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Proceedings Book

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Contacts:
- Carlos Lodeiro Espino
cle@fct.unl.pt
- José Luis Capeio Martinez
jlcm@fct.unl.pt

Venue:
Hotel Aldeia dos Capuchos, Golf & Spa
www.aldeiadoscapuchos.pt

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José Luis Capelo Martínez, PhD. FRSC
UCIBIO-REQUIMTE, Chemistry Department, Faculty of Science and Technology Universidade NOVA de Lisboa, Portugal.

Carlos Lodeiro Espiño, PhD. FRSC
UCIBIO-REQUIMTE, Chemistry Department, Faculty of Science and Technology, Universidade NOVA de Lisboa, Portugal.
SG 01 - Regulating emerging forensic DNA technologies: the toolbox

Inès Gallita†, Paul De Hert‡

†Department of Metajuridica, Vrije Universiteit Brussel (VUB)
‡Vrije Universiteit Brussel (VUB) & University of Tilburg

Abstract
Forensic DNA analysis has become one of the scientifically most trusted criminal investigation practices. Its reliability and applications have grown exponentially over the past decade, in accordance with our knowledge on the subject. Investigators quickly became interested in potential ways to use trace DNA, other than the simple comparison of so-called ‘DNA-fingerprints’ where one DNA profile is compared to another, in order to determine whether or not they originate from the same donor. As the technology and science have taken huge leaps forward in the past decades, and continue to do so, new technologies emerged.

Through Rapid DNA Analysis a DNA profile can be established directly from the swab, without the need of human laboratory intervention. Forensic phenotyping allows researchers to further look into your DNA to statistically determine your most likely physical features. Studying the nucleic acids can also help us identify the forensic tissue, determining for example whether the tissue is semen or saliva. After having identified some of these emerging technologies and methods, we will take a closer look at the details of their working and analyze how they can facilitate criminal investigations, as well as their added value.

We will then look into a couple more theoretical questions. Some theories state that there are three stages of technological change - invention, innovation and diffusion1- all of which can be delayed by regulation2. Aside from the impact of regulation on the development of future new technologies, can these contemporary new ones be regulated or is science outrunning the law and in doing so, calling for a more appropriate regulatory tool? Finally, do we - and if so, where - morally and/or legally draw a line between what should remain science-fiction and what should be realized?

References