

CCU/CCQM workshop on “The metrology of quantities which can be counted” to be held online, 28-30 March 2023

Session 1, 28 March 2023, 12:00-14:00 UTC (14:00-16:00 CEST)

Concepts and theoretical aspects of counting and the unit one

Welcome and background to the workshop	Pavel Neyezhmakov (NSC-IM)	15 min
What questions is the workshop addressing?	Bernd Güttler (PTB)	15 min
Concepts of continuous quantities & countable aggregates and nomenclature	Charles Ehrlich (NIST)	15 min
Quantities with the unit one	Peter Blattner (METAS)	15 min
Counting & why it is different from amount of substance	Richard Brown (NPL)	15 min
Panel Q&A / Discussion	All	45 min

Session 2, 29 March 2023, 12:00-14:00 UTC (14:00-16:00 CEST)

Counting entities (case studies from electricity, mass, chemistry and biology)

Introduction to the case studies	Richard Brown (NPL)	5 min
Counting electrons (CCEM)	Werner Schumacher (PTB)	15 min
Counting ^{28}Si in a silicon sphere (CCQM, CCM)	Olaf Rienitz (PTB)	15 min
Digital PCR	Inchul Yang (KRISS)	15 min
Counting cells	Jonathan Campbell (LGC)	15 min
Counting particles in air	Konstantina Vasilatou (METAS)	15 min
Panel Q&A / Discussion	All	40 min

Session 3, 30 March 2023, 12:00-14:00 UTC (14:00-16:00 CEST)

Counting processes & other phenomena (case studies from radioactivity to light)

Introduction to the case studies	Bernd Güttler (PTB)	5 min
Counting in radionuclide metrology	Ryan Fitzgerald (NIST)	15 min
Counting not countable quantities – The CCL perspective	Alessandro Balsamo (INRIM)	15 min
The SI second as a count of oscillations and much more	Elizabeth Donley (NIST)	15 min
Candela - by counting photons?	Stefan Kück (PTB)	15 min
Discussion & concluding remarks: how should the metrology community respond and next steps	Sang-Ryoul Park (KRISS) & Joachim Ullrich (PTB)	55 min