

UNIVERSITY OF MASSACHUSETTS

AMHERST•BOSTON•DARTMOUTH•LOWELL•WORCESTER

**MINUTES OF THE MEETING OF THE
COMMITTEE ON SCIENCE, TECHNOLOGY AND RESEARCH**

**Wednesday, February 4, 2009; 8:00 a.m.
Amherst Room
225 Franklin Street – 33rd Floor
Boston, Massachusetts**

Committee Members Present: Chair Pearl; Trustees Gerson, Lawton and Osterhaus-Houle

Committee Member Absent: Trustees Johnston, King-Shaw, Thomas and Tocco; Chairman Manning

University Administration: General Counsel Heatwole; Senior Vice President Williams; Vice President Chmura; Associate Vice President Brancato; Chancellors Holub, Motley, MacCormack, Meehan and Collins; Executive Deputy Chancellor Flotte; Provosts Langley and Garro; Interim Vice Chancellor for Research and Engagement Kostecki; Vice Provost for Research Antonak; Assistant Vice Chancellor for Research Development Petrovic; Vice Provosts for Research Chowdhury and Sullivan

Faculty Representatives: Professors O'Connor and May, UMass Amherst; Professors Tirrell, UMass Boston; Ms. Gibbs, UMass Dartmouth

Guests: Celia Moore, Chair, Psychology Department, UMass Boston; Andrew Grosovsky, Dean, College of Science and Mathematics, UMass Boston; Gerard Koffi, Undergraduate Mathematics Major, UMass Boston

Chair Pearl convened the meeting at 8:06 a.m. and introduced General Counsel Deidre Heatwole who has replaced Larry Bench. She then welcomed the Chancellors, Provosts, Vice Provosts and campus representatives and outlined today's agenda.

The Committee will hear updates on University initiatives in the Life Sciences and Clean Energy. The feature presentation will be on the Boston campus' research strategy, with a panel led by Chancellor Motley.

Chair Pearl then asked for a motion to **Consider the Minutes of the Previous Meeting.**

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It was moved, seconded and

VOTED: To approve the minutes of the November 14, 2008 meeting of the Committee.

Chair Pearl then noted that Vice President Chmura is standing in for President Wilson who is traveling with Governor Patrick on an economic development trip to the West Coast. He will give a brief update on current events.

Vice President Chmura indicated that President Wilson is the only University President accompanying the Governor on this trip. This activity will provide the University with opportunities to expand our connections with the leadership of the Commonwealth and Massachusetts industry. He then made several points:

- State Capital Budget – the University has lowered its expectations for funding in 2009 from the capital budget; we are currently estimated to receive roughly \$30M.
- Massachusetts Life Sciences Center – the Center’s original \$75M FY2009 budget (capital and operating) has been reduced to \$30M. There is currently \$13M remaining to be expended this year. UMass’s interests include the Advanced Therapeutics Center, the Stem Cell Bank and workforce development programs.
- Massachusetts Clean Energy Center – the Center’s original \$48M FY2009 budget has been reduced to \$33M. UMass is currently developing collaborations broadly across the Executive Office of Energy and Environmental Affairs portfolio.
- Emerging Initiative in Information Technology – There has been significant activity recently to support the IT cluster, much of it involving UMass. UMass is conducting a new study of the IT industry. A new IT Study Group is being formed, involving industry and academic institutions, to support the development of the cluster. Also, the previously-mentioned trip to the West Coast is heavily focused on the IT sector.

There was a question about the IT initiative taking a form similar to Life Sciences and the potential for federal funding. Vice President Chmura indicated it was too early to tell about the structure, but that IT was seen as a key priority for federal R&D spending.

Vice President Chmura then reported that the President’s Strategic Seed Funding Investments are made through three programs: the Science and Technology Initiatives Fund, Creative Economy Fund, and Life Sciences Moment Fund. There has been a particularly good return on Science and Technology funds, having helped generate over \$100 million in external funding from a little more than \$5M in University investment.

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There has also been continued progress in Technology Commercialization earnings, an important source of income in these difficult fiscal times. A new report from the Association of University Technology Managers (AUTM) shows the University earned \$41 million in technology license income in FY2007. UMass ranked #13 among 194 universities reporting to AUTM and #6 among all public universities.

The first item for **Discussion** was an **Update on Life Sciences Initiatives**. Chancellor Collins updated the Committee on the Life Sciences: UMass won 2 out of 6 cooperative research grants from the Life Sciences Center Board. These grants went to Lowell and Worcester to support industry R&D partnerships with Boston Scientific and RXi, respectively. He reiterated Vice President Chmura's points about the operating and capital budget challenges in the economic downturn.

Chancellor Collins highlighted the creation of a UMass Center for Clinical and Translational Science, noting that the Center has filed a major grant to the NIH on behalf of all five campuses. He explained that UMass is competing with proposals from 30 or 40 other universities, and few proposals get funded on their first cycle. Whether or not this application gets funded, the Center is moving ahead.

The Center will establish a training ground for the next generation of clinical investigators. It will also work to streamline the process of rapid "bench to bedside" therapeutics and medical devices and allow for cutting-edge technologies to be made available for all faculty.

Through the new UMass Life Sciences Moment Fund, the Center is fostering cross-campus research collaboration. The Center has received 24 preliminary proposals, selected 11 for more detailed review, and now has full proposals to consider. These are very good proposals that will help leverage additional funds for the University. Lastly, the Chancellor noted that the Stem Cell Bank and Registry initiative is positioning itself as a valuable resource for education, training and information.

Chair Pearl thanked Chancellor Collins and talked about her excitement for the work that has been done.

The next item was an **Update on Clean Energy Initiatives**. Vice Chancellor Kostecki provided an update on activities of the University's clean energy initiative.

He highlighted six strategic areas of research where various campuses are pursuing external funding, with a number of them having very good prospects. These include:

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Center for Chemical Innovation (UMA)
Energy Frontiers Research Center (UMA)
Institute for Massachusetts Biofuels Research (UMA with UMaine)
Center for Sustainable Enterprise and Regional Competitiveness (UMB)
Center for Maine Renewable Energy (UMD)
Wind Energy Center (UMA)

In 2009, the University's Clean Energy Working Group will be working with EOEEA on follow-up to the state's clean energy legislation that was enacted in 2008. Thanks to the President's S&T fund award, the Amherst campus is operating the advanced energy research initiative and continuing the efforts of the system-wide working group. In addition, the Amherst campus is working on an initiative with the Western MA Electric Company to install solar panels on UMass Amherst buildings. It also held a highly successful clean energy conference in Springfield, developed a "green" portal on the University's website and began a marketing campaign to promote the work of UMass in clean energy.

The next item was **UMass Boston's Research and Development Strategy**. Chancellor Motley opened by expressing his gratitude for the opportunity to be the first campus to present to the Committee. Research is an important part of the future of the Boston campus which is engaged in pursuit of four goals: Increasing student access and engagement; attracting, developing and sustaining highly effective faculty; creating a physical environment that supports teaching, learning, and research; enhancing community engagement. The Boston campus plans to make investments in its future, building on its research success, developing current areas of strength, developing potential new areas of strength and carefully considering additional strategic investments.

The Boston panel consisted of Richard Antonak, Vice Provost for Research; Celia Moore, Chair, Psychology Department, Dean Andrew Grosovsky, College of Science and Mathematics; and Gerard Koffi, undergraduate student in math major and Provost Winston Langley.

Vice Provost Antonak presented the strategic plans for UMass Boston, including the FY08 Sponsored Programs Performance Indicators. He noted that the campus set four records in four key performance indicators (e.g., proposals, awards, expenditures). Moreover, FY09 figures also look strong to exceed FY08. Growth over the last five years has been phenomenal. NSF R&D expenditures from 04 to 08 have nearly doubled.

He highlighted the fact that UMass Boston's breakdown of FY07 R&D expenditures by NSF-defined field is quite unique in the UMass system – with a much higher level and proportion of funding in the social sciences compared to other UMass campuses and national averages. The campus is gathering data from peer institutions and expect that this profile is true of other public urban universities. Boston also plans to bring funding in traditional areas (e.g., physical sciences) up to the national average over time.

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The path to growth has included hiring 160 new faculty members, along with 7 deans and key academic administrators. The campus has secured large grants for research partnerships and programs, expanded seed grant and research mentoring, made new investments in research initiatives and infrastructure, and strengthened research administration services.

The research strategic plan developed by the campus includes the vision statement, 11 specific research goals, 16 research performance metrics, a benchmarking process for continuous quality improvement and comparisons to 12 operational and 9 aspirant peer institutions. With assistance from the Battelle Institute, the campus engaged in a strategic opportunities assessment. That effort affirmed that Boston's reach base is expanding rapidly; and that it should join the nation's premier urban public research universities by aligning "use-inspired basic research" strengths with Boston needs. Research clusters identified include: developmental sciences, Urban Health and Public Policy; computational sciences, analysis and modeling; science and math education and learning research. The campus is also promoting itself in the innovation economy by creating the Venture Development Center, which will be open in 10 days with a grand opening on May 1st – an event to which all Trustees will be invited.

Celia Moore, Chair of the Psychology Department, shared information regarding two inter-related research initiatives – a research center of excellence for promoting health and health equity in minority urban populations, and a new developmentally oriented neuroscience research cluster. Both of these initiatives help leverage external investments, are greater than the sum of their parts, actively seeking extramural resources, and strengthen the research identity of the campus.

The Horizon Center was established in 2007 with a \$7.4M NIH grant. It is a partnership among UMass Boston, Harvard School of Public Health, and a Roxbury community group. The goals are to conduct health disparities research, undertake training in community-based participatory research, and build neighborhood partnership infrastructure. This Center aligns with the Psychology Department's strategic plan which includes maintaining its national prominence in clinical psychology and building complementary strength in developmental and brain science. The research cluster in developmental and brain sciences is designed to break down research silos, provide research opportunities for non-clinical junior faculty, and allow for collaborative research in keeping with contemporary standards. The research cluster has a strong connection to the HORIZON center.

Andrew Grosovsky, Dean of the College of Science and Mathematics reported on the commitment to developing a diverse STEM Workforce for the 21st century. To do so requires a strong and active research climate to nurture STEM students. Active research faculty bring high quality focus to the classroom. According to the dean, two key opportunities for research growth are to leverage our proximity to Boston research institutions to build partnerships and to invest in existing research strengths as pillars for further growth.

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The Center for Personalized Cancer Therapy (CPCT) is an example of a new initiative that builds on a strong partnership with the Dana-Farber Cancer Center and leverages prior state investment in the Venture Development Center. The campus is also using investments in research clusters to leverage existing strengths. For example, the clusters in the College of Science and Mathematics are aligned with proposed university clusters.

Looking forward, Dean Grosovsky identified challenges to success to include the inadequacy of research laboratories and equipment, problems with building infrastructure issues, and a weak IT infrastructure. The new UMass Boston Integrated Sciences Complex (ISC), now in design, will provide critical new space to best serve the needs of all our scientists and students. It is important that the construction of ISC move forward without delay. In addition, the development of new PhD programs and possibly new undergraduate and graduate programs in Engineering will enable UMass Boston to become a more comprehensive research university.

Gerard Koffi is a junior student in the math department who illustrates the role of undergraduates in research at Boston. He came to UMass Boston to do mathematics research. He has participated in the summer research program at UC Berkeley, presented research at several national conferences, and is looking to the future for graduate study and to contribute to the changing world. He would also like to return and teach at UMass Boston.

Winston Langley, Provost, made the concluding remarks for the panel, relating the role of research to the campus's larger mission. He spoke of the future of research at UMass Boston. He began with the proposition that science is one of the two most important forces that shape our lives as human beings, the other being religion. He indicated that the campus celebrates the amount of R&D funds received and intends to increase them in the future. But beyond the numbers, the campus wants to invite young people into the excitement of science; noting that science and technology are really extensions of the humanities and that science can be a tool for promoting human interaction and collaboration.

Chancellor Motley closed with thanks to the members of the panel. He noted that the campus has always been seen as urban-focused and that it wants to embrace research and development as a cornerstone of its urban mission. UMass Boston will be the "research university with a teaching soul".

Given the international recognition that UMass Boston receives, Trustee Lawton asked if the campus receives any international R&D funds? Vice Provost Antonak said there is about 1% of funds in sponsored funds received internationally and it is intended to grow. Working in collaboration with Senior Vice President Williams, Provost Langley just created an office in international affairs and plans to grow returns in this area.

Chair Pearl indicated that she was very impressed with the approach that UMass Boston has taken to determine where it wants to grow. Given the importance of the ISC to its future growth, she asked about its status and timeline. Chancellor Motley acknowledged that they have been

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working on the vision of the Center and what it needs to be, while waiting for approval of capital planning. The campus is moving forward with architects and designers, but this is a complex structure that will take time to build and complete, even if the groundbreaking is ahead of other buildings. She also asked if it was a factor in faculty recruitment. Chancellor Motley acknowledged that it was, but that other issues are also important in recruitment such as understanding the institution's mission.

There were also questions about how the budget cuts will affect the plans. Provost Langley said that they are still moving ahead with investments and hires though at a reduced amount. Chancellor Motley said that the fiscal situation provides the opportunity to make decisions that fit in with priorities. Dean Grosovsky pointed out that there are active searches with strong pools going on. Many other universities are not conducting searches which allows for UMass Boston to have a stronger pool. UMass Boston was asked how it could use the resources of other campuses to meet its IT challenges. Dean Grosovsky noted that there is increased information sharing within core facilities happening within the life sciences initiative. Trustees asked who are the peers including aspirants. Provost Langley mentioned University of Maryland -- Baltimore County, University of Illinois -- Chicago, and Cleveland State University as examples. A full listing was provided in the Trustees' packet.

In closing, Chair Pearl asked what the Trustees can do for UMass Boston. Chancellor Motley asked for their continued support to get the master plan done.

The meeting adjourned at 10:04 a.m.

Barbara F. DeVico
Secretary to the Board of Trustees