

Publications:

Full papers

- Röding, C., Zastrow, J., **Scherf, H.**, Doukas, C., & K., H. (2021). Crown outline analysis of the hominin upper third molar from the Megalopolis Basin, Peloponnese, Greece. In: Ancient Connections in Eurasia. Reyes-Centeno, H. & Harvati, K. (eds.) Tübingen: Kerns Verlag, pp. 13-36
- Karakostis, F. A., Hotz, G., **Scherf, H.**, Wahl, J., & Harvati, K. (2018). A repeatable geometric morphometric approach to the analysis of hand enthesal three-dimensional form. *Am. J. Phys. Anthropol.*, 166(1), pp. 246-260 doi:10.1002/ajpa.23421
- Karakostis, F. A., Hotz, G., **Scherf, H.**, Wahl, J., & Harvati, K. (2017). Occupational manual activity is reflected on the patterns among hand entheses *Am. J. Phys. Anthropol.* 164(1), pp. 30-40 doi:10.1002/ajpa.23253
- Scherf H.**, Wahl J., Hublin J.J., Harvati K. (2016) Patterns of activity adaptation in humeral trabecular bone in Neolithic humans and present-day people. *Am. J. Phys. Anthropol.*, 159, pp. 106-115 DOI: 10.1002/ajpa.22835
- Scherf, H.**; Harvati, K.; Hublin, J.J. (2013) A comparison of proximal humeral cancellous bone of great apes and humans. *J. Hum. Evol.*, 65, pp. 29-38
- Scherf H.** (2013) Computed tomography in paleoanthropology – an overview. *Archaeol. Anthropol. Sci.*, 5, pp. 205-214, DOI 10.1007/s12520-013-0128-5
- Saparin, P.; **Scherf, H.**; Hublin, J.J.; Fratzl, P.; Weinkamer, R. (2011) Structural Adaptation of Trabecular Bone Revealed by Position Resolved Analysis of Proximal Femora of Different Primates. *Anat. Rec.*, 294[1], pp. 55-67
- Preuschoft, H.; Hohn, B.; **Scherf, H.**; Schmidt, M.; Krause, C.; Witzel, U. (2010) Functional analysis of the primate shoulder. *Int. J. Primatol.*, 31, pp. 301-320
- Scherf, H.**; Tilgner, R. (2009) A new high resolution-CT segmentation method for trabecular bone architectural analysis. *Am. J. Phys. Anthropol.*, 140[1], pp. 39-51
- Scherf, H.** (2008) Locomotion-related femoral trabecular architectures in primates – High resolution computed tomographies and their implications for estimations of locomotor preferences of fossil primates. In: *Anatomical Imaging*. Endo, H. & Frey, R. (eds.) Springer Japan, pp. 39-59
- Scherf, H.**; Koller, B.; Schrenk, F. (2005) Locomotion related structures in the femoral trabecular architecture of Primates and Insectivores. *Senckenbergiana biologica*, 85[1], pp. 101-112
- Scherf, H.**; Beckmann, F.; Fischer, J.; Witte, F. (2004) Internal channel structures in trabecular bone. *Optical Science and Technology SPIE's 49th Annual Meeting, Proceedings of SPIE*, Vol. 5535 - *Developments in X-Ray Tomography IV*, Ulrich Bonse, ed., pp. 792-798
- Habersetzer, J.; **Scherf, H.**; Seidel, R.; Beckmann, F. (2004) 3-D-Animation knöcherner Gesamtskelette und mikro-tomographischer Skelettdetails von Fossilien aus der Grube Messel. *Courier Forschungsinstitut Senckenberg*, 252, pp. 237 – 241
- Scherf, H.** (2004) Virtuelles 3-D-Modell der Fossilienfundstätte Grube Messel. *Courier Forschungsinstitut Senckenberg*, 252, pp. 233 – 236

Published abstracts

Scherf H., Wahl J., Hublin J.J., Harvati K. (2015) Evidence of strenuous physical activity in humeral trabecular bone in a Neolithic Linear pottery Culture (LBK) population. Proceedings of the European Society for the study of Human Evolution 4, pp. 197

Scherf, H.; Francken, M.; Wahl, J.; Harvati, K. (2015) Leukemia in the Neolithic? – Evidence in cancellous bone of a 7000 year old skeleton. Journal of Evolutionary Medicine, 3, pp. 31

Discovery News ‘Oldest Case of Leukemia Found on 7,000-Year-Old Skeleton’ (2015)
<http://news.discovery.com/history/archaeology/oldest-case-of-leukemia-found-on-7000-year-old-skeleton-150818.htm>

Ruffoni, D.; Christen, P.; **Scherf, H.**; Weinkamer, R. (2015) Wolff’s law and the interplay between bone structure and external loading. IBMS BoneKEy 13, Article number: 673
doi:10.1038/bonekey.2015.40

Scherf, H.; Francken, M.; Wahl, J.; Harvati, K. (2015) Pathological traits in Neolithic skeletal remains-Earliest evidence for leukemia? Am. J. Phys. Anthropol., 156[S60], pp. 278

McCarty, L.A.; Rein, T.R.; **Scherf, H.**; Darlas, A.; Harvati, K. (2014) Geometric morphometric and trabecular bone analysis of the Kalamakia Neanderthal navicular bone: A comparative study. Am. J. Phys. Anthropol., 153[S58], pp. 180

Scherf H., Wahl J., Hublin J.J., Harvati K. (2012) Comparison of the humeral cancellous bone in Neolithic human populations and present day people. Am. J. Phys. Anthropol., 147[S54], pp. 261

Scherf, H.; Hublin, J.J. (2010) Morphological differences in humeral cancellous bone of Neanderthals and extant hominids. Am. J. Phys. Anthropol, 141[S50], pp. 207

Scherf, H.; Tilgner, R.; Hublin, J.J. (2009) Effects of locomotion – Morphological differences in humeral cancellous bone of hominids and their relation to habitual loading conditions of the shoulder joint. Am. J. Phys. Anthropol, 138[S48], pp. 229

Saparin, P.; **Scherf, H.**; Hublin, J.J.; Fratzl, P.; Weinkamer, R. (2009) The trabecular bone architecture in proximal femora of primates with different locomotor preferences indicates different adaptation mechanisms. Bone, 44 [Suppl. 1], p. S63

Scherf, H.; Hublin, J.J. (2007) Habitual loading conditions of the shoulder joint in *Pan troglodytes* and *Homo sapiens* and its implications on humeral trabecular architecture. Journal of Morphology, 268[12], pp. 1129-1130

Scherf, H. (2007) Locomotion-related trabecular architectures in long bones of primates. Am. J. Phys. Anthropol, 132[S44], pp. 207-208

Theses:

Scherf, H. (2007) Locomotion-related femoral trabecular architectures in Primates. Ph.D. thesis, Darmstadt University of Technology, p. 202
<http://elib.tu-darmstadt.de/diss/000797/>

Scherf, H. (2000) Funktionelle Bedeutung der femoralen Konstruktion bei ausgewählten Primaten und Insektivoren (Functional implication of the femoral construction of selected primates and insectivores); Diploma thesis, Darmstadt University of Technology

Scherf, H. (1999) Strukturgeologisch-petrographische Aufnahme des Profils Ebnath-Trevesen im Fichtelnaabtal / NE-Bayern (Mapping of the structural geologic-petrographic profile Ebnath-Trevesen in the valley of the Fichtelnaab / NE Bavaria); Geological mapping thesis, Darmstadt University of Technology

Participation in national and international scientific conferences and invited talks

Oral presentations:

Trautmann I., Harvati K., **Scherf H.**: Palaeontological CT: Fossils and X-rays - Exploring new dimensions in palaeoanthropology.

7th X-ray Forum 2011 (Berlin, Germany) August 30 – September 1, 2011

Scherf, H. How did they move? Internal long bone structures and daily life of fossil primates and Neanderthals

Special lecture in the lecture series "Current topics in Evolution and Ecology", Eberhard Karls University Tübingen, January 25, 2011

Scherf, H.; Dunlop, J.W.C.; Saporin, P.; Rusconi, M.; Valleriani, A.; Hublin, J.J.; Fratzl, P.; Weinkamer, R.: Adaptation of the spongy architecture of trabecular bone

Materials Science and Engineering (Darmstadt) 24-26 August 2010

Scherf, H.; Hublin, J.J.: Morphological differences in humeral cancellous bone of Neanderthals and extant hominids.

Invited Podium Symposium. Trabecular Bone Structure and Function in Primates: Recent Advances and Future Directions. Organizers: Timothy M. Ryan, James H. Gosman, and Brian G. Richmond. 79th Meeting of the American Association of Physical Anthropologists (Albuquerque, USA) 14-17 April 2010

Scherf, H.; Tilgner, R.: Scanning, Segmenting, and Trabecular Quantification.

Trabecular Bone Workshop – Max Planck Institut für Evolutionäre Anthropologie (Leipzig) January 22, 2010

Scherf, H.: High-resolution CT (Hr-CT) – key towards a new morphology.

EVAN workshop: The Transition from Archaic to Modern: Quantitative Approaches, Max Planck Institute für Evolutionäre Anthropologie (Leipzig) 28-29 May 2009

Scherf, H.: Bone from a paleontologists perspective.

Bone & Tooth Seminar at the Max Planck Institute für Kolloid- und Grenzflächenforschung (Golm, Potsdam) October 15, 2008

Scherf, H.; Tilgner, R.: Structural adaptation of cancellous bone in different ape species – What we see and what we get by morphometric analyses.

Bone & Tooth Seminar at the Max Planck Institute für Kolloid- und Grenzflächenforschung (Golm, Potsdam) October 15, 2008

Scherf, H.; Tilgner, R.: Reliability of CT Segmentation for Trabecular Bone Architecture analysis.

2008 International Primatological Society Post-Congress Symposium on Comparative Functional Morphology in Primates (Durham, UK) 10-11 August 2008

Preuschoft, H.; Hohn, B.; **Scherf, H.**; Schmidt, M.; Witzel, U.: Functional analysis of the primate shoulder and thorax.

XXII Congress of the International Primatological Society (Edinburgh, Schottland) 03-08 August 2008

Scherf, H.; Tilgner, R.: Internal skeletal structures – What can they tell us? How can they be evaluated?

Hard tissue workshop – Max Planck Institute für Evolutionäre Anthropologie (Leipzig) November 29, 2007

Scherf, H.; Hublin, J.J.: Habitual limb loading in primates and its implications on trabecular architecture.

8th International Congress of Vertebrate Morphology (Paris, Frankreich) 16-21 July 2007

Scherf, H.; Beckmann, F.; Habersetzer, J., Schrenk, F.: Application of High-resolution CT-images for Investigation of the trabecular architecture of primates and Eocene Messel fossils.

IX. International Mammalogical Congress (Sapporo, Japan) July 31 - August 05, 2005

Scherf, H.; Habersetzer, J.: High resolution CT: Entering a new dimension in palaeontology.

3D-Workshop – Forschungsinstitut Senckenberg, Senckenberg Museum (Frankfurt/Main) April 22, 2005

Scherf, H.: Die Trabekelarchitektur als interpretative Basis für Lokomotionsanalysen fossiler Spezies.

Gastvortrag im Rahmen des Arbeitskreises „Prüfung und Simulation“ (SFB 599) an der Orthopädischen Klinik der Medizinischen Hochschule im Annastift (Hannover) December 12, 2003

Scherf, H.; Beckmann, F.; Habersetzer, J.: Differentiation in the mineral content of trabecular bone
51. Symposium of Vertebrate Paleontology & Comparative Anatomy (Oxford, UK) 16-20 September 2003

Scherf, H.: High resolution-CT of internal bone structures.

Satellite meeting: „Material Science at the new HARWI II Beamline: High Energy X-ray Diffraction and Tomography“ HASYLAB User Meetings (Hamburg) January 30, 2003

Scherf, H.; Schrenk, F.: Microcomputertomographic investigation of the femoral trabecular architecture on different Primates and Insectivores.

VI European Workshop on Vertebrate Paeontology (Florenz, Italien) 19-22 September 2001

Scherf, H.: Mikrocomputertomographische Untersuchung der femoralen Trabekelarchitektur an verschiedenen Primaten und Insektivoren

28. Treffen des Arbeitskreises Wirbeltierpaläontologie (Kusel) 9-11 March 2001

Poster presentations

Scherf H., Wahl J., Hublin J.J., Harvati K. (2015) Evidence of strenuous physical activity in humeral trabecular bone in a Neolithic Linear pottery Culture (LBK) population. 5th Annual ESHE Meeting (London, UK) September 10-12, 2015

Scherf, H.; Francken, M.; Wahl, J.; Harvati, K. (2015) Leukemia in the Neolithic? – Evidence in cancellous bone of a 7000 year old skeleton. Evolutionary Medicine Conference: Interdisciplinary Perspectives on Human Health and Disease (Zurich, Switzerland) July 30-August 1, 2015
Discovery News ‘Oldest Case of Leukemia Found on 7,000-Year-Old Skeleton’ (2015)
<http://news.discovery.com/history/archaeology/oldest-case-of-leukemia-found-on-7000-year-old-skeleton-150818.htm>

Ruffoni, D.; Christen, P.; **Scherf, H.;** Weinkamer, R. (2015) Wolff’s law and the interplay between bone structure and external loading. 4th Joint Meeting of European Calcified Tissue Society (ECTS) and the International Bone and Mineral Society (IBMS) (Rotterdam, The Netherlands) April 25-28, 2015

Scherf, H.; Francken, M.; Wahl, J.; Harvati, K. (2015) Pathological traits in Neolithic skeletal remains-Earliest evidence for leukemia? 84th Meeting of the American Association of Physical Anthropologists (St. Louis, USA) March 25-18, 2015

McCarty, L.A.; Rein, T.R.; **Scherf, H.;** Darlas, A.; Harvati, K. (2014) Geometric morphometric and trabecular bone analysis of the Kalamakia Neanderthal navicular bone: A comparative study. Am. J. 83rd Meeting of the American Association of Physical Anthropologists (Calgary, Canada) April 08-12, 2014

Scherf H., Wahl J., Hublin J.J., Harvati K. Comparison of the humeral cancellous bone in Neolithic human populations and present day people. 81st Meeting of the American Association of Physical Anthropologists (Portland, USA) April 11-14, 2012

Scherf, H.; Tilgner, R.; Hublin, J.J.: Morphological differences in humeral cancellous bone of hominids and their relation to habitual loading
78th Meeting of the American Association of Physical Anthropologists (Chicago, USA) 01-04 April 2009

Scherf, H.: Locomotion-related trabecular architectures in long bones of primates
76th Meeting of the American Association of Physical Anthropologists (Philadelphia, USA) 28-31 March 2007

Scherf, H.; Beckmann, F.; Fischer, J.; Witte, F.: Internal channel structures in trabecular bone
International Conference “Developments in X-Ray Tomography IV”, Optical Science and Technology Symposium, SPIE’s 49th Meeting (Denver, USA) 02-06 August 2004