

SCIENCE in STEWARTON

TUESDAY 12th MARCH

6:30pm – 8:00pm

STEWARTON ACADEMY

Cairnduff Place, Stewarton, KA3 5QF

The atomic tech of ticks and tocks: using lasers and atoms to measure time.

Professor Paul Griffin, University of Strathclyde

From GPS and sat-nav to high-speed broadband, modern technology relies on the precision of atomic clocks. This talk will look at how lasers and atoms are used to measure time and how quantum technologies are driving a new generation of atomic timing, using lasers to cool atoms to temperatures close to absolute zero for the ultimate in precision measurement. We will also examine how time has been measured through the past, and how advances in time keeping have gone hand-in-hand with advances in technology.

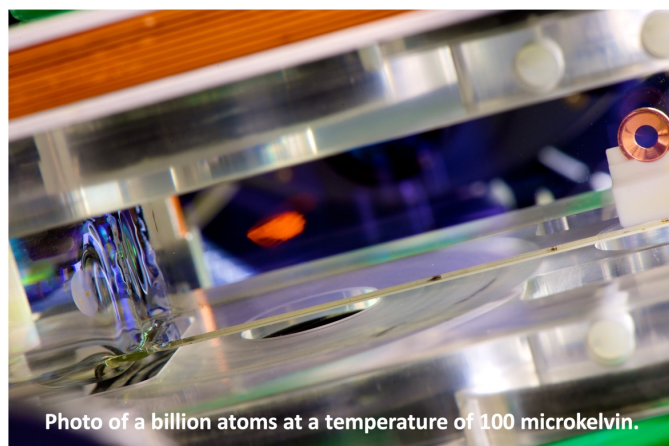
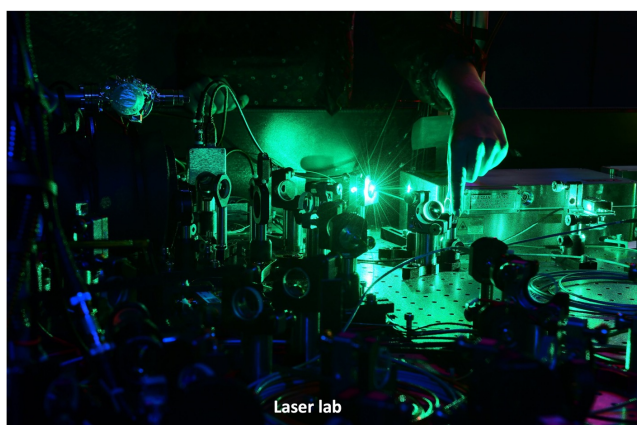


Photo of a billion atoms at a temperature of 100 microkelvin.



Laser lab

Paul Griffin is a professor of Physics who is focussed on building precise sensors. He is especially interested in seeing how we can use advances in quantum physics to address problems and applications in the real world. Recent work that he's especially proud of includes using atomic physics to measure the heartbeat of a cow and making a handheld device that can cool atoms to millionths of a degree above absolute zero, to be used for navigation without GPS.

How will the session work?

- The session is free and open to everyone.
- We begin with refreshments from 6.30 to 7pm.
- Then we settle in to café style seating to explore our universe with a short talk by our speaker, followed by an open informal discussion.