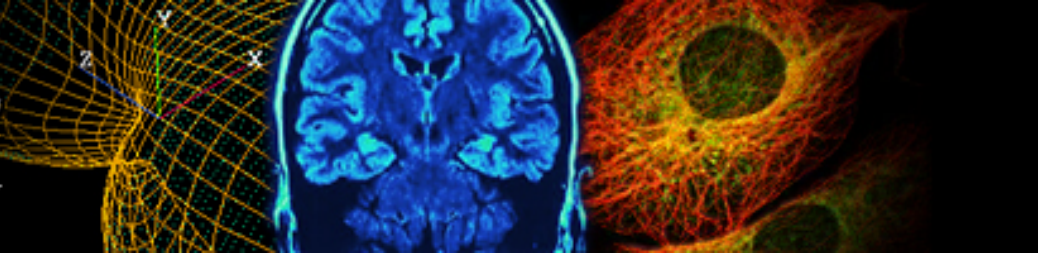




BIOMEDICAL
ENGINEERING



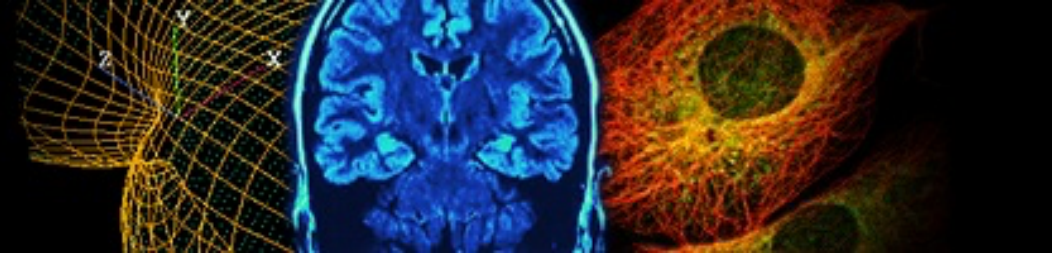
Lab to Market Info Session

Katie Reuther, PhD, MBA

Maria Rahmany, PhD, MBA



Takeaways



- This course is part of broader Columbia initiatives working to accelerate transfer of new medical technologies and therapeutics from the lab-to-the market.
- Students will be assigned to existing Columbia projects.
 - You won't be able to work on your own ideas.
 - Some projects are more advanced than others.
 - Some teams are more collaborative than others.
 - You may not get your top project choice but will likely get to work on one of your top 3-5 choices.
 - Either way, it will still be useful for you...
- Apply by November 20th

Columbia Lab-to-Market Life Science Accelerators



Accelerating Innovation



- Interdisciplinary, cross-departmental accelerator programs aimed at supporting and catalyzing **life sciences innovation**.
- Ultimate goal is to bring cutting-edge ideas **out of the lab to benefit human health and society**



COLUMBIA UNIVERSITY
MEDICAL CENTER



COLUMBIA | ENGINEERING
The Fu Foundation School of Engineering and Applied Science



COLUMBIA | TECHNOLOGY VENTURES

IRVING INSTITUTE FOR

clinical and translational research



COLUMBIA | ACT

Accelerating Cancer Therapeutics



COLUMBIA | BIOMEDX

Biomedical Technology Accelerator

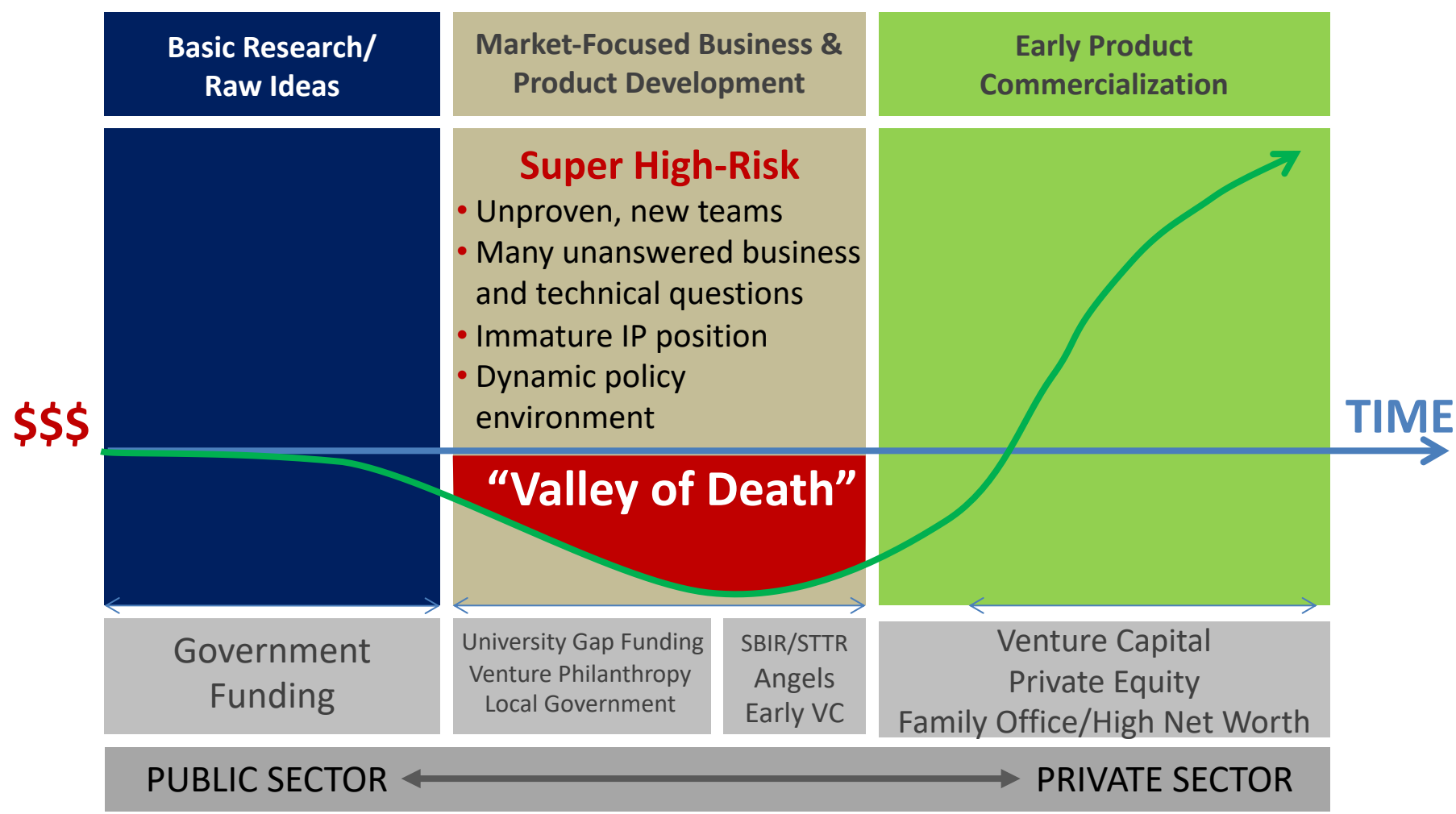


COLUMBIA | TRX

Translational Therapeutics Accelerator



WHY: The Funding Gap





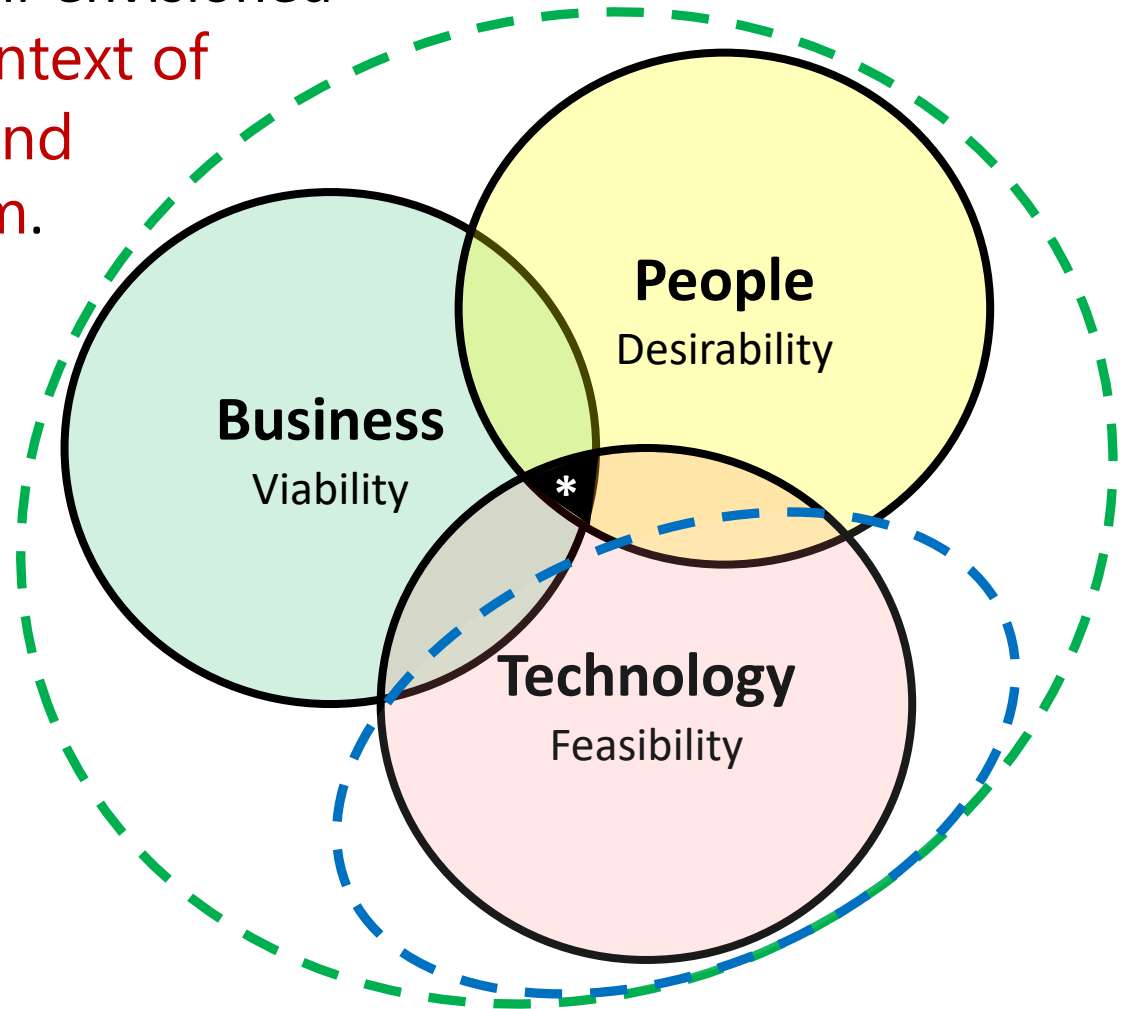
The process involves...

- **...Education** to support clinician-engineer teams in determining whether the envisioned technology solves a clinical problem and whether there is a business opportunity.
- **...Funding (\$5k-\$100k per project)** to perform specific, determinative experiments to get to human studies (if required) and to patients as quickly as possible.
- **...Business resources** to bring downstream commercialization considerations, upstream.
- **...Active project management** to execute projects in a managed process with measurable outcomes that will enable a go/no-go decision by commercial partners.



Academia, Innovation, Commercialization

An important step involves helping academic teams understand how their envisioned technology fits into **the context of the broader innovation and commercialization system.**





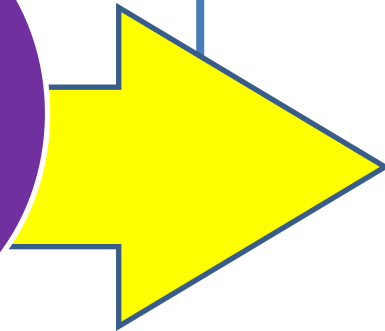
How does a technology move from the lab to the market?



Identification of a clinical unmet need

A product on the market helping patients

TIME, ENERGY, etc.





Interdisciplinary Intersection of Roles

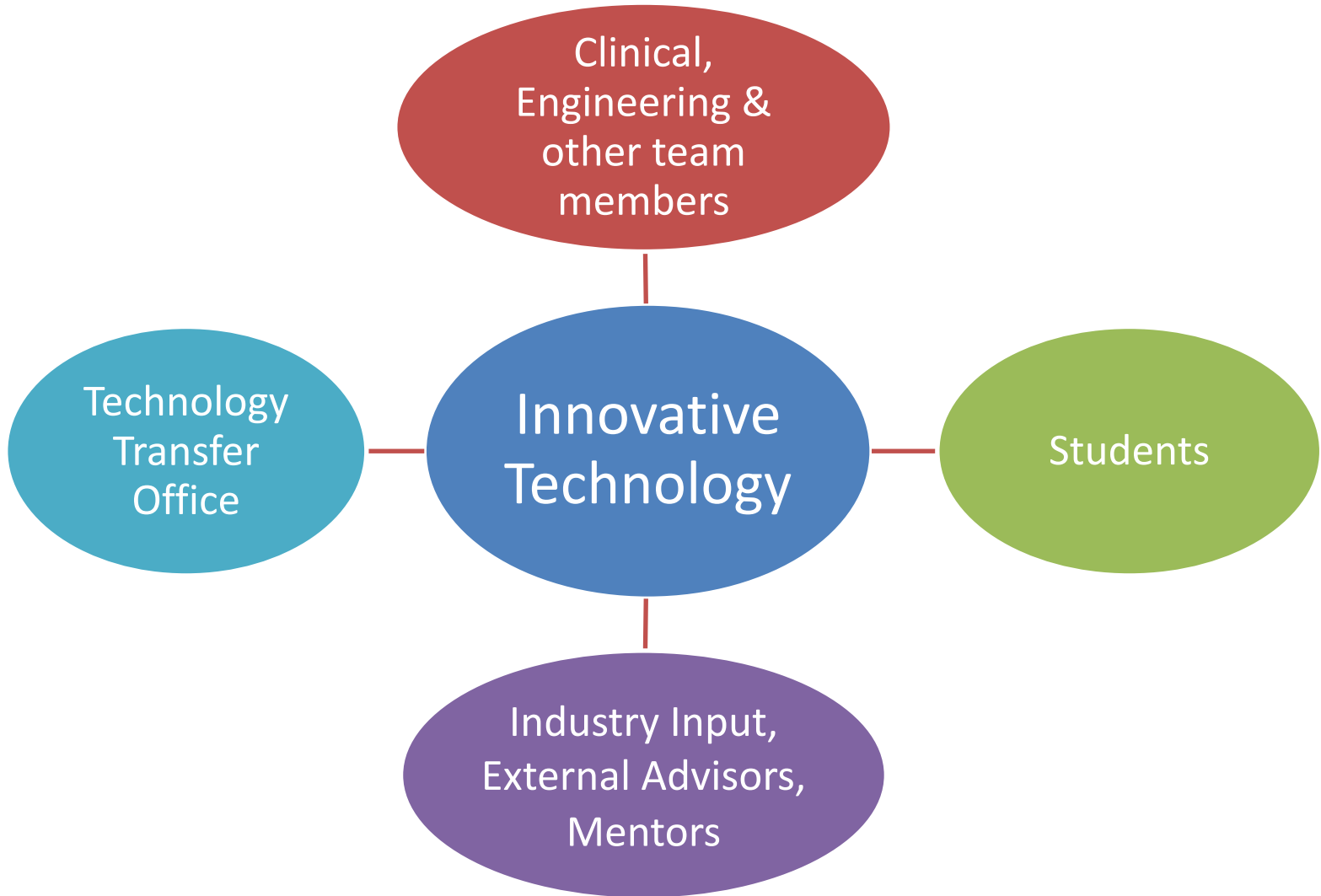
Clinical,
Engineering &
other team
members

Technology
Transfer
Office

Innovative
Technology

Students

Industry Input,
External Advisors,
Mentors





Proven Accelerator Model



\$4.4M

project funding

45 +

projects

6

licensed to industry

12

optioned/
licensed to start-ups

\$52M
additional government & foundation grants

~33%
university exit

\$21M

raised to date

Course Details

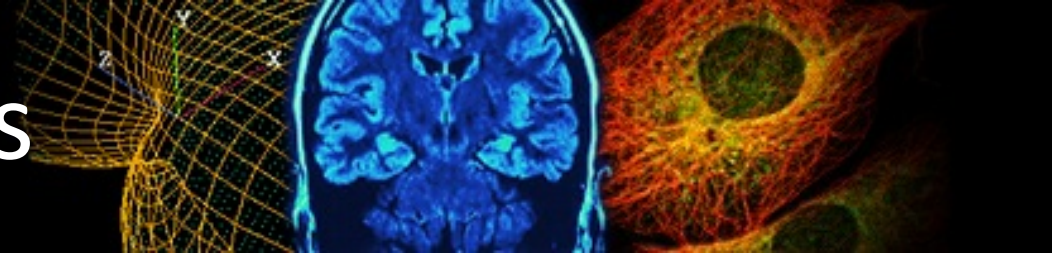


Course (who, when, where)

- **WHO should apply?:** Students interested in early-stage medtech/biotech and technology transfer.
- **WHEN:** Spring, Wednesdays, 4:00pm – 6:30pm, first session is 1/13/21
- **WHERE:** TBD, likely online only
- **CREDITS:** 3



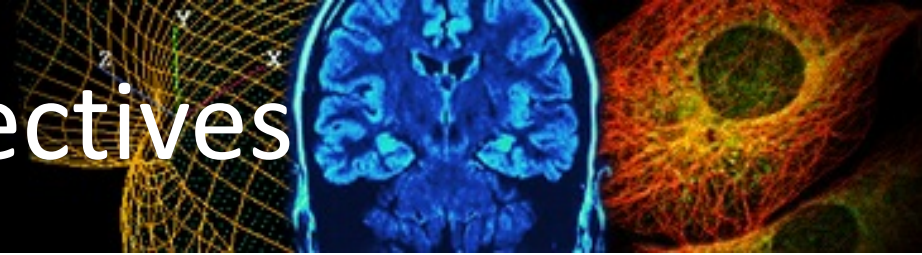
Key Questions



- Is there an unmet clinical need?
- Is there a viable business opportunity?



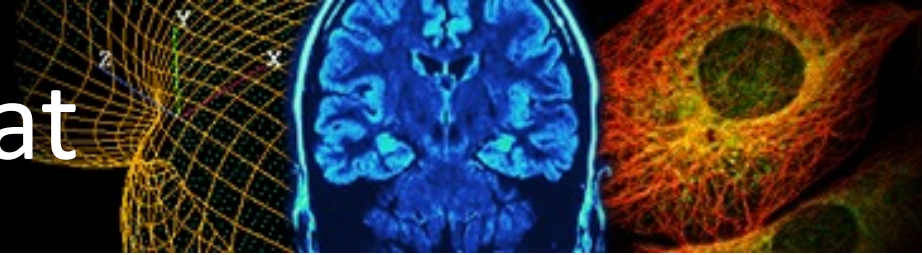
Learning Objectives



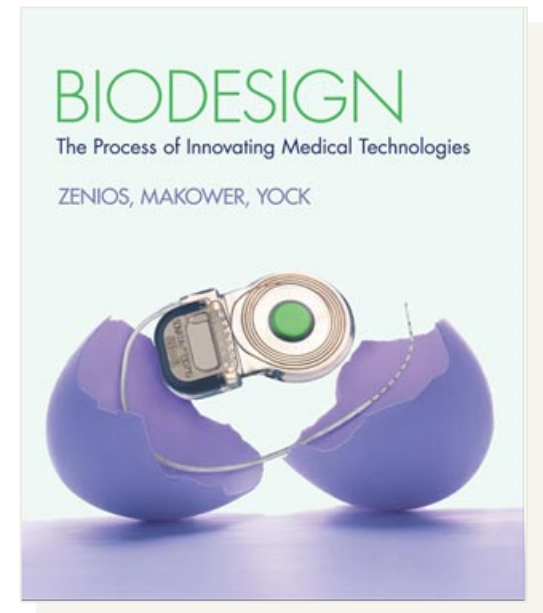
1. Demonstrate **knowledge of how to bring a product from the lab to the market** by describing the unmet clinical need, stakeholder requirements, and business opportunities and risks (market, IP, regulatory, reimbursement, etc.) associated with a specific technology.
2. Demonstrate **knowledge of the fundamentals of life sciences entrepreneurship**, including founder and investor perspective
3. **Develop communication skills** via formal presentations and written assignments.



Weekly Format

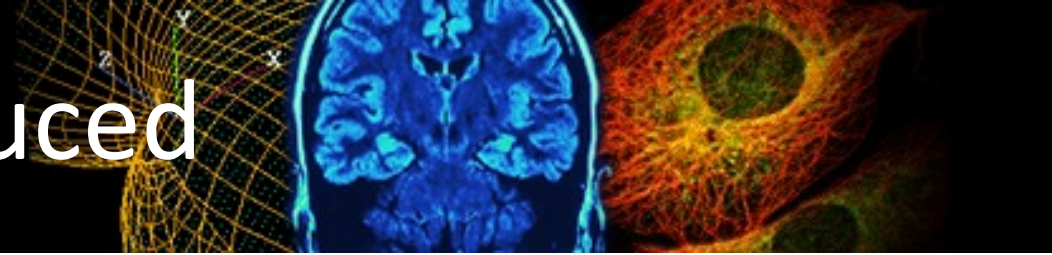


- Lecture topics
- Team presentations
 - Coaching network
 - Peer learning environment
- Guest speakers
- Suggested reading assignments





Topics Introduced



PART 1:

1. Validating the Problem

- Unmet Clinical Need
- Cycle of Care
- Stakeholders, Interviews

2. Validating the Business Case

- Value Proposition
- Market Size
- Who will pay

3. Commercialization De-Risking

- Technology Validation, Manufacturing, IP
- Regulatory, Reimbursement, Clinical Studies
- Putting it all Together (Business Model, Pitch)

PART 2:

4. Commercializing Technology

- Licensing and Start-Ups, Negotiating

5. Start-Ups

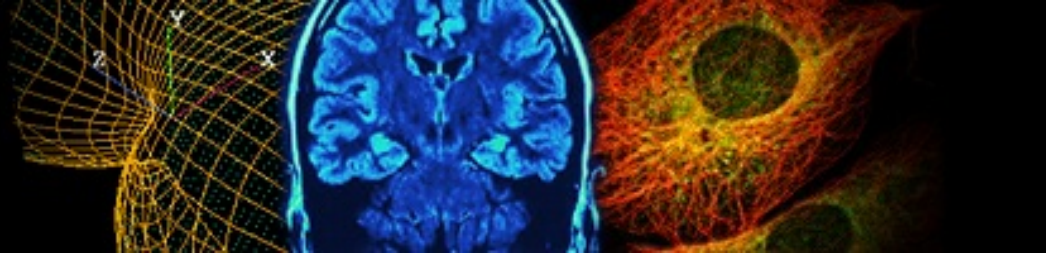
- Start-Up Formation, Building Management Team
- Start-Up Financing, IP Due Diligence
- Key Things to Think about When Starting a Company

6. Investor Perspective

- How to Evaluate a Commercial Opportunity
- Due-Diligence



Testimonials

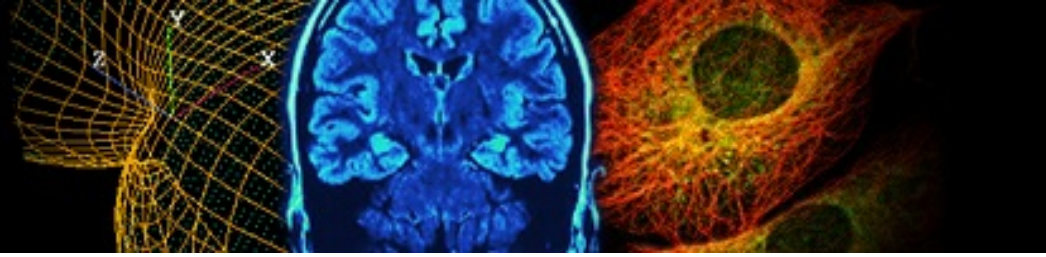


FACULTY

- “I couldn’t have done the additional work the student did. I really appreciated the help.”
- “Without a student, we wouldn’t have gone far in the process.”
- “The students were the real drivers of this project and were incredibly useful in gathering the evidence to understand the path to commercialization.”



Testimonials

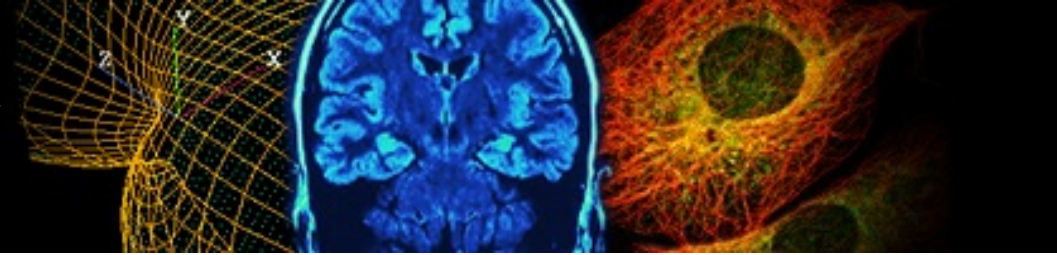


STUDENTS

- “The experiences and knowledge I gained will be very translatable to industry.”
- “This was an amazing class for students, and a unique opportunity. I’m proud to put this on my resume and it has already influenced my career path.”



How to Apply



- Please email your **resume** and a **brief statement of interest** to biomedx@columbia.edu by Friday, Nov. 20th.