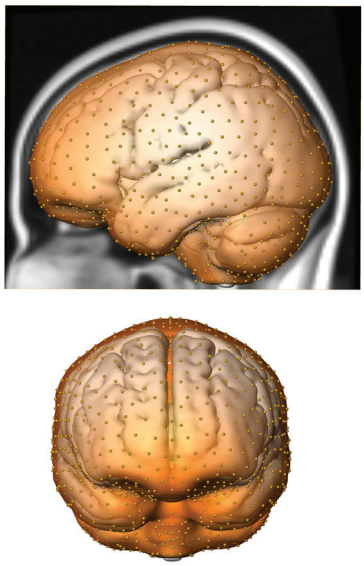
Max Planck Institute for Evolutionary Anthropology · Department of Human Origins
Research Group Cranial Evolution & Development

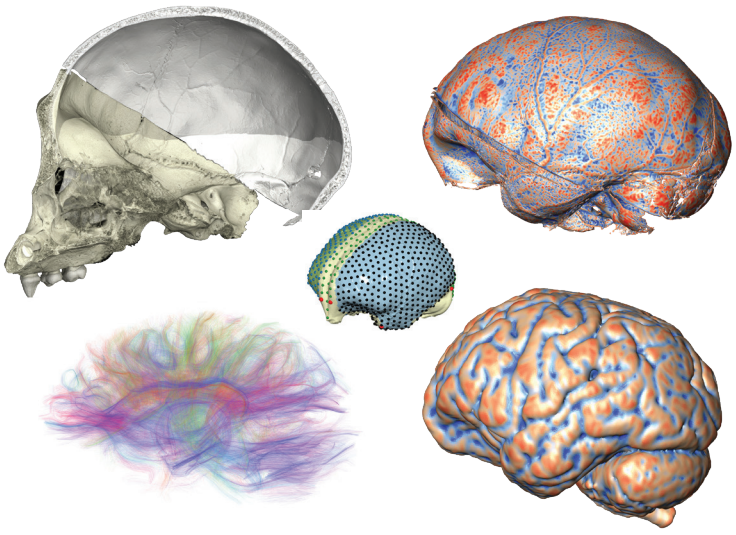
RESEARCH BRIEF

I am a palaeoanthropologist who studies the evolution of human development by analysing the growth patterns and morphology of humans, their fossil ancestors and primate relatives. I specialise in the virtual reconstruction of fossils from micro CT scans and the statistical analysis of shape — a set of methods called geometric morphometrics.

My research investigates developmental and evolutionary shape change in primates — both living and fossil. I study the evolution of facial features, brain development, tooth shape, and the bony labyrinth. A key focus is the evolution of the brain and its endocranial imprint within the skull. Changes in endocranial shape observed in the hominin lineage may reflect evolutionary changes in brain organisation. However, brain tissue does not fossilize, making it difficult to study the underlying biology. My group's research addresses this challenge through an interdisciplinary approach that integrates fossil skull analysis, ancient genomics, brain imaging and gene expression.



Automated phenotyping: capturing endocranial shape from MRI brain scans using semilandmarks.



Scratching the surface: Endocranial imprint generated from a µCT scan of the skull and MRI brain scans of a chimpanzee infant.

PD Dr. Philipp Gunz · *Curriculum vitae*

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Department of Human Origins
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04103 Leipzig — Germany
E-mail: gunz@eva.mpg.de

CURRENT ACADEMIC POSITIONS

Since 2015	Research Group Leader (W2) «Cranial Evolution & Development» Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany.
Since 2019	Fellow of the Max Planck School of Cognition, Germany.
Since 2017	Affiliated Researcher — Max Planck Institute for Psycholinguistics, Nijmegen, The Netherlands.
Since 2001	Lecturer, Department of Anthropology, University of Vienna, Austria.

THESES

2013	Habilitation at the Dept. of Anthropology, University of Vienna, Austria. THESIS TITLE: *Evolution & Development of the hominin skull.*
2005	Ph.D. (*doctor rerum naturalium*) at the Department of Anthropology, University of Vienna, Austria (with honors). THESIS TITLE: *Statistical and geometric reconstruction of hominid crania: reconstructing australopithecine ontogeny*, supervised by G.W. Weber, F.L. Bookstein and H. Seidler.
2001	Master's Degree (Mag. rer. nat.) in Anthropology at the Institute for Human Biology (now Dept. of Anthropology), University of Vienna, Austria (with honors). THESIS TITLE: *Using Semilandmarks on surfaces and curves in three dimensions to model human neurocranial shape*, supervised by H. Seidler and F.L. Bookstein.

PAST ACADEMIC POSITIONS

2017–2020	Extended Faculty — KLI Institute for the Advanced Study of Natural Complex Systems, Austria.
2011–2017	Associate Professor (Status-Only Appointment), Department of Anthropology; University of Toronto, Canada.
2007–2015	Research Fellow, Department of Human Evolution; Max Planck Institute for Evolutionary Anthropology, Leipzig, Germany.
2005–2007	Postdoctoral Marie Curie Fellow at the Max Planck Institute for Evolutionary Anthropology, Department of Human Evolution; Leipzig, Germany.
2005	Post-Doc Stipend at the Max Planck Institute for Evolutionary Anthropology, Department of Human Evolution; Leipzig, Germany.
2004–2005	Ph.D. research fellowship funded by a grant of the Ministry of Culture Science & Education Austria, and the Austrian Council for Science and Technology.
2001–2004	Ph.D. research fellowship funded by the project «Parameterised reference models for hominoid skulls», the Austrian Science Foundation (FWF).

TEACHING EXPERIENCE

Since 2005 LECTURER at the «International Max Planck Research School» in Leipzig.

- Advanced topics in geometric morphometrics (graduate seminar)
- Multivariate statistics (graduate seminar)
- Virtual Anthropology (graduate level lecture)
- Plio-Pleistocenes hominins (graduate level lecture)
- The first humans (graduate level lecture)

Since 2001 LECTURER, University of Vienna

- The evolution of hominids
- Virtual Anthropology
- Human Evo·Devo: The evolution of human development
- Multivariate Statistics for Biologists
- Techniques of Scientific Presentation

WORKSHOP & CONFERENCE ORGANISATION

- 2011 – 2020: European Society for the Study of Human Evolution (ESHE), organisation of annual meeting
- Human Evo·Devo — Konrad Lorenz Institute Altenberg, September 2009.
- Marie Curie Fellow meeting (RTN EVAN), July 2007, Leipzig.

ACADEMIC AWARDS & RECOGNITIONS

- ISI Higly Cited Researcher — Thompson Reuters Essential Science Indicators — 2014/15 & 2020/21
- Poster prize, *150 years of Neanderthal discoveries conference* — Bonn 2006
- Prize for best oral presentation, *European Anthropological Association* — Cambridge 2000

RESEARCH GRANTS

2019–2025 *Evolution of Hominoid Brain Connectomics* (PIs: C. Crockford, P. Gunz, D. Haun, N. Weiskopf, A.D. Friederici, A. Anwander) — 6 Mio €.

2010 MaxNet Cognition: *Phenotypic analysis of 1000 human brains*: 47 000 €

2008 Minerva Foundation Research Grant (with Alon Barash): *Virtual reconstruction of fossil crania*

2004–2007 Austrian Council for Science and Technology
New Perspectives in Anthropological Studies (PI Horst Seidler).
Co-PI on the geometric morphometrics section: 522 000 €

2001, 2004 Travel Grants of the «Österreichische Forschungsgemeinschaft».

FIELD WORK EXPERIENCE

2001 – 2007 Since my graduate studies at the University of Vienna, I have been a member of an international research team conducting fieldwork in Ethiopia at a site called *Galili*. This site has yielded *Australopithecus* fossils, and abundant faunal remains.

COMPUTER PROGRAMMING EXPERIENCE

MATHEMATICA & «R» In collaboration with Philipp Mitteröcker, Univ. of Vienna, I have developed an extensive toolkit for geometric morphometric data processing, missing data estimation, multivariate analysis and visualization.

STUDENT SUPERVISION AND CO-SUPERVISION

PH.D. DISSERTATIONS

- Christoph Kulemeyr — Graduated in 2009
- Simon Neubauer — Graduated 2010
- Sarah E. Freidline — Graduated 2012
- Stephanie Kozakowski — Graduated 2013
- Stefanie Stelzer — Graduated 2018
- Nadia A. Scott — Graduated 2021
- Alexandra Schuh — Graduated 2021
- Thomas Davies — Graduated 2021
- Julia van Beesel — Graduated 2022
- Inga Bergmann —Graduated 2023
- Hajar Alichane
- Weldeyared Reda

MASTER AND BACHELOR THESES

- Caroline Fenes (Master Thesis, University of Vienna, Supervisor: Katrin Schäfer)
- Simon Neubauer (Master Thesis, University of Vienna, Supervisor: Gerhard Weber)
- Martin Schöfnagl (Master Thesis, University of Vienna, Supervisor: Horst Seidler)
- Paulina Dittmann (Bachelor Thesis, University of Leipzig)

POST-DOCS

- Alexandra Schuh

FORMER POST-DOCS OF THE MORPHOLOGY GROUP

- Sélim Natahi — now at Collège de France, Paris
- Romain David — now at Natural History Museum, London
- Barbara Drews — now at ETH Zurich
- Sarah E. Freidline — now University of Central Florida
- Adeline Le Cabec — now at Université de Bordeaux
- Stephanie M. Melillo — now at Mercyhurst University
- Simon Neubauer — now at Johannes Kepler University Linz
- Marissa Ramsier — now at Humboldt State University
- Alexander Stößel — now at Friedrich-Schiller-Universität Jena
- Zewdi J. Tsegai — now at University of Chicago

SERVICE

Since 2019	Scientific Advisory Board — *KLI Institute for the Advanced Study of Natural Complex Systems*
Since 2018	Elected Institute Mediator at the *MPI EVA Leipzig* (offering advice and help on interpersonal conflicts, scientific integrity, biases or harassment based on sex, gender, ethnicity, sexual orientation or age)
2021–2023	Interim head of the Department Human Evolution
2017–2020	Elected Representative to the Scientific Council (Human Science Section) of the *Max Planck Society*
Since 2013	Board member *European Society for the Study of Human Evolution* (ESHE)
2012–2015	Editorial Board *Journal of Human Evolution*
2005–2007	Elected representative for the fellows (graduate students and postdocs) of the *Marie Curie Research Training Network* «EVAN»

INVITED TALKS & ACADEMIC LECTURES

1. Symposium «Genotype-Phenotype Interactions», University Tübingen — December 2023
2. Workshop *Homo floresiensis* Skeletal Biology , MPI EVA Leipzig — September 2023
3. Tracy and Ruth Storer Lectureship in the Life Sciences, UC Davis College of Biological Sciences — May 2023
4. Institute Seminar, Max Planck Institute for Evolutionary Anthropology Leipzig — January 2023
5. Summer School «3D imaging & morphometrics», University of Bordeaux — June 2022
6. Evolutionary Anthropology Seminar Series (virtual meeting), University of Liverpool — June 2022
7. Institute of Medical Physics and Biophysics, University of Leipzig — April 2022
8. Southern African Neuroscience Society, Online Workshop «From Fossils to Mind» — November 2021
9. Brookhaven National Laboratory, Workshop «Unraveling the Past» (virtual meeting) — May 2021
10. Bristol Palaeobiology Research Group — May 2021
11. Allen Discovery Center, «Expanding Minds» Online Seminar — February 2021
12. Human Evolution Symposium, Max Planck Institute for Evolutionary Anthropology Leipzig — October 2020
13. Round table «Controls and evolution of bipedalism» (virtual meeting) — May 2020
14. Panel discussion: Salon Sophie Charlotte (Berlin) — January 2020
15. Monash University, Melbourne, Keynote lecture — November 2019
16. Erice, Evolution of Brain & Behaviour in Primates — September 2019
17. Cologne University, Keynote Lecture — May 2019
18. New York University, Center for the Study of Human Origins Lecture — October 2018
19. Collège de France (Energetics of the *Hominins*), Paris — June 2018
20. Biologisches Kolloquium, University Siegen — January 2018
21. Studienstiftung des deutschen Volkes, Cologne — September 2017
22. Donders Cognomics Conference, Nijmegen — September 2017
23. Karolinksa Institute Nobel Forum, Stockholm — August 2017
24. Keynote lecture: Swedish Society for Anatomy, Gothenburg — August 2017
25. Keynote lecture: MORPH2017 conference, Aarhus — May 2017
26. Genderperspektiven in der Medizin, Leipzig — January 2017
27. Max Planck Institute for the Science of Human History, Jena — November 2016
28. Collège de France, Paris — October 2016
29. Studienstiftung des deutschen Volkes, Cologne — March 2016
30. Hessisches Landesmuseum, Darmstadt — October 2015
31. Keynote lecture German Society of Pediatrics & Adolescent Medicine (*DGKJ Jahrestagung*) — September 2014
32. American Association of Physical Anthropologists' Annual Meeting, Invited Symposium, Calgary — April 2014
33. Center for Organismal Systems Biology, Vienna — June 2013
34. Morphometrics Workshop, La Plata — June 2013
35. Centre de Recherches Interdisciplinaires, Paris — March 2013
36. Centro Nacional de Investigación sobre la Evolución Humana, Burgos — October 2012
37. Zoom Museum for Children, Vienna — March 2012
38. Natural History Museum, Paris — February 2012
39. Senckenberg Museum, Görlitz — February 2012
40. Natural History Museum, Paris — March 2011
41. University of Zürich — November 2010
42. University of Tübingen — November 2010
43. Institut Pasteur, Paris — April 2010
44. Natural History Museum, Paris — April 2010
45. Medical University, Leiden — Nov 2009
46. Keynote, Graduation Day MPI CBG, Dresden — November 2009
47. Department of Theoretical Biology, University of Vienna — November 2009
48. Wellcome Trust, Cambridge — Sept. 2009

49. Natural History Museum, Paris — April 2009
50. Croation Academy of Sciences, Zagreb — January 2009
51. University of Vienna — December 2008
52. Neurospin — March 2008
53. «Morphofest 2008» Vienna — July 2008
54. Harvard University, Cambridge — October 2007
55. Weizmann Institute, Tel Aviv (Rehovot) — May 2007
56. «Morphofest 2006» Vienna — July 2006
57. Max Planck Inst. for Evolutionary Anthropology, Leipzig — January 2005
58. Konrad Lorenz Institute for Evolution & Cognition, Altenberg — November 2003

REFEREE FOR JOURNALS & GRANTS

Annals of Anatomy, American Journal of Physical Anthropology, American Journal of Human Biology, American Journal of Orthodontics & Dentofacial Orthopedics, American Journal of Primatology, Current Biology, Evolutionary Biology, eLife, Frontiers in Human Neuroscience, Journal of Anatomy, Journal of Human Evolution, Nature, Nature Communications, Nature Ecology & Evolution, PLoS One, Palaeontologia Electronica, PNAS, Proceedings of the Royal Society B, Systematic Biology, The Anatomical Record, Transactions of the Royal Society of South Africa.

National Science Foundation, Leakey Foundation, Natural Environment Research Council—United Kingdom, Deutsche Forschungsgemeinschaft, Swiss National Science Foundation, Studienstifung des deutschen Volkes, European Science Foundation.

MENTORING

In addition to student supervision and mentoring of my own group, I offer 1:1 mentoring sessions to junior researchers via video chat every Monday at 4 pm (more info on *www.evodevo.de*).

2023	Athi Baliso. Training in geometric morphometrics.
2021	Arthur Gicqueau. Training in virtual anthropology & geometric morphometrics.
2018	Sofia Pedro. Training in virtual anthropology & geometric morphometrics.
2016	Gizéh Rangel de Lazaro. Training in virtual anthropology & geometric morphometrics.
2014–2016	Emilie Grallert, student, Leipzig, Germany. Training in virtual anthropology.
2013	Elisa Kasbohm, undergraduate student, Greifswald University, Germany. Training in geometric morphometrics.
2011	Wataru Yano, student, Primate Research Institute, Kyoto University, Japan. Training in geometric morphometrics.
2011	Franziska Wiencke, undergraduate student, Leipzig University. Training in virtual anthropology.
2009–2013	Stephanie Kozakowski, Doctoral candidate, University of Toronto, Canada. Training in virtual anthropology and geometric morphometrics.
2009	Habiba Chirchir, Doctoral candidate, George Washington University, Washington, USA. Training in virtual anthropology and geometric morphometrics.
2007	Ivor Jankovic, Doctoral candidate, Zagreb University, Croatia. Training in geometric morphometrics.
2004	Ekaterina Stansfield (nee Bulygina), Doctoral candidate, University College London, UK. Training in geometric morphometrics.

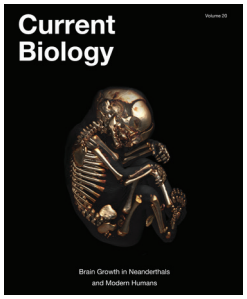
CONTRIBUTIONS TO EXHIBITIONS IN MUSEUMS

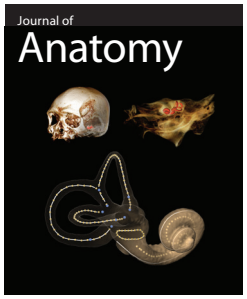
Naturhistorisches Museum Wien, Haus der Archäologie & Geschichte Chemnitz, Naturkunde Museum Stuttgart, Technisches Museum Wien, Neanderthal Museum Mettmann, Senckenberg Museum, Frankfurt, Hessisches Landesmuseum Darmstadt, EVAN Exhibit Leipzig, Wissenschaftssommer 2008 Leipzig.

Publications

PUBLICATION METRICS

Peer-reviewed manuscripts	109
Total citations (Google Scholar)	> 13700
h-index	51





PAPERS IN REFEREED JOURNALS

[ce] contributed equally

1. DAVIES, T.W., **GUNZ**, P., SPOOR, F., ALEMSEGED, Z., GIDNA, A., HUBLIN, J.-J., KIMBEL, W.H., KULLMER, O., PLUMMER, W.P., ZANOLLI, C., SKINNER, M.M., 2024. Dental morphology in *Homo habilis* and its implications for the evolution of early *Homo*. ***Nature Communications*** 15, 286.
2. FRIEDERICI, A.D., WITTIG, R.M., ANWANDER, A., EICHNER, C., GRÄSSLE, T., JÄGER, C., KIRILINA, E., LIPP, I., DÜX, A., EDWARDS, L.J., GIRARD-BUTTOZ, C., JAUCH, A., KOPP, K.S., PAQUETTE, M., PINE, K.J., UNWIN, S., HAUN, D.B.M., LEENDERTZ, F.H., MCELREATH, R., MORAWSKI, M., **GUNZ**, P., WEISKOPF, N., CROCKFORD, C., AND EBC CONSORTIUM, 2024. Brain structure and function: a multidisciplinary pipeline to study hominoid brain evolution. ***Front. Integr. Neurosci.*** 17:1299087. doi: 10.3389/fnint.2023.1299087
3. GICQUEAU, A., SCHUH, A., HENRION, J., VIOLA, B., PARTIOT, C., GUILLON, M., GOLOVANOVA, L., DORONICHEV, V., **GUNZ**, P., HUBLIN, J.-J., MAUREILLE, B., 2023. Anatomically modern human in the Châtelperronian hominin collection from the Grotte du Renne (Arcy-sur-Cure, Northeast France). ***Scientific Reports*** 13(1): 12682.
4. FREIDLINE, S.E., WESTAWAY, K.E., JOANNES-BOYAU, R., DURINGER, P., PONCHE, J.-L., MORLEY, M.W., HERNANDEZ, V.C., MCALLISTER-HAYWARD, M.S., MCCOLL, H., ZANOLLI, C., **GUNZ**, P., BERGMANN, I., SICHANTHONGTIP, P., SIHANAM, D., BOUALAPHANE, S., LUANGKHOTH, T., SOUKSAVATDY, V., DOSSETO, A., BOESCH, Q., PATOLE-EDOUMBA, E., AUBAILE, F., CROZIER, F., SUZZONI, E., FRANGEUL, S., BOURGON, N., ZACHWIEJA, A., DUNN, T.E., BACON, A.-M., HUBLIN, J.-J., SHACKELFORD, L., DEMETER, F., 2023. Early presence of *Homo sapiens* in Southeast Asia by 86–68 kyr at Tam Pà Ling, Northern Laos. ***Nature Communications*** 14, 3193.
5. DE SOUSA, A.A., BEAUDET, A., CALVEY, T., BARDO, A., BENOIT, J., CHARVET, C.J., DEHAY, C., GOMEZ-ROBLES, A., **GUNZ**, P., HEUER, K., VAN DEN HEUVEL, M.P., HURST, S., LAUTERS, P., REED, D., SALAGNON, M., SHERWOOD, C.C., STROCKENS, F., TAWANE, M., TODOROV, O.S., TORO, R., WEI, Y. 2023. From fossils to mind. ***Communications Biology*** 6, 636.
6. GANAPATHEE, D.S, **GUNZ,** P., 2023. Insights into brain evolution through the genotype-phenotype connection. ***Progress in Brain Research*** 275, 73-923.
7. GRÄSSLE, T., CROCKFORD, C., EICHNER, C., GIRARD-BUTTOZ, C., JÄGER, C., KIRILINA, E., LIPP, I., DÜX, A., EDWARDS, L., JAUCH, A., KOPP, K. S., PAQUETTE, M., PINE, K., EBC CONSORTIUM, HAUN, D. B. M., MCELREATH, R., ANWANDER, A., **GUNZ**, P., MORAWSKI, M., FRIEDERICI, A. D., WEISKOPF, N., LEENDERTZ, F. H., & WITTIG, R. M. 2023. Sourcing high tissue quality brains from deceased wild primates with known socio-ecology. ***Methods in Ecology and Evolution*** (online).
8. BERGMANN, I., HUBLIN, J.J., BEN-NCER, A., SBIHI-ALAOUI, FZ., **GUNZ,** P., FREIDLINE, S. E. 2022. The relevance of late MSA mandibles on the emergence of modern morphology in Northern Africa. ***Scientific Reports*** 12 (1), 1-13.
9. BERGMANN, I., HUBLIN, J.J., **GUNZ,** P., FREIDLINE, S. E. 2021. How did modern morphology evolve in the human mandible? The relationship between static adult allometry and mandibular variability in *Homo sapiens*. ***J Hum Evo*** 157, 103026.

10. SCHUH, A., **GUNZ**, P., VILLA, C., KUPCZIK, K., HUBLIN, J.-J., FREIDLINE, S. E. 2021. Quantifying maxillary development in chimpanzees and humans: An analysis of prognathism and orthognathism at the morphological and microscopic scales. ***J Hum Evo*** 157 103031

11. SCHUH, A., **GUNZ**, P., VILLA, C., KUPCZIK, K., HUBLIN, J.-J., FREIDLINE, S. E. 2020. Intraspecific variability in human maxillary bone modeling patterns during ontogeny. ***AJPA*** 137, 655-670.

12. RANGEL DE LÁZARO, G., NEUBAUER, S., **GUNZ**, P., BRUNER, E. 2020. Ontogenetic changes of diploic channels in modern humans. ***AJPA*** 173(1): e24085, pp. 96-111.

13. DAVIES, T.W., DELEZENE, L.K., **GUNZ**, P., HUBLIN, J.J., BERGER, L., GIDNA, A., SKINNER, M.M. 2020. Distinct mandibular premolar crown morphology in *Homo naledi* and its implications for the evolution of *Homo* species in southern Africa. ***Scientific Reports*** 10: 13196.

14. GUNZ, P.*, NEUBAUER, S.*, FALK, D., TAFFOREAU, P., LE CABEC, A., SMITH, T.M., KIMBEL, W.H., SPOOR, F., ZERESENAY, A. 2020. *Australopithecus afarensis* endocasts suggest ape-like brain organization and prolonged brain growth. ***Science Advances*** [ce]

15. NEUBAUER, S., **GUNZ**, P., SCOTT, N.A., HUBLIN, J.J, MITTEROECKER, P. 2020. Evolution of brain lateralization: a shared hominid pattern of endocranial asymmetry is much more variable in humans than in great apes. ***Science Advances*** 102727.

16. WEBER, G.W., HERSHKOVITZ, I., **GUNZ**, P., NEUBAUER, S., AYALON, A., LATIMER, B., BAR-MATHEWS, M., YASUR, G., BARZILAI, O., MAY, H., 2019. Before the massive modern human dispersal into Eurasia: A 55,000-year-old partial cranium from Manot Cave, Israel. ***Quaternary International*** 551: 29-39

17. PEREIRA-PEDRO, A.S., BRUNER, E., **GUNZ,** P., NEUBAUER, S. 2020. A morphometric comparison of the parietal lobe in modern humans and Neanderthals. ***J Hum Evo*** 142: 102770.

18. RICHMOND, B.G., GREEN, D.J., LAGUE, M.R., CHIRCHIR, H., BEHRENSMEYER, A.K., BOBE, R., BAMFORD, M.K., GRIFFIN, N.L., **GUNZ,** P., MBUA, E., MERRITT, S.R., POBINER, B., KIURA, P., KIBUNJIA, M., HARRIS, J.W.K., BRAUN, D.R. 2020. The upper limb of *Paranthropus boisei* from Ileret, Kenya. ***J Hum Evo*** 141*:* 102727.

19. GUNZ, P., KOZAKOWSKI, S., NEUBAUER, S., LE CABEC, A., BENAZZI, S., KULLMER, O., HUBLIN J.-J., BEGUN, D.R. 2020. Skull reconstruction of the late Miocene ape *Rudapithecus hungaricus* from Rudabánya, Hungary. ***J Hum Evo*** 138: 102727.

20. DAVIES, T., DELEZENE, L., **GUNZ,** P., HUBLIN J.-J., SKINNER, M.M. 2019. Endostructural morphology in hominoid mandibular third premolars: Geometric morphometric analysis of dentine crown shape. ***J Hum Evo.***

21. SCHUH, A., KUPCZIK, K., **GUNZ**, P., HUBLIN, J.-J., FREIDLINE, S.E. 2019. Ontogeny of the human maxilla: a study of intra-population variability combining surface bone histology and geometric morphometrics. ***Journal of Anatomy.***

22. JANSSENS, LA, **GUNZ**, P., STENGER, TE., FISCHER, MS., BOONE, M., STOESSEL, A. 2019. Bony labyrinth shape differs distinctively between modern wolves and dogs. ***Zoomorphology***, 1-9.

23. MELILLO, S., **GUNZ**, P., COQUEUGNIOT, H., RESKE, S., HUBLIN, J.J. 2019. Structural effects of variation in the human clavicle. ***AJPA.***

24. GUNZ, P.*, TILOT, A.K.*, WITTFELD, K., TEUMER, A., SHAPLAND C.Y., VAN ERP, T.G.M., DANNEMANN, M., VERNOT, B., NEUBAUER, S., GUADALUPE, T., FERNÁNDEZ, G., BRUNNER, H.G., ENARD, W., FALLON, J., HOSTEN, N., VÖLKER, U., PROFICO, A., DI VINCENZO, F., MANZI, G., KELSO, J., ST. POURCAIN, B., HUBLIN, J.J., FRANKE, B., PÄÄBO, S., MACCIARDI, F., GRABE, H.J., FISHER, S.E. 2019. Neandertal introgression sheds light on modern human endocranial globularity. ***Current Biology*** 29 (1), 120-127 [ce]

25. SCOTT, N., STRAUSS, A., HUBLIN, J.J., **GUNZ, P.,** NEUBAUER, S. 2018. Covariation of the endocranium and splanchnocranium during great ape ontogeny. ***PLoS ONE*** 13 (12), e0208999.

26. STELZER, S., NEUBAUER, S., SPOOR, F., **GUNZ**, P. 2018. Morphological trends in arcade shape and size in Middle Pleistocene *Homo*. ***AJPA.*** 168 (1), 70-91.

27. SCERRI EML, THOMAS M, MANICA A, **GUNZ** P, STOCK J, STRINGER C, GROVE M, GROUCUTT HS, TIMMERMANN A, RIGHTMIRE GP, D'ERRICO F, TRYON C, DRAKE N, BROOKS A, DENNELL RW, DURBIN R, HENN B, LEE-THORP J, DEMENOCAL P, PETRAGLIA MD, THOMPSON JC, SCALLY A, CHIKHI L. 2018. Did Our Species Evolve in Subdivided Populations across Africa, and Why Does It Matter? ***Trends in Ecology & Evolution.***

28. NEUBAUER S, **GUNZ** P, LEAKEY L, LEAKEY M, HUBLIN JJ, SPOOR F. 2018. Reconstruction, endocranial form and taxonomic affinity of the early Homo calvaria KNM-ER 42700. ***J Hum Evo.***

29. WEAVER TD, **GUNZ** P. 2018. Using geometric morphometric visualizations of directional selection gradients to investigate morphological differentiation. ***Evolution*** 72 (4), 838-850

30. NEUBAUER, S., HUBLIN, J.J. & **GUNZ**, P., 2018. The evolution of modern human brain shape. ***Science Advances*** 4(1): eaao5961.

31. STELZER, S., **GUNZ**, P., NEUBAUER, S. & SPOOR, F., 2018. Using the covariation of extant hominoid upper and lower jaws to predict dental arcades of extinct hominin. ***J Hum Evo.*** 114, pp. 154-175.

32. HUBLIN, J.J., BEN-NCER, A., BAILEY, S.E., FREIDLINE, S.E., NEUBAUER, S., SKINNER, M.M., BERGMANN, I., LE CABEC, A., BENAZZI, S., HARVATI, K. & **GUNZ**, P., 2017. New fossils from Jebel Irhoud, Morocco and the pan-African origin of *Homo sapiens*, ***Nature*** 546(7657), pp. 289-92

33. STELZER, S., **GUNZ**, P., NEUBAUER, S. & SPOOR, F., 2017. Hominoid arcade shape: Pattern and magnitude of covariation. ***J Hum Evo.*** 107, pp. 71-85.

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