Origins of the UMass Life Sciences Task Force
Charged with crafting university-wide aspirant vision in the life sciences and promoting inter-campus collaboration.

UMass System uniquely and strategically positioned to fuel and anchor the life sciences innovation economy across all regions in the state.

Key stakeholders within UMass recognized the importance of fostering collaborating, leveraging complementary expertise and optimizing use of resources.

With the Governor’s emergent life sciences initiative and tremendous advances in life sciences research, UMass needed to take advantage of the “Life Sciences Moment.”
With a coordinated Life Sciences Strategic Plan in place, the University experienced an impressive five year period of growth in life sciences-related education, research and innovation.
Results from the 2008 Plan

**Mission-related Recommendations**

- **Talent:** Grow STEM workforce for Massachusetts’ innovation economy
- **Research:** Take advantage of existing and emerging life sciences R&D strengths
- **Innovation:** Catalyze life sciences innovation across all regions of the state

**Mission-related Results**

- **Talent:** UMass grads with life/health sciences degrees increased from 1,621 in 2007 to 2,758 in 2013
- **Research:** Life sciences research expenditures increased from $247M in 2008 to $329M in 2013; while annual licensing revenue averaged $45.5M
- **Innovation:** UMass is a key participant in more than 15 new life sciences-related centers around the state
UMass Is Driving the Regional Innovation Economy

UMass System
Mass Green High Performance Computing Center (Holyoke)
- Center for Clinical and Translational Science
- Mass Tech Transfer Center

UMass Amherst
- Institute for Applied Life Sciences
- Innovation Institute
- Pioneer Valley Life Sciences Institute (Springfield)
- STEM Diversity Institute

UMass Medical School
- Ambulatory Care Center
- Albert Sherman Center
- Biotech Park
- MassBiologics (Boston)
- MassBiologics SouthCoast (Fall River)

UMass Lowell
- Mass Medical Device Development Center (M2D2)
- Bio-Manufacturing Center
- Emerging Technologies and Innovation Center

UMass Boston
- Integrated Science Building
- Center for Personalized Cancer Therapy
- Venture Development Center

UMass Dartmouth
- Advanced Technology and Manufacturing Center
- Center for Scientific Computing and Visualization
Applauding the University’s Strategic Investment in the Life Sciences Over the Previous 5-Year Period

Excerpt from Mass Bio’s “Impact 2020” Report

• “UMass’ support of the life sciences through talent development and strategic investments is a prime example of a highly motivated institution with vast resources, committed to helping the state of Massachusetts remain a leader in the field.”
Results from the 2008 Plan

Implementation-related Recommendations

- Establish UMass Center for Clinical & Translational Science
- Establish life sciences-specific seed funding
- Develop new collaborations and partnerships
- Pursue strategic capital investments

Implementation-related Results

- UMass secured a highly coveted 5-year CTSA award from NIH in July 2010; UMCCTS is now home to more than 900 faculty members across the system
- Life Sciences Moment Fund created; has supported 22 inter-campus research projects totaling $3.1M
- UMCCTS; UMII; M2D2; MGHPCC; Pfizer’s Center for Therapeutic Innovation; Bio-manufacturing Roundtable
- From 2007 to 2013, $1.2B has been committed across the 5 campuses in life sciences and related facilities (with over $250M having been invested by the MLSC)
Reconvening the Life Sciences Task Force to Develop a Successor Strategic Plan in the Life Sciences
Positioning UMass as the State-wide Resource for the Commonwealth’s Life Sciences Ecosystem
Major changes in the economy, health care and R&D funding have markedly changed the landscape for academic institutions, hospitals, government and industry.

Now is the time to build on the momentum generated from the first LSTF process and create a framework that continues to strengthen inter-campus collaboration and also promotes and sustains external collaboration.

UMass wishes to use the LSTF process to increase its impact on the life sciences ecosystem in Massachusetts.

The trend toward Convergence.

The significant role the University played in helping to implement the vision of the MA Life Sciences Initiative, demonstrates the importance of having a coordinated and targeted planning document that is aligned with state government and key external stakeholders.
Convergence*


An approach to problem-solving that cuts across disciplinary boundaries

Integrates knowledge, tools and ways of thinking from life and health sciences, physical, mathematical and computational sciences, engineering disciplines and beyond
Through Collaboration and Strategic Alignment, Can the System Be Greater than the Sum of its Parts?

Moving from this…

To this…
## LSTF 2014: Membership

<table>
<thead>
<tr>
<th>Leadership Group</th>
<th>Amherst</th>
<th>Boston</th>
<th>Dartmouth</th>
<th>Lowell</th>
<th>Medical School</th>
<th>System Office</th>
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<tr>
<td>Michael F. Collins, MD (Chair)</td>
<td>Mike Malone, PhD</td>
<td>Andrew Grosovsky, PhD</td>
<td>Tesfay Meressi, PhD</td>
<td>Julie Chen, PhD</td>
<td>Terry Flotte, MD</td>
<td>Tom Chmura</td>
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<td>Mike Malone, PhD (Amherst)</td>
<td>Steve Goodwin, PhD</td>
<td>Jill Macoska, PhD</td>
<td>Paul Vigeant, MPA</td>
<td>Steve McCarthy, PhD</td>
<td>Katherine Luzuriaga, MD</td>
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<td>Andrew Grosovsky, PhD (Boston)</td>
<td>Annette Wysocki, PhD</td>
<td>Zong-Guo Xia, PhD</td>
<td>James Fain, PhD</td>
<td>Mingdi Yan, PhD</td>
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<td>Paul Vigeant (Dartmouth)</td>
<td>Marjorie Aelion, PhD</td>
<td>Adán Colón-Carorna, PhD</td>
<td>Erin Bromage, PhD</td>
<td>Mark Hines, PhD</td>
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<td>Julie Chen, PhD (Lowell)</td>
<td>Tim Anderson, PhD</td>
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<td>Terry Flotte, MD (Worcester)</td>
<td>Jim Capistran, PhD</td>
<td>Anahid Kulwicki, PhD</td>
<td>Mohammad Karim, PhD</td>
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<td>Tom Chmura (System)</td>
<td>Loren Walker</td>
<td>John Ciccarelli</td>
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<td>Nate Hafer, PhD (staff)</td>
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<td>Brendan Chisholm (staff)</td>
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Building on the Momentum of the Initial Planning Process

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
In order to create a new strategic direction focused on external engagement, the LSTF process included frequent interaction with key industry stakeholders.

**Medical Devices** (organized by Mass MEDIC) – w/ Philips, Smith & Nephew, J&J and Medtronic

**R&D** (organized by MassBio) – w/ Vertex, Cubist, Genzyme, Novartis, Capsugel and J&J

**Talent** (sponsored by MassBio) – w/ Genzyme, Parexel, Millenium/Takeda

**Entrepreneurship** – w/ Allied Minds, Hygeia Therapeutics, Launchpad Ventures, Mass Medical Angels

**Bio IT** – w/ Novartis and Clinical Future

**Health IT** – w/ Everyfit, Castling Group, Home Team Therapy, Reebok, RxApps, Smart Scheduling

**Bio-manufacturing** – w/ AbbVie, Millipore, Organogenesis, Pfizer, Thermo Fisher and Merrimack Pharma
LSTF 2014: Strategic 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.
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.

- Strengthen job-ready skills, experiential learning opportunities, internship programs and co-ops
- In partnership with industry stakeholders, develop academic programs (i.e. regulatory affairs) that meet the life sciences sector’s future workforce needs
- Establish the “Commonwealth Fellows” Program to support doctoral students and associates
- Create term-limited endowed professorships for junior faculty
- Establish the “Presidential Scholars Innovation Fund” to support faculty research efforts and innovation
- Develop and invest in a system-wide student success strategy for undergraduate students in STEM degree programs
Research Strategic Objectives

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

- Support the renewal of the University-wide CTSA grant award
- Expand existing research pilot programs
- Coordinate faculty recruitment and research investments in areas of strategic importance
- Reinvigorate the Commonwealth’s R&D Matching Grant Programs
- Establish a support fund for large-scale grant proposals
- Establish a system-wide Research Cores Coordinating Committee & the Core Capital Renewal Fund
- Strengthen system-wide mechanisms that promote faculty networks
External Engagement & Innovation
Strategic Objectives

- Create a 5-campus network of life science regional innovation centers
- Launch a coordinated public information and outreach initiative that communicates and accelerates the University’s impact on the Commonwealth’s innovation economy
- Enhance and expand campus-based entrepreneurship and commercialization activities
- Create a Life Sciences Investment Fund to support innovative and multi-campus research initiatives

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.
Reciprocal Value Proposition

**University’s Value to External Partners**

- UMass students will be the future workforce for the Commonwealth’s Innovation Economy
- UMass Research Enterprise will help to advance the state’s global leadership position in life sciences
- UMass campuses will serve as a hub for state-wide and regional innovation

**Industry’s Value to the University**

- Helping UMass tell its tremendous story
- Working with UMass to develop robust internship programs and academic programs linked to industry needs
- Advocating for programs and initiatives that benefit UMass (i.e. MLSC)
- Facilitating the University’s emergence as the go-to institution for industry engagement in Massachusetts
“Medical devices companies have had an effective partnership with UMass over the years thru the Mass Medical Development Device Center -- M2D2 -- and are truly excited about the prospect for expanding our partnership into new strategic areas important to our industry such as "regulatory affairs”

Tom Sommer, Mass MEDIC

“While Massachusetts' life sciences companies have long-standing ties with UMass, we very much appreciate the University’s increased emphasis on engagement with industry. The analysis in MassBio's recent Impact 2020 strategic report makes it very clear that the future of the Commonwealth's cluster centers on even closer collaboration between industry, academia and government. We look forward to greatly expanding links with UMass, especially in strategic areas such as life sciences IT."

Bob Coughlin, Mass Biotech Council
Implementation Plan/Process
### LSTF Implementation Steering Committee

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Institution</th>
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<tbody>
<tr>
<td><strong>Michael F. Collins, MD</strong></td>
<td>Senior Vice President for Health Sciences &amp; Chancellor (chair)</td>
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<tr>
<td><strong>Terry Flotte, MD</strong></td>
<td>Executive Deputy Chancellor, Provost, Chief Research Officer and Dean, School of Medicine</td>
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<tr>
<td><strong>Michael Malone, PhD</strong></td>
<td>Vice Chancellor for Research and Engagement, UMA</td>
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<td><strong>Tom Chmura</strong></td>
<td>Vice President for Economic Development, UMass System</td>
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<td><strong>Julie Chen, PhD</strong></td>
<td>Vice Provost for Research, UML</td>
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<td><strong>Tesfay Meressi, PhD</strong></td>
<td>Associate Provost for Graduate Studies, UMD</td>
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<td><strong>Andrew Grosovsky, PhD</strong></td>
<td>Dean, College of Sciences and Mathematics, UMB</td>
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LSTF Implementation Work Groups

- Implementation Steering Committee
- Research
- Talent
- External Engagement & Innovation
## Implementation Work Groups – Membership

<table>
<thead>
<tr>
<th><strong>Talent</strong></th>
<th><strong>Research</strong></th>
<th><strong>Engagement &amp; Innovation</strong></th>
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<tbody>
<tr>
<td><strong>Andrew Grosovsky</strong>, PhD, UMB (Co-chair)</td>
<td><strong>Terry Flotte</strong>, MD, UMMS (Co-Chair)</td>
<td><strong>Michael Malone</strong>, PhD, UMA (Co-Chair)</td>
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<td><strong>Tesfay Meressi</strong>, PhD, UMD (Co-chair)</td>
<td><strong>Julie Chen</strong>, PhD, UML (Co-chair)</td>
<td><strong>Tom Chmura</strong>, System Office (Co-chair)</td>
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<td><strong>Elizabeth Dumont</strong>, PhD, UMA</td>
<td><strong>Louis Goodman</strong>, PhD, UMD</td>
<td><strong>John Ciccarelli</strong>, UMB</td>
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<tr>
<td><strong>Susan Braunhut</strong>, PhD, UML</td>
<td><strong>Peter Reinhard</strong>, PhD, UMA</td>
<td><strong>Ramprasad Balasubramanian</strong>, PhD, UMD</td>
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<td><strong>Luanne Thorndyke</strong>, MD, UMMS</td>
<td><strong>Zong-Gao Xia</strong>, PhD, UMB</td>
<td><strong>Nate Hafer</strong>, PhD, UMMS</td>
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<td><strong>John Cunningham</strong>, PhD, System Office</td>
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<td><strong>Jennifer Berryman</strong>, UMMS</td>
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<td><strong>Steve McCarthy</strong>, PhD, UML</td>
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<td><strong>Abi Barrow</strong>, PhD, System Office</td>
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Each Implementation Work Group to meet to begin mapping out multi-year objectives, setting initial priorities, establishing metrics and identifying key stakeholders.

Steering Committee to develop work plan for first year in consultation with work groups.

Roll-out and communication of final report to campus constituencies and external stakeholders to be coordinated.