



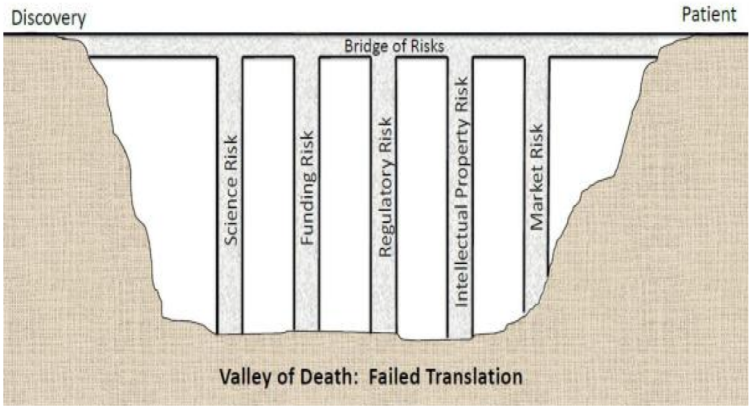
# Crossing the Chasm



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## A Closer Look at the Valley of Death *Risks to Translation*



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## Mitigating Translational Research Risks

- Confirm efficacy in large animal (or most clinically relevant) model
- Demonstrate safety of technology
- First-in-man data (therapeutic)
- PK/PD, ADME, bioavailability and therapeutic index (therapeutic)
- Firm understanding of market, and clear business model
- Commercial manufacturing / Scale-up
- Freedom to Operate / Intellectual Property

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**Education**  
Tailored learning  
for busy faculty and students,  
clinicians and researchers

**Funding+Mentors**  
Resources advancing biomedical  
research to commercial paths

**Business Development**  
Build industry collaborations

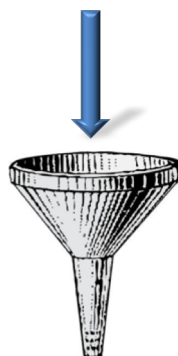
**Scale as an Innovation Hub**  
Statewide and nationwide reach  
and impact

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## Historic Innovation Pipeline



### Ideas from Innovative Faculty

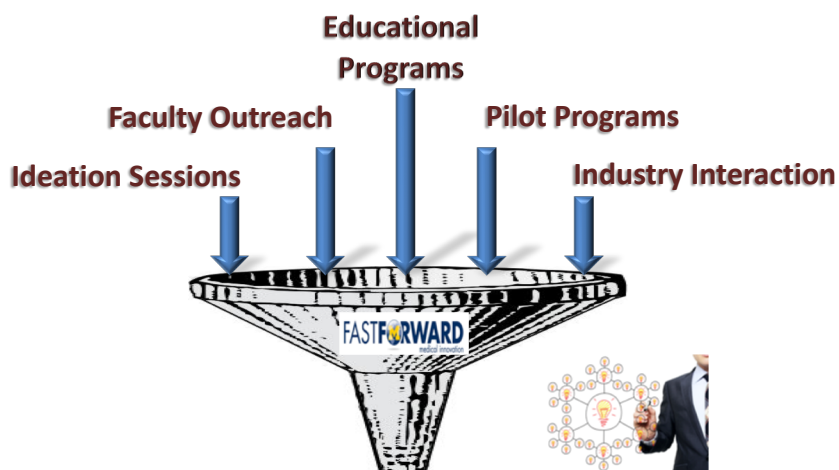


- Limited invention disclosures
- Technologies not adequately “de-risked”
- Traditional sponsored research
- Modest follow-on funding

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## FFMI Innovation Pipeline



- ✓ Create new tools for Innovators
- ✓ More “Investable” technologies
- ✓ Commercialization process demystified
- ✓ Strategic industry partners

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## FFMI Program Mission

*Helping the U-M Biomedical Research Community Move  
from Idea to Impact*



1. **Expand industry collaborations** by bridging strengths of academia and partners
2. Create **translational resources**, including funding and mentorship, to de-risk ideas
3. Launch **educational programs** to help learners at all stages

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## FFMI Commercialization Education



- **Programs Accelerating Commercialization Education (PACE)**
  - Scaling to national level with CTSA/NCATS relationship
- For faculty, post docs, trainees and students
  - Needs assessment
  - Design thinking
  - Customer discovery
  - Value proposition
  - FDA / regulatory
  - IP
  - Business case

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## Meet learners where they are



- **Short:** One time events (w/CME)
- **Long:** 4-week fastPACE course (project based)
- **Longer:** custom programs (7-9 months)
- **Different topics and formats**
  - Didactic
  - Panels
  - Experiential and interactive

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## FFMI Business Development Team



- Build collaborations
- Relationship management
- Find new ways to partner (contracts)
- Partner with other units such as OTT, Business Engagement Center, contracting group

abbvie



Medtronic



Bristol-Myers Squibb

Lilly

Abbott



GlaxoSmithKline


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## FFMI Funding and Mentorship



- Internal resources to advance biomedical research onto viable commercial paths
- Focus on commercialization and defining key milestones

**Not just money: coaching and mentorship key!**

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## Specialty Funds

*Therapeutic Innovation*



*Gastrointestinal Diseases*



*Sleep Medicine*



*Traumatic Brain Injury*



- Enabled by philanthropy, internal funding
- **Partnership model**
  - Center for Discovery of New Medicines
  - Center for Therapeutic Innovation
  - MCIRCC
  - Forbes
  - CVC, UM-CCC
  - Others

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## Proof of Concept Funds



- Enhance commercial potential of a technology
- \$25K-\$50K for single milestone (50% cost share)
- Review panel with market expertise including tech transfer office
- Quarterly reviews and awards
- 8-12 projects funded/year

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## Late-Stage Translational Funds



- Co-led by FFMI and U-M Tech Transfer
- Projects with high potential for commercial success (12-24 months from exit)
- Awards range from \$100K-\$250K (50% cost share)
  - 1-year of funds, late-stage translational studies
- Emphasis on commercial de-risking; not for basic R&D

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## External Advisors: Project Selections and Mentorship



### Industry



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### Investors



SANTÉ VENTURES



ALLIED MINDS



### Other Experts



University of California  
San Francisco



LEUKEMIA &  
LYMPHOMA  
SOCIETY®  
fighting blood cancers



## Monroe-Brown Seed Fund



- Pre-seed fund invests in U-M start-ups
  - 1<sup>st</sup> for U-M
- Collaboration with Engineering's *Center for Entrepreneurship*
- \$3M philanthropic donation to launch fund

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# Does your institution's innovation ecosystem look like this?

The diagram illustrates a 'Path to Commercialization' for the University of Michigan. A large, dark grey arrow curves from the bottom left towards the top right, labeled 'Path to Commercialization' in yellow. Along this path, various innovation centers and funds are listed, each with its logo and name. The logos are primarily blue and yellow, consistent with the University of Michigan's branding. The names of the centers and funds are in black text. The path starts at the bottom left with the Massey Traumatic Brain Injury Fund and the Coulter Translational Research Partnership. It then moves up and to the right, passing through the Innovation in Action center, the Center for Entrepreneurship, the M cubed fund, the MCIRCC center, the GI Innovations Fund, the Kickstart Fund, the FASTFORWARD medical innovation center, the MICHIR center, the TECH TRANSFER center, the MTRAC center, the MONROE-BROWN BIOMEDICAL SEED FUND, and finally the NIH Small Business Innovation Research (SBIR) and Small Business Technology Transfer (STTR) programs. The path ends at the top right with the ZELL LURIE INSTITUTE FOR ENTREPRENEURIAL STUDIES. The University of Michigan logo is also present at the top left and top right of the diagram.

Does your institution's innovation ecosystem look like this?

Logos and names of institutions/funds shown along the path:


- NATIONAL INSTITUTES OF HEALTH
- UNIVERSITY OF MICHIGAN
- M cubed UNIVERSITY OF MICHIGAN
- MCIRCC UNIVERSITY OF MICHIGAN
- FASTFORWARD medical innovation
- ZELL LURIE INSTITUTE FOR ENTREPRENEURIAL STUDIES UNIVERSITY OF MICHIGAN
- Center for Entrepreneurship UNIVERSITY OF MICHIGAN
- Kickstart Fund
- MICHIR MICHIGAN INSTITUTE FOR CLINICAL & HEALTH RESEARCH UNIVERSITY OF MICHIGAN
- GI Innovations Fund
- TECH TRANSFER UNIVERSITY OF MICHIGAN
- Innovation in Action
- MTRAC LIFE SCIENCES
- MONROE-BROWN BIOMEDICAL SEED FUND
- Massey Traumatic Brain Injury Fund
- Coulter Translational Research Partnership UNIVERSITY OF MICHIGAN DEPARTMENT OF BIOMEDICAL ENGINEERING
- NIH Small Business Innovation Research (SBIR) Small Business Technology Transfer (STTR)
- FASTFORWARD medical innovation

Path to Commercialization

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# Pittsburgh Funding Opportunities

## University Concept-to-Pilot



UNIVERSITY OF PITTSBURGH  
CENTER FOR MEDICAL  
INNOVATION  
Engineering Health Care from  
Concept to Clinic

**PAIN**

coulter **Qpitt**


**PITT INNOVATION CHALLENGE**

**PITT INNOVATION INSTITUTE**

Carnegie Mellon University  
Swartz Center for Entrepreneurship

**ProtoHype**

## New Company Pilot-to-Product



**innovation works**

**INNOVATION PARTNERSHIP**

**PITTSBURGH Life Sciences greenhouse**

**BlueTree ALLIED ANGELS**  
Where Capital Meets Opportunity

**Pennsylvania Pediatric Medical Device Consortium**

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