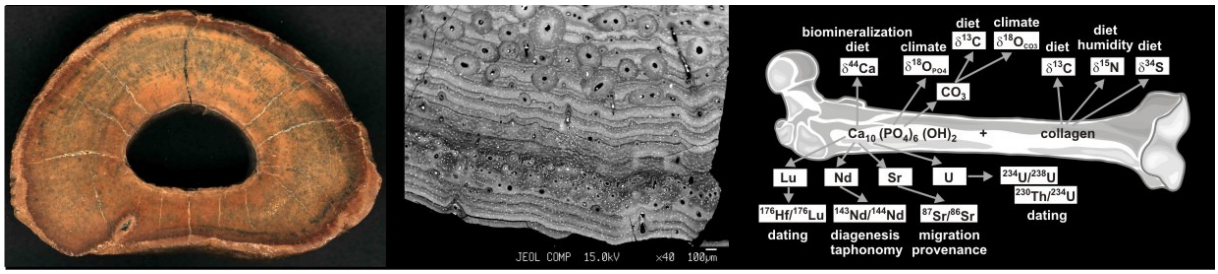
Scientific Program

The conference will be organized in several thematic sessions with invited keynote speakers. The list of proposed sessions is given below. Please note that due to the scientific content of the submitted abstracts the number of sessions has been reduced and their numbering has partially changed.



Scientific sessions

Session 1: Timing and quantification of diagenetic processes
Session 2: Experimental and modeling approaches to diagenesis
Session 3: Bone histology an archive of life history and taphonomy
Session 4: Preservation and application of ancient proteins
Session 5: Fossil skeletal remains as archives for lifetime signals
Session 6: New chemical proxies in ancient bones and teeth

Invited speakers

Keynote lectures:

Prof. Dr. Thure Cerling, University of Utah, USA
Prof. Dr. Anusuya Chinsamy-Turan, University of Cape Town, South Africa
Prof. Dr. Matthew Collins, University of York, UK
Prof. Dr. Robert Hedges, University of Oxford UK
Prof. Dr. Paul Koch, University of California, USA

Public evening lecture (19 September 19:30, Rheinisches Landesmuseum Bonn):

Dr. Johannes Krause, MPI for Evolutionary Anthropology, Germany

“What makes us human: Insights from sequencing the Neandertal genome”

Program 6th Bone Diagenesis Meeting

Friday 18 September 2009

18:30-22:00 **Registration & „Gartensaal“, Poppelsdorfer Schloss. A buffet and drinks will be provided**
Ice breaker

Saturday 19 September 2009

08:00 **Registration**
08:45 **Welcome**
09:00 **Laudatio for Prof. Dr. Robert Hedges, the founder of the Bone Diagenesis Meeting**

Session 1		**Timing and quantification of diagenetic processes**	
09:10	keynote	Robert Hedges	Progress, problems, and prospects, in bone diagenesis
09:50	T1	Ina Reiche and Céline Chadefaux	From Neolithic up to today. Evolution of animal bones from different archaeological sites and environments with a special emphasis of nanoscale modifications
10:10	T2	S.L. Votyakov, N.G. Smirnov, Daria V. Kiseleva, Yu.V. Shchapova and N.O. Sadykova	Physical and chemical characteristics of mammal fossil bone remains and their relative age evaluation problem
10:30		**Coffee break**	
11:00	T3	Gordon Turner-Walker	The mechanical properties of artificially aged bone: probing the nature of the collagen-mineral bond
11:20	T4	Nadja Hoke and Michaela Harbeck	Comparison of different screening methods to asses the preservation degree of bone tissue
11:40	T5	Gerhard Brügmann, Thomas C. Brachert, Ottmar Kullmer, Dieter F. Mertz and Friedemann Schrenk	Trace element concentrations and Sr isotope compositions of fossil Hippopotamidae teeth from Lake Albert (Uganda): Distinguishing fingerprints induced by diagenetic overprint or nutrition uptake
12:00	T6	Julia Lee-Thorp, Sandi Copeland, Matt Sponheimer, Darryl De Ruiter, and Petrus Le Roux	A consideration of diagenesis in teeth from the South African fossil hominin sites based on strontium isotopes
12:20		**Lunch break**	

Session 1		**Timing and quantification of diagenetic processes (continued)**	
13:40	T7	Dennis O. Terry, Jr., David E. Grandstaff, William E. Lukens, Amanda E. Drewicz and Barbara A. Beasley	Rare earth element discrimination of vertebrate bone beds: An example from the Late Eocene Chadron Formation of Nebraska and South Dakota, USA
14:00	T8	László Kocsis, Clive N. Trueman, and Martin R. Palmer	Dating of fossil bones with Lu-Hf isotopic system: revisiting an old idea with new approaches
14:20	T9	Daniel Herwartz, T. Tütken, C. Münker and Martin P. Sander	The timescales of REE uptake in fossil bone: Implications for Lu-Hf geochronology

Session 2		**Experimental and modeling approaches to diagenesis**	
14:40	T10	Maura Pellegrini, Julia A. Lee-Thorp, Carolyn A. Chenery and Randolph E. Donahue	The comparison of oxygen isotopes in phosphate and carbonate of bioapatite: is it always a reliable check for diagenetic alteration? An intra-tooth isotope study from prehistoric ungulate teeth
15:00	T11	Matthias Huels, Pieter M. Grootes, Marie-Josée Nadeau, Helmut Erlenkeuser and Nils Andersen	The origin of cremated bone apatite carbon
15:20	T12	Antoine Zazzo and Jean-Francois Saliège	Radiocarbon dating of biological apatites - what's new?
15:40		**Poster session with beer, wine and buffet**	
19:00		**Walk (15 mins) to the "Rheinisches Landesmuseum"**	
19:30		**Public evening lecture about Neanderthal DNA by Dr. Johannes Krause**	
20:30		**Free evening**	

Sunday 20 September 2009

Session 3		**Bone histology an archive of life history and taphonomy**	
09:00	keynote	Anusuya Chinsamy	Biological deductions from the microstructure of fossil bone
09:40	T13	Miranda M.E. Jans, Andrew J. Tyrrell, Odile Loreille and Henk Kars	Early bone diagenesis and DNA preservation
10:00	T14	Maitena Dumont, A. Kostka, M. Sander, A. Borbely and A. Pyzalla	Comparison of apatite crystallite sizes in sauropod and mammal fossil bones
10:20	T15	Koen Stein, Martin Sander and Zoltan Csìkì	*Magyarosaurus dacus* (Sauropoda: Titanosauria) bone histology suggests dwarfism on a palaeo-island
10:40	T16	Timothy P. Cleland, Michael B. Duncan, Ji Eun Lee, Leonid Zamdborg, Neil L. Kelleher, Raghu Kalluri and Mary H. Schweitzer	Preservation of blood vessels from cortical bone of *Brachylophosaurus canadensis* from the Judith River Formation, MT
11:00		**Coffee break**	

Session 4		**Preservation and application of ancient proteins**	
11:30	keynote	Matthew Collins, Mike Buckley, Hannah Koon, Nienke van Doorn, Julie Wilson and Jane Thomas-Oates	Bone diagenesis, the preservation and application of proteins: it was the mineral after all….
12:10	T17	Colin I. Smith, Alice Mora, Benjamin Fuller, Olaf Nehlich and Mike Richards	Collagen fractions and fractionation? Investigating collagen at the amino acid level using liquid chromatography-isotope ratio mass spectrometry
12:30	T18	Olaf Nehlich and Mike P. Richards	Sulphur isotope analysis from bone collagen: A new method for archaeological sciences
12:50	T19	Hervé Bocherens, Dorothée G. Drucker and Heinrich Taubald	Looking for preservation criteria of collagen sulfur isotopic signatures
13:10	T20	Albert Zink, Marek Janko, Eduard Egarter-Vigl and Robert Stark	Structural preservation of collagen in the 5300-year-old Tyrolean Iceman
13:30		**Lunch break**	

Touristic afternoon program

14:50	**Meeting at the ferry terminal "Bonn Alter Zoll"**
15:00	**Ferry ride on the Rhine River to Königswinter (50 mins)**
16:20	**Ride with the Drachenfels-railway to the famous dragon rock viewpoint** with its spectecular view over the Rhine River, Bonn and surrounding area.
19:00	**Conference Dinner in the Hotel Loreley in Königswinter** Buffet in the Emperor-room where Emperor Wilhem II is known to have dined
open end	**Return to Bonn by tram (line 66, Telekom Express) on your own**

Monday 21 September 2009

Session 5		**Fossil skeletal remains as archives for lifetime signals**	
09:00	keynote	Paul L. Koch	The isotopic ecology of marine vertebrates: major applications and analytical considerations
09:40	keynote	Thure Cerling	The isotope ecology and paleoecology of terrestrial vertebrates: where have we been and where are we going?
10:30		**Coffee break**	
11:00	T21	Wolfgang Müller, Luca Bondioli and Paola F. Rossi	Achievable time resolution of compositional/ isotopic profiles in tooth enamel: constraints from high-resolution LA-ICPMS and histological analysis
11:20	T22	Anne-France Maurer, A. Person, V. Zeitoun and M. Renard	Conservation of the biological-geochemical signals in archaeological human bones as assessed by intraskeletal studies
11:40	T23	Laureline Scherler, Thomas Tütken, Damien Becker and Jean-Pierre Berger	Carbon and oxygen isotope compositions of Early Oligocene and Late Pleistocene vertebrate remains from Northern Switzerland - implications for palaeoclimate and palaeoenvironment
12:00	T24	Vincent Balter, Sandrine le Houedec, Catherine Girard and Michael Joachimski	Oxygen isotopes composition and shape of 380 Ma conodonts
12:30		**Lunch break**	
Session 6		**New chemical proxies in ancient bones and teeth**	
14:00	T25	Noreen Tuross and Cynthia Kester	Organic hydrogen and oxygen isotopes in bone collagen: migration, seasonality, hydrology and diagenesis
14:20	T26	Katarina Topalov, Arndt Schimmelmann, David Polly, Peter E. Sauer and Mark Lowry	Stable hydrogen isotopes in bone collagen as a paleoenvironmental indicator
14:40	T27	Linda M. Reynard, G.M. Henderson, and R.E.M. Hedges	Calcium isotopes ($\delta^{44/42}$Ca) in archaeological bones and teeth
15:00	T28	Alexander Heuser, Thomas Tütken, and Stephen J.G. Galer	Calcium isotopes ($\delta^{44/40}$Ca) of fossil bones and teeth - biogenic versus diagenetic origin
15:20	T29	Alexander Gehler, Marja Kröger, Thomas Tütken and Andreas Pack	Oxygen triple isotope composition as a new tracer for tooth and bone diagenesis of fossil vertebrates
15:40		**Coffee break**	
16:10		**Final discussion, publication plans, next meeting**	
17:30		**Close of meeting**	

18:30 **Dinner "Em Höttche", local german food in the traditional Bonn restaurant** located next to Bonn's town hall in the city center. This is an optional part of the program. Participants have to pay for their own meal and drinks.

Saturday 19 September 2009 – Poster session (16:00-19:00)

Session 1		**Timing and quantification of diagenetic processes**	
	P1	Céline Chadefaux, Aurélien Gourier and Ina Reiche	Heat-induced modifications of bone at low temperatures. Study by TEM and SAXS on bone ultrathin and thin sections
	P2	Hege Hollund, Miranda Jans, Matthew Collins and Henk Kars	Bone preservation: diagenetic screening and post-excavation influences
	P3	Martina Kaserer, Michaela Harbeck and Gisela Grupe	Taphonomic and archaeometric analyses of the remains of Emperor Lothar III and his family
	P4	Katharina Müller, Gwenaëlle Le Bras-Goude, Fanny Buscaglia and Ina Reiche	Human remains from La Pollera: a study of the preservation state, of the consolidant and its effect on stable isotope analysis
	P5	William R. Wahl	Analysis of suspected rotting bone material from the dinosaur quarries, Warm Springs Ranch, Hot Springs County, Wyoming
Session 2		**Experimental and modeling approaches to diagenesis**	
	P6	Mathieu Boudin, Mark Van Strydonck and Guy De Mulder.	The carbon origin of structural carbonate in bone apatite of cremated bones
	P7	Clive Trueman, Chris Dewdney, Martin Palmer and Laszlo Kocsis	Extending diffusion-adsorption models of trace element uptake
	P8	Hanna E.C. Koon and Matthew J. Collins	An 'all or nothing' theory to explain the survival of ancient bone collagen
Session 3		**Bone histology an archive of life history and taphonomy**	
	P9	Jennifer Anné, Allison Tumarkin-Deratzian, Dennis O. Terry, Jr. And David Grandstaff	Histological and geochemical properties of pathological bone in *Allosaurus fragilis* and modern birds
	P10	Katja Waskow and Martin P. Sander	Growth marks in sauropod ribs from the Upper Jurassic Morrison Formation, Tendaguru and Lower Cretaceous of Niger
Session 4		**Preservation and application of ancient proteins**	
	P11	Nienke L. van Doorn, M. Buckley, O.E. Craig and M.J. Collins	Zooarchaeology by Mass Spectrometry (ZooMS)

Session 5		**Fossil skeletal remains as archives for lifetime signals**	
	P12	Elissavet Dotsika and S. Lykoudis	Distribution of isotopic composition, ^{13}C and ^{15}N, of human bones in Greece
	P13	Hervé Bocherens, Diana Pushkina, Patrick Vignaud and Michel Brunet	How to measure carbon and oxygen isotopic signatures of fossil tooth enamel heavily contaminated by oxides?
	P14	Pennilyn Higgins	Taphonomic implications of uranium ore deposits on vertebrate remains
Session 5		**Fossil skeletal remains as archives for lifetime signals (continued)**	
	P15	Karola Kirsanow and Noreen Tuross	Measuring and assessing organic and inorganic oxygen isotope values in vertebrate calcified tissue
	P16	Damien Roche, Loïc Ségalen, Etienne Balan and Simon Delattre	Preservation assessment of Miocene-Pliocene tooth enamel from Tugen Hills (Kenyan Rift Valley): an infrared, elementary and stable-isotope analysis
	P17	Christine Schuh, C. Gerling, V. Heyd, A.W.G. Pike, E. Kaiser and W. Schier	Mobility in the prehistoric western Eurasian Steppe - an interdisciplinary approach
	P18	Krsystof Szostek, B. Stepanczak, M. Kepa, H. Glab, G. Tylko, O. Woznicka and Cz. Paluszkiewicz	Chemical signals from ancient human teeth and bones - variability of diagenetical changes
	P19	Thomas Tütken and Henry Poppe	Palaeoecology and habitat of the Late Miocene mammals from Höwenegg, SW Germany: Implications of isotope (O, C, Sr) compositions of fossil teeth
Session 6		**New chemical proxies in ancient bones and teeth**	
	P20	Alessandro Zanazzi, Matthew Kohn and Hagit P.J. Affek	Using 'clumped isotopes' in fossil bones as a proxy for Eocene-Oligocene climate in the North American mid-continent