Report on Three International Expert Symposia Disseminating the Results of the VISAGE Project

German-Speaking Symposium: June 15-16, 2021
French-Speaking Symposium: September 21, 2021
Spanish and Portuguese-Speaking Symposium: September 24, 2021

Prepared by:

Peter M. Schneider & Elaine Y.Y. Cheung
Institute of Legal Medicine, Faculty of Medicine, University Hospital Cologne

François-Xavier Laurent, Clémence Hollard & Caroline Bouakaze
Interpol; Service National de Police Scientifique, Lyon

Ana Mosquera Miguel, María Victoria Lareu Huidobro, Ángel Carracedo Álvarez, María de la Puente Vila, Ana Freire Aradas, Christopher Phillips
Institute of Forensic Sciences, University of Santiago de Compostela

Peter M. Schneider, Elaine Y.Y. Cheung
Institute of Legal Medicine
University Hospital Cologne
Melatengürtel 60/62
50823 Cologne, Germany

François-Xavier Laurent
Forensic and Police Data Management
Operational Support and Analysis Directorate
INTERPOL General Secretariat
200 Quai Charles de Gaulle
69006 Lyon, France

Clémence Hollard, Caroline Bouakaze
Laboratoire de Police Scientifique de Lyon
Service National de Police Scientifique
31, Avenue Franklin Roosevelt
69134 Ecully CEDEX, France

Ana Mosquera Miguel, María Victoria Lareu Huidobro, Ángel Carracedo Álvarez, María de la Puente Vila, Ana Freire Aradas, Christopher Phillips
Institute of Forensic Sciences,
University of Santiago de Compostela
Rúa de San Francisco, s/n
15782 Santiago de Compostela, Spain

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1 Introduction

Public dissemination of major project outcomes and their consequences for criminal investigations was delivered through three expert symposia in the German, French, and Spanish / Portuguese languages. At the stage of project application, it was planned to include countries where either Forensic DNA Phenotyping (FDP) is legally admissible, or prohibited by law, and where a target audience of significant size and impact could be invited to participate addressing the European dimension of the VISAGE project. When the symposia were finally planned, the Covid-19 pandemic did not allow to arrange in-person conferences, so that the symposia were organized as virtual meetings.

The three symposia were entitled “Impact of forensic DNA phenotyping on Science and Society – Results of the VISAGE EU Project and their application” in their respective languages. The target audiences were forensic, legal, law enforcement and social science communities in German/French/Spanish-Portuguese-speaking EU Member States. The purpose of these symposia was to stimulate a debate on the legal admissibility of forensic DNA phenotyping in EU Member States where FDP is either legally admissible, or not legally regulated, or is in the process of introducing admissibility. Experts from science, law, social sciences and civil society groups (NGOs) in the EU Member States were invited to discuss the topics and concerns in an open format. It was up to the local organizers representing the VISAGE project to decide about the details of the topics to be presented and time available for presentations and round table discussions.

2 German-speaking Symposium

At the German-speaking symposium, held on June 15-16, 2021, at least 197 individual participants connected online to the symposium (Figure 1) with some connections hosting multiple participants. Most of the participants were affiliated with a forensic DNA laboratory in Europe. Others were stakeholders and end users from police, judiciary (prosecutors, judges, lawyers), and other groups (policy makers, NGOs, civil society groups) (Figure 2).

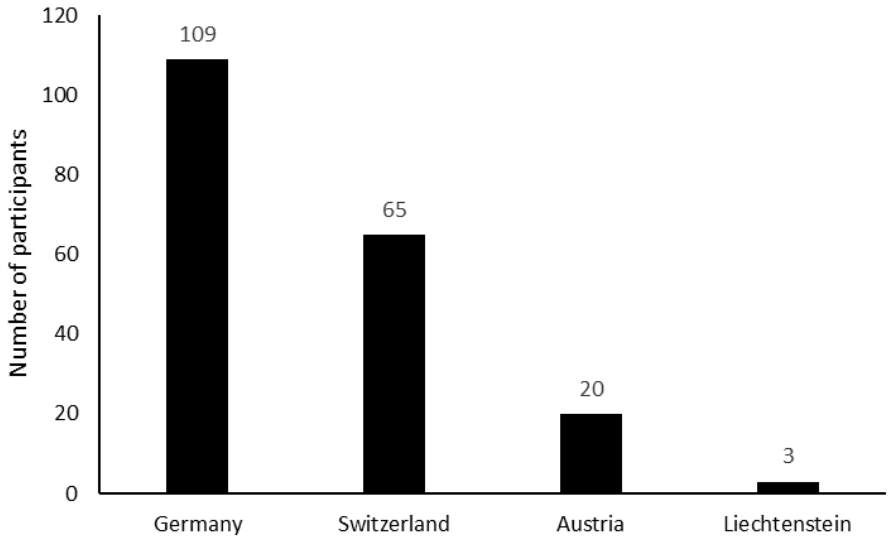

Figure 1. Participants in the VISAGE German-speaking Symposium grouped by region.

The program was organized by Peter Schneider (UKK, WP7 lead) in collaboration with Barbara Prainsack (KCL; WP5 lead, now working in Vienna, Austria) and Adelgunde Kratzer from the Institute of Forensic Medicine in Zurich, Switzerland. Invitations were sent to German-speaking forensic colleagues in the scientific, legal, law enforcement and social science sectors. The organizing committee also helped to recruit speakers and participants from outside the field of forensic genetics to represent their respective countries.

The symposium was organized in four sections of two hours each, and extended over two days. Participants were emailed a program booklet with the schedule and short biographies of all the invited speakers and presenters (see Annex 1).

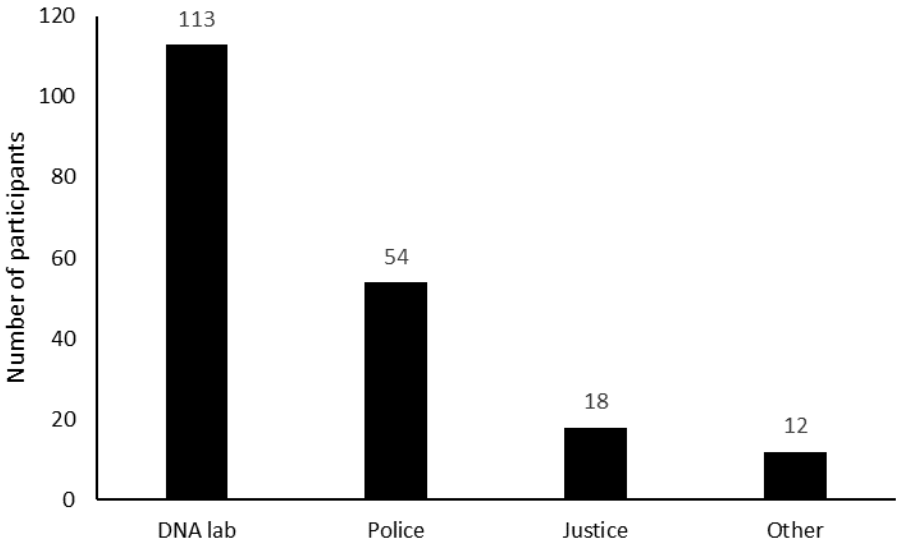

Figure 2. Affiliation of participants in the German-speaking Expert Symposium (DNA lab – any lab performing forensic DNA typing; Police – stakeholders from police force/investigators; justice – judges, lawyers, prosecutors; other – other affiliations).

Welcome and introduction into the VISAGE project

The symposium opened with short overview presentations to summarize the main outcomes of VISAGE, including a project overview, as well as details about the genotyping tools developed to predict appearance, ancestry, and age in the context of forensic DNA phenotyping. These were given by Manfred Kayser (Erasmus MC, VISAGE coordinator and WP2 lead), Walther Parson and Antonia Heidegger (WP3 lead, and postdoctoral fellow, respectively, IMU), and Peter Schneider (UKK, WP7 lead).

Session 1: Legal Aspects of Forensic DNA Phenotyping

Three presentations were given by legal scholars as well as experts from these countries (Reinhard Schmid, Vienna; Christian Linsi, Bern; Mark Zöller, Munich) providing an overview about the legal frameworks and current developments in their countries. Peter Schneider summarized the very heterogeneous legal landscape regulating FDP applications in the rest of Europe.

This combination of countries – Germany, Austria, and Switzerland – currently represents three very different situations regarding the implementation of FDP in casework. Germany introduced FDP in December 2019 by amending the Code of Criminal Procedures (section 81 of the *Strafprozessordnung*) to allow only the

prediction of eye, hair, and skin color as well as age[1]. In Austria, no restrictions on FDP exist after a revision of the national security police law (*Sicherheitspolizeigesetz*) to adjust it to EU's General Data Protection Regulation in 2018. Finally, Switzerland is in the process of preparing a major revision and extension of the "DNA Profile Act" (*DNA-Profil-Gesetz*) to introduce FDP covering the prediction of pigmentation traits, biogeographic ancestry, and age. At present, it is expected that these changes will be adopted in the course of next year. As a direct impact of the symposium, Peter Schneider was invited as an external expert based on his track recording on FDP research within and outside the VISAGE project, to testify in a hearing of the law committee of the Swiss *Ständerat*, one of two chambers of the Swiss parliament, in August 2021.

Session 2: Societal Aspects of Forensic DNA Phenotyping

To introduce this topic, Barbara Prainsack (WP5 lead, KCL) summarized the main outcomes of the VISAGE work on legal, ethical and societal aspects using FDP in casework prepared during the first three project years (see scientific publications, and consortium reports published on the VISAGE website[2]).

This was followed by a round table discussion with high-level participants addressing numerous aspects of the impact of FDP on the society in general, affected minority groups, suspects, victims, and their relatives. Contributors were: Nina Amelung from the Institute for Social Science (ICS), University of Lisbon; Alexander Lang from the Institute of Advanced Studies, Vienna, and co-author of the "TA Suisse" study[3] that analysed the impact of FDP in the context of the planned legislation in Switzerland; Veronika Lipphardt from Science and Technology Studies at the University College Freiburg; and Dieter Sturma, the director of the German Reference Centre for Ethics in Biological Sciences at the Institute for Science and Ethics, University of Bonn.

Nina Amelung presented findings from an interview study that she carried out in the time period prior to the change of the German law in 2019 on the expectations regarding the introduction of FDP in Germany (results were published recently)[4]. She reported that there is an awareness for the need to balance expectations regarding opportunities and risks, considering the needs for public security and protection of

[1] Schneider PM, Prainsack B, Kayser M. The use of Forensic DNA Phenotyping in predicting appearance and biogeographic ancestry. Deutsches Arzteblatt International 2019;116:873-880. DOI: 10.3238/arztebl.2019.0873

[2] https://www.visage-h2020.eu/#reports

[3] https://www.ta-swiss.ch/dna-analyse

[4] Nina Amelung & Helena Machado (2021) Governing expectations of forensic innovations in society: the case of FDP in Germany, New Genetics and Society, DOI: 10.1080/14636778.2020.1868987

privacy, including the risk of discrimination of minority groups. She also summarized proposals by the forensic community emphasizing the need for specialized FDP training for police investigators, as well as to introduce a national ethics board for approving FDP in suitable police investigations[5].

Alexander Lang made clear that FDP has to be assessed in its societal context. As it is based on a scientific approach, one could argue that this is a neutral information. However, he disagreed with this view and made clear that FDP cannot be separated from its impact on society. The introduction and use of new technologies is a trust-based process, and if the trust by potentially affected minorities into the actions of the state is already compromised then there is no doubt that FDP implementation must be sufficiently sensitive to consider these dependencies. He also noted that participants in our panel discussion were white middle-aged Europeans only, and did not include contributors from minority or non-European communities. B. Prainsack and P. Schneider pointed out that extensive efforts were made to recruit contributors from minority groups (including for interviews in the context for VISAGE WP5 publications).

Veronika Lipphardt raised the issue that the German Parliament has never carried out a technology impact assessment on forensic DNA technologies. She claimed that an impact assessment is still missing from the VISAGE activities, creating potential pitfalls, including the reliability of FDP predictions[6]. (NB: The VISAGE reports do include a societal impact assessment; see D5.2[7]). She also pointed to a lack of expectation management regarding the FDP applications and raised the question whether this has been adequately addressed within VISAGE, including examples where FDP did not provide useful or even misleading results. This includes the need for introducing a more specific expectation management by VISAGE. At the same time, she acknowledged the quality of the information provided on the VISAGE website, which includes a detailed multi-language FAQ section addressing controversial FDP topics. Furthermore, she pointed to the need to establish trust between investigating authorities and potentially affected minority groups.

Finally, Dieter Sturma emphasized that a central misunderstanding exists when it comes to an assessment of ethics in the context of FDP. Numerous statements in the

[5] Zieger, M., Roewer, L. Plädoyer für eine nationale Ethikkommission für die erweiterte Forensische DNA-Analyse. Rechtsmedizin 29, 415–418 (2019). https://doi.org/10.1007/s00194-019-0328-0

[6] Pfaffelhuber P, Grundner-Culemann F, Lipphardt V, Baumdicker F. How to choose sets of ancestry informative markers: A supervised feature selection approach. Forensic Sci Int Genet. 2020; 46:102259. doi: 10.1016/j.fsigen.2020.102259.

[7] Samuel, G, Prainsack, B (2019) Societal, ethical, and regulatory dimensions of forensic DNA phenotyping. VISAGE Consortium. https://www.visage-h2020.eu/PDF/Delliverable_5.2_for_online_publication_vo1.pdf

FDP discussion, he argued, are carrying the label "ethics" without fulfilling the criteria for an ethical assessment. This includes epistemological aspects of cognitive sciences in particular for predictive statements. Furthermore, not only activities may have ethical consequences, but also the lack of a particular activity always comes with an ethical impact that must be taken into consideration. Thus, FDP applications must be carefully considered using a systematic ethical assessment. He also pointed out that in the ongoing critical discussion about introducing FDP, the role or perspective of victims and their families is largely missing. In this context, non-action (i.e. not using FDP to investigate a crime) is ethically relevant as well, as it has the potential consequence of missing an investigative method that may help to identify the perpetrator. Dieter Sturma also pointed out that he does not see an issue with using an FDP-based approach as a surrogate "witness" that includes the possibility of an outcome that may not be as reliable as hoped. He also stated that an adequate legal framework is essential to apply technologies for achieving acceptance by society.

Session 3: Future Perspectives of Forensic DNA Phenotyping

The last topic commenced with an invited presentation given by Ron Rintjema (Dutch Police, in charge of coordinating FDP investigations in the Netherlands) who reported about several high-profile cases from the last 20 years where FDP was applied successfully. The "Marianne Vaatstra" case from 1999 was instrumental to introduce FDP legislation in the Netherlands already in 2003 when most of the currently used DNA-based predictions were not yet available. This case demonstrated that the widespread assumption by the public that a young girl was raped and murdered by a person from a home for asylum seekers from the Middle East was completely misled. Based on Y-chromosomal ancestry prediction, it turned out in 2012 that a local farmer was the perpetrator [8]. An interesting aspect was the public debate that had accompanied this and another case illustrating opportunities and risks for using FDP in criminal investigations [9]. It was our impression that these examples from the Netherlands were very helpful to provide a realistic framework for this application, including the societal impact they have made.

Manfred Kayser continued the session by offering a technological perspective for finding and introducing new predictive FDP markers and methods currently under investigation. He made quite clear that efforts to improve the predictive power of the currently used features might not lead to significant enhancements. Complex traits such as body height or facial features would require investments into time and funding

[8] https://en.wikipedia.org/wiki/Murder_of_Marianne_Vaatstra
[9] Milica van Doorn 1992-2017: https://www.forensicinstitute.nl/news/news/2018/01/29/dna-match-in-milica-van-doorn-cold-case

currently is not available from public programs such as those covered by the EU. There is a clear discrepancy between the expectations described in the recent HORIZON calls and the level of funding offered. The effort required to develop such markers is completely underestimated, as the call text already expects DNA-based technologies to be ready for implementation into casework.

A final round table discussion on future perspectives was chaired by Katja Anslinger (Institute of Legal Medicine, Munich). In addition to Manfred Kayser, contributors to this session were Amade M'Charek (Department of Anthropology, University of Amsterdam), Reinhard Kreissl (Vienna Center for Societal Security – VICESSE, and chairperson of the VISAGE Ethics Advisory Board[10]), and Matthias Wienroth (Centre for Crime & Policing, Dept. of Social Sciences, Northumbria University, Newcastle upon Tyne).

Amade M'Charek's research covers important aspects of the history of race and population in science and criminalistics, and is currently funded by an ERC grant[11]. She presented and discussed the impact of the "Milica van Doorn" case, investigated 1992-2018 in the Netherlands[12]. In this case, Y-chromosomal DNA evidence pointed to a person of Turkish ancestry as the perpetrator, and the question was how to approach the Turkish community in the Netherlands to donate reference DNA samples for this investigation. Interestingly, 'Turkishness' as a quality that is assumedly shared in this community proved elusive. Instead, the police chose a highly individualized strategy of going door-to-door, talking to people, enabling them to participate right then and there by a simple swab, which in the end turned out to be effective. While it was feared that the 'community that is no community' would hesitate to participate in the DNA research, police officials were soon to learn that all requested men, except for the suspect, in fact participated without hesitation. The collectives mobilized and enacted through the very approach of the police was neither the genetic, probabilistic collectives of Y-chromosomal-testing, nor the dominant social imaginary in Dutch society of the Turkish ethnic group. Instead, police were dealing with a community consisting of different families with roots in Turkey and who were as citizens part of the Dutch society, and willing to help solve a brutal crime.

In conclusion, this case has provided a very good model in ethics of care. Not only the care and concern to solve a case, but also a care for society as a whole. Crucially, this requires a slow process of compiling relevant teams of experts, of being open to what is going on in society, and to approaching people of interest as good and equal citizens.

[10] https://www.visage-h2020.eu/#eab
[11] http://race-face-id.eu
[12] See footnote 9

Reinhard Kreissl summarized his work as chair of the VISAGE EAB. He started by clarifying that the VISAGE project had a very extensive Work Package (WP5) focusing also on ethics – which made the work of the EAB easier. Nevertheless, the role of the EAB has been different: Not to systematically assess the ethical dimensions of the technology under study, but to provide independent advice and guidance when ethical challenges come up within the project itself, and not with the technology more widely (the latter was in the focus of WP5). The high level of public attention to any kind of technologies that could give rise to, or be involved in, the discrimination of minorities, also affected the VISAGE project. Here, the role of the EAB has been to think through these challenges and to help to ensure that all practices comply with high ethical standards. R. Kreissl concluded that, from the perspective of an independent assessor, the project managed to deal with all ethical challenges without compromising ethical standards. He then offered insights into the outcomes of the VISAGE project in the context of his own research within VICESSE on biometric and other technologies[13], and the European Commission's approach toward security research more broadly. He concluded by emphasizing the importance of additional empirical and ethical research on FDP.

Matthias Wienroth offered his views on values and validations regarding the introduction of technological innovations in forensics. He pointed to three practical aspects of this process[14]. Firstly, reliability addresses the scientific basis including technical processes and quality/truthfulness of data, as well as sufficient capacities for a secure and appropriate use of forensic data and related information. Secondly, the aspect of usefulness and usability must include testing the limits of scientific and technological application, how success and efficiency can be quantified, which impact on society can be observed and potentially mitigated, and what contributions are obtained for a given criminal investigation. The third aspect addresses the legitimacy, i.e. who decides about applying a particular approach, how can these processes be made transparent and inclusive? What is the rationale for developing such technologies, considering all arguments in favor and against, how can good scientific practice be introduced and enabled? He suggested that value-based validations must be rapidly adaptable, interconnected, and have to allow for a pluralistic and inclusive participation of all affected players in these processes.

In the final roundtable discussion, numerous aspects were raised by both the presenters and the audience, such as technological aspects of DNA-based predictions including correlations between pigmentation and ancestry markers. A large number of questions were received addressing the forensic casework examples from the

[13] https://www.vicesse.eu

[14] M. Wienroth. Value beyond scientific validity: let's RULE (Reliability, Utility, LEgitimacy). Journal of Responsible Innovation 7, 2020, Sup. 1, 92-103, doi.org/10.1080/23299460.2020.1835152

Netherlands and their practical consequences. R. Rintjema emphasized the clear advantage of having a small group of investigators specialized in FDP cases with adequate practical knowledge and background in his country that helps dealing adequately and sensibly with each case. However, this model is practically impossible to implement in large federal states such as where police work is divided up into many independent organizations and departments. Still, the Netherlands may serve as a role model in this context.

Further questions addressed the best way forward for introducing an interconnected validation strategy for new technologies as outlined by M. Wienroth, and the mitigation of a "function creep" that may accompany the introduction of controversial new technologies. In the UK, a national Biometrics and Forensics Ethics Group as well as the Forensic Regulator exist to address these issues[15]. Of course, this should also include a technological impact assessment driven by parliamentary commissions as suggested by R. Kreissl. Thus, it was of course unfortunate that the German Code of Criminal Procedures was amended without considering any options for such an assessment or including an ethics advisory group, as this is hard to implement once the law has been changed.

Finally, all speakers emphasized the need to collect the applications and outcomes of FDP-based investigations to provide a database for improving processes and outcomes. This is planned for the FDP amendments to the DNA Profile Act in Switzerland, but is practically impossible to implement in large federal countries such as Germany where the member states have independent control over police and the judiciary.

Last but not least, application outcomes are not yet available in the German-speaking countries as these technologies still need to be implemented in casework laboratories. This may take quite some time as the implementation requires processing time and funding that is not yet available, including the need for laboratory, technical and software training (such as those initiated in the VISAGE Train-the-Trainers Workshop).

[15] https://www.gov.uk/government/organisations/biometrics-and-forensics-ethics-group; https://www.gov.uk/government/organisations/forensic-science-regulator

3 French-speaking Symposium

The VISAGE French-speaking Symposium took place on September 21, 2021 through a fully online experience using the WebEx platform due to the COVID-19 outbreak. The organizing committee who organized the symposium and moderated the symposium consisted of Dr. François-Xavier Laurent (Interpol), Dr. Clémence Hollard and Dr. Caroline Bouakaze (Service National de Police Scientifique, SNPS; formerly INPS).

The symposium program composed of three main sessions (Annex 2) was sent to all registered participants and included the following sessions:

- Session 1: Scientific aspects of forensic DNA phenotyping
- Session 2: Regulatory, ethical and societal aspects of forensic DNA phenotyping
- Session 3: A new investigation tool: Feedback from law enforcement officers and magistrates

The French symposium was briefly introduced by Eric Angelino, Director of the SNPS, welcoming all participants via a pre-recorded video. Then the VISAGE project was presented by Peter Schneider (Institute of Legal Medicine at the University Hospital of Cologne and WP7 leader) and the main results of the VISAGE project were presented by Clémence Hollard and Caroline Bouakaze, members of the VISAGE project at SNPS.

Sessions 1 and 2 were composed of presentations from forensic scientists in both public and private laboratories, and stakeholders who were personally invited by the organizing committee. All speakers took part in a roundtable discussion at the end of their respective session in order to discuss their experience and answer questions raised by attendees.

Session 3 was less formal and welcomed a more interactive discussion throughout. Law enforcement officers and magistrates who have already implemented FDP during their investigations were invited to present their casework, expectations and opinion with this new technology.

During the symposium, 13 speakers including experts from science, law, social sciences, police officers, and judges shared their experiences. All presentations and discussions were in the French language.

Regarding the distribution of the symposium, a flyer announcing the event was created and disseminated through multiple online channels. It was spread through the French Police intranet, sent to the French National School for the Judiciary (Ecole

Normale de la Magistrature) that trains future French and foreign judges and prosecutors, and proposed as a training day to the current French magistrates. It was also distributed internationally via the Interpol network and posted on the social network LinkedIn.

An online registration via a Google form was required to attend the event. A total of 259 persons registered online. All French-speaking countries were represented in both EU and non-EU member states, including Canada and North African countries (Figure 3). Connections from Asia and the Americas were also present on the day (Figure 4).

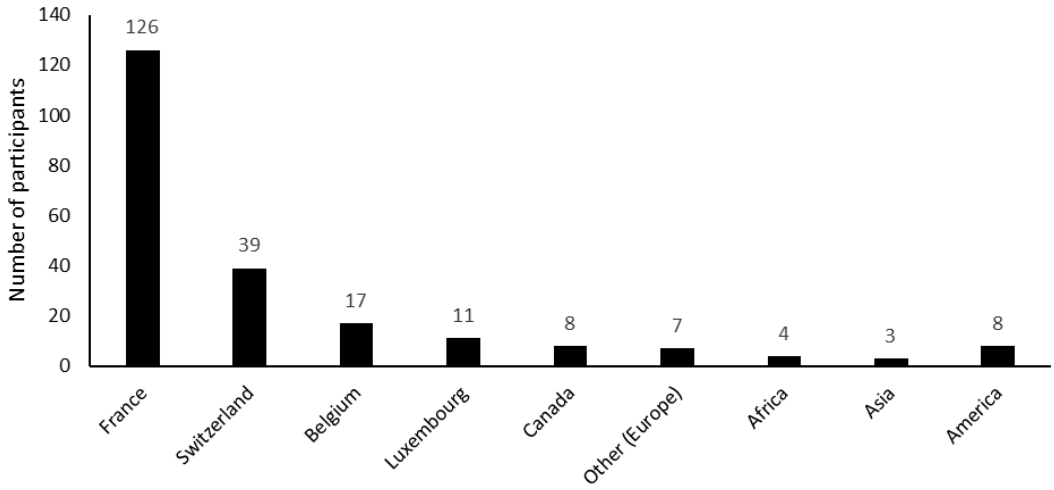

Figure 3. Participants in the VISAGE French-speaking Symposium grouped by region.

Figure 4. Countries represented by participants in the VISAGE French-speaking Symposium.

A majority of the registrants were affiliated with policy and judiciary systems, public and private forensic laboratories, and academic universities (Figure 5). On September 21, the day of the Symposium, 182 online connections were counted, noting that an even greater number of individual participants were present due to multiple participants connecting to the event from the same computer.

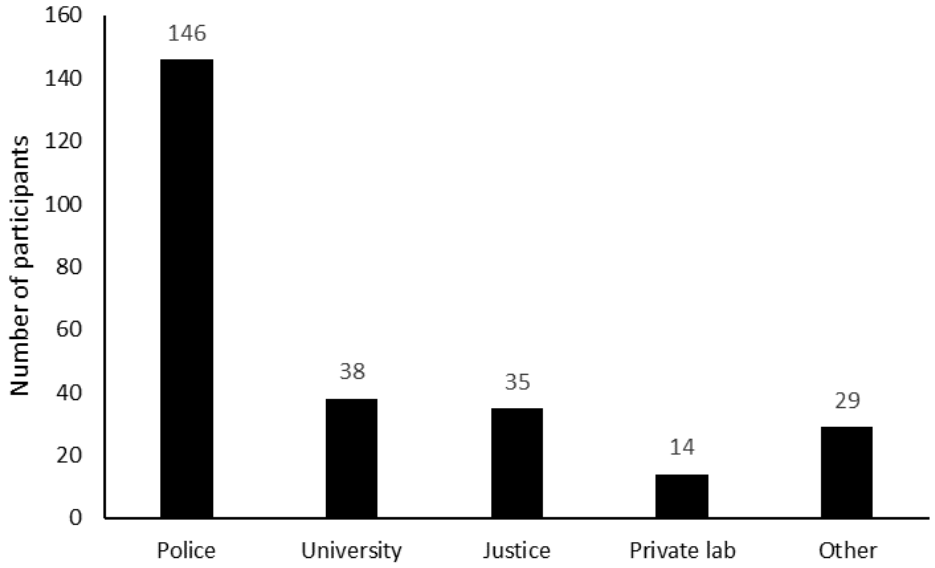

Figure 5. Affiliation of participants in the VISAGE French-speaking Symposium.

Session 1: Scientific aspects of forensic DNA phenotyping

The first session of the French Symposium had the objective to present the scientific aspects of forensic DNA phenotyping. Since France is probably the only French speaking country whose legal framework allows DNA phenotyping, this session was targeted at forensic scientists from three different organizations in France to present how DNA phenotyping was developed and used in their respective laboratories.

The first speaker, Marie-Gaëlle Le Pajolec from the Institut Génétique Nantes Atlantique (IGNA) presented the development of DNA phenotyping in her laboratory. Long before the authorization of DNA phenotyping by the courts in 2014, the IGNA had already made the first morphological predictions in 2006. Under the leadership of its founder, Jean-Paul Moisan, the experts had developed a "geo-genetic orientation test" or "test d'orientation géo-génétique (TOGG)" [16]. This made it possible to define the origin of an individual from non-coding DNA sequences since the analysis of coding sequences was prohibited at the time. However, faced with the outcry and accusations of circumvention of the law, IGNA had preferred to stop. Although no case was solely solved by DNA phenotyping, the combination of this technique with familial DNA database searches helped to bring intelligence to police officers in charge of criminal investigations.

[16] Vailly, J. (2016) The Politics of Suspects' Geo-Genetic Origin in France: The Conditions, Expression, and Effects of Problematisation, BioSocieties, 12 (1), 66-88

The second speaker was the Chef d'Escadron Amaury Pussiau from the Institut de Récherche Criminelle of the French Gendarmerie. He presented how his institute tested several FDP techniques, including HIrisPlex-S and the ancestry panel from Thermo Fisher Scientific. Based on his experience, he emphasized the need for reporting laboratories to present their results as statistical results (percentage of probability of each potential outcome). He insisted that the representation of prediction of ancestry results using a world map and highlighting the region from where the owner of the DNA trace originated from (heat map) could lead to false assumptions of the perpetrator's nationality. At the IRCGN, DNA phenotyping is often used in conjunction with facial reconstruction. DNA phenotyping can help to obtain information (e.g. eye color, hair color) which can then be given to the anthropologist in charge of the facial reconstruction to provide the most accurate face prediction.

The third speaker, Caroline Bouakaze from the French Forensic Police (SNPS) presented the different solutions used in their laboratory. This included the 46 ancestry-informative marker (AIM) kit for ancestry inference, which was developed by researchers from the Universities of Santiago de Compostela and Porto; the HIrisPlex kit for eye and hair color prediction, developed by researchers from the Erasmus MC University, Rotterdam; and the FASTplex kit, a phenotyping kit developed internally which helps to predict skin color, the presence of freckles, and premature male baldness pattern.

DNA phenotyping has been applied to 65 criminal investigations since 2015, from which the great majority of cases are linked to rape or murder. C. Bouakaze presented the results from two criminal cases which were prominently reported in the media. DNA phenotyping, coupled to familial searches in the French forensic DNA database helped to reduce the list of suspects and accelerate the identification of the suspect.

To conclude the session, Clémence Hollard from the French Forensic Police (SNPS) presented both the Basic and Enhanced Tools developed in the course of the VISAGE project. She also presented the software developed by VISAGE to facilitate the interpretation of results.

The first session ended with a roundtable discussion where participants could ask questions to the speakers. Several points were raised including the cost of a DNA phenotyping analysis (about 1000-2000€), the type of DNA traces that could benefit from DNA phenotyping (with emphasis on the difficulty of handling DNA mixtures), and which externally visible characteristics (EVCs) could be available in the future. All the speakers confirmed that we are only at the dawn of DNA phenotyping and that laboratory staff need to be properly trained in statistics to be able to interpret and correctly report the predictions.

Session 2: Regulatory, ethical and societal aspects of forensic DNA phenotyping

The second session had the objective to present the regulatory, ethical and societal aspects of forensic DNA phenotyping. The first three speakers mapped the legal and regulatory landscapes related to FDP in France, Belgium, and Switzerland. The legal situation in France was presented by Elsa Supiot, senior lecturer in Private Law at the Sorbonne University, Paris. She is leading research focused mainly on the legal aspects of scientific techniques, in particular, genetic tests. In France, there are no legal restrictions regarding FDP. FDP was considered forbidden until a court case decision in 2014 and is currently practiced by private and public forensic laboratories. However, some issues still remain unresolved and were the main points of discussion following this presentation. This included which morphological traits should be allowed considering ethical issues, reliability of FDP results, data storage issues, different types of casework, and by whom these analyses should be ordered.

The legal situation in Belgium was presented by Bertrand Renard, researcher at the Department of Criminology of the National Institute of Forensic Science and Criminology (INCC), Belgium, and Professor at the School of Criminology of the Catholic University of Louvain. As a professor of criminology and a legal expert, his work focuses on the use of science and technology in criminal justice as well as on the practices of forensic techniques. FDP is not permitted by law in Belgium and is not practiced as the current law forbids the analysis of coding regions. The only attempt of FDP use in Belgium concerns the investigation of the "Brabant Killers", a major crime in the country during the 1980s. Some ideas to help the legislators to have an informed parliamentary reflection were proposed. In particular, it was proposed to restructure the law by recognizing two investigative purposes: (i) human identification by DNA analysis and (ii) guiding of an ongoing investigation. FDP is not an identification tool and therefore fits into the second purpose.

The legal situation in Switzerland was presented by the lawyer Philippe Bronnimann, deputy head of the direction domain of police and identification systems, Federal Department of Justice and Police (Fedpol). In Switzerland, the law is currently in revision to legalize FDP. As in the two other countries, it was a major crime in the country that triggered this evaluation of FDP and prospective change in law. At the end of 2020, the Federal Council proposed a draft project law to the Parliament. In this draft, a definition of FDP was given, listing the specific traits that are allowed to be analyzed, and it is not permitted to analyze traits linked to an individual's personality or disease risks. It proposed to limit the use of FDP to major crimes and to DNA testing for mass screenings. The same questions as those presented by B. Renard for Belgium also need to be addressed in Switzerland (e.g. different types of crimes, who should be responsible for ordering FDP analysis, etc.). After the Parliament's law

adoption, the technical and scientific requirements of FDP analyses should be discussed in collaboration with the main stakeholders and end users.

Societal issues regarding FDP were presented by Joëlle Vailly, sociologist and research director at CNRS and a member of the Institute for Interdisciplinary Research on Social Issues, France. She conducts research in both sociology and life sciences, and coordinated the "Genetic files and witnesses" project supported by the National Research Agency (2015-2019). In her presentation she presented the results of this project based on 35 interviews with scientific stakeholders and stakeholders in the criminal justice and police systems, as well as a review of the literature. The majority of the interviewed individuals agreed that EVCs like eye, hair and skin colors fell into the public domain. However, the prediction of biogeographical ancestry is more debated as it is linked to the personal history of an individual.

This session concluded with a summary of WP5 of the VISAGE project, presented by C. Bouakaze. She mapped the legal and regulatory landscape of FDP in other European countries (deliverable 5.1 of the VISAGE project[17]), the main challenges for the ethically and socially responsible implementation of constructing composite sketches from DNA in forensic applications (deliverable 5.2 of the VISAGE project[18]) and major recommendations to address these challenges (deliverable 5.3 of the VISAGE project[19]).

During the roundtable discussion that ended this session, the following points were discussed:

- There is a real need to create a specific legal framework regarding FDP in each country;
- As law revision takes time, the legislators should ask the right questions before making their decision and take into account the different issues highlighted by the various stakeholders;
- To avoid a gap between the processes implemented in law, scientific, and technical sectors, a delegation from the Parliament to the Government could be done through an overseeing body;
- To avoid discrimination against minority communities, FDP results should not be communicated to the general public;
- Many general issues regarding FDP are also encountered for facial recognition based on video surveillance (e.g. discrimination, data storage, who should order such technical analyses, etc.);

[17] https://www.visage-h2020.eu/PDF/Deliverable_5.1_for_posting_online_DECEMBER_2018.pdf
[18] https://www.visage-h2020.eu/PDF/Delliverable_5.2_for_online_publication_vo1.pdf
[19] https://www.visage-h2020.eu/PDF/Recommendations_for_website.pdf

- Since the legal status of the DNA sample is different among countries, this presents a potential conflict in the conservation of the DNA extract for FDP and other secondary analyses.

The final discussion addressed the role of the EU regarding FDP. It was highlighted that the VISAGE project gives important guidelines and safeguards raised by researchers.

Session 3: A new investigation tool: Feedback from police officers and magistrates

The third and final session of the French Symposium had the objective to present criminal investigation cases where FDP was implemented during the investigation and to get feedback from law enforcement officers and magistrates that ordered the analyses.

The session was opened by Michel Noyer, judge in Lyon, France, who ordered the FDP analysis in a serial rape case and had it validated in 2014 by the highest French legal body, the Court of Cassation [20]. He presented the casework and explained his motivations to use this investigative tool. Finally, the rapist was caught in action and, thus, FDP was not required in this particular investigation. Nevertheless, FDP has been applied to criminal investigations in France since this court decision. The questions raised following this presentation included whether the prediction of other traits, especially body height and stature, could be reliably predicted. However, scientific participants agreed that the current knowledge on the genetic determinants of those traits are still insufficient.

The French judge Ophélie Martin presented two forensic cases in which she ordered FDP analysis. The first case concerned a violent robbery in a jewelry store. The FDP analysis performed on DNA found on the seat belt of the stolen vehicle, which had been used by the perpetrator, indicated that the contributor of the DNA was most likely of admixed biogeographical ancestry with African and European components. The suspect also probably had a dark skin tone, black hair, and brown eyes. However, eyewitnesses clearly described a European perpetrator with blue eyes. FDP revealed that the DNA found on the seat belt was not relevant to this case, which enabled an end to this false lead. The second case concerned a rape case where the DNA of interest was found on papillary traces on a beer bottle. However, FDP analysis could not be successfully performed on this biological substrate. This emphasized that FDP requires high quantity and quality DNA, which is often not feasible from touch DNA.

[20] https://www.courdecassation.fr/en (arrêt de la Cour de Cassation n° 3280, du 25 juin 2014)

The brigadier-chief of police, François Richard from the Criminal Squad in Paris, France, presented three different cases. In the first case, stolen objects were found within a specific community that suggested an African individual was responsible for the theft. However, based on FDP, it was revealed that the contributor of the DNA found on the stolen objects was probably not of African origin; thus, it was in favor of a false testimony. A familial DNA search was carried out in parallel and individuals whose phenotype corresponded to the FDP predictions were primarily targeted. In the second case, the same investigation strategy was applied which reduced the investigation time and helped the police to identify a rapist. Familial DNA searching was coupled with FDP analysis with the primary focus on a particular suspect group that shared the genetic ancestry and externally visible characteristics corresponding to the FDP predictions. In this particular case, the rapist was likely of Asian biogeographical origin. The last case concerned a homicide or suicide case. Based on accord of the Prüm Convention for police data exchange, it was revealed that a DNA profile of interest matched to a trace DNA profile that had been stored in a national DNA database of another country. This foreign trace DNA profile was observed following clashes between indigenous individuals and individuals of African origin. Interestingly, FDP results showed that the contributor of the DNA profile of interest was likely of African origin. The investigation is still ongoing and investigators have approached the foreign authorities in order to have more information about individuals involved in these fights.

The last speaker was Franck Crispino who, after a career in the French Gendarmerie, is now the Director of the Forensic Science Research Laboratory at the University of Quebec at Trois-Rivières, and researcher at the International Center for Comparative Criminology and at the Research in Experimental and Social Thanatological Sciences site, Canada. Based on his previous investigations, experience and current fundamental research on the interpretation of traces, clues and evidence, he provided a more nuanced view of FDP use in criminal investigation cases. He highlighted that, in addition to being an expensive technique, FDP effectiveness is not certain and results from the probabilistic predictions can lead to false investigative leads. How to be sure that these uncertainties are correctly understood by the investigators? Could the FDP results be statistically combined to other recognition techniques by facial approximation such as those based on video-protection systems? He highlighted the requirement of a strong interaction between the law enforcement officer who requests the FDP analysis and the forensic DNA expert who provides the written report.

Concluding remarks on the VISAGE French-speaking Symposium

The French-speaking VISAGE Symposium was the first international event for French-speaking countries where the questions related to DNA phenotyping could be raised and discussed. The presentations generated a lot of constructive discussion during the event and were well received overall by those who attended. In particular the broad international participation both of presenters and audience was not expected by the organizers, but turned out to generate a lot of impact among the participants.

4 Spanish and Portuguese-speaking Symposium

The VISAGE Spanish and Portuguese-speaking Symposium was held in the Degree Hall of the Law School of the Universidade de Santiago de Compostela (USC) on the 24th of September 2021 and livestreamed through the Microsoft Teams video meeting application. It was organised by the Forensic Genetics Unit of the Forensic Science Institute at USC, a group in close relation with experts from police, national institutes of forensic science, the judicial system, and forensic labs in not only Spain and Portugal, but also various countries in Latin America (Figure 6). The VISAGE Spanish and Portuguese-speaking Symposium was delivered in a hybrid modality, with face-to-face/in-person and online participation. The number of in-person participants was dependent on the COVID-19 restrictions in place at the time of the symposium, and therefore, indication of participant attendance preference was mandatory on the online registration form.

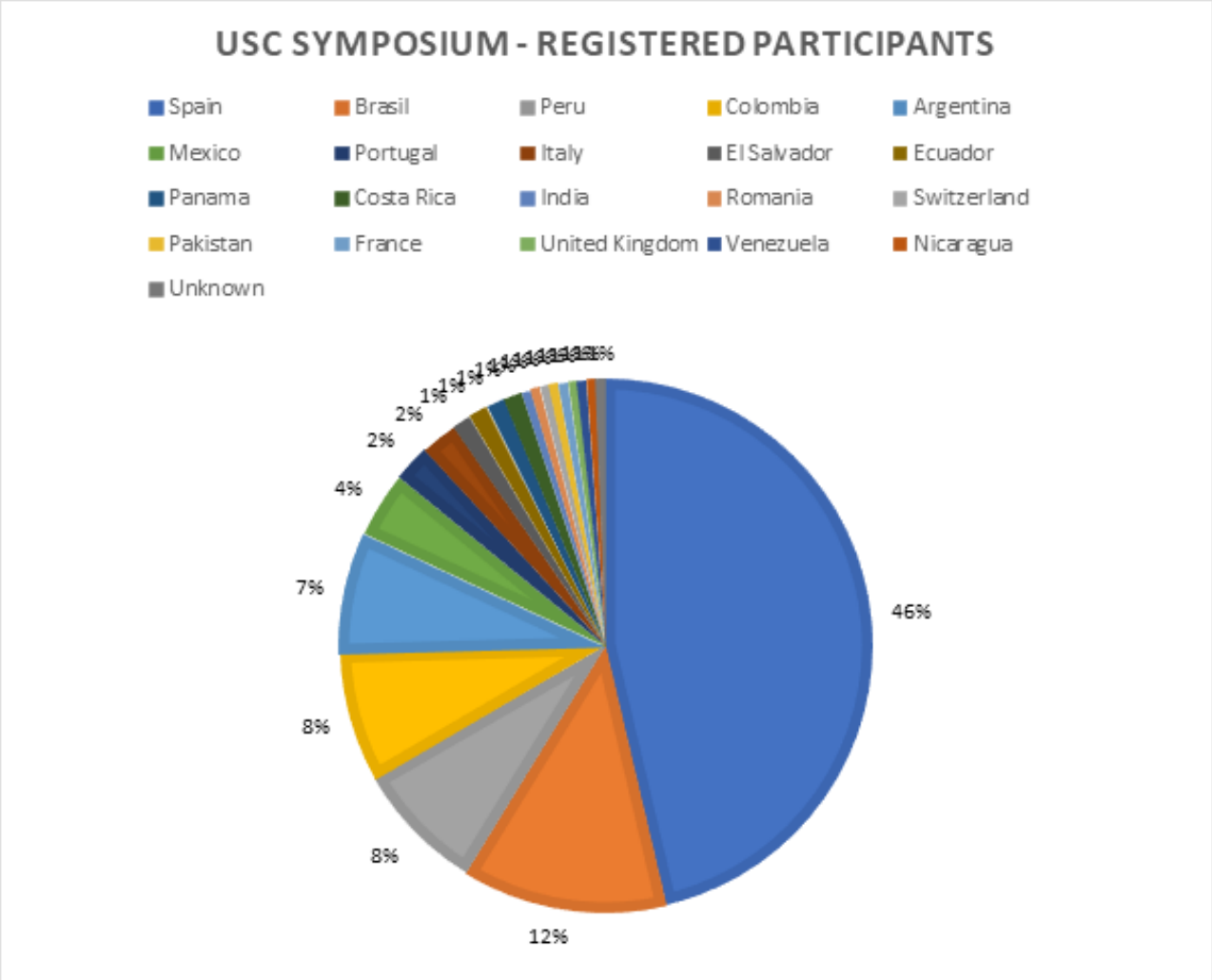

Figure 6. Countries represented by participants in the VISAGE Spanish and Portuguese-speaking Symposium.

The symposium held in Santiago de Compostela was received with great interest, underlined by the high number of registered participants (177) from 20 different countries, mainly Spanish and Portuguese speaking areas (Figure 7). Regarding the affiliation of the registered participants, most were from "Public or private DNA laboratory" (including university laboratories, and National Institutes of Toxicology and Forensic Science). Other affiliations include "Police", "Justice", "University" and "Other" (Figure 8).

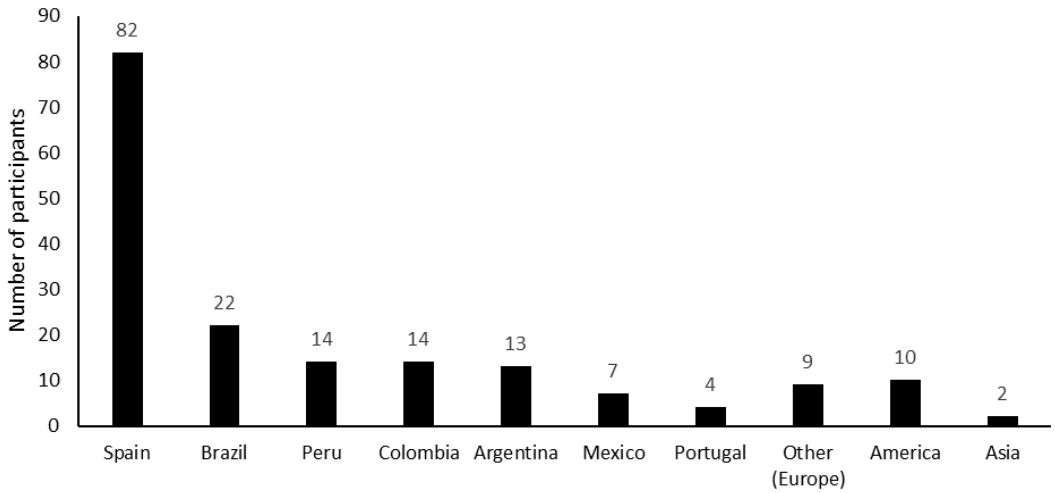

Figure 7. Participants in the VISAGE Spanish and Portuguese-speaking Symposium grouped by region.

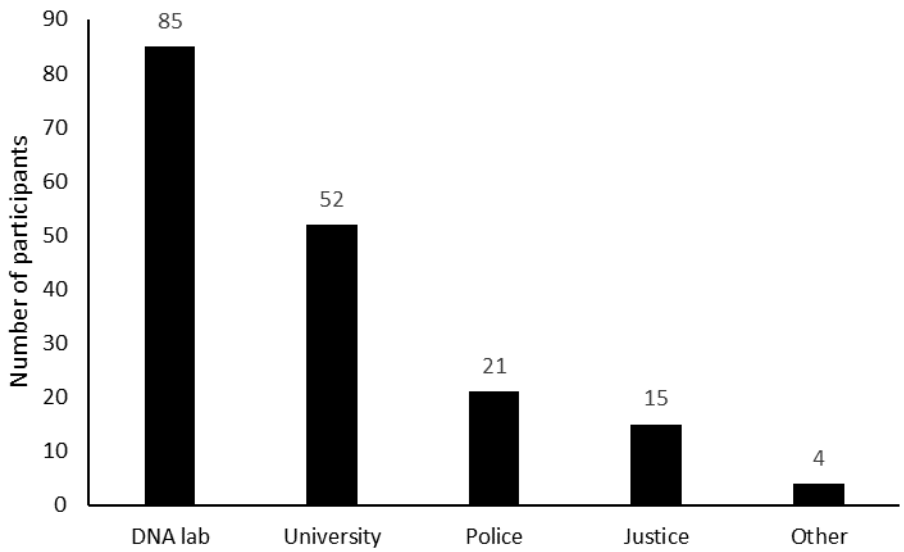

Figure 8. Affiliation of participants in the VISAGE Spanish and Portuguese-speaking Symposium.

Format of the symposium

The symposium programme was divided into two sessions: The morning session was devoted to developing the scientific background of Forensic DNA Phenotyping (FDP), with special focus on the VISAGE tools; and the afternoon session was focused on the legal and ethical aspects of FDP. The USC VISAGE group invited experts from forensic genetics-related areas to enable an interdisciplinary debate on the FDP topic. As the main languages used for the event were Spanish and Portuguese, experts from both Spain and Portugal were selected. The presentations by the leader of WP7, Peter M. Schneider, were given in English.

The proposed symposium program was distributed among prominent societies related to the forensic genetics field, including Grupo de Habla Española y Portuguesa de la International Society for Forensic Genetics (GHEP-ISFG), Consejo General de Poder Judicial (CGPJ), Instituto Nacional de Toxicología y Ciencias Forenses (INTCF), and Centro de Estudios Jurídicos (CEJ) course. An email announcement to student and staff mailing lists in Law, Medicine and Biology faculties of the Universidade de Santiago de Compostela was also distributed. An online registration form for interested participants was prepared to collect information for both the symposium preparation and the follow-up analysis of the dissemination activity.

Five of the six non-local invited speakers preferred to attend the meeting in-person in Santiago de Compostela. The presentation by one of the invited speakers who could not attend in person was instead delivered online via a live video-stream. All the speakers were asked to prepare their presentations considering the wide interdisciplinary audience.

Peter Schneider from the University Hospital of Cologne and leader of VISAGE-WP7, together with Ángel Carracedo from Universidade de Santiago de Compostela and lead of the VISAGE Spanish-speaking Symposium organising committee, opened the symposium by welcoming all the participants and speakers, and summarized the VISAGE project objectives.

Morning session: Scientific aspects of forensic DNA phenotyping

María Victoria Lareu Huidobro, Director of the Forensic Science Institute at USC, chaired the morning scientific session of the symposium. After each session, participants were invited to participate in roundtable discussion where the debate was open to both speakers and participants.

Lourdes Prieto Solla from the Spanish National Police (Madrid), delivered an introduction to FDP as a tool for forensic casework, highlighting the state-of-the-art techniques currently employed. L. Prieto Solla presented the evolution of FDP that included an introduction into the use of mitochondrial DNA (mtDNA) and Y chromosome (Y-chr) haplotypes to infer ancestry. Thanks to her wide experience in the field, examples of cases were used to demonstrate the potential application of these analyses, but also underlined their limitations (i.e. mtDNA and Y-chr lineage markers can only provide partial information for female and male ancestry, respectively).

Following this introduction, the session was divided into the three main categories of FDP comprising of age estimation, prediction of externally visible characteristics (EVCs), and biogeographical ancestry (BGA) prediction of an unknown biological sample donor.

Ana Freire Aradas, postdoctoral researcher at USC, focused on the age estimation of the donor of biological evidence. Among the scenarios where age estimation can be useful to guide human identifications, it can also be used as a screening tool in mass disasters, forensic anthropology, and legal disputes. A. Freire Aradas started with the basics of DNA methylation analysis as the current preferred method for age prediction. Although the initial results were mainly achieved with blood samples, the speaker further elaborated on the present situation of age estimation studies in additional tissues (oral mucosa, saliva, semen, and bones). The features of the different age prediction models in the VISAGE Basic and Enhanced Tools were also summarized.

The prediction of EVCs was presented by Ana Mosquera Miguel, postdoctoral researcher at USC. This presentation explained the challenges of predicting complex traits, which include the small effects of a high number of genetic and environmental factors. The current situation of the prediction of pigmentation traits (eye, hair, skin, eyebrow colour, and the presence/absence of freckles) was described with a brief review of other traits that were not included in the VISAGE Enhanced Tool, such as body height and facial morphology. VISAGE tools and the interpretation of the results obtained with the predictions were also included.

María de la Puente Vila, postdoctoral researcher at USC, presented on the prediction of biogeographical ancestry (BGA), covering the analysis of specific autosomal DNA markers and variations among global populations. This included an overview of the genetic structure of human populations based on human evolutionary history, and the implications of biogeographical information in forensic casework. The VISAGE Basic

and Enhanced Tools for BGA were described with a focus on their ancestry-informative marker (AIM) composition and population differentiation.

Catarina Xavier, postdoctoral researcher at the Innsbruck Legal Medicine Institute and a member of the VISAGE team that led the optimisation and implementation of the prediction tools with Massively Parallel Sequencing (MPS) technology, attended the symposium virtually. Her presentation covered the design and validation of the two prototype tools (Basic and Enhanced) developed during the course of the VISAGE project. MPS was chosen due to its advantages of increased multiplex capacity, high throughput, and high sensitivity. Of the three FDP categories implemented in the tools (age, appearance, and ancestry), age analysis was performed separately from appearance and ancestry markers because of the quantitative approach required for bisulfite sequencing.

The Basic Tool (BT) includes 153 markers (EVC and AIMs) and 5 genes for age estimation in blood samples. The Enhanced Tool (ET) includes a larger set of 524 markers for EVC and ancestry analysis, with the inclusion of microhaplotypes, as well as X- and Y-chromosomal SNPs to the existing autosomal SNPs for ancestry analysis. Two different experimental assays have been developed for age prediction including both somatic cells (8 genes) and semen samples (13 genes). An average 5-year age prediction error range was obtained during the validation processes for both BT and ET.

During the morning session roundtable discussion with the session's speakers, questions were welcomed from both in-person and online participants. Particular questions of interest that were raised include worries about the extent of information available when DNA analysis is performed, the effect of the age of the donor on the prediction of several EVCs (e.g. hair colour), the current use of FDP for forensic police investigation in Portugal, the importance of the term "predictive markers", and the expected improvement of the predictions in the future (i.e. the construction of a facial composite sketch, the possibility to predict habits such as tobacco or alcohol consumption). Discussions around whether FDP can be used in exclusion arguments, doubts about the efficiency of EVCs considering the social trends on modifying a person's physical appearance (e.g. hair dyes), and the Native American representation in the VISAGE tools were also addressed.

Afternoon session: Ethical and legal aspects of forensic DNA phenotyping

The afternoon session on the ethical and legal aspects of FDP was chaired by Lourdes Prieto Solla. It commenced with a presentation by Peter Schneider with an overview

on the diverse legal frameworks of FDP in European countries. The three principal legislative scenarios of FDP use were described as: (i) explicitly or implicitly forbidden, (ii) specifically regulated by law, or (iii) not regulated and generally allowed. Supporting examples for each scenario were then given. P. Schneider also introduced the work developed within WP5 of the VISAGE project by Barbara Prainsack and Gabrielle Samuel on the societal, ethical, and regulatory dimensions of constructing composite sketches from DNA for forensic applications. Briefly, WP5 focused on the identification of the main challenges for the ethically and societally responsible implementation of the developed tools, the mapping of the legal and regulatory landscape, and the development of recommendations that enable the implementation of constructing composite sketches from DNA in forensic applications in an ethically and societally responsible manner.

Margarita Guillén Vázquez, judge in an Instruction Court in Santiago de Compostela (Spain), presented the legal aspects of the use of DNA analysis and FDP in Spain. Her talk started with the development of the Spanish legal regulation, which was accelerated by media pressures and international requirements, and highlighted the importance of the legal assistance of the detainee to sign the informed consent for the collection of biological samples. Regarding FDP in Spain, a reasoned judicial resolution is required for its application to a specific case, and must take into consideration the need, proportionality, and suitability of the analyses.

The legal aspects of FDP in Portugal were presented by Helena Machado, Professor of Sociology at the Universidade do Minho in Braga (Portugal). She is also head of the ERC-funded research project "Forensic Geneticists and the Transnational Exchange of DNA data in the European Union: Engaging Science with Social Control, Citizenship and Democracy"[21]. In Portugal, the legal situation is more restricted than in Spain, perhaps due to the lack of legal experts on DNA analysis, as in many other European countries. The responsibility for FDP use should not only be held by the geneticist and justice experts, but be open to public and interdisciplinary debate. Transparency is an essential aspect for the goals and limitations of FDP implementation to be understood. Improved communication between all parties should be encouraged.

Jaime Moreno Verdejo, General Attorney of the Spanish Supreme Court (Madrid), the body that creates jurisprudence, focused his talk on the probative value of FDP in court. Currently in Spain there is no jurisprudence, as the cases where FDP has been applied has not been presented in court. Any proof, to be valid as proof of charge, should not violate fundamental rights. J. Moreno Verdejo noted that DNA analyses

[21] https://cordis.europa.eu/project/id/648608

can be of great utility not only for proof of charge, but also for proof of discharge and for confirming the innocence of an individual or population group.

Judicial authorization for FDP analysis is required because of the current poor legal background, although other more serious aspects are performed without judicial authorization (e.g. inclusion of a suspect in the DNA database, checking of DNA against all other DNA profiles in Europe based on the contract of the Prüm Convention). Considerations about informed consent and individual freedom relating to mass screenings, and the fact that DNA analysis not only affects the donor of the sample but also their families, has also been made.

Rafaela Granja, postdoctoral researcher at the Universidade do Minho (Portugal), focuses her research on the ethical aspects of FDP. She described important differences between the standard DNA tests and FDP analysis, with particular focus on the importance of distinguishing between both goals (evidence *vs* intelligence). Potential risks can exist considering that established DNA tests tend to be accepted as faultless by the wider public. For FDP, there is a need for clear interpretations of the results, which are far from being absolute certainties, but rather are based on probabilities. Some recommendations were proposed for the appropriate use of FDP.

Finally, all speakers from the afternoon session were invited on stage for the roundtable discussion. The following topics were raised: The importance of DNA results as proofs of charge and discharge, the balance between the rights of the victims and the suspects, the ethical aspects of collecting and analysing abandoned or surreptitious samples (without the knowledge of the sample donor), the differences between collecting a fingerprint and a saliva/biological sample depending on the information that could be extracted.

5 Impact of the VISAGE expert symposia

The VISAGE expert symposia targeted professionals in the scientific, legal, and social sectors of forensic genetics so that all participants received a wide range of topics relevant for the field. The topic of FDP was studied from several points of view: forensic, legal, ethical, and societal aspects. It was beneficial for the participants to hear from those who had worked with FDP data in real life casework scenarios and learn from their experiences (both positive and negative). We expected an exchange between stakeholders who are familiar with this technique, those who plan to use it, and those who are still unfamiliar with these new technologies. Given the high number of questions asked live and using the chat function during the symposium days, the numerous emails received after each symposium, and requests for further training and wider broadcasts of the presentations, we believe that the objectives of the task 7.4 of the VISAGE project have been achieved.

Thanks to the funding from Horizon 2020, we were able to host this series of professional symposia which was attended in total by more than 500 individuals worldwide from more than 40 different countries. The VISAGE Consortium was able to disseminate the outcomes of the VISAGE project and raise the interest of the forensic communities in EU member states where DNA phenotyping is not yet available, but also in states where FDP is admissible, but where the new enhanced genotyping tools developed by VISAGE are not fully known in the local forensic genetic communities. We believe that this series of events was an important success and will benefit the stakeholders and end-users in many countries to better understand this technology and favor its implementation during the next few years. The results and the validation data, as well as the interpretation tools have been published in peer-reviewed journals. These references are available from the VISAGE website https://www.visage-h2020.eu.

6 Annexes

Annex 1: VISAGE German-speaking symposium program

VISAGE Fachsymposium 15.-16.06.2021

Bedeutung der forensischen DNA-Phänotypisierung in Wissenschaft und Gesellschaft

Ergebnisse des VISAGE EU-Projekts und deren Anwendung in der Kriminalistik

VISAGE
VISIBLE ATTRIBUTES THROUGH GENOMICS

Organisation:
Dr. Adelgunde Kratzer, Zürich; Prof. Barbara Prainsack, Wien; Prof. Peter M. Schneider, Köln

15. Juni 2021, 9:30 Uhr – 16. Juni 2021, 12:00 Uhr

Dienstag, 15. Juni 2021

9:30 – 11:30 Uhr	Begrüßung und Einführung in das VISAGE-Projekt Leitung: **Prof. Peter Schneider**
10:00 – 10:10 Uhr	**Prof. Manfred Kayser** *Erasmus MC University Medical Center, Rotterdam* Das "VISible Attributes through Genomics – VISAGE" Projekt
10:10 – 10:35 Uhr	**Prof. Manfred Kayser** Vorhersage von Aussehensmerkmalen
10:35 – 11:00 Uhr	**Prof. Peter M. Schneider** *Institut für Rechtsmedizin der Universität zu Köln* Vorhersage der biogeographischen Herkunft
11:00 – 11:25 Uhr	**Antonia Heidegger, MSc** *Institut für Gerichtliche Medizin, Medizinische Universität Innsbruck* Vorhersage des Alters
11:25 – 11:50 Uhr	**Prof. Walther Parson** *Institut für Gerichtliche Medizin, Medizinische Universität Innsbruck* Das "VISAGE Enhanced Tool" als Werkzeug für die erweiterte DNA-Analyse
11:50 – 12:00 Uhr	**Diskussion**
12:00 – 12:30 Uhr	***Pause***

- 1 -

12:30 – 14:30 Uhr	Rechtliche Aspekte der DNA-Phänotypisierung Leitung: **Dr. Adelgunde Kratzer** *Institut für Rechtsmedizin, Universität Zürich*
13:00 – 13:20 Uhr	**Mag. Dr. Reinhard Schmid** *Bundesministerium für Inneres, Bundeskriminalamt, Wien* Rechtlicher Rahmen in Österreich
13:20 – 13:40 Uhr	**Dr. Christian Linsi** *Eidgenössisches Justiz- und Polizeidepartement (EJPD), Bundesamt für Polizei (fedpol), Abt. Recht, Bern* Rechtlicher Rahmen in der Schweiz
13:40 – 14:00 Uhr	**Prof. Mark Zöller** *Institut für Digitalisierung und das Recht der Inneren Sicherheit (IDRIS), Ludwig-Maximilians-Universität München* Rechtlicher Rahmen in Deutschland
14:00 – 14:15 Uhr	**Prof. Peter M. Schneider** *Institut für Rechtsmedizin der Universität zu Köln* Rechtlicher Rahmen in weiteren europäischen Ländern
14:15 – 14:30 Uhr	**Diskussion**
14:30 – 15:00 Uhr	***Pause***
15:00 – 16:30 Uhr	Gesellschaftspolitische Aspekte der DNA-Phänotypisierung
15:00 – 15:20 Uhr	**Prof. Barbara Prainsack** *Institut für Politikwissenschaft der Universität Wien* Ergebnisse des VISAGE-Projekts (WP5)
15:20 – 16:30 Uhr	**Round Table Diskussion** (mit kurzen Eingangs-Statements) Leitung: **Prof. Barbara Prainsack** **Dr. Nina Amelung** *Institute for Social Science (ICS), University of Lisbon* **Mag. Alexander Lang, MSc** *Institut für Höhere Studien, Wien, und TA Suisse-Studie* **Prof. Veronika Lipphardt** *Science and Technology Studies, University College Freiburg* **Prof. Dieter Sturma** *Institut für Wissenschaft und Ethik, Universität Bonn,* *Deutsches Referenzzentrum für Ethik in den Biowissenschaften*
16:30 Uhr	Ende Tag 1

Mittwoch, 16. Juni 2021

10:00 – 12:00 Uhr	Ausblick: Zukunft der erweiterten DNA-Analyse Leitung: **Prof. Katja Anslinger** *Institut für Rechtsmedizin der Ludwig-Maximilians-Universität München*
10:00 – 10:20 Uhr	**Ron Rintjema** *Nationale Niederländische Polizei* Application of forensic DNA phenotyping in the Netherlands: A case report
10:20 – 10:40 Uhr	**Prof. Manfred Kayser** *Erasmus MC University Medical Center, Rotterdam* Neue DNA-Marker zur Phänotypisierung
10:40 – 12:00 Uhr	**Round Table Diskussion** (mit kurzen Eingangs-Statements) **Prof. Amade M'Charek** *Department of Anthropology, University of Amsterdam* **Prof. Manfred Kayser** *Erasmus MC University Medical Center, Rotterdam* **PD Dr. Reinhard Kreissl** *Vienna Center for Societal Security – VICESSE* **Dr. Matthias Wienroth** *Centre for Crime & Policing, Dept. of Social Sciences,* *Northumbria University, Newcastle upon Tyne*
12:00 Uhr	Ende des Symposiums

Unser Fachsymposium wendet sich an Akteure und Anwender aus Kriminalistik, Justiz und Gesellschaft, um über den aktuellen Stand des VISAGE-Projekts in allgemein verständlicher Form zu informieren und die fachliche und öffentliche Diskussion in Deutschland, Österreich und der Schweiz zu befördern.

Dieses Projekt wird gefördert durch das HORIZON 2020 Research and Innovation Programme der Europäischen Union mit dem Vertrag Nr. 740580.

http://www.visage-h2020.eu

Annex 2: VISAGE French-speaking symposium program

Horizon 2020 - Projet No. 740580

VISAGE

PROGRAMME SYMPOSIUM

L'impact scientifique et sociétal du phénotypage ADN en criminalistique

Résultats et applications du projet européen VISAGE

21 Septembre 2021 - En distanciel

9h00 Ouverture de la salle WebEx et accueil des participants

9h20 Introduction générale - présentation du programme

9h30-9h40 **Le projet "VISible Attributes through GEnomics - VISAGE"**
Pr. Dr. Peter Schneider, Institut de Médecine Légale de Cologne, Allemagne

SESSION 1
LE PHÉNOTYPAGE EN CRIMINALISTIQUE : ASPECTS SCIENTIFIQUES

9h45-10h05 **Retour d'expériences sur l'utilisation des techniques de "portrait-robot génétique"**
Dr. Marie-Gaëlle Le Pajolec, Institut Génétique Nantes Atlantique (IGNA), France

10h05-10h25 **Le portrait-robot génétique, illusion ou réalité ?**
Chef d'Escadron Amaury Pussiau, Institut de Recherche Criminelle de la Gendarmerie Nationale (IRCGN), France

10h25-10h45 **Portrait Robot Génétique (PRG) - Retour sur 6 années d'expérience au Laboratoire de Police Scientifique de Lyon**
Dr. Caroline Bouakaze, Service National de Police Scientifique (SNPS)
Laboratoire de Police Scientifique de Lyon, France

10h45-11h15 **Présentation des outils développés dans le cadre du projet VISAGE**
Dr. Clémence Hollard, Service National de Police Scientifique (SNPS)
Laboratoire de Police Scientifique de Lyon, France

11h15-12h00 **Table ronde avec l'ensemble des intervenants**

12h00-13h10 **Pause déjeuner**

Session 2
Le phénotypage en criminalistique : aspects législatifs, éthiques et sociétaux

13h15-13h35 **Cadre juridique du portrait-robot génétique en France**
Dr. Elsa Supiot, École de droit de la Sorbonne - ISJPS UMR 8103, France

13h35-13h55 **Réflexions sur l'encadrement législatif du portrait-robot génétique en Belgique**
Pr. Dr. Bertrand Renard, Institut National de Criminalistique et de Criminologie (INCC), UCLouvain, Belgique

13h55-14h15 **Aspects législatifs du portrait-robot génétique en Suisse**
Philippe Brönnimann, Office Fédéral de la Police fedpol, Suisse

14h15-14h35 **L'apparence et la vie privée génétique : une analyse sociologique**
Dr. Joëlle Vailly, Institut de recherche interdisciplinaire sur les enjeux sociaux (IRIS), France

14h35-14h50 **Aspects législatifs du portrait-robot génétique dans les autres pays européens et recommandations générales issues du projet VISAGE**
Dr. Caroline Bouakaze, Service National de Police Scientifique (SNPS)
Laboratoire de Police Scientifique de Lyon, France

14h50-15h30 **Table ronde avec l'ensemble des intervenants**

15h30-15h45 **Pause**

Session 3
Un nouvel outil d'aide à l'enquête : retours d'expériences d'enquêteurs et magistrats

15h45-17h00 **Table ronde**
Intervenants :
Ophélie Martin, Vice-Présidente placée, Tribunal Judiciaire de Lyon, France

François Richard, Brigadier-chef de Police, Brigade criminelle Direction Régionale de la Police Judiciaire, Paris, France

Pr. Dr. Frank Crispino, Chercheur au Centre international de criminologie comparée et au Site de Recherche en Sciences Thanatologiques, Directeur du Laboratoire de recherche en criminalistique de l'Université du Québec à Trois-Rivières, Canada

17h00 **Clôture du symposium**

Sur inscription : https://bit.ly/3fMh6PZ

Contacts

Dr Caroline Bouakaze et Dr Clémence Hollard : snps-lps69-dip-visage@interieur.gouv.fr
Dr François-Xavier Laurent : fx.laurent@interpol.int

POLICE SCIENTIFIQUE

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Annex 3: VISAGE Spanish and Portuguese-speaking symposium program

VISAGE
Horizon 2020
Proyecto Nº. 740580

El impacto del fenotipado forense por ADN en la ciencia y la sociedad

Resultados del proyecto VISAGE EU y sus aplicaciones

USC

Fecha: 24 de septiembre de 2021 (viernes), 9:30-13:15 y 15:00-18:45
Lugar de celebración: Facultad de Derecho, Santiago de Compostela
Formato del evento: presencial y online
Público objetivo: profesionales relacionados con el campo forense (sistema judicial, fuerzas de seguridad del estado, laboratorios de genética forense...), estudiantes
Idioma: castellano, portugués e inglés

Programa:

9:30-9:45 Bienvenida – *Peter Schneider*

9:45-13:15 Sesión de mañana: ***Forensic DNA Phenotyping (FDP)*: aspectos científicos**

- Moderadora de la sesión - *María Victoria Lareu*

9:45-10:30 Introducción: aplicaciones de FDP - *Lourdes Prieto*

Estado actual del fenotipado forense por ADN y su aplicación a casos forenses:

10:30-11:00 Estimación de la edad - *Ana Freire Aradas*
11:00-11:30 Características visibles externas - *Ana Mosquera*
11:30-11:50 Descanso
11:50-12:20 Origen biogeográfico - *María de la Puente*
12:20-12:50 VISAGE basic y enhanced tool - *Catarina Xavier*
12:50-13:15 Mesa redonda y preguntas

15:00-18:00 Sesión de tarde: **FDP: aspectos éticos y legales**

- Moderador de la sesión - *Ángel Carracedo*

15:00-15:40: Ethical and legislative landscape in EU - *Peter Schneider*
15:40-16:10 Aspectos legales en España - *Margarita Guillén*
16:10-16:40 Aspectos legales en Portugal - *Helena Machado*
16:40-17:00 Descanso
17:00-17:30 Valor probatorio - *Jaime Moreno*
17:30-18:00 Aspectos éticos FDP - *Rafaela Granja*
18:00-18:30 Mesa redonda y preguntas

18:30-18:45 *Clausura - Ángel Carracedo*