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Journal of Bioanthropology

iSABS[★] and MAYO CLINIC

14th Conference: Advances in Application of Artificial Intelligence in Precision Medicine

Moses Schanfield Memorial Symposium on Artificial Intelligence
in Forensic and Anthropological Genetics

Hotel Dubrovnik Palace
Dubrovnik, June 15-19, 2026

With participation of Nobel Laureates

PROGRAM AND ABSTRACTS



St. Catherine
SPECIALTY HOSPITAL

INTERNATIONAL CENTER
FOR APPLIED BIOLOGICAL RESEARCH

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Submitted manuscripts will generally be reviewed by two to three experts who will be asked to evaluate whether the manuscript is scientifically sound and coherent, whether it duplicates already published work, and whether or not the manuscript is sufficiently clear for publication. Reviewers will also be asked to indicate how interesting and significant the research is. The Editors will reach a decision based on these reports and, where necessary, they will consult with members of the Editorial Board.

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For issue vol.6, no. 1 in 2026, we were privileged for the opportunity to announce excellent scientific lectures to be presented at the ISABS Conference on Forensic and Anthropological Genetics and Mayo Clinic Lectures in Individualized Medicine.



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PROGRAM AND ABSTRACTS

THE FOURTEENTH ISABS AND MAYO CLINIC CONFERENCE:
ADVANCES IN APPLICATION OF ARTIFICIAL INTELLIGENCE
IN PRECISION MEDICINE

JUNE 15-19, 2026
Hotel Dubrovnik Palace
Dubrovnik
CROATIA

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WELCOME TO THE FOURTEENTH ISABS CONFERENCE ON APPLIED GENETICS AND MAYO CLINIC LECTURES IN TRANSLATIONAL MEDICINE!

Dear Colleague,

*We invite you to join us at the 14th ISABS and Mayo Clinic Conference: Advances in Application of Artificial Intelligence in Precision Medicine, **Dubrovnik, Croatia, June 15-19, 2026**. The conference is the next in a series of biennial events organized by the International Society for Applied Biological Sciences (ISABS), a society dedicated to promoting applied molecular biology (www.isabs.hr).*

Since initiating the series in 1997, we have strived to focus and broaden the scope of the conferences. The focus has been on applying cutting-edge analytical methodology in forensic science. In 2003, programs in forensic medicine and in cellular and molecular medicine ran in parallel with the introductory and closing sessions held jointly. The Cellular and Molecular Medicine program was co-organized with the Mayo Clinic, Rochester, Minnesota, USA. Since 2007, we have broadened the area of interest by the introduction of molecular anthropology that, in large part, shares the methodology with forensic genetics. In 2009, we introduced selected topics from individualized medicine, another applied discipline based on the advances in mapping the human genome. In 2011, we included the most recent and most interesting topics in molecular medicine. In 2013, we included genetics applied to the crossing of forensic science, anthropology, and translational medicine. Mayo Clinic again, same as in the past ten years, joined our efforts. It provided a critical link to the cutting-edge clinical applications of genetics. The overall effort culminated in the incorporation of individualized medicine as the third cornerstone, together with forensic and anthropological genetics. We feel this integration of the three areas, united by technology and applicative intent, provides an unprecedented opportunity for further progress in every respect. In the clinical part of the conference, topics covered the latest achievements in regenerative medicine, gene and cell therapy, individualized medicine, new molecular procedures, and methodology for early detection of cancer, the clinical importance of circulating tumor cells, and immune therapy in cancer treatments. In 2015, we introduced up-to-date results in genomics of individualized medicine, a program in anthropological genetics concerning ancient and modern human genome history, and human genetic history of the continents, and a forensic genetics program with special emphasis on new knowledge in Next Generation Sequencing (NGS) in forensics, DNA investigative intelligence, and advancements in forensic DNA routine. At the 10th ISABS conference's jubilee in Split in 2017, the Nobel Spirit session took place for the first time. This jubilee conference marked a breakthrough towards regenerative medicine and microbiome analysis in forensics, anthropology and medicine, and in 2019, we continued with the same "Nobel

Spirit" achievements. The program in 2024 covered Whole Genome Sequencing for Implementation of Precision Medicine, Gene and Cellular Therapy, Immunotherapy, Pharmacogenomics, Tissue Engineering, Artificial Intelligence in Clinical Medicine, Dendritic Cell Vaccination, Forensic Genetic Genealogy, etc. "Nobel Spirit" provided a forum for the four Nobel laureates to stimulate public discussion on the role of science in solving global health issues, acute regional problems such as brain drain, demographic decline, and cultural and social change.

Together with several conference regulars, this year 2026, will bring many new and exciting names, including Nobel Prize laureates Gregg Semenza and Thomas Südhof. We are pleased that it will be more interesting than ever, and it will include the following topics: AI for Clinical Decision Support, AI-Powered Multi-Omics Integration for Precision Medicine – AI in Precision Oncology, AI-Driven Innovation in Tissue Engineering and Regenerative Therapies, and The Future of AI in Precision Medicine: Ethical, Legal, and Social Implications. Satellite Symposium, Moses Schanfield Memorial Symposium on Artificial Intelligence in Forensic and Anthropological Genetics includes topics: AI in Forensic Reconstruction, AI-Driven Forensic Genomics, AI for Ancestry Inference, and Justice by Design: Ethics of AI in Forensics.

This year, the fifth "Nobel Spirit" will provide a forum for the Nobel laureates to stimulate public discussion on advances in the application of artificial intelligence in precision medicine.

As before, the conference is structured to allow close interaction of the international faculty and attendees. We continue to have traditional Young Investigator Awards and High School Student Future Scientist Awards. Together with formal presentations, there will be meet-the-professor sessions, a gala dinner, and other social occasions meant to enhance opportunities for scientific intercourse, but also to introduce the participants to the town of Dubrovnik, one of the most prominent tourist destinations in the Mediterranean Sea; it carries the appellation of the pearl of the Adriatic. With its remarkable history, Dubrovnik is a city that leaves nobody unmoved, so delighted by its beauty, George Bernard Shaw said, "Those who seek paradise on Earth should come to Dubrovnik". Discover and enjoy the beauties of Croatia, the mild climate, the crystal clear and warm sea, beautiful beaches, virgin nature, and the rich history and cultural heritage. And, above all, enjoy Croatia's warm and friendly people.

We look forward to seeing you in Dubrovnik!

Dragan Primorac
Stanimir Vuk-Pavlović
Program/Conference Directors

14TH ISABS AND MAYO CLINIC CONFERENCE JUNE 15-19, 2026, DUBROVNIK, CROATIA

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Moses Schanfield (†) (George Washington University, Washington, D.C., USA)

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Please note that the program and speakers are subject to change.

Sunday, June 14th

10th Croatian Human Genetics Conference & 3rd Croatian Personalized and Precision Medicine Conference (Hall "Dubrava 1", 9th Floor)

- 11:15 **CSHG/CSPPM Managing Boards Meeting** (by invitation; members only)
(Hall "Kokpit", 9th floor)
- 11:55 **OPENING REMARKS** (Dragan Primorac, chair)
- 12:00 **Scientific Session 1 – Dragan Primorac and Bernarda Lozić**, chairs
- 12:00 **Ivana Babić Božović** (Clinical Institute of Genomic Medicine, University Medical Centre Ljubljana, Ljubljana, Slovenia; Clinical Hospital Centre Rijeka, Rijeka, Croatia): *Genetic Diagnosis of Rare Neurological Disorders: Current Trends and Future Directions*
- 12:20 **Luka Bulić** (St. Catherine Specialty Hospital, Zagreb, Croatia): *The Hidden Language of Cancer: Predicting Clinical Outcomes Through Genomic Signals*
- 12:40 **Ljubica Odak** (Children's Hospital Zagreb, Zagreb, Croatia): *Clinical features, genetic landscape and management of osteogenesis imperfecta patients in Croatia*
- 13:00 **Ana-Maria Meašić** (Children's Hospital Zagreb, Zagreb, Croatia; Scientific Centre of Excellence for Reproductive and Regenerative Medicine (CERRM), University of Zagreb School of Medicine, Zagreb, Croatia; European Reference Network on congenital malformations and rare intellectual disability ERN-ITHACA, Zagreb, Croatia): *Genetic Causes of Lissencephaly: Insights from Chromosomal Microarray and Clinical/Whole-Exome Sequencing*
- 13:20 **Darko Antičević** (St. Catherine Specialty Hospital, Zagreb and School of Medicine, Josip Juraj Strossmayer University of Osijek, Osijek, Croatia): *Dysplasia epiphysealis hemimelica: Personalized and multiple treatment modalities for a single rare disease*
- 13:40 **Intermission**
- 14:00 **SATELLITE EVENT**: European Olympic Committees Medical Commission (by invitation only) (Hall "Kokpit", 9th floor)
- 14:00 **Scientific Session 2 – Dragan Primorac and Martina Smolić**, chairs
(Hall "Dubrava 1", 9th floor)
- 14:00 **Kristian Hodak** (Clinical Hospital Centre Rijeka, Rijeka, Croatia): *Implementation of Next-Generation Sequencing in Routine Cardiology Practice: A Retrospective Study from Clinical Hospital Centre Rijeka*

- 14:20 **Tea Mladenčić** (University of Rijeka, Faculty of Medicine, Rijeka, Croatia): *Artificial Intelligence in Cytogenetics: Progress in Automated Karyotype Analysis*
- 14:40 **Nenad Kunac** (University Hospital Center Split, Split, Croatia): *From Sequencing to Therapy: Implementing Comprehensive Genomic Profiling in Routine Clinical Practice*
- 15:00 **Damir Primorac** (Faculty of Forensic Sciences, University of Split, Split, Croatia): *Legal Determinants in Medical Genetics*
- 15:20 **Šimun Andelinović** (University Hospital Center Split, Split, Croatia): *Croatia's Pioneering Role in First Systematic DNA-Based Identification of Mass Grave Victims*
- 15:40 **Damir Marjanović** (Institute for Anthropological Research, Zagreb, Croatia): *Y Chromosome Story and Croatian Heritage: Modern Croatian Genetic Pool Vs Ancient Genetic Data*
- 16:00 **Adjourn** (Dragan Primorac, chair)
- 18:00 **CSHG Youth Section Meeting** (by invitation; members only)
(Hall "Kokpit", 9th floor)
- 08:30-18:00 **PROJECT CONFERENCE: Technology Transfer in Precision Medicine and Sports Injury Prevention** (by invitation; project partners only)
- The project „Biochemical and Genetic Pathways to Anterior Cruciate Ligament Injuries: A New Framework for Injury Prevention" is funded through the "Targeted Scientific Research" call issued by the Ministry of Science, Education, and Youth of the Republic of Croatia under the National Recovery and Resilience Plan (NRRP) (Hall "Dubrava 2", 9th floor)

Presentation number: PP68

Abstract number: 120-ISABS-2026

MAPPING THE CROATIAN OPHTHALMIC DATA LANDSCAPE FOR INHERITED RETINAL DISEASES: A STEP TOWARD A NATIONAL FRAMEWORK

Mrak Maja¹, Bjeloš Mirjana^{2,3,4,5,6,7}, Mihalek Ivana⁸, Čaljkusić-Mance Tea^{1,9}

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To evaluate the availability of diagnostic procedures, access to genetic testing, and data management practices in tertiary ophthalmology centers in Croatia, with the goal of identifying needs for establishing a national framework for the care of patients with inherited retinal diseases (IRDs). A cross-sectional survey was conducted among ophthalmologists actively involved in IRD patient care across tertiary centers. Data were collected on the availability of diagnostic procedures, access to genetic testing, and local practices for data collection, storage, and integration of clinical and genetic information. Considerable variability was identified between centers in the availability of diagnostic methods and access to genetic testing. While core imaging modalities are widely available, advanced retinal function testing and genetic diagnostics are not uniformly accessible. Data are predominantly stored within local hospital systems, with limited standardization and minimal integration of clinical and genetic information. This study provides the first national overview of IRD-related diagnostic and data management practices in Croatia. Despite the establishment of a national Reference Center for inherited retinal dystrophies in 2022, its potential to coordinate care and enable centralized data collection remains underutilized. The identified gaps highlight the need for improved coordination, standardization, and data integration. Establishing a structured national framework, including a hub-and-spoke model and centralized data collection, could enhance patient care and support future therapeutic and research initiatives.

Keywords: inherited retinal diseases (IRDs), genetic testing, diagnostic techniques, data management, health care organization

Presentation number: PP69

Abstract number: 98-ISABS-2026

EVALUATION OF TRUST AND PERSPECTIVES ON ARTIFICIAL INTELLIGENCE INTEGRATION AMONG MEDICAL AND PHARMACEUTICAL PROFESSIONALS: A SURVEY STUDY

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This study evaluated the level of trust, risk perception, and expectations of the medical and pharmaceutical community regarding the implementation of artificial intelligence (AI) tools in professional practice. A cross-sectional survey was conducted among 71 healthcare professionals, including 36 pharmacists (50.7%) and 35 physicians (49.3%). The questionnaire addressed AI tool usage frequency, trust in generated recommendations measured on a 5-point Likert scale, and assessment of privacy risks. Statistical analysis involved calculating mean values and frequency distributions. The results demonstrated an average level of professional trust in AI recommendations of 3.14 points. The highest level of concern related to patient confidentiality and data security risks, which were rated at 3.24 points. While the hypothesis of complete human replacement by AI technology was decisively rejected (1.8 points), forecasts for deep AI integration into professional workflows over the next decade remained very high (3.89 points). A significant "educational vacuum" was identified, with 67.6% of respondents acquiring AI skills through self-study, whereas university curricula lacked such knowledge for all participants. In conclusion, specialists view AI as an intelligent digital assistant rather than a replacement for human expertise. Despite a high readiness for professional transformation, barriers such as data security risks and the absence of systemic education must be addressed through secure local AI solutions and modernized medical curricula.

Keywords: artificial intelligence, digital medicine, healthcare, professional trust, medical education