



# Innovation And The Global Research Enterprise

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WORLD HEALTH ORGANIZATION  
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# Background

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- UMBI is one of 13 campuses of the University of Maryland System which is one of the top tier university systems in the United States
- Our mission is to conduct cutting edge research to advance science and improve public well being throughout the world
- We cover all areas of biotech including medical, agricultural, marine, industrial, and environmental



# Innovation

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- The intersection of invention and insight leading to creation of social and economic value—Council on Competitiveness
- Innovation is required for the advancement of civilization
- Innovation is being pursued globally
- Innovation requires a robust research enterprise



# Bio-Pharmaceutical Research Enterprise

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- Complex/Numerous Active Players
  - Global
  - Industry, Academia and Government
  - Now Non-profit and Patient Groups
- Dynamic Biological Organism
  - Research Funding
  - IP Rights
  - Risk/Reward System



# Strength of the US Bio- Pharmaceutical Enterprise

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- Tradition of Cooperation Between Academia, Industry & Government/Disease is The Enemy
  - Sponsored & Contract Research, Clinical Trials, Licensing, etc.
- Public Support for Research & New, Innovative Treatments
  - Demand for the latest and best treatment and medication
- Support Reward for Risk
  - Protection of Intellectual Property
  - Market Economy
  - Availability of Venture Capital



# Importance of IP to the Biomedical Research Enterprise

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- Enables life sciences technology to move forward on its long road with protection of investment
- Time frame for approval of therapeutic drugs equates to six generations of cell phones
- Provides needed reward for risk



# IP and Investment

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- No venture capital if no protection
- Those with something of value seek IP protection
- OECD and U.S. NAS Conference and Report Conclusions--IP does not impinge on the R&D enterprise
- NIH--Innovation stymied by price controls



# Importance of University Research

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- Provide basic research talent
- Assist in development of translational research
- Provide assistance in clinical research activities
- Contribute to economic development
- Conduct research of interest to the developing world





# UMBI Research

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- WHO supports research on Class II transposable element dynamics in *Anopheles gambiae*—mosquitoes—anti malaria work
- Development of an environmentally friendly and economically sustainable marine aquaculture in land based facilities



# Partnerships and Collaborations

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- Seek long term relationships
- Licensing/Marketing
- On average it may take up to 3 years to license a technology
- Technology Transfer is a marathon not a sprint
- TT best way to implement important findings and concepts



# Future of the Research Enterprise

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- Understanding and Balancing Outcomes Desired by Government, Industry and Academia/Non Profit Sectors
- Maintaining and Enhancing the Strengths of the Research Enterprise
- Communicating to the Public the Value to Society from Enterprise Interaction



# Contact Information

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