

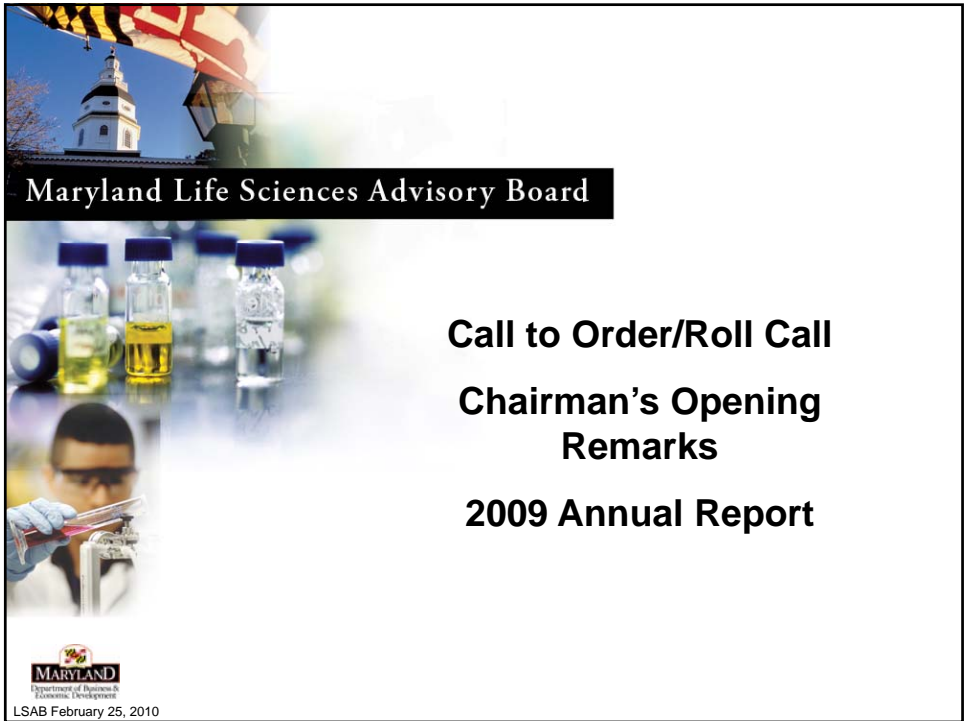
Maryland Life Sciences Advisory Board

MEETING OF THE BOARD

**Chair: Tom Watkins
President & CEO
Human Genome Sciences**

February 25, 2010


**Human Genome Sciences
Rockville, MD**



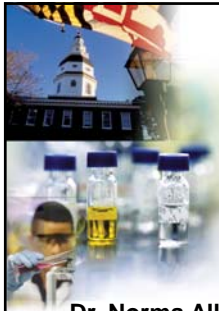
Maryland Life Sciences Advisory Board

**Call to Order/Roll Call
Chairman's Opening
Remarks**

2009 Annual Report



LSAB February 25, 2010



THE MARYLAND LIFE SCIENCES ADVISORY BOARD (LSAB)

Mr. Thomas Watkins, Chair *CEO, Human Genome Sciences, Inc.*

Mr. Christian Johansson *Secretary, DBED*

Mr. John Wasilisin *Acting Executive Director, TEDCO*

Dr. Norma Allewell *Dean, Chemical and Life Sciences, University of Maryland, College Park*

Ms. Francesca Cook *Vice President of Policy and Government Affairs, Pharmathene, Inc.*

Dr. Stephen Desiderio *Director, Institute for Cell Engineering
Johns Hopkins School of Medicine*

Dr. Peter Hobart *Science Director, U.S. Army Medical Research Institute of Infectious Diseases*

Mr. David Iannucci *Director, Department of Economic Development, Baltimore County*

Mr. Philippe Jacon *President, BD Diagnostic Systems*

Dr. Rachel King *Chief Executive Officer, Glycomimetics, Inc.*

Dr. Nina Lamba *President, CCL Biomedical, Inc.*

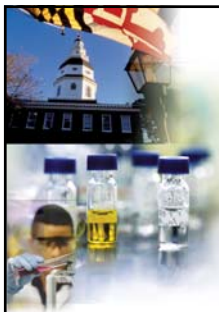
Dr. Hercules Pinkney *Vice President & Provost, Montgomery College-Germantown*

Dr. David Ramsay *President, University of Maryland, Baltimore*

Dr. Mark Rohrbaugh *Director, Office of Technology Transfer, NIH*

Dr. Janet Woodcock *Deputy Commissioner & Chief Medical Officer, FDA*

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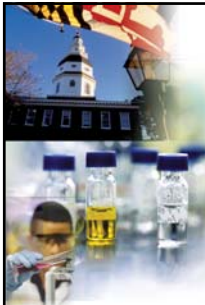


LSAB MEETING AGENDA

Thursday, February 25, 2010

9:30 a.m. – 10:00 a.m.	LSAB Call to Order/Roll Call Chairman's Opening Remarks 2009 Annual Report Introduction of Dr. Judy Britz	Tom Watkins
10:00 a.m. – 10:10 a.m.	Remarks by Dr. Judy Britz <i>Executive Director Maryland Biotechnology Center</i>	
10:10 a.m. – 10:30 a.m.	FY 2011 Legislative and Fiscal Outlook	Christian Johansson
10:30 a.m. – 12:30 p.m.	BioMaryland 2020 Seventeen Recommended Actions Gap Analysis	Tom Watkins Board Staff


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LSAB MEETING AGENDA

Thursday, February 25, 2010

	12:30 p.m.	Call for Executive Session/Vote		Tom Watkins
	12:30 p.m. – 1:30 p.m.	Executive Session/Working Lunch (pending LSAB approval)		
	1:30 p.m.	Adjourn		


LSAB February 25, 2010
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Maryland Life Sciences Advisory Board



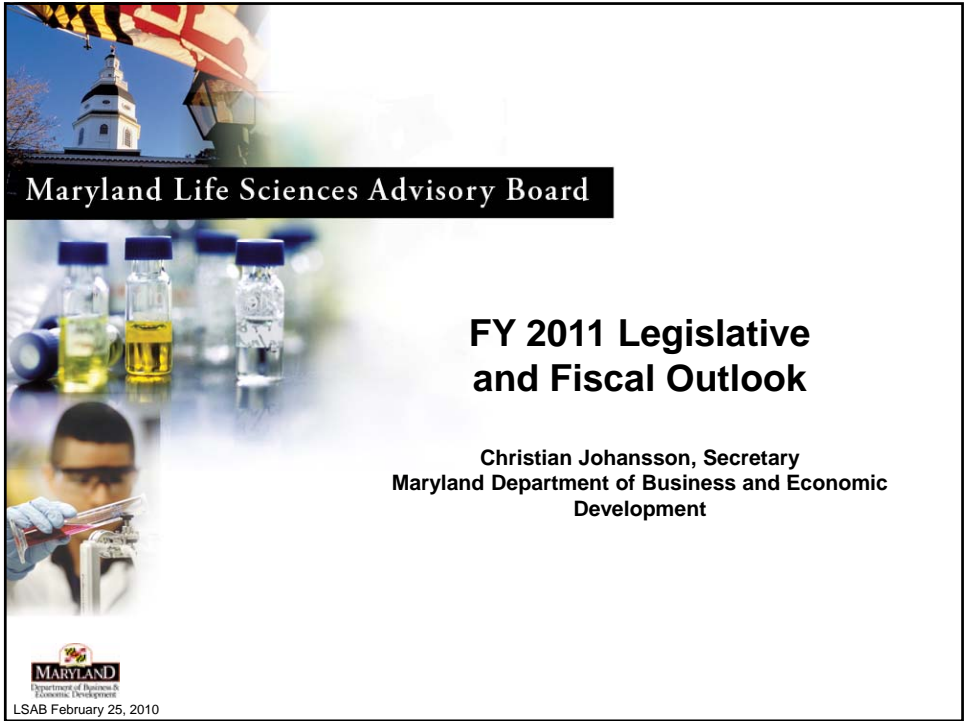
REMARKS

Judy Britz, Executive Director



MARYLAND
BIOTECHNOLOGY
CENTER



LSAB February 25, 2010

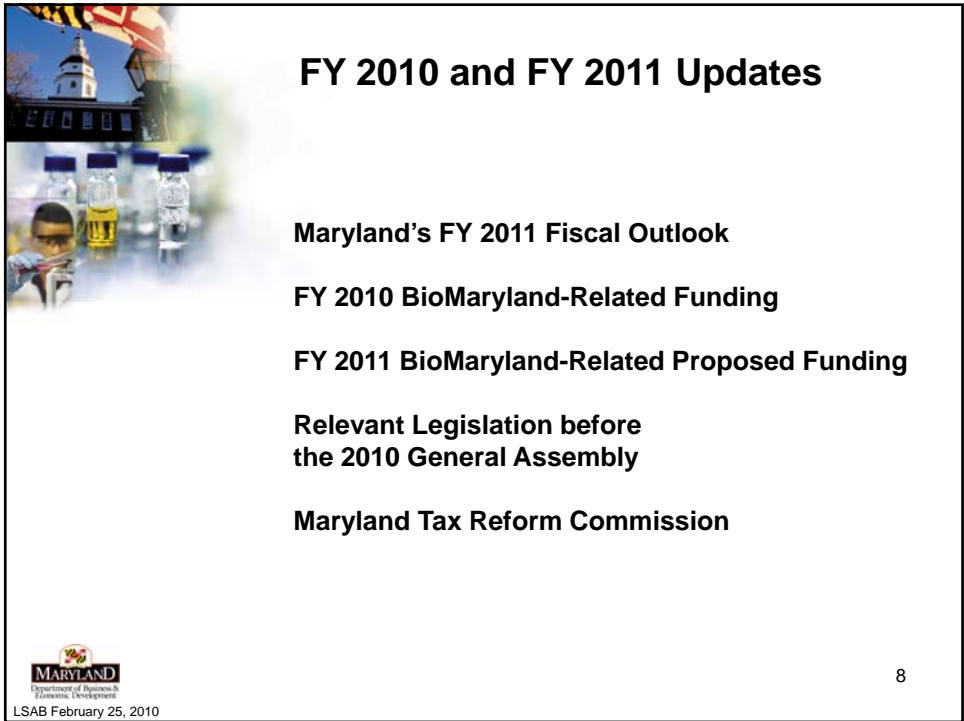


Maryland Life Sciences Advisory Board

FY 2011 Legislative and Fiscal Outlook

Christian Johansson, Secretary
Maryland Department of Business and Economic Development


LSAB February 25, 2010



FY 2010 and FY 2011 Updates


Maryland's FY 2011 Fiscal Outlook

FY 2010 BioMaryland-Related Funding

FY 2011 BioMaryland-Related Proposed Funding

Relevant Legislation before the 2010 General Assembly

Maryland Tax Reform Commission


LSAB February 25, 2010

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FY 2010 *BioMaryland 2020* Related Funding

- \$3.9 million:** Maryland Biotechnology Center
- \$6 million:** Biotechnology Investment Incentive Tax Credit Program
- \$6 million:** R&D Tax Credit Program
- \$2 million:** Maryland Venture Fund
- \$12.4 million:** Maryland Stem Cell Research Fund
- \$16.1 million:** Montgomery College/Germantown Science and Technology Park*
- \$4.3 million:** TEDCO Budget (technology transfer and commercialization programs within)
- \$1.6 million:** MIPS program at the University of Maryland

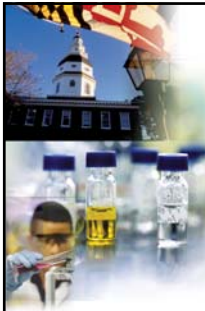
**Other life science/technology capital projects include UMB School of Pharmacy, Coppin State University Science & Technology Center, Montgomery College Rockville Science Center, and Prince George's Community College Center for Health Studies (~\$52.4 million aggregate)*



FY 2011 *BioMaryland 2020* Proposed Funding Highlights

- \$3.9 million:** Maryland Biotechnology Center
- \$6 million:** Biotechnology Investment Incentive Tax Credit Program
- \$6 million:** R&D Tax Credit Program
- \$1.4 million:** Maryland Venture Fund
- \$12.4 million:** Maryland Stem Cell Research Fund
- \$16.1 million:** Montgomery College/Germantown Science and Technology Park*
- \$3.4 million:** TEDCO Budget (technology transfer and commercialization programs within)
- \$1.5 million:** MIPS program at the University of Maryland

**Other life science/technology capital projects include UMB School of Pharmacy, Coppin State University Science & Technology Center, Montgomery College Rockville Science Center, Frederick Community College Science/Tech Hall, and Prince George's Community College Center for Health Studies (~\$20.3 million aggregate)*



2010 General Assembly Relevant Legislation

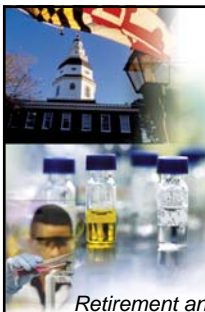
SB 840/HB 1159 Budget Reduction Act

1) Effectively caps the Biotechnology Investor Incentive Tax Credit to \$3 million in any year regardless of what is appropriated to the Reserve Fund. Excerpt: "altering a certain limit on the maximum aggregate initial tax credit certificates that may be issued for any fiscal year under a certain tax credit for certain investments in certain biotechnology companies;..." and

2) Terminates the R&D Tax Credit Program after 2009 credit applications. Excerpt: "repealing a certain income tax credit for certain research and development expenses;..."

SB 64 Maryland Research and Development Tax Credit (Sunset Extension)

Proposes extension to 2020 tax year. Currently would expire in 2011.



2010 General Assembly Relevant Legislation

HB 845/SB 793 State Retirement and Pension System – Investments – Qualified Information Technology, Green Technology, Medical Device Technology, or Bioscience Businesses

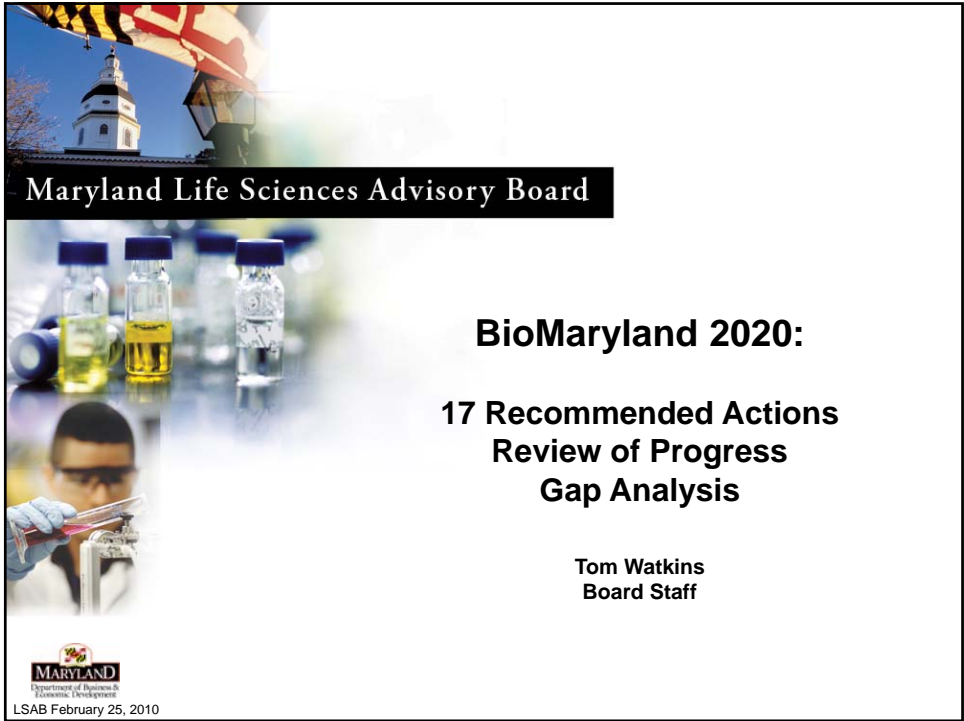
Requires the Board of Trustees of the State Retirement and Pension System to invest over a 5-year period \$50,000,000 of the assets of the several systems in venture capital funds focused on qualified information technology, green technology, medical device technology, or bioscience businesses (with in-State investment requirements).

HB 795 Task Force to Study Nanotechnology and Nanobiotechnology

Creates a 23 member Task Force to study benefits of nano and nanobiotechnology, public/private support, economic development outcomes and recommendations on State support. Requires Maryland Biotechnology Center and TEDCO staff support.

SB 628 Maryland Stem Cell Research Fund (Annual Report Requirements)


Requiring TEDCO and the Stem Cell Research Commission to include in the annual report on the Maryland Stem Cell Research Fund specified information on the number of patients treated and the amount of time until research is tested in a clinical trial.



Maryland Life Sciences Advisory Board

**BioMaryland 2020:
17 Recommended Actions
Review of Progress
Gap Analysis**

**Tom Watkins
Board Staff**


LSAB February 25, 2010



LSAB Vision Statement

By 2020, Maryland will be globally renowned for its ability to translate its world-class bioscience research capabilities into viable and highly regarded product-oriented bioscience companies that establish new industry strengths in therapeutics, diagnostics, devices, and innovative bio-based products.

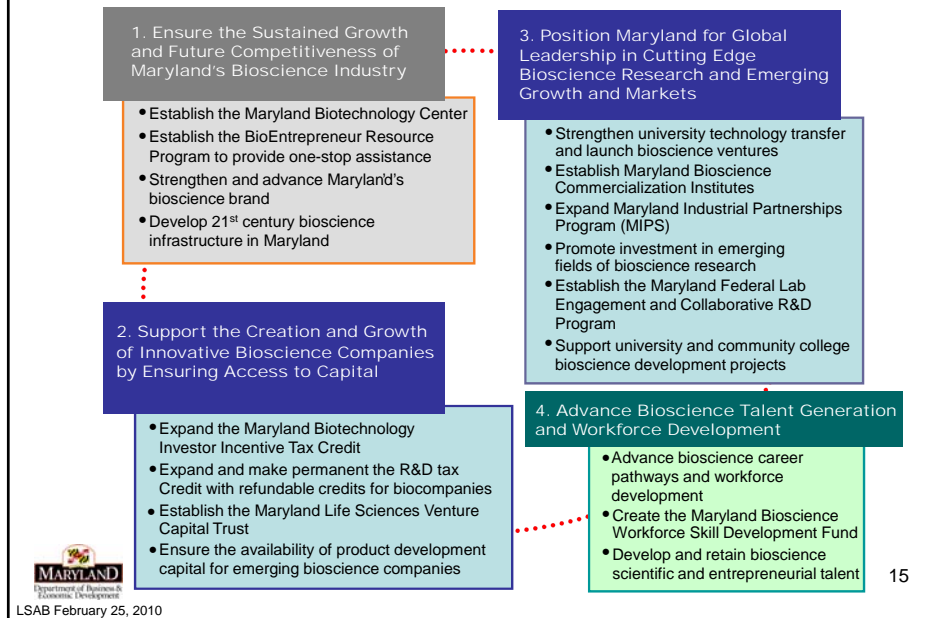
Maryland will continue to advance its leading bioscience research complex and, through strategic investments and innovative programs, leverage the discoveries and talent it generates to create a high-quality environment for the accelerated growth and success of bioscience companies in Maryland.

Maryland will be clearly recognized as one of the top tier states highly specialized in overall bioscience development.


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BioMaryland 2020 Strategic Priorities and Recommended Actions



Strategic Priority 1: Ensure Sustained Growth and Future Competitiveness

Action 1: Establish the Maryland Biotechnology Center

Description	A "one-stop" portal to programs, grants, services and resources. The global gateway to the State's life sciences assets and business attraction efforts.
FY 2010 Funding	\$3.89 million
FY 2011 Funding	\$3.84 million (proposed)
Progress To-Date	Two Center offices opened in Baltimore and Rockville (9/09). Website launched (9/09). Established BioEntrepreneur, Biotechnology Development, Workforce Development, Federal and Marketing Programs (9/09). Executive Director hired (1/10).
Current Initiatives	Acquisition of additional entrepreneurial resources. Outreach programs to >400 Maryland biocompanies and economic development officials. Enhanced website features and branding. Enhanced assistance to DBED global business development activities. Work underway to develop common application process among Center, TEDCO and MIPS programs.
GAP Analysis	Initial FY 2010 funding recommendation: \$6 million Funding to increase to \$8.5 million in FY 2013-2015 and \$12.0 million in FY 2016-2020.

www.marylandbiocenter.org

Portal to Maryland's bioscience assets

LSAB February 25, 2010

Strategic Priority 1: Ensure Sustained Growth and Future Competitiveness

Action 2: Establish the BioEntrepreneur Resources Program

Description	To provide comprehensive assistance to bioscience entrepreneurs and emerging companies including business strategy development, access to informational databases, due diligence services, and guidance on the variety of available funding and assistance programs.
FY 2010 Funding	\$1.56 million (staff/contract services) - included in the Center's budget
FY 2011 Funding	\$1.56 million (staff/contract services) - included in the Center's budget
Progress To-Date	Center staff: 11. Databases currently available (Marketing, IP, Deals, Clinical, Science and Business). Grant programs funded: Translational Research, Core Facilities and Commercialization Projects - shared with TEDCO and MIPS.
Current Initiatives	Additional databases identified: Licensing/Financing Deals, Federal Grants/IP Identification of Center grant recipients – weighted toward translational research efforts and company awards (with TEDCO and MIPS currently).
GAP Analysis	Initial FY 2010 funding recommendation: \$1.5 million (to be included in the Center budget). Funding through 2020 to increase depending on demand and opportunity.

Strategic Priority 1: Ensure Sustained Growth and Future Competitiveness

Action 3: Strengthen and advance “BioMaryland” – Maryland’s Bioscience Brand

Description	Establish “BioMaryland” as a comprehensive branding and consistent marketing campaign for event sponsorships and global visibility of Maryland’s life sciences assets.
FY 2010 Funding	~\$250,000 (included in the Center’s budget).
FY 2011 Funding	~\$250,000 (included in the Center’s budget).
Progress To-Date	Redesign of the BioMaryland Pavilion at BIO 2009 (Atlanta). Developed Phase 1 “BioStat” – an interactive GIS based map of companies, research centers, and federal/academic life sciences facilities. Launched the Center website, award winning logo and branding. Co-marketing with TEDCO, GBC, GBTC, TCM/MdBio and BIO.
Current Initiatives	Expand the use of social media (Twitter, Linked-in, etc.) to advance industry accomplishments. BioMaryland Pavilion at BIO 2010 (Chicago). BioMaryland Sponsor Reception (fundraiser). Implement Phase 2 editions of the Center website and BioStat with enhanced features. BioMaryland support for Mid-Atlantic Bio 2010.
GAP Analysis	Initial FY 2010 funding recommendation: \$500,000 annually. Funding through 2020 to increase to \$850,000 in FY 2013–2015 and \$1.2 million in FY 2016–2020



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Strategic Priority 1: Ensure Sustained Growth and Future Competitiveness

Action 4: Develop 21st Century Bioscience Industry Infrastructure in Maryland

Description	Re-establish Maryland incubator support fund (TEDCO). Continue to use existing DBED programs (MEDAAF, MIDFA) to support multi-tenant facilities, tenant fit-out of wet lab space and multi-use research park developments throughout the State.
FY 2010 Funding	\$0: TEDCO’s incubator support fund \$20 million: DBED MEDAAF; MIDFA loan guarantee program not budget appropriated
FY 2011 Funding	\$0 for TEDCO’s incubator support fund. \$14 million DBED MEDAAF (proposed); MIDFA loan guarantee program not budget appropriated.
Progress To-Date	~\$2 million for 4 bioscience projects (MEDAAF & MIDFA combined in 2009/2010 to-date).
Current Initiatives	DBED MEDAAF & MIDFA not disclosed: current bioscience projects confidential until settled.
GAP Analysis	TEDCO Incubator Fund - Initial FY 2010 funding recommendation: \$2 million, with proposed funding funding through 2020 at same level. MEDAAF and MIDFA funding through 2020 to increase depending on demand and opportunity.



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Strategic Priority 2: Support Growth by Ensuring Access to Capital

Action 1: Expand the Maryland Biotechnology Investment Incentive Tax Credit Program

Description	Increase funding for Maryland's Biotechnology Investor Incentive Tax Credit Program. Income tax credits for investors in qualified Maryland biotechnology companies. Created to offer incentives for investment in seed and early-stage, privately held biotechnology companies.
FY 2010 Funding	\$6 million
FY 2011 Funding	\$6 million (proposed)
Progress To-Date	Oversubscribed due to success. Has stimulated 56 early stage biocompany capital raises involving 445 investors and 39 companies. 62% Montgomery County, 15% Baltimore City, 8% Howard County, 8% Frederick County, and remainder Prince George's and Baltimore Counties.
Current Initiatives	FY 2010 to-date: 112 investors have received final tax credit approvals representing 13 companies, \$5.5 million in credits and >\$11 million in investments.
GAP Analysis	Initial FY 2010 funding recommendation: \$6 million, with commitment to increase to \$12 million "as soon as possible." Proposed funding through 2020: Increase over time to \$24 million target



Strategic Priority 2: Support Growth by Ensuring Access to Capital

Action 2: Expand and Make Permanent the R&D Tax Credit

Description	Increase the fund allocation for the R&D tax credit program. Remove the sunset provision to make it permanent. Allow for fund proportioning and credit refundability (with caps) to bioscience with fewer than 50 employees to mobilize capital.
FY 2010 Funding	\$6 million (\$3 million for basic R&D expenditures and \$3 million for growth R&D expenditures)
FY 2011 Funding	\$6 million (\$3 million for basic R&D expenditures and \$3 million for growth R&D expenditures) (proposed)
Progress To-Date	Approximately 40% of the applicants representing just over 50% of the credits issued are bioscience companies (2000-2006 historical analysis).
Current Initiatives	Legislation (SB 64) was introduced in the 2010 General Assembly that seeks to amend the current 2011 sunset and extend it to 2020.
GAP Analysis	Initial FY 2010 funding recommendation: \$12 million. Proposed Funding through 2020: Incremental increases to \$24 million target. Sunset elimination vs. long-term extension. Credit refundability (with caps) and fund proportioning to small bioscience companies.



Strategic Priority 2: Support Growth by Ensuring Access to Capital

Action 3: Create the Maryland Life Sciences Venture Capital Trust

Description	Establish the Maryland Life Sciences Venture Capital Trust to (1) to offer an attractive vehicle for private-equity investment in life science companies by the Maryland State Retirement and Pension System and (2) to attract additional private-equity investment in Maryland life sciences from venture capital funds both within and outside the state.
FY 2010 Funding	\$0
FY 2011 Funding	\$0 (proposed)
Progress To-Date	Discussions between DBED and State Pension Board representatives concerning feasibility and best practices models.
Current Initiatives	Pension Fund trustees have moved forward to explore an investment opportunity in a Mid-Atlantic venture fund to stimulate a focus on Maryland bioscience companies. Related 2010 session legislation (HB 845/SB 793) under consideration to encourage pension fund investment.
GAP Analysis	Initial FY 2010 funding recommendation: State seed of \$10 million. Proposed funding through 2020: \$100 million from state and other pension funds, matched 3:1 by private venture capital funds.



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Strategic Priority 2: Support Growth by Ensuring Access to Capital

Action 4: Ensure Availability of Product Development Capital for Emerging Bioscience Companies

Description	Increase capital availability by expanding appropriations to the Maryland Venture Fund (MVF). Establish a Bioscience Product Development Loan Fund allowing for long-term working capital loans of up to \$500,000 to qualified bioscience companies.
FY 2010 Funding	\$2 million for the Maryland Venture Fund. \$0 for the Bioscience Product Development Loan Fund.
FY 2011 Funding	\$1.4 million for the Maryland Venture Fund (proposed). \$0 for the Bioscience Product Development Loan Fund.
Progress To-Date	FY 2009: \$1.7 million invested (\$106.3 million total capital raised) in 9 bioscience companies.
Current Initiatives	FY 2010 to date: \$0.3 million invested (\$0.6 million total capital est. raised) in 2 bioscience companies
GAP Analysis	Initial FY 2010 funding recommendation: Restore MVF to \$9 million as soon as possible. \$5 million to Bioscience Product Development Fund. Proposed MVF funding through 2020: Incremental increases to \$24 million by FY 2020. Bioscience Product Development Loan Fund: \$5 million annually through 2020.



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Strategic Priority 3: Position Maryland for Global Leadership

Action 1: Strengthen University Technology Transfer and Promote the Launch of Bioscience Ventures

Description	Increase funding TEDCO's technology transfer programs: the University Technology Development Fund (UTDF) and Maryland Technology Transfer and Commercialization Fund (MTTCF) Augment funding for technology transfer activities in the University System of Maryland (USM) to a level consistent with funding levels at comparable universities nationwide. Review Maryland university technology transfer policies and procedures.
FY 2010 Funding	\$4.3 million (TEDCO budget total); includes \$0.55 million for MIPS pass through funding; ~\$1.95 million for technology transfer programs
FY 2011 Funding	\$3.4 million (TEDCO budget total); includes \$ 0.5 million MIPS pass through funding; technology transfer program funding to be determined
Progress To-Date	TEDCO FY 2009: \$ 1.5 million MTTCF (19 bio projects), \$105,000 TechStart (7 bio projects), \$100,000 UTDF (2 bio projects); FY 2010 to-date: \$375,000 MTTCF (5 bio projects), \$75,000 TechStart (5 bio projects), \$150,000 UTDF (3 bio projects)
Current Initiatives	The Maryland Biotechnology Center is partnering with TEDCO to fund Phase 2 MTTCF bioscience projects. Work underway to develop common application process among MBC, TEDCO and MIPS.
GAP Analysis	Initial FY 2010 funding recommendation: \$5 million annually for TEDCO's MTTCF/UTDF programs; \$3.5 million annually to augment USM technology transfer; and a one-time allocation of up to \$200,000 for a study of university technology transfer best practices. Proposed funding through 2020: \$5 million annually for TEDCO's MTTCF/UTDF programs.



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Strategic Priority 3: Position Maryland for Global Leadership

Action 2: Establish Bioscience Commercialization Institutes in Maryland

Description	Implement (in phases) up to 4 Commercialization Institutes with laboratory facilities and research staff, accessible to academic and commercial clients, with specific areas of focus based on Maryland's identified core competencies. (e.g., therapeutic, diagnostic or device development). Objective: Retain bioscience commercialization activity in Maryland.
FY 2010 Funding	\$0
FY 2011 Funding	\$0 (proposed)
Progress To-Date	None
Current Initiatives	Early example is the Neurotranslational Research Group initiative at Johns Hopkins for small molecule medicinal chemistry - a commercial entity, with pharma industry staff expertise.
GAP Analysis	Initial FY 2010 and proposed funding through 2020: Up to \$100 million to establish and fund 4 commercialization institutes; subsequent funding at \$5 million annually for each institute with matching fund requirements for specific projects and programs.



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Strategic Priority 3: Position Maryland for Global Leadership

Action 3: Expand the Maryland Industrial Partnership Program (MIPS)

Description	Increase funding to the MIPS to accelerate collaborative university-industry product R&D projects - 60% targeted to bioscience projects. Expand the MIPS program to include Johns Hopkins (long-term).
FY 2010 Funding	\$1.55 million (\$1 million from University of Maryland and \$0.55 million as a pass through from TEDCO's budget).
FY 2011 Funding	\$1.50 million (\$1 million from University of Maryland and \$0.50 million as a pass through from TEDCO's budget - proposed).
Progress To-Date	FY 2009: 23 bio industry projects (60% of total) representing \$1.36 million in total project costs. FY 2010 to-date: 16 bio industry projects (53% of total) representing \$0.86 million in project costs. The Center has entered into an interagency agreement with UM/Mtech to sponsor Phase 2 MIPS project awards (\$270,000 in FY 2010).
Current Initiatives	Currently 3 projects will receive \$164,000 - leveraging \$398,863 in project funding and allowing increased MIPS funding to Phase 1 bioscience projects.
GAP Analysis	Initial FY 2010 funding and proposed funding through 2020: Increase to \$6.0 million annually, with approximately 60% bioscience project allocation.



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Strategic Priority 3: Position Maryland for Global Leadership

Action 4: Invest in Emerging Fields of Bioscience Research

Description	Establish the LSAB Bioscience Research Initiatives Review Committee to make future recommendations for funding to support emerging fields of bioscience research. Increase funding for stem cell research and nanobiotechnology (current program focus)
FY 2010 Funding	\$12.35 million for the Maryland Stem Cell Research Fund (SCRF) \$3 million (one time) for Nanobiotechnology funding jointly sponsored by the Maryland Biotechnology Center and TEDCO's CENTR nano program.
FY 2011 Funding	\$12.4 million for the Maryland Stem Cell Research Fund (primarily academic research grants) \$0 for Nanobiotechnology program funding.
Progress To-Date	SCRF: 147 proposals received, 59 projects awarded, and \$17.5 funded in FY 2009; MBC/CENTR Nanobio awards: 13 to academic and industry sponsored research for \$3 million.
Current Initiatives	SCRF: 160 proposals received, 40 projects awarded, and \$11.9 funded in FY 2011 (estimated); Nano/Nanobio Taskforce legislation proposed (HB 795) in 2010 session.
GAP Analysis	Initial FY 2010 SCRF funding and proposed funding through 2020: Increase to \$20 million annually. Initial FY 2010 nanobiotechnology funding and proposed funding through 2020: Increase to \$5 million annually. Initial FY 2010 funding recommendation: \$50,000 annually for the LSAB Bioscience Research Initiatives Review Committee.



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Strategic Priority 3: Position Maryland for Global Leadership

Action 5: Establish the Maryland Federal Lab Engagement and Collaborative R&D Program

Description	Promote and foster the development of federal lab/university/industry collaborations.
FY 2010 Funding	\$0 (some initial funding through the Maryland Biotechnology Center budget)
FY 2011 Funding	\$0 (proposed)
Progress To-Date	Conceptual development of a web-based community of industry, academic and federal researchers to promote research and resource networking with a particular emphasis on translational research and commercialization opportunities.
Current Initiatives	Draft scope of services for the web project completion and submission for cost estimate; explore federal facility opportunities at Maryland's university associated research parks.
GAP Analysis	Initial FY 2010 funding and proposed funding through 2020: \$2 million annually with a matching fund requirement.



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Strategic Priority 3: Position Maryland for Global Leadership

Action 6: Support University and Community College Bioscience Development Projects

Description	Provide strong support for the State's long-term capital budget investments in planned bioscience research facilities and education infrastructure at universities and community colleges.
FY 2010 Funding	\$16.1 million Montgomery College/Germantown Science and Technology Park – Bioscience Center. <i>Note:</i> Other related life science/technology capital projects include UMB School of Pharmacy, Coppin State University Science & Technology Center, Montgomery College Rockville Science Center, and Prince George's Community College Center for Health Studies (-\$52.4 million aggregate)
FY 2011 Funding	\$16.1 million Montgomery College/Germantown Science and Technology Park – Bioscience Center (proposed); \$5 million East Baltimore Biotechnology Park (proposed GO Bond); <i>Note:</i> Other related life science/technology capital projects include UMB School of Pharmacy, Coppin State University Science & Technology Center, Montgomery College Rockville Science Center, Frederick Community College Science/Tech Hall, and Prince George's Community College Center for Health Studies (-\$20.3 million aggregate proposed)
Progress To-Date	Phase I of the Montgomery College /Germantown Science and Technology Park – Bioscience Center initiated. Building 2 expansion at the UMB BioPark.
Current Initiatives	Completion of the Montgomery College /Germantown Science and Technology Park – Bioscience Center
GAP Analysis	Initial FY 2010 Funding and Proposed Funding through 2020: Infrastructure costs for University projects are contained within their capital planning budgets and prioritized for each fiscal year submission.



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Strategic Priority 4: Advance bioscience talent and workforce development

Action 1: Statewide Approach to Bioscience Career Pathways Development

Description	Support implementation and expansion of the new Project Lead The Way (PLTW) Biomedical Sciences High School Program Promote program articulation for biotechnology, bioscience, and associated life science degrees across high schools, community colleges, and 4-year degree colleges and provide for a one time study for implementation.
FY 2010 Funding	\$0
FY 2011 Funding	\$0 (proposed)
Progress To-Date	PLTW program articulation has begun for engineering at Montgomery College for area high schools and can act as a model for future bioscience program articulation development.
Current Initiatives	The Maryland Biotechnology Center has established K-12 STEM/Bio teacher "externships" to experience bioscience career activities in the corporate setting: 4-6 anticipated for summer 2010.
GAP Analysis	Initial FY 2010 funding recommendation: \$1.6 million annually for implementation of PLTW over the next 5 year, plus one-time funding of \$250,000 (one-time funding) to support the development and implementation of an articulation plan.



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Strategic Priority 4: Advance bioscience talent and workforce development

Action 2: Create the Maryland Bioscience Workforce Skill Development Fund

Description	Create the Bioscience Industry Skill Development Program Fund to conduct activities including need identification, curriculum development, professional training, instructional equipment grants, on-line hosting, and teacher mentoring and student internships.
FY 2010 Funding	\$0
FY 2011 Funding	\$0 (proposed)
Progress To-Date	Grant Application (Montgomery College with partner) under consideration for the National Science Foundation's ATE Program.
Current Initiatives	The Maryland Biotechnology Center has formed the statewide Biotechnology Training Consortium (training providers) to (1) meet workforce training needs and (2) interface with academic program development for industry relevance. Instructional equipment acquisition through NIH and other institutions' Equipment Surplus programs as well as funding available through Congressional Earmark requests
GAP Analysis	Initial FY 2010 funding and proposed funding through 2020: \$1 million annually; increase proportionally depending on demand and opportunity



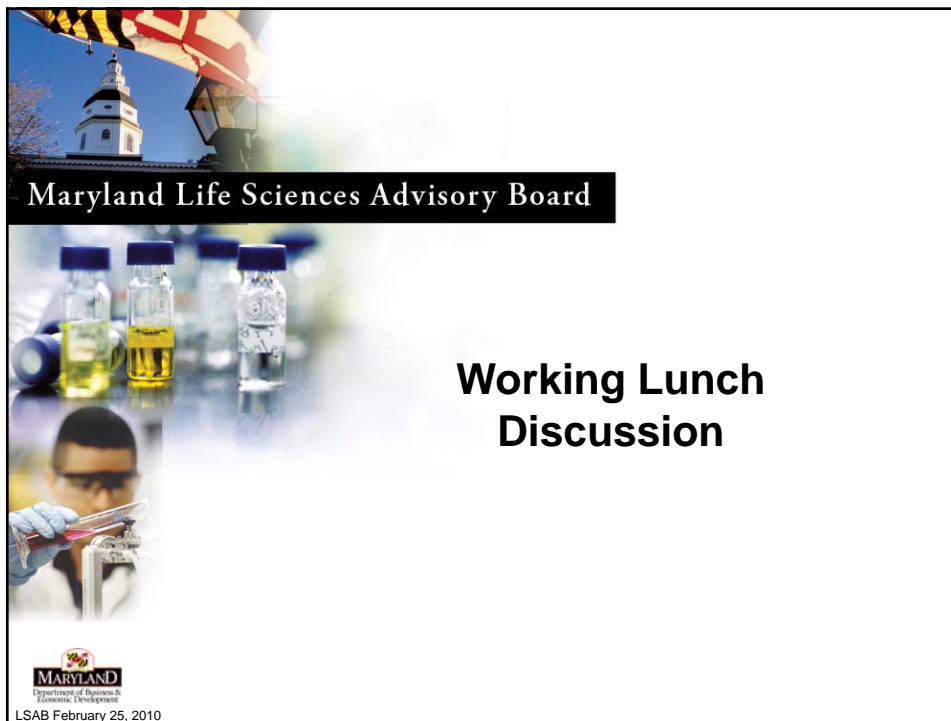
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Strategic Priority 4: Advance bioscience talent and workforce development

Action 3: Develop and Retain Bioscience Scientific and Entrepreneurial Talent


Description	Create the Maryland Bioscience Talent Bridge Program at the Maryland Biotechnology Center to provide fellowships to enable bioscience companies to employ advanced bioscience degree candidates. Explore and enhance development of entrepreneurial education for bioscience advanced degree candidates.
FY 2010 Funding	\$0 additional – currently contained within the Center’s current budget appropriation
FY 2011 Funding	\$0 additional (proposed) – currently contained within the Center’s proposed budget appropriation
Progress To-Date	Program criteria and target institutions and companies have been identified for funded internships for advanced degree candidates and externships for STEM (bio focused) K-12 teachers.
Current Initiatives	Anticipated up to 6 fellowships each for advanced degree candidates to be awarded for Summer 2010. Estimated cost: \$30,000 - \$60,000.
GAP Analysis	Initial FY 2010 funding recommendation: \$1.4 million annually for 20 fellowship grants (Talent Bridge Program). Proposed funding through 2020: to increase proportionally depending on demand and opportunity

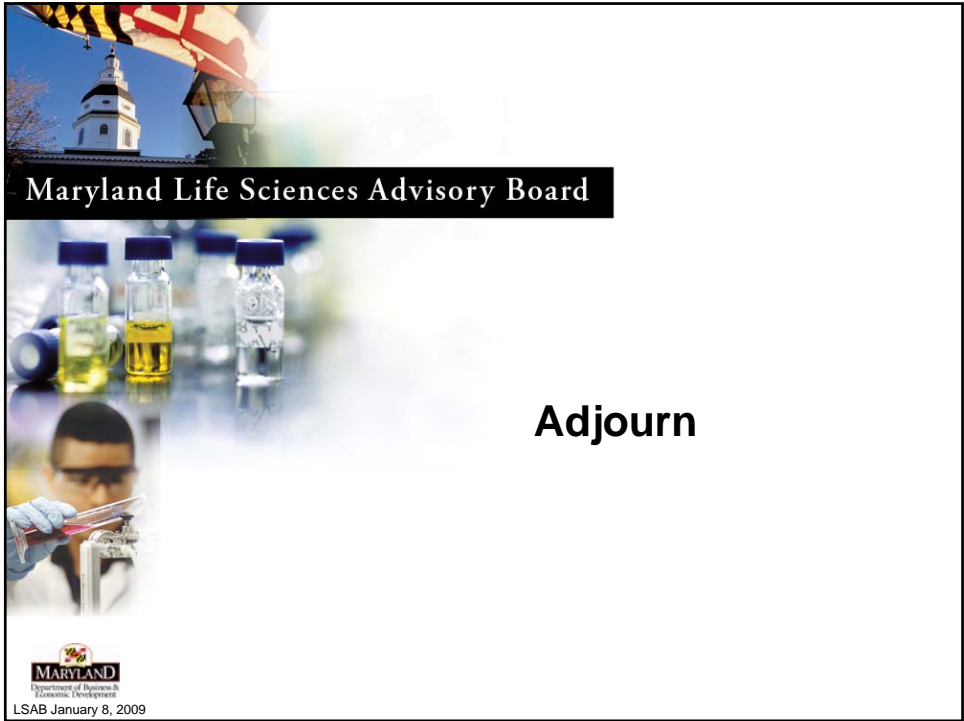


The poster features a collage of images: a Maryland state flag, a white building with a steeple, laboratory glassware with yellow and clear liquids, and a scientist in a lab coat using a pipette. The text is centered and reads:

Maryland Life Sciences Advisory Board


Working Lunch Discussion


LSAB February 25, 2010



Maryland Life Sciences Advisory Board

Adjourn


MARYLAND
Department of Business &
Economic Development

LSAB January 8, 2009