CERN Colloquium

SPEAKER: **Prof. Yann LeCun (Director of AI Research at Facebook & Professor at NYU)**

TITLE: **Deep Learning and the Future of AI**

DATE: Thu 24/03/2016 14:30

PLACE: Council Chamber

ABSTRACT

Over the last few years, rapid progress in AI have enabled our smartphones, social networks, and search engines to understand our voice, recognize our faces, and identifiy objects in our photos with very good accuracy. These dramatic improvements are due in large part to the emergence of a new class of machine learning methods known as Deep Learning.

A particular type of deep learning system called convolutional network (ConvNet) has been particularly successful for image and speech recognition. ConvNets are a kind of artificial neural network whose architecture is somewhat inspired by that of the visual cortex. What distinguishes ConvNets and other deep learning systems from previous approaches is their ability to learn the entire perception process from end to end. Deep learning system automatically learn appropriate
representations of the perceptual world as part of the learning process. A new type of deep learning architectures, memory-augmented networks, go beyond perception by enabling reasoning, attention, and factual memory.

Deep Learning systems are being deployed in an increasingly large numbers of applications such as photo and video collection management, content filtering, medical image analysis, face recognition, self-driving cars, robot perception and control, speech recognition, natural language understanding, and language translation.

But we are still quite far from emulating the learning abilities of animal of humans. A key element we are missing is predictive (or unsupervised) learning: the ability of a machine to model the
environment, predict possible futures and undestand how the world works by observing it and acting in it. This is a very active topic of research at the moment.

Organised by: Wolfgang LERCHE TH /SP.....................**Tea and coffee will be served at 14h00**