

## EDITORIAL

Johannes Müller, Speaker of the Graduate School



Sounds like science fiction, doesn't it? Take a piece of a human body, 5.300 years old; apply state-of-the-art research techniques and it will tell you which bacteria were living in the stomach of that body. Even better: these bacteria will add to your knowledge about ancient human migration. In this newsletter, read the full story about the findings made by our aDNA research group when analyzing the stomach contents of glacier mummy "Ötzi".

In December, we held the annual GS plenary meeting – as usual a splendid opportunity for networking and to get to know new colleagues. Furthermore, GS members elected a new executive board during the plenary session (see below for details). Five new PhD students and two postdoctoral fellows started working on their projects in the GS/JMA in January; their expertise ranges from agent-based modelling to Neolithic fishing tools. A warm welcome to all new GS and executive board members!

While Kiel University's newspaper *unizeit* is always worth reading, the latest issue from January 23 is especially interesting: It includes an article about the research of our PhD student René Ohlrau on Trypillia Megasites in Ukraine. A small exhibition on the same topic, developed by our partner John Chapman from Durham, is on display in the foyer of the GS building (Leibnizstraße 3) until February 15.

Since November, many colleagues have put a lot of effort into the preparation of a Collaborative Research Centre proposal. I think that the assessment in late January went very well; but we'll have to wait patiently until the decision is announced in May.

I wish you a good, peaceful 2016 with lots of fascinating new insights.

## NEW GS EXECUTIVE BOARD



The Graduate School members have elected a new executive board for the next two years. During the annual plenary meeting on December 11, the following principle investigators and postdocs were elected. Back row, from right to left: Norbert Nübler (representative for Platform 3), Walter Dörfler (representative for Platform 1), Wiebke Kirleis (representative for Platform 2), Robert Hofmann (deputy representative for Cluster 2), Hans-Rudolf Bork (representative for the strategic planning group) and Ingmar Unkel (deputy representative for Platform 1). Front row, from right: Christian Horn (teaching coordinator), Johannes Müller (speaker/ coordinator), Annette Haug (deputy speaker and deputy representative for Cluster 1), Mara Weinelt (deputy representative for Cluster 2/ scientific coordinator) and Oliver Nakoinz (representative for Cluster 2). Not in the picture: Cheryl Makarewicz (deputy speaker and representative for Cluster 3), Lutz Käppel (representative for Cluster 1), Almut Nebel (deputy representative for Cluster 3), Jutta Kneisel (deputy representative for Platform 2), Vesa Arponen (deputy representative for Platform 3), Johannes Bröcker, Rainer Duttman, Ralph Schneider

and Josef Wiesehöfer (strategic planning group).

Several other persons are members of the executive board by group or office; the full list is available on the GSHDL website.

## WHAT ÖTZI'S STOMACH BACTERIA DISCLOSE ABOUT EUROPEAN MIGRATION

Ötzi the Iceman was infected with the ulcer-causing bacterium *Helicobacter pylori* and the colonization history of Europe is more complex than previously assumed. These seemingly unrelated findings were recently attained by an international research team. Graduate



School members Ben Krause-Kyora and Almut Nebel of Kiel University's Institute of Clinical Molecular Biology (IKMB) were significantly involved in the achievement of the new insights. In the Ancient DNA (aDNA) Laboratory, they isolated the 5300-year-old *Helicobacter pylori* genome from the stomach contents of the glacier mummy

and enriched it using the most current methods. The obtained aDNA sequences were subsequently decoded using high-performance equipment of the IKMB. Thereafter, scientists from Vienna, Jena and South Africa performed further analyses. The results of the research team have recently been published in the academic journal *Science*. The Ancient DNA Laboratory was established by the Graduate School Human Development in Landscapes with the support of the Faculty of Medicine in Kiel. Further development of the laboratory to secure highest-level, state-of-the-art aDNA analysis is planned.

"We are even more excited about the recent results as they were unexpected," remarks Ben Krause-Kyora. "Although the gastric mucosa, in which the bacteria of today's patients are verified, is not preserved well enough in Ötzi's remains to permit diagnosis, we did succeed in identifying singular *Helicobacter* sequences within the genetic material of the entire stomach contents by using the latest enrichment and sequencing methods in order to reconstruct the complete genome of the bacteria." In Germany, ca. 33 million people are currently infected with *Helicobacter pylori*, of which less than 10% develop gastritis, ulcers or similar symptoms during the course of their lifetime. "It is quite conceivable that Ötzi suffered from such a disorder, the conditions were certainly given", asserts Almut Nebel with regard to one of the research results. However, due to the poor preservation of the gastric mucosa such an illness cannot be confirmed.

Nevertheless, the verified bacteria enable insights that reach far beyond Ötzi's medical history. "Since tens of thousands of years, humans carry *Helicobacter pylori* germs that exhibit regional differences and are usually passed from mother to child", explains Almut Nebel. Today's Europeans carry a *Helicobacter* strain, which formed – according to previous findings – more than 10.000 years ago in the Middle East through the intermixing of an African with an Asian strain of the bacteria. "Until now, it has been assumed that this *Helicobacter* strain spread out across Europe during the course of Neolithic migration long before Ötzi's death", describes Nebel. "We assumed, therefore, that

Ötzi also carried this bacterial strain.” But as Thomas Rattei, population geneticist of the University of Vienna, and colleagues from South Africa, Germany and the USA analysed the *Helicobacter* genome identified in Kiel, the surprising result was a bacterial strain that is primarily found today in Central and South Asia. Almut Nebel und Ben Krause-Kyora agree on the interpretation of the results: “The colonization of Europe proceeded in a much more complex manner than previously assumed, because the Neolithic farmers from the region of the “Fertile Crescent” were apparently not the carriers that brought the European *Helicobacter* strain with them. This consequently formed much later than previously thought and must have arrived here through different channels.”

Link to the original publication’s abstract in Science: [www.sciencemag.org/lookup/doi/10.1126/science.aad2545](http://www.sciencemag.org/lookup/doi/10.1126/science.aad2545)

## FRESH NEW LAYOUT

The Graduate School website has a new look. About one year ago we abandoned the old, Kiel University style 600-pixel-frame design and switched to a modern, responsive layout which also facilitates access to GS contents on portable devices. Additionally, it was time for some graphic polishing, which has now been developed and implemented in cooperation with pepesale, a Kiel-based web design and programming agency. We are eager to get your feedback about the new layout. Please send your comments to Jirka Niklas Menke ([jmenke@gshdl.uni-kiel.de](mailto:jmenke@gshdl.uni-kiel.de)).

## GSHDL ALUMNI (XI): JELENA STEIGERWALD

*Many PhD students of the Graduate School have been awarded their doctorates by now and successfully fill positions in diverse academic fields. We keep in touch with them and trace their next steps after they leave the Graduate School. Where have they gone after their PhDs, and what are they doing there?*

“What I do now is really close to my dream job”, states Jelena Steigerwald. She finished her PhD on 19<sup>th</sup> century knowledge production and practices of heritage conservation in the German-Danish border area in the summer of 2014. After one semester of lecturing at Kiel University, she started an archive traineeship at the main state archives of Saxony in Dresden in the spring of 2015. “I am very happy about this job. Unlike general opinion, the work of an archivist is fascinating! Moreover”, Jelena adds, “there are well-paid and steady jobs.”

The two-year traineeship (for which she was selected out of 260 applicants) consists of a practical module in the state archives and a theoretical part at an archives school in Marburg. In combination with her PhD, the traineeship qualifies Jelena for senior positions in archive services. “I think that my time at the Graduate School was good preparation for this new job and its upcoming challenges”, Jelena says. Working independently in an interdisciplinary field is what she was trained for at the GS – and what she might do one day as the head of an archive.

As a historian, Jelena was already familiar with some tasks of an archivist’s work before going to Dresden: “Indexing files, documents and photos involves creating descriptions for the material and assigning signatures for storage and accessibility at any time via databanks. This is something I learned and profited from many times during my studies.” Other areas of archive work were new to her: Before material can be indexed, an archivist has to choose what should be preserved and what not. Between 1–10 percent of all administrative documents are archived, the rest is deliberately destroyed. “This is a very responsi-



GS alumna Jelena Steigerwald is doing an archive traineeship

ble task, because the documents selected for archiving are intended to be kept for a long time to give future researchers as complete and detailed a picture of our time as possible,” Jelena explains. “Thus, this work influences the tradition which we pass on to later generations.”

## STAFF & PERSONAL NEWS

**Kay Schmütz**, associated doctoral student of the Graduate School, passed his disputation on “Die Entwicklung zweier Konzepte? Großsteingräber und Grabenwerke bei Haldensleben Hundisburg” on November 23, 2015.

**Felix Rösch**, associated doctoral student of the Graduate School, passed his disputation on “Das Schleswiger Hafenviertel im Hochmittelalter. Entstehung – Entwicklung – Topographie” on November 23.

PhD students **Stefan Magnussen** and **Philipp Grassel** and alumnus **Ricardo Fernandes** contributed to the Science Show at Kiel University’s Night of the Profs 2015 on November 20. In a ranking by the audience, the “Future Profs at Night” of the Science Show reached second place out of 31 presentations (winner and “Prof of the Night” was Wolfgang Duschl). Academic staff members **Hans Rudolf Bork** and **Bernhard Thalheim** also participated in the event with talks adapted to the predominantly lay audience.

PhD students **Gustav Wollentz** and **Artur Ribeiro** participated in the Current Ethnoarchaeology Conference in Rome (November 25–27). The title of their joint presentation was “Time as the fourth dimension: bridging gaps between disciplines and distant events”.

PhD student **Maren Biederbick** presented aspects of her PhD project at a conference held in Münster (December 17–19) on “Emblems and the Natural World (1500–1700). Her talk focused on “Aves, Arbores Quadrupesque – Curious Behaviour of Nature in Giovio’s and Symeonius’s Dialogo dell’imprese militari et amorose from 1575”.

PhD student **Veronika Egetenmeyr** attended the National University of Ireland’s Interdisciplinary Postgraduate Medieval Conference “Imbas 2015: Perspectives of the World in the Late Antique and Medieval Period” in Galway (November 20–22). Her presentation was titled “sub hac tempestate bellorum Latina tenuerunt ora portum – Sidonius Apollinaris and his perception of ‘barbarians’ through metaphors”.

PhD student **Kathrin Marterior** visited the Centre for the History and Culture of East Central Europe (Geisteswissenschaftliches Zentrum Geschichte und Kultur Ostmitteleuropas – GWZO) at the University of Leipzig as a guest fellow (November 9–13). During her stay there, she gave a talk related to and bearing the title of her dissertation: “Slavische Siedlungen im östlichen Holstein: eine zweisprachige Sprachlandschaft?”

As a part of the series of talks “Schleswigsche Gespräche”, PhD student **Stefan Magnussen** is going to give insight into his research about castles in Schleswig on February 1, 2016. His talk, titled “Mehr als nur die Duburg, Sonderburg und Gottorf – Schleswig als Burgenlandschaft”, takes place in the Deutsches Haus in Flensburg. “Schleswigsche Gespräche – German-Danish encounters” are organized by the Bund Deutscher Nordschleswiger, the German minority’s umbrella association in Southern Denmark.

**Welmoed Out** left the Graduate School at the end of October, 2015. She is now employed at the Moesgaard Museum near Aarhus, Denmark. All the best!

## SELECTED EVENTS

(COMPLETE CALENDAR: [WWW.GSHDL.UNI-KIEL.DE/CALENDAR](http://WWW.GSHDL.UNI-KIEL.DE/CALENDAR))

### FEBRUARY

February 11-12: **Workshop “Castles as European Phenomena”** – Leibnizstr. 1, Room 105 a/b