



MENU

[Results for FORENSIC FACIA... >](#)

Forensic Facial Approximation of 5000-Year-Old Female Skull from Shell Mid...



Forensic Facial Approximation of 5000-Year-Old Female Skull from Shell Midden in Guar Kepah, Malaysia

By Abdullah, JY (Abdullah, Johari Yap) ; Moraes, C (Moraes, Cicero) ; Saidin, M (Saidin, Mokhtar) ; Rajion, ZA (Rajion, Zainul Ahmad) ; Hadi, H (Hadi, Helmi) ; Shahidan, S (Shahidan, Shaiful) ; Abdullah, JM (Abdullah, Jafri Malin)

[View Web of Science ResearcherID and ORCID](#) (provided by Clarivate)

Source APPLIED SCIENCES-BASEL
Volume: 12 Issue: 15
DOI: 10.3390/app12157871

Article Number 7871

Published AUG 2022

Indexed 2022-08-22

Document Type Article

Abstract Forensic facial approximation was applied to a 5000-year-old female skull from a shell midden in Guar Kepah, Malaysia. The skull was scanned using a computed tomography (CT) scanner in the Radiology Department of the Hospital Universiti Sains Malaysia using a Light Speed Plus scanner with a 1 mm section thickness in

spiral mode and a 512 x 512 matrix. The resulting images were stored in Digital Imaging and Communications in Medicine (DICOM) format. A three-dimensional (3D) model of the skull was obtained from the CT scan data using Blender's 3D modelling and animation software. After the skull was reconstructed, it was placed on the Frankfurt plane, and soft tissue thickness markers were placed based on 34 Malay CT scan data of the nose and lips. The technique based on facial approximation by data extracted from facial measurements of living individuals showed greater anatomical coherence when combined with anatomical deformation. The facial approximation in this study will pave the way towards understanding face prediction based on skull structures, soft tissue prediction rules, and soft tissue thickness descriptors.

Keywords

Author Keywords: forensic facial approximation; computed tomography; face prediction; 3D modelling; skull reconstruction; facial reconstruction
Keywords Plus: SKELETAL AGE; RECONSTRUCTION

Addresses

¹ Univ Sains Malaysia Hlth Campus, Sch Dent Sci, Craniofacial Imaging Lab, Kota Bharu 16150, Kelantan, Malaysia

² Ortogonline Treinamento Desenvolvimento Profiss &, BR-78557 Sinop, MT, Brazil

³ Univ Sains Malaysia, Ctr Global Archaeol Res, Gelugor 11800, Penang, Malaysia

⁴ Kulliyyah Dent, IIUM Kuantan Campus, Kuantan 25200, Penang, Malaysia

⁵ Univ Sains Malaysia Hlth Campus, Sch Hlth Sci, Kota Bharu 16150, Kelantan, Malaysia

[...more addresses](#)

**Categories/
Classification**

Research Areas: Chemistry; Engineering; Materials Science; Physics

Citation [8 Earth](#) > [8.93](#) > [8.93.1153 Forensic](#)
 Topics: [Sciences](#) > [Archaeology](#) > [Anthropology](#)

**Web of Science
Categories**

Chemistry, Multidisciplinary; Engineering, Multidisciplinary; Materials Science, Multidisciplinary; Physics, Applied

+ See more data fields

Citation Network

In Web of Science Core Collection

7
Citations

39
Cited References

Use in Web of Science

07
Last 180 DaysSince 2013

This record is from:

Web of Science Core Collection

- Science Citation Index Expanded (SCI-EXPANDED)

Suggest a correction

If you would like to improve the quality of the data in this record, please [Suggest a correction](#)