

In brief

Economic Development



UMASS TO LEAD STATEWIDE INITIATIVE TO STRENGTHEN HIGHER ED "IT" PROGRAMS

To Friends and Supporters of the University of Massachusetts:

The shortage of skilled labor — especially in information technology, or IT — continues to be the Commonwealth's most serious economic development challenge.

In higher education, we are discovering that more and more students are seeking to develop competency in information technology. Some want degrees in existing science and technology fields, such as computer science and engineering, while others are anxious to learn how to apply IT in disciplines ranging from nursing to journalism. Similarly, we are finding that employers are seeking more computer scientists and engineers, as well as other professional and liberal arts graduates with a strong fluency in IT.

Unfortunately, a study conducted last year by the Massachusetts Board of Higher Education (BHE) found that our public higher education system was not fully meeting the state's need for well-educated IT workers. To respond to this challenge, the University, in partnership with the state and community colleges and private industry, has developed an ambitious and innovative new initiative — the Commonwealth IT Initiative.

This new statewide initiative will result in development of a new IT curriculum (a new major, minor, and concentration in IT); strengthening and modernizing current curriculum in computer science and engineering; creation of five

regional academic/industry alliances to develop strategies to address regional IT needs; and activities to update and enhance faculty skills.

This is proposed as a three-year initiative, and is designed to leverage existing strengths within the public higher education system, forge new alliances among institutions, and create new partnerships with industry — all with the goal of strengthening and modernizing IT programs in public higher education. As such, this will be one of the most comprehensive and far-reaching higher education initiatives in the country for developing the IT workforce.

We are especially appreciative of the support from BHE Chair Stephen Tocco, Chancellor Judith Gill, and Vice Chancellor Jack Warner in developing this initiative. In addition, I recognize the special leadership provided by Computer Science Chair James Kurose and Engineering Dean Joseph Goldstein, heads of two nationally ranked programs at UMass Amherst.

The Commonwealth IT Initiative will begin this fall. When the initiative is completed, there is no question that Massachusetts will be positioned as a national leader in IT workforce development.

William M. Bulger
President
University of Massachusetts

In This Issue

Meeting the Workforce Needs of the Commonwealth 2

Helping Massachusetts Firms Stay Competitive 4

Benchmarking the State of the Economy 5

Technology Commercialization and Entrepreneurship 6

Key Contacts 7

Upcoming Events 8



“The Commonwealth IT Initiative will help make Massachusetts a national leader in preparing students for careers in Information Technology.”

STEPHEN TOCCO,
Chair, Board of Higher Education

President Bulger Focuses Workforce Committee on IT

UMass President William M. Bulger is chairing the Workforce Development Committee of the Governor's Economic Development Council. Under his leadership, the committee has decided to focus its efforts on the need to develop a stronger information technology (IT) workforce in the Commonwealth. The committee is developing a five-part set of recommendations focused on promoting the study of math/science and engineering, addressing the math/science teacher shortage, expanding IT training programs, strengthening higher-ed IT programs, and establishing a leadership position for IT in state government.

Contact: Tom Chmura, Vice President for Economic Development (617)287-7021

495 Center Launches MS in Computer Science

The UMass I-495 Center for Professional Education in Westborough is now offering a master's degree in computer science. The program is operating under the leadership of UMass Lowell in connection with the other University campuses. UMass Lowell Professor James Canning and members of the center's staff will coordinate the effort. University professors drawn from UMass campuses and qualified adjuncts will deliver the program. Some courses will be offered via distance learning, including Amherst's video instruction program. The program currently has five classes; more are being planned for the spring semester.

Contact: Barbara Macaulay, UMass Center for Professional Education (508)616-7909 or Macaulay@donahue.umassp.edu

UMass Dartmouth Business School Receives National Accreditation

The Charlton College of Business at UMass Dartmouth recently became one of only 373 business schools in the country to be awarded international accreditation by the International Association for Management Education, formerly the American Assembly of Collegiate Schools of Business. The accreditation, the culmination of a complex five-year process, signifies that the school meets the highest academic standards. “This accreditation is not a destination, it's a milestone, a progress rating of how far we have come,” says Ronald McNeil, dean of the business school.

Contact: Ronald McNeil, Charlton College of Business, UMass Dartmouth (508)999-8432

UMass Boston Appoints First-Ever Dean of Corporate, Continuing, and Distance Education

Dirk Messelaar, a former director of continuing education at UMass Lowell, has been appointed dean of UMass Boston's new division of Corporate, Continuing, and Distance Education. Messelaar will lead the division in collaborating with colleges and academic departments to reach a greater number of working professionals. This includes increasing distance education programs, developing undergraduate certificate programs, and establishing corporate partnerships. Some of the division's new initiatives include: courses televised to Martha's Vineyard and Nantucket, computer classes at a new downtown Boston location, and IT certification courses on the Boston campus.

Contact: Dirk Messelaar, Corporate, Continuing, and Distance Education, UMass Boston (617)287-7925

**UMass Boston Provides
Telecommunications Training
for AT&T**

UMass Boston's Division of Corporate, Continuing, and Distance Education (CCDE) has contracted with AT&T to provide telecommunications training for 800 of its employees. CCDE will provide 128 hours of instruction to customer and sales representatives located at AT&T's national customer service headquarters in Fairhaven. The first phase of training will introduce employees to the history, development, and future of telecommunications technologies so they can respond better to customer inquiries. More specifically, training will include telecommunications legislation and regulation, new telecommunications products, and key concepts in digital information systems.

Contact: Dirk Messelaar, Corporate, Continuing, and Distance Education, UMass Boston (617)287-7925

**Lowell Partners with Moldflow
Corporation on Plastics Molding**

Lexington-based Moldflow Corporation, a supplier of software for the design and manufacture of plastics molding, has donated a \$4.5 million, state-of-the-art computer system to UMass Lowell's Francis College of Engineering. The Moldflow Computer Simulation Laboratory, which includes three high-tech software components, will allow students to design and analyze plastics. Marc Dulude, president and CEO of Moldflow, noted that the donation is mutually advantageous because the company benefits from highly trained UMass graduates. "We have a wonderful relationship with UMass Lowell," says

Dulude. "We hire a lot of their graduates. This school is, if not the best, certainly one of the best plastics engineering schools in the world."

Contact: Steve McCarthy, Institute for Plastics Innovation, UMass Lowell (978)934-3417

**UMass and Mass Telecom Council
Sponsor 2nd Camp Telecom**

UMass Boston, in partnership with the Massachusetts Telecommunications Council, recently completed its second annual Camp Telecom, a technology "bootcamp" for high school students. During the three-week program, participants learned about JAVA programming, computer animation, and wireless technology. They also participated in field visits to a variety of local companies, including Bell Atlantic, RSA Security, JPS Uniphase, and Fidelity Investment's Center for Applied Technology. In addition, high school teachers attended a training seminar sponsored by the Bell Atlantic Ed-Link Grant, which helps them devise methods to introduce these technologies into the classroom. More than twenty Massachusetts telecommunications companies participated in the program by offering corporate scholarships to interested students.

Contact: John Ciccarelli, Economic Development, UMass Boston (617)287-7893

HELPING MASSACHUSETTS FIRMS STAY COMPETITIVE

Natick Labs Signs Collaborative Agreement with UMass

UMass and the U.S. Army Soldier Systems Center, known locally as Natick Labs, recently announced that they will work together to research, develop, and commercialize protective clothing, equipment, and integrated protective systems, as well as food-related technologies and products. These products and technologies will be developed for use by the armed forces, astronauts, and civilians in "high-risk" occupations. Under the agreement, UMass and Natick Labs will share facilities and research capabilities. "This is truly a win-win situation," says Natick Soldier Center Director Philip Brandler. "I am pleased and proud that we have the opportunity to work with and share information and facilities with such a prestigious and well-regarded university system."

Contact: Tom Chmura, Vice President for Economic Development (617)287-7021

UMass Breaks Ground for Tech Center in Fall River

Construction of the UMass Dartmouth Advanced Technology & Manufacturing Center, at the site of the former Kerr Mill in Fall River, is under way. The \$19 million research, technology, and learning facility is expected to open next year. The remainder of the 33-acre site will be leased to high-tech and manufacturing companies, which would benefit from the services of the University. Local officials anticipate that the center will help create between 600 and 1,000 new jobs for residents of the region and help

compensate for jobs lost when Kerr Mill burned in 1987. "Rising from the ashes of that devastating fire 13 years ago comes new economic opportunity for citizens of Fall River," said Governor Paul Cellucci at the June 28 groundbreaking ceremony.

Contact: Paul Vigeant, Economic Development, UMass Dartmouth (508)999-8773

UMass Amherst Centers Focus on Energy Improvements

The Massachusetts Industries of the Future (IOF) Program, a joint venture between the National Environmental Technology Institute (NETI) and the Center for Energy Efficiency and Renewable Energy at UMass Amherst, was recently awarded a \$100,000 grant from the U.S. Department of Energy. UMass developed the program to assist industries in devising technologies to reduce industrial pollution using energy-efficient strategies. The chemical, printing, publishing, and forest products industries are among those identified for improvement.

Contact: Larry Amb, Center for Energy Efficiency and Renewable Energy, UMass Amherst (413)545-2539

UMass Lowell Shares in Award for Reducing Toxics

The Massachusetts Toxics Use Reduction (TUR) Program, co-sponsored by UMass Lowell's Toxics Use Reduction Institute (TURI), was a recent recipient of the Innovations in American Government Award, sponsored by the Ford Foundation. The program, which

reduces the level of toxic pollutants by helping industries find environmentally safe alternatives, was the result of a mutual effort among the Massachusetts Department of Environmental Protection, the Office of Technical Assistance, and UMass Lowell's TURI office program. It was among ten winners selected from a pool of 1,500 candidates competing for the \$100,000 award. TURI director Ken Geiser says, "This is a great example of how we at UMass Lowell can truly be innovators in the operation of both industry and government."

Contact: Ken Geiser, Toxics Use Reduction Institute, UMass Lowell (978)934-3275

Raytheon Supports Microwave Lab in Amherst

Raytheon continues its long-term support of academic and research pursuits at UMass Amherst with its recent donation of \$250,000 to upgrade equipment at the Microwave Remote Sensing Laboratory. The lab, supervised by Professor Calvin Swift, is used to produce sensors that monitor atmospheric, oceanic, and terrestrial conditions. Some practical applications of the technology include its use in the mobile-telephone and computer industries. UMass Amherst is among a small number of schools in the nation with a microwave research facility. The Lexington-based company hires between ten and twenty UMass Amherst graduates annually.

Contact: Joe Goldstein, College of Engineering, UMass Amherst (413)545-0300

Benchmarking the State of the Economy

Fall Issue of Massachusetts Benchmarks to Be Released

The fall 2000 issue of *Massachusetts Benchmarks* is scheduled for release in early October. The issue includes three feature articles authored by UMass faculty. Sarah Kuhn of the Lowell campus presents a regional profile of the Route 495 high-technology beltway. Clyde Barrow of UMass Dartmouth profiles the textile and apparel industries in the Commonwealth, excerpting from and updating his recently published study. Alan Clayton-Matthews, UMass Boston, provides his quarterly analysis of trends in the state economy in "Massachusetts Currents." This and past issues of *Benchmarks* can be read on the Internet at www.massbenchmarks.org.

Contact: Steven Landau, UMass Donahue Institute (617)287-7040

UMass Boston Studies Environmental Industry

Professors David Terkla and Betty Diener of the Boston campus have jointly authored a study of the environmental business industry in Massachusetts. Terkla and Diener found that Massachusetts ranks seventh in sales (representing 4 percent of total U.S. sales in the industry), and eighth in employment (accounting for almost 4 percent of national employment), while it ranks tenth in number of businesses (3 percent of the nation). The environmental industry's growth rate slowed dramatically in the 1990s. Companies have been advised to move their focus from "end of the pipe" cleanup activ-

ities to pollution prevention, look to international markets for growth opportunities, and sell products and services that integrate environmental management with business strategies which will contribute to core businesses. The Environmental Business Council of New England co-sponsored this analysis with the UMass Economic Project.

Contact: Steven Landau, UMass Donahue Institute (617)287-7040

UMass Dartmouth Reports on Textile and Marine Industries

Working with UMass Dartmouth faculty, the University of Massachusetts Economic Project has published two studies that highlight industries critical to the Southeastern Massachusetts economy. Clyde Barrow analyzed the textile and apparel industries, and the marine economy was studied by Daniel Georgianna. In Massachusetts, the textile and apparel industries account for more than 72,000 jobs. These reflect a decline in apparel manufacturing but growth in textiles, resulting partly from the state's superior textiles technology. The marine industry has experienced many shifts over recent decades, due to factors as diverse as overfishing and changing dietary preferences. Final versions of both studies are available from the UMass Donahue Institute.

Contact: Steven Landau, UMass Donahue Institute (617)287-7040

Technology, Commercialization & Entrepreneurship

AnVil Informatics Becomes Newest UMass Lowell Start-Up

UMass Lowell scientists Georges Grinstein and Kenneth Marx have teamed up to form AnVil Informatics, a producer of software that analyzes and presents data gathered from gene research. The software is expected to aid in the testing of drugs on gene sets and ultimately lead to new drug treatments. The University has invested seed money in the company and holds both an equity position and the license to royalties. This collaboration marks a turning point for the Lowell campus, which has historically licensed faculty-developed technology to outside corporations. Lou Petrovic, director of External Funding, Technology and Partnering, noted the benefits of creating local companies that are expected to employ many students who live in the region. The company will be housed in UMass Lowell's Commercial Development Center.

Contact: Lou Petrovic, External Funding, Technology and Partnering, UMass Lowell (978)934-2577

UMass Worcester Licenses Cancer Technology to Zycos

UMass Worcester recently signed a licensing agreement with Lexington-based Zycos, Inc., to aid in the research and development of cancer-fighting drugs and diagnostics. The agreement gives Zycos rights to develop drugs and diagnostics involving P450 cytochrome CYP1B1, an enzyme found in many types of cancer. The initial findings are based on the research of Dr. William F. Greenlee, a faculty member at the UMass Medical

School, and three researchers at University of Aberdeen in England. Under the agreement, Zycos will make royalty payments to the University, which will own a minority equity stake in the company.

Contact: Michael Henry, CVIP (508)856-1626

Solutia Donates Plastics Technology IP to UMass Lowell

Solutia Inc., a St. Louis-based manufacturer of high-performance chemical materials, recently donated to UMass-Lowell nylon reactive pultrusion technology, intellectual property rights, and related assets and equipment valued at \$5.8 million. "We are honored and pleased to accept this gift from Solutia," says Chancellor William Hogan. "This innovative transfer of technology benefits not only Solutia and UMass Lowell but also the many companies and industries that will be served by our development and commercialization of new technology." Lowell's Institute for Plastics Innovation, directed by Stephen McCarthy, hopes to pair with industrial partners and sub-licensees to develop applications that use the process. Nylon reactive pultrusion technology provides a low-cost means of manufacturing profile shapes such as I-beams, reinforcing bars for concrete, and ski poles. These materials have superior strength and offer the important advantage of being highly recyclable.

Contact: Lou Petrovic, UMass Lowell (978)934-2577

UMass Boston Sponsors Environmental Venture Forum

Ten Massachusetts technology companies were among a select group to present to more than 60 private investors during the East Coast Environmental Capital Forum, sponsored in June by the UMass Environmental Business and Technology Center. The forum is part of the environmental incubation activities that the Commonwealth of Massachusetts has undertaken through its Strategic Environment Partnership (STEP) program, a collaboration between UMass and the Executive Office of Environmental Affairs. The featured companies were SilvaQuest (Somerville); CASTion (Ludlow); ElectroChem, Inc. (Woburn); Analine.com; (Cambridge); Adrenaline Research, Inc. (Hudson); SelecTech, Inc. (Taunton); EnergyGuide.com (Newton); Ion Signature Technology (Cambridge); Water Recovery Systems (Middleboro); and Stirling Advantage, Inc. (Athol).

Contact: Bill Brah, Strategic Envirotechnology Partnership (617)287-7723

ECONOMIC DEVELOPMENT

UMASS OFFICE OF THE PRESIDENT
One Beacon Street, 26th Floor
Boston, MA 02108

Tom Chmura
Vice President for Economic Development
(617) 287-7021 Fax: (617) 287-7044
tchmura@email.umassp.edu

J. Lynn Griesemer
Executive Director of the UMass Donahue
Institute and Associate Vice President
for Economic Development
(617) 287-7045 Fax: (617) 287-7022
griesemer@donahue.umassp.edu

Lisa Smith
Staff Assistant, Economic Development
(617) 287-7191 Fax: (617) 287-7044
lsmith@email.umassp.edu

UMASS AMHERST

Jaymie Chernoff
Director of Economic Development
UMass Amherst
Goodell Building, Box 33293
Amherst, MA 01003
(413) 545-4516 Fax: (413) 577-1500
chernoff@admin.umass.edu

UMASS BOSTON

John Ciccarelli
Assistant to the Chancellor for
Economic Development
UMass Boston
McCormack Building
100 Morrissey Boulevard
Boston, MA 02125
(617) 287-7893 Fax: (617) 287-7725
j.ciccarelli@umassp.edu

UMASS DARTMOUTH

Paul Vigeant
Alumni Director and Special Assistant
to the Chancellor
UMass Dartmouth
285 Old Westport Road
North Dartmouth, MA 02747-2300
(508) 999-9143 Fax: (508) 999-8773
pvigeant@umassd.edu

UMASS LOWELL

Louis J. Petrovic
Director of External Funding,
Technology Transfer and Partnering
UMass Lowell
One University Avenue
Lowell, MA 01854
(978) 934-2577 Fax: (978) 453-6586
Louis_Petrovic@uml.edu

UMASS WORCESTER

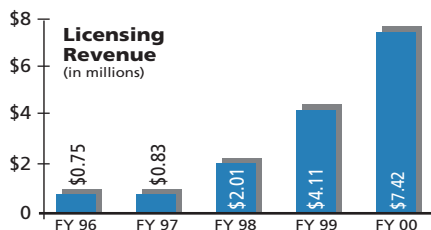
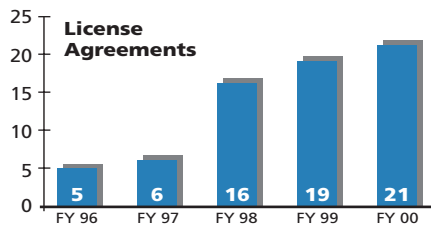
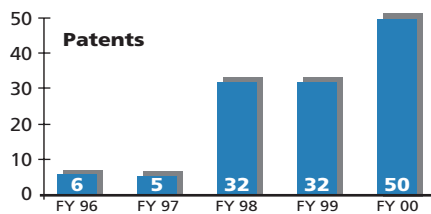
Joseph F.X. McGuirl
Executive Director, CVIP
UMass Worcester
365 Plantation Street, Suite 130
Worcester, MA 01655
(508) 856-1626 Fax: (508) 856-1482

Key Contacts

Another Record-Breaking Year in Technology Commercialization

The University of Massachusetts completed another record-breaking year in its efforts to commercialize technology developed by its faculty. During FY 2000, the University earned \$7.4 million in licensing income. In the past year, the University also produced 101 faculty inventions, 50 patents, and 21 license agreements. Technology commercialization at UMass is administered by the Office of Commercial Ventures and Intellectual Property (CVIP).

Contact: Bill Rosenberg, CVIP
(508) 856-1626



Office of Economic Development
University of Massachusetts
One Beacon Street, 26th Floor
Boston, MA 02108
Address Service Requested



This and past issues of *In Brief*
can be found on the Web at
www.umassp.edu/admin/news/inbrief

Upcoming Events

October 4

6 P.M. to 8 P.M., Westborough

Information Session at UMass I-495 Center for Professional Education

The UMass I-495 Center for Professional Education will be holding information sessions this fall for individuals and organizations interested in programs in information technology and the Professional MBA. These programs, designed for working professionals, will be offered at the campus of the Massachusetts Technology Collaborative in Westborough.

For more information, call Barbara Macaulay, UMass Center for Professional Education (508) 616-7909 or e-mail 495info@umassp.edu.

October 18

7:30 A.M. to 10 A.M., Newton Marriott

Engineering in Massachusetts Collaborative Semi-Annual Event: Building Mutual Learning Networks

This meeting will focus on the Commonwealth's growing need for a skilled workforce in the fields of science, engineering, and technology and how industry can become better aware of its role in the education of the future workforce.

For more information, call Pamela Provencal, UMass Lowell (978)934-2572.

November 4

7:30 A.M. to 5 P.M., UMass Amherst

Mass Ventures Flight School: A Financing Clinic for High Growth Start-Ups

Mass Ventures, UMass Amherst's venture development affiliate, will hold a "flight school" for entrepreneurs. The program is an intensive one-day seminar on high-growth entrepreneurship for entrepreneurs in the Northeast and for selected UMass Five College Entrecub participants. Speakers include Dan Roach of Garage.com; Steve Spinelli, co-founder of Jiffy Lube; Felice Kincannon of Monitor Marketspace Center in Cambridge; and Steve Willis, UMass alumnus and co-founder of Wellfleet Communications and Argon Networks.

For more information, contact Jaymie Chernoff, UMass Amherst (413)545-4516 or get information on line at www.umass.edu/oed/events.