

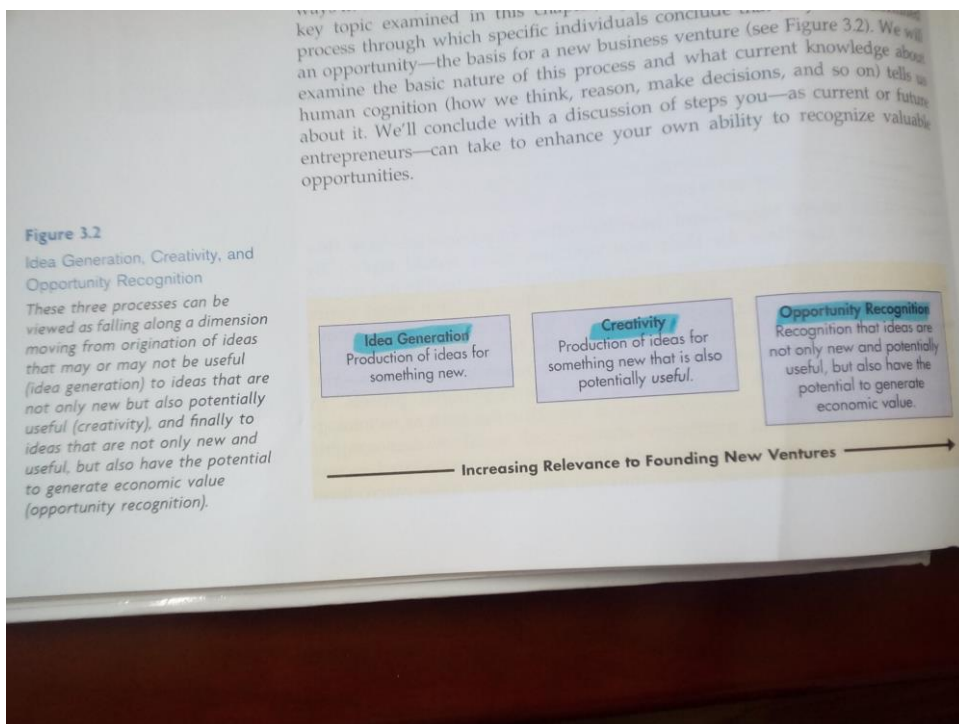


JOINT INSTITUTE 交大密西根学院

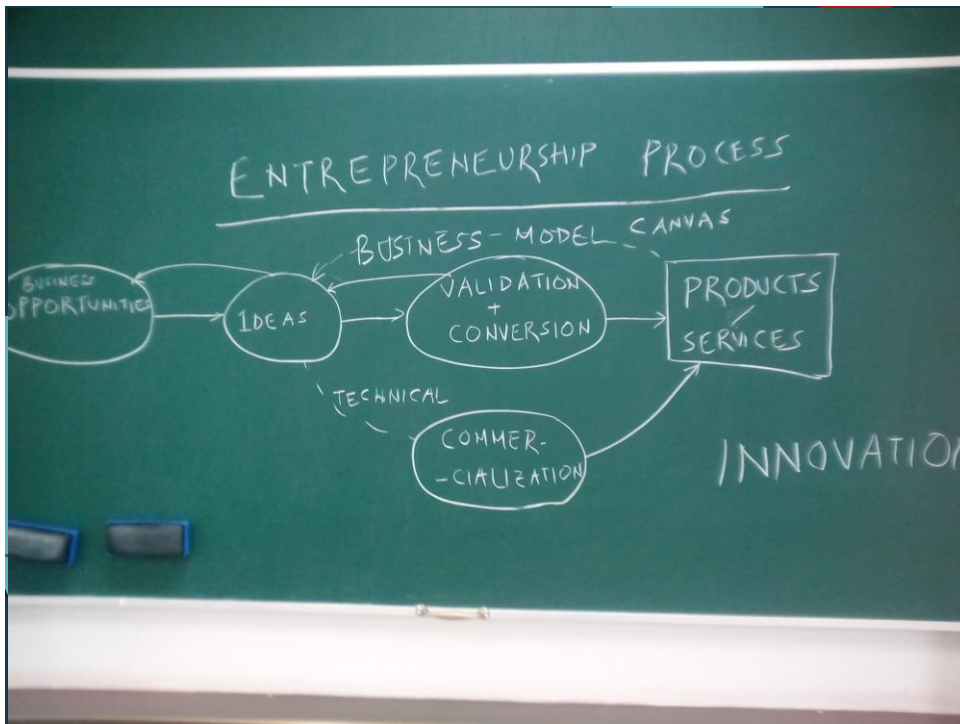
Technology Entrepreneurship for Sustainable Development (TESD) Prof Pradeep Ray,

- Director, Centre for Entrepreneurship, University of Michigan Joint Institute, Shanghai Jiao Tong Univ
- Founder, WHO Collab Centre on eHealth, UNSW
 - IEEE SSIT Distinguished Lecturer

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Structure of UG Entrepreneurship Program in JI

- Launched in JI in 2016
- Based on the Minor in Entrepreneurship in UM (total 15 credits)
- **Core Courses- covering fundamentals (5 credits)**
 - VX402 –Managing a Business (2 credits)
 - VX420 – Basics of Entrepreneurship based on Lean Start-up (3 credits)
- **Practicum Courses (7 credits)**
 - JI Capstone VM/VE450 (4 credits)
 - Intrapreneurship Course VX423 a 3 month (Spring, 3 credits)
 - VX425-Technology Entrepreneurship
- **One Elective from existing and new offerings in JI or outside(3+ credits)** ,
VR208 (Sustainable Business), VX440 (Social Entrepreneurship), VX251&VX351 (brand Management), ...*list evolving*-courses external to JI (to be approved by the Director of CFE)



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JI Center For Entrepreneurship

Apr. 2017: CFE inauguration

Minor in Entrepreneurship (Feb.2017-)

Meet the Entrepreneur event (twice a year)

Nov.-Apr. 2017: JI Entrepreneurship Competition
strong interest in Social Business

Sep. 2018: Entrepreneurship Week 2018
115 participants from 15 countries (EW2018)

Nov. 2018: **Technology Entrepreneurship for Sustainable Development (TESD)** and Jan. 2019 Bangladesh Challenge

Sept 2019 Entrepreneurship Week 2019 (AIT Bangkok) with 200 participants from 20 countries, Oct 2019 CFE joins with neoBAY to join the International Network Entrepreneurship Ecosystems (IEIE)

March-May 2020 CFE organised the Virtual Student Competition on Entrepreneurship in COVID-19 Challenge, final attended by 133 people from 13 countries on 5th May

July 2020- CFE becomes the first institution in China to join as a Knowledge Partner of Technology and Engineering Management Society of IEEE, World's largest professional body!

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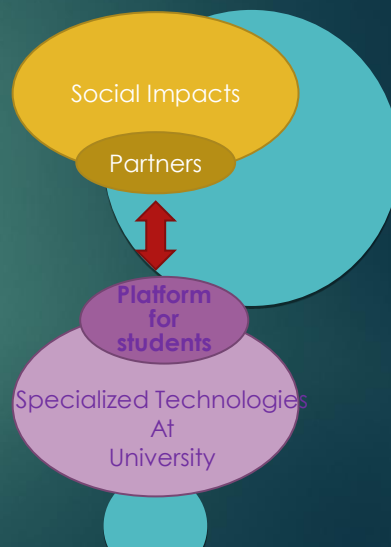
TESD: Introduction

- ▶ Utilizing multi-disciplinary research knowledge to help develop and refine social business models for the global goals such as SDGs and UHC
- ▶ Two features:
 - ▶ 1. developing technology through student projects
 - ▶ Sustainable Entrepreneurship Engineering Design (SEED): VG450, VG451 Sequence
 - ▶ identify, combine and modify existing technologies in collaboration with technology companies
 - ▶ 2. to support partners in the field of sustainable development:
 - ▶ NGOs, (social) businesses, local governments
 - ▶ making visible impacts through our students' efforts
- ▶ along the Belt and Road Region and Countries

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Overview

Creating a **platform** for **students** to participate in practical **sustainable development** projects using **technologies** and **business** models to make **social impacts** along **Belt and Road** countries/regions together with **partners** (NGOs, Social Businesses,



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mHealth for Belt and Road Region and Countries (mHBR)

- ▶ Govt of China setting up Infrastructure for the Development of the Belt and Road Region and Countries. Entrepreneurs need to be developed to make the benefits of the infrastructure available to people
- ▶ mHBR involves the cooperation of multiple countries, such as Australia, Bangladesh, China, Denmark, India, Italy, Japan, Norway, Pakistan, Spain and Thailand.
- ▶ There is a need for initiatives like mHBR to demonstrate and educate entrepreneurs across Belt and Road Region of China (e.g., Guangxi, Yunnan etc.) and Belt and Road countries (e.g., Bangladesh, Thailand etc.) to reach healthcare to masses using fast developing technologies, e.g.,

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mHBR Initiative Completed 2020

- ▶ **mHealth for Cross-country Consultations**
 - ▶ Infrastructure for Universal Health Coverage
 - ▶ Partnerships among hospitals, healthcare providers, countries in Belt and Road region
- ▶ **mHealth for Chronic Illnesses**
 - ▶ Non-Communicable Diseases, such as diabetes, Parkinsons, asthma etc.
- ▶ **mHealth for the Elderly**
 - ▶ Overcome loneliness using tablets
- ▶ **Sustainable and Resilient mHealth Services**
 - ▶ Disaster management using drones
- ▶ **Blockchain for Social Business**
 - ▶ Protecting privacy of patient information in mHealth
- ▶ **Global Challenge**
 - ▶ Evaluations, legalities, charging, policies for above

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Bangladesh Challenge Project

Name	Nationality	Department	U/M/P
Shuoyu An	China	History of Science	M1
Liyuan Cao	China	Preventive Medicine	U4
Claus Li	China	Media and Communications	M1
Jiayuan Hu	China	Physics	P1
Melody-Han	China	BME	M2
Yushu Zhang	China	ICCI	M1
Xirui Yan	China	ECE	U4
MD Ashikur Rahman	Bangladesh	Mechanical Engineering	M1
Sohel Rana	Bangladesh	BE	P1
Andy Hsiao	USA	JI ECE	U4
Dominikus Brian	Indonesia	JI ME	M2



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Climate Change+Public Health- drinking water salinity

- International Cholera and Diarrheal Disease Research, Bangladesh (icddr,b)
 - Research institute focusing on evidence-based solutions to deliver significant public health benefits † low cost
 - Found correlation between the distance from coast - miscarriage and hypertension: global warming → rising sea level → salinity in drinking water
 - But needs more conclusive evidence → Salinity sensors



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Sam Ro. "Poverty Reduction Challenge in Bangladesh" 2018 (SoU Global Challenge Grant)

- Pradeep Ray with more than 20 Researchers from more than 10 countries, mHealth for Belt and Road region (mHBR), (2018-2020) the outcomes published in the IET Book The IET Shop - Mobile Technologies for Delivering Healthcare in Remote, Rural or Developing Regions, book published in 2020 (50 researchers from 14 countries)
<https://shop.theiet.org/mobile-technologies-for-delivering-healthcare-in-remote-rural-or-developing-regions>
- Kwee-Yan Teh, Soong-Chul Ro and Pradeep Ray, Climate Change and Public Health, (2018-2020), Report published in IEEE Leader, see <https://www.ieee-tems.org/student-led-engineering-designs-to-meet-the-challenges-of-climate-change-and-public-health/>
- Pradeep Ray with Collaborators from a

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