CAWG brief summary of activities 2019-2020

The transition in CCQM leadership and WG chairs prompted the incoming CAWG chair and vice-chair to review current proposed studies for this WG with respect to group and wider CCQM strategy. Emphasis has been given to; re-examining international stakeholder need for cell measurement, prioritising pilots that can build to KC studies whilst maximising WG expertise and available technologies, aligning to theoretical complementary measurements in other bio WGs and supporting and utilising complementary global standards efforts for cell measurement where possible. The activities of this group include the identification and quantification of cells and cell properties indicative of function for both Eukaryotic and Prokaryotic domains, challenging the WG in terms of diversity of required expertise, participation cohort and global stakeholder need.

**P214, Enumeration of fixed peripheral blood mononuclear cells in suspension, (led by NIBSC, UK)** aims to examine participant ability to count single-nuclei white blood cells (T-cells, B-cell and NK cells) using a wide range of available cell counting technologies together with a prescribed dilutions series design developed from a recent published International Standard (ISO 20391-2). The study is designed to utilise a minimal number of process manipulations beyond sample dilution adjustment, and also incorporates centralised analysis of data and accompanying control materials (synthetic beads). As well as evaluating blood cell reference materials, the knowledge gained form this study will allow future blood cell counting pilot studies to build in complexity for specific key applications and technologies (ie. specific T-cell subsets). The pilot study is targeted to commence in the second half of 2020.

**CCQM P205** **Enumeration of membrane intact E.coli (led by NIM China)** will support the development of higher order methods for assessment of microbial contamination of drinking water, comparing the measurement performance of flow cytometry to established compendial techniques, namely CFU counting. Establishing a suitable reference material for this study is ongoing, noting particularly international transport regulations and laboratory safety requirements. A combined meeting of NAWG and CAWG (Turin 2019) expressed a provisional interest in developing future studies in this area utilising molecular methods and this remains a longer term strategic interest for the WG.

**CCQM P197** **Proliferative stem cell number per unit area** **(led by NPL, UK)** aims to expand on the complexity introduced in **CCQM** **P123 Number and geometric property of cells adhered to a solid substrate**, by testing participants ability to recognise features of dividing induced pluripotent stem cells (iPSCs), a key quality indicator in these cells, on a well characterised 2D scaffold surface (VAMAS). The study is rightly ambitious and challenging in design and has been widely supported within the WG. During the Spring meeting there was a call for more information on global stakeholder need for such measurements, as well as key technical considerations for cell proliferation and identity biomarkers selection defining the measurand within a future measurement claim.

Dr. Jonathan Campbell. LGC. UK

Dr. Boqiang Fu. NIM. China