

In Brief

Economic Development



MESSAGE FROM THE PRESIDENT

To Friends and Supporters of the University of Massachusetts:

On behalf of the faculty and staff of the University of Massachusetts, I am pleased to introduce to you the first edition of a new quarterly publication -- UMass Economic Development, In Brief.

When the University of Massachusetts was founded in 1863, economic matters were central to its mission. The original Massachusetts Agricultural College immediately went about the business of honing and nurturing the state's agrarian economy.

Today, more than a century later, the five-campus University of Massachusetts acts to fulfill its economic stewardship responsibilities in many ways. Specifically, the university:

- educates and trains a major portion of the state's workforce;
- helps Bay State firms to be competitive in a technology-based global economy;

- commercializes its technology and helps spawn new companies;
- partners with local and regional industry and economic development groups;
- benchmarks and analyzes the state economy for the benefit of state policy-makers.

The University of Massachusetts is committed to generating intellectual capital that can be used to enrich the lives of our citizens and help build the economy of the commonwealth. Its activities are recognized as most valuable to the commonwealth's economic vitality. This publication has as its purpose a brief description of the university's pursuit of its public mission.

William M. Bulger
President
University of Massachusetts

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University System Commits to Expanding Employer-Based Education Efforts

In response to the growing demand for lifelong learning in the commonwealth, the university recently undertook a comprehensive, system-wide evaluation of its role in providing off-campus corporate and continuing education around the state. As a result, President Bulger has mandated a stronger university role in areas such as education and training for the information technology industry, teacher re-training and development, training for state government agencies, and an expanded institutional presence in the fast-growing Route 495 corridor. A new organization, the President's Outreach Council, will foster new efforts in these areas.

For more information, contact
Karin McCarthy, UMass Donahue Institute
(617) 287-7054

University System Forges Workforce Partnership with Fidelity

In the first system-wide initiative of its type, the university has entered into a partnership with Fidelity Investment Systems Company to help strengthen its information technology curriculum and to help Fidelity address its technical workforce needs. Steve Akin, president of Fidelity Investment Systems Company, will serve as the company's "relationship manager" with the university. Among the first initiatives developed through the partnership is a

technology exploration program, through which UMass students will team with Fidelity professionals to learn about specific jobs and how to apply IT in a work environment.

For more information, contact
Karin McCarthy, UMass Donahue Institute
(617) 287-7054

State-Wide Engineering Collaborative Developed to Attract More Students to Engineering

Under the leadership of UMass Lowell engineering dean Krishna Vedula, the Engineering in Massachusetts Collaborative is being developed to attract more of the state's future workforce into the field of engineering. Through public education, teacher externships, work-based learning opportunities, and business/education cooperation, the program expects to heighten current and future employees' math, science, engineering, and technology skills. Ultimately, this will increase the number of skilled employees across the state, filling the fast-growing personnel needs of the commonwealth's high-tech businesses. The initiative is a collaborative effort among businesses, state government, and the state's public and private engineering colleges.

For more information, contact
Christine Karavites, UMass Donahue
Institute (617) 287-7054, or
Dean Krishna Vedula, UMass Lowell
(978) 934-2576

**President Bulger Announces
New Engineering Program
at UMass Boston**

Boston has been the largest city in the nation without an engineering program at a local public university. Faculty and deans of the colleges of science and engineering at UMass Boston and UMass Lowell recently identified electrical engineering as the field with the greatest potential for employment in the Boston area, then developed a rigorous curriculum that could be rendered with limited resources. Thanks to this unique collaboration, a four-year program in this high-demand field is being made available to students at UMass Boston. Undergraduates in the program will complete their first three years at the Boston campus and their fourth at Lowell, long established as a leader in engineering education.

For more information, contact
Dean Christine Armett-Kibel,
UMass Boston
(617) 287-5777

**Raytheon Commits \$1M to the
University for Engineering
Education**

Raytheon Chairman and CEO Dennis Picard and UMass President William Bulger have jointly announced a gift of \$1M from Raytheon Company to the university. The gift is designated for a number of specific purposes: stimulation of alumni

fundraising capacity via a challenge grant, with the company's funds used for university-wide initiatives that encourage more women and minorities (K-12 and through college years) to prepare for careers in engineering and related fields; enhancement of the Remote Sensing Laboratory at the Amherst campus; and encouragement of cross-functional, inter-disciplinary approaches to engineering education at the Amherst, Dartmouth and Lowell campuses. The commitment also includes potential involvement of Raytheon personnel as mentors, and opportunities for co-op placements and summer employment at the company.

For more information, contact
Ronald P. Suduiko, UMass Foundation
(617) 287-5590

**MITI Expands University's
Capacity for Distance Learning**

Three years ago, the Massachusetts Turnpike Authority offered the university the use of fiber optic cable running along the turnpike for application in educational programs. Since then, the university has worked diligently to link its campuses electronically through a program called MITI: the Massachusetts Information Technology Initiative. The network now carries 25 digitalized video broadcasts weekly to students across the state, serving continuing education, Honors College, and special programs at all campuses. In the months ahead, the university hopes to

connect community colleges and other educational institutions to this potent new educational technology infrastructure.

For more information, contact
Peter Carino, UMass President's Office
(413) 587-2121, or see the MITI Website
(www.umassp.edu/MITI)

**UMass Lowell Forges Partnership
in Telecom Education with
Bay Networks**

In a unique joint venture, UMass Lowell and Bay Networks of Billerica have teamed up to deliver a certificate program in data/telecommunications. It is being made available to all Bay Networks employees, customers and vendors worldwide. The program combines several of Bay Networks' router technology courses with the university's own courses to create a customized program for the firm. Some of the courses will be offered over the World Wide Web. As a result of this effort, Bay Networks employees and customers are able to gain "best-in-class" training, along with college credits, in critical areas of telecommunications.

For more information, contact
Dirk Messelaar, UMass Lowell
(978) 934-2490

Amherst Launches Strategic Information Technology Center

Several Massachusetts corporations have signed on to a new university/industry consortium at UMass Amherst. The Strategic Information Technology Center in the Isenberg School of Management will support member companies in a better understanding of the complexities of managing information technologies, prepare students to add value as IT interns and professionals, and bring real-world IT practices to the university. For companies facing the scarcity of IT professionals, the consortium offers a chance to keep staff at competitive levels and share best practices with non-competing firms.

For more information, contact Les Ball, UMass Amherst (413) 545-5654

UMass Amherst and Kollmorgen Create Alliance

UMass Amherst signed a Master Alliance Agreement with Kollmorgen's Electro-Optical Division (EOD) to collaborate on future research and development. The agreement offers partnership planning and administrative support services and simplifies the initiation of new projects. The alliance concept was pioneered by the Amherst campus's Office of Science and Technology Advancement.

For more information, contact Jaymie Chernoff, UMass Amherst (413) 545-4516

Building a Partnership with the Fiber-Optics Industry

During August 1998, the Commonwealth of Massachusetts assigned \$2M to the university in support of an industry-driven effort to commercialize "close to market" fiber-optic processes, products and technologies. This agreement will allow the fiber optics industry, working closely with the university, to establish a product development laboratory at the Center for Advanced Fiberoptic Applications (CAFA) headquarters in Southbridge, MA. In addition, CAFA and UMass Medical School have utilized a \$150,000 grant from NASA to specify the development of a non-invasive physiologic monitoring device.

For more information, contact Bill Ennen, UMass Donahue Institute (413) 545-0835

Speeding Environmental Technologies to Market

ICET Inc. of Norwood and SolmeteX of Billerica have been qualified by the MWRA to participate in pilot tests to evaluate how effectively their mercury removal technologies are able to handle waste streams at Newton Wellesley Hospital and Brigham and Women's Hospital. Both companies are "graduates" of the STEP program (the Massachusetts Strategic Envirotechnology Partnership), a collaborative technology commercialization program of UMass, the Executive Office of Environmental Affairs, and the

Department of Economic Development. Through STEP, UMass campuses assist companies such as these in demonstrating their technology and developing commercialization strategies.

For more information, contact William Brah, UMass Boston (617) 287-7723

UMass Dartmouth Develops Center for Textile Research

Thanks to help from the Congressional delegation and support from Massachusetts textile firms, UMass Dartmouth has secured a \$780,000 grant from the National Textile Center at the US Department of Commerce. The grant will further research on the textile industry. It is designed to help keep Bay State firms at the cutting edge of the industry's new technological developments, such as flocking and electrospinning. UMass Dartmouth is one of only six universities in the nation being supported by the National Textile Center.

For more information, contact Steve Warner, UMass Dartmouth (508) 999-8449

Benchmarking the State of the Economy

University Continues Effort with the Fed to “Benchmark” the State Economy

In an effort to promote better understanding of the dynamics of the state economy, the University of Massachusetts, in conjunction with the Federal Reserve Bank of Boston, has developed a major new economic research initiative to monitor and analyze the state's economy, its key industries, and its geographic regions. This is being done through a one-year-old quarterly publication called *Massachusetts Benchmarks*. Co-editors of the journal are Lynn Browne, Senior Vice President and Director of Research at the Federal Reserve; and Craig Moore, University Professor of Political Economy. The journal is currently distributed at no charge to policy-makers, business leaders, and other interested parties across the state.

For subscription information, contact Julie Kenny, UMass President's Office (617) 287-7191

UMass Reports on Information Technology Sector

Professor of Political Economy Craig Moore has completed the first-ever analysis of the state's information technology sector. This critically important sector includes hardware, software, communications services, support services, and integrated systems or networks. According to Moore's findings, the sector employs almost 170,000

people and has had a net increase of almost 25 percent in the last three years. A summary of this study appears in the current issue of *Massachusetts Benchmarks*, and a more complete technical report is available from the President's Office.

For copies of the report, contact Julie Kenny, UMass President's Office (617) 287-7021

Five Additional Key Industries Being Tracked

In addition to the new study on IT, university faculty, under the sponsorship of the UMass Economic Project, are researching the status and future prospects of five other key industries in Massachusetts. These include machine tools (Robert Farrant, Lowell), textiles (Clyde Barrow and William Hogan, Dartmouth), environmental services (David Terkla and Betty Diener, Boston), jet engines (William Lazonick and Robert Farrant, Lowell), and the marine economy (Dan Georgianna, Dartmouth). Each will be completed over the next several months and culminate in a technical report, a summary of which will be published in *Massachusetts Benchmarks*.

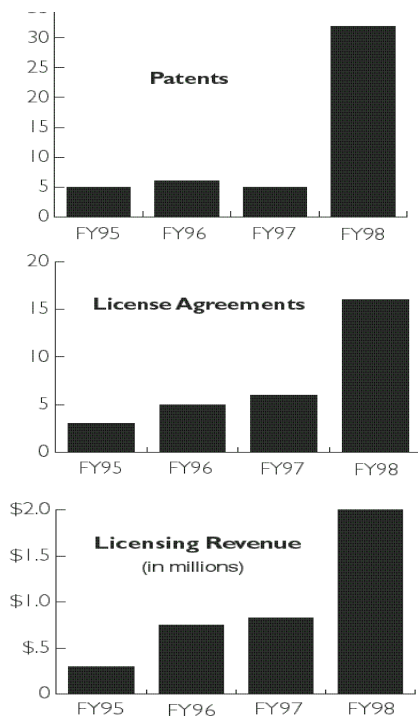
For more information, contact Steve Landau, UMass Donahue Institute (617) 287-7040

Commercializing University Technology

A Record-Breaking Year for Commercializing University Technology

FY 1998 was a record-breaking year for commercialization of the university's new technology (see graphs below). The university achieved its highest ever record of performance in patents (32), license agreements (16), and licensing revenue (\$2M). The university's efforts in this area are coordinated by the three-year-old Office of Commercial Ventures and Intellectual Property (CVIP), headed by former venture capitalist and pharmaceutical industry executive Joe McGuirl.

For more information, contact Joe McGuirl, CVIP (508) 856-1626



UMass Cloning Technology Is World Class

In its August 31 issue, *Business Week* magazine placed Hadley, Massachusetts, in the company of Tokyo, Munich, Tel Aviv, and other major cities as one of ten "global hot spots" for recent technological advances. The article cites the cattle cloning work of UMass Amherst Professor Jim Robl, a pioneer in this controversial field of research. The university has licensed Robl's cloning technology to a Worcester-based company called ACT (Advanced Cell Technology) in exchange for royalties, sponsored research and other considerations.

For more information, contact Brad Moynahan, CVIP (413) 545-3606

Launching a High Tech Business Incubator at UMass Lowell

As part of its mission to promote regional economic development, UMass Lowell recently opened the first incubator for start-up companies on a University of Massachusetts campus. All of the companies, ranging from software to environmental and energy technology, are technology oriented and have a working relationship (e.g., joint research, faculty consulting, student employment) with the Lowell campus.

For more information, contact Lou Petrovic, UMass Lowell (978) 934-2577

UMass Amherst Launches Two New Start-Up Companies

UMass Amherst has recently spun off two new companies. Phyto-BioSystems (PBS) is a biotech company developed as a subsidiary of a Canadian seed company around the technology of Food Science Professor Kalidas Shetty. Shetty works with plant extracts that can be used for disease prevention and as natural food preservatives. AIM Engineering is developing wireless local area networks that support multimedia applications, including voice, pictures, and data. AIM is inspired by the work of engineering professor Aura Ganz. The university, through CVIP, has licensed its technology to each company in exchange for equity, royalties and sponsored research.

For more information, contact Brad Moynahan, CVIP (413) 545-3606

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ECONOMIC DEVELOPMENT STAFF NEWS

President William Bulger has appointed **Lynn Griesemer** as **Executive Director of the Donahue Institute**, the public service and outreach arm of the President's Office and five-campus system. She had served as deputy director of the institute since 1986.

The Donahue Institute named **Karin McCarthy** as **Director for Corporate Education and Training** to assist corporate clients with education and training solutions to their workforce needs. She previously directed the state's One-Stop Career Centers initiative.

University of Massachusetts Boston has hired **John Ciccarelli** as its new **Economic Development Coordinator**. He previously served as executive director of the statewide Small Business Development Center program.

University of Massachusetts Dartmouth has appointed **Robert Kispert** as **Industrial Liaison for the Marine Industry** at its new Marine Science Center in New Bedford. Kispert had been manager of the FedTech Program at the Massachusetts Technology Collaborative.

The Donahue Institute named **Steven Landau** as **Manager of Economic Research and Analysis**, with responsibility for managing the Benchmarks Project and the UMass Economic Project. He comes to UMass after twelve years with the Metropolitan Area Planning Council as project manager and chief planner.

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Upcoming Events

November

4 8 am to 2:30 pm

“Tomorrow’s High Performance Worker: Building the Pipeline Today”

UMass Boston Chancellor Sherry Penney, a member of the prestigious Business-Higher Education Forum, has organized a day-long regional dialogue at the Kennedy Library around the forum's just-released study “Spanning the Chasm: Corporate and Academic Cooperation to Improve Workforce Preparation.” Keynote speakers include Edmund Kelly, president of Liberty Mutual Insurance, and Thomas Lynch, retired executive vice-president of Chase Manhattan Bank. For more information, contact Michael Luck, UMass Boston (617) 287-5323.

November

18 7:30 am to 10 am

“Engineering in Massachusetts Collaborative: Planting the Seeds of Tomorrow’s Workforce”

Co-chairs Ray Stata, chairman of Analog Devices, and Joseph Alviani, president of the Massachusetts Technology Collaborative, are convening the second Engineering in Massachusetts Collaborative breakfast at the Copley Place Marriott in Boston. This will bring together business, government, and education leaders focused on meeting the commonwealth's needs for a skilled workforce in the areas of science, engineering, and technology. For more information, contact Pamela Provençal, UMass Lowell (978) 934-2572.