

## **Scientific Approaches for Society**

Block specialization

### **Business & Entrepreneurship Concepts for All**

#### Goals & Mission Statement:

- Help prepare scientists & non-scientists understand the basic business & entrepreneurship concepts important for solving societal problems, locally & globally
- Basic knowledge about business strategy, and development
- Best practices for establishing collaborations strategically with feedback and input from communities affected by the businesses
- Develop tools and scientific strategy
- Business Ethics – “People first”
- Help participants identify parallels between academia and industry sector and train them to transition successfully into industry careers

#### Course Level:

- Open to graduate students and research professionals – STEM & Humanities
- Students & postdocs working in translatable research projects, which can result in a marketable idea, product, technology with a potential to directly meet societal need
- Focus on Underrepresented minority students, students from marginalized communities and international scholars

#### Required Core Competencies:

- Effective communications for engaging community members and business professionals
- Leadership
- Team player
- Critical thinking
- Validation and societal impact of technology development, locally and globally
- Appreciation for diversity of ideas
- Decolonizing/Democratization of businesses and technology development
- Ethical thinking

#### Elective Courses:

- Business & Entrepreneurship Concepts for All
- Business Ethics - Case Study (Example - Business Ethics & Social Responsibility)
- Innovation & Technology for Society: A Case Study Approach

#### Activities:

- Case studies on business idea development – Useful & harmful business ideas/technologies (Ethics)
- Build business ideas relevant to societal needs (Ethics & relevance to minority communities)

- Business pitch competition (Live) to hypothetical investors & community members affected by technology
- Showcasing business pitch competition presentations on a dedicated YouTube channel for informing community members of the upcoming technologies and engage them in the process (discussion and dialogue via comments section)
- Finding ways to implement ideas via technology development offices and grant proposals

#### Modules:

- Introduction to business & entrepreneurship concepts via case studies – Value Proposition (People first)
  - How the new technology help solve societal needs e.g. \$1 microscope, CRIPR-Cas based rapid COVID19 paper tests
- Organization capabilities
  - Identify the role of entrepreneurship in development cycle of a product development
- Parallels to academic research. How basic business concepts can be applied to trainee's current research
  - Apply scientific research structure into business model canvas and similarities to business industry
  - Parallels between scientific research and value proposition for industry/societal needs
- Business Development
  - Define business development
  - Identify steps in the business development process
  - How business development contributes to business's vision and goals
- Strategic Collaborations
- Strategy Toolkits
- People's first – Ethics in business development
- Building business idea relevant to societal needs
  - Increasing value of idea via product/market and societal need fit
- Approaches to building University<>Industry collaborations for solving immediate needs of the society via technology
  - Identifying industry job titles/description/responsibilities for smooth transition to industry jobs and success at work
- Trainee session on how to pitch business ideas
  - Communication basics
- Business pitch competition (Shark tank) in front of potential venture capitalists/investors
- Awards for best business ideas & their relevance to society.

#### Outcomes:

- Understand the importance of business development and entrepreneurship for solving societal issues
- Ability to identify societal needs and apply foundational concepts & technology for solving societal needs
- Develop interest and confidence in using business terminology while communicating with investors, community members or at networking events

Evaluation:

- Tracking participant knowledge, understanding & applications of business concepts via frequent surveys - portfolio management
- Tracking participants' appreciation for ethical technology development & reflections all throughout the course
- Being able to build and apply current research ideas via business model canvas
- Longitudinal surveys in evaluating career outcomes, interests, success & confidence at the job, career transitions
- The program outcomes will also serve as evaluation - business pitch building, and participation in competition