

UNIVERSITY OF MASSACHUSETTS

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

**Tuesday, May 20, 2008; 8:00 a.m.
Amherst Room
225 Franklin Street – 33rd Floor
Boston, Massachusetts**

Committee Members Present: Chair Pearl; Vice Chair Johnston; Trustees Beatrice, Nath, O’Shea (via conference call), Thomas and Chairman Manning

Committee Member Absent: Trustees King-Shaw, Lawton, Tocco and Osterhaus-Houle

University Administration: President Wilson; General Counsel Bench; Executive Vice President Julian; Senior Vice President Williams, Vice Presidents Chmura, Gray, Lenhardt and Smith; Chancellors Cole, Motley, MacCormack, Meehan and Collins; Vice Provosts for Research Antonak and Chowdhury; Assistant Vice Chancellor for Research Development Petrovic; Professor McLaughlin, Electrical and Computer Engineering, UMASS Amherst

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

Guest: Mark Russell, Vice President for Engineering, Integrated Defense Systems, Raytheon

Chair Pearl convened the meeting at 8:05 a.m. and asked for a motion to **Consider the Minutes of the Previous Meeting.**

It was moved, seconded and

VOTED: To approve the minutes of the February 25, 2008 meeting of the Committee.

Under the **Chair’s Report**, Trustee Pearl Expressed continued satisfaction with the progress being made in clean energy and the life sciences, two strategic areas that this Committee has been promoting over the past year. Much has happened in these two strategic areas since the last Committee meeting, and these developments are being reviewed at this meeting. Trustee Pearl then provided an overview for today’s agenda.

The first item was the **President’s Report**. President Wilson thanked the Committee for their work in supporting the University’s research mission. He then highlighted progress being made in three important areas of state legislation relevant to science, technology and research – clean energy, life sciences and higher education capital facilities.

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He referenced a May 20, 2008 article published in the Boston Globe regarding a “Green Jobs” bill filed by House Speaker DiMasi. Under this proposal, the state would spend \$65 M over five years on clean energy R&D, entrepreneurship and workforce development. The President was honored to join Speaker DiMasi, Governor Patrick and Senate President Murray when they announced the bill and outlined their plans to promote clean energy, environmental protection and job creation earlier in the week. Thanks to the encouragement of this Trustee Committee and the work of a system-wide working group on clean energy, the University is well positioned for this new initiative.

The President then highlighted progress being made with the proposed \$1 B life sciences initiative in which the University plays a key role. Both the House and Senate have passed their own versions of the bill, with each providing substantial funding for capital initiatives at UMass. The bill is now in conference committee and expected out soon.

He also reported that the University received a favorable hearing last week when he testified before the joint committee on bonding, capital expenditures and state assets regarding the Governor’s \$2 billion higher education facilities bond bill. This bill includes \$1 billion for UMass projects, across all five campuses, many of which are related to science and technology. All indications are that the legislature will take up this legislation by the end of the session.

In summary, there are three historic and promising pieces of state legislation at this time that are of enormous importance to the University’s research mission, its ability to develop world-class facilities, and its role in serving as an “innovation engine” for the Commonwealth.

In closing, the President thanked the Chancellors, Trustees, Vice Presidents and campus officials who have been involved in helping move these three pieces of legislation forward.

He then welcomed Mark Russell, Vice President for Engineering at Raytheon, and Professor Dave McLaughlin, professor of electrical and computer engineering at UMass Amherst. Russell is an alumnus of both UMass Lowell and UMass Amherst and sits on the University’s High Tech Executive Council. Raytheon is one of the University’s strongest industry partners. Together, Russell and McLaughlin have helped develop one of the most exciting R&D initiatives in the history of UMass through the Center for Collaborative Adaptive Sensing of the Atmosphere (CASA).

This introduction led to the first item for **Discussion: The Center for Collaborative Adaptive Sensing of the Atmosphere (CASA), a Model of University/Industry/Government Partnership.** Chair Pearl began the discussion by noting that this project stands out as a national model of university-industry-government collaboration, one of the priorities that the Trustee Committee has been focused on over the past two years. It also represents the University’s largest R&D project and first-ever national engineering research center, awarded under a highly competitive program from the National Science Foundation.

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CASA was launched as a multi-disciplinary partnership of government, industry and academia in 2002. It's dedicated to engineering revolutionary weather-sensing networks that will radically improve our ability to observe, understand, predict and respond to hazardous weather events.

The key initial partners were the National Science Foundation, the Commonwealth of Massachusetts, Raytheon and UMass Amherst. Over time, it has grown to a complex partnership with 5 government agencies, 10 industrial firms and 7 universities. Over its planned 10-year lifespan, it is projected to secure \$100 M from its industry, government and academic partners. This includes a critically important \$5 M state matching grant which helped leverage the initial federal grant.

Russell and McLaughlin explained that the Raytheon-UMass collaboration that led to the partnership on CASA has evolved over the past 25 years. UMass is the largest source of engineers for Raytheon in the state and has had an active advanced study program in place with the company since the 1980s.

In developing the concept for CASA, both organizations wanted to create long-term intellectually-challenging, multi-disciplinary enterprise focused on creating new technologies and new products in the field that would have a true societal impact. Thus, they developed a shared vision and adopted a shared leadership model for managing the project. They explicitly recognized the different contributions that each party could make and the different benefits that each party could gain from the project, and organized the project to align with different institutional interests, capabilities and values.

Russell and McLaughlin suggested that they have, in effect, created a self-sustaining "ecosystem" that is thriving and growing. It is an approach that has a great deal of built-in flexibility and sharing.

In the end, they suggested that the key attributes of a good partnership included: a shared vision, an understanding of all members' mission and motivations, benefits for all partners, a common core with complementary points of view, co-investing by all partners, communication and collaboration, and flexibility.

In his concluding remarks, Russell urged the University to develop its own shared vision and suggested that there were plenty of opportunities to build on UMass's strengths to develop additional multi-disciplinary centers of excellence in other strategic areas across the system.

Chair Pearl and President Wilson thanked Russell and McLaughlin for a very informative presentation and looked forward to the continued success of the partnership. Both suggested that the CASA experience had many valuable lessons for the entire university, as all campuses strive to develop new models of industry-government-academic collaboration.

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In concluding remarks, President Wilson noted that CASA represented two profound changes in the traditional academic research model – the adoption of a true inter-disciplinary approach that was breaking down the academic “silos” and looking to communities with real-world needs that could only be addressed with effective industry-government-academic collaboration.

The next discussion item was the **Update on Life Sciences Initiative – Michael Collins, Senior Vice President for Health Sciences and Interim Chancellor, UMASS Worcester.** As President Wilson noted, there has been positive movement on the life sciences legislation. Chancellor Collins has been leading the efforts to position the University for this Initiative, and he provided an update and analysis of the most recent developments.

He suggested that all indications points to the legislation being enacted before the BIO meeting, an international biotechnology conference being held in California in mid-June. The Governor and leaders are expected to make an announcement about the initiative at BIO.

The House and Senate versions of the bill now being considered each propose over \$200 M in capital projects for the University, as well as \$25 M annually for program funds for which the University will be able to compete. The University supports the strategic and coordinating role of the Life Sciences Center in implementing the state’s Life Sciences Initiative.

Chancellor Collins then noted that the University has four on-going activities relating to the Life Science Initiative. At Collins’ request, Associate Vice President Lynn Griesemer provided a status report of the Life Sciences Talent Initiative (final report due in several weeks).

The Chancellor then provided updates on the International Stem Cell Registry (to be ready in June) and the Massachusetts Stem Cell Bank (to be completed in August). He also provided an update on a system-wide UMass Life Sciences Task Force that is developing a university-wide “aspirant vision” for the life sciences (draft to be completed in June for presentation to the President and Chancellors and then to the Trustees).

The next item was **Update on Clean Energy Working Group – Tom Chmura, Vice President for Economic Development.** At the last Committee meeting, the system-wide clean energy working group submitted its final report, and Energy and Environmental Affairs Secretary Ian Bowles and President Wilson signed an historic partnership agreement between the state and the University.

A kick-off meeting of the Executive Committee for the EOEEA-UMass partnership agreement has been held, and a variety of follow-on meetings, campus visits and joint activities were planned. State clean energy priorities were identified by EOEEA as biofuels, waste-to-energy, and offshore wind/marine renewable energy. The University is also actively engaged with the newly-formed New England Clean Energy Council, an industry group. UMass has two representatives on its board and is exploring a potential joint project in workforce development.

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The University has been working with both the state and industry to help recruit clean energy companies such as Vestas (wind energy) to the state and to foster the development of University-based start-up companies such as SunEthanol (biofuels). It has also been successful in winning R&D grants in wind energy and fuel cells, and is planning major new proposals for R&D centers in wind energy and marine renewables.

The final discussion item was **Update on Nuclear Energy – Tom Chmura, Vice President for Economic Development**. Vice President Chmura noted that there had been Trustee interest expressed in the field of nuclear energy. This was considered but was not a focus of the work of the system-wide clean energy group, as there is only one nuclear facility at the University which is based at Lowell. Vice President Chmura also reviewed a recent speech of the Governor on clean energy in which the Governor highlighted the pros and cons of nuclear energy and explained that there were no new applications for nuclear power pending in the state.

Chancellor Meehan was then invited to offer a campus perspective on this matter. He acknowledged the importance of the topic and Trustee interest. He then explained that Lowell campus leadership, led by Provost Abdelal, is planning a thoughtful process to help determine the best use of their nuclear facility in the future. He indicated that the main focus of the facility is to support research and education with a special strength in the area of nuclear safety. Provost Abdelal intends to convene a symposium of experts and then engage in a thorough analysis of capabilities and the potential of the facility. The analysis would cover issues of financial feasibility as well.

The next **Informational Item** was the **Policy on Responsible Conduct of Research and Scholarly Activities – Marcellette Williams, Senior Vice President**. Trustee Pearl noted that the Committee reviewed the University's Conflicts of Interest Policy at the last Committee meeting. That policy serves as a tool to help us identify and manage conflicts of interest involving our faculty and staff.

In a related policy matter, Senior Vice President Marcellette Williams provided an overview of a proposed policy designed to ensure that all research and scholarly activity at the University is conducted with the highest moral and ethical standards. This was an informational item for this Committee that will be taken up by the Committee on Academic and Student Affairs later in the day.

There being no further business the meeting was adjourned at 9:55 a.m.

Barbara F. DeVico
Secretary to the Board of Trustees

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