Contribution ID: **399** Type: **Talk**

Richard Feynman, Data-Intensive Science and the Future of Computing

Saturday 30 July 2016 11:15 (30 minutes)

This talk will discuss three current trends in computing: quantum computers; data-intensive computing and the recent resurgence in AI and Machine Learning; Exascale computing and the end of Moore's Law. Although Richard Feynman is famous for his Nobel Prize for QED and his Feynman Diagrams, and for his three volume set of Lectures on Physics, it is not so well-known that he gave lectures on computing for the last five years of his life. In these lectures he was first to propose building a quantum computer. After an introduction to Feynman's ideas on quantum computing, the 'Big Data'revolution in science will be discussed. The analysis of PetaBytes of CERN LHC data to find the Higgs Boson is one example but the explosion of experimental data is now impacting almost every field of science. We then briefly look at 'Big Data'applications outside of science and the emergence of 'smart technologies'in many aspects of everyday life. Finally, we end with a look at Exascale computing and some of the implications of the coming end of Moore's Law.

Author: Prof. HEY, Tony (STFC)

Presenter: Prof. HEY, Tony (STFC)

Session Classification: Plenary Session

Track Classification: Plenary Session