “home bombed,” “stabbed,” “beaten,” “jailed,” and “assassinated” with corresponding dates. A question follows: “So that you could sleep in on January 15, 1996?”

For many Bostonians, this year’s Martin Luther King Jr. holiday was more than just a day off. It was a day to remember a man who fought for equality and to observe the principles for which he stood — consideration, love, care and concern.

“I think the celebration of Dr. King is broader than Dr. King,” said Dr. Harold Horton, associate director of the William Monroe Trotter Institute. “We have to show concern for all our brothers and sisters.” Horton spoke to the non-sectarian Community Church of Boston in Copley Square on Jan. 19.

While teaching and attending graduate school in Chicago in the early 1960s, Horton became acquainted with King and marched with him several times. King had relocated his family to Chicago to promote unity among blacks in the North and South, Horton said. “We would just sit around at the feet of Dr. King and others,” he said, reminiscing his Chicago days.

“Dr. King’s role was very crucial, very important, very inevitable,” he said. But the celebration should be broader, and Horton believes King would have wanted it to be. “I not only salute Dr. King today, but I salute all those who were snatched away,” he said, referring to African forefathers forced into centuries of slavery. “I salute all the people who were oppressed and opposed and resisted oppression,” he said.

“I admire Dr. King ... with his principles of love and nonviolence,” Horton said. These ideas went against the grain of those opposing passive resistance. “It took real civilized people to say, ‘We’ll turn the other cheek,’” he said.

During a question-and-answer session, one woman requested ways to commemorate the holiday. Horton suggested educating oneself and recommended one of King’s books, Why We Can’t Wait. “If you’re interested in his philosophical views of love and nonviolence, you should read this book,” Horton said. He also advised celebrating, in general, a more humane, civilized and inclusive society. “It makes us stronger people, a stronger nation, to be inclusive,” he said.

Proposed as a holiday on April 8, 1968, four days after King was assassinated, the birthday of the civil rights leader was first observed nationally as a legal holiday Jan. 20, 1986. The only American besides George Washington whose birthday is a designated holiday, King is one of few social leaders in the world to be honored with a holiday.
The Dean's Corner: Eric Hayden

To Dean Eric Hayden, the College of Management is like a corporation. Students are customers, faculty and staff are production managers, and he's the chief executive officer. When he explains his management style, it's concise and easy to understand: "We expect results."

In less than four years as chief academic officer of the College of Management, Hayden has gotten most of what he's expected. The College is more visible. MBA program curriculum has been revitalized. Faculty engagement with the business community has increased. Applications and enrollment in the MBA program have grown some 30 percent annually. Alumni giving has increased more than 50 percent, and corporate giving has increased several-fold.

When Hayden came to UMass Boston in 1993, drawing attention to the College was a priority. "We felt that the College needed to have greater external visibility," he said. "We were relatively unknown in the business community." Becoming more well-known increases opportunities for collaborations and heightens the awareness of potential students and corporations who refer and hire students, Hayden explained.

Through the Business Development Center, a Hayden venture, more companies have aligned themselves with the College. The Center's three components — the Environmental Business and Technology Center, Minority Business Assistance Center and Greater Boston Manufacturing Partnership — offer community service, consulting opportunities for faculty, and student internships and work/study positions.

Hayden also restructured the Corporate Advisory Board and developed individual student and alumni advisory boards of about 15 members each. The Corporate Advisory Board consists of local business leaders. "We're also working to develop better hooks to our alumni," Hayden said, hence, the Alumni Advisory Board. The College also holds semi-annual alumni events and recognizes their role as potential hirers and referrers of students, he said.

The Student Advisory Board keeps Hayden in touch with student leaders. Annually he invites students recommended by faculty and staff to participate in monthly, 90-minute meetings. Hayden believes the College's delivery capacity has improved since the Board's inception.

The dean concedes disappointment with undergraduate enrollment but is pleased with the increases in MBA applications and enrollment. These increases have been accompanied by a rise in standards, Hayden added. For example, the average GMAT score for a UMass Boston student is above 520. (According to the Education Testing Service, two-thirds of GMAT test takers score between 380 and 590.) "We have been very vigorous in maintaining our high standards — GMAT, G.P.A., references and work experience," he said. At the undergraduate level, the College has launched a marketing effort focusing on college transfer and high school students.

"I want the College to be an undisputed member of the second tier of business schools," Hayden said of his vision. According to him, the College is in the third tier of Boston business schools, competing with those at Northeastern University and Suffolk University. Harvard Business School is an example of a first tier school. The step up to the second tier, comprised of business schools such as those of Boston College, Boston University and Bentley, will be accomplished through continually revisiting and refining our core educational product and attaining accreditation, he said. The College is halfway through the five-year process to attain accreditation from the American Assembly of Collegiate Schools of Business.

Hayden's life experiences have taught him the value of working together to reach goals. A former Navy lieutenant who served in Vietnam, Hayden has played team sports and coaches youth soccer. He acknowledges the results he expects — and gets — are achieved through faculty and staff teamwork and commitment. "It's not just Eric Hayden's vision. It's the entire team's vision," he said. "They've been wonderfully supportive."

Hayden earned his Ph.D. at Johns Hopkins University, his A.B. at Princeton University and has studied at New York University and the American University of Beirut. Before coming to UMass Boston, he taught at Tufts University and was president of Investors Bank and Trust Company.
At Art Gallery, Students Run the Show

The collection in the Harbor Art Gallery commands the attention of passersby on the catwalk, promising an escape from the mundane. For those who are lured to the first floor of McCormack, the artwork rarely disappoints. Perhaps equally intriguing is the fact that the Gallery, which often hosts more than 1,000 visitors per show, is run and funded entirely by students.

Frank Tipping, a third-year studio arts major, has been director for two years. “The whole concept of it being run by an undergraduate is a great thing,” Tipping said. “There’s an incredible amount of responsibility. It’s nice to be given that type of responsibility and respect.”

In his part-time position, Tipping squeezes in a long to-do list: planning shows, budgeting, supervising volunteers and work/study assistants, publicizing events, organizing receptions and meeting artists. That’s not to mention the labor it takes to put up a show: double-checking shipments for insurance purposes, planning the layout, hanging the pieces and making labels — all of which takes about 12 hours.

“He and the students who volunteer for him do a fantastic job,” said Sam Walker, assistant professor of art and faculty advisor to the Gallery. Walker’s role is clearly advisory. He often brings shows to the director’s attention and drops by to see how things are going, but makes no demands. “It is an entirely student-run gallery. I am strictly the faculty liaison to the art department,” he explained.

“However, the art department does not have any say on what goes on in the Gallery.”

While Walker and staff advisor Donna Neal of Student Life encourage artistic freedom in the Gallery, never has the Art Department nor any other campus entity tried to censor shows. “I don’t get censored from anyone above me. I wouldn’t want the job if that happened,” Tipping said. The most memorable objection to his selections occurred last June. From a distance, the works in the show looked painted, Tipping said. Upon closer inspection, guests could see they were collages of various magazine photos. A mother who brought her child to view the artwork was unaware that several nude photographs were visible and abruptly ran out with the child.

Art is often provocative and offensive to some, explained Walker. “My sense is that Frank is looking for the most interesting work he can get in the gallery,” he said. “He is in a very difficult situation, since this is the only art gallery on campus and it is run by student affairs.” Funding is provided by the Student Arts and Events Council. Students wanting a show approach Tipping. “He’s got to try to fit a lot into a very small schedule,” Walker added.

What might be viewed as too much pressure for an undergraduate work/study student is an enviable break to some. “It is very much an arts administration job,” Walker said. There are arts administration graduate students all over the country who would die to have Frank’s job.” For Tipping, the job is an opportunity to learn another side of the art world. “Since I do studio work, I wanted to understand the business side,” he said.

From Dec. 19 through Jan. 28, the works of Vietnamese artist Pham Luc were on exhibit. His show “The Lucid Heart” offered the UMass Boston community dramatically different images of Luc’s country than most Americans were used to seeing. His first show in the United States, Luc had sold eight of his pieces by early January. Tipping said he makes a special effort to include international artwork. “A very worldly, diverse body of art is what I like to represent,” he said.

Although he has a few pet peeves when it comes to the Gallery (people on campus who say they haven’t heard of it, close-minded visitors and those who touch the walls and artwork), Tipping is an approachable director who welcomes comments and criticisms and mostly enjoys discussing the collection with visitors.

Upcoming Shows

“Urbanics”
Feb. 10 through Feb. 28
Features the African Latino Alliance, a group of young Boston artists. This 30-piece show, which includes collages, photographs, canvas and other art forms, is full of vibrant colors and feelings.

“One Night Only”
March 13 through April 11
Prints and other works are by Charles and John Hancock.
Teachers Teach Teachers at Writing Project

Last summer, 24 kindergarten through 12th grade teachers from urban and suburban schools came together at the Boston Writing Project’s Summer Institute, where they discovered new ways to approach the teaching of writing in the classroom. What can teachers from such a broad spectrum of backgrounds learn from one another?

“Quite a lot,” answers Judith Doherty, co-director of the Boston Writing Project (BWP). “It’s amazing the enrichment that goes on when such a diverse group comes together to reflect and discuss what goes on in the classroom, and the theory behind it,” she says. The Boston Writing Project’s motto, “teachers teaching teachers,” has facilitated programs like the Summer Institute since its inception at UMass Boston in 1979. The BWP is one of approximately 170 National Writing Project sites. Together, they comprise a national network of teachers committed to improving the teaching of writing.

The BWP’s annual Summer Institute is a one-month, four-day a week collaboration for administrators and teachers. Each individual brings his or her best lesson plan to start a discussion around successful educational practices, and a willingness share their writing with colleagues.

“I know this sounds strong, but I consider the Summer Institute to have been a life-changing experience,” says John Clancy, a sixth grade language arts teacher at the R.G. Shaw Middle School in West Roxbury. “The first day of the Institute, we were asked to raise our hands if we considered ourselves writers. Only two of us raised our hands. We considered ourselves teachers, not writers. But that changed. It was the first time in my life that I felt validated as a writer.”

According to Clancy, the Institute changed the way he approached writing with his students. “I now know that no one assignment will motivate all kids—asking them all to write an essay on ‘What I did over summer vacation’ won’t excite them. I’ve incorporated many kinds of writing assignments, and brought in a journalist from the Boston Herald, local authors, and others who may inspire my students to write and respond to literature.”

Last year, the Massachusetts Legislature allocated $100,000 through the Education Reform Act toward a new state entity, the Massachusetts Writing Project. The Boston Writing Project was chosen as one of its sites. This infusion of funds allowed Doherty to be hired to manage the day-to-day administration of the program. Founder and director of the BWP, Professor Joseph Check, now directs the Leadership in Urban Schools track of the doctoral program at the Graduate College of Education. The BWP also receives funding from the National Writing Project, UMass Boston, and local public school systems.

The BWP also sponsors a summer writing workshop for high school students, and a “training of trainers” seminar in which eight teachers met to design a series of in-service workshops which can be offered in local schools. The participants train as facilitators. Weekend and day workshops take place during the year. The BWP also offers schools consulting services, professional development, and curriculum planning.

Through its programs, the BWP engages teachers with the task of improving the teaching of writing at many different levels. For John Clancy, it was the personal revelations about himself as a writer that seem to have triggered new enthusiasm for the subject he teaches. “Often, training opportunities are in response to a mandate from administrators, and they end up being something you have to do. What’s great about the Boston Writing Project is that it was beneficial, both professionally and personally.”
New Labor Resource Center Opens Doors

For the first time in UMass Boston's history, all labor-oriented activities on campus will be conducted under one roof. Until now, the Labor Studies Program, the Center for Labor Research, and the Labor Extension Program have provided the local labor movement with access to degree and certificate programs, research opportunities in labor issues, and outreach programs for unions and labor organizations in Massachusetts.

"It's a new day nationally and locally for the labor movement, the era of the educated labor leader," says Professor James Green, regarding the recent creation of the new Labor Resource Center. Now, Green says, the three areas of activity will be coordinated in a team model that he believes will result in an expanded capacity to serve the labor constituency, greater coordination of services to students and organizations, and increased interaction between the areas of education, research, and outreach.

UMass Boston has offered the only undergraduate labor degree program in New England for the past seventeen years. Approximately 70 graduates of the Labor Studies program have pursued degrees to further their career goals, seek political office, or simply to further their educations.

"With the advent of the new Resource Center, we will be placing more students in research areas, having them do practical field work, and bring more students into contact with the real issues of labor and unions," Green says. He points out that most of the students in the program come to UMass Boston with significant experience with labor organizations, making them well-suited to work in the field.

“We also intend to do more than pure, academic research at the center. We’ll set up forums and debate public policy issues. If a group comes to us for a regional study of the labor market, we might not undertake that project ourselves, but we would connect them to others who would. As a resource center, we want real people to be able to come to us, get answers to their questions, and connect with others,” Green says.

The AFL-CIO Massachusetts leadership has played a major role in advising the new center. Green says that through the Center’s interface with the AFL-CIO and through discussing ways that the Center could assist them, the AFL-CIO helped the Center define its mission statement. Strengthening the labor movement, supporting progressive social change, and promoting economic justice for working people in the Commonwealth are key components of the Center’s mission.

According to Green, organized labor is facing some very big challenges, including privatization, corporate downsizing, health and safety concerns in the workplace, and unemployment. “We want to provide the resources labor organizations will need to strategize about and have an impact on new public policies that address these issues,” he says.

“We can level the playing field for working people and ensure that their side of the public policy debate is heard, the same way that the business community has business schools and institutes that play that role for them,” says Green. “Age and race discrimination, poverty, human rights—these are public policy questions, and we want to shape public policy on behalf of our constituency,” he says.

Green is acting director of the new center until a permanent director is chosen this Spring.
House Parliamentarian Visits UMass Boston

For the past 32 years Charles Johnson has had a front row seat to many of the outstanding and historical moments on Capitol Hill. Parliamentarian of the House of Representatives, Johnson is the appointed, non-partisan attorney who researches bills and advises the speaker of the house and all congressional committees on points of inquiry and procedure.

In Boston Dec. 11 to attend an orientation for new members of Congress at Harvard University, Johnson made a stop at UMass Boston to lead a roundtable discussion sponsored by the McCormack Institute.

A graduate of UMass Amherst and the University of Virginia Law School, Johnson was appointed in 1964 by Speaker John W. McCormack. He has since worked with four other speakers—Carl Albert, Thomas P. O'Neill, James C. Wright and Newt Gingrich.

"I have not been very happy with the trends in Congress," Johnson told 17 listeners. He attributes some of the disappointment to the lack of spontaneity in debate, the influence of television and the lack of collegiality in Congress.

Today, according to Johnson, the House has a tendency toward modified closed rules. "The term modified closed rules refers to the amendment process. It restricts the offering of an amendment which might otherwise be in order," Johnson explained. Modified closed rules also set time parameters that are more confining, he said.

Congressmen now know well in advance when most bills will be presented, diminishing spontaneity. Legislators have the opportunity to prepare statements, many of which are intended to be used as sound bites by their local media, Johnson said. There is no ongoing engagement of dialog. "You turn on the TV at night and more than likely you see a member with a poster," he said. "As a listener I would much prefer to listen to spontaneous debate as opposed to someone who now knows they have three minutes," he said.

In the McCormack days, Congress was not preoccupied with television coverage. A member would jump up and be very eloquent. With the exception of congressional orators such as Barney Frank, today's dynamic does not approach the debate of the 1960s and 1970s, Johnson said.

Things are also different when it comes to members of Congress getting along. Johnson said he started with a collegial house and a very heavily populated democratic partisan house where the minority was treated fairly. Johnson listed some conditions that contribute to the ill-will: divisive phenomena, such as forcing members to vote on abortion; the discontinuation of bipartisan social events, such as committee travel; the lack of tolerance for opposing viewpoints; the pressure to raise increasing amounts of money; diminishing opportunities to debate and present alternatives; and narrow agendas.

As a result of the changes in Congress, the job of the parliamentarian has changed. For example, instead of being concerned with spontaneity, as in the previous years, the office now focuses on what will be said next and how to advise members on their response to what is said.

Despite the changes in the congressional leadership, Johnson said he has found his job rewarding and is grateful the office of parliamentarian has remained in tact. "It's a challenging time to be there since no Republican had ever presided over the House in the last 40 years," he said.

Most fond of John W. McCormack, Johnson shared thoughts about other speakers.

On John McCormack: Eating dinner with his wife was a ritual that often required her being driven to the Capitol to preserve.

On Carl Albert: Intelligent but often indecisive about policies and procedures.

On Tip O'Neill: "He became a folk hero ... He, like John McCormack, always had time to spend with staff."

On Jim Wright: Aggressive. Used rules committee in a heavy-handed, technically fair way to push his agenda.

On Newt Gingrich: His willingness to allow the House to proceed under a focused agenda, coupled with his rise to power (his role in Jim Wright's resignation), led to his becoming "demonized."
Appointments

Associate Professor of Philosophy Jennifer Radden was elected president of the Association for the Advancement of Philosophy and Psychiatry (AAPP) at its meeting on January 16. She was appointed for a two-year term. The AAPP was established in 1989 to encourage interdisciplinary activity in philosophy and psychiatry by fostering collegial exchange.

Aditi Pain, a third-year Ph.D. candidate in the Environmental Sciences program, has been selected as an Urban Environmental Fellow by the Environmental Services Cabinet of the city of Boston. The fellowship is co-sponsored by the city and the Urban Harbors Institute. Pain will assist in the implementation of the Environmental Protection Agency's brownfields site development plan, which aims to upgrade and revitalize environmentally degraded areas in Roxbury.

Professor Brian Thompson of the Modern Languages Department was decorated as a Chevalier des Arts et des Lettres by the Consul General of France in Boston, Maurice Portiche for his literary, pedagogical and musical efforts to promote French language, literature and culture. Thompson also attended an international colloquium on Andre Malraux, where he presented a paper, "Les Yeux de la Memoire: Imagination Visuelle dans L'Espoire." The colloquium was held at Verrieres-le-Buisson, and La Sorbonne and UNESCO in Paris.

Associate Professor Linda Dumas of the College of Nursing was elected a Distinguished Practitioner in the National Academy of Practice in Nursing. Chosen for her significant contribution to nursing, Dumas will be presented with a medallion at an April ceremony in Arlington, Virginia.

Calendar

On February 26, The Ghana Dance Ensemble, featuring master drummer Baba Olatunji, will make a special appearance in the Student Lounge, McCormack Hall, from noon to 2:00 p.m. Admission is free, preregistration is required. The 28-member touring group will present a program of drumming, dancing and singing to mark the beginning of UMass Boston's Multicultural Drum Festival. The Ensemble's appearance and the festival are funded by a Ford Foundation Campus Diversity Cultural Resource Initiative Grant, awarded to Constance Chan, co-director of the Institute for Asian American Studies. For more information, call 287-5650.

Grants

The Gerontology Institute has been awarded a $385,000 grant from the Robert Wood Johnson Foundation to support a study which will investigate expanding home care effectiveness for the elderly through the use of low-cost adaptive equipment. Francis G. Caro, acting director of the Gerontology Institute, will direct the 30-month study.

The Gaston Institute is sponsoring two Speaker's Series presentations in February: on February 11, Tim Dunn of the Sociology Department, University of Texas at Austin, will present "The Militarization of the U.S.-Mexican Border: Low-Intensity Conflict Doctrine Comes Home;" and on February 18, Professor Gary Orfield, Harvard University, will speak on "Inequalities & Latino School Reform in San Francisco." Both lectures will be held on the 11th floor, Healey Library, from noon to 2:00 pm. Pre-registration includes lunch. To register, call 287-5790.

The Gerontology Institute and Center will host Visiting Scholar Michael Thornton, Ph.D. speaking on "Black Caregiving: Racial or Cultural Effects?" on Feb. 6, in the CPCS conference room, Wheatley Hall, 4th fl., noon to 1:00 p.m.; and on Feb. 13, Prof. Paula Dressel, Georgia State University, will present "Grandparent Caregivers: Expanding the Agenda," in the Troy Colloquium Room, 2nd fl., Wheatley Hall, noon to 1:00 p.m.

Publications

A new book, Revitalizing General Education in a Time of Scarcity: A Navigational Chart for Administrators and Faculty, addresses implementing curricular and organizational changes in colleges and universities. Authors are GCOE Professor Zelda Ganson of NERCHE, GCOE Associate Professor Sandra Kanter, and Howard B. London of Bridgewater State University. The book is published by Allyn & Bacon.
Fitness Center Can Help You Keep New Year’s Resolutions

Let’s face it: by the end of January, many new year’s resolutions have faded into the dreary winter landscape. Those fervent promises to lose ten pounds, or start exercising regularly, made when that final piece of cheesecake tipped you over the edge, can be hard to keep.

Before your plans to get fit are put off until the weather improves, consider this: if you are a UMass Boston student, faculty or staff member, you have access to a state-of-the-art health center with excellent equipment, frequent classes and other facilities. And unless you have a built-in gym or treadmill in your home, it’s the best deal in town.

The Beacon Fitness Center offers a wide range of fitness equipment, including treadmills, nautilus machines, bicycles, stairmasters, bodymasters, and free weights. There are two courts for raquetball, handball and squash, a track for jogging or walking, and an aerobics studio. Along with modern showers and lockers, there is a lounge for catching your breath at the end of your workout.

The Beacon Fitness Center is unique,” says Assistant Professor Avery Faigenbaum of the Human Performance and Fitness Program. “It is a state of the art fitness center where the students, faculty and staff can come for a workout, and also a laboratory for students.” Last semester, students from Faigenbaum’s HPF 370, Practicum in Adult Fitness, designed exercise programs to meet the needs of Beacon Fitness Center members. As a result, the students gained experience in exercise prescription, fitness testing, program design, and exercise counseling, and members benefitted from their knowledge and attention.

Helen Day, head operator of the Telecommunications Department, was assigned a HPF 370 student as her personal trainer last fall. At that time, she was a new member, who had been urged to join by Beacon Fitness Director Deborah Wein.

“I had joined a walking group organized by Deborah, and when she found out that I had lost 50 pounds, she suggested that I join the Center to get muscle training and toning into my exercise routine,” Day says. She had gained the weight when she quit smoking 14 years ago. “My ‘inspiration’ to diet and exercise came from my doctor, who told me to lose weight to control my high blood pressure,” she says.

Day’s “personal trainer,” David Fallon, helped her modify her exercise routine to better fit her needs and goals. “He suggested that I cut back on my exercising to an hour or less a day, to avoid overdoing it. With his help, I have a routine which includes the treadmill, free weights, and workouts on several of the machines. It generally takes me around 45 minutes.” Day uses the Center two or three times a week, in addition to her once a day walking routine. “The key to my success has been consistency,” she adds.

Faigenbaum stresses that before a member is assigned a student trainer, they are given a general health assessment. No student is assigned more than two members. “Students learn to respond to a person’s exercise needs, and to think on their feet before they go out to their required internships, which may be in clinical settings, such as a hospital cardiac rehabilitation unit, or in corporate fitness centers such as Wellbridge or Fitcorp Fitness Centers, or in exercise physiology and strength training at colleges and universities,” he says.

Students from HPF 370 will be available to Beacon Fitness Center members again this semester. The Center is open seven days a week: Monday, Wednesday and Friday from 8 a.m. to 8:30 p.m.; Tuesday and Thursday from 7 a.m. to 8:30 p.m.; Saturday and Sunday from 1 p.m. to 6 p.m. A new aerobics class schedule will be available February 1. Cost for faculty and staff is $100 per year; students use the center free of charge.

For news on campus closings due to inclement weather, tune in to local radio and TV news, or call 287-5000.
Conference and Seminars

More than 25 affiliates from the Gerontology Institute and Center made presentations at the Gerontological Society of America's 49th Annual Scientific Meeting held Nov. 17-21, in Washington, D.C. Among the presenters were faculty members: Frank Porell, Barbara F. Turner, Yung-Ping Chen, Robert Morris, Masato Oka, Nina Silverstein, Francis G. Caro, and former Gerontology Institute Director Scott A. Bass; Fellows, policy analysts and research associates: Robert Weiss, Elizabeth Clemens, Tom Leavitt, Joan Hyde, Wichian Rojanawon, and Alison Gottlieb; Ph.D. graduate Ajith Silva and nine Ph.D. students: Yongjin Son, Adrienne Rosenberg, Galina Katutsky, Kirsten Corazini, Connie Tau, Marianne Lyons, Vanessa Calderon, Bei Wu and Terri Salmons.


Director Zelda Gamson moderated a panel discussion on the topic, "The Public Scholar."

Scholarship and Grant Opportunities

University President William M. Bolger has announced the formation of a new program which will provide first- and second-ranked scholars from Massachusetts' 400 high schools with four-year scholarships to any of the system's undergraduate campuses. The University Scholars Program will provide a $8,000 annually to the recipients for up to four years, providing that they maintain a 3.0 grade point average. The scholarships will be available to students entering the University of Massachusetts in the Fall, 1997.

Vice Provost for Sponsored Projects and Public Service Paul Benson has announced the 1996-97 Professional Staff Development Grant Program. Full-time professional staff are invited to submit proposals for initiatives that support the University's mission as an urban public university. The maximum award is $1,000, and 8 to 10 projects will be funded. Application deadline is Wednesday, March 10. For more information, contact Bernie Gardner at 7-7454.

Doctoral Dissertations

Gerontology Ph.D. candidate Ruth Turner Goins defended her dissertation on January 24. The title of her dissertation was "Health Related Quality of Life: Effects of Individual Characteristics and Rural Residence." Committee members were: Dominique Ingeneri, Chair; Francis G. Caro, James Mitchell, and Jane Clouterbuck.

In Appreciation

Through the efforts of UMass Boston faculty, staff, students, and WUMB, listeners, over 6,000 books were donated to Project Parents Library Program. The book drive, sponsored by WUMB, will provide books for a small library at the Walter Denny Youth Center at Harbor Point, and will supply other libraries at housing projects throughout the City.

Faculty Opportunity

Tenured UMass faculty members fluent in German, experienced in advising, and holding a doctorate are invited to apply for the position of Resident Director of the University of Massachusetts-Baden-Württemberg Exchange Program for 1997/98. The application deadline is Feb. 21. For more information, contact Christine Arnold at 545-2710 (e-mail: lawrence@polsci.umass.edu) or Lawrence Ryan at 545-3960 (ryan@german.umass.edu).

The Learning Center

The Learning Center Special Offerings for February

New Employee Orientation, February 4 and 19
Internal Grant Competitions, February 5
Research and Professional Activity on the Internet, February 10, 12, and 24
Introduction to Quark XPress, February 11
Personal Safety and Crime Prevention, February 12
Understanding the Americans with Disabilities Act, February 19, 24
Introduction to Windows 95, February 13
Accessing Online Library Resources, February 20
Advising Students about Becoming Teachers, February 24

Registration

Register early. Enrollment is limited, and workshops are filled on a first-come, first-served basis. Register by e-mailing The Learning Center at: learningctr@umbsky.cc.umb.edu or calling 287-3990. Contact Phil Quaglieri or Anthony Martin for more information.

Check out what's happening at UMass Boston on our world wide web site at http://www.umb.edu
Art Students Use Computer as Paintbrush

Somewhere on campus you might run into a hair growth product advertisement showing two photos—a “before” of a balding John F. Kennedy and an “after” featuring the president’s familiar coiffure. Also on campus is a book containing “Don’t Mess With Me,” a baroque-style portrait of boxer Mike Tyson.

Then there is the dark blue, concentration camp piece showing crowds of Holocaust victims accelerating to a vanishing point where Stalin and Hitler wait. Or you might see the football stenciled with nonlinear poems describing domestic violence and illustrated with a silhouette of a woman crouching in defense.

These student masterpieces are from last semester’s ART 297, “Digital Imaging,” taught by Visiting Assistant Professor Timothy Nohe. At his world wide web site, Nohe gives a brief description: “The coursework is based upon a fundamental engagement of technology practice as formed by critical and conceptual reasoning, and by the precedence of modernist and postmodern modalities.”

A broad survey of art and technology, ART 297 is an academic montage. It contains myriad art forms, including art history, painting, printmaking, photography, literature and music, as well as lessons in computers, ethics, copyright, advertising and critical thinking.

Although a 200-series art course is a prerequisite for the class, some students are intimidated by the syllabus. Nevertheless, they register. In fact, both sections of ART 297 are full and, in mid-January, had a waiting list of 11 students. A more advanced course, ART 380, “Digital Media,” is also full.

“Some of my most interesting students are absolutely petrified when they first come in,” Nohe said. Students with limited computer skills are nervous about creating on the computer, while those with more advanced computer knowledge expect “a blow-off course,” he said. Both are surprised.

“There’s a really quick leveling,” he added. The knowledge of the computer-savvy students is offset by what they don’t know about art. Also, many have never created art with a computer. “I consider it to be just another artists’ tool,” he said.

The first two weeks blend technical computer lessons with art projects. Nohe impresses upon students the beauty and power of the computer and familiarizes them with the desktop, functions and terminology of the computer. They create using PageMaker and Photoshop and search for images on the Internet using Netscape. (The latter is a lesson in itself, as many students find the library is still a more favorable source for artwork.)

Balancing a highly technical, computer-based class of 15 students with varying skills is challenging but not impossible, Nohe said. “You have to find out who’s really lost immediately,” Nohe said. “I try to relate to them.” He tells students of his own frustration taking computer programming courses as a student. This approach must work. “I didn’t lose any students last semester,” he said.

Many students come into the course with notions of computer art as science fiction and productions such as “Terminator 2” and “Toy Story,” Nohe said. He approaches them with history, collages and photo montages and demonstrates that many other images, such as some CD covers and MTV videos, are computer generated.

Fall 1996 was the first time “Digital Imaging” was offered at UMass Boston. “The art department has really identified a need for this course,” said Nohe, who taught digital media at the University of California, San Diego.

Students displayed prints and a digital video from mid-November through early December in the lobby gallery of the Art Department. An online version of the show will soon be posted on the world wide web. Students in the more advanced Digital Imaging course will be required to author web sites either to display their own work or to assist local non-profit organizations in getting on the Internet.
tion, better native oxides, and superior mechanical and thermal properties.

Three years ago, Sun was researching new compound semiconductor materials when he came up with the idea of looking at the use of silicon in optics and laser technology. He discovered that his interest in producing light out of silicon was shared by the Air Force Office of Scientific Research at its Rome Laboratory research facility located in Bedford, MA.

Sun has received $110,000 in funding from Rome Laboratory to explore turning the potential into practical application. "Since electronic and photonic devices have to interact with one another, it would be desirable to integrate them both onto a single chip which would result in a higher degree of integration at a reduced cost," Sun says. If successful, this research could lead to low-cost integration of advanced photonic or laser devices with advanced electronic devices on silicon. This in turn could lead to applications in optical interconnections, optical communications, and optical computing.

"Right now, interconnections between devices and chips are made by electrical contacts with parasitic effect, which limits the speed of device operation. With both devices in the same chip, you can make connections optically to eliminate the parasitic effect, thereby enhancing the integrated performance," Sun says. It is possible that the computing process could become faster as a result.

In addition to the funding Sun has received from Rome Laboratory, he was awarded a research associate position there for the summers of 1995 and 1996. In his laboratory at UMass Boston, he works with one post-doctoral research fellow and a number of graduate students.

Sun received his doctorate in electrical engineering from Johns Hopkins University in 1993. He earned a masters degree in computer engineering from Marquette University, and completed his undergraduate work at Peking University in Beijing, China, in 1984. Sun joined the UMass Boston faculty in 1993.

Five years ago, faculty invited 300 high school students to learn about opportunities in the sciences. In 1993, this venture was named "Science Day." Students explored labs, observed experiments, and met professors.

Science Day '97, held Jan. 14-15, hosted over 700 students from 20 local high schools. Faculty made 34 presentations, ranging from "Microbes in Boston Harbor," to "Art of Rocketry."

"Days in the Life of a Geologist," a presentation by Professor Andrew Genes, was many students' first exposure to geology. "I explained my research on Mt. Olympus in Greece, the rationale for it, how students participated, and how it would result in a publication," he says.

Faculty members volunteer for Science Day, believing high school teachers should not be alone in promoting the sciences. "I really enjoyed the interaction, and the interest the kids showed. It's been very satisfying to me," says Genes.