

Executive Summary



<<Rohit Srivastava>>

<<Professor and Head of Department of Biosciences and Bioengineering, IIT Bombay>>

Title of the Project: “Non-invasive technologies for reproductive health of women:

- i) **UAct - Wearable patch for monitoring uterine activity**
- ii) **‘UCan’ - World’s first self-cervix screening device**

1. Date of Start of the Project:

2. Aims and Objectives:

- i) Develop accurate fetal and uterine monitoring solution compared to existing technologies of doppler and pressure based toco-dynamometer
- ii) Develop self-screening device for cervical screening to ensure regular cervical screening anytime, anywhere

Both the technologies are being developed with the aim of ensuring access to quality care without the need of experts at an affordable cost.

3. Significant achievements (not more than 500 words to include List of patents, publications, prototype, deployment etc)

UAct is a portable, wireless novel uterine activity monitor which can be used for monitoring fetal ECG and uterine contractions for accessing the progress of labor. In Phase 1 of the project we have achieved crucial piece of functional prototype which could sense the contractions. Further the electronics is also developed.

UCan product design and concept testing on epithelial cells is done with basic sensor development. Due to pandemic studies are affected and will be continued as situation normalizes. We could successfully demonstrate the distinction between normal cell and cancer cell with the help of UCan sensor.

4. Concluding remarks

- Prototype and product development is going on as per planned
- Pandemic created difficulties for studies with medical colleges and hence further product development is also affected
- We expect post June 2021, studies will start, and product development plan will be revised accordingly.
- Post studies paper writing will be initiated