

Seminar Announcement

Department of Chemistry and Biochemistry
and

The International Forensic Research Institute

Frontiers in Forensic Science Seminar Series

Method and Model Development for Forensic Provenancing; Soil, Food and Humans

Professor Jurian Hoogewerff
Senior Lecturer, Forensic Geochemistry
School of Chemical Sciences and Pharmacy
University of East Anglia, Norwich, U.K.

Time and Date

Monday, Feb. 23, 2009 2:00 pm

Location

OE 134

Sponsored by IFRI, Refreshments will be served



IFRI International
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FLORIDA INTERNATIONAL UNIVERSITY

Method and Model Development for Forensic Provenancing; Soil, Food and Humans.

Jurian Hoogewerff PhD.

Centre for Forensic Provenancing, School Chemical and Pharmaceutical Sciences. University of East Anglia. Norwich UK.

Abstract

The natural environment as defined by geology, climate and ecology provides a wealth of markers that are unevenly distributed on earth and thus have potential for spatial classification of natural materials and derived products.

Forensic scientists have used individual types of markers for the comparison of evidence but in general no comprehensive spatial reference databases have been established mainly due to financial constraints. However, due to advent of Geographical Information Systems containing fundamental geological, climatic and ecological data, derivative models based on material transfer, genetic dispersion, foodweb relations and production processes, now might have the potential to predict the spatial distribution of natural marker profiles in a cost effective manner. This potential of the possibility of building forensic reference populations from basic knowledge is being evaluated in collaboration with our collaborators around the world. In my presentation I will give examples of soil, food and forensic and archaeological human provenancing and sketch an outline for future research cooperation between FIU and UEA.

Short Bio

Dr. Jurian Hoogewerff (Senior Lecturer, School of Chemical Sciences and Pharmacy, UEA) is the director of the "Centre for Forensic Provenancing" which runs the Elemental and Heavy Isotope Ratio ICPMS facilities at the UEA. Dr. Hoogewerff studied geochemistry (M.Sc.) and volcanology (Ph.D.) at the University of Utrecht in the Netherlands (1984-1993). In 1993 Dr. Hoogewerff joined the Department of Health Sciences of University Maastricht to teach environmental sciences and develop research in tracing the origin of environmental pollutants from their source to biological markers to human body compartments. Dr. Hoogewerff transferred to the Vienna based Geotechnical Institute Arsenal Research in 1996 where he continued to investigate the use of elemental and isotope ratio research in environmental exposure research combining epidemiological data with new geochemical maps. Here he also started to apply his techniques for forensic and archaeological provenancing. His study on 5000 year old Iceman "otzi" was well publicized. With EU funding and cooperation of the main national Forensic research establishments (FSS, FBI, BKA, NFI eo) Dr. Hoogewerff established the global analytical forensic NITECRIME network project in 1999. In 2000 Dr. Hoogewerff moved to the Institute of Food Research in Norwich to run the isotope ratio facility for human micro nutrient (Ca, Fe, Cu and Zn) studies. (Roe et al, American Journal Of Clinical Nutrition 2005) At IFR he setup a new research field in food authentication using the link between soil composition and food composition for determining the geographical origin of food. Dr. Hoogewerff accepted his senior lecturer post at the UEA in 2006. Dr Hoogewerff is the coordinator of new four year M.Chem "Forensic and Investigative Chemistry" (UCAS code FF41) course with special emphasis on forensic provenancing. Current research projects include: the completion of the EU TRACE project, the systematic investigation of the merits and limitations of soil evidence in forensic case work and the provenancing of human remains using DNA and isotope techniques from the Spanish Civil War and the Viking period in Norfolk UK. Dr Hoogewerff is Chief Editor of the Journal of Geochemical Exploration.