

Monday 9 January 2017: For Immediate Release

New research collaboration to develop next generation of neonatal incubators

A new collaboration between GIFT-Surg and Sonic Womb Productions Ltd will develop an increased understanding on the role of sound in-utero in order to create the next generation of neonatal incubators.

At present there is very limited data on how sounds are physically experienced by the fetus during pregnancy. A research associate will be hired to work between the two teams and build a computer model of acoustical properties of the womb between 6 -9 months gestation.

The primary aim of the computer model is to develop the next generation of neonatal incubators for premature babies which accurately mimic the uterine sound environment. It is thought that the level of sound in neonatal intensive care units can put unnecessary stress on the premature baby. By reducing noise levels inside incubators it is hoped to promote a positive effect on recovery. A secondary aim of the research will be to determine exact safe sound exposure levels for women during pregnancy.

The new post-holder will be co-supervised by Prof. Eric Jauniaux, (UCL Institute of Women's Health) Nader Saffari and Pierre Gelat ([UCL Ultrasonics Group](#)). Prof. Julian Henriques (Goldsmiths University of London) will provide advisory support on the auditory developments. The collaboration will be part of GIFT-Surg and will benefit from the wide team of experts working in fetal medicine and access to the data required to build the model.

Prof. Jauniaux and Henriques comment: *"Premature babies are incredibly sensitive to sound and vibration, and this project has the potential to give thousands the very safest and most comfortable start in life. GIFT-Surg's cutting edge leadership in computational modelling and acoustics will be critical in helping us generate a scientifically accurate sonic womb."*

Sonic Womb Productions Ltd was founded by internationally established fetal medicine expert Prof. Eric Jauniaux, leading auditory researcher Prof. Julian Henriques and entrepreneur Aude Thibaut as a multi-disciplinary collaboration between scientists, engineers and sound artists, to re-create the experience of hearing in utero in an acoustically optimised enclosed space. They will contribute their expertise to the GIFT-Surg public engagement strategy with regards to creating an immersive uterine sound experience for the general public.

This collaboration has been made possible by a generous donation from Nathalie and Charles-Henri Samani who have pledged to fund the post-holder for two years with a generous donation of £120,000. They comment: *"Supporting this important research will enable a better understanding of the impact of noise in pregnancy as well as studying how we can improve the auditory environment for premature babies. We are very happy to be involved."*

GIFT-Surg is a 7-year research project funded by Wellcome and EPSRC under the 'Innovative Engineering for Health' Initiative. The project is developing a novel surgical platform which addresses the complex challenges of fetal interventions. Led by Professor Sebastien Ourselin (UCL), GIFT-Surg consists of a collaborative team of over 41 researchers, between University College London and KU Leuven and their associated hospitals.

Further information:

GIFT-Surg: www.gift-surg.ac.uk

Sonic Womb: <https://sonicwomb.tech/>

UCL Ultrasonics Group: <https://www.ucl.ac.uk/ultrasonics>

UCL Institute of Women's Health: <http://www.instituteforwomenshealth.ucl.ac.uk/>

Goldsmiths: <http://www.gold.ac.uk/>

Contact Details:

Katie Konyn (University College London)

k.konyn@ucl.ac.uk | +44 (0) 207 679 3278

Aude Thibaut (Sonic Womb Productions Ltd)

info@sonicwomb.tech