

11.00 - 12.15

Entrepreneurship

Natacha Wilson (chair) – Cambridge Insights

Carl Johan Sundberg – Karolinska Institutet

Albert Ko – Lingnan Entrepreneurship Initiative

Impact of Science

4-6 November, Krakow

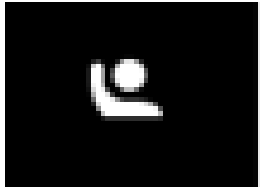
Entrepreneurship



Barbakan room

Impact of Science

4-6 November, Krakow



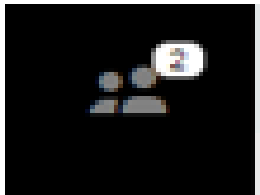
Broadcast permission:

- Turn on your microphone and/or camera
- Participate in the discussion



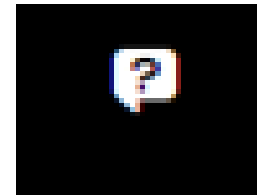
Conversations:

- General remarks
- Discussion
- News (links)



Who are the attendees?

- Speakers
- Participants



Q&A:

- (Targeted) questions
- Speakers answer the questions live



Lay out view:

Full screen, Tiled, Thumbnail



Karolinska Institutet

Entrepreneurship education at a medical university



At the *Impact of Science conference*

In session: *How to best utilise academic knowledge into practical applications for society through entrepreneurship*

Carl Johan Sundberg, MD, PhD, professor
Chair, Department of Learning, Informatics, Management & Ethics
Karolinska Institutet, Stockholm

Slides provided by:

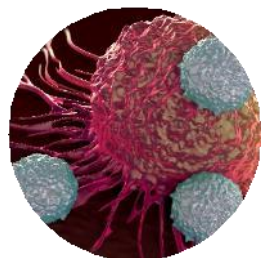
Hanna Jansson

PhD, Head of unit

Unit for bioentrepreneurship

Dept. of learning, informatics, management and ethics

Research at KI



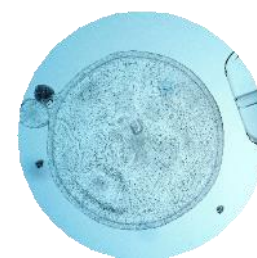
**Cancer and
Haematology**



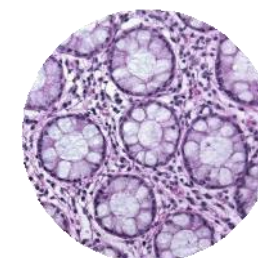
**Cell, Molecular and
Structural Biology**



**Circulation and
Respiration**



**Developmental Biology,
Reproductive, Regenerative and
Reparative Medicine**



**Endocrinology and
Metabolism**



**Epidemiology and Public
Health Sciences**



**Healthcare
Sciences and
Ageing**



**Infection, Inflammation,
Immunology and
Microbiology**



**Neuroscience and
Mental Health**

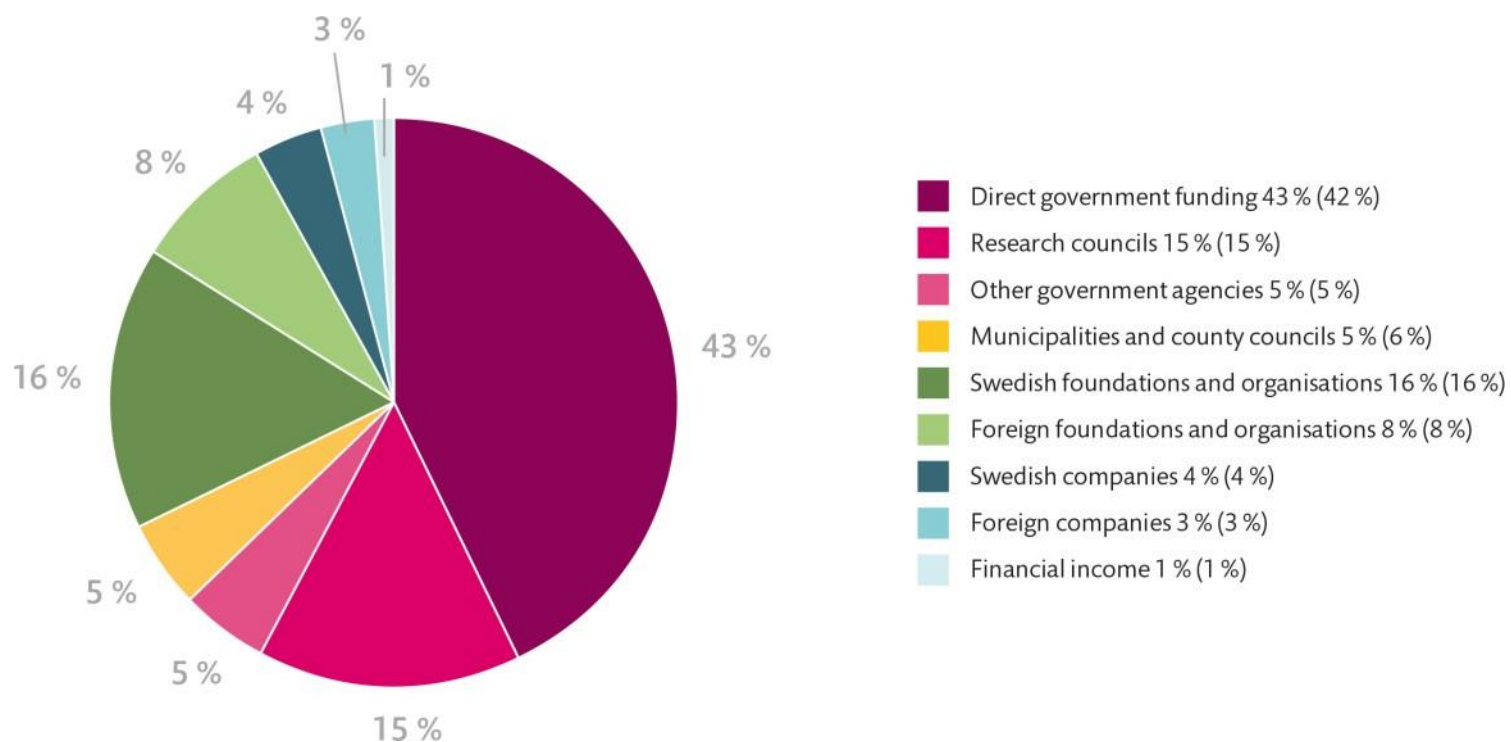
Research Infrastructure



New buildings for laboratories and a wide range of core-facilities offer advanced equipment, services and expertise for academic research in Sweden

Revenue 2019

7.1
SEK billion
in revenue



EU



224

**SEK MILLION
IN REVENUE FROM THE EU**
Including scholarships and
other transfers



180

EU-FINANCED PROJECTS
In 2019, KI had a total of 180
ongoing EU-financed projects



33

ERC-PROJECTS
At the end of 2019, KI
participated in 33 European
Research Council (ERC) projects

Innovation and Entrepreneurship



Our ambition is to create the best possible conditions for the results of our operations to be implemented in society and contribute to a healthier future for all.

Entrepreneurship¹

“is a dynamic and social process where individuals, alone or in collaboration, identify opportunities for innovation and act upon these by transforming ideas into practical and targeted activities, whether in a social cultural or economic context”

¹European Commission 2002

Ecosystem

(ecology) *“A biological community of interacting organisms and their physical environment”*

(in general use) *“A complex network or interconnected system”*

‘Silicon Valley's entrepreneurial ecosystem’

Three main missions

Educate

Conduct research

Collaborate with the surrounding society:

- Placement or clinical components in programmes
- Teaching and research dealing with issues that are relevant to society
- Arranging career days
- Popularising research and promoting utilisation of research results
- Offering contract education and contract research

Entrepreneurship education

- Limited career paths ⑦ need for *entrepreneurial mindset*: creative, problem solving, initiative taking
- Identify and utilisation of research (intellectual assets) ⑦ also a need for specific *tools and methods* (business plan, marketing, management etc)

1. WORKSHOPS

From training events to course modules

2. COURSES

2nd and 3rd cycle

3. PROGRAMME

Master's programme in bioentrepreneurship

4. OUTREACH

Co-creation and dissemination of knowledge in international projects



Undergraduates

Limited career paths ⑦ need for *entrepreneurial mindset*: creative, problem solving, initiative taking



Doctoral students (and researchers)

Identify and utilisation of research (intellectual assets)
⑦ also a need for specific *tools and methods* (business plan, marketing, management etc)



PIs, supervisors etc

Low priority for innovation and entrepreneurship
⑦ need for entrepreneurial dialogue and strategies

1. WORKSHOPS – From training events to course modules

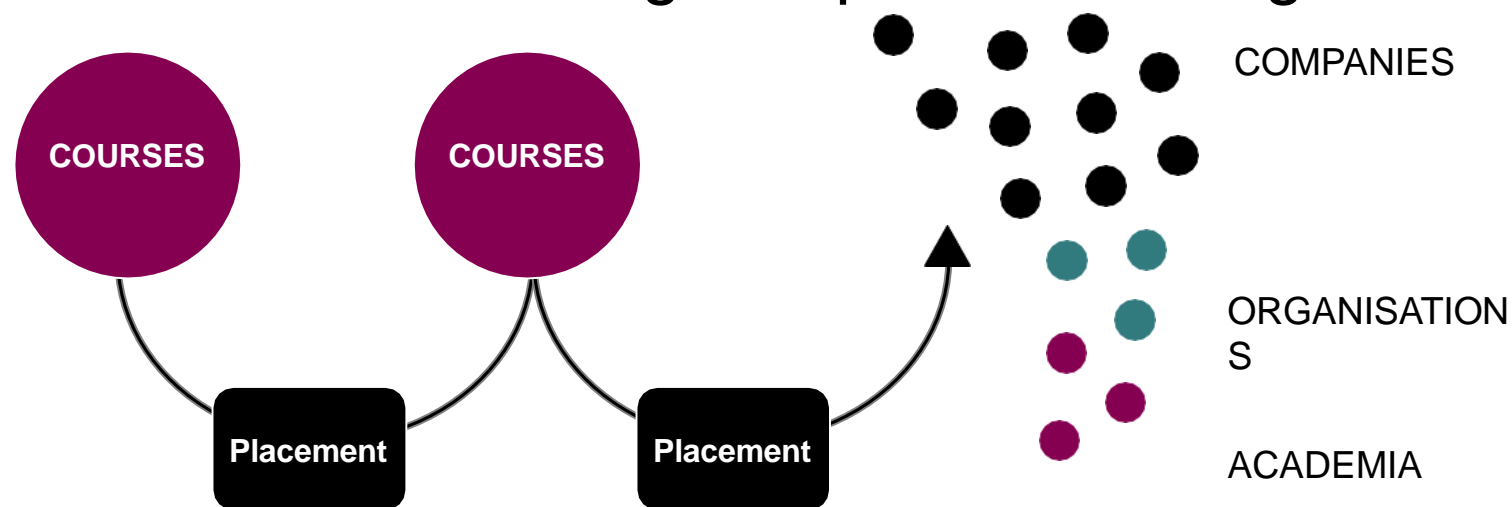
- This is bioentrepreneurship (*Global health master's*)
- Put science to use, entrepreneurial tools (*Biomed master's*)
- Creative leadership for innovation (*Leadership for PIs*)
- Practical use of results (*Leadership for PIs*)
- Business model you (*Career skills for PhD stud*)
- Introduction to design thinking (*SSES*)
- The power of storytelling (*SSES*)
- The power of me 2.0 (*SSES*)
- Digital health (*SSES*)
- Prototyping

2. COURSES – 2nd and 3rd cycle

- From idea to service business – Transforming healthcare
 - Digital health – Entrepreneurial perspective
 - All the other courses within SSES:
 - ⑦ Core courses
 - ⑦ Context courses
 - ⑦ Skills courses
 - Exploring entrepreneurial opportunities in research:
Identify – Develop – Test
 - School of health innovation
 - ⑦ Health innovation and entrepreneurship: Oslo – KI – NTNU
 - ⑦ Entrepreneurship in healthcare
- + Professor course

3. PROGRAMME – Master’s programme in bioentrepreneurship

- The needs of the life science industry in focus
- Value creation within existing companies and organisations



4. OUTREACH – Dissemination and development of knowledge in international projects

- EIT Health Starter-Lab Network: Co-creation pop-up laboratory (Co-up lab)
- Women entrepreneurs in healthcare (WE Health): Unlocking your innovative potential
- EIT Health Innovation day for students
- GROWTH Erasmus+: SPOC and simulation on Customer journey and training module on the power of leadership
- BiotechBuilders

■ KI 2.0 toolbox

1

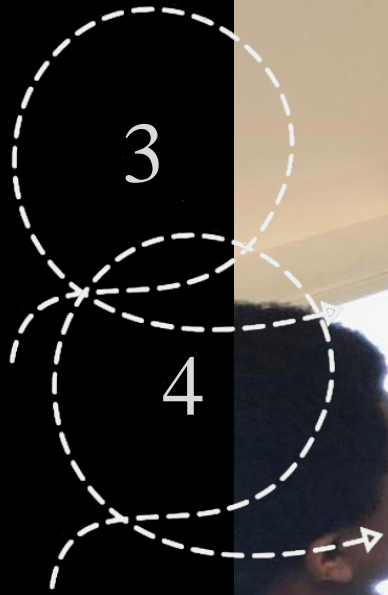


“There is no problem at all to facilitate a simple creative learning activity in an open space, occupying a public space as a library. And no specific material seems to be missing” Workshop facilitator

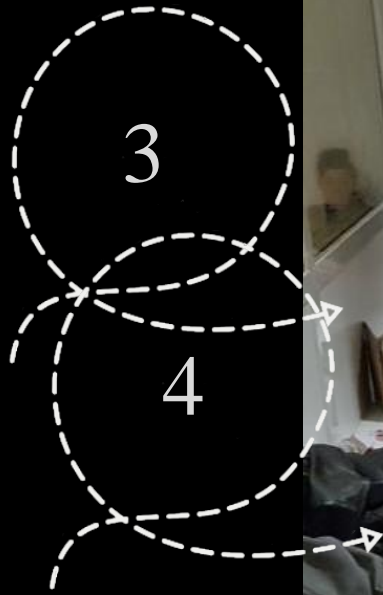
2



“Talking directly with patients and staff has absolutely given me a new perspective on how to approach a problem and how to think solution-wise. I feel motivated, encouraged and redefined.” Participant



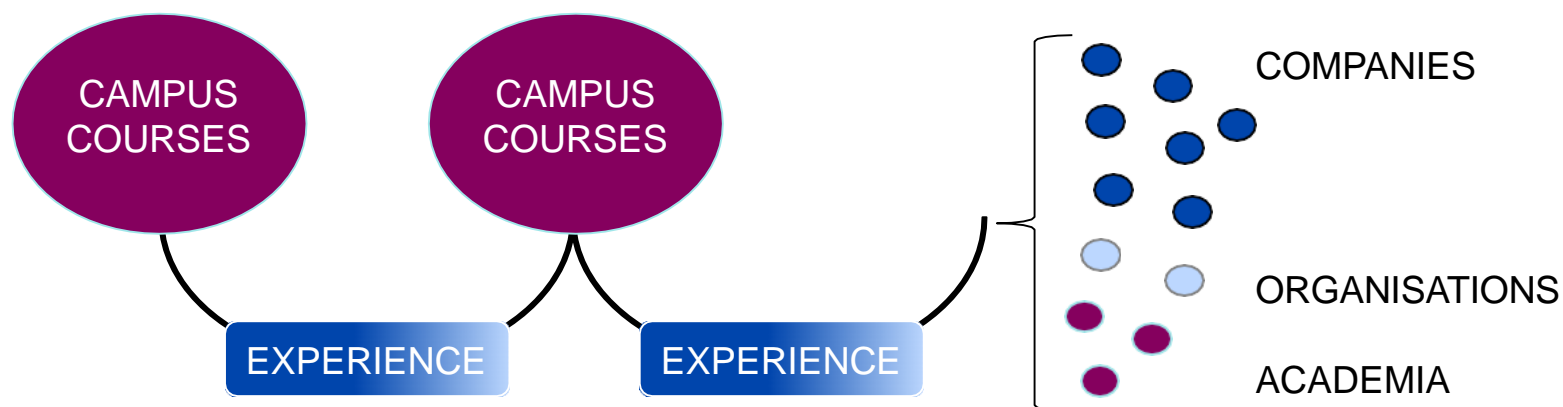
*“It was much easier to interact with the museum visitors than I first thought”
“At the museum I finally understood what prototypes can be, why and how they can be used.”* Participants

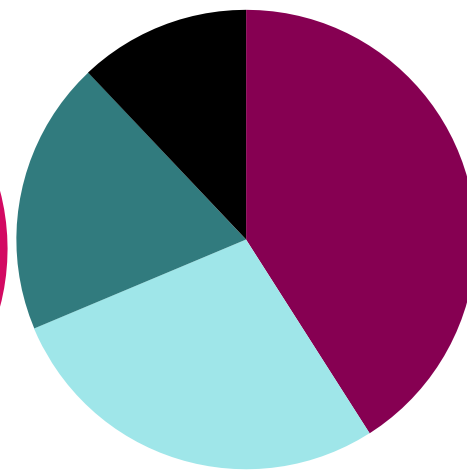


“My son has an autism diagnosis and is very scared for everything that has to do with doctors and hospitalisation. Here we get the opportunity to discuss and focus on the positive things, and what we actually also can do ourselves to improve the situation.” Citizen

Master's programme in bioentrepreneurship (MBE)

Aim to provide solid foundation for working with the development and management of projects and companies or organisations, in the life science field





- Pharma
- Consulting
- Medtech
- Biotech

1
Sep-Jan

Theory in bioE

Communication
in bioE - 1

Project
management
theory

Market analysis

Industrial management

Strategic management control

2
Jan-Jun

Product development in life sciences

Com. in
bioE - 2

Practical placement 1

Elective Courses

3
Sep-Jan

Market and sales in the
life sciences

Business development

Practical placement 2

4
Jan-Jun

Degree project

During placements the students should



Plan and carry out

Analyse and present

Knowledge and skills within a relevant field, e.g.

- Marketing and sales
- Business development
- Organization and management
- Innovation and entrepreneurship
- Market analysis
- Surveys and benchmarking



Strategies and Policies Serving Impact

How to best utilise academic knowledge into practical applications for society through entrepreneurship?

Yellow River (Huang He)

CHINA



What LEI wants to achieve

- Entrepreneurship with distinct Liberal Arts signature
 - Humanitarian Technology = Tech x liberalarts
 - Inclusive Entrepreneurship = Inclusive grow (geographic, disciplines, demographic, etc.)
 - Nurture creative confidence in students
- Empower humanities graduates in I&E
- Create internship opportunities for education purpose
 - Interdisciplinary projects (NGO, corporates, etc.)
 - SDG design projects
- Amplify SDG Impact through global partnership





2019 Joint Humanitarian Entrepreneurship Summer Academy

- 40 students from 12 different nationalities
- 2 weeks training in Hong Kong
- 2 weeks in 4 different locations: Kazakhstan, Uganda, Cambodia, and Nepal
- Work with local NGOs and community members to identify everyday challenges
- Following winter and summer cohorts will work on tackling these challenges



Kazakhstan
Cambodia
Gansu

Nepal
Uganda

Global Connections



Carnegie-Mellon University - team teaching with 2 faculty members in Uganda, future project collaboration



Lehigh University - team teaching in Kazakhstan with faculty plus Mountaintop Programme director, future project collaboration

International Partners

International partners

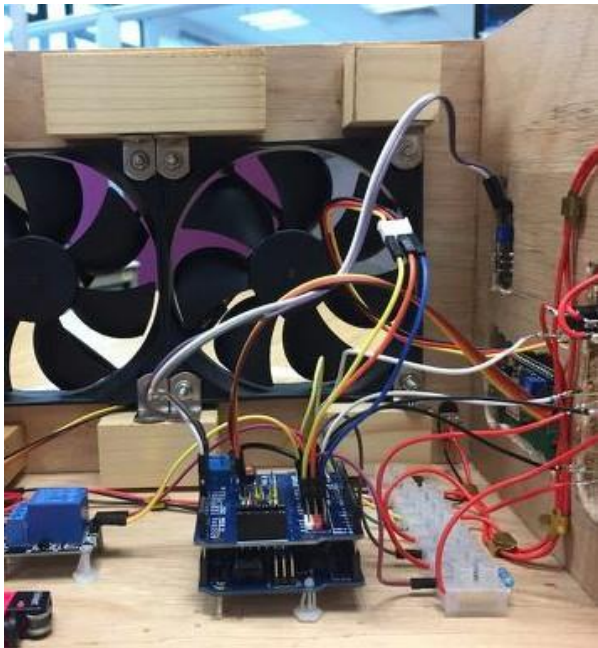


- Stanford University - University Innovation Fellows, design thinking at TLS, collaboration for Design Thinking Studio at Lingnan, April 2019



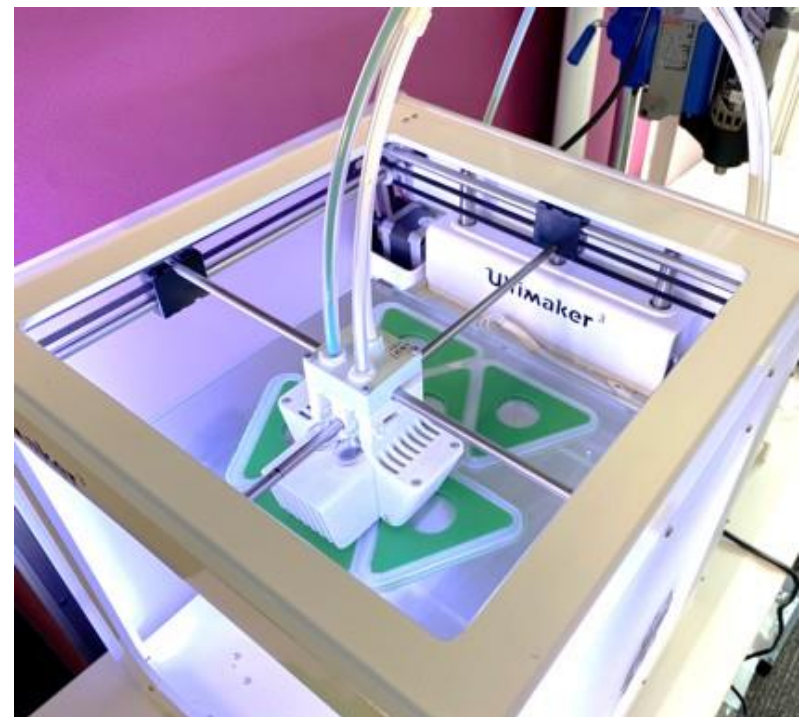
- MIT - Participation in the programme Inclusive Innovation: Designing for a Better World, future research collaboration





100%

本地設計及組裝









Transparent Face Masks





Leaf Healthcare



Second Prototype



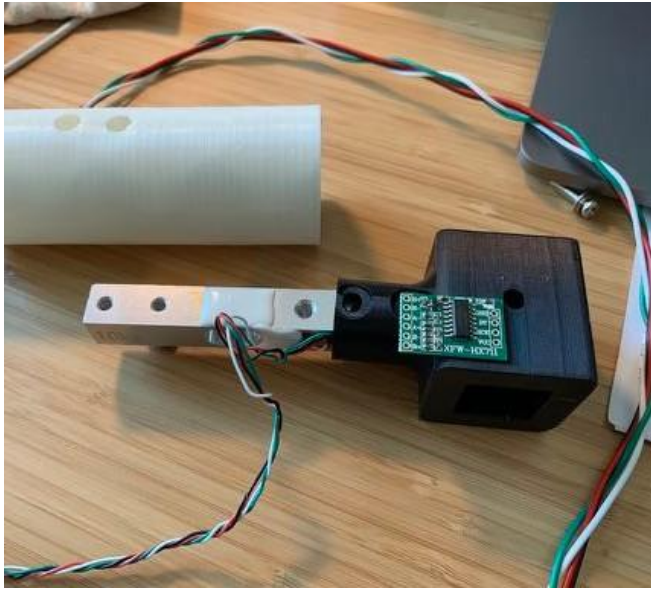
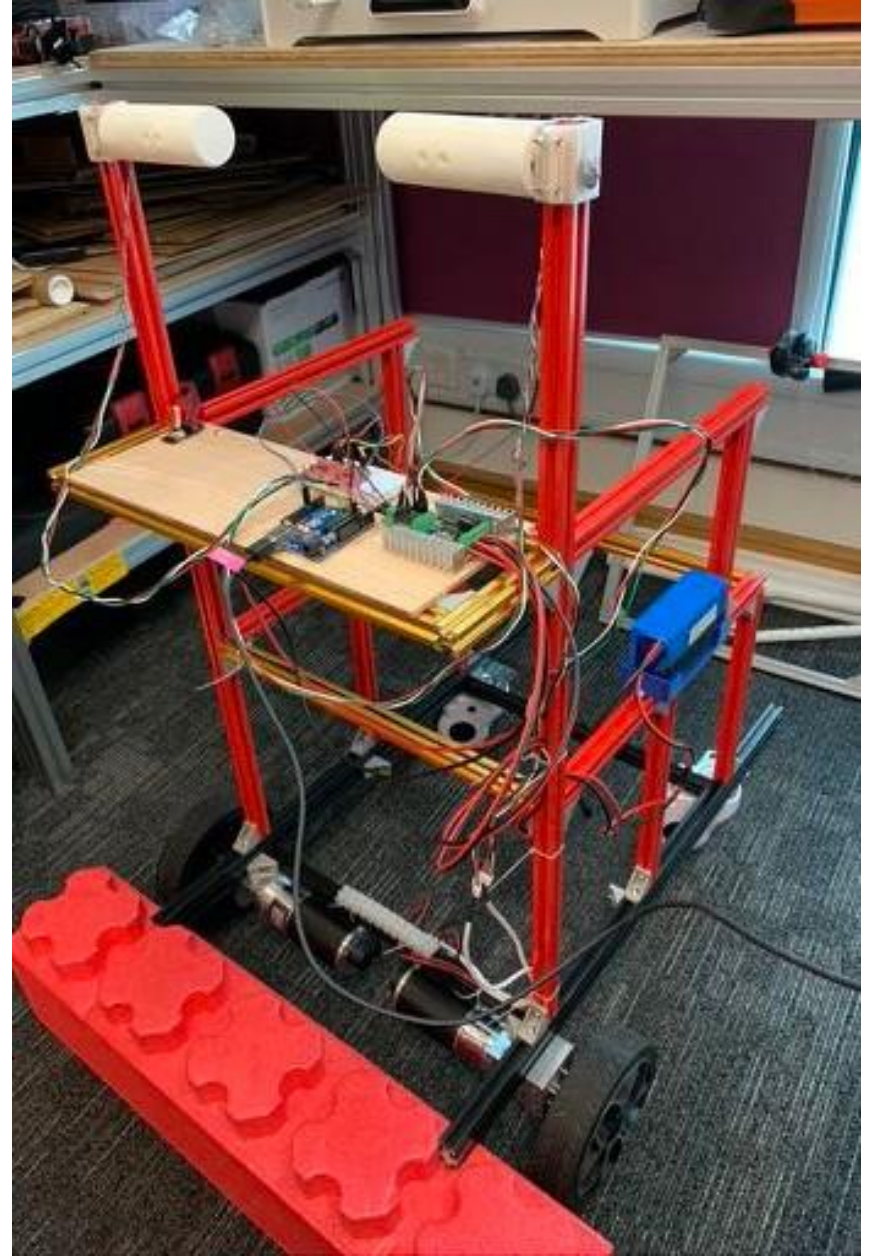
Participatory Design for Transparent Face Mask/Shield

- Using traditional masks: Causing inconvenience as the hearing-impaired usually rely on lip-reading and sign language for communication.
- The team has organized two days of Participatory Design workshops which focus on human-centered design for the Youth and Elderly with hearing-impaired.
- Lingnan students and service users co-design an alternative transparent mask that could solve some of the issues they found when using traditional masks

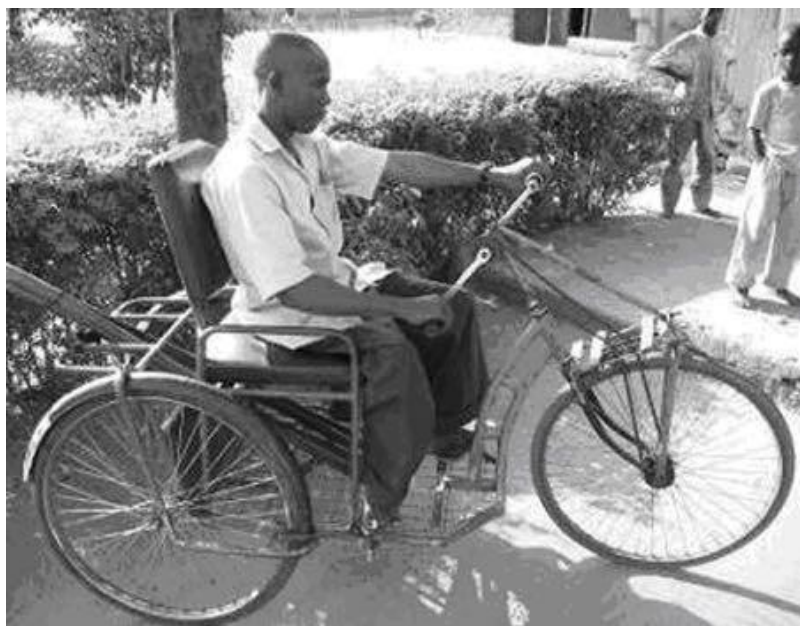
Partners:

















Questions?



Impact of Science

4-6 November, Krakow

Up Next

12.15-12.45

Break

12.45-13.45

Interactive Debate: Implementing Impact Policies