

3rd International Conference on Forensic Research and Technology

October 06-08, 2014 Hilton San Antonio Airport, USA

Processing and DNA typing of old skeletal remains training courses in Slovenia

Erdogan Oncun¹ and Irena Zupanic Pajnic²

¹Oncun Forensic Science Service, Cyprus

²University of Ljubljana, Slovenia

DNA typing of skeletal remains has become very important in identification cases. We would like to present the 5-day training courses "Processing and DNA typing of old skeletal remains" which take place since 2013 every month in the Laboratory of Molecular Genetics at the Institute of Forensic Medicine, Faculty of Medicine, University of Ljubljana, Slovenia - EU, announced on ISFG homepage. In Slovenia 600 hidden mass graves from Second World War were registered in last 20 years with approximately 100 000 victims of Yugoslav communist armed forces and identification of skeletal remains of WWII victims was performed for some of mass graves. Nuclear DNA is the preferred genome of amplification for forensic purposes as it is individually specific and provides bi-parental kinship information. In the past, mitochondrial DNA testing was regularly employed in the forensic identification of aged skeletal remains. Recently, Slovenian researchers reported the successful typing of nuclear STRs from ancient WWII skeletal material. The training course with maximum of three participants includes experimental individual work with approximately 70 years old bones and provides the participants first-hand knowledge of how to perform bone DNA typing. Procedures for processing the bone sample (mechanical and chemical cleaning, cutting, and grinding into the powder in presence of liquid nitrogen), decalcification of bone powder, DNA extraction, DNA purification, DNA quantification with real-time PCR, DNA typing of nuclear STRs, electrophoretic separation of amplified fragments and evaluation of DNA typing results are shown on concrete old bone samples and the most of the steps are experimentally performed by participants. The course is designed to deliver advanced level training to experienced laboratory based scientists that are familiar to DNA typing technologies. The unique training course is performed in the forensic molecular genetic laboratory equipped specially for processing old bones and teeth. The course using forensic human identification methods and commercially available human ID kits is suitable not only for participants who would like to process old skeletal remains but also those who would like to perform in their laboratories the identification of relatively fresh human remains where no other material than bones or teeth are left for molecular genetic analyses.

Biography

Erdogan Oncun BSc (Hons) is Forensic Molecular Biologist and graduated from University of Wolverhampton, United Kingdom in 2011. He attended to courses, 15 - 24 November 2013 Forensic Odontology course, Ankara, Turkey and 07-11 March 2014 Processing and DNA typing of old skeletal remains course, Ljubljana, Slovenia. He is now owner of Oncun Forensic Science Service/Consulting in North Cyprus and member of ISFG.

erdogan.oncun@googlemail.com