BLAVATNIK BIOMEDICAL ACCELERATOR

AT HARVARD UNIVERSITY

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Blavatnik Biomedical Accelerator Overview

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Mission	▪ "Bridging" the development gap
Focus	▪ Business development driven – maximize alignment between funding and interest from industry
Fund size	▪ $45 million
Resources	▪ Funding, business development, project management, external consultants, Blavatnik fellows
Impact	▪ 92 projects, +$15 million, about 50% of completed projects have been partnered
Selection	▪ Independent committee of senior pharma/biotech, VCs, and leading Harvard investigators together with internal diligence

Provide industry expertise and funding to increased attractiveness of Harvard's technologies to industry partners that can advance the technology to commercialization

Business development driven, integrated approach

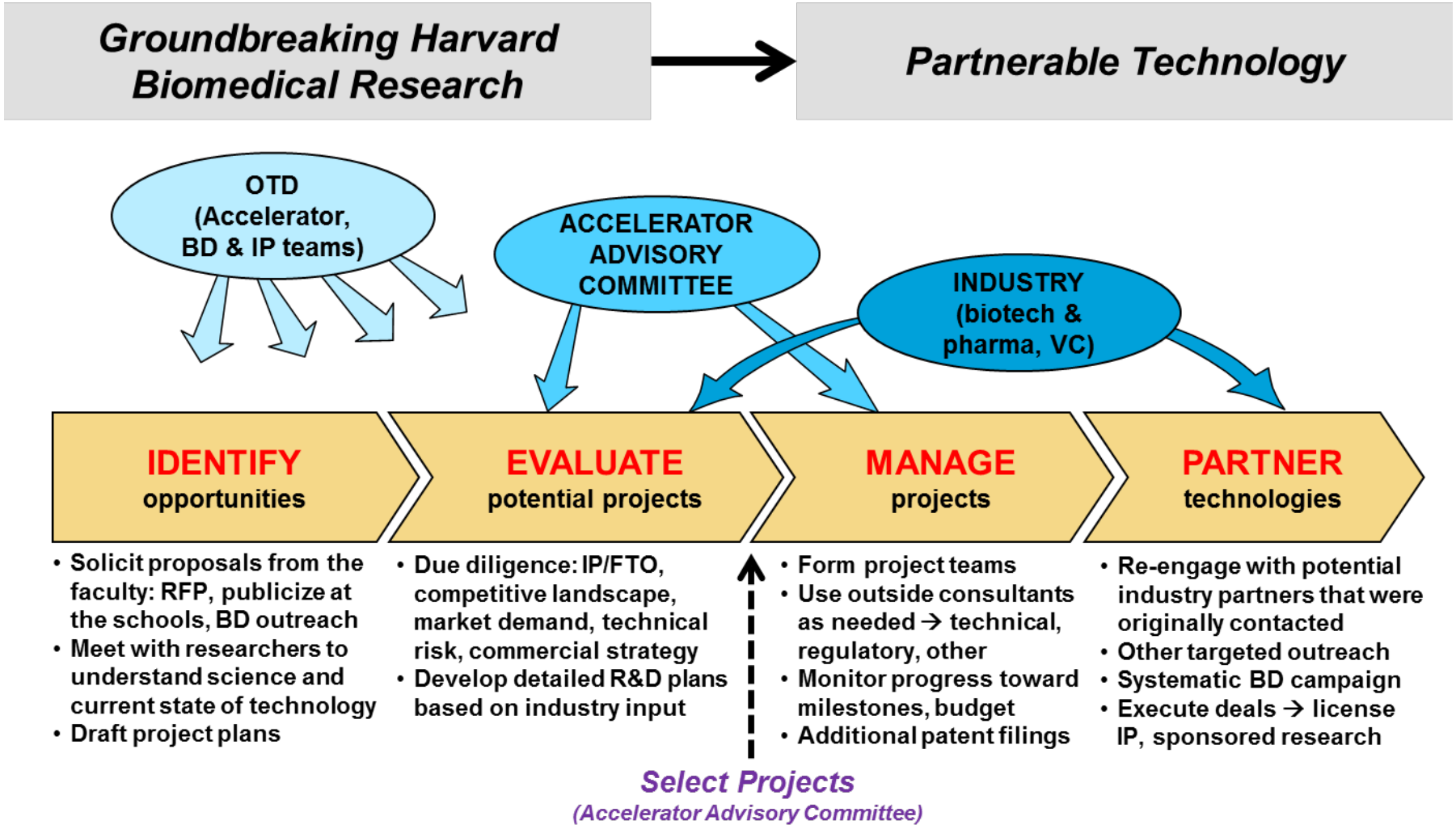
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- **Maximize alignment with needs of potential industry partners and patients**
  - Close interactions with industry: strong industry interest at the outset
  - Seamless integration with Harvard's business development and licensing activities
  - Industry/ VC feedback reflected in the project R&D plans
- **Selection - Independent committee of industry / academic thought leaders**
  - Thorough technical, IP and commercial due diligence for each project
  - Clear R&D roadmap and commercialization strategy
- **Execution -Offer highly targeted internal and external resources and guidance**
  - Access to consultants and CROs with complementary expertise and capabilities
  - Dedicated scientific, project management and business development team

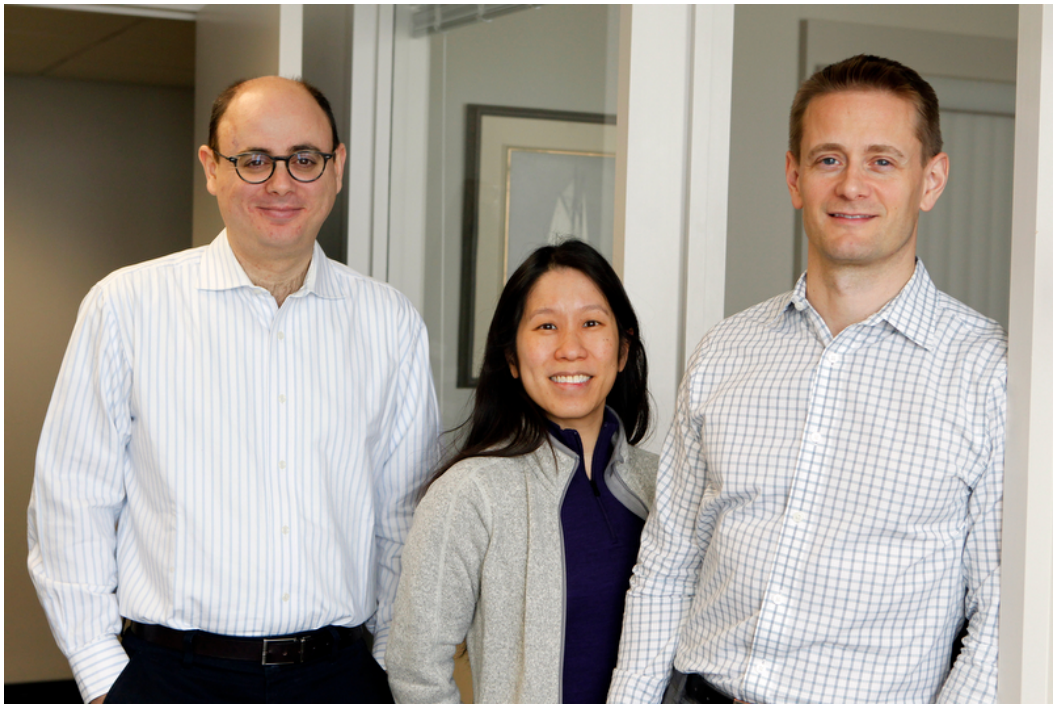
Over half of completed Accelerator projects have led to partnerships

Accelerator process: continuous involvement

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Team



Leandro Vetcher, MSc, MBA
Assoc. Director Business Development

Su Chiang, Ph.D.
Sr. Assoc. Director

Curtis Keith, Ph.D.
Chief Scientific Officer

Advisory Committee

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- **Steven Tregay,** Ph.D.
  Founder, President and CEO of FORMA Therapeutics
- **Alexis Borisy**, Ph.D.
  Partner at Third Rock Ventures
- **Bruce Booth**, DPhil.
  Partner Atlas Venture
- **Chris Mirabelli**, Ph.D.
  Managing Director at Healthcare Ventures
- **Diane Mathis**, Ph.D.
  Morton Grove-Rasmussen chair of Immunohematology (HMS)
- **Vicki Sato**, Ph.D.
  Professor of Management Practice (HBS)
- **Jon Clardy**, Ph.D.
  Dept. of Biological Chemistry and Molecular Pharmacology (HMS)
- **Julian Adams**, Ph.D.
  Chief Science Officer, Clal Biotechnologies Industries

Blavatnik Fellowship in Life Science Entrepreneurship

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- Fellowship for recent post-graduates of Harvard Business School
- Fellows collaborate with OTD's BD team and the Accelerator with the goal of launching start-ups for Harvard's biomedical technologies
- Mentored by an outstanding group of business leaders from Boston's biopharma community
- Four classes (2013-2016), 21 outstanding individuals
- Educational / training role for HBS with the Accelerator: preparing the next generation of leaders and entrepreneurs in the life sciences industries

Combined R&D project funding and investment in leadership development is a critical component of Harvard's emerging entrepreneurial ecosystem

Funding mechanism - Pilot and Development Grants

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- Development Grant:
  - 300k for 12-24 months
  - Intended to achieve partnerability
  - Examples:
  - Medicinal chemistry optimization and preclinical studies of lead therapeutic molec
  - Validation of a biomarker and a sensitive and specific detection method using clinical samples, correlation of biomarker status with clinical outcomes

- Pilot Grant:
  - $100k for 12 months
  - Intended to support proof-of-concept studies and generate a strong IP position that would establish the basis for a Development Grant proposal
  - Examples:
  - Assay development and high-throughput screen for candidate therapeutic compounds or antibodies
  - Demonstration that candidate biomarker detection method is appropriately sensitive and specific under ideal lab conditions

Technologies funded

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- Therapeutics
  - ***Modalities***: Small molecules, antibodies, peptides, ADCs, cell therapy, other biologics, etc
  - ***Indications***: Oncology, metabolic disease, diabetes, immuno-inflammatory disease, infectious diseases, fibrosis, bone-marrow transplantation (stem cells), mitochondrial disease, and CNS-neurodegeneration
  - ***Stage***: New MOA/Target discovery, screening, in-vitro POC, lead optimization (med-chem, PK/PD), in-vivo models of disease, epidemiological studies
- Drug delivery platforms
  - Targeted delivery, intra-cellular delivery, multiple modalities. Modulation BBB
- Diagnostics and biomarkers
  - In-vitro diagnostics: CV risk, diabetes
  - PET Tracers
- Gene therapies
- Broad discovery platform
  - Chemical synthesis, protein engineering, BBB regulation, etc
- Instruments for biomedical research

Success cases - Start-up

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Background prior to Accelerator funding

- HSCT indications are primed to expand with gene editing technologies
- Wider application of HSCT has been limited by the morbidity associated with the procedure
- New approach from the Scadden lab could use antibodies rather than radiation and chemotherapy to deplete host hematopoietic stem cells

magenta THERAPEUTICS



Accelerator project

- The aim of this program was to develop an antibody-based non-toxic conditioning method for bone marrow transplantation
- In-vitro characterization of mouse anti-CD45 immunotoxin
- Correction of sickle cell anemia mouse model

New start-up was launched and funded based on platform technology funded by Accelerator

Success cases – Pharma license

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BioCentury

Merck licenses small molecules from Harvard

exome

all the information, none of the junk | biotech • healthcare • life sciences

Tech Megatransfer: Merck Pays Harvard $20M For "Accelerated" Cancer Drugs

c&en CHEMICAL & ENGINEERING NEWS

Merck, Harvard sign hefty drug pact

FierceBiotech THE BIOTECH INDUSTRY'S DAILY MONITOR

Merck's $20M-plus Harvard deal offers a lesson on the new Economics 101 of preclinical R&D

Timmerman Report

No More Peanuts: Merck Pays Harvard $20M for Cancer Drug

FORTUNE

Merck Just Made a $20 Million Bet On Experimental Harvard Cancer Tech

- $20m upfront; additional milestones payments, royalties
- Validated the Accelerator's virtual biotech model

Success cases – Pharma license

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Accelerator project

- Improve the synthesis of a natural product and key intermediates for scale-up and analog synthesis
- Determine the crystal structure of the natural product / protein target complex, to aid in SAR studies
- Molecular mechanism
- Characterize drug metabolism and pharmacokinetic properties
- Generate compounds with improved drug-like properties
- In vivo efficacy in xenograft models
- Biomarker identification and patient stratification / selection

MERCK *Be well*

The Accelerator can support programs to late preclinical efforts, rapidly deploying recourses to respond to the needs of partnering activities, including the recruitment of domain area consultants