***The AI Revolution and Its Impact on Intellectual Property Laws***

Artificial Intelligence (AI) is nowadays capable of coming up with creative and inventive outputs that until not long ago just human beings were capable to produce.

Music, literature and art are already being created by computers and machines. Examples abound: from Jukedeck (a startup that uses AI to produce music) to the Cybernetic Poet (a software which allows a computer to write poetry) and The Next Rembrandt (a **3D printed painting made solely from data of Rembrandt’s body of work),** amongst many others. Also, robots and ‘thinking’ machines are today able to carry out ‘inventive’ tasks much faster and cheaper than human beings, exceeding human capabilities and coming up with unpredictable technical solutions (for example, John Koza, a pioneer of AI genetic algorithms, has famously obtained patents on an automated invention system and on inventions generated by the AI itself). All the above programmes and machines do not merely *aid* humans during the creative and inventive process, but rather *generate* works and inventions without any human input.

Can these outputs be protected by copyright and patent laws? If they are protectable, who should be deemed the owner of the resulting copyright and patent? The programmer? The user of the machine? The owner? The talk will delve into these burning legal issues, expanding on the challenges AI pose to the authorship and inventorship requirements as well as the legal provisions on originality and inventive step/non obviousness in several jurisdictions, including United States, United Kingdom and the European Union (EU).

The focus will also be on policy. Indeed, an on-going academic debate is whether these creative and inventive outputs should be left in the public domain. On the one hand, it could be noted that robots and machines do not need to be incentivised to produce such results, with the consequence that extending copyright and patent protection to AI creativity would be at odds with the well-known utilitarian theories of intellectual property. After all, as interestingly argued by Pamela Samuelson back in 1985, all what it takes to arrive at such results is “electricity” (Samuelson, *Allocating Ownership Rights in Computer-Generated Works*, 47 U. Pitt. L. Rev. 1185, 1199). On the other hand, it could also be stressed that considering such works and inventions copyrightable and patentable would encourage – up-stream - the development of machines that are capable of advancing the cultural and technological progress of our societies: which would undeniably be a socially desirable outcome.

The viability of *sui generis* regimes of protection of AI-driven creativity and inventiveness will also be explored. A few authors, for example, have suggested that a shorter period of protection could be offered to computer-generated works (along the lines of the EU *sui generis* database right), also taking into account that innovation processes move relatively quickly in this field.