

Project Title:	Developing empathy tools for age-friendly cities	
Project Number	ID01057	
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Research Clusters:

Research Themes:

Highlight which of the Academy's CLUSTERS this project will address? (Please nominate JUST <u>one</u> . For more information, see www.iitbmonash.org)		Highlight which of the Academy's Theme(s) this project will address? (Feel free to nominate more than one. For more information, see www.iitbmonash.org)	
1	Material Science/Engineering (including Nano, Metallurgy)	1	Artificial Intelligence and Advanced Computational Modelling
2	Energy, Green Chem, Chemistry, Catalysis, Reaction Eng	2	Circular Economy
3	Math, CFD, Modelling, Manufacturing	3	Clean Energy
4	CSE, IT, Optimisation, Data, Sensors, Systems, Signal Processing, Control	4	Health Sciences
5	Earth Sciences and Civil Engineering (Geo, Water, Climate)	5	Smart Materials
6	Bio, Stem Cells, Bio Chem, Pharma, Food	6	Sustainable Societies
7	Semi-Conductors, Optics, Photonics, Networks, Telecomm, Power Eng	7	Infrastructure
8	HSS, Design , Management		

The research problem

Empathy tools and practices, such as the Massachusetts Institute of Technology (2021) AGELAB's "AGNES" suits have been developed to simulate the effects of aging. These are intended to be used by designers who seek to better understand the challenges for elderly people of using products, services and infrastructures. These tools may also assist Indian policy makers in developing age-friendly cities; however, they are still not readily available in India and often unsuitable for the Indian context. One piece suits are not accommodative of Indian dresses. The huge variation in the weather condition and mostly hot and humid conditions need to be considered while designing the suits. Another gap in the current products is the transportability without which evoking empathy in the decision makers would be a challenge.

In order to address this gap in appropriateness and availability, the PhD research project will seek to design and develop a range of compact and transportable empathy tools that would be suitable for Indian contexts. These tools will be tested to understand how they may be able to help Indian policy makers to build greater empathy with elderly citizens in hopes of designing more inclusive and age-friendly future cities.

Reference: Massachusetts Institute of Technology. (2021). AGNES (Age Gain Now Empathy System). <https://agelab.mit.edu/methods/agnes-age-gain-now-empathy-system>

Project aims

Aim of this project will be to explore what role empathy tools and methods can play in user studies and decision making.

How It can aid and facilitate a more inclusive approach towards decision making at various levels.
Develop and test empathy tools/concepts.

The aim of this project is to design and develop a range of empathy tools that are suitable for Indian contexts. These will then be tested to understand what role empathy tools may play in supporting policy making in Indian cities.

How skills/experience of the IITB and the Monash supervisor(s) support the proposed project

It is a new area for collaboration. Dr. Purba Joshi from IDC works in the field of industrial design and healthcare. Her expertise will inform and support the students in the design and user study aspect of the project.

Dr. Prabhir Vishnu is from the Centre for Policy Studies. His expertise in the area of policy making will guide students on the application aspect of the project.

Dr. Ilya Fridman works in the Emerging Technologies Research Lab at Monash university. He has a professional background in industrial design, as well as experience in applying Design Thinking and Co-design methods on research projects working with government and industry partners. This experience will help to guide students when working with various stakeholders such as elderly citizens or policy makers.

Prof. Daphne Flynn has a professional background in industrial design before joining Monash University as a Professor of Practice. As Director of the Design Health Collab, supports health

and wellbeing by utilising human-centred methods to develop high impact healthcare technologies and services -in the world.

What is expected of the student when at IITB and when at Monash?

Highlight how the project will gain from the students stay at IITB and at Monash

While at IITB, the students will be expected to complete his/her course work, a literature review, an analysis of existing products, gap finding and initial explorations.

While at Monash, the student will work on developing various design solutions and prototype different empathy tools. The student will also be required to prototype, test and refine their design proposals by conducting initial user testing.

Following their return to IITB, the student will be expected to conduct their final testing phase with decision makers in India and conclude the study with findings and future scope and thesis writing.

Expected outcomes

A literature review exploring the role of empathy tools in design and decision making in public policy.

A prototype for a kit of various Empathy tools.

User testing of the tool prototypes with recorded findings.

Insights generated on how these tools may facilitate the policy making in India.

Potential RPCs from IITB and Monash

From IITB:

Dr. Swati Pal - She is a faculty of ergonomics at IDC. Her inputs on this project will be invaluable.

From Monash:

Dr. Robbie Napper from the Mobility Design Lab at Monash. Dr. Rowan Page from the Health Collab at Monash. Both have extensive experience in user-centred industrial design. Robbie also has experience working with local governments and planners.

Capabilities and Degrees Required

Preferably an Undergraduate degree in engineering (BE/BTech)

And Postgraduate degree (MDes) in Industrial Design

Necessary Courses

Name three tentative courses relevant to the project that the student should complete during his/her coursework at IITB (the student will require to secure 8 point in these courses)

Qualitative Design Research Methods

Quantitative Design Research Methods

Mini Project I and II

Potential Collaborators

Please visit the IITB website www.iitb.ac.in OR Monash Website www.monash.edu to highlight some potential collaborators that would be best suited for the area of research you are intending to float.

Select up to **(4)** keywords from the Academy's approved keyword list (**available at <http://www.iitbmonash.org/becoming-a-research-supervisor/>**) relating to this project to make it easier for the students to apply.

Product Design, Empathy, Age-friendly