3D Imaging Summer School Schedule

Time	Monday June 29, 2026	Tuesday June 30, 2026	Wednesday July 1, 2026 — Macroscale	Wednesday July 1, 2026 — Morphometrics	Wednesday July 1, 2026 — Microscale	Thursday July 2, 2026 — Macroscale	Thursday July 2, 2026 — Morphometrics	Thursday July 2, 2026 — Microscale	Friday July 3, 2026 — Macroscale	Friday July 3, 2026 — Morphometrics	Friday July 3, 2026 — Microscale	Saturday July 4, 2026
Location	Amphi B5 PABA	Amphi B5 PABA **Lectures Macroscale**	Amphi B5 PABA **Lectures Morphometrics**			Room Archéovision	Imaging & Informatic rooms (B8)	B2 R+4	PC Room Archéovision	Imaging & Informatic rooms (B8)	B2 R+4	Meeting point: B8 at 8h15 departure by bus
						Macroscale	**Morphometrics**	**Microscale**	**Macroscale**	**Morphometrics**	**Microscale**	
8h15-8h30	**Welcome / Registration**											
8h30-9h15	Welcome Speech **A. Le Cabec**; Keynote - **P. Bayle** (PACEA) **From the field to the laboratory: 3D imaging in archaeological sciences**	Computer graphics - from pixels to 3D rendering. B. Dutailly	An Introduction to Morphometrics. From traditional to geometric morphometrics - The concepts of shape & form - Landmarking and sample size - A discussion on ordination. **L. Courtenay + L. Holbrecht**			**Practice: photogrammetry - N. Zwyns**	Practice - Data segmentation and landmarking on 3DSlicer - **A. Thibeault + A. Sourbé**	Practice - **confocal microscopic acquisition R. Hanon + A. Queffelec**	**Practice: 3D modeling for architectural restitution - V. Baillet (+M. Rouca)**	Practice: Morphometrics with R - **C. Lauer & F. Santos**	**Extract textural data; Data comparison with the ExOsTechBank.** (Licence DigitalSurf to be requested - participants must bring their PC and download R on it) - **R. Hanon + A. Queffelec**	Fieldwork - Saint-Césaire (Charente-Maritime, France)
9h45-10h30	Round table											
10h-10h30						*Coffee Break*	*Coffee Break*	*Coffee Break*	*Coffee Break*	*Coffee Break*	*Coffee Break*	
10h30-10h45	*Coffee Break*	*Coffee Break*	*Coffee Break*									
11h-12h	Digitization in Archaeology: From the physical to the virtual object **A. Le Cabec + N. Vanderesse**	Continuation	Fourier analyses - **L. Courtenay**			Continuation	Continuation	Continuation	Continuation	Continuation	Continuation	
12h-13h30	Lunch for all	Lunch for all	Lunch for all			Lunch for all			Lunch for all			Lunch for all
Location (13h30-13h45)		Amphi B5 PABA **Lectures Microscale**	Room Archéovision	Amphi B5 PABA	PACEA microscopy + B2 R+4 salle de réunion	Room Archéovision	Imaging & Informatic rooms (B8)	B2 R+4	PC Room Archéovision	Imaging & Informatic rooms (B8)	B2 R+4	
(13h45-14h)			**Macroscale**	**Morphometrics**	**Microscale**	**Macroscale**	**Morphometrics**	**Microscale**	**Macroscale**	**Morphometrics**	**Microscale**	
14h-15h30	Amphi B5 PABA **Lectures AI**; Open Science **A. Queffelec**; Epistemology of the Digital Revolution **M. Lequin**	What is 3D surface analysis? What tools are used to investigate the subject? When and why is it relevant to undertake such study? **A. Souron + A. Queffelec**	**Practice: laser scan - I. Intxaurbe**	An overview of some concrete dilemnas to tackle in geometric morphometrics. Integration & modularity **(A. Sourbé + T. Colard)** - The study of asymmetry **(Y. Heuzé)** - The study of developmental heterochronies **(A. Souron)**	**Concrete applications at PACEA** + demo with the confocal microscope rooms **L. Courtenay + A. Queffelec**	**Practice: 3D modeling - basics - M. Rouca (+ V. Baillet)**	Practice - 2D Landmarking on TPSdig - **A. Souron + L. Holbrecht**	**Cleaning the acquisitions; Creating a template; Applying a template on multiple acquisition** (Licence DigitalSurf to be requested - participants must bring their PC) - **R. Hanon + A. Queffelec**	**Practice: putting all together in 3DRIS - B. Dutailly & V. Baillet**	Continuation / Practice: Morphometrics with MorphoJ - **Y. Heuzé**	**Making figures and table ready for publication;** Writing the "Methods" and "Results" section. (Participants must download R on their PC) **R. Hanon + A. Queffelec**	Fieldwork - Saint-Césaire (Charente-Maritime, France)
15h30-16h	*Coffee Break*	*Coffee Break*	*Coffee Break*	*Coffee Break*	*Coffee Break*	*Coffee Break*	*Coffee Break*	*Coffee Break*	*Coffee Break*	*Coffee Break*	*Coffee Break*	
16h-17h15	An introduction to the Power and Pitfalls of Machine Learning **L. Courtenay**; AI and Computer Vision **N. Vanderesse**; Using LLM for data extraction and analysis **A. Dalla Rosa**; Prompt design for code generation **B. Dutailly**	Visit of the micro-CT scanner at PLACAMAT (2h15 max) **N. Vanderesse + A. Le Cabec** 2 groups minimum (10 pers. max), 15 mins signature/ group	Continuation	Continuation	Continuation	**Practice: color sampling - A. Mounier & S. Petitcolas**	Practice: General introduction to R - **C. Lauer & F. Santos**	Continuation	Continuation	Continuation	Continuation	Return by bus
17h15-18h			Keynote Speaker: **Andreu Ollé** (IPHES-CERCA, Spain) Facing the study of use-wear and residues on stone tools through a multi-technique approach Online (Amphi B5 PABA + Chouette)			Keynote Speaker: **Markus Bastir** (Museo Nacional de Ciencias Naturales CSIC, Madrid, Spain) Reconstructing the Past: 3D Geometric Morphometrics and Virtual Anatomy in Human Evolution (Amphi B5 PABA)			Keynote Speaker: **Nadia Spang Bovey** (Université de Lausanne, Faculté des Lettres, Centre NUCLEUS, Switzerland) Preservation of 3D Models and Data on the Long Term: Why and How to Mitigate the Risks of Technological Obsolescence Odeon, UBM			
18h-19h	Cocktail 1		Diner in town (TBD) for group leaders, keynote speakers, organizers, lab directors						Cocktail 2			