Pantelis Georgiou currently holds the position of Professor of Biomedical Electronics at Imperial College London within the Department of Electrical and Electronic Engineering. He is the head of the Bio-inspired Metabolic and Infection Technology Laboratory in the Centre for Bio-Inspired Technology; a multi-disciplinary group that invents, develops and demonstrates advanced micro-devices to meet global challenges in biomedical science and healthcare. His research includes ultra-low power micro-electronics, bio-inspired circuits and systems, lab-on-chip technology and application of micro-electronic technology to create novel medical devices. Application areas of his research include new technologies for treatment of diabetes such as the artificial pancreas, novel Lab-on-Chip technology for genomics and diagnostics targeted towards infectious disease and cancer, and wearable technologies for rehabilitation of chronic conditions.

Prof. Georgiou graduated with a 1st Class Honours MEng Degree in Electrical and Electronic Engineering in 2004 and Ph.D. degree in 2008 both from Imperial College London. He then joined the Institute of Biomedical Engineering as Research Associate until 2010, when he was appointed Head of the Bio-inspired Metabolic Technology Laboratory. In 2011, he joined the Department of Electrical & Electronic Engineering, where he currently holds an academic faculty position. He has made significant contributions to the development of integrated chemical-sensing systems in CMOS for Lab-on-Chip applications. He has pioneered the development of the Ion-Sensitive Field Effect Transistor, an integrated pH sensor which is currently being used in next generation DNA sequencing machines and rapid diagnostic systems for detection of infectious diseases. Prof. Georgiou is a senior member of the IEEE and IET and serves on the BioCAS and Sensory Systems technical committees of the IEEE CAS Society. He is an associate editor of the IEEE Sensors and TBioCAS journals. He is also a member at large on the IEEE sensors council.

He has been the recipient of numerous awards related to the technology used in this proposal. In 2013 he was awarded the IET Mike Sergeant Medal, as a result of his track record for leading a multidisciplinary team and developing innovative medical devices with direct translation and application on real patients. In 2017 he was also awarded IEEE Sensors Council Technical Achievement Award in the area of Sensor systems for significant contributions to sensing systems, specifically “innovations in Ion-Sensitive Field Effect Transistors for diagnostics and DNA detection systems”. From 2017-18 he was also an IEEE Distinguished lecturer in circuits and systems.

Finally, he has authored over 350 peer-reviewed publications related to healthcare technology, has successfully secured over £8 million in healthcare related research funding (EPSRC, The Wellcome Trust, H2020, NIHR, NiH), and has built core expertise within his lab consisting of electrical engineers, software engineers, molecular biologists and clinicians to innovate in medical device technology with current ongoing collaborations within the NHS and now also in Thailand, Vietnam, Taiwan and Africa.

Five Significant Publications:

1. Rodriguez-Manzano, J., et al, 2021. Handheld point-of-care system for rapid detection of SARS-CoV-2 extracted RNA in under 20 min. *ACS central science*, *7*(2), pp.307-317.
2. Moser, N., et al., 2020. Complementary metal–oxide–semiconductor potentiometric field-effect transistor array platform using sensor learning for multi-ion imaging. *Analytical chemistry*, *92*(7), pp.5276-585.
3. Malpartida-Cardenas, et al. (2019). Quantitative and rapid Plasmodium falciparum malaria diagnosis and artemisinin-resistance detection using a CMOS Lab-on-Chip platform.. *Biosens Bioelectron*, *145*, 111678.
4. Miscourides, N., et al. (2018). A 12.8 k Current-Mode Velocity-Saturation ISFET Array for On-Chip Real-Time DNA Detection. *IEEE Transactions on Biomedical Circuits and Systems*, *12*(5), 1202-1214.
5. Moser, N., et al. (2018). A Scalable ISFET Sensing and Memory Array With Sensor Auto-Calibration for On-Chip Real-Time DNA Detection. *IEEE Transactions on Biomedical Circuits*