

The Massachusetts Life Sciences Initiative



French-American
Innovation Day

December 3, 2009

The Massachusetts Life Sciences Initiative – Major objectives

State investments in the life sciences “Super Cluster”:

- **Promote economic development**
- **Support the Commonwealth’s world-class academic medical centers, research institutions, universities and industry leaders**
- **Promote a highly skilled and educated workforce**
- **Create an industry-friendly environment**
- **Strengthen and protect Massachusetts’ global leadership position in the Life Sciences**
- **Support the development of treatments, therapies and cures**

The Massachusetts Life Sciences Center – Board of Directors

- **Secretary of Housing and Economic Development**
 - Greg Bialecki
- **Secretary of Administration and Finance**
 - Jay Gonzalez
- **President of the University of Massachusetts System**
 - Jack Wilson, Ph.D.
- **A CEO of a Massachusetts-based life sciences corporation**
 - Josh Boger, Ph.D., Vertex Pharmaceuticals
- **A researcher involved in the commercialization of biotechnology, pharmaceuticals or medical diagnostic products**
 - Lydia Villa-Komaroff, Board Member and CSO, Cytonome/ST
- **A physician licensed to practice medicine in the Commonwealth and affiliated with an academic medical center**
 - Peter Slavin, M.D., President, Massachusetts General Hospital
- **A person with financial expertise in the life sciences**
 - Marc Beer, former CEO, ViaCell Inc.

Massachusetts Life Sciences Center

Scientific Advisory Board

- **CHAIR: Harvey Lodish, Ph.D.**, Whitehead Institute, and Professor of Biology and of Bioengineering, MIT
- **James Barry, Ph.D.**, Vice President, Corporate Research and Advanced Technology Development, Boston Scientific
- **Doug Cole, M.D.**, General Partner, Flagship Ventures
- **James J. Collins, Ph.D.**, Professor of Biomedical Engineering, Boston University
- **George Q. Daley, M.D., Ph.D.**, Children's Hospital Boston, Harvard Medical School, Harvard Stem Cell Institute
- **Patricia K. Donahoe, M.D.**, Director of the Pediatric Surgical Research Laboratories and Chief Emerita of Pediatric Surgical Services at Massachusetts General Hospital, and the Marshall K. Bartlett Professor of Surgery at the Harvard Medical School
- **Jonathan Fleming, M.P.A.**, Managing General Partner, Oxford Bioscience Partners
- **Jean M. George, M.B.A.**, Partner, Advanced Technology Ventures
- **Lila Gierasch, Ph.D.**, Professor of Biophysical Chemistry, Department of Biochemistry, University of Massachusetts Amherst
- **Richard A. Goldsby, Ph.D.**, John Woodruff Simpson Lecturer and Professor of Biology, Amherst College
- **Jeffrey Leiden, M.D., Ph.D.**, Managing Director, Clarus Ventures
- **David T. Scadden, M.D.**, Professor of Medicine, Harvard University, Co-Chair, Department of Stem Cell and Regenerative Biology, Harvard University, Co-Director, Harvard Stem Cell Institute, Director, MGH Center for Regenerative Medicine
- **Alan E. Smith, Ph.D.**, Chief Scientific Officer, Genzyme Corp.
- **Allison Taunton-Rigby, Ph.D.**, CEO and Director, RiboNovix, Inc.
- **David Walt, Ph.D.**, Robinson Professor of Chemistry and Howard Hughes Medical Institute Professor at Tufts University School of Medicine.
- **Philip Zamore, Ph.D.**, Professor, Biochemistry and Molecular Pharmacology, UMass Medical School

MLSC Strategy Summary: Priorities and Focus Areas

Strategic priorities – FY 09:

- ✓ **Competitiveness** of the State's academic institutions
- ✓ **Pipeline** of new therapies, technologies, molecules, etc
- ✓ **Supply and distribution** of life sciences workers with skills that are aligned with stakeholder needs
- ✓ **LS infrastructure** and ecosystem
- ✓ **Retention and growth** of LS companies

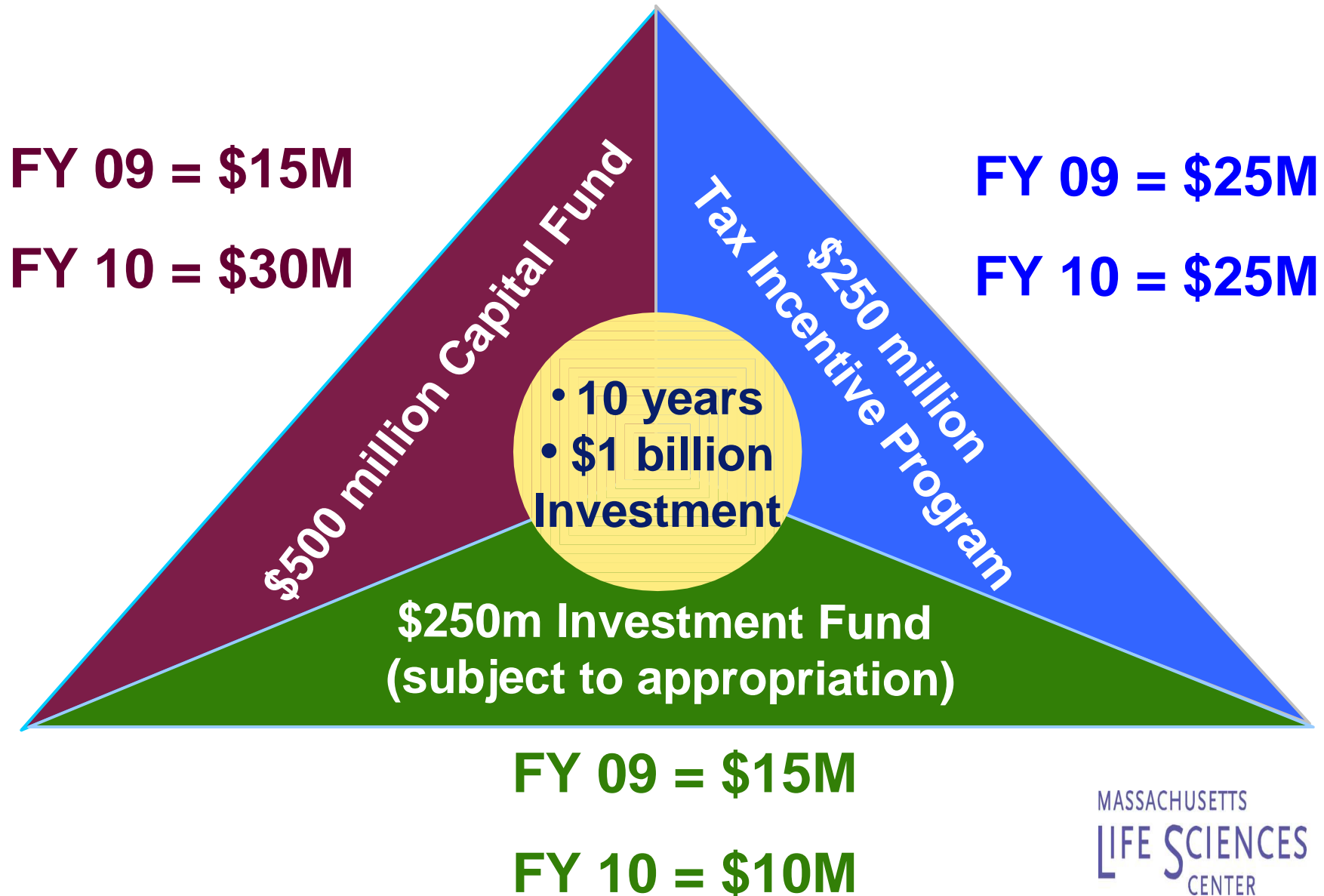
Strategic Priorities

Focus Areas

Focus areas for investment - FY 09:

- ✓ **Competitiveness:** Faculty grants and infrastructure
- ✓ **Pipeline:** Industry sponsored (translational) research; New Investigators, and Young Companies
- ✓ **Workforce:** Entry level workers; New Investigators
- ✓ **Infrastructure:** Capital Projects
- ✓ **Retention and Investment:** Tax Incentives

Life Sciences Initiative Investment Tools



The “Bottom Line”

Life Sciences Center’s FY ‘09 Impact: June ‘08 - July ‘09

**Matching Investments
Attracted
= \$677.8 M**

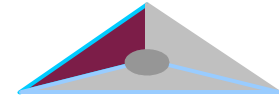
**Job Potential
= 5,371**

**Public Dollars Invested
= \$155.5 M**

4 X multiplier



Capital Fund Projects - Investments in Infrastructure



Town of Framingham: \$12.9 million grant

- New wastewater facility for Framingham Technology Park
- Allows Genzyme to build a new facility
- Creates more than **300 new manufacturing jobs** this year, and 165 jobs in construction

genzyme

MBL: \$10 million grant

- Renovate the Loeb Lab
- Will create **200 building trade jobs and up to 50 permanent jobs**
- MBL leveraged to receive a **\$15 million grant** from the Howard Hughes Medical Institute



Cummings School: \$9.5 million grant

- Supports construction and equipping of the New England Regional Biosafety Laboratory in Grafton
- Projected to create **56 FTE construction jobs and 29 long-term positions**

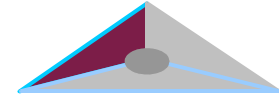
Tufts
UNIVERSITY

Cummings School of
Veterinary Medicine



MASSACHUSETTS
LIFE SCIENCES
CENTER

Capital Fund Projects - Investments in Infrastructure



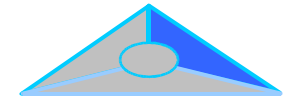
**Albert Sherman Center: \$90 million
multi-year grant**

•500,000 square foot research facility

**•Projected \$1 billion statewide
economic impact**

**•Donahue Institute projects more than
6,000 jobs created through direct
construction spending, and 1,600 jobs
supported through facility operation.**





Tax Incentive Program

The Tax Incentive Program was implemented on January 1st 2009, as required by the Life Sciences Act.

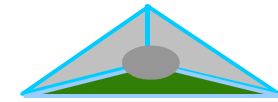
- **First round applications were accepted between January 1- May 15, 2009**
- **84 companies have applied**
 - Diversity across industry segments
 - Geographic representation
 - Small and large companies
- **The Center convened a roundtable of stakeholders, state agencies and academic experts to develop the criteria for awarding the incentives**
- **Incentives will be awarded in December 2009**

Life Sciences Investment Fund

Life Sciences Accelerator Program At-a-Glance



- **5-Year Loan**
- **\$100-\$500K target range**
- **10% Interest rate**
- **Unsecured**
- **Payable on financing event of at least \$5M**
- **Preference for matching other sources of capital**
- **Pre Series A & Opportunistic**
- **Life science sectors as defined by the statute:**
 - **Device/diagnostics**
 - **Biotech**
 - **Pharmaceuticals**
 - **Bioinformatics**



Investment Fund Programs

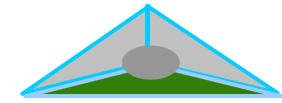
Accelerator Program – FY '09 Loans

The Center awarded \$3.4 million in loans to seven outstanding companies.

Company	Location	Area of Development	Loan Amount
Eutropics Pharmaceuticals	Dorchester	Developing drugs for treating aggressive forms of cancer	\$500,000
Good Start Genetics	Boston	Developing a low-cost pre-pregnancy test for 50 genetic disorders	\$500,000
InVivo Therapeutics	Cambridge	Developing technology to treat traumatic spinal cord injuries	\$500,000
PluroMed	Woburn	Pioneering injectable plugs that occlude blood flow to provide surgeons with bloodless fields	\$500,000
Spectra Analysis	Marlborough	Developing instrumentation to analyzes the molecular structure of each compound in a complex mixture	\$500,000
Wadsworth Medical	Westborough	Developing a painless, needleless wound closure system without anesthesia or sutures	\$400,000
Wolfe Laboratories	Watertown	Provides quality assay, formulation, and process development for biotech and pharmaceutical co's	\$500,000

Investment Fund Programs

Accelerator Program Progress Report



FDA Approvals for Accelerator Companies



September 2009: Received FDA approval on their DermaLOC wound closure system.



September 2009: Received FDA approval on BackStop, a device used in kidney stone management procedures.

October 2009: Pluromed announces marketing agreement for BackStop with Boston Scientific.

Leveraged Impact – Corporate Consortium

The MLSC is committed to highly leveraging the public tax dollars that we invest by attracting matching dollars from the private and non-profit sectors. The MLSC is proud that Johnson & Johnson agreed to be the charter member of our Corporate Consortium Program.

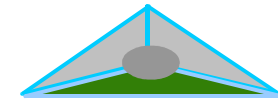
Other major life sciences corporations are expressing an interest in joining in FY 10.

Program highlights:

- Attracts matching corporate investments in our industry-targeted programs
- Minimum of [\\$500K](#) from each corporate participant
- MLSC sources and manages investment portfolio
- Final investment decisions are made by MLSC's Board



**Committed a minimum of \$500,000
to match investments made by the
MLSC in FY 2009-10**



Investment Fund Programs

Investments in Scientific Research: Matching Grant Program

2008: the MLSC launches a Matching Grant Program for new investigators, faculty positions, and cooperative research in Massachusetts. These grants:

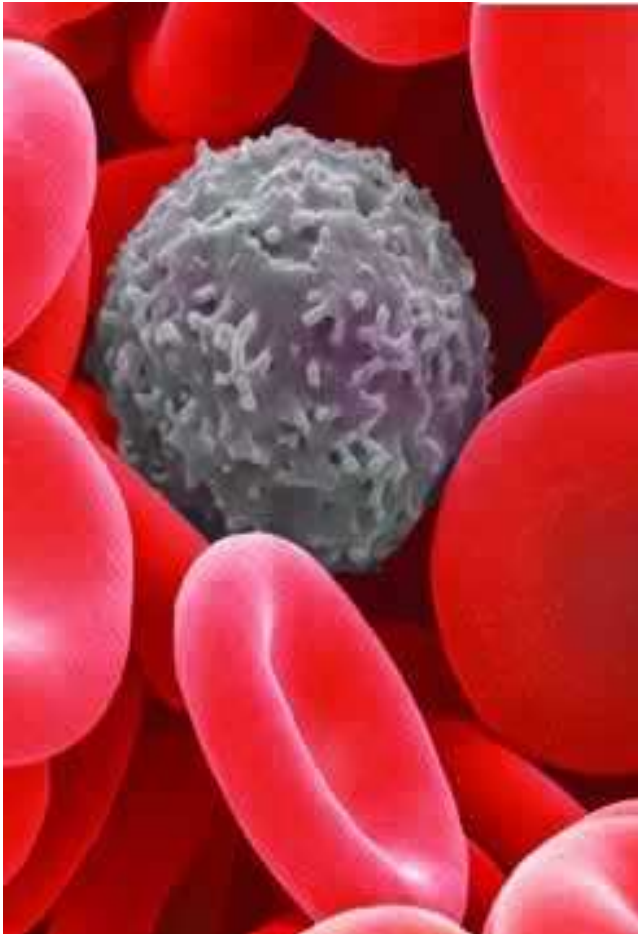
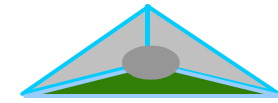


The Center's grants leveraged \$12.6 million in matching funds from private and public research institutions and industry sponsors -- creating a \$25.2 million investment in translational research across the Commonwealth

- Are enabling 21 young Massachusetts scientists to continue their research, establish independent laboratories and possibly secure larger-scale NIH funding
- Are improving the ability of five (5) universities and academic medical centers across Massachusetts to compete more effectively for top faculty
- Are funding research collaborations between six (6) industry and academic partners focused on new therapies and technologies with high commercialization potential
- Will accelerate the translation of treatments and therapies “from the research bench to the bedside”

Investment Fund Programs

Stem Cell Research



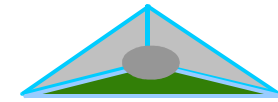
2008: The Center invests \$570,000 in the International Stem Cell Registry and \$7.7 million in the affiliated Massachusetts Stem Cell Bank

- The ISCR is a joint initiative between the Center and the University of Massachusetts Medical School.
- The Bank maintains and provides stem cell lines to the research community.

2009: The Obama Administration lifts federal restrictions on embryonic stem cell research

The Center's Board of Directors approves \$695,000 in continued funding for the ISCR.

The Center's stem cell investments **help position Massachusetts to compete for new federal research dollars** and provide stem cell lines to national and international academic and commercial organizations.



Investment Fund Programs

Investments in Workforce Development

September 2008: The Life Sciences Talent Initiative (LSTI) report, *Growing Talent*, was released jointly by the Center and the Massachusetts Biotechnology Council.

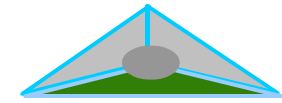
December 2008: The Center convenes an Education and Workforce Development Roundtable with broad participation from public and private academic institutions and industry.

October 2009: The Center hosts a breakfast to introduce the life sciences community to Year Up, a nonprofit working to close the opportunity divide by providing urban young adults with the skills, experience and support that lead to successful careers.



Investment Fund Programs

Investments in Workforce Development – Life Sciences Internship Challenge



February 2009: MLSC Board approves the Life Sciences Internship Challenge, a workforce development initiative that provided Summer 2009 internships for 104 undergraduates majoring in Science, Technology, Engineering or Mathematics (STEM).

- Over 500 students applied for the program
- The Center covered stipends for participating interns -- \$4,800 for eight weeks of work
- 104 interns were placed at 59 life sciences companies and research institutions across the state.
- Interns got practical experience in industry and academic settings
- More students were able to explore STEM career opportunities across the State



Attracting Companies to Massachusetts

May 2008: RainDance Technologies President and CEO Chris McNary moves operations from Connecticut to Lexington, Massachusetts.

McNary cited the Commonwealth's \$1 Billion Life Sciences Initiative "as the stimulus for RainDance's decision to relocate to Lexington from out of state."



October 2009: Italian biotech company Biocell Center opens their North American Headquarters in Medford, Massachusetts.

Company officials cite the Life Sciences Initiative and proximity to leading research institutions as among their reasons for choosing Massachusetts.

Keeping in Touch

www.masslifesciences.com

- News updates
- Program Information
- Application portal

Life Sciences Center Email List

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