



# NEWSLETTER



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Over the past years, huge strides have been made in understanding the human past. The four fields of linguistics, paleoanthropology, genetics, and archeology made significant contributions to this line of research. The Center for advanced studies “Words, Bones, Genes, Tools: Tracking Linguistic, Cultural and Biological Trajectories of the Human Past” provides a forum for interdisciplinary discussion, bringing together scholars from the relevant fields to exchange ideas and develop common research questions and methodological approaches. In this context, the Center aims to establish the theoretical foundations for a new cross-disciplinary field of bio-cultural coevolution by pushing the limits of cooperation between traditional subdisciplines.

In the last years, the center has been a great forum for interdisciplinary research at the University of Tübingen. A great number of fellows have visited the Center to collaborate with the researchers. Several projects arose out of collaborations through the fellowship program and activities.

In the next years, the Center fellowship program will be continued to arrange new collaborations with the current core staff and allow for research activities to maintain the interdisciplinary character of the Center.

In this newsletter, the core staff is introduced including their role in the center and their research interests.

## Prof. Dr. Katerina Harvati-Papatheodorou (PI)



Prof. Harvati is a paleoanthropologist specializing in Neanderthal paleobiology, modern human origins and the application of 3-D geometric morphometric and virtual anthropology methods to paleoanthropology.

Her broader research interests include primate and human evolution; evolutionary theory; the relationship between the phenotype, genetics, behavior and the environment; and the paleoanthropology of South-East Europe. She has conducted fieldwork in Europe and Africa, most recently in Greece. Her work has been published in *Nature*, *Science*, *Current Biology*, *PNAS*, *Evolutionary Anthropology*, *Journal of Human Evolution*, *American Journal of Physical Anthropology* and other peer-reviewed international journals.

## Prof. Dr. Gerhard Jäger (PI)



Prof. Jäger is a linguist specializing in computational historical linguistics, using computational and statistical methods to reconstruct language history, with the goal to gain a deeper understanding of the laws governing the evolution of the languages.

His detailed research interests include the combination of methods from historical linguistics with approaches from biology, bioinformatics, computer science, and statistics. His main focus lies in the application of hierarchical Bayesian models to apply statistical inference in a cross-linguistic setting.

His work has been published in *PNAS*, *Nature Human Behavior*, *Language Dynamics and Change*, *Theoretical Linguistics* and other peer-reviewed international journals.



## Dr. des. Marisa Köllner (Scientific Coordinator)



Marisa Köllner is a linguist specializing in Contact Linguistics and Lexical Borrowing with a focus on the application and adaptation of computational models into this field of linguistics.

Her main research interests include language contact, language change, borrowing and their corresponding parallels in phylogenetic, biology and bioinformatics. Within the Center she aims at widening her research with respect to other fields to gain deeper insights in the driving factors of language contact and lexical borrowing in the history of languages, societies and human evolution.

In addition, she is responsible for the scientific aspects of operating the Center, including fellowship applications, organizing Center events and colloquia, and assisting students and visitors affiliated with the Center in scientific questions and concerns.

## Dr. Alexandros Karakostis (Junior Research Group Leader)



Dr. Alexandros Karakostis is a Paleoanthropologist specializing in biomechanics, functional morphology, the evolution of the human hand, and forensic anthropology. His research activities have led to the development and experimental validation of novel methodologies for reconstructing habitual physical activity in past populations, including the "Tübingen University Validated Entheses-based Reconstruction of Activity" ("V.E.R.A.") method. The recent application of his methods to the fossil record have provided new insights into the evolution of manual behavior and dexterity.

Currently, he is the new Leader of the Junior Research Group titled "Co-evolution of Tool Use and Language", in the framework of our DFG Center. His project aims to elucidate unknown aspects of human bio-cultural evolution, relying on a multi-disciplinary experimental approach for identifying patterns of brain-hand coordination during stone tool use and communication patterns.

## Dr. Costantino Buzi (Long-term Fellow)



Dr. Costantino Buzi is a paleoanthropologist specializing in the evolution of Neanderthals and pre-modern human populations of Europe from the Middle to Late Pleistocene. His main research interest is the human cranial and endocranial morphology, with a focus on the inner nasal and paranasal structures, investigated by digital imaging techniques, geometric morphometrics and virtual anthropology.

His current activities include the development of R-based tools for improving, in terms of quality, repeatability and optimization the methods currently used for the study of inner cavities of the skeleton (e.g., segmentation). These new tools are aimed at the collection of data on shape, volume and relative size for the study of the variability of the nasal cavity and the paranasal sinuses in fossil and extant human populations. Dr. Buzi is also interested in the digital reconstruction of human fossils by the application of methods as the digital alignment of fragmented specimens or the retrodeformation of fossil affected by taphonomic deformations.



## Dr. Monika Doll (Administrative Coordinator)



Dr. Monika Doll has more than 10 years of experience in administering the activities of the Prehistory and Archaeological Science groups, including paleoanthropology, at the University of Tübingen.

Prior to her career in higher education research administration, Dr. Doll worked domestically and abroad as a freelance archaeozoologist for nearly 15 years. A Tübingen alumna, she has broad experience in archaeological field work and laboratory research and has served as teaching assistant at the German universities of Tübingen, Bochum, and Bamberg.

Dr. Monika Doll is responsible for the administrative tasks of Center, including organizing the Fellowship program and providing organizational and technical support for all Center members and affiliates.

## Call for fellowship application

The Center is a forum of interdisciplinary discussion and research. Its fellowship program is a great opportunity to connect with the core staff and associated members to establish new, interdisciplinary ideas and research projects. We would like to invite you to apply for a fellowship to work together with us in order to gain more insights in the human past from different research perspectives. The core staff and several local members are open to new collaborations as well as the associated Emmy Noether Junior Research Group “The Language Dynamics of the Ancient Central Andes” lead by Dr. Matthias Urban.

For more information on the Center and the associated members and research groups, please visit our homepage [wordsandbones.uni-tuebingen.de](http://wordsandbones.uni-tuebingen.de)

For more information on the fellowship program, please have a look at the description and information on our webpage (<https://uni-tuebingen.de/forschung/forschungsschwerpunkte/forschungsgruppen/words-bones-genes-tools/fellowships/>) or contact our scientific coordinator Dr. des. Marisa Köllner ([marisa.koellner@uni-tuebingen.de](mailto:marisa.koellner@uni-tuebingen.de)).

We would love to welcome you here in Tübingen at the Center “Words, Bones, Genes, Tools”.

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