



I.O.F.O.S. e- Symposium

December 7th, 2024

2:00 pm CET

ARTIFICIAL INTELLIGENCE – Where are we in Forensic Odontology?

Session 1

Chairmans: Professor Hrvoje Brkic (Croatia) and Professor Ashith Acharya (India)

Mai Britt Bjørk (Norway)

Title - Prediction of age older than 18 years by MRI-segmentation of 1st, 2nd, and 3rd molars. Can we take advantage of AI for more efficient semi-automatic segmentation?

Research Team: Øyvind Bleka, Sigrid Ingeborg Kvaal, Tomas Sakinis, Frode Alexander Tuvnes, Mari-Ann Haugland, Peter Mæhre Lauritzen and Heidi Beate Eggesbø;

Biography: Mai Britt Bjørk cand.odont (1998 Faculty of Dentistry, University in Oslo); PhD candidate (01042018-01052024) at Faculty of Dentistry, University in Oslo; PhD project: Age prediction in sub-adults by MRI segmentation of tooth tissue volumes.

Publications: <https://www.researchgate.net/profile/Mai-Britt-Bjork>

Luka Banjšak (Croatia)

Title: Sex estimation in subadults from OPGs

Mentors: Professor Hrvoje Brkić and Professor Marin Vodanović (University of Zagreb School of Dental medicine);

Biography: Luka Banjšak was born in Zagreb, Croatia. He graduated in 2017, and immediately started working as a general dentist in a private practice in Zagreb. In 2019 he enrolled in the post-graduate doctoral program at the University of Zagreb, School of Dental medicine. In 2021 he started working as a Teaching and research assistant at University of Zagreb's School of Dental Medicine at the Department of Dental anthropology. His main field of interest is artificial intelligence and forensic dental medicine.

Victor Jacometti (Brazil)

Title: Age estimation and Artificial Intelligence - a new paradigm shift in Forensic Odontology

Mentors: Professor Ricardo Henrique Alves da Silva

Biography - Dentist and Forensic Odontology Specialist - Ribeirão Preto School of Dentistry - University of São Paulo

Master and PhD student at Ribeirão Preto School of Medicine - University of São Paulo. Works at Forensic Odontology and Anthropology research for 8 years. Main research line: Forensic Age Estimation.



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Session 2

Chairmans: Professor Ricardo Silva (Brazil) and Professor Sigrid Kvaal (Norway)

Diana Augusto (Portugal)

Title: VGG16-based intelligent image analysis in forensic odontology: age classification, sex classification and comparative dental evidence identification.

Mentors: Professor Cristiana Palmela Pereira and Professor Rui Santos (School of Dental Medicine, University of Lisbon);

Research Team: Ana Rodrigues, Raquel Carvalho, Mariana Correia, Valon Nushi and Francisco Salvado;

Biography: Diana Augusto, Master in Dental Medicine in the School of Dental Medicine from the University of Lisbon. Specialization course on Forensic Odontology. Junior Researcher of the CEAUL (Centre of Statistics and its Applications from the University of Lisbon) and FORENSEMED/UICOB. Invited Assistant at the School of Dental Medicine from the University of Lisbon.

Sudeendra Prabhu (India)

Title: A.I. Functionality in Odontometric Sex Assessment.

Research Team: Ashith B. Acharya, Punnya V. Angadi, and J. Andrew;

Biography: Academician and researcher, teaching forensic odontology to undergraduates, postgraduates and mentoring 8 PhD scholars with forensic odontology topics and also conducting short term and PG-diploma courses in forensic odontology with case based experience.



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Session 3

Chairmans: Professor Cristiana Palmela Pereira (Portugal) and Professor Scheila Manica (UK)

Yucheng Guo (China)

Title: With or without human interference for precise age estimation based on machine learning?

Mentors: Professor Andreas Schmeling (Universitätsklinikum Münster, Germany) and Professor Teng Chen and Shaoyi Du (Xi'an Jiaotong University, China)

Biography: Prof. GUO Yucheng earned his bachelor degree and doctoral degree from Xi'an Jiaotong University respectively in 2008 and 2016. From January 2019 to July 2022, he is the post doctor in the institute of Artificial Intelligence and Robotics, Xi'an Jiaotong University. Between September 2014 and September 2015, he studied in the Institute of Legal Medicine of the Universitätsklinikum Münster, Germany. He joined the Hospital of Stomatology, Xi'an Jiaotong University in 2016 as lecturer, and worked as an associate professor from 2019. He published more than 30 international peer reviewed articles on the topic of forensic age estimation and digital orthodontic technologies.

Prof. GUO Yucheng has served as Assistant Dean, Director of Department of Orthodontics, Director of Digital Dental Technology Development Center, Hospital of Stomatology, Xi'an Jiaotong University since June, 2024.

Ilenia Bianchi (Italy)

Title - AI and age estimation in sub-adults: a combination of skeletal and dental radiological methods

Mentors: Professor Vilma Pinchi

Research Team: Laboratory of Personal Identification and Forensic Morphology, Department of Health Sciences, University of Florence, Florence, Italy.

Biography: Ilenia Bianchi has a PhD in Legal Medicine at the University of Macerata, is a Tutor Master Course in Forensic Odontology and a Research fellow in Legal Medicine at the University of Florence. Doctor Bianchi serves as reviewer for several international journals and has published several papers dealing with dental ID, age estimation, dental DNA in post-mortem interval evaluation, forensic toxicology, and professional liability of the dentist. She lectures nationally and internationally.



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Young Investigators and Forensic Odontology Research

Scientific Committee:

Cristiana Palmela Pereira
Ricardo Henrique Alves da Silva
Hrvoje Brkic
Marin Vodanovic
Vilma Pinchi
Stefano Garatti
Ashith B. Acharya

Organizing Committee:

Cristiana Palmela Pereira
Ricardo Henrique Alves da Silva
Hrvoje Brkic
Marin Vodanovic
Vilma Pinchi
Stefano Garatti
Ashith B. Acharya
Mai Britt Bjørk
Luka Banjšak
Victor Jacometti
Diana Augusto
Sudeendra Prabhu
Yucheng Guo
Ilenia Bianchi