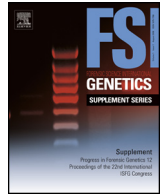


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Editorial

Proceedings of the 26th International ISFG congress



The 26th Congress of the International Society of Forensic Genetics (ISFG) returned to Europe to the historical town of Krakow, the cultural capital of Poland. Founded in 1364 Jagiellonian University, which hosted the Congress, is one of the oldest universities in the world. Its modern Auditorium Maximum conference venue could easily accommodate over 700 attendees and exhibitors as well as the 10 preceding workshops and the meeting of the Spanish and Portuguese Speaking ISFG working group (GHEP). The Congress president Dr. Tomasz Kupiec represented the second institution responsible for the organisation of this event, the Institute of Forensic Research in Krakow.

Continuing a valuable tradition of the ISFG congresses, we here present the congress proceedings consisting of two page extended abstracts for work presented during the 26th meeting. This supplementary edition of FSI: Genetics has been evaluated and accepted for publication by the President of the ISFG, Professor Mechthild Prinz and the local Congress organizers, Dr. Tomasz Kupiec and Dr. Wojciech Branicki.

The Congress workshops were attended by as many as 553 participants and covered various important forensic genetics topics including training on the ISFG affiliated database systems YHRD and EMPPOP, as well as probabilistic genotyping software, next generation sequencing, basic STR interpretation, forensic mRNA typing and transfer studies, forensic DNA phenotypic markers, and ethical, legal and social issues in forensic genetics. The Congress itself, from the 2nd to the 5th of September, featured a diverse scientific program with six key note speakers, 63 oral presentations and 423 posters covering mostly human forensic genetics, but also wildlife applications and molecular pathology. The meeting's welcome reception featured the 2013 ISFG scientific prize winner, Peter Gill, from the University of Oslo, Norway, one of the co-authors of the seminal 1985 Nature article on DNA fingerprinting for sexual assault samples. His talk summarized the last 30 years in forensic genetics.

The morning session keynote speaker was Bruce Weir from the University of Washington in Seattle speaking about expanded population data sets that are now available for characterization and substructure analysis of autosomal and gonosomal human DNA polymorphisms. The expansion of whole genome sequences made possible by more powerful next generation or massively parallel sequencing methods provides large numbers of single nucleotide variants and combinations of genetic signals to be used for forensic applications. Massively parallel sequencing was also the topic for the rest of the morning session, with several speakers presenting their data on forensically relevant markers like STR loci. The session was closed out by a panel discussion on sequencing

based STR nomenclature where prominent experts in the field presented and discussed several different approaches. The second key note speaker of the day was Chris Tyler-Smith from the Wellcome Trust Sanger Institute in Cambridgeshire UK who discussed the 1000 Genomes Project, CEPH Human Genome Diversity Panel and the Genome Diversity in Africa Project and their potential for exploring human diversity and track human migration. The remaining day was dedicated to haplotype markers and concluded with the language based ISFG Working Group meetings and the gala dinner.

One of the world's foremost experts in epigenetics, Manel Esteller from the Institute of Biomedical Research in Barcelona, Spain was the morning key note speaker on Thursday September 3rd. Epigenetic information is of increasing interest in forensics, for example when investigating the biological age of an individual or identifying cell types. Dr. Esteller's talk was followed by several research presentations on methylation detection assays for human age determination and the remainder of the session was dedicated to DNA variation used to predict hair morphology or human pigmentation. Thursday afternoon saw a combination of talks dealing with legal and policy issues and another scientific session on body fluid identification. The keynote speaker was one of leading voice on ethics and forensic genetics, Robin Williams from Northumbria in Newcastle upon Tyne in the UK. His talk was entitled "When global science meets local legality: deliberating and regulating forensic genetics" where he advocated for careful consideration of the proportionality of genetic privacy intrusions versus the usefulness of DNA as an investigative tool. Please refer to these proceedings for an extended abstract of his presentation.

The final keynote speaker Tomasz Grzybowski from the Nicolaus Copernicus University in Bydgoszcz in Poland presented data on full mitochondrial genome haplotypes from three major Slavic speaking populations. Again this project benefitted from the increased speed of complete mitochondrial DNA sequencing. The rest of this session covered more scientific data on local Slavic speaking populations and introduced an important Polish project on the identification of victims of the two totalitarian regimes occupying Poland during and after World War II. The remaining Friday was dedicated to recent results regarding DNA mixture interpretation, evaluation of touch DNA evidence, and DNA methods in forensic entomology and soil characterization and the Saturday session covered several collaborative quality exercises organized by ISFG working groups like the Spanish and Portuguese Speaking Working Group and the German Speaking Working Group or other organizations like NIST. These exercises support technology transfer

and implementation and can serve as quality review and trouble shooting triggers.

The ISFG awarded the price for best oral presentation to Athina Vidaki from King's College in London, UK for her talk on "DNA methylation-based age prediction using artificial neural networks and next generation sequencing". Alicia Haines from Flinders University in Adelaide, Australia was awarded best poster for "Finding DNA using fluorescent in situ detection". Congratulations to the winners. We would also like to take the opportunity to thank the many people that supported the congress. The Congress could not have been a success without our sponsors and the efforts of multiple people including the ISFG board members, local organising committee members and many local volunteers. The ISFG and local scientific committees included:

Leonor Gusmao, DNA Diagnostics Laboratory, State University of Rio de Janeiro, Brazil

Wolfgang Mayr, Division of Blood Group Serology, Medical University of Vienna, Austria

Niels Morling, Section of Forensic Genetics, Department of Forensic Medicine, Faculty of Health and Medical Sciences, University of Copenhagen, Copenhagen, Denmark

Walther Parson, Institute of Legal Medicine, Innsbruck Medical University, Innsbruck, Austria, and Peter Schneider Institute of Legal Medicine, Medical Faculty, University of Cologne, Cologne, Germany

Overall the 26th Congress of the ISFG can be summarized as a successful endeavour with a rich array of quality posters and talks. Many of these presentations are included in the following proceedings with contributions coming from all over the world. We hope that the proceedings will provide a good source of useful information for the forensic community. As always they will be available through the ISFG website at <http://www.isfg.org/Publications/Congress+Proceedings>.

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