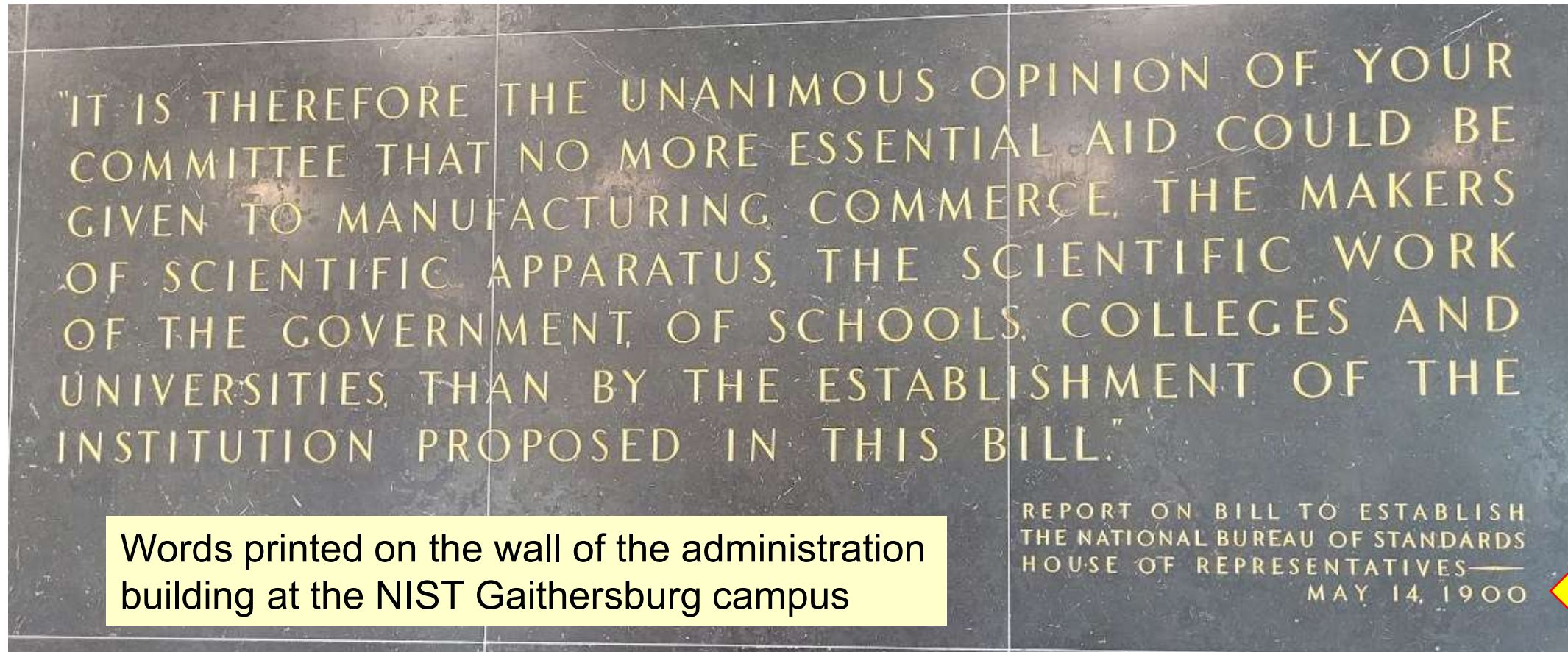


From George Washington's First State of the Union (January 1790)



- He emphasized: “**Uniformity in the Currency, Weights and Measures of the United States is an object of great importance, and will, I am persuaded, be duly attended to**”
- Washington encouraged “**the introduction of new and useful inventions from abroad, [and] the exertions of skill and genius in producing them at home**”
- He concluded: “...there is nothing, which can better deserve your patronage, than **the promotion of Science and Literature. Knowledge is in every Country the surest basis of public happiness.**”

Yet more than 110 years passed before the **National Bureau of Standards (called NIST since 1988)** was created to help with uniform weights and measures!



Words printed on the wall of the administration building at the NIST Gaithersburg campus

1900

This is a reminder that sometimes the government moves slower than desired...



Opening Ceremony
30 August 2022
Washington, DC



A “State of the Union” (or State-of-the-Field)

**Progress in Forensic Genetics
Over the Past Three Years:
Impact of ISFG and *FSI Genetics***

John M. Butler

ISFG President

A Previously Written “State of the Union”

Provided in *FSI Genetics*, volume 50 (January 2021)

Forensic Science International: Genetics 50 (2021) 102394

Contents lists available at [ScienceDirect](#)



ELSEVIER

Forensic Science International: Genetics

journal homepage: www.elsevier.com/locate/fsigen



ISFG update for FSI genetics

1. President’s message

By John M. Butler, ISFG President

Forensic Science International: Genetics is the official journal of the International Society for Forensic Genetics (ISFG). As part of this partnership with Elsevier, ISFG has the right to two pages for ISFG updates in the journal. We may use these pages more in the future to share information.

The ISFG secretary, Peter Schneider, prepares a wonderful newsletter twice a year – the most recent is from September 2020 (see <https://www.isfg.org/files/News0920.pdf>). Some of the information from this newsletter is included below. We are also delighted to recognize some newly published “Recommendations for personal identification analysis by forensic laboratories” prepared by the Italian Working Group (see information below by Loredana Buscemi).

Topics Covered

1. President’s message
2. **ISFG 2021 moved to 2022**
3. Virtual ISFG summer school in 2021
4. DNA-TrAC – keeping track of DNA transfer
5. Forensic Practitioner’s Guide to the Interpretation of Complex DNA Profiles
6. Recommendations published from the Italian Working Group

My State-of-the-Field Overview

1. Enabling Interconnectivity

- DNA databases and quality results depend on common allele nomenclature, core loci, commercial kits, reference materials, collaborative exercises, documentary standards, and other guidance documents
- **ISFG DNA Commissions and Working Group collaborative exercises**

2. Developing Technology

- New developments in recent years include improved DNA recovery, rapid DNA, NGS, PGS, IGG, phenotyping, and activity level reporting
- ***FSI Genetics* (official ISFG journal) has published 439 articles since ISFG 2019**

3. Sharing Knowledge & Promoting Science

- With conferences and publications, we see further “by standing on the shoulders of giants”
- **This week at ISFG 2022 we have 16 workshops, 62 talks, 262 posters**

These areas are the purpose of the International Society for Forensic Genetics

George Washington (State of the Union, 1790): “**Uniformity in ... Weights and Measures ... is an object of great importance**, and will, I am persuaded, be duly attended to.”

ENABLING Interconnectivity

The purpose of **ISFG DNA Commissions and Working Group Collaborative Exercises, Proficiency Testing, and Interlaboratory Studies**

ISFG DNA Commissions

<https://www.isfg.org/Publications/DNA+Commission>

Provide recommendations and considerations to enable interconnectivity and advance the quality of forensic DNA evidence

- Autosomal STRs and allele nomenclature
 - [Bär et al. 1994](#) allelic ladders & partial repeats (e.g., 9.3)
 - [Bär et al. 1997](#) motif choice & repeat nomenclature
 - [Parson et al. 2016](#) 8 considerations with sequence data
- mtDNA
 - [Carracedo et al. 2000](#) guidelines on QC, nomenclature, heteroplasmy, and interpretation
 - [Parson et al. 2014](#) 16 recommendations on sequencing, quality control, interpretation, and databases
- Y-STRs
 - [Gill et al. 2001](#) locus & allele nomenclature, allelic ladders
 - [Gusmão et al. 2006](#) repeat nomenclature, new loci
 - [Roewer et al. 2020](#) statistics and report information
- X-STRs
 - [Tillmar et al. 2017](#) 10 recommendations on use of X-STRs in kinship analyses, linkage, and statistical calculations
- DNA mixture interpretation and assessing evidence
 - [Gill et al. 2006](#) nine recommendations on mixture interpretation (e.g., LR vs. CPI)
 - [Gill et al. 2012](#) allele drop-in and drop-out using probabilistic methods
 - [Gill et al. 2018](#) formulation of propositions; investigator and evaluator roles
 - [Gill et al. 2020](#) activity level propositions
- Other topics
 - *DNA Polymorphisms*: [Brinkmann et al. 1989](#), [1992](#), [Bär et al. 1992](#)
 - *Disaster Victim Identification*: [Prinz et al. 2007](#) 12 recommendations
 - *Biostatistics in Paternity Testing*: [Gjertson et al. 2007](#)
 - *Non-human DNA*: [Linacre et al. 2011](#) 13 recommendations
 - *STRidER*: [Bodner et al. 2016](#) quality control of autosomal STR allele
 - *Software Validation*: [Coble et al. 2016](#) 16 recommendations and expectations

Current (Active) DNA Commissions

1. STR nomenclature with DNA sequencing information (building on STRAND efforts): *K. Gettings*
2. Phenotyping (building on VISAGE efforts): *M. Kayser*

Two Recent ISFG DNA Commission Articles

Forensic Sci. Int. Genet. (2018) 36: 189-202

DNA commission of the International society for forensic genetics: Assessing the value of forensic biological evidence - Guidelines highlighting the importance of propositions

Part I: evaluation of DNA profiling comparisons given (sub-) source propositions

Peter Gill^{a,b,*,1}, Tacha Hicks^{c,d,*,1}, John M. Butler^e, Ed Connolly^f, Leonor Gusmão^{g,h,i}, Bas Kokshoorn^j, Niels Morling^k, Roland A.H. van Oorschot^{l,m}, Walther Parson^{n,o}, Mechthild Prinz^p, Peter M. Schneider^q, Titia Sijen^j, Duncan Taylor^{r,s}

- Difference between **investigative and evaluative reporting** is explained
- Common pitfalls of **formulating propositions** are discussed
- **Challenges of low-level mixtures** are discussed

Forensic Sci. Int. Genet. (2020) 44: 102186

DNA commission of the International society for forensic genetics: Assessing the value of forensic biological evidence - Guidelines highlighting the importance of propositions. Part II: Evaluation of biological traces considering activity level propositions

Peter Gill^{a,b,*,1}, Tacha Hicks^{c,d,1}, John M. Butler^e, Ed Connolly^f, Leonor Gusmão^{g,h,i}, Bas Kokshoorn^j, Niels Morling^k, Roland A.H. van Oorschot^{l,m}, Walther Parson^{n,o}, Mechthild Prinz^p, Peter M. Schneider^q, Titia Sijen^j, Duncan Taylor^{r,s}

- Why, when and how to carry out evaluation given **activity level propositions** are addressed with examples
- Distinguishing between **results, propositions and explanations**

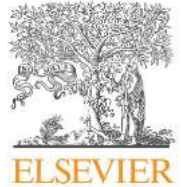
ISFG DNA Commission (2020) on Interpretation of Y-STR Results

Forensic Science International: Genetics 48 (2020) 102308

Contents lists available at ScienceDirect

Forensic Science International: Genetics

journal homepage: www.elsevier.com/locate/fsigen



DNA commission of the International Society of Forensic Genetics (ISFG): Recommendations on the interpretation of Y-STR results in forensic analysis



Topics covered include:

- Evaluation of Y-STR profiles
- Decision process for Y-STR interpretation
- Frequency estimation using population data
- Databases (*with 6 fundamental requirements*)
- Reporting guidelines (*with suggested wording*)
- Further considerations (reporting without frequency estimation, rapidly mutating Y-STRs, triage: aSTRs → Y-STRs → RM Y-STR panel)

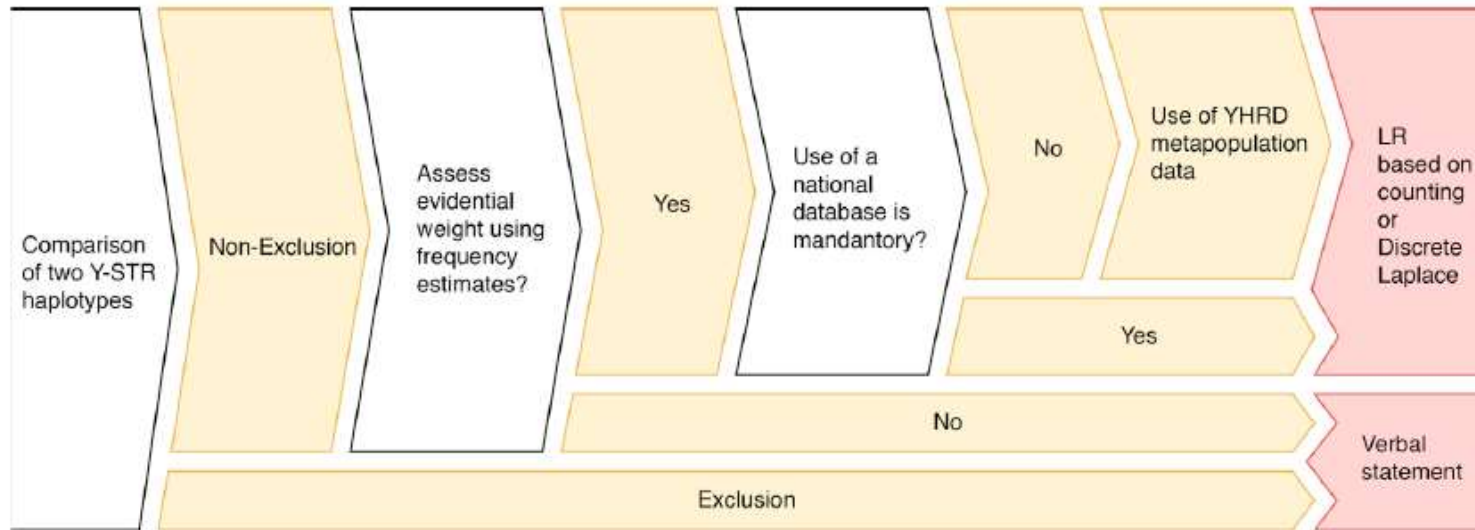


Fig. 1. Flow chart with successive decisions in Y-STR haplotype analyses.

Recommendations:

1. Use likelihood ratios (LRs) based on the Discrete Laplace approach or the augmented counting approach as the frequency estimation method
2. Include in the report information beyond the database result on the degree of relationship within the extended family and the suspect population, if known

ISFG Working Groups

<https://www.isfg.org/Working%20Groups>

1. [German](#)
2. [English](#)
3. [French](#)
4. [Italian](#)
5. [Spanish and Portuguese](#)
6. [Chinese](#)
7. [Korean](#)
8. [Japanese](#) (not active)
9. [CaDNAP](#)
10. [DNA Commission](#)
11. [EDNAP](#)
12. [Polish](#)
13. [Arabian](#)

- Defined **mostly by language to enable interconnectivity**
- Serve as an important forum for the exchange of information, and are quite helpful for dealing with special problems at national levels
- **Developed into platforms for quality control and proficiency testing exercises**



[Collaborative Exercises](#)
[Proficiency Tests](#)



[Working Commissions](#)
[Proficiency Tests](#)



[Relationship Testing](#)
[Proficiency Tests](#)



[Proficiency](#)
[Tests](#)

Collaborative Exercises & Interlaboratory Studies

(organized by various ISFG Working Groups or other colleagues)

Topic	Coordinators	Laboratories & Tests	Reference
Forensic applications of MPS	GHEP-ISFG	7 labs using Ion Torrent™ or MiSeq FGx® platforms	Barrio et al. 2020
X-STR mutation rates	GHEP-ISFG	16 labs; 1612 F/M/D trios	Pinto et al. 2020
Body fluid ID using MPS mRNA	EuroForGen/ EDNAP	9 labs; 16 stains; 35 cSNP markers	Ingold et al. 2020
Mock casework mRNA profiling	FoRNAP	7 labs; 16 stains	Salzman et al. 2021
DNA methylation-based age prediction and body fluid ID	Korean Speaking WG and others	12 labs; 2 assays for age prediction; 1 for body fluid ID	Lee et al. 2022
Age estimation from semen using quantitative DNA methylation	VISAGE	5 labs; 13 candidate CpG sites	Heidegger et al. 2022
Relationship Testing Proficiency Test	ESWG-ISFG	51 labs in 2021 (37 paper challenge, 47 wet exercise)	D. Kling talk at ESWG 2021

1. Barrio, P. A., Garcia, O., Phillips, C., Prieto, L., Gusmao, L., Fernandez, C., . . . Alonso, A. (2020). The first GHEP-ISFG collaborative exercise on forensic applications of massively parallel sequencing. *Forensic Science International-Genetics*, 49, 102391. doi:10.1016/j.fsigen.2020.102391
2. Pinto, N., Pereira, V., Tomas, C., Loiola, S., Carvalho, E. F., Modesti, N., . . . Gusmao, L. (2020). Paternal and maternal mutations in X-STRs: A GHEP-ISFG collaborative study. *Forensic Science International-Genetics*, 46, 102258. doi:10.1016/j.fsigen.2020.102258
3. Ingold, S., Dorum, G., Hanson, E., Ballard, D., Berti, A., Gettings, K. B., . . . Haas, C. (2020). Body fluid identification and assignment to donors using a targeted mRNA massively parallel sequencing approach - results of a second EUROFORGEN / EDNAP collaborative exercise. *Forensic Science International-Genetics*, 45, 102208. doi:10.1016/j.fsigen.2019.102208
4. Salzman, A. P., Bamberg, M., Courts, C., Dorum, G., Gosch, A., Hadrys, T., . . . Haas, C. (2021). mRNA profiling of mock casework samples: Results of a FoRNAP collaborative exercise. *Forensic Science International-Genetics*, 50, 102409. doi:10.1016/j.fsigen.2020.102409
5. Lee, J. E., Lee, J. M., Naue, J., Fleckhaus, J., Freire-Aradas, A., Neubauer, J., . . . Lee, H. Y. (2022). A collaborative exercise on DNA methylation-based age prediction and body fluid typing. *Forensic Science International-Genetics*, 57, 102656. doi:10.1016/j.fsigen.2021.102656
6. Salzman, A. P., Bamberg, M., Courts, C., Dorum, G., Gosch, A., Hadrys, T., . . . Haas, C. (2021). mRNA profiling of mock casework samples: Results of a FoRNAP collaborative exercise. *Forensic Science International-Genetics*, 50, 102409. doi: 10.1016/j.fsigen.2020.102409
7. Heidegger, A., Pisarek, A., de la Puente, M., Niederstatter, H., Pospiech, E., Wozniak, A., . . . Consortium, V. (2022). Development and inter-laboratory validation of the VISAGE enhanced tool for age estimation from semen using quantitative DNA methylation analysis. *Forensic Science International-Genetics*, 56, 102596. doi:10.1016/j.fsigen.2021.102596

George Washington (State of the Union, 1790): “the expediency of giving effectual encouragement ... to the introduction of new and useful inventions from abroad, [and] the exertions of skill and genius in producing them at home”

DEVELOPING Technology

A primary purpose with publication in scientific journals, such as *Forensic Science International: Genetics*, is to aid development of technology around the world

Forensic Genetics is Benefited by Developing Technology

- Investigations
 - Phenotyping and Ancestry Testing (VISAGE)
 - Investigative Genetic Genealogy (GEDmatch)
- Method Improvements
 - DNA recovery, extraction, quantitation, amplification chemistry
 - Process mapping, robotics, etc.
- Analysis
 - Massively Parallel Sequencing
 - Rapid DNA
- Interpretation
 - Probabilistic genotyping software for DNA mixtures
 - Activity level evaluations using DNA transfer studies

*These advances are typically **reported in the scientific literature** so that we can, as Isaac Newton famously stated, “stand on the shoulders of giants” to see further*

FSI Genetics Publications since ISFG 2019 (Prague)



**ISFG
PRAGUE**
9-13TH SEPTEMBER 2019
WWW.ISFG2019.ORG

18 volumes (18 issues)

439 articles



2019

[\(v38\)](#)

[\(v39\)](#)

[\(v40\)](#)

[\(v41\)](#)

[\(v42\)](#)

[\(v43\)](#)

2020

[\(v44\)](#)

[\(v45\)](#)

[\(v46\)](#)

[\(v47\)](#)

[\(v48\)](#)

[\(v49\)](#)

2021

[\(v50\)](#)

[\(v51\)](#)

[\(v52\)](#)

[\(v53\)](#)

[\(v54\)](#)

[\(v55\)](#)

2022

[\(v56\)](#)

[\(v57\)](#)

[\(v58\)](#)

[\(v59\)](#)

[\(v60\)](#)

[\(v61\)](#)

439 Articles Published in *FSI Genetics* between ISFG 2019 and ISFG 2022 (vol. 43 to vol. 60)

1. Aulbee, S. E., Hipp, M. J., Kennedy, S. R., & Weir, B. S. (2020). Analyzing population structure for forensic STR markers in next generation sequencing data. *Forensic Science International-Genetics*, 49, 102364. doi:10.1016/j.fsigen.2020.102364
2. Achenb, N., van Weert, A., Birk, M., van Leeuwen, T. G., Aalders, M. C. G., & van Dam, A. (2021). The compatibility of immunoblotting with STR profiling. *Forensic Science International-Genetics*, 52, 102485. doi:10.1016/j.fsigen.2021.102485
3. Adelfvaag, E., Qvick, A., Green, H., Kling, D., Gunnarsson, C., Jonsson, J., & Green, A. (2021). Technical in-depth comparison of two massive parallel DNA-sequencing methods for formalin-fixed paraffin-embedded tissue from victims of sudden cardiac death. *Forensic Science International-Genetics*, 53, 102522. doi:10.1016/j.fsigen.2021.102522
4. Agostini, V., Bailo, P., Chiti, E., Linareslo, P., Gentile, G., Prinsigiani, P., ... Piccinini, A. (2020). Ocular swabs on exhumed bodies: An alternative to the collection of "classical" tissue samples in forensic genetics. *Forensic Science International-Genetics*, 44, 102296. doi:10.1016/j.fsigen.2019.102296
5. Agrifo, M. M., Aznes, H., Roseth, A., Albert, M., Gil, P., & Bleiza, O. (2022). A comprehensive characterization of MPS-STR stutter artifacts. *Forensic Science International-Genetics*, 60, 102728. doi:10.1016/j.fsigen.2022.102728

With this presentation, we will share on the ISFG2022.org website, a PDF file listing the 439 articles published in *FSI Genetics* since ISFG 2019

ISFG Official Journal



<https://www.fsigenetics.com/>

2007	<u>Volume1,Issue1 (March 2007)</u>	<u>v2,i2</u>	56 articles
2008	<u>v2,i1</u> <u>v2,i2</u> <u>v2,i3</u> <u>v2,i4</u> <u>v3,i1</u>		94 articles
2009	<u>v3,i2</u> <u>v3,i3</u> <u>v3,i4</u> <u>v4,i1</u>		90 articles
2010	<u>v4,i2</u> <u>v4,i3</u> <u>v4,i4</u> <u>v4,i5</u>		77 articles
2011	<u>v5,i1</u> <u>v5,i2</u> <u>v5,i3</u> <u>v5,i4</u> <u>v5,i5</u>		147 articles
2012	<u>v6,i1</u> <u>v6,i2</u> <u>v6,i3</u> <u>v6,i4</u> <u>v6,i5</u> <u>v6,i6</u>		186 articles
2013	<u>v7,i1</u> <u>v7,i2</u> <u>v7,i3</u> <u>v7,i4</u> <u>v7,i5</u> <u>v7,i6</u>		134 articles
2014	<u>(v08)</u> <u>(v09)</u> <u>(v10)</u> <u>(v11)</u> <u>(v12)</u> <u>(v13)</u>		201 articles
2015	<u>(v14)</u> <u>(v15)</u> <u>(v16)</u> <u>(v17)</u> <u>(v18)</u> <u>(v19)</u>		190 articles
2016	<u>(v20)</u> <u>(v21)</u> <u>(v22)</u> <u>(v23)</u> <u>(v24)</u> <u>(v25)</u>		183 articles
2017	<u>(v26)</u> <u>(v27)</u> <u>(v28)</u> <u>(v29)</u> <u>(v30)</u> <u>(v31)</u>		197 articles
2018	<u>(v32)</u> <u>(v33)</u> <u>(v34)</u> <u>(v35)</u> <u>(v36)</u> <u>(v37)</u>		179 articles
2019	<u>(v38)</u> <u>(v39)</u> <u>(v40)</u> <u>(v41)</u> <u>(v42)</u> <u>(v43)</u>		191 articles
2020	<u>(v44)</u> <u>(v45)</u> <u>(v46)</u> <u>(v47)</u> <u>(v48)</u> <u>(v49)</u>		176 articles
2021	<u>(v50)</u> <u>(v51)</u> <u>(v52)</u> <u>(v53)</u> <u>(v54)</u> <u>(v55)</u>		126 articles
2022	<u>(v56)</u> <u>(v57)</u> <u>(v58)</u> <u>(v59)</u> <u>(v60)</u> <u>(v61)</u>		116 articles

since ISFG 2019

439

articles

(v43 to v60)

FSI Genetics and its Editors



Now six with a second expansion (2019)

Peter Schneider Angel Carracedo (editor-in-chief) John Butler



In the beginning (2007), there were **three** editors



Then five with the first expansion (2015)

Sources: Top 30 Journals (# documents published)

1. **FSI Genetics (445)***
2. Int J Legal Med (283)
3. Forensic Sci Int (189)
4. FSI Genetics Sup (172)
5. J Forensic Sci (112)
6. Legal Med (85)
7. Sci Justice (68)
8. Australian J Forensic Sci (64)
9. Genes (60)
10. Scientific Reports (55)
11. Electrophoresis (53)
12. J Forensic Med (49)
13. Annals Human Biol (44)
14. Front Genet (36)
15. Forensic Sci Tech (34)
16. Indian J Forensic Med Tox (33)
17. Forensic Sci Res (32)
18. J Forensic Legal Med (29)
19. FSI Reports (25)
20. Forensic Sci Med Path (24)
21. PLoS One (24)
22. Egyptian J Forensic Sci (23)
23. FSI Synergy (22)
24. Mol Genet Gen Med (17)
25. Mol Biol Reports (17)
26. Rechtsmedizin (16)
27. Med Sci Law (15)
28. Russian J Genetics (14)
29. Gene (13)
30. Int J Med Tox Legal Med (12)

**Based on Scopus search “forensic DNA” and “2019 to 2022”
(26 August 2022; 3,188 document results)**

Top Ten Most Prolific Authors (2019 to 2022)

Scopus search
(26 Aug 2022)

in *FSI Genetics only*

1. **Duncan Taylor (29) – Australia**
2. Walther Parson (26) – Austria
3. Jo-Anne Bright (21) – New Zealand
4. Bruce Budowle (17) – USA
5. Chris Phillips (16) – Spain
6. Manfred Kayser (15) – Netherlands
7. Yiping Hou (14) – China (Chengdu)
8. Wojciech Branicki (12) – Poland
9. Leonor Gusmão (12) – Brazil
10. John Buckleton (11) – New Zealand
10. Peter Gill (11) – Norway
10. Adrian Linacre (11) – Australia
10. Titia Sijen (11) – Netherlands
10. Catarina Xavier (11) - Austria

In all indexed journals

1. **Walther Parson (46) – Austria**
2. Bruce Budowle (44) – USA
3. Pankaj Shrivastava (42) – India (Sagar)
4. Duncan Taylor (38) – Australia
5. Chengtao Li (37) – China (Shanghai)
6. Jo-Anne Bright (35) – New Zealand
7. Adrian Linacre (35) - Australia
8. Guanglin He (31) – China (Xiamen)
9. Bofeng Zhu (31) – China (Guangzhou)
10. Raskishan Kumawat (30) – India (Jaipur)
10. Chao Liu (30) – China (Guangzhou)

Recent or Forthcoming Special Virtual Issues Related to Forensic Genetics from the Online Journal *genes*



genes

Special Issue Title (publication dates)	Editor(s)	# Articles
“Forensic Genetics and Genomics” (2020-2021)	Emiliano Giardina & Michele Ragazzo	12
“Advances in Forensic Genetics” (2021-2022)	Niels Morling	25
“State-of-the-Art in Forensic Genetics” (2022)	Chiara Turchi	9
“Trends in Population Genetics and Identification—Impact on Anthropology” (2022)	Antonio Amorim, Veronica Gomes, & Luisa Azevedo	5
“Identification of Human Remains for Forensic and Humanitarian Purposes: From Molecular to Physical Methods” (2023)	Elena Pilli & Cristina Cattaneo	
“Improved Methods in Forensic and DNA Analysis” (2023)	Marie Allen	1
“Forensic DNA Mixture Interpretation and Probabilistic Genotyping” (2023)	Michael Coble	
“Advances in Forensic Molecular Genetics” (2023)	Erin Hanson & Claire Glynn	



Since July 2022, available as a [518 page PDF file](#) or a \$130 printed book




OSAC Research & Development Needs

Human Forensic Biology

1. [Applications of the Microbiome in DNA Transfer and Human Identification](#) →
2. [Assessing DNA Background and Transfer Scenarios in Forensic Casework](#)
3. [Best Practices to Minimize Potential Biases in the Generation and Interpretation of DNA Profiles](#)
4. [Best Practices for Reporting Likelihood Ratios or Other Probabilistic Results in Court](#)
5. [Characterization, Development and Validation of Methods in Single Cell Isolation and Analysis](#)
6. [Characterization, Optimization and Comparison of DNA Sequencing Methods](#)
7. [Characterizing the Presence and Prevalence of Cell-Free DNA](#)
8. [Development of Infrastructure to Compile and Share Raw Electronic Data for Training and Tool Development](#)
9. [Efficiency, Throughput and Speed Improvements in Rapid DNA Instrumentation Through the Development of Direct PCR Methods](#)
10. [Efficient Collection of DNA at the Scene and from Evidence Items](#)
11. [Establishing the Value and Designing a Process for Including Flanking Region SNPs in Massive Parallel Sequencing Based on STRP Casework](#)
12. [Improving the Recovery of Male DNA from Sexual Assault Kits](#)
13. [Methods in Forensic Genealogy](#)
14. [Non-PCR Based Methods for DNA Amplification and/or Detection](#)
15. [Optimization of DNA Extraction for Low Level Samples](#)
16. [Software Solutions for Low Template and High Order DNA Mixture Interpretation in Sequence and Fragment-Based Methods](#)
17. [Software Solutions for Y-STR Mixture Deconvolution](#)
18. [Solutions in Phenotyping and Ancestry Analyses](#)

OSAC RESEARCH NEEDS ASSESSMENT FORM



Title of research need:

Describe the need:

Keyword(s):

Submitting subcommittee(s): **Date Approved:**

(If SAC review identifies additional subcommittees, add them to the box above.)

OSAC R&D Need #1 (*Use of the microbiome*):

7 FSI Genetics publications since 2019:

FSIG-39/40, FSIG-133, FSIG-246, FSIG-247, FSIG-278, FSIG-279, FSIG-340 (*see list of 439 articles*)

10 presentations at ISFG 2022: O-48, P206, P228, P298, P299, P301, P303, P304, P305, P306

Many ISFG presentations from this week will touch on these topics

George Washington (State of the Union, 1790): “...there is nothing, which can better deserve your patronage, than **the promotion of Science** and Literature. Knowledge is in every Country the surest basis of public happiness.”

Sharing Knowledge & Promoting Science

Sharing knowledge and promoting science is the primary purpose of ISFG meetings, working groups, and *FSI Genetics* publications

ISFG Membership Ranked by Country (Top 25)

1292 members from 79 countries (as of 28 August 2022)



**United States
(254)**



**Germany
(142)**



**Spain
(91)**



**United Kingdom
(64)**



**Australia
(59)**



**Italy
(56)**



**Poland
(56)**



**Argentina
(47)**



**Denmark
(42)**



**Switzerland
(39)**



**China
(32)**



**Brazil
(28)**



**Netherlands
(27)**



**Austria
(23)**



**Belgium
(22)**



**Portugal
(20)**



**France
(18)**



**United Arab
Emirates (18)**



**Mexico
(17)**



**Norway
(17)**



**New Zealand
(15)**



**Japan
(14)**



**Korea
(11)**



**Sweden
(11)**



**Colombia
(11)**

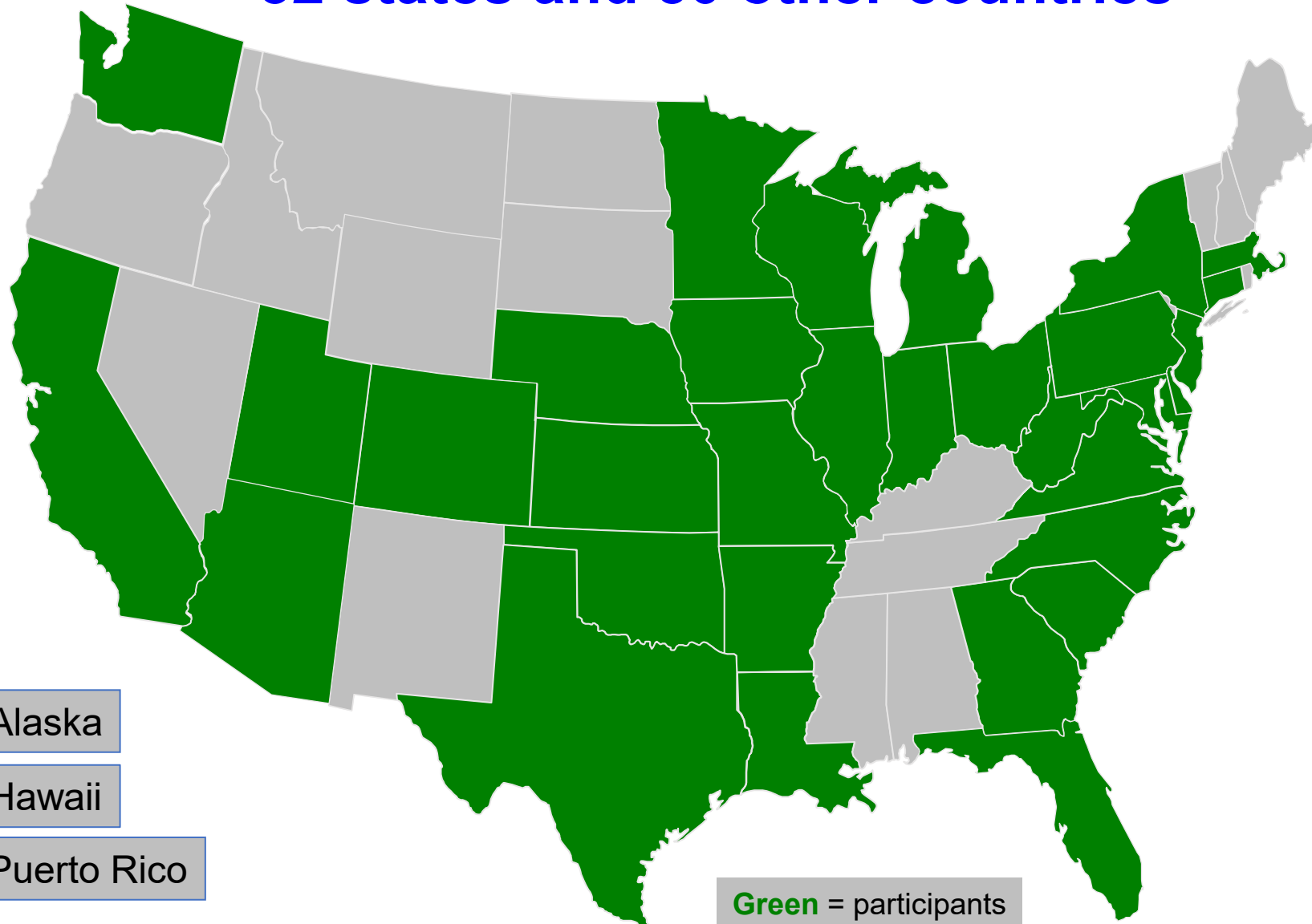
ISFG 2022 Registrants

32 states and 50 other countries

787 registered

(as of 29 Aug 2022)

(49% from the United States)



Alaska

Hawaii

Puerto Rico

Green = participants
Gray = no attendees

- Argentina
- Australia
- Austria
- Belgium
- Bosnia & Herzegovina
- Brazil
- Canada
- Chile
- China
- Colombia
- Czech Republic
- Denmark
- Dominican Republic
- Ecuador
- Estonia
- France
- Georgia
- Germany
- Guatemala
- Hungary
- India
- Israel
- Italy
- Japan
- Kenya
- Lithuania
- Luxembourg
- Macedonia
- Malaysia
- Malta
- Mexico
- Netherlands
- New Zealand
- Norway
- Peru
- Poland
- Portugal
- Qatar
- Saudi Arabia
- Serbia
- Singapore
- South Africa
- South Korea
- Spain
- Sweden
- Switzerland
- Thailand
- United Arab Emirates
- United Kingdom
- Uruguay

Comparison to Previous ISFG Meetings

	Washington DC (29 th Congress)	Prague (28 th Congress)	Seoul (27 th Congress)	Krakow (26 th Congress)
Registered Participants	787	1017	705	750
Countries	51	64	68	69
Top Country (# Participating)	United States (385 attended)	Germany (105 attended)	South Korea (>100 attended)	United States (~115 attended)
Submitted Abstracts	415	753	535	480
Oral Presentations	62	67	57	57
Poster Presentations	262	637	478	423
Workshops	16	14	11	10
Conference Proceedings <i>FSI Genetics Suppl Ser</i>	v8 (???) articles) <560 pages	v7 (347 articles) 914 pages	v6 (236 articles) 612 pages	v5 (265 articles) 679 pages

Only 1 per presenter accepted

Thank you to all workshop, oral, and poster presenters!
You are the “giants” on whose shoulders we stand to see further



Supplement

The 28th Congress of the
International Society for
Forensic Genetics
Prague

Guest Editors:
Mechthild Prinz,
John M. Butler
and Jiri Drabek

FSI

FORENSIC SCIENCE INTERNATIONAL
GENETICS SUPPLEMENT SERIES

Volume 7 Issue 1 December 2019 ISSN 1875-1768



ISFG
PRAGUE

9-13TH SEPTEMBER 2019
WWW.ISFG2019.ORG

ISFG 2019 Proceedings

- **Published in December 2019**
- *FSI Genetics Supplement Series, Volume 7*
- **914 pages freely available online**
- <https://www.fsigeneticssup.com/current>
- **347 articles + 1 editorial + 1 corrigendum**

The ISFG 2022 Proceedings (volume 8 of *FSI Genetics Supplement Series*) should be **published in December 2022** (if presenter articles are provided as requested September 19th)

ISFG 2022 Pre-Conference Educational Workshops

(held August 29-30, 2022)

Full Day Workshops:

1. **DNA Mixtures (Basic)** - *Michael Coble, Steven Myers*
2. **DNA Mixtures (Advanced)** - *Peter Gill, Corina Benschop, Oyvind Bleka*
3. **Kinship Analysis** - *Daniel Kling, Andreas Tillmar*
4. **Y Chromosome: YHRD, typing and interpretation** - *Sascha Willuweit, Lutz Roewer*
5. **Testimony in US Courts** – *Charlotte Word, Raymond Valerio, Lewis Buzzell*
6. **MPS Bioinformatics 101: Exploring Massively Parallel Sequencing Data Analysis using the STRait Razor Suite and FDS Tools** - *Jonathan King, Jerry Hoogenboom*

Opportunities to learn from some of the very best researchers and practitioners in forensic genetics

Half-Day Workshops:

1. **Contact Traces and DNA Transfer** - *Roland van Oorschot and Georgina Meakin*
2. **Evaluative Reporting for Contact Traces** - *Lydie Samie-Foucart and Tacha Hicks*
3. **Phenotyping** - *Susan Walsh*
4. **Biogeographical Ancestry** - *Torben Tvedebrink*
5. **Forensic STR Genomics: Sequence variation and nomenclature resources** - *Katherine Gettings*
6. **NGS Workflows for Forensic Genetics** - *Peter Vallone, Kimberly Sturk-Andreaggi*
7. **mtDNA Interpretation** - *Walther Parson*
8. **Scientific Publication: Reading, Writing, and Reviewing** - *John Butler*
9. **Introduction to Key Concepts in Probability and Statistics for Forensic Science** - *Hari Iyer, Steven Lund*
10. **Validation – Experimental Design and Analysis using STR-validator** - *Oskar Hansson*

Plenary Speakers at ISFG 2022

Wed AM



Chris Phillips
(Scientific Prize
Winner 2019)

Ancestry
Testing

Wed PM



Thore Egeland
(Scientific Prize
Winner 2019)

Kinship
Analysis

Thurs AM



Noah Rosenberg

Population
Genetics

Thurs PM



David Kaye
(BY VIDEO)

Legal
Issues

Fri AM



Tacha Hicks

Interpretation

Fri PM



Debbie Kennett

Genetic
Genealogy

Special Session
O.J. Simpson Trial
(4 invited speakers)



O.J. Simpson Trial – A Retrospective

ISFG 2022 Special Session



Design of an ISFG Meeting

- *Bid for Washington DC was made at ISFG 2017; planning began in earnest Nov 2019*
 - Local Organizing Committee led by Congress President Christian Westring & VP Heather McKiernan
- **ISFG Board (5) + Congress President/VP (2) = Scientific Program Committee**
- Overall scientific program topics and invited speakers decided upon (May 2020)
- Invitations extended to keynote speakers and workshop presenters (June 2020)
- Authors submit abstracts according to general topic areas (Dec 2021-April 2022)
- Scientific Program Committee reviews/selects orals & posters (April 27-28, 2022)
- Authors are notified and invited to register for meeting (May 2022)
- Program is finalized and released (July 2022)
- Meeting is held! (August 29 to September 2, 2022)

Abstract Selection Meeting – April 27-28, 2022

Scientific Program Committee



- Reviewed 415 abstracts

Selected:

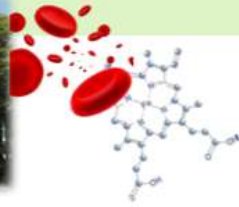
- 49 orals
- 12 session chairs
- 307 posters

- *We rejected 73 due to multiple submissions from the same author*

An additional 45 did not register and therefore were removed

International Society for Forensic Genetics (ISFG)

https://www.isfg.org/files/ISFG_50Years_Brochure.pdf



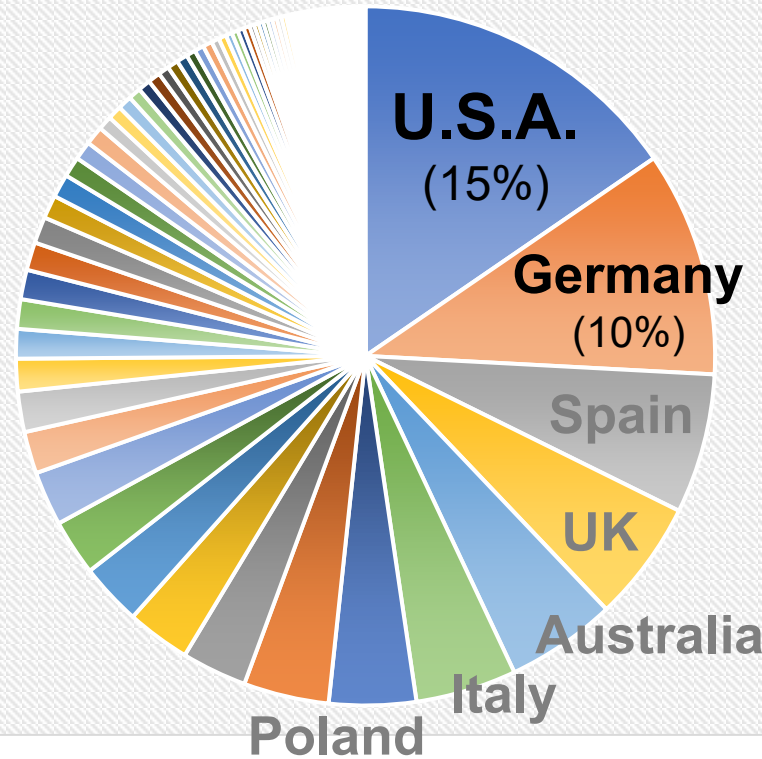
50 Years

**International Society
for Forensic Genetics**

1968 - 2018



**1292 members
from 79 countries**



**12 Working
Groups**

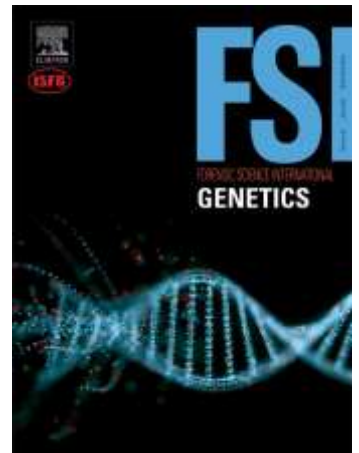
- ☑ German
- ☑ English
- ☑ French
- ☑ Italian
- ☑ Spanish and Portuguese
- ☑ Chinese
- ☑ Korean
- ☑ Arabian Speaking
- ☑ CaDNAP
- ☑ DNA Commission
- ☑ EDNAP
- ☑ Polish

Biennial Meetings



Prague (2019)

**#1 Journal on
Forensic DNA**



President: John M. Butler, Gaithersburg • **Vice President:** Walther Parson, Innsbruck • **Secretary:** Peter M. Schneider, Cologne
Treasurer: Marielle Vennemann, Münster • **Representative of the Working Groups:** Leonor Gusmão, Rio de Janeiro

ISFG Impact over Years and Careers

1. Enabling Interconnectivity
2. Developing Technology
3. Sharing Knowledge & Promoting Science

- **Research** – new genetic markers and interpretation methods
- **Collaborations** – EDNAP, SNPforID, EuroForGen, VISAGE
- **Population Data** – YHRD, EMPOP, STRidER
- **The People!** – *enjoy your discussions at ISFG 2022*

Concluding Thoughts...



“The welfare of our [scientific society, ISFG] is the great object to which our cares and efforts ought to be directed. And I shall derive great satisfaction from a co-operation with you, in the pleasing though arduous task of ensuring to our fellow [researchers and practitioners] the blessings, which they have a right to expect, from a [well-organized ISFG Congress].”

Adapting the concluding words of George Washington’s first State of the Union speech in January 1790 (see <https://www.mountvernon.org/education/primary-sources/state-of-the-union-address>) with my modifications & application to ISFG in brackets



Thank You to Our ISFG 2022 Exhibitors and Sponsors

And to our Local Organizing Committee

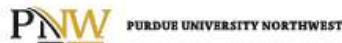
Sponsors



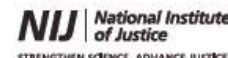
The world leader in serving science



Innovators in DNA Sequencing Technologies



Exhibitors



Layout only includes sponsors or exhibitors who were signed up prior to date of design.

“In Science We Trust”

Thank You for Coming to ISFG 2022!

Your Research and Efforts Benefit the World

<https://www.isfg.org/>

ISFG

International Society for Forensic Genetics

Gracias

ありがとうございました

ආචාර්ය

teşekkür ederim

Takk skal du ha

Obrigado

謝謝

ਤੁਹਾਡਾ ਧੰਨਵਾਦ

Dank je

Terima kasih

Paldies

Vielen Dank

متشكرم

**Thank
you!**

tak skal du have

Mulțumesc

Merci

شكريه

Tack

Köszönöm

Děkuji

Salamat

Hvala vam

Grazie

شكرا لكم

Dankie

Kiitos

Ačiū

Dziękuję Ci

תודה

धन्यवाद

Eskerrik asko

Ευχαριστώ

Баярлалаа

감사합니다

Cảm ơn bạn

Спасибо