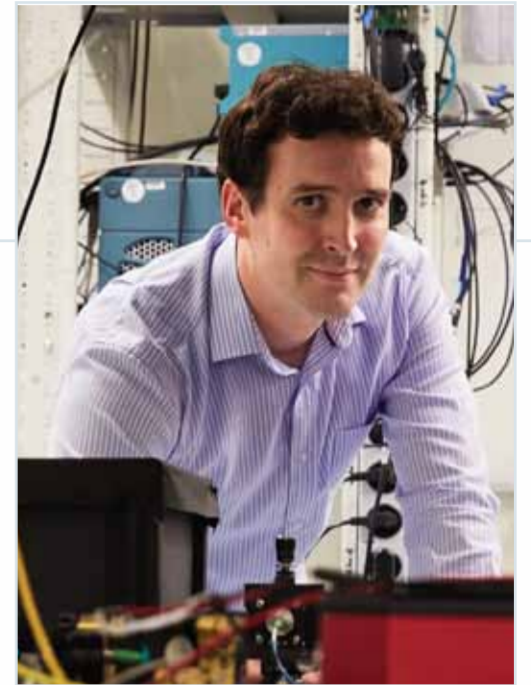


Großes Physikalisches Kolloquium an der Universität zu Köln

Prof. Dr. Tim Hugo Taminiau
QuTech, Delft University of Technology,
The Netherlands



Playing Bell's game: quantum entanglement vs local realism



Quantum entanglement is one of the most intriguing phenomena in physics. Two particles that are entangled must be described as a single entity even when they are far apart. A measurement on one particle appears to have an instantaneous influence on the other particle. In this talk I will discuss our experiment with electron spins in diamond entangled over 1.3 km, which directly pitches this “spooky” non-locality of entanglement against local realism, the worldview that “the world is made up of real stuff changing only through local interactions”.

