Forensic DNA databases are an important tool for enhancing transnational cooperation in the control of crime, yet European nations have different approaches to regulating, gathering, using, and sharing forensic DNA data. We spoke to **Professor Helena Machado** about the Exchange project’s work in investigating the ethical, social, political and operational issues around transnational sharing of DNA data in the EU.

**The Prüm convention** is a central pillar of efforts to strengthen police and judicial cooperation across Europe in the fight against terrorism and cross-border crime, enabling signatories to exchange DNA profiles and other information from national databases. However, while DNA databases can play an important role in identifying, exonerating and convicting suspects, countries may have very different approaches to gathering, storing and using this data. "For example, the French DNA database has grown quite a lot in the past five years, and around 70 percent of the profiles stored in their national DNA database are from suspects. By contrast, the national DNA database in Portugal cannot hold profiles from suspects – it can only hold profiles from individuals convicted of a crime and who are serving a sentence of three years or more," explains Professor Machado.

**Exchange project**

As the Principal Investigator of the Exchange project, Professor Machado is probing deeper into the issues around sharing DNA data, including concerns that collecting more data on citizens will lead to the erosion of civil liberties, as well as understanding the role of DNA evidence in the criminal justice system. This work is built on two different yet at the same time complementary approaches. "One part of our work involves conducting interviews in all the EU member states connected to the Prüm network," outlines Professor Machado. The Prüm convention was initially signed by seven EU Member States in 2005 and currently 24 member states are operating in the Prüm network. "We have almost finished our empirical study: we have already conducted interviews with Prüm national contact points in 22 EU Member States," says Professor Machado.

A number of interviews have also been conducted with different stakeholders related to the uses of DNA technologies in the criminal justice system, including representatives of the police and judiciary, as well as forensic geneticists and legal specialists. This formed the basis of a comparative study looking at Germany, the Netherlands, Poland, Portugal and the UK, assessing the views of professionals involved in criminal investigations about the risks and benefits of the Prüm convention. "We’re looking at views on the value of DNA in criminal investigation. One interesting point we’ve found is that professionals working in forensic laboratories tend to have more positive expectations about the impact of DNA evidence in criminal investigation, than the criminal investigators themselves," says Professor Machado.

The staff from national contact points were typically more cautious about the potential impact of the uses of DNA profiles as evidence in an investigation. The individuals from contact points tend to see DNA profiles more as a source of intelligence than evidence. "In general, criminal investigators tend towards the view that traditional forms of criminal investigation are still more important than DNA profiles," explains Professor Machado. While DNA evidence may be just one piece of the picture, forming part of a case, it is often the most heavily highlighted by the media.

"If there is a line in the criminal investigation involving DNA evidence, then the media will tend to emphasise that. There is often a much
One of the suspect – like hair, skin, and eye color,” explains Professor Machado. The use of forensic DNA phenotyping is highly controversial in many countries, as observers argue that it represents a serious risk of discrimination against vulnerable ethnic groups when they generate statements about the likely race or ethnicity of criminals. However, it is in use in some jurisdictions and this represents a significant shift in forensic genetic technologies, says Professor Machado. “This is just one instance of the differing positions of stakeholders across European countries on the type of data that can be held on citizens and the way in which it can be used,” she says. There are also many other points of divergence. “Stakeholders across European countries have different priorities and priorities in relation to the fight against crime. They also have different levels of economic resources, different institutional arrangements related to the incorporation of science at the service of justice, as well as diverse traditions related to regulation, protection of data, and ethical oversight of criminal DNA databases,” stresses Professor Machado.

EXCHANGE
Forensic Geneticists and the Transnational Exchange of DNA data in the European Union: Engaging Science with Social Control, Citizenship and Democracy

Project Objectives
The EXCHANGE project seeks to address the challenges to citizenship, democracy and social control posed by technological systems of surveillance and control of criminality and terrorism. The EXCHANGE project focuses on the particular role of forensic genetics and technology in the implementation of an "area of freedom, security and justice" in the European Union.

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Helena Machado is Full Professor of Sociology at the University of Minho, Portugal. Her research critically engages sociology and social studies of science and technology to explore the challenges emerging from the uses of genetics in, for example, precision medicine, management and control of crime. Helena’s current work focuses on the transnational surveillance operated by societal systems for exchange of forensic DNA data and biometric information in the EU. She is author of more than 180 academic works. In 2011, she was awarded a Consolidator Grant from the European Research Council (ERC).