Maine's Public Universities
UNIVERSITY OF MAINE SYSTEM

This publication is the annual report on the Maine Economic Improvement Fund (MEIF) and its benefits to Maine. It is clear that the MEIF continues to be one of Maine's best and most successful investments.

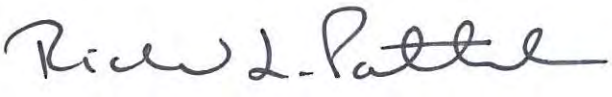
The MEIF contributes significantly to Maine's economy:

- it attracts federal and private-sector grants and contracts, totaling more than $325 million in the past six years alone (a 4:1 return on Maine's investment)
- it supports more than 600 jobs annually, including researchers, technicians, graduate and undergraduate students, and faculty
- it fosters the development of virtually all of Maine's patents, intellectual property and spin-off businesses coming from the University of Maine System
- it enables Maine to lead the nation with technology and product development in critical areas including renewable energy, bioproducts and biofuels from the forest, and advanced materials and composites for infrastructure and bridges

As required in the 1997 statute which created the Fund, following this letter are the 2011 MEIF financial and informational data.

If you have any questions about our research programs, I encourage you to contact me or our university-based research experts Jake Ward at UMaine and Samantha Langley-Turnbaugh at USM.

Sincerely,



Richard L. Pattenaude
Chancellor

2011 Maine Economic Improvement Fund

A HISTORY OF LEGISLATIVE ACTIONS ON APPROPRIATING STATE RESEARCH FUNDS

The following is a summary of the actions of the 118th–125th Maine Legislatures with regard to appropriating research and development funds to the University of Maine System

118th LEGISLATURE

March 26, 1997: Governor signed into law the Economic Improvement Strategy (Chapter 24) that appropriated $500,000 to UMS for research.

April 1, 1998: Governor signed into law the Economic Improvement Strategy (Chapter 643, Part LL, Sec. S-3) that appropriated $4 million to UMS for research. These funds were allocated from the FY98 year-end State surplus for use in FY99.

119th LEGISLATURE

March 15, 1999: Governor signed into law the Part I Current Services budget (Chapter 16) that appropriated $4 million in 1999–2000 and 2000–01 to UMS on a "base budget" basis for research. This extends the one-time FY99 $4 million research appropriation that was funded from the FY98 year-end state surplus.

June 4, 1999: Governor signed into law the Part II Supplemental Appropriation budget (Chapter 401) that appropriated an additional $5.55 million in 1999–00 and an additional $50,000 in 2000–01 to UMS on a "base budget" basis for research.

April 25, 2000: Governor signed into law the Part II Supplemental Appropriation budget (Chapter 731) that appropriated $300,000 in 2000–01 to UMS on a "base budget" basis for the Maine Patent Program.

120th LEGISLATURE

June 21, 2001: Governor signed into law the Part II Supplemental Appropriation budget (Chapter 439) that appropriated an additional $2 million in 2002–03 to UMS on a "base budget" basis for research.

March 25, 2002: Governor signed into law a deappropriation (Chapter 559) that reduced the FY03 $2 million Supplemental Appropriation by $1 million.

July 1, 2002: Governor signed a Financial Order that curtailed the FY03 $2 million Supplemental Appropriation by an additional $1 million. This eliminated the FY03 increase of $2 million for research, bringing the FY03 research and development appropriation back to the FY02 level of $10.1 million.

November 18, 2002: Governor signed into law a Supplemental Appropriation budget (Chapter 714) that deappropriated the $1 million curtailment that was signed July 1, 2002.

121st LEGISLATURE

March 27, 2003: Governor signed into law the Part I Current Services budget (Chapter 20, Part RR) that appropriated $100,000 in 2003–04 and 2004–05 on a "base budget" basis for research.

January 30, 2004: Governor signed into law a Supplemental Appropriation budget (Chapter 513, Part P, Sec. P-2) that includes a provision to transfer to MEIF up to $2 million of any unbudgeted State revenue remaining at the close of FY04. The full amount was subsequently transferred to UMS. This same Chapter 513, Part P, Sec. P-3 made the $2 million part of the MEIF FY05 base appropriation.

122nd LEGISLATURE

March 29, 2006: Governor signed into law a Supplemental Appropriations budget (Chapter 519, Part A, Sec. A-1) that includes providing one-time funding of $600,000 in FY07 for the commercialization of research and development activity, and for the Gulf of Maine Ocean Observing System.

123rd LEGISLATURE

June 7, 2007: Governor signed into law a budget (Chapter 240, Part A, Sec. A-68) that provides an increase of $1.5 million in FY08 and an additional $1 million in FY09 on a "base budget" basis for research.

124th LEGISLATURE

May 28, 2009: Governor signed into law a budget (Chapter 213, Part A, Sec. A-67) that maintains the annual funding at the FY09 level of $14.7 million.

125th LEGISLATURE

June 15, 2011: Governor signed into law a budget (Chapter 380) that maintains the annual funding at $14.7 million.

Maine's Public Universities

UNIVERSITY OF MAINE SYSTEM

A LEGISLATIVE HISTORY OF THE MAINE ECONOMIC IMPROVEMENT FUND - NEW APPROPRIATION

118th LEGISLATURE

	FY98	FY99	Total 2-Year
UM	$400,000	$3,200,000	$3,600,000
USM	100,000	800,000	900,000
Total	**$500,000**	**$4,000,000**	**$4,500,000**

119th LEGISLATURE

	FY00	FY01	Total 2-Year
UM	$4,440,000	$40,000	$4,480,000
USM	1,110,000	10,000	1,120,000
Total	**$5,550,000**	**$50,000**	**$5,600,000**

120th LEGISLATURE

	FY02	FY03	Total 2-Year
UM	$0	$0	$0
USM	0	0	0
Total	**$0**	**$0**	**$0**

121st LEGISLATURE

	FY04	FY05	Total 2-Year
UM	$80,000	$1,600,000	$1,680,000
USM	20,000	400,000	420,000
Total	**$100,000**	**$2,000,000**	**$2,100,000**

122nd LEGISLATURE

	FY06	FY07	Total 2-Year
UM	$0	$540,000	$540,000
USM	0	60,000	60,000
Total	**$0**	**$600,000***	**$600,000**

*One-time funding

123rd LEGISLATURE

	FY08	FY09	Total 2-Year
UM	$1,200,000	$720,000	$1,920,000
USM	300,000	180,000	480,000
Small Campus Init.	0	100,000	100,000
Total	**$1,500,000**	**$1,000,000**	**$2,500,000**

124th LEGISLATURE

	FY10	FY11	Total 2-Year
UM	$0	$0	$0
USM	0	0	0
Small Campus Init.	0	0	0
Total	**$0**	**$0**	**$0**

Total Yearly Research Appropriation for FY11

UM	$11,680,000
USM	2,920,000
UMM	53,000
UMFK	47,000
Total	**$14,700,000**

Maine's Public Universities
UNIVERSITY OF MAINE SYSTEM

FY2011 SUMMARY UTILIZATION OF OPERATING RESEARCH APPROPRIATION

	Source of R&D Funds			Utilization of R&D Funds				Balance
	FY2011 R&D Base Budget	Unused R&D Funds from Prior Years	FY2011 Total R&D Funds Available	FY2011 R&D Actual Expenditures	Transferred To Match Grants & Contracts	Transferred Between R&D Accounts	Total R&D Funds Utilized	Unused Funds Carried Forward To FY2012 [1]
UMAINE	$ 11,680,000	$ 565,305	$ 12,245,305	$ 12,447,899	$ 4,603,975	$ (4,182,247)	$ 12,869,627	$ (624,322)
USM	2,920,000	538,342	$ 3,458,342	2,229,496	168,198	0	2,397,694	1,060,648
UMM	53,000	12,952	$ 65,952	65,952	0	0	65,952	0
UMFK	47,000	19	$ 47,019	12,753	0	0	12,753	34,266
UMPI	0	7,441	$ 7,441	7,170	0	0	7,170	271
Total State Funding	$ 14,700,000	$ 1,124,059	$ 15,824,059	$ 14,763,270	$ 4,772,173	$ (4,182,247)	$ 15,353,196	$ 470,863

[1] Include year-end equipment carry-over funds (equipment ordered, not received, and not paid).

Maine's Public Universities
UNIVERSITY OF MAINE SYSTEM

UTILIZATION OF FY2011 OPERATING RESEARCH APPROPRIATION

UMAINE

	Source of R&D Funds			Utilization of R&D Funds				Balance
Targeted Research Area	FY2011 R&D Base Budget	Unused R&D Funds from Prior Years	FY2011 Total R&D Funds Available	FY2011 R&D Actual Expenditures	Transferred To Match Grants & Contracts	Transferred Between R&D Accounts	Total R&D Funds Utilized	Unused Funds Carried Forward To FY2012 [1]
Adv. Technology Forestry & Agriculture	$1,762,150	$372,588	$2,134,738	$2,301,709	$187,189	($673,663)	$1,815,235	$319,503
Aquaculture & Marine Science	1,369,271	(1,268,066)	101,205	1,580,168	1,050,685	(688,802)	$1,942,051	($1,840,846)
Biotechnology	864,177	737,236	1,601,413	851,186	116,736	(221,742)	$746,180	$855,233
Composites	3,160,745	30,691	3,191,436	2,149,228	1,541,093	(794,123)	$2,896,198	$295,238
Environmental	1,336,090	661,740	1,997,830	1,229,832	914,908	(451,871)	$1,692,869	$304,961
Information Technology	1,544,630	(14,335)	1,530,295	2,119,304	739,514	(705,413)	$2,153,405	($623,110)
Precision Manufacturing	1,442,323	(1,668)	1,440,655	1,849,058	46,546	(591,112)	$1,304,492	$136,163
Cross Sector	200,614	47,119	247,733	367,414	7,304	(55,521)	$319,197	($71,464)
Total State Funding	$11,680,000	$565,305	$12,245,305	$12,447,899	$4,603,975	($4,182,247)	$12,869,627	($624,322)
UM Cost Sharing Funding [2]	4,181,712	535	4,182,247	0	0	4,182,247	4,182,247	0
TOTAL FUNDING	$15,861,712	$565,840	$16,427,552	$12,447,899	$4,603,975	$0	$17,051,874	($624,322)

[1] Include year-end equipment carry-over funds (equipment ordered, not received, and not paid).
[2] Salary and benefits from University.

USM

	Source of R&D Funds			Utilization of R&D Funds				Balance
Targeted Research Area	FY2011 R&D Base Budget	Unused R&D Funds from Prior Years [2]	FY2011 Total R&D Funds Available	FY2011 R&D Actual Expenditures	Transferred To Match Grants & Contracts	Transferred Between R&D Accounts	Total R&D Funds Utilized	Unused Funds Carried Forward To FY2012 [1]
Aquatic Systems	$40,805	0	$40,805	$21,267	$0	$0	$21,267	$ 19,538
Biotechnology	2,509,747	539,451	$3,049,198	1,967,431	153,729	74,600	2,195,760	853,438
Information Technology	169,448	(1,109)	$168,339	154,569	0	(25,000)	129,569	38,770
Precision Manufacturing	200,000	0	$200,000	86,229	14,469	(49,600)	51,098	148,902
Total State Funding	$2,920,000	$538,342	$3,458,342	$2,229,496	$168,198	$0	$2,397,694	$ 1,060,648

[1] Include year-end equipment carry-over funds (equipment ordered, not received, and not paid).
[2] Includes net zero adjustments between target areas.

2011 Maine Economic Improvement Fund

UMS STATE-FUNDED RESEARCH TIMELINE

Following is a timeline of the MEIF and other state-funded research at the University of Maine System.
Note: Bond funds are used for facility upgrades, construction and equipment purchases in accordance with State bonding requirements

November 3, 1998:

Maine voters approved a $20 million bond issue to improve the Maine economy by supporting innovative research and development. UMS received $13.5 million from this bond for capital improvements and equipment purchases to support research and development. The bond proceeds were distributed between UMaine ($10.8 million) and USM ($2.7 million).

June 4, 1999:

Governor signed into law the Part II Supplemental Appropriation budget (Chapter 401) that appropriated $2.5 million in 2000–01 to UMS on a "base budget" basis to pay the debt service on a $25 million university R&D revenue bond. The university issued the revenue bond August 15, 2000. It provides $20 million for the UMaine Engineering Science Research Building and $5 million for the USM Portland Science Building Lab Renovation.

April 25, 2000:

Governor signed into law a one-time supplemental appropriation (Chapter 731) that appropriated $9 million for the renovation of teaching laboratories and classrooms in Aubert Hall at UMaine.

June 11, 2002:

Maine voters approved a $35 million bond issue to be used in part to stimulate job growth. UMS received $9 million, with the bond proceeds distributed to UMaine ($5 million) for the Advanced Manufacturing Center and to USM ($4 million) for the Mitchell Center.

June 10, 2003:

Maine voters approved a $60 million bond issue to be used to stimulate job creation and economic growth. UMaine and USM received a combined $15 million to support their research efforts, $3.6 million of which was matching funds for MEIF R&D projects.

November 8, 2005:

Maine voters approved a $20 million bond issue to be used to stimulate economic growth and job creation. UMaine received $3 million for the development of the Laboratory for Surface Science and Technology, and renovations associated with the Graduate School of Biomedical Sciences. Maine voters also approved an $8.9 million bond related to agriculture and the environment. UMaine received $800,000 for improvements to the Witter Teaching and Research Farm.

November 6, 2007:

Maine voters approved a $50 million research, development and commercialization bond for facilities and equipment to support the sectors of Maine's economy designated by the Maine Legislature in MEIF legislation. The 2007 bond created the Maine Technology Asset Fund (MTAF), with awards going to Maine companies, universities and non-profit organizations following a peer-reviewed competitive process administered by the Maine Technology Institute. Through the first two rounds of the MTAF program (2008 and 2009), UMaine was awarded nine grants totaling $19.9 million to further support Maine research, development and commercialization efforts. The University of Maine at Presque Isle received a $96,800 grant to implement an information mapping and analysis facility.

June 8, 2010:

Maine voters approved an $11 million bond to create jobs through investment in the Maine off-shore wind energy research and development project, specifically a demonstration site and related advanced composites manufacturing to advance Maine's energy independence. The 2010 bond will leverage $24.5 million in federal funds. Note: for financial reporting purposes, the actual award took place in Fiscal Year 2011.

October 12, 2010:

The Maine Technology Institute completed the third round of the Maine Technology Asset Fund (MTAF) competition, UMaine successfully competed for awards for five projects totaling $3.54 million. The largest of these projects, at $1.66 million, will fund construction of a grass pellet demonstration facility in Aroostook County to convert bioenergy crops into solid biomass fuel products for commercial and residential heating applications. Note: for financial reporting purposes, the actual award took place in Fiscal Year 2011.

Maine's Public Universities
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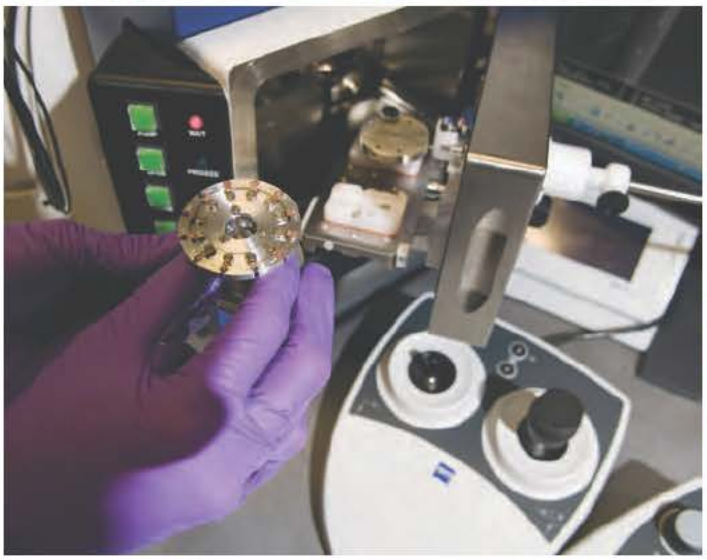
FY2011 SUMMARY OF STATE FUNDING FOR RESEARCH CAPITAL PROJECTS
UMAINE/USM COMBINED

	Referendum Bond Portion	Other Funds	Total Project Budget	Expenditures to Date
FY1999 State Bond Issue (approved by voters 11/3/1998)				
UM	$ 10,800,000	$ 1,168,622	$ 11,968,622	$ 11,968,622
USM	2,700,000	155,100	2,855,100	2,855,100
TOTAL	$ 13,500,000	$ 1,323,722	$ 14,823,722	$ 14,823,722
FY2001 Univ R&D Rev Bonds (Debt Svc Pd by $2,500,000 State Approp - Issued 8/15/00)				
UM	$ 20,000,000	$ 1,203,296	$ 21,203,296	$ 21,203,297
USM	5,000,219	4,730,426	9,730,645	9,730,645
TOTAL	$ 25,000,219	$ 5,933,722	$ 30,933,941	$ 30,933,942
FY2001 One-Time State Appropriation (signed by Governor 4/25/2000)				
UM	$ 9,000,000	$ 3,446,439	$ 12,446,439	$ 12,446,439
FY2002 State Bond Issue (approved by voters 6/11/2002)				
UM	$ 5,000,000	0	$ 5,000,000	$ 5,000,000
USM	4,000,000	45,029	4,045,029	4,045,029
TOTAL	$ 9,000,000	$ 45,029	$ 9,045,029	$ 9,045,029
FY2003 State Bond Issue (approved by voters 6/10/2003)				
UM	$ 7,000,000	$ 799,189	$ 7,799,189	$ 7,799,188
USM	4,400,000	0	4,400,000	4,400,000
TOTAL	$ 11,400,000	$ 799,189	$ 12,199,189	$ 12,199,188
FY2005 State Bond Issue (approved by voters 11/08/2005)				
UM	$ 3,800,000	$ 302,105	$ 4,102,105	$ 4,102,105
FY2007 MTI Grants (approved by voters 11/06/2007)				
UM	$ 6,868,726	$ 12,420,000	$ 19,288,726	$ 16,196,735
FY2010 Maine Marine Wind Energy Demostration Site Fund (approved by voters 06/08/2010)				
UM	$ 11,000,000	$ 831,478	$ 11,831,478	$ 1,108,108

Maine Economic Improvement Fund

Building Maine's Economy through Research, Development, and Jobs

A SUCCESSFUL PARTNERSHIP AMONG
MAINE'S PUBLIC UNIVERSITIES, GOVERNMENT, AND THE PRIVATE SECTOR



Maine's Public Universities
UNIVERSITY OF MAINE SYSTEM

Targeted Research Areas

The University of Maine System directs MEIF dollars specifically to support university-based research in the State's legislatively designated seven strategic technology areas:

- Aquaculture and Marine Sciences
- Biotechnology
- Composites and Advanced Materials Technologies
- Environmental Technologies
- Information Technologies
- Advanced Technologies for Forestry and Agriculture
- Precision Manufacturing

University-based Research Drives Economic Development

The Maine Economic Improvement Fund is a key component of Maine's science and technology plan. Since the Maine Legislature established it in 1997, MEIF has positioned the University of Maine System at the center of statewide efforts to leverage economic development through targeted investment in university-based R&D. Indicators of success show that Maine's MEIF investment is paying dividends:

- creating businesses and jobs, including more than 600 for people working on MEIF-funded projects
- boosting Maine's economy by leveraging MEIF funds to bring federal and private-sector grants and contracts to Maine
- building capacity and expertise to help Maine companies solve problems and commercialize innovation
- helping commercialize patents, innovations and intellectual property
- capitalizing on natural resources and core strengths by focusing R&D efforts on economic sectors where Maine can make real gains

University research personnel use MEIF resources to support the staff, equipment and facilities they need to successfully pursue and develop research projects. MEIF funds often provide the required match to acquire federal or private-sector grants. MEIF money also supports equipment purchases or facilities renovations to make the universities competitive for federal grants.

MEIF increasingly fosters university partnerships with business and industry through economic development collaborations, entrepreneur training programs, business incubators, business research and other programs. These efforts lead to new Maine-based products, technologies, patents and spin-off businesses.

All seven of Maine's public universities are involved in research working to improve Maine's economy and quality of life. This document focuses specifically on MEIF-funded university work in the state's seven technology sectors. The two universities with graduate programs in some or all of those targeted research areas (sidebar) have received MEIF funds, with approximately 80 percent allocated to the University of Maine and 20 percent to the University of Southern Maine. In 2009, a small fund was established to promote targeted research at the other five universities.

MEIF History

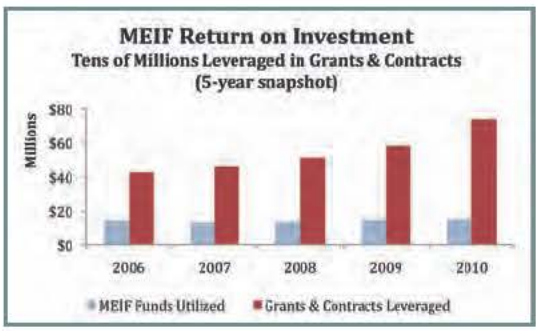
One of Maine's best and most successful public investments began in 1997, when the Maine State Legislature's Joint Standing Committee on Research and Development recommended an investment approach that ultimately led to development of the Maine Economic Improvement Fund (MEIF).

In March 1997, an Economic Improvement Strategy was created. It appropriated $500,000 to the University of Maine System to administer investments in targeted research and development to provide the basic investment necessary to obtain matching funds and competitive grants from private and federal sources.

MEIF continues to be funded through an annual State appropriation and periodically augmented through voter-approved bond referenda. The R&D fund provides researchers at Maine's public universities with the investment necessary to leverage federal and private sector research grants and contracts to:

- create and sustain economic development and innovation
- attract and retain world-class researchers
- provide support for modern laboratories and state-of-the-art equipment
- create new jobs, products, patents, technologies, companies, and exciting opportunities—right here in Maine.

Each year, the MEIF investment in university research helps faculty and students successfully leverage tens of millions of dollars in grants and contracts.



MEIF: One of Maine's Best Investments

UMaine recently passed the $100 million-a-year mark in grants and contracts for the first time in history—with the State's MEIF investment playing a key part of that overall research milestone.

UMaine is heavily involved in basic and applied research, with a wide array of research facilities and resources on its Orono campus as well as at off-campus research sites located around the state. UMaine's extensive research infrastructure, accumulated over many decades, has enabled it to successfully pursue federal and private grants and contracts.

Since 1997, when the State of Maine made its first targeted MEIF investments, UMaine has grown its overall external grants and contracts by more than 250% and increased its patent portfolio and spin-off businesses by a factor of 10. Through improvements to its research infrastructure, UMaine has also increased its ability to compete for federal grants and contracts and its capacity to serve its students, as well as Maine business and industry.

For every dollar Maine invests in UMaine through MEIF, researchers have leveraged approximately five dollars from sources outside Maine—making it one of the best investments the State makes.

Small Campus Initiative

The MEIF Small Campus Fund was created in fiscal year 2009 to support and develop research performed at the five smaller UMS campuses: UMA, UMF, UMFK, UMM and UMPI.

The $100,000 fund is distributed annually on a competitive basis to ensure that each university in the System has an opportunity to build and improve research infrastructure and capacity. The MEIF Small Campus Fund is administered by the University of Maine System Office.

MEIF funding continues to be a critically important tool in USM's efforts to sustain and grow applied R&D programs relevant to Maine's economic and educational needs.

MEIF supported projects in such areas as bioinformatics, environmental science and health, precision manufacturing, and toxicology link USM researchers to projects that can stimulate economic growth. USM's emphasis on engaging students in faculty research whenever possible also has the added benefit of providing learning experiences that will help graduates drive Maine's innovation economy.

University R&D is a Driving Force in Maine's Economy:

Photo by Edwin Remsberg, USDA

SUCCESS

By leveraging MEIF funds, in the past five years UMaine and USM have attracted more than $250 million in federal and private-sector grants and contracts related to the seven strategic research areas. This funding directly results in Maine products and technologies such as the Bridge in a Backpack™, offshore wind turbines, advances in regional biomedical research, and studies which lead to improvements in Maine's marine science based industries.

RETURN ON INVESTMENT

Each year the State's MEIF appropriation is matched by tens of millions of dollars in federal and private funds for important university research. UMaine utilizes its long-established research capacity to attract the majority of these matching funds. USM continues to build its research capacity in federal and private-sector grants and contracts.

STRATEGIC IMPACT

In the MEIF's most recent five year period, nearly $300 million was invested in university-based research and development related to the targeted areas. The amount represents the combined total of grants and contracts received, including more than $70 million in MEIF funds invested to leverage federal and private dollars.

CREATING JOBS

Several hundred full-time equivalent jobs are funded annually in Maine through the funds leveraged and expended related to MEIF. These positions include faculty, graduate assistantships, undergraduate students involved in research, and other key staff.

INNOVATION ENGINEERING

The University of Maine System recently made a decision to invest in UMaine's relatively new Innovation Engineering® program. Under the guidance of UMaine alum Doug Hall, a nationally renowned innovation expert and founder of Eureka! Ranch, the program will be established at all seven universities and include courses for undergraduate and graduate university students, as well as intensive three-day leadership institutes for Maine's business, government and nonprofit leaders. MEIF research and development—and Maine as whole—will benefit from this investment as our students, business leaders, and others learn a systematic approach to innovation which provides the "tools and confidence to lead the creation, communication, and commercialization of meaningfully unique ideas."

For more information about the University of Maine System visit:
www.maine.edu or call (207) 973-3201