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UMass & The Life Sciences: A Collaborative Gene Fully Expressed

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UMass & The Life Sciences: A Collaborative Gene Fully Expressed

Michael F. Collins, MD
Senior Vice President for the Health Sciences, UMass
Chancellor, UMass Medical School

UMCCTS 7th Annual Research Retreat
Tuesday, May 16, 2017
Through Collaboration and Strategic Alignment, Can the UMass System Be Greater than the Sum of its Campuses?
UMass System-wide Strategic Planning in the Life Sciences

LSTF 2008
Creating a culture of collaboration within the UMass System

LSTF 2014
Leveraging that culture of collaboration to position the UMass System for sustained and impactful external engagement
UMass Life Sciences Task Force 2014
Overarching Aim

Positioning UMass as the Primary University Partner for the Commonwealth’s Life Sciences Ecosystem.
UMass LSTF 2014 – GOALS

**Talent**

• Develop a talent ecosystem that encourages interconnectedness among all stakeholders, ensures the highest educational quality at all levels and enables UMass graduates to find success in the state’s innovation economy.

**Research**

• Foster an innovative, collaborative and complementary research enterprise that will enhance the breadth, depth and impact of the University’s R&D efforts.

**External Engagement & Innovation**

• Position the UMass campuses as hubs for industry engagement, technological innovation and regional development that drive the Commonwealth’s innovation ecosystem across all regions of the state.
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<th>Talent</th>
<th>Research</th>
<th>External Engagement &amp; Innovation</th>
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<td>UMass is a major pipeline of STEM graduates with 27% or 4,478 of the University’s total degrees in AY 2014-15 awarded in STEM fields.</td>
<td>Total FY2016 R&amp;D Expenditures for the UMass System was reported at $632.4 million.</td>
<td>Each campus has strengthened its innovation and business development capabilities (i.e. UMMS created Office of Innovation &amp; Business Development).</td>
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<td>UMass educates the future workforce of MA with 63% of all graduates of the University remaining in the Commonwealth after graduation.</td>
<td>At $365.5 million, the life sciences constitute more than half of UMASS’s total R&amp;D expenditures (57.8%).</td>
<td>New structures are in place to facilitate industry partnerships, commercialization (i.e. Innovation Institute, etc.).</td>
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<td>Campuses have established new endowed chairs and term chairs to recruit and retain outstanding faculty members.</td>
<td>Renewal of NIH-funded Clinical &amp; Translational Science Award.</td>
<td>UMass recognized as one of the most innovative universities due to entrepreneurial ventures, licensing revenue, spin-offs and start-ups.</td>
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The Two UMass Life Sciences Strategic Planning Processes Made the Case for System-wide Coordination and Planning.
A New Paradigm for Collaboration
The Complex Problems of Today & Tomorrow Make the Case for Closer Collaboration and Greater Leveraging of the Complementary Expertise Found across the System.
The past half-century has witnessed a dramatic increase in the scale and complexity of scientific research. The growing scale of science has been accompanied by a shift toward collaborative research, referred to as "team science."

Convergence integrates knowledge, tools and ways of thinking from life and health sciences, physical, mathematical and computational sciences, engineering disciplines and beyond.


With the Collaborative Gene Now Fully Expressed, UMass Is Well Positioned to Operate in this New Paradigm.

From Silos... To Solutions
Harnessing the Power of Collaboration In and Out of the University
UMass is the only university that has a true statewide presence and drives the state’s innovation economy in ALL regions.

**UMass Amherst**
- Institute for Applied Life Sciences
- Innovation Institute
- Maroon Ventures Partners Fund
- STEM Diversity Institute

**UMass Medical School**
- Office of Innovation & Business Development
- Albert Sherman Center
- UMass Medicine Science Park
- MassBiologics (Boston)
- MassBiologics SouthCoast (Fall River)
- UMMS-Baystate (Springfield)

**UMass Lowell**
- Mass Medical Device Development Center (M2D2)
- Bio-Manufacturing Center
- Emerging Technologies and Innovation Center
- The Innovation Hub
- New Venture Initiative

**UMass Boston**
- UMB-DFCC U54 Grant
- Center for Personalized Cancer Therapy
- Venture Development Center

**UMass Dartmouth**
- Advanced Technology and Manufacturing Center
- Center for Scientific Computing and Visualization
- School for Marine Science & Technology (New Bedford)

**UMass System**
- Mass Green High Performance Computing Center
- UMass Center for Clinical and Translational Science
- Mass Tech Transfer Center
The UMass System’s Life Sciences Infrastructure & Capabilities Have Been Transformed Over Past Decade
The 5-campus UMass Center for Clinical and Translational Science & the Life Sciences Moment Fund.

The National Institute for Innovation in Manufacturing Biopharmaceuticals (NIIMBL), a national consortium that includes key contributions from UMMS (MassBiologics) and UML (Center for Biomanufacturing).

The Massachusetts Medical Device Development Center, a collaboration between UML and UMMS. M2D2 will soon have space on the Medical School campus.

UMA and UMMS, in conjunction with Baystate Health are moving forward with an innovative research partnership that will lead to the establishment of the Institute for Integrated Health Care Delivery Research and the Center for Clinical Trials.

UMass Center for Health Equity Intervention Research, a collaboration between UMMS and UMB.

Baccalaureate-MD Pathway Program, a collaboration between UMMS and the four other UMass campuses.

Joint Academic Degree Programs (such as a combined MD – MBA Degree or a Biomedical Engineering Degree with UML).
Strategic External Collaborations
Leveraging a Reciprocal Partnership Model to Collaborate on Issues of Strategic Importance

UMass

Maintaining state's global leadership position in life sciences
Educating future STEM workforce
Partnering on strategic and emerging research areas that benefit the people of MA and beyond.

Resources
Capabilities
Expertise

State Government / Life Sciences Community

Needs
Opportunities

Reciprocity
UMass graduates are the future workforce for the Commonwealth’s Innovation Economy.

UMass Research Enterprise (3rd only behind Harvard/MIT) helps to advance the state’s global leadership position in life sciences.

UMass campuses serve as interconnected hubs for regional economic development and the UMass System generates 6.2B in economic activity statewide.

### University’s Value to External Partners

- Helping UMass tell its tremendous story to key stakeholders (i.e. InKNOWvation Series)
- Working with the university to develop experiential learning opportunities and internship programs for UMass students.
- Advocating for programs and initiatives that benefit UMass (i.e. MLSC Reauthorization)
- Facilitating the University’s emergence as the go-to institution for industry engagement in Massachusetts
UMass LSTF 3.0
With new University leadership and the unveiling of the Governor’s FY’18 capital plan, the time is right to re-convene a System-wide LSTF.
Governor’s FY’18 Capital Plan includes $56 million for the Mass Life Sciences Center.

I will be working with my chancellor colleagues to coordinate campus capital plans for the life sciences.

Given the Governor’s investment in the MLSC capital program, UMass must be ready to take advantage of this opportunity.
Thank you for your support of the UMCCTS and your contributions to the University’s thriving R&D ecosystem.
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