

EUROPEAN DNA PROFILING GROUP (EDNAP) MEETING

Zürich, Switzerland

24 September 2008

Host: Walter Bär.
Chairman: Niels Morling.

A list of participants is attached.

Welcome

Walter Bär welcomed members to Zürich.

Update on publications

Niels Morling

The article with the results of the collaborative SNPforID SNP exercise testing a 29 SNP-multiplex by SNaPshot analysis is now published in *FSI: Genetics* 2008; 2/3: 176-183. <http://dx.doi.org/10.1016/j.fsigen.2007.12.002>.

Update on exercises and other activities

EMPOP

Walther Parson

Walther Parson presented an update on EMPOP with regard to new population data and a new search tool. A new batch of population data from Asia (> 5,000 sequences) was added to EMPOP. The majority of the new sequences included the raw data that was the basis for the “forensic data set”. This data set has also been used to describe the quasi-median network of the Asian etalon. The network option is a useful tool for *a posteriori* examination of new population data with respect to data quality and nomenclature. Nomenclature of sequence data stored in EMPOP follows the mitochondrial phylogeny including rules as outlined by Bandelt and Parson (*Int J Legal Med* 2008; 122: 11-21). In order to prevent omission of identical sequences in a database search due to nomenclature differences, EMPOP now uses a string-based search tool that compares all the involved sequences as position-free nucleotide strings. This new query tool is immune to different notations as far as finding identical sequences in EMOP is concerned and thus builds a safeguard for the query of difficult sequences.

Collaborative exercise on AB MiniFiler

Peter Gill

The results of the second round of the Minifiler exercise was presented and discussed (presentation attached). Seven forensic DNA samples from Copenhagen and Cologne were investigated in four laboratories. The samples were partly degraded and some showed inhibition in PCR in SE-Filer or SGM Plus STR typing. The samples were tested with the Minifiler and the SGM Plus kits using both 28 and 30 cycles. The results showed that the MiniFiler kit gave more complete results compared to SGM Plus regarding the total number of alleles detected. Lindsey Welch will make a draft for a short publication.

Updates from other groups

ENFSI

Ingo Bastisch

Ingo Bastisch reported on the activities of the various subgroups (presentation attached).

ICMP

Rene Huel

The ICMP is involved in a DVI operation in collaboration with Interpol and local authorities to identify persons missing from “Typhoon Frank” in the Philippines. The majority of deaths

occurred as a result of the sinking of the passenger ferry "Princess of the Stars". Approximately 800 persons at the ferry were killed and approximately 500 persons in another vessel were killed. The ICMP sent staff to the city of Cebu to assist Interpol and the Philippine authorities with PM sampling, AM collection using ICMP kits and AM forms, shipping of samples from the Philippines to Sarajevo (proper COC), and data entry into ICMP's fDMS (forensic data management system) software. The fDMS enabled the targeting of cases with deficient reference donors for additional collections. The ICMP is processing both AM and PM samples and performing matching. All DNA match reports are then disseminated to the proper authorities in the Philippines by an ICMP staff member. To date, approximately 1,600 reference samples and 312 bone samples have been DNA profiled and matched. The ICMP will maintain staff in the Philippines until the end of the year or as long as required. The majority of missing persons from the passenger ferry remain on board the vessel. A recovery operation is planned to take place next month to retrieve all remaining bodies on board. Samples from the bodies will be sent to the ICMP for profiling and matching.

The ICMP has recently hosted visits to its facilities from the Australian Federal Police and Interpol. The ICMP encourages visits from other labs and organizations that have an interest in the work of the ICMP.

The ICMP is organizing the ENFSI DVI training course 11-13 November 2008 in Vienna.

The ICMP has begun a 3 years capacity building project in Iraq. This is a two-parts grant that includes training of Iraqi nationals in forensic archeological and anthropological disciplines and training of national staff in large scale DNA identifications. Samples from both family references and bone will be processed by the ICMP until the Iraq system is able to function autonomously.

Australia/New Zealand

Ingo Bastisch

Ingo Bastisch participated in the last meeting of the BSAG meeting in Auckland, 30 July – 1 August 2008 and shared his notes from the meeting (attached).

University of Central Florida

Jack Ballantyne

Jack Ballantyne presented the research activities of the group (presentation attached as a pdf-file).

AFDIL

Niels Morling

After the closure of the EDNAP meeting, Niels Morling downloaded an e-mail from Mike Coble, who was unable to attend. Mike Coble sent his best wishes and the attached summary of the activities of AFDIL.

NIST

John Butler

A PowerPoint presentation from John Butler was shown by Niels Morling (attached as pdf file).

ISFG

Niels Morling

The ISFG has pointed at Angel Carracedo as member of the DNA Specialist Group of the Forensic Science Regulator in England and Wales, and Angel Carracedo was appointed .

The board of the ISFG is establishing a new DNA Commission that will address the problems concerning the interpretation of weak DNA results from small amounts of DNA.

The ISFG received an answer from William Linton, the owner of Promega, to a letter from the ISFG in which Promega was asked to explain the licensing policy regarding the STR patents held by Promega. A copy of the letter is attached as a pdf-file.

SNPforID

Niels Morling

The GenPlex SNP exercise is being prepared by Copenhagen with the support of AB. The critical reagents, known controls and some challenging samples with degraded DNA will be sent out from Copenhagen – most likely in November 2008. Presently, 13 of 18 invited laboratories have accepted to participate.

Interpol

Richard Scheithauer

Richard Scheithaur presented a summary of the 17th DNA MEG Meeting including reports on new members (Neeraja Gotru, Indian police service, Ahmed Al-Marzooqi, Abu Dhabi Police), INTERPOL's DNA Gateway and Database, INTERPOL Global DNA Survey 2006 – Interim Report, Revision of the Interpol Handbook on DNA Data Exchange and Practice, Review of the INTERPOL DVI Guide, Review on the ISSOL by the Group, Training DVD “DNA in the DNA Era” Follow up.

Likelihood ratios when allelic dropout is possible

Roberto Puch-Solis

The presentation of Roberto Puch-Solis is attached.

Abstract

In a criminal case the forensic scientist has the task of assigning a weight to DNA evidence that supports either the prosecution proposition (H_p) or the defence proposition H_d :

H_p : The suspect is the donor of the crime stain,

H_d : Someone else unrelated to the suspect is the donor of the crime stain.

DNA evidence typically consists of a pair of profiles. One of them is a well-amplified profile obtained from the suspect from whom a genotype can be determined. The second profile is obtained from a crime stain and it usually contains a small amount of amplifiable DNA. A known phenomenon occurring in this case is that of allelic dropout: one of the alleles of a heterozygous donor fails to amplify.

The weight of evidence assigned to a comparison for a locus where the suspect is heterozygote and the crime stain contains only one peak is a likelihood ratio (LR) calculated using the 2p-rule. This LR is conservative with respect to a LR calculated with a binary model in conjunction with thresholds.

In this talk another LR is calculated from a model that takes into account peak height. This LR is in many situations smaller than the one calculated with the 2p-rule. It corroborates that the LR given by the 2p-rule is not conservative with respect to a model that considers dropout (Buckleton & Triggs, 2006). The peak height model also provides a connection of dropout and the height of the allele present in the crime stain. It will be further developed to consider stutters and extended to mixtures.

Reference: J. Buckleton, C. Triggs (2006), Is the 2p rule always conservative?, Forensic Sci Int 159: 206-209.

Commercialization, IP, peer review, etc.

Schmitter/Gill

Aspects of the consequences of commercialization of forensic genetics were discussed. The members agreed that the methods used in forensic genetic investigations must be open to the community and that ‘black-boxes’ are unacceptable. Already in the first ISFG DNA recommendation from 1989, this was made clear.

Patents on STR PCR multiplex kits

Schneider/Gill

The situation was discussed. The secretary thanked EDNAP members, who helped with old information concerning PCR multiplexing of STRs in connection with the challenge of an application for a patent on multiplex PCR analyses of STRs. A letter from Promega to the board of the ISFG concerning patents on STRs is attached as indicated above.

Future activities

Suggestion for a tissue-specific mRNA exercise

Cordula Haas

Zürich offered to organize an exercise. It was decided to do a simple exercise to identify blood. Zürich will circulate a protocol, primers and samples to be investigated with PBGD (porphobilinogen deaminase), SPTB (beta-spectrin), and HBB (haemoglobin-beta). The following labs indicated that they would like to participate: Birmingham, Bratislava, Brussels, Coimbra, Cologne, Copenhagen, Innsbruck, Lyon, London, Münster, Orlando, Oslo, Santiago, Slovenská Ľupča, Strasbourg, The Hague, Wiesbaden, Zürich. The lab in Zürich expects to be send the critical reagents and the samples in November or December 2009.

EDNAP web site update (www.isfg.org/EDNAP)

Peter Schneider

Peter Schneider showed photos from previous EDNAP meetings and asked members to send photos to him so that he can publish them on the web site.

Any other business

Hermann Schmitter, who is one of the founders of EDNAP, will retire soon. Niels Morling thanked Hermann Schmitter for his continuous interest in EDNAP and his many contributions to the group. At the EDNAP dinner in the evening, members thanked Hermann Schmitter for his work and wished him all the best. Niels Morling showed a video with photos and videos from previous EDNAP meetings and presented it to Hermann Schmitter.

The 20 years anniversary of EDNAP was celebrated at the EDNAP dinner in the evening. Founder members told about the first EDNAP meetings and the first achievements of EDNAP.

Next meeting

The next EDNAP meeting will be held in conjunction with the next ENFSI DNA Working Grouping Meeting in Porto– most likely at the end of April 2009.

Closing of the meeting

The meeting closed with sincere thanks to Walter Bär and his co-workers.

Attachments

- List of participants
- Presentations of
 - Walther Parson: Summary of EMPOP activities
 - Peter Gill: MiniFiler Exercise v. 2
 - Ingo Bastisch: Summary of ENFSI activities
 - Ingo Bastisch: Notes concerning Australia-New Zealand
 - Jack Ballantyne: Forensic biology research at the National Center for Forensic Sciences
 - Michael Coble: AFDIL Update
 - John Butler: Update on NIST projects
 - William Linton: Letter to the ISFG concerning patents on STRs, etc.
 - Roberto Puch-Solis: Likelihood ratios when allelic dropout is possible.