

**LSAB Presentation  
May 22, 2008**



Maryland Industrial Partnerships



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*Matching awards for collaborative R&D between Maryland companies and University System of Maryland faculty to develop new technology products*

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## ***MIPS: What is it?***

The Maryland Industrial Partnerships program (MIPS) helps Maryland companies develop new technology products, processes or services by jointly funding R&D with University System of Maryland faculty.



## ***MIPS: Part of Mtech*** ***([www.mtech.umd.edu](http://www.mtech.umd.edu))***

MIPS is a program of the Maryland Technology Enterprise Institute (Mtech), whose mission is to **educate** the next generation of technology entrepreneurs, **create** new technology ventures, and **connect** Maryland companies with the resources (such as MIPS) to help them succeed.



## ***Mtech's programs to Educate, Create and Connect***

- **Educate:**
  - Hinman CEOs; Hillman Entrepreneurs; UM Tech Startup Boot Camp; UM \$50K Business Plan Competition
- **Create:**
  - TAP: Technology Advancement Program
  - Venture Accelerator
- **Connect:**
  - MIPS: Maryland Industrial Partnerships
  - MTES: Maryland Technology Extension Service
  - BREP: Biotechnology Program
  - MPEA: Maryland Performance Excellence Awards



## ***MIPS: A National Model***

- MIPS Award from U.S. SBA for "Best Practices in Technology Transfer" (March, 2005)
- MIPS Award from SSTI for Technology-Led Economic Development: "Enhancing Competitiveness of Existing Industry" (October, 2007)



## ***Disciplines for MIPS Projects***

- Engineering
- Computer Sciences
- Life Sciences
- Physical Sciences

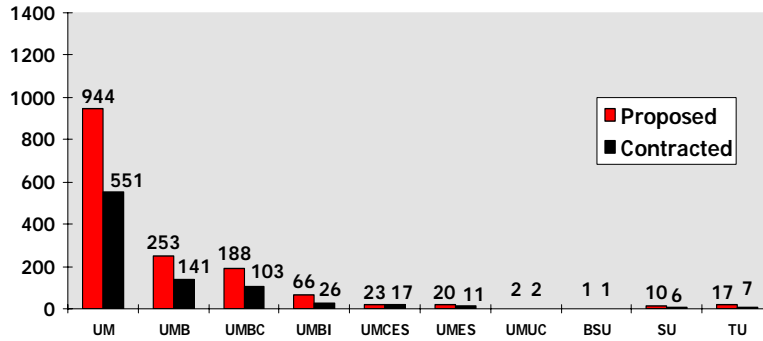


## ***MIPS: A Flexible Program Changes with emerging technology***

- On the increase:
  - Biotech/life sciences
  - Homeland security
  - Nanotechnology
  - Energy



## MIPS Program Summary

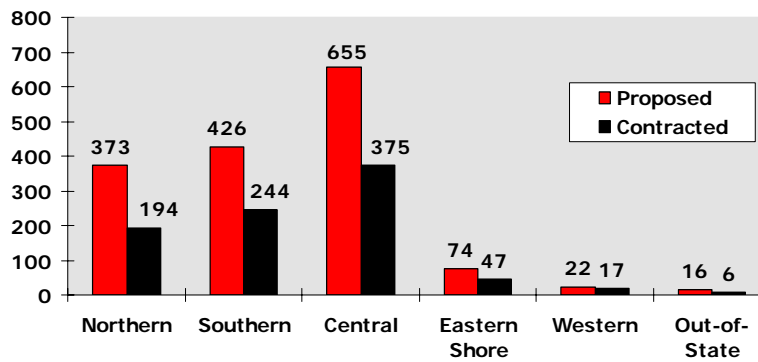


Applications by Institutions



\* Data from projects in years 1987-2007

## MIPS Program Summary

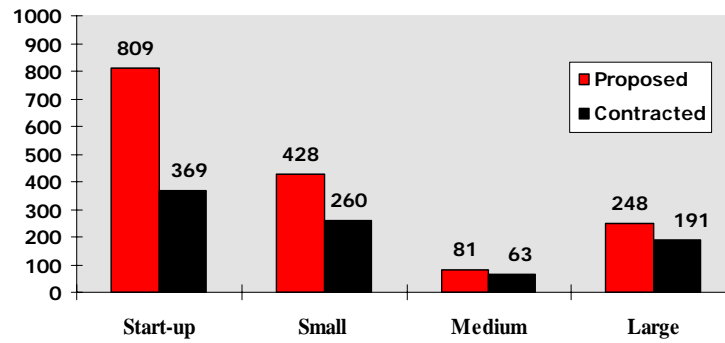


Applications by State Regions



\* Data from projects in years 1987-2007

## *MIPS Program Summary*



### Applications by Company Size



\* Data from projects in years 1987-2007

## *MIPS: The Process*



## *Proposal Evaluation Process*

- Scientific/technical evaluation
- **Business/economic review**
- 60 day turn around from application to award
- 2 funding cycles per year



## *Cost Share*

Company Size	Company Share	MIPS Share	# of Employees
Start-up	10%	90%	Up to 12
Small	35%	65%	Up to 100
Medium	50%	50%	100-1000
Large			1000+

- MIPS offers up to \$200,000 in matching funds for research projects; with company contributions
- Total project value can range up to \$400,000.
- Average Project Value \$250K.



## ***Benefits to Companies***

- Financial support for commercially applicable research
- Leveraging assets/ outsourcing R&D
- Access to university/
  - faculty
  - expertise
  - facilities
- Companies can establish lasting relationships with faculty experts



## ***Benefits to Faculty***

- Financial support for commercially applicable research
- Relevant real world experience for students
  - Papers published
  - Thesis work
  - Job opportunities
- Faculty can establish lasting relationships with technology companies
- Possible future sponsored research



## ***MIPS: Results***



## ***MIPS Impact: Product Sales***

MIPS projects have contributed to products that have sold:



## ***MIPS Impact: Product Sales***

MIPS projects have contributed to products that have sold:

**\$14.4 B**

**(\$8.1 B of which is bio-related products)**



## ***Program Summary***

### **Forty-One Competitive Rounds**

- 1566 Applications Received
- 883 Different Contracts & Amendments
- 588 Individual Projects
- 420 Companies
- 333 Faculty



## *Successful MIPS Products: Manufactured in Maryland*



## *Synagis* MedImmune (Gaithersburg, MD)



- Now the 10<sup>th</sup> best selling biotech drug in the world (past sales approx \$6.7 B)
- Used to prevent respiratory syncytial virus (RSV) disease in infants.
- MedImmune's MIPS project "improved [our] knowledge of carbohydrate analysis...and helped in structural testing of Synagis."

-John Hope, MedImmune scientist



## **HughesNet (formerly called Direcway) Hughes Network Systems, Germantown, MD**



- HughesNet is the world's leading broadband by satellite service.
- More than \$6.3 B in sales to customers in 85 countries.
- System based on design by Dr. John Baras, Professor of Electrical and Computer Engineering at UM College Park, who worked out protocols for how Internet is delivered by satellite worldwide



## **Formulaid (life'sDHA™) Martek, Columbia, MD**



- Patented blending of nutritional oils (docosahexaenoic acid (DHA) and arachidonic acid (ARA), produced from microalgae
- Aids in the development of the eyes and central nervous system in newborns.
- Martek's flagship product, *life'sDHA™*, and *life'sARA™*, are found in over 90 percent of U.S. infant formulas, sold in over 70 countries and have been consumed by more than 24 million babies worldwide



## ***Bullet Speed Tip Masonry Drill Bit***

### **Black & Decker (Towson, MD)**



- Unique drill bit design
- Drills up to two times faster than competitive bits; drills up to six times more holes per battery charge when using a cordless drill
- Technology is used in a line of 29 drill bits



## ***World-class off-wind sails***

### **Quantum Sail Design Group (Annapolis, MD)**



- Quantum created the first U.S.-based wind tunnel testing facilities with the University of Maryland for downwind sails
- Quantum is now the No. 2 sail maker in the world, with more than 30 new employees hired
- Sails used in Volvo Round the World Race and America's Cup



## ***MIPS: BIO-Related Activity***



## **MIPS Bio-Related Activity: MIPS project areas**

- Therapeutic Drug Development
- Medical Devices
- Diagnostics
- Biosensors
- Biofuels
- Bio-environmental



## MIPS Bio-Related Activity

- MIPS project budget of approximately \$2.0 M
- Historically, 30-40% projects were bio-related, but this is increasing since 2004
- In the last 2 years, 57% of MIPS applications have been bio-related (97/169 applications)
- In the past 2 years, approximately \$1.1M per year has been allocated to bio-related MIPS projects



## MIPS: Is Current Funding Adequate for Maryland Bioscience?

- **Is current funding enough to fund all worthy bio-related MIPS projects?**
- **34** approved bio-related projects **remained unfunded** due to lack of resources



## MIPS Recent Projects

What's exciting and new?

(Should Maryland have more of this?)



## CryoSpray Ablation™ System CSA Medical (Baltimore, MD)

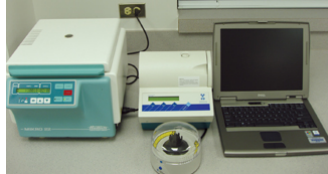


- New device and treatment for Barrett's esophagus (a pre-cancerous condition)
- First clinical trials done at UMB
- Product launched in May, 2007
- CSA Medical now has >20 people
- Company recently raised Series A financing
- MIPS-funded study results presented at national medical meeting, Oct 07



## **E-Coli 0157 Detection Kit**

**Innovative Biosensors, College Park, MD**



- A simple and robust kit to detect *E. coli* O157:H7 contamination in food surfaces in less than 5 minutes.
- Rapid, ultra-sensitive test, easy to use, highly specific detection.
- Product launched January, 2005.
- Company graduated from TAP incubator last year



## **Breast Cancer Detection**

**A&G Pharmaceuticals, Columbia, MD**



- A new promising cancer biomarker GP88, has been identified
- UMB faculty member, Dr. Ginette Serrero, started company
- First tests on patients done at UMB Cancer Center under MIPS program
- Planned commercial launch of A&G's GP88 Biopsy Staining Kit
- Diagnostic product in development for serum test for breast cancer



## *Web Site and Contact*

- MIPS Web site: [www.mips.umd.edu](http://www.mips.umd.edu)
- MTECH: [www.mtech.umd.edu](http://www.mtech.umd.edu) with links to other MTECH programs
- Martha Connolly, MIPS Director  
[marthac@umd.edu](mailto:marthac@umd.edu); 301-405-3892

