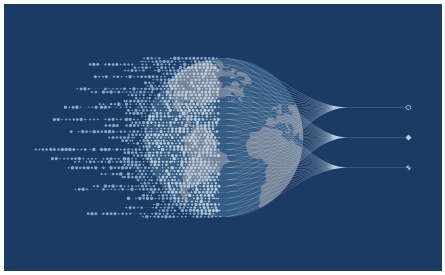

ID: **Ke01** Type: **Keynote**

Sensing & Metrology: The next frontier

The invention of quantum mechanics is this year a century old, and you would have thought that most its applications would have been discovered. Nothing could be further from the truth. This field of research is more active than ever before with most of the attention going to quantum computing: a new form of computing based on the principles of quantum mechanics and is predicted to outperform any form of classical computing. Although the realisation of a useful quantum computer is still some years away, there are many applications based on quantum mechanics which are here and now and extremely exciting. Using delicate quantum effects, we can make sensors which allow us to measure signals beyond classical limits, opening up a whole new world for us to explore with huge potential impact for our prosperity and our quality of life. In the field of measurement science, metrology, quantum effects have resulted in superior measurement standards which have transformed the field. In this talk I will try to explain some of the weird and wonderful aspects of quantum mechanics and discuss a number of exciting sensing applications which result from it.

E-mail

In-person or online preference

Presenter: JANSSEN, Jan-Theodoor (National Physical Laboratory (NPL))

Session Classification: Keynote "Quantum Sensing & Metrology: The Next Frontier"