

3D imaging in a South African context
An AESOP Workshop, University of Pretoria

12 to 15 October 2015

DAY 1 - 12 October 2015

Venue: Sanlam Auditorium, Hatfield Campus, University of Pretoria

TIME START	ACTION/TITLE	NAME	Chair
08: 00	Registration	Arrival and morning coffee	
08: 30	Welcoming address by the University of Pretoria Vice-Principal	Prof Stephanie Burton Vice-Principal: Research and Postgraduate Studies	Prof José Braga, University Paul Sabatier III, Toulouse Professor in Palaeoanthropology
08: 45	Celebration of 20 years of human palaeoanthropology collaboration between SA and France	Prof Francis Thackeray	
09: 00	Challenges of archaeology and training	Ms. Anne Grillo, DGM MAEDI, Director of Cultural, Academic and Research Cooperation at the French Ministry of Foreign Affairs	Prof Francis Thackeray, Phillip Tobias Chair in Palaeoanthropology Evolutionary Studies Institute University of the Witwatersrand and Prof Lorna Holtman University of Western Cape
09: 15		Mr. Daan du Toit, DST	
09: 30	Perspectives regarding AESOP	Adrien Delmas (IFAS) Prof. José Braga	
09: 40	Representation of the NRF	Executive director: Dr Romilla Maharaj Director (Infrastructure), & Rakeshnie Ramoutar Human and Infrastructure Capacity Development	
09: 50	Necsa Division Executive: Research and Development	Mr. Frikkie de Beer Necsa: Radiography/Tomography R&D, Section Leader:	
10: 00		Prof Dominique Garcia Professor of Archaeology Président of the Institut National d'Archéologie Préventive, France	
10.20		H.E. Elisabeth Barbier, French Ambassador	
10: 30	Introducing South African AESOP ambassadors	Prof Lorna Holtman University of Western Cape	Prof Lorna Holtman Mrs Louise Euthimiou
		Ms Anja Wiid	
		Ms Franci Dorfling	
		Mr Jabu Tshabalala	
		Miss Ntombi Ngoloyi	
	Mr Curswan Andrews		
	Tea and Refreshments and viewing of posters and presentations South African AESOP ambassadors Lively story discussions and experience feedbacks	Contacts with the media	

TIME	ACTION/TITLE	NAME	Chair
11: 15	“Reveal the hidden with the unseen”: Perspectives on the basics of tomography	Mr Frikkie de Beer	Prof Lorna Holtman Mrs Louise Euthimiou
11: 30	The unique capabilities of Wits microCT facility and more	Mr. Kudakwashe Jakata on behalf of Kristian Carlson Evolutionary Studies Institute	Prof. Bruce Rubidge Evolutionary Studies Institute
11: 45	Advance techniques in palaeoanthropology	Dr Clement Zanolli - Postdoc at UP from Poitiers University, France Palaeoanthropology	Prof. Bruce Rubidge Evolutionary Studies Institute
12: 00	From cave to fossil: the use of 3- dimensional imaging modalities in the reconstruction of taphonomy, environment and skeletal morphology from the Rising Star site, Cradle of Humankind	Ashley Kruger Evolutionary Studies Institute	
12: 15	Use of micro-computed tomography in the investigation of pseudopathology on the skeleton of StW 431 (Australopithecus africanus) from Sterkfontein Cave, Cradle of Humankind	Edward Odes PhD candidate Anatomical Sciences, Wits	
12: 30	Imaging the earliest evidence for neoplastic disease in the human lineage: the use of phase contrast x- ray synchrotron microtomography to investigate a primary osteogenic tumor of the spine in Australopithecus sediba	Dr. Patrick Randolph- Quinney Anatomical Sciences, Wits	
12: 45	Evolutionary changes with climate change in internal and external cranial structures of rodents	Ms. Aluwani Negovela Prof Peter Taylor University of Venda	
13: 00	Lunch at Adler’s Building 57		

14: 00	Application of micro-computed tomography to the analysis of forensic taphonomy and entomology of South African burial systems	Alexander Parkinson PhD candidate Evolutionary studies institute, Wits	Prof Maryna Steyn HOD School of Anatomical Sciences, Wits
14: 15	3D imaging as a tool for investigating past human biodiversity	Jason Hemingway Lecturer: Anatomical Sciences, Wits	
14: 30	Assessing cranial sexual dimorphism using sliding semilandmarks	Candice Small Anatomical Sciences, Wits	
14: 45	Magnetic Resonance Imaging for the analysis of sub-adult skeletal remains	Desiré Brits Lecturer: Anatomical Sciences, Wits	
15: 00	Dental crenulations: age estimation tool or developmental artefact	Erin Hutchinson Lecturer: Anatomical Sciences, Wits	
15: 15	The effect of tooth loss on accurately estimating sex from non-alveolar mandibular morphology using geometric morphometrics	Tshegofatso Ramphaleng MSc student Anatomical Sciences, Wits	
15: 30	Changes in the body proportion of South African children age 0-6 years	Dr. Adebessin A. Abduljalil Evolutionary Studies Institute, Wits Department of Anatomy, Sefako Makgatho Health Sciences University	
15: 45	The three-dimensional illustration of anatomical structure and injuries	Dr. Anna Oettlé Senior lecturer: Department of Anatomy	Dr AC Oettlé Department of Anatomy University of Pretoria
16: 00	Facial profiles of children in forensic analyses	Dr. Nanette Briers Senior lecturer: Department of Anatomy	
16: 15	SAPS Facial Reconstruction	Captain Teunis Briers	
16: 30	The Lodox machine in the forensic environment	Dr Janette Verster Forensic pathology	
16: 45	Digitisation of skulls in South African groups	Melissa Pininski PhD candidate Physical anthropology University of Pretoria	

DAY 2 – 13 October 2015

Field Trip to the Cradle of Humankind

Grundlingh Bus Transport, c/- Roper and Lynnwood Road entrance, Hatfield campus,

University of Pretoria: Depart: 06:15

Hatfield Gautrain station Grosvenor Street: Depart: 06: 30

Necsa Pelindaba: Arrive: 7: 30

Sterkfontein: Arrive: before 8: 30

Necsa Pelindaba: Depart: before 11: 15

Sterkfontein: Arrive: before 12: 00; Depart: 13: 15

Kenjara lodge: Arrive: 13: 30; Depart: 15: 00

Hatfield campus: approximately 16: 30

TIME START	GROUP 1 (names communicated)	TIME START	GROUP 2 (names communicated)
07:30	Arrival and registration: Morning coffee at Visitors Centre Necsa, Pelindaba	07:30	Travel to Sterkfontein
08:00	Amelia Rennie-Kroon: Necsa: Manager: Stakeholder Relations	08:30	Guided tour Sterkfontein caves: Sterkfontein staff with brief introduction by Prof Francis Thackeray
09:00	Welcoming address Dr. Gawie Nothnagel Senior Manager of Radiation Science, Necsa		
09:15	Visit of the facilities = MIXRAD Mr Kobus Hoffman (Instrument Scientist)		
10:15	Visit of the "Preparation Lab" Mr Frikkie de Beer (Section Leader: Radiography/Tomography)	10: 00	Sterkfontein Conference Room Talk by Prof Francis Thackeray regarding Sterkfontein
11: 15	Travel from Necsa to Sterkfontein	11:15	Visit facilities above ground Sterkfontein
12: 00	Guided tour Sterkfontein Caves Sterkfontein staff with brief introduction by Prof Francis Thackeray Palaeontology (University of the Witwatersrand, Johannesburg) + Sterkfontein staff Prof Dominique Garcia Professor of Archaeology Président of the Institut National d'Archéologie Préventive, France		
13: 00	Travel to Kenjara		
13: 30	Braai at Kenjara		

DAY 3 - 14 October 2015

Training session in 3D imaging

Venue: All activities on Prinshof campus, University of Pretoria

Registration from 7: 15 outside lecture hall 6-24, Dental hospital

10: 30 Tea and 13: 00 Lunch will be served on the roof Garden accessible from the 4th floor Oral and Dental hospital

Presentations: 07: 45 to 11: 30 in lecture hall 6-24, Dental hospital

Workshop: Geometric Morphometrics: Prinshof IT (Information Technology) Green laboratory/

Workshop: Educational 3D models room 4-24, Basic Medical Sciences Building as indicated

All transport arranged

Bus departure 06:30 from Hatfield campus, University of Pretoria

TIME START	ACTION	NAME	Chair
07: 15	Arrival and registration: Morning coffee		
07: 45	Welcoming address	Prof Bosman HOD Department of Anatomy UP	Dr AC Oettlé Department of Anatomy University of Pretoria
08: 00	CBCT at the School of Dentistry, Faculty of Health Sciences University of Pretoria	Dr. André Uys Radiology School of Dentistry UP	
08: 15	CBCT versus Micro focus in assessment of alveolar bone	Prof André van Zyl HOD: Department of Periodontics School of Dentistry UP	
08: 30	Microstructure of the mandible	Charlotte Theye – PhD candidate UP	
08: 45	Changing lives using 3D printing	Dr Cules van den Heever Prosthodontist	
09: 00	Association between body weight and facial features	Dr Vinet Coetzee Facial Morphology Research Group Department of Genetics	
09: 15	3D imaging in Nuclear medicine	Prof Mariza Vorster Nuclear Medicine UP	Mould making Mr. Gert Lewis/ Jabu Tshabalala Department of Anatomy, UP
09: 30	Basic concepts of Geometric morphometrics	Jason Hemingway Lecturer: Anatomical Sciences, Wits	
10: 15	3/4 D ultrasound applications in O&G, with emphasis on pelvic floor musculature	Dr Zeelha Abdool Obstetrics and Gynaecology UP	
10: 30	Tea		
11: 00	Radiology Steve Biko hospital	Prof Zarina Lockhat (HOD) and Dr. Paul Rischbieter Department of Radiology	3D printing at UP makerspace Dennis Kriel Instructional Designer/ Educational Technologist, UP
11: 15	Imaging in forensic pathology	Prof Gert Saayman HOD: Forensic pathology UP	

TIME START	WORKSHOP: GEOMETRIC MORPHOMETRICS Prinshof IT (Information Technology) Green laboratory	WORKSHOP: EDUCATIONAL 3D MODELS Room 4-24, Basic Medical Sciences Building
11: 30	Prinshof IT, Green laboratory Landmarking by microscribe digitiser Using 2D or 3D coordinates in GM Analysis Jason Hemingway	From 3D printing to 3D model Liezl Kok Anatomoulds Pty Ltd
12: 00	Lecturer: Anatomical Sciences, Wits	Museum visit Department of Anatomy University of Pretoria
13: 00	Lunch	
14:00 - 17: 00	CONTINUATION OF WORKSHOP: GEOMETRIC MORPHOMETRICS Potential of 3D analysis Landmarking on 3D images; segmentation; 3D visualisation and representation for comparisons Jean Dumoncel Computer scientist and PhD student in IT (University of Toulouse – Paul Sabatier) Dr. Clément Zanolli Centre National de la Recherche Scientifique, France	CONTINUATION OF WORKSHOP: EDUCATIONAL 3D MODELS: 15: 30 Bus departure for Hatfield campus
17: 00	Bus departure	
18:30 for 19:00	Cocktail function UP Conference Centre Function Hall	

DAY 4 - 15 October 2015

Venue: Agriculture Annexe, Room 2-19, University of Pretoria, C/- Lynnwood Road and Roper Street, Hatfield

TIME START	ACTION	NAME	Chair
08: 00	Morning coffee		
08: 30	3D imaging of great Zimbabwean ruins	Prof Innocent Pikiyari, HOD and Ms. Tendai Musindo Department of Anthropology and Archaeology	Prof Chris Boonzaaier
09: 00	Tangible cultural heritage in Africa	Prof Chris Boonzaaier and Ms. Britt Baillie Department of Anthropology and Archaeology	
09: 20	3D Documentation of Africa's Heritage	Prof Heinz Ruther Division of Geomatics (APG) University of Cape Town	
10: 00	Tea		
10: 30	3D modelling in the cradle of humankind	Dr. Laurent Bruxelles Geologist	Prof Jose Braga
10: 45	Hydrogeology and Casts	Dr. Benjamin Lans Geomorphology University of Bordeaux,	
11: 00	3D data in GIS	Guillaume Sueur Manager, Neogeo Technologies	
11: 15	Evaluating procedural modeling for 3D models of informal settlements in urban design activities	Victoria Rautenbach Prof Serena Coetzee Centre of Geo-informatic Sciences	
11: 30	Geometric parameter extraction from 3D imaging for computational modelling of user-variance in live cochleae	Prof Tania Hanekom Bioengineering	
11: 45	Visualisation of the macro and micro structure of the human cochlea and its application in cochlear implant research.	Riaze Asvat Lecturer: Department of Anatomy UP	Dr. Anna Oettlé
12: 00	Disproportionate Cochlear Length in Genus Homo Shows a High Phylogenetic Signal during Apes' Hearing Evolution	Prof José Braga	
12: 15	Finite analysis perspectives	Prof Schalk Kok, UP: Mechanical and Aeronautic Engineering	
12: 30	Registration based strategy for the reconstruction of mandibles from full or partial craniums to assist forensics	Roelof Schoeman MIng student of Prof Schalk Kok and Dr Nico Wilke , UP: Mechanical and Aeronautic Engineering	
13: 00	Farewell luncheon RSC Conference venue, University of Pretoria Closing remarks by Prof Jose Braga – and the way forward		