Professor Eske Willerslev
Professor, Director of Center of Excellence in Ancient Environmental Genomics (CAEG)
University of Copenhagen
Denmark

UNIVERSITY OF COPENHAGEN
GLOBE INSTITUTE

The World Cultural Council

Nomination of Professor Eske Willerslev for The Albert Einstein World Award of Science 2024

17 JANUARY 2024

Professor Eske Willerslev is rewriting human history.

Willerslev's research has contributed to the description on the human population current structure and his work within the ancient human genomics field has broadened our understanding of human genetic variation, ancient migration patterns, and human genetic adaptations.
The work of Willerslev, has led to multiple revisions of human history across the World.

I have no hesitation in nominating Professor Eske Willerslev as an exceptional candidate for the 2024 Albert Einstein Award of Science.

As required, the grounds for nominating the Professor Willerslev as a candidate, including a list of the important achievements for the benefit of mankind are stated in the nomination resume.

In view of Willerslev's cutting-edge scientific impact in the field of evolutionary genetics and beyond, I am convinced that he will continue to be an outstandingly influential scientist and role model for the future generations of researchers.

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Yours sincerely,

Anders Johannes Hansen
Head of Department

INSTITUTO
GULBENKIAN
DE CIÊNCIA

17 January, 2024

Recommendation of Professor Eske Willerslev for the 2024 Albert Einstein Award

Professor Eske Willerslev is a visionary evolutionary geneticist who has established new fields of research and fundamentally transformed our understanding of human evolution, human pathogen evolution, and environmental changes. The impact of his research is having a major influence in such fields as ecology, medicine, archaeology and the environmental and climate sciences.

Willerslev holds the Prince Philip Chair of Ecology and Evolution at Department of Zoology, at University of Cambridge and directs the Centre for Geo-Genetics at the University of Copenhagen. His research focuses on characterizing the evolutionary paths and processes that led to the global genetic architecture of present-day human groups and their disease susceptibility as well as changes in biological communities in space and time.

Professor Willerslev established the field of environmental DNA for understanding environmental changes through time, in a pioneering study published in Science (Willerslev et al. Science 2003). In this study, he showed how modern and ancient DNA from higher plants and animals could be obtained directly from environmental samples, with the conclusion that many sedimentary deposits may contain unique, and widespread, genetic records of paleoenvironment. This publication established the field of environmental DNA, which has changed the way we understand and monitor biodiversity across space and time, including how human pathogens spread. His subsequent work opened the door to analyses of all trophic levels of ecology in modern fresh water and marine environments, from bacteria to mammals, and enabled us to expand greatly the boundaries beyond what could be achieved with traditional methods of environmental analyses (e.g. Willerslev et al. Science 2007, Parducci et al. Science 2012, Willerslev et al. Nature 2014, Pedersen et al. Nature 2016). His contribution made it possible to reconstruct ancient marine and terrestrial environmental conditions and explore the evolutionary patterns of species in the past as they responded to climatic change and the evolution of the biotic environment. Willerslev has also tracked the population history of mammals through time and space. Among other studies, he led a circumpolar project on Ice Age megafauna showing climatic changes to drive changes in their effective population size (Lorenzen et al. Nature 2011), as well as sequencing the genome of a c. 700.000-year-old horse, until recently the oldest genome ever produced (Orlando et al. Nature 2013).

Willerslev's research during the last decade has also focused on the use of DNA to elucidate human evolution and history. His achievements in this field have led to new understandings of ancient migration patterns and the spread of specific human traits across the world. This work has led to the rewriting of human history across Europe, Asia, Oceania, and the Americas, and has changed how we track human genetic adaptations (e.g. Raghavan et al. Nature 2014, Rasmussen et al. Nature 2014, Allentoft et al. Nature 2015, Sikora et al. Nature 2017, de Barros Damgaard et al. Science 2018, McColl et al. Science 2018, Moreno-Mayar et al. Nature 2018, Sikora et al. Nature 2019, Margaryan et al. Nature 2020). Beyond its scientific impact, his work has influenced American repatriation law and how scientists engage with indigenous communities worldwide. In 2010, Willerslev and colleagues contributed to establishing the field of ancient human genomics by sequencing the first ancient human

genome, a 4,000 year old Eskimo from the Greenland permafrost (Rasmussen et al. Nature 2010). Further, in a study published in Cell (Rasmussen et al. Nature 2015), Willerslev showed that pathogen DNA survives in ancient teeth even without any pathological evidence in the skeleton. The results of this study and the subsequent ones published in Nature (Mühlemann et al. Nature 2018) among others, allowed researchers to expand their knowledge of ancient contagion areas, and push back the known dates for the attested presence of high mortality rate diseases by thousands of years. The work has fundamentally altered our conception of the origins, evolution, and spread of infectious diseases such as the plague, Hepatitis B, and smallpox across time and space.

Very recently, Willerslev and colleagues have published another major study bearing on the impact on modern human disease of large-scale population movements during human prehistory (Barrie et al, Nature 2024). Northern Europeans have a significantly higher incidence of the autoimmune disease, multiple sclerosis, than Southern Europeans. Willerslev and colleagues argue that this may reflect ancient immigration into Northern but not Southern Europe of a Siberian population of herders with a characteristic genomic signature that they acquired probably as a result of "tuning" of the immune system to the presence of endemic infections from their close animal cohabitants. In their absence, as in modern Europe, following Willerslev's argument, the immune system is improperly regulated and liable to spontaneous activation through self-antigens, a concept which is widely understood in immunology. This paper has been extensively featured in the international press.

Willerslev's academic career reflects his achievements and standing among his peers. Having established Denmark's first ancient DNA laboratory, he was appointed full Professor of Evolutionary Genetics at the Niels Bohr Institute (2005) at the age of 33. Subsequently, he has held the positions of Professor of Evolutionary Biology at the Department of Biology, University of Copenhagen; Professor at the National History Museum of Denmark; and Miller Visiting Professor at the University of California, Berkeley. Since 2015, he has held the Prince Philip Chair in Ecology and Evolution at the University of Cambridge, where he was recently honoured with a Doctor of Science degree in 2019.

Besides his academic positions, Willerslev's accomplishments are reflected in his exceptional publication record and the many awards he has won throughout his career. He is among the Web of Science's most highly cited researchers (within the top 1% of his fields) in two distinct disciplines: Cross-Field and Environment and Ecology. His H-Index was 115 (Scopus); 141 (Google Scholar) in January 2024. He is a foreign associate of the United States National Academy of Sciences; an elected member of The European Molecular Biology Organization (EMBO) and the Royal Danish Academy of Sciences and Letters; and the holder of the Order of the Dannebrog (knighthood) issued by her Majesty Queen Margrethe II of Denmark.

Finally, Willerslev has contributed not only to science, but also to education and capacity building. He is a natural leader who energizes and motivates people. Under his leadership, the Centre for GeoGenetics has produced hundreds of high-profile scientific publications (>60 in Nature and Science), educated prize-winning young researchers, and launched new independent scientists many of whom now hold large European grants, or new large Centres of Excellence. The Centre has also supported several who have established start-up companies in Silicon Valley.

In summary, Professor Eske Willerslev has contributed continuously and at the highest level to one of the most fascinating and important fields in experimental biology for the last 20 years or more. He is a pioneer, an exceptional personality (he was honored by membership of the Crow Amerindian tribe for his support for the ritual re-burial of an 12,600 year old skeleton of a boy from which he had sequenced the genome) and a gifted experimentalist. It is perhaps important to stress that Eske Willerslev's work is independent of the widely publicized pioneering work on ancient DNA of recent human progenitors from Svante Pääbo, recently honoured with a Nobel Prize.

Yours sincerely

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UNIVERSITY OF CAMBRIDGE

CANCER RESEARCH UK | CAMBRIDGE INSTITUTE

16 January 2024

To whom it may concern

Re: Reference letter, Eske Willerslev for Albert Einstein World Award of Science 2024

Eske Willerslev is quite literally using genetics to rewrite human history. Where prior accepted wisdom about the movements and interactions of prehistoric peoples were based largely on comparisons of the artifacts that they left behind, Eske has used sequencing of ancient DNA to track the origins of populations, their movements, and how different peoples interacted when they came into contact. He has not simply changed the way we view the peopling of one region, he has unravelled the history of the people of the eastern steppes, asia, Europe, the Americas, Australia, and the arctic. His work has implications for how human populations came to their current structure and how disease has shaped humanity and its genetics.

Eske was an early adopter of the combination of next-generation sequencing and ancient DNA. Building on work of Svante Paabo and others, he turned his attention to the DNA of pre-historic and modern peoples. While Svante's work unravelled our relationships with our nearest extinct relatives, Eske has actually produced a much richer and more diverse catalogue of prehistoric human genetics, with perhaps even greater implications than the work for which Svante was recently awarded a Nobel. Eske's work has forced rethinking of our modern origins, the origin and evolution of modern languages, and our human behaviour over many millenia.

One of my favourite of his works showed just how surprisingly fast selective pressure can mould human genetics. This was a study of the Southeast Asia Bajau people, who are sea nomads whose lifestyle involves subsistence based on free diving. As a people they show extraordinary breath holding abilities. He found that a variant in PDE10A had swept through their population, leading to increase spleen size and larger reservoir of red blood cells. This over what must have been a very short time from an evolutionary perspective.

Eske has not simply focused on human genetics but has also investigated the diseases that plagued us, quite literally, through prehistory. He has traced the evolutionary genetics of yersinia pestis and of smallpox and hepatitis viruses, revealing both temporal and geographic diversity in these diseases. His work showed how pathogen host interactions have shaped the human genome both locally and globally and demonstrated how environmental stresses have impacted our genetics.

Eske's access to the materials that form the foundation of his discoveries has involved working very delicately with native communities, many of whom were very wary of the types of studies that he has carried out. There was always substantial possibility of his conclusions conflicting with their accepted origin stories. Eske has dealt with this by reaching out to and integrating native peoples into his work and giving them the power to guide his investigations – making them integral to the discovery process. As such, he has been an incredible emissary for science, particularly into communities where exposure to modern genetics would have been quite limited. He is a true ambassador for modern science, having also written a number of popular books for lay audiences.

Eske's earliest work on ancient DNA focused on environmental DNA and what it could teach us about the surrounding biota that formed the prehistoric habitat. He has deciphered both the flora and fauna extant in numerous, mainly arctic, locations. For example, his analysis of environmental paints a Greenland of 2M years ago as a lush and extremely rich habitat with diverse flora and fauna, far from the stark artic landscape that we know today. It is really Eske's work that has continued to push the boundary of how far in the past we might expect ancient DNA to tell its story.

From rewriting what we know of Viking culture to dating the arrival and deciphering the origins of the peoples of the Americas and Australia to forcing reconsideration of received wisdom in disciplines as far flung from biology as linguistics, Eske's harnessing of genetic (and proteomic) approaches has had a broader impact than nearly any other biologist who comes to mind. Importantly, we are not reflecting on a career in its twilight. If anything, Eske is at the peak of his productivity, and continues year on year to make ground-breaking discoveries. While he clearly deserves the recognition of the Albert Einstein World Award of Science for the vast body of work he has already produced, I do contemplate with wonder and anticipation what still lies ahead.

Yours sincerely

Gregory J. Hannon, PhD, FRS, FMedSci, FAACR
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Professor Eske Willerslev has established new research fields and has fundamentally changed our understanding of human and pathogen evolution and the evolution of biological communities. His research is published in the highest-ranking journals and includes more than 60 publications in Nature and Science. He is among the Web of Science's most highly cited researchers (within the top 1% of his field). Importantly, Willerslev's research has broad and fundamental scientific impact and is influencing fields as different as medicine, ecology, archaeology and the environmental and climate sciences.

During his doctoral work, in 2003, Willerslev published a pioneering study in Science. It showed for the first time how modern and ancient DNA from higher plants, birds and mammals can be obtained directly from environmental samples. This publication established the field today known as environmental DNA, a prosperous field that has fundamentally changed the way we understand and monitor biodiversity across space and time. His many contributions in this field have made it possible to reconstruct ancient marine and terrestrial ecosystems from microbes to plants and mammals at a level of detail no one thought possible. Lately, he published in Nature the reconstruction of a 2-million-year-old ecosystem from Greenland with no modern-day analogue – the oldest DNA ever retrieved.

In 2010, Willerslev and colleagues contributed to establishing the field of ancient human genomics by publishing in Nature the first ancient human genome. This achievement was previously thought unattainable, due to contamination with modern DNA. Afterwards, Willerslev conducted numerous ancient genomic studies on past human populations across the world. These studies have rewritten human history from the origins of Native Americans and Aboriginal Australians to how Europe was populated. His work means that we can follow the origins and spread of

disease risk across human populations and understand the reasons it differs across the world. Lately, Willerslev published 4 papers in the same issue of Nature showing the underlying reasons why European populations have different risk for various diseases, including multiple scleroses, Alzheimer's, and diabetes type II.

In the public domain, Willerslev's research is also challenging racist views by showing the distribution and genetic makeup of contemporary modern human populations were formed very recently, for the most part. This has caused him personal adversity in the form of harassment and death threats, but has not stopped him from carrying on with his research and public outreach activities.

In a study published in Cell in 2015, Willerslev showed that pathogen DNA survives in ancient teeth. The results of this study and the subsequent ones published in Nature in 2018 and in Science in 2020, among others, allowed researchers to expand their knowledge of ancient contagion areas, as well as push back the known dates for the attested presence of high mortality rate diseases by several hundreds of years. As a result, this work has fundamentally altered our conception of the origins, evolution and spread of infectious diseases such as the plague, Hepatitis B, and Smallpox across time and space.

His prominence in the international research environment had led Willerslev to take his contribution to society very seriously, especially in terms of reaching broader societal segments that would not normally be addressed by the scientific community. He is an active and engaging communicator, who regularly shares the results of his research with the general public. He promotes science in the public domain through numerous debates, documentary films, radio, TV, and magazine interviews with prominent media outlets such as BBC, CBS, the New York Times, and Der Spiegel, to mention a few. Willerslev is also the author of several books on his science for the general public of all ages, which are bestsellers in Denmark and currently being translated into English. Willerslev is a household name in Denmark and many students have reported that Willerslev's work was what inspired them to pursue university education and scientific careers. In honour of his public influence in promoting education and research, in 2020 artist Kristian von Hornsleth created a 2.5m-high bronze statue of Willerslev, which is located in Hørsholm, Denmark. Moreover, a new species of beetle found in amber has been named in his name to honour his scientific achievements.

In addition to science and public outreach, Willerslev's contributions focused on education and capacity building. The Centre of Excellence for GeoGenetics has, under his direction, produced hundreds of high-profile scientific publications, formed prize-winning young researchers, and holders of large European grants. As well as helped launch new Centres of

Excellence, including Willerslev's newest Centre of Excellence focusing on eDNA, which launched in May 2023.

Beyond its academic and public impact, Willerslev's work has changed scientists' approaches to engagement with indigenous communities worldwide, as well as influenced American repatriation law. Willerslev was instrumental in making community engagement part of ancient DNA work and his findings have resulted in the repatriation of several human remains being to their rightful descendants after decades of legal struggles. Among these is the famous case of Kennewick Man, where President Obama, based on Willerslev's findings, signed the registration rejecting previous court decisions and returning the skeleton to the five Native American tribes claiming him as their ancestor. Because of his scientific influence on American repatriation, Willerslev was honoured in the Native American Crow tribe by the name *Well Known Scout.*

Besides his academic achievements, a clear indication of Willerslev's accomplishments is given by the many awards and honorary doctorates that have been bestowed upon him through the years. For example, he is a foreign associate of the United States National Academy of Sciences; a member of the European Molecular Biology Organization (EMBO) and the Royal Danish Academy of Sciences and Letters; and the holder of the Order of the Dannebrog (order of knighthood issued by her Majesty Queen Margrethe II of Denmark).

List of most important achievements

- 2003: Establishing the field of environmental DNA, today a prosperous research field.
- 2003-present: Changing the way we monitor and understand biodiversity in time and space using environmental DNA, with huge implications for ecology, conservation, and the environmental and climate sciences.
- 2010: Sequencing the first ancient human genome, overcoming the general notion that DNA from anatomically modern humans of the past is unreliable due to contamination.
- 2010-present: Rewriting human history across the world through multiple studies of ancient human genomics that fundamentally changed the way we understand the peopling of the Americas, Asia, and Europe.
- 2015: Proving the survival of ancient pathogen DNA in human remains across time and space, finding evidence of epidemics dating thousands of years earlier than previously thought.
- 2015-present: Uncovering the evolution and spread of human bacterial and viral diseases through ancient genomics from human teeth.
- Changing the broader conception of race and ethnicity by communicating his scientific discoveries.

- Improving relationships between scientists and indigenous peoples around the world; leading by example in community engagement and using science to help repatriation of human remains.
- Promoting next generation of scientists within and outside his research group.

Yours sincerely,

Anders Johannes Hansen
Head of Department

Eske Willerslev

Personal Details

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Education

EMBA	Cambridge University, UK. Awarded with Distinction	2022
Dr of Science (ScD)	Cambridge University, UK	2019
Dr of Science (Dr scient, DSc)	University of Copenhagen, DK	2004
MSc (Cand Scient)	University of Copenhagen, DK	1998

Academic Appointments

Excellence Professor, Research Faculty, Bremen University, Germany	(2019-)
Prince Philip Chair of Ecology and Evolution, Dept. Zoology, Cambridge University	(2015-24)
Research Associate, Wellcome Sanger Institute, Cambridge	(2015-20)
Miller Visiting Professor, UC Berkeley, USA	(2014)
Professor, Faculty of Health and Medical Sciences, University of Copenhagen	(2020-)
Professor, Danish Natural History Museum, University of Copenhagen	(2009-20)
Professor, Department of Biology, University of Copenhagen	(2006-09)
Visiting Professor, Dept. of Zoology, Oxford University,	(2005-07)
Professor (MSO) of Ancient DNA, Niels Bohr Institute, University of Copenhagen	(2005-06)

Commissions of Trust

Member of the European Molecular Biology Organization (EMBO) (2020-)
Foreign member, National Academy of Sciences, USA, (2014-)
Member of the Royal Danish Academy of Sciences and Letters (2008-)
Board member, The Danish Council on Ethics (Etiske Råd) DK (2020-2022)
Board member, University of Copenhagen (2016-2022)

Academic Awards and Other Honours

20 academic awards, honours and prizes including the Balzan Prize for *Evolution of Humankind: Ancient DNA and Human* Evolution (2023), the Carlsberg Foundation Research Prize (2021), the Olav Thon Foundation's International Research Award (2021), the Order of the Dannebrog (knighthood), by her Majesty Queen Margrethe II of Denmark (2017), honorary Doctorates at Tartu University (2017) and

University of Oslo (2014), the Shanghai Archaeology Forum (SAF) Award (2015), and honorary adopted member of the Crow tribe (Apsaalooke), Montana, USA and given the name ChiitdeeXia'ssee (meaning 'Well Known Scout', 2014).

RESEARCH LEADERSHIP

Director, Centre for Ancient Environmental Genomics (CAEG), University of Copenhagen (2023-)
Director, Lundbeck Foundation GeoGenetics Centre, University of Copenhagen (2018-2023),
Centre of Excellence in GeoGenetics, University of Copenhagen (2010-2020),
GeoGenetics group, University of Cambridge (2015-2024),
Bremen group, University of Bremen (2019-)
Section head, Natural History Museum of Denmark, University of Copenhagen (2013-15)
Director, Program Pathogens as cause of cancer, University of Copenhagen (2011-2016)
Director, the Sino-Danish Sequencing Centre (a collaboration between the National Tissue Bank and Sequencing Facility and BGI), University of Copenhagen (2009-2019)
Director, National Tissue Bank and Sequencing Facility, University of Copenhagen (2009-2012)
Head, the Evolutionary Biology Section, University of Copenhagen (2007-2008)
Member, the Fusion Committee, Depts. of Molecular Biology and of Biology, University of Copenhagen (2007-08)
Head, the Ancient DNA and Evolution Group, University of Copenhagen (2005-2009)
Director, FNU Centre for Ancient Genetics, University of Copenhagen (2005-09)

RESEARCH FIELD EXPEDITIONS

Leader of 13 expeditions to Siberia, Greenland and Arctic North America (1991-2010).

PRESENTATIONS AND INVITED LECTURES

Have given >200 invited talks internationally, including multiple key note lectures including the 2nd Joint Kyoto Prize Symposium, Inamori Foundation, Kyoto University (related to the Kyoto Prize) and The Crafoord Academy Lecture (related to the Crafoord prize), Royal Swedish Academy of Sciences.

ORGANIZATION OF INTERNATIONAL CONFERENCES

2010	International Ancient Genomic Research Conference, Shenzhen, China
2010	ISB4, Copenhagen, Denmark
2006	Fourth International Conference on Mars Polar Science and Exploration, Davos Congress Centre, Davos Switzerland
2003	Third International Conference on Mars Polar Science and Exploration, Lake Louise, Alberta, Canada

EDITORIAL AND FUNDING REVIEW PANELS AND COMMITTEES

Editorial duties; PNAS, EMBO Life Sci., Molecular Ecology, BMC Evolutionary Biology, BMC Evolutionary

Biology, The Open Evolution Journal, Zoological Research, Journal of Evolutionary Biology, Insects, International Journal of Forensic Anthropology, and Environmental DNA.

Ad hoc reviewer for more than 40 grants agencies and journals, including NERC (UK), NSF (US), Nature, Science, Cell, and PNAS.

TEACHING AND SUPERVISION

Teaching 5 courses at the Universities of Cambridge and Copenhagen (2005-2023)

Supervision at the Universities of Cambridge and Copenhagen (2001-2023): 37 post-doctoral projects; 30 PhD theses incl. 14 visiting students; 14 MSc theses; 5 Undergraduate theses; Laboratory Technicians at University of Cambridge, University of Copenhagen, University of Bremen.

MANAGEMENT EXPERIENCE

Oversee 11 independent research groups as Director of the Lundbeck Foundation GeoGenetics Centre. The Centre has produced hundreds of high-profile scientific publications (>60 in *Nature/Science*), prize-winning young researchers and holders of large European grants, and it has helped launch new Centres of Excellence.

COLLABORATION WITH INDUSTRY

Illumina (collaboration on sequencing methodology/ analyses); Bavarian Nordic (collaboration on vaccine development); BGI Europe (collaboration on sequencing cancer pathogens).

MEDIA & PUBLIC - DOCUMENTARIES

Been main voice in 11 scientific documentary films including National Geographic, NOVA, and PBS. Authoring 5 popular books and contributed to 5 public museum exhibitions

PUBLICATIONS SUMMARY

Highly cited researcher in 2018, 2020-2023: recognized as a Highly Cited Researcher within 'Cross-Field' for the fourth time and within 'Environment and Ecology' for the first time.

Journals: 342 peer-reviewed articles (Scopus), including 72 publications in the journals Nature and Science (47 as first or last author/corresponding author). **Books**: 7 popular books (in Danish).

Citations: 39745 (Web of Science), 69733 (Google scholar), 43857 (Scopus); **H-Index**: 111 (Web of Science), 115 (Scopus), 141 (Google scholar)

Eske Willerslev - 10 most important papers

1. **Willerslev, E.**, Hansen, A.J., Brand, T., Binladen, J., Gilbert, T.M.P., Shapiro, B.A., Wiuf, C., Gilichinsky, D.A., Cooper, A., 2003. Diverse Plant and Animal Genetic Records from Holocene and Pleistocene Sediments. *Science*, 300(5620), pp.791-795. DOI: 10.1126/science.1084114

Founding paper for the field today known as Environmental DNA (eDNA), showing that diverse animal and plant DNA can be retrieved directly from both modern and ancient sediments.

2. **Willerslev, E.**, Cappellini, E., Boomsma, W., Nielsen, R., Hebsgaard, M., Brand, T., Hofreiter, M., Bunce, M., Poinar, H., Dahl-Jensen, D., Johnsen, S., Steffensen, J., Bennike, O., Schwenninger, J., Nathan, R., Armitage, S., de Hoog, C., Alfimov, V., Christl, M., Beer, J., Muscheler, R., Barker, J., Sharp, M., Penkman, K., Haile, J., Taberlet, P., Gilbert, M., Casoli, A., Campani, E. and Collins, M., 2007. Ancient Biomolecules from Deep Ice Cores Reveal a Forested Southern Greenland. *Science*, 317(5834), pp.111-114. DOI: 10.1126/science.1141758

Resolving long-term controversy on when Greenland was last ice free: Showing southern-central Greenland being covered by conifer forest some 400 thousand years ago and being covered by ice ever since. Was highly controversial at the time but has since been supported by independent studies.

3. Rasmussen, M., Li, Y., Lindgreen, S., Pedersen, J., Albrechtsen, A., Moltke, I., Metspalu, M., Metspalu, E., Kivisild, T., Gupta, R., Bertalan, M., Nielsen, K., Gilbert, M., Wang, Y., Raghavan, M., Campos, P., Kamp, H., Wilson, A., Gledhill, A., Tridico, S., Bunce, M., Lorenzen, E., Binladen, J., Guo, X., Zhao, J., Zhang, X., Zhang, H., Li, Z., Chen, M., Orlando, L., Kristiansen, K., Bak, M., Tommerup, N., Bendixen, C., Pierre, T., Grønnow, B., Meldgaard, M., Andreasen, C., Fedorova, S., Osipova, L., Higham, T., Ramsey, C., Hansen, T., Nielsen, F., Crawford, M., Brunak, S., Sicheritz-Pontén, T., Villems, R., Nielsen, R., Krogh, A., Wang, J. and **Willerslev, E.**, 2010. Ancient human genome sequence of an extinct Palaeo-Eskimo. *Nature*, 463(7282), pp.757-762. DOI: 10.1038/nature08835, Cover

The first ancient human genome ever sequenced helping to establish the field of ancient human genomics.

4. Rasmussen, S., Allentoft, M., Nielsen, K., Orlando, L., Sikora, M., Sjögren, K., Pedersen, A., Schubert, M., Van Dam, A., Kapel, C., Nielsen, H., Brunak, S., Avetisyan, P., Epimakhov, A., Khalyapin, M., Gnuni, A., Kriiska, A., Lasak, I., Metspalu, M., Moiseyev, V., Gromov, A., Pokutta, D., Saag, L., Varul, L., Yepiskoposyan, L., Sicheritz-Pontén, T., Foley, R., Lahr, M., Nielsen, R., Kristiansen, K. and **Willerslev, E.**, 2015. Early Divergent

Strains of Yersinia pestis in Eurasia 5,000 Years Ago. *Cell*, 163(3), pp.571-582. DOI: 10.1016/j.cell.2015.10.009 (cover)

The first study showing pathogenic ancient DNA surviving in human remains without any morphological evidence of infection. It reveals a human plaque epidemic 3 thousand years before epidemics were previously thought to have happened. The paper has been important in establishing the field of ancient pathogenic genomics.

5. Raghavan, M., Skoglund, P., Graf, K., Metspalu, M., Albrechtsen, A., Moltke, I., Rasmussen, S., Stafford, T.W., Orlando, L., Metspalu, E., Karmin, M., Tambets, K., Rootsi, S., Mägi, R., Campos, P., Balanovska, E., Balanovsky, O., Khusnutdinova, E., Litvinov, S., Osipova, L., Fedorova, S., Voevoda, M., DeGiorgio, M., Sicheritz-Pontén, T., Brunak, S., Demeshchenko, S., Kivisild, T., Villems, R., Nielsen, R., Jakobsson, M., and **Willerslev, E.** 2014. Upper Palaeolithic Siberian genome reveals dual ancestry of Native Americans. *Nature, 505*, 87-91. DOI: 10.1038/nature12736 (Highly cited)

Addresses long-term controversies of Native American and European origins. It reveals the genome of an early Stone Age individual from Asia whose genetic signature is found widespread in Native Americans and Europeans by 23 and 5 thousand years ago, respectively. It is a founding paper in establishing the genetic origins of Native Americans and Europeans.

6. **Willerslev, E.,** Davison, J., Moora, M., Zobel, M., Coissac, E., Edwards, M., Lorenzen, E., Vestergård, M., Gussarova, G., Haile, J., Craine, J., Gielly, L., Boessenkool, S., Epp, L., Pearman, P., Cheddadi, R., Murray, D., Bråthen, K., Yoccoz, N., Binney, H., Cruaud, C., Wincker, P., Goslar, T., Alsos, I., Bellemain, E., Brysting, A., Elven, R., Sønstebø, J., Murton, J., Sher, A., Rasmussen, M., Rønn, R., Mourier, T., Cooper, A., Austin, J., Möller, P., Froese, D., Zazula, G., Pompanon, F., Rioux, D., Niderkorn, V., Tikhonov, A., Savvinov, G., Roberts, R., MacPhee, R., Gilbert, M., Kjær, K., Orlando, L., Brochmann, C. and Taberlet, P., 2014. Fifty thousand years of Arctic vegetation and megafaunal diet. *Nature*, 506(7486), pp.47-51. DOI: 10.1038/nature12921 (Highly Cited)

First large-scale Environmental DNA study. The study addresses a highly debated topic; what caused the late Ice Age mass extinctions. The study reveals how the vegetation around the northern hemisphere has changed dramatically over the past 50 thousand years because of climatic changes and likely resulted in large scale mammalian extinctions.

7. Barrie, W., Yang, Y., Irving-Pease, E.K., Attfield, K.E., Scorrano, G., Torp Jensen, L., Armen, A.P., Dimopoulos, E.A., Stern, A., Refoyo-Martinez, A., Ramsøe, A., Gaunitz, C., Demeter, F., Jørkov, M.L.S., Bermann Møller, S., Springborg, B., Klassen, L., Hyldgård, I.M., Wickmann, N., Vinner, L., Korneliussen, T.S., Allentoft, M.E., Sikora, M., Kristiansen, K., Rodriguez, S., Nielsen, R., Iversen, A.K.N., Lawson, D.J., Fugger, L., **Willerslev, E.,** 2024. Elevated Genetic Risk For Multiple Sclerosis Originated In Steppe Pastoralist Populations. *Nature* 625, 321-328. DOI: 10.1038/s41586-023-06618-z

The paper reveals the origins and evolution of the genetic variants that underlies the risk of getting multiple scleroses – a human autoimmune disease with high frequency in northern Europe. It is a founding paper that establish how ancient genomics can be used for understanding the underlying reasons for differences in disease risk across the world's human populations.

8. Allentoft, M. E., Sikora, M., Sjögren, K. G., Rasmussen, S., Rasmussen, M., Stenderup, J., Damgaard, P. B., Schroeder, H., Ahlström, T., Vinner, L., Malaspinas, A. S., Margaryan, A., Higham, T., Chivall, D., Lynnerup, N., Harvig, L., Baron, J., Della Casa, P., Dąbrowski, P., Duffy, P. R., Ebel, A.V., Epimakhov, A., Frei, K., Furmanek, M., Gralak, T., Gromov, A., Gronkiewicz, S., Grupe, G., Hajdu, T., Jarysz, R., Khartanovich, V., Khokhlov, A., Kiss, V., Kolář, J., Kriiska, A., Lasak, I., Longhi, C., McGlynn, G., Merkevicius, A., Merkyte, I., Metspalu, M., Mkrtchyan, R., Moiseyev, V., Paja, L., Pálfi, G., Pokutta, D., Pospieszny, L., Price, T.D., Saag, L., Sablin, M., Shishlina, N., Smrčka, V.C., Soenov, V.I., Szeverényi, V., Tóth, G., Trifanova, S.V., Varul, L., Vicze, M., Yepiskoposyan, L., Zhitenev, V., Orlando, L., Sicheritz-Pontén, T., Brunak, S., Nielsen, R., Kristiansen, K. and **Willerslev, E.,** 2015. Population genomics of Bronze Age Eurasia. *Nature*, 522(7555), 167–172. DOI: 10.1038/nature14507 (Highly cited).

The first largescale ancient genomics study published. It shows that some 5 thousand years ago, both western Europe and western Asia received a human migration from the Pontic Steppe, the Yamnaya, that transformed western Europeans genetically. This migration has been detrimental to make north and western Europeans into who they are today in terms of phenotype and disease risk.

9. Mühlemann, B., Jones, T., Damgaard, P., Allentoft, M., Shevnina, I., Logvin, A., Usmanova, E., Panyushkina, I., Boldgiv, B., Bazartseren, T., Tashbaeva, K., Merz, V., Lau, N., Smrčka, V., Voyakin, D., Kitov, E., Epimakhov, A., Pokutta, D., Vicze, M., Price, T., Moiseyev, V., Hansen, A., Orlando, L., Rasmussen, S., Sikora, M., Vinner, L., Osterhaus, A., Smith, D., Glebe, D., Fouchier, R., Drosten, C., Sjögren, K., Kristiansen, K. and **Willerslev, E.,** 2018. Ancient hepatitis B viruses from the Bronze Age to the Medieval period. *Nature*, 557(7705), pp.418-423. DOI: 10.1038/s41586-018-0097-z

The first largescale ancient virus paper. It shows that hepatitis B, a disease impacting millions of peoples a year, had very different distributions and genetic strains in the past, and being present in Europe for almost 5 thousand rather than 5 hundred years as some have suggested.

10. Kjær, K.H, Pedersen, M.W., De Sanctis, B., De Cahsan, B., Korneliussen, T.S., Michelsen, C.S., Sand, K.K., Jelavić, S., Ruter, A.H., Bonde, A.M.Z., Kjeldsen, K.K, Tesakov, A.S., Snowball, I., Gosse, J.C., Alsos, I.G., Wang, Y., Dockter, C., Rasmussen, M., Jørgensen, M.E., Skadhauge, B., Prohaska, A., Kristensen, J.Å., Bjerager, M., Allentoft, M.E., Coissac, E., PhyloNorway Consortium, Rouillard, A., Simakova, A., Fernandez-Guerra, A., Bowler, C., Macias-Fauria, M.; Vinner, L., Welch, J.J., Hidy, A.J., Sikora, M., Collins, M.J., Durbin, R., Larsen, N.K. and **Willerslev, E.,** 2022. A 2-Million-year-old ecosystem in Greenland uncovered by Environmental DNA. *Nature*, accepted. DOI: 10.1038/s41586-022-05453-y

The oldest DNA to date, about 2 million years old, obtained directly from ancient sediments (Environmental DNA). The study shows the presence of a diverse forest with deer and elephants in northern Greenland, when temperatures were 11-15C higher, and thus nothing like the Artic dessert experienced today. This ancient ecosystem has no present-day analogue and consists of both Artic and boral organisms. The results reveal the shortcomings on our abilities to predict the ecological consequences of global warming but provides hope for improving the models.

Eske Willerslev

FULL PUBLICATIONS LIST

PEER-REVIEWED JOURNAL ARTICLES (** ARTICLES IN SCIENCE OR NATURE)

Allentoft, M.E., Sikora, M., Refoyo-Martínez, A., Irving-Pease, E.K., Fischer, A., Barrie, W., Ingason, A., Stenderup, J., Sjögren, K.-G., Pearson, A., Sousa da Mota, B., Schulz Paulsson, B., Halgren, A., Macleod, R., Schjellerup Jørkov, M.L., Demeter, F., Sørensen, L., Nielsen, P.O., Henriksen, R.A., Vimala, T., McColl, H., Margaryan, A., Ilardo, M., Vaughn, A., Fischer Mortensen, M., Nielsen, A.B., Ulfeldt Hede, M., Nørkjær Johannsen, N., Rasmussen, P., Vinner, L., Renaud, G., Stern, A., Zetner Trolle Jensen, T., Scorrano, G., Schroeder, H., Lysdahl, P., Ramsøe, A.D., Skorobogatov, A., Schork, A., Rosengren, A., Ruter, A., Outram, A., Timoshenko, A.A., Buzhilova, A., Coppa, A., Zubova, A., Silva, A.M., Hansen, A.J., Gromov, A., Logvin, A., Gotfredsen, A.B., Henning Nielsen, B., González-Rabanal, B., Lalueza-Fox, C., McKenzie, C.J., Gaunitz, C., Blasco, C., Liesau, C., Martinez-Labarga, C., Pozdnyakov, D.V., Cuenca-Solana, D., Lordkipanidze, D.O., En'shin, D., Salazar-García, D.C., Price, T.D., Borić, D., Kostyleva, E., Veselovskaya, E.V., Usmanova, E.R., Cappellini, E., Brinch Petersen, E., Kannegaard, E., Radina, F., Eylem Yediay, F., Duday, H., Gutiérrez-Zugasti, Y., Merts, I., Potekhina, I., Shevnina, I., Altinkaya, I., Guilaine, J., Hansen, J., Aura Tortosa, J.E., Zilhão, J., Vega, J., Buck Pedersen, K., Tunia, K., Zhao, L., Mylnikova, L.N., Larsson, L., Metz, L., Yepiskoposyan, L., Pedersen, L., Sarti, L., Orlando, L., Slimak, L., Klassen, L., Blank, L., González-Morales, M., Silvestrini, M., Vretemark, M., Nesterova, M.S., Rykun, M., Rolfo, M.F., Szmyt, M., Przybyła, M., Calattini, M., Sablin, M., Dobisíková, M., Meldgaard, M., Johansen, M., Berezina, N., Card, N., Saveliev, N.A., Poshekhonova, O., Rickards, O., Lozovskaya, O.V., Gábor, O., Uldum, O.C., Aurino, P., Kosintsev, P., Courtaud, P., Ríos, P., Mortensen, P., Lotz, P., Persson, P., Bangsgaard, P., de Barros Damgaard, P., Vang Petersen, P., Prieto Martinez, P., Włodarczak, P., Smolyaninov, R.V., Maring, R., Menduiña, R., Badalyan, R., Iversen, R., Turin, R., Vasilyev, S., Wåhlin, S., Borutskaya, S., Skochina, S., Anker Sørensen, S., Andersen, S.H., Jørgensen, T., Serikov, Y.B., Molodin, V.I., Smrcka, V., Merz, V., Appadurai, V., Moiseyev, V., Magnusson, Y., Kjær, K.H., Lynnerup, N., Lawson, D.J., Sudmant, P.H., Rasmussen, S., Korneliussen, T., Durbin, R., Nielsen, R., Delaneau, O., Werge, T., Racimo, F., Kristiansen, K., **Willerslev, E.,** 2024. Population Genomics Of Post Glacial Western Eurasia. *Nature* 625, 301-311. DOI:10.1101/2022.05.04.490594 (cover)

Allentoft, M.E., Sikora, M., Fischer, A., Sjögren, K-G., Ingason, A., Macleod, R., Rosengren, A., Schulz Paulsson, B., Schjellerup Jørkov, M.L., Novosolov, M., Stenderup, J., Price, T.D, Fischer Mortensen, M., Nielsen, A.B., Ulfeldt Hede, M., Sørensen, L., Nielsen, P.O., Rasmussen, P., Zetner Trolle Jensen, T., Refoyo-Martínez, A., Irving-Pease, E.K., Barrie, W., Pearson, A., Sousa da Mota, B., Demeter, F., Henriksen, R.A., Vimala, T., McColl, H., Vaughn, A., Vinner, L., Renaud, G., Stern, A., Nørkjær Johannsen, N., Ramsøe, A.D.,

Schork, A.J., Ruter, A., Gotfredsen, A.B., Henning Nielsen, B., Brinch Petersen, E., Kannegaard, E., Hansen, J., Buck Pedersen, K., Pedersen, L., Klassen, L., Meldgaard, M., Johansen, M., Uldum, O.C., Lotz, P., Lysdahl, P., Bangsgaard, P., Vang Petersen, P., Maring, R., Iversen, R., Wåhlin, S., Anker Sørensen, S., Andersen, S.H., Jørgensen, T., Lynnerup, N., Lawson, D.J., Rasmussen, S., Korneliussen, T., Kjær, K.H., Durbin, R., Nielsen, R., Delaneau, O., Werge, T., Kristiansen, K., **Willerslev, E.**, 2024. 100 Ancient Genomes Show Two Rapid Population Turnovers In Stone Age Denmark. *Nature* 625, 329-337. DOI:10.1038/s41586-023-06862-3 (cover)

Barrie, W., Yang, Y., Irving-Pease, E.K., Attfield, K.E., Scorrano, G., Torp Jensen, L., Armen, A.P., Dimopoulos, E.A., Stern, A., Refoyo-Martinez, A., Ramsøe, A., Gaunitz, C., Demeter, F., Jørkov, M.L.S., Bermann Møller, S., Springborg, B., Klassen, L., Hyldgård, I.M., Wickmann, N., Vinner, L., Korneliussen, T.S., Allentoft, M.E., Sikora, M., Kristiansen, K., Rodriguez, S., Nielsen, R., Iversen, A.K.N., Lawson, D.J., Fugger, L., **Willerslev, E.,** 2024. Elevated Genetic Risk For Multiple Sclerosis Originated In Steppe Pastoralist Populations. *Nature* 625, 321-328. DOI: 10.1038/s41586-023-06618-z (cover)

Irving-Pease, E.K., Refoyo-Martínez, A., Barrie, W., Ingason, A., Pearson, A., Fischer, A., Sjögren, K.-G., Halgren, A.S., Macleod, R., Demeter, F., Henriksen, R.A., Vimala, T., McColl, H., Vaughn, A.H., Speidel, L., Stern, A.J., Scorrano, G., Ramsøe, A., Schork, A.J., Rosengren, A., Zhao, L., Kristiansen, K., Iversen, A.K.N., Fugger, L., Sudmant, P.H., Lawson, D.J., Durbin, R., Korneliussen, T., Werge, T., Allentoft, M.E. Sikora, M., Nielsen, R., Racimo, F., **Willerslev, E.**, 2024. The Selection Landscape And Genetic Legacy Of Ancient Eurasians. *Nature* 625, 312-320. DOI: 10.1038/s41586-023-06705-1

Gopalakrishnan, S., Ebenesersdóttir, S.S., Lundstrøm, I.K., Turner-Walker, G., Moore, K.H., Luisi, P., Margaryan, A., Martin, M.D., Ellegaard, M.R., Magnusson, O.T., Sigurðsson, Á., Snorradóttir, S., Magnúsdóttir, D.N., Laffoon, J.E., van Dorp, L., Liu, X., Moltke, I., Ávila-Arcos, M.C., Schraiber, J.G., Rasmussen, S., Juan, D., Gelabert, P., de-Dios, T., Fotakis, A.K., Iraeta-Orbegozo, M., Vågene, Å.J., Denham, S.D., Christophersen, A., Stenøien, H.K., Vieira, F.G., Liu, S., Günther, T., Kivisild, T., Moseng, O.G., Skar, B., Cheung, C., Sandoval-Velasco, M., Wales, N.A., Schroeder, H., Campos, P.F., Guðmundsdóttir, V.B., Sicheritz-Pontén, T., Petersen, B., Halgunset, J., Gilbert, E., Cavalleri, G.L., Hovig, E., Kockum, I., Olsson, T.P., Alfredsson, L., Hansen, T.F., Werge, T., **Willerslev, E**., Balloux, F., Marquès-Bonet, T., Lalueza-Fox, C., Nielsen, R.G., Stefánsson, K., Helgason, A., & Gilbert, M.T., 2022. The population genomic legacy of the second plague pandemic. *Current Biology* 32, 4743 - 4751.e6. DOI:10.1016/j.cub.2022.09.023

Kragesteen, B.K., Giladi, A., David, E., Halevi, S., Geirsdóttir, L., Lempke, O.M., Li, B., Bapst, A.M., Xie, K., Katzenelenbogen, Y., Dahl, S.L., Sheban, F., Gurevich-Shapiro, A., Zada, M., Phan, T.S., Avellino, R., Wang, S., Barboy, O., Shlomi-Loubaton, S., Winning, S., Markwerth, P., Dekalo, S., Keren-Shaul, H., Kedmi, M., Sikora, M., Fandrey, J.,

Korneliussen, T.S., Prchal, J.T., Rosenzweig, B., Yutkin, V., Racimo, F., **Willerslev, E.**, Gur, C., Wenger, R.H., & Amit, I., 2023. The transcriptional and regulatory identity of erythropoietin producing cells. *Nature Medicine* 29, 1191 - 1200. DOI:10.1038/s41591-023-02314-7

Sousa da Mota, B., Rubinacci, S., Cruz Dávalos, D.I., G. Amorim, C.E., Sikora, M., Johannsen, N.N., Szmyt, M., Włodarczak, P., Szczepanek, A., Przybyła, M.M., Schroeder, H., Allentoft, M.E., **Willerslev, E.**, Malaspinas, A., & Delaneau, O., 2023. Imputation of ancient human genomes. *Nature Communications* 14.

McLaren, D., Wigen, R., Fedje, D., Dyck, A., Hebda, C.F., Morien, E., Pedersen, M.W., **Willerslev, E.**, Rutledge, L.Y., Barrera, M.A., Stafford, J., Wall, D., & Letham, B., 2023. Late Pleistocene Faunal Assemblages from Karst Cave Settings on Northern Vancouver Island, Canada. *PaleoAmerica*. In press.

Winther, R.G., and **Willerslev, E.**, 2023. Wilson and Sarich (1969): The birth of a molecular evolution research paradigm. *PNAS,* 120 (11), e2220473120 . DOI: 10.1073/pnas.2220473120

** Kjær, K.H, Pedersen, M.W., De Sanctis, B., De Cahsan, B., Korneliussen, T.S., Michelsen, C.S., Sand, K.K., Jelavić, S., Ruter, A.H., Bonde, A.M.Z.,, Kjeldsen, K.K, Tesakov, A.S., Snowball, I., Gosse, J.C., Alsos, I.G., Wang, Y., Dockter, C., Rasmussen, M., Jørgensen, M.E., Skadhauge, B., Prohaska, A., Kristensen, J.Å., Bjerager, M., Allentoft, M.E., Coissac, E., PhyloNorway Consortium, Rouillard, A., Simakova, A., Fernandez-Guerra, A., Bowler, C., Macias-Fauria, M.; Vinner, L., Welch, J.J., Hidy, A.J., Sikora, M., Collins, M.J., Durbin, R., Larsen, N.K. and **Willerslev, E.,** 2022. A 2-Million-year-old ecosystem in Greenland uncovered by Environmental DNA. *Nature* 612, 283–291. DOI: 10.1038/s41586-022-05453-y

Wang, Y., Prohaska, A., Dong, H., Alberti, A., Alsos, I.G., Beilman, D.W., Bjørk, A.A., Cao, J., Cherezova, A.A., Coissac, E., De Sanctis, B., Denoeud, F., Dockter, C., Durbin, R., Edwards, M.E., Edwards, N.R., Esdale, J., Fedorov, G.B., Fernandez-Guerra, A., Froese, D.G., Gusarova, G., Haile, J., Holden, P.B., Kjeldsen, K.K., Kjær, K.H., Korneliussen, T.S., Lammers, Y., Larsen, N.K., Macleod, R., Mangerud, J., McColl, H., Merkel, M.K.F., Money, D., Möller, P., Nogués-Bravo, D., Orlando, L., Owens, H.L., Pedersen, M.W., Racimo, F., Rahbek, C., Rasic, J.T., Rouillard, A., Ruter, A.H., Skadhauge, B., Svendsen, J.I., Tikhonov, A., Vinner, L., Wincker, P., Xing, Y., Zhang, Y., Meltzer, D.J. and **Willerslev, E., 2022. Reply to: When did mammoths go extinct?. *Nature* 612, E4–E6. DOI: 10.1038/s41586-022-05417-2

Gopalakrishnan, S., Ebenesersdóttir, S.S., Lundstrøm, I.K., Turner-Walker, G., Moore, K.H., Luisi, P., Margaryan, A., Martin, M.D., Ellegaard, M.R., Magnusson, O.T., Sigurðsson, Á., Snorradóttir, S., Magnúsdóttir, D.N., Laffoon, J.E., van Dorp, L., Liu, X., Moltke, I., Ávila-Arcos, M.C., Schraiber, J.G., Rasmussen, S., Juan, D., Gelabert, P., de-Dios, T.,

Fotakis, A.K., Iraeta-Orbegozo, M., Vågene, Å.J., Denham, S.D., Christophersen, A., Stenøien, H.K., Vieira, F.G., Liu, S., Günther, T., Kivisild, T., Moseng, O.G., Skar, B., Cheung, C., Sandoval-Velasco, M., Wales, N.A., Schroeder, H., Campos, P.F., Guðmundsdóttir, V.B., Sicheritz-Pontén, T., Petersen, B., Halgunset, J., Gilbert, E., Cavalleri, G.L., Hovig, E., Kockum, I., Olsson, T.P., Alfredsson, L., Hansen, T.F., Werge, T., *Willerslev, E.*, Balloux, F., Marquès-Bonet, T., Lalueza-Fox, C., Nielsen, R.G., Stefánsson, K., Helgason, A., & Gilbert, M.T., 2022. The population genomic legacy of the second plague pandemic. *Current biology* 32, 1–9. DOI: 10.1016/j.cub.2022.09.023

Bergström, A., Stanton, D.W., Taron, U.H., Frantz, L.A., Sinding, M.S., Ersmark, E., Pfrengle, S., Cassatt-Johnstone, M., Lebrasseur, O., Girdland-Flink, L., Fernandes, D.M., Ollivier, M., Speidel, L., Gopalakrishnan, S., Westbury, M.V., Ramos-Madrigal, J., Feuerborn, T.R., Reiter, E., Gretzinger, J., Münzel, S., Swali, P., Conard, N.J., Carøe, C., Haile, J., Linderholm, A., Androsov, S., Barnes, I., Baumann, C., Benecke, N., Bocherens, H., Brace, S., Carden, R.F., Drucker, D.G., Fedorov, S., Gasparik, M., Germonpré, M., Grigoriev, S., Groves, P., Hertwig, S., Ivanova, V.V., Janssens, L.A., Jennings, R.P., Kasparov, A.K., Kirillova, I.V., Kurmaniyazov, I., Kuzmin, Y.V., Kosintsev, P.A., Lázničková-Galetová, M., Leduc, C., Nikolskiy, P.A., Nussbaumer, M., O'Drisceoil, C., Orlando, L., Outram, A.K., Pavlova, E.Y., Perri, A.R., Pilot, M., Pitulko, V.V., Plotnikov, V., Protopopov, A., Rehazek, A., Sablin, M.V., Seguin-Orlando, A., Storå, J., Verjux, C., Zaibert, V.F., Zazula, G., Crombé, P., Hansen, A.J., **Willerslev, E., Leonard, J.A., Götherström, A., Pinhasi, R., Schuenemann, V.J., Hofreiter, M., Gilbert, M.T., Shapiro, B., Larson, G., Krause, J., Dalén, L., and Skoglund, P., 2022. Grey wolf genomic history reveals a dual ancestry of dogs. *Nature* 607(7918), 313–320. DOI: 10.1038/s41586-022-04824-9

Demeter, F., Zanolli, C., Westaway, K.E., Joannes-Boyau, R., Duringer, P., Morley, M.W., Welker, F., Rüther, P.L., Skinner, M.M., McColl, H., Gaunitz, C., Vinner, L., Dunn, T.E., Olsen, J.V., Sikora, M., Ponche, J., Suzzoni, E., Frangeul, S., Boesch, Q., Antoine, P., Pan, L., Xing, S., Zhao, J., Bailey, R.M., Boualaphane, S., Sichanthongtip, P., Sihanam, D., Patole-Edoumba, E., Aubaile, F., Crozier, F., Bourgon, N., Zachwieja, A.J., Luangkhoth, T., Souksavatdy, V., Sayavongkhamdy, T., Cappellini, E., Bacon, A.M., Hublin, J., **Willerslev, E.**, and Shackelford, L., 2022. A Middle Pleistocene Denisovan molar from the Annamite Chain of northern Laos. *Nature Communications* 13(1), 2557. DOI: 10.1038/s41467-022-29923-z

Hebda, C.F., McLaren, D., Mackie, Q., Fedje, D., Pedersen, M.W., Willerslev, E., Brown, K.J., and Hebda, R.J., 2022. Late Pleistocene palaeoenvironments and a possible glacial refugium on northern Vancouver Island, Canada: Evidence for the viability of early human settlement on the northwest coast of North America. *Quaternary Science Reviews* 279, 107388. DOI: 10.1016/j.quascirev.2022.107388

Moltke, I., Korneliussen, T.S., Seguin-Orlando, A., Moreno-Mayar J.V., LaPointe E., Billeck, W., **Willerslev, E.** 2021. Identifying a living great-grandson of the Lakota Sioux leader Tatanka Iyotake (Sitting Bull). *Science Advances* 7 (44). DOI: 10.1126/sciadv.abh2013

Wang, Y., Pedersen, M.W., Alsos, I.G, De Sanctis, B., Racimo, F., Prohaska, A., Coissac, E., Lois Owens, H., Føreid Merkel, M.K., Fernandez-Guerra, A., Rouillard, A., Lammers, Y., Alberti, A., Denoeud, F., Money, D., Ruter, A.H., McColl, H., Larsen, N.K. Cherezova, A.A., Edwards, M.E., Fedorov, G.B., Haile, J., Orlando, L., Vinner, L., Korneliussen, T.S., Beilman, D.W., Bjørk, A.A., Cao, J., Dockter, C., Esdale, J., Gusarova, G., Kjeldsen, K.K., Mangerud, J., Rasic, J.T., Skadhauge, B., Svendsen, J.-I., Tikhonov, A., Wincker, P., Xing, Y., Zhang, Y., Froese, D.G., Rahbek, C., Bravo Nogues, D., Holden, P.B., Edwards, N.R., Durbin, R., Meltzer, D.J., Kjær, K.H., Möller, P., **Willerslev, E., 2021. Late Quaternary Dynamics of Arctic Biota from Ancient Environmental Genomics. *Nature*. DOI: 10.1038/s41586-021-04016-x

Segawa T., Yonezawa T., Mori H., Akiyoshi A., Allentoft M.E., Kohno A., Tokanai F., **Willerslev, E.**, Kohno N. and Nishihara H., 2021. Ancient DNA reveals multiple origins and migration waves of extinct Japanese brown bear lineages. *Royal Society open science*. 8210518210518. DOI:10.1098/rsos.210518

****Willerslev, E**. and Meltzer, D.J, 2021. Peopling of the Americas as inferred from ancient genomics**.** *Nature* 594, 356–364. DOI: 10.1038/s41586-021-03499-y

Pedersen, M., De Sanctis, B., Saremi, N.F., Sikora, M., Puckett, E.E., Gu, Z.Q., Moon, K.L., Kapp, J.D., Vinner, L., Vardanyan, Z., Ardelean, C.F., Arroyo-Cabrales, J., Cahill, J.A., Heintzman, P.D., Zazula, G., MacPhee, R.D.E., Shapiro, B., Durbin, R. and **Willerslev, E.**, 2021. Environmental genomics of Late Pleistocene black bears and giant short-faced bears. *Current biology* 31, 1–9. DOI:10.1016/j.cub.2021.04.027

Ramos-Madrigal, J., Sinding, M.H., Carøe, C., Mak, S.S., Niemann, J., Castruita, J.A., Fedorov, S., Kandyba, A., Germonpré, M., Bocherens, H., Feuerborn, T.R., Pitulko, V., Pavlova, E., Nikolskiy, P., Kasparov, A., Ivanova, V., Larson, G., Frantz, L.A., **Willerslev, E.,** Meldgaard, M., Petersen, B., Sicheritz-Pontén, T., Bachmann, L., Wiig, Ø., Hansen, A., Gilbert, M.T., & Gopalakrishnan, S., 2021. Genomes of Pleistocene Siberian Wolves Uncover Multiple Extinct Wolf Lineages. *Current Biology, 31*, 198-206.e8. DOI:10.1016/j.cub.2020.10.002

Egfjord, A.F., Margaryan, A., Fischer, A., Sjögren, K., Price, T.D., Johannsen, N., Nielsen, P.O., Sørensen, L., **Willerslev, E.,** Iversen, R., Sikora, M., Kristiansen, K., & Allentoft, M., 2021. Genomic Steppe ancestry in skeletons from the Neolithic Single Grave Culture in Denmark. *PLoS ONE, 16*. DOI:10.1371/journal.pone.0244872

Orlando, L., Allaby, R., Skoglund, P., Sarkissian, C.D., Stockhammer, P.W., Ávila-Arcos, M.C., Fu, Q., Krause, J., **Willerslev, E.,** Stone, A.C., and Warinner, C., 2021. Ancient DNA analysis. *Nature Reviews Methods Primers* **1,** 14. DOI: 10.1038/s43586-020-00011-0

Capo, E., Giguet-Covex, C., Rouillard, A., Nota, K., Heintzman, P. D., Vuillemin, A., Ariztegui, D., Arnaud, F., Belle, S., Bertilsson, S., Bigler, C., Bindler, R., Brown, A.G., Clarke, C.L., Crump, S.E., Debroas, D., Englund, G., Ficetola, G.F., Garner, R.E., Gauthier, J., Gregory-Eaves, I., Heinecke, L., Herzschuh, U., Ibrahim, A., Kisand, V., Kjær, K.H., Lammers, Y., Littlefair, J., Messager, E., Monchamp, M.-E., Olajos, F., Orsi, W., Pedersen, M.W., Rijal, D.P., Rydberg, J., Spanbauer, T., Stoof-Leichsenring, K.R., Taberlet, P., Talas, L., Thomas, C., Walsh, D.A., Wang, Y., **Willerslev, E.**, van Woerkom, A., Zimmermann, H.H., Coolen, M.J.L., Epp, L.S., Domaizon, I., G. Alsos, I., Parducci, L., 2021. Lake Sedimentary DNA Research on Past Terrestrial and Aquatic Biodiversity: Overview and Recommendations. *Quaternary*, *4*(1), 6. DOI:10.3390/quat4010006

Rey-Iglesia, A., Lister, A., Stuart, A., Bocherens, H., Szpak, P., **Willerslev, E.,** & Lorenzen, E., 2021. Late Pleistocene palaeoecology and phylogeography of woolly rhinoceroses. *bioRxiv*. DOI:10.1101/2021.01.08.425884

** Margaryan, A., Lawson, D.J., Sikora, M., Racimo, F., Rasmussen, S., Moltke, I., Cassidy, L., Jørsboe, E., Ingason, A., Pedersen, M.W., Korneliussen, T., Wilhelmson, H., Buś, M.M., de Barros Damgaard, P., Martiniano, R., Renaud, G., Bhérer, C., Moreno-Mayar, J.V., Fotakis, A.K., Allen, M., Allmäe, R., Molak, M., Cappellini, E., Scorrano, G., McColl, H., Buzhilova, A., Fox, A., Albrechtsen, A., Schütz, B., Skar, B., Arcini, C., Falys, C., Hedenstierna Jonson, C., Błaszczyk, D., Pezhemsky, D., Turner-Walker, G., Gestsdóttir, H., Lundstrøm, I., Gustin, I., Mainland, I., Potekhina, I., Muntoni, M.I., Cheng, J., Stenderup, J., Ma, J.L., Gibson, J., Peets, J., Gustafsson, J., Iversen, K.H., Simpson, L., Strand, L., Loe, L., Sikora, M., Florek, M., Vretemark, M., Redknap, M., Bajka, M., Pushkina, T., Søvsø, M., Grigoreva, N., Christensen, T., Kastholm, O., Uldum, O., Favia, P., Holck, P., Sten, S., Arge, S.V., Ellingvåg, S., Moiseyev, V., Bogdanowicz, W., Magnusson, Y., Orlando, L., Pentz, P., Dengsø Jessen, M., Pedersen, A., Collard, M., Bradley, D.G., Jørkov, M.L., Arneborg, J., Lynnerup, N., Price, N., Gilbert, M.T.P., Allentoft, M.E., Bill, J., Sindbæk, S.M., Hedeager, L., Kristiansen, K., Nielsen, R., Werge, T., and **Willerslev E**., 2020. Population genomics of the Viking world. *Nature* 585, 390-396. DOI: 10.1038/s41586-020-2688-8. Cover

** Ardelean, C.F., Becerra-Valdivia, L., Pedersen, M.W., Schwenninger, J.L., Oviatt, C.G., Macías-Quintero, J.I., Arroyo-Cabrales, J., Sikora, M., Ocampo-Díaz, Y.Z.E., Rubio-Cisneros, I.I., Watling, J.G., de Medeiros, V.B., De Oliveira, P.E., Barba-Pingarón, L., Ortiz-Butrón, A., Blancas-Vázquez, J., Rivera-González, I., Solís-Rosales, C., Rodríguez-Ceja, M., Gandy, D.A., Navarro-Gutierrez, Z., De La Rosa-Díaz, J.J., Huerta-Arellano, V., Marroquín-Fernández, M.B., Martínez-Riojas, L.M., López-Jiménez, A., Higham, T. and **Willerslev, E**., 2020. Evidence of human occupation in Mexico around the Last Glacial Maximum. *Nature* 584, 87–92. DOI: 10.1038/s41586-020-2509-0

Louis, M., Skovrind, M., Castruita, J.A., Garilao, C., Kaschner, K., Gopalakrishnan, S., Haile, J., Lydersen, C., Kovacs, K., Garde, E., Heide-Jørgensen, M.P., Postma, L., Ferguson, S., **Willerslev, E.,** & Lorenzen, E., 2020. Influence of past climate change on phylogeography and demographic history of narwhals, Monodon monoceros. *Proceedings of the Royal Society B, 287*. DOI:10.1098/rspb.2019.2964

Rifkin, R.F., Vikram, S., Ramond, J., Rey-Iglesia, A., Brand, T.B., Porraz, G., Val, A., Hall, G., Woodborne, S., Bailly, M.L., Potgieter, M., Underdown, S., Koopman, J.E., Cowan, D., Peer, Y.V., **Willerslev, E.,** & Hansen, A., 2020. Multi-proxy analyses of a mid-15th century Middle Iron Age Bantu-speaker palaeo-faecal specimen elucidates the configuration of the 'ancestral' sub-Saharan African intestinal microbiome. *Microbiome, 8*. DOI:10.1186/s40168-020-00832-x

** Mühlemann, B., Vinner, L., Margaryan, A., Wilhelmson, H., de la Fuente Castro, C., Allentoft, M.E., de Barros Damgaard, P., Hansen, A.J., Holtsmark Nielsen, S., Strand, L.M., Bill, J., Buzhilova, A., Pushkina, T., Falys, C., Khartanovich, V., Moiseyev, V., Schjellerup Jørkov, M.L., Østergaard Sørensen, P., Magnusson, Y., Gustin, Y., Schroeder, H., Sutter, G., Smith, G.L., Drosten, C., Fouchier, R.A.M., Smith, D.J., **Willerslev, E.** *, Jones, T.C.*, Sikora, M.*, 2020. Diverse variola virus (smallpox) strains were widespread in northern Europe in the Viking Age. *Science*, 369(6502). * Joint senior authors. DOI: 0.1126/science.aaw8977

Wasef, S., Wright, J., Adams, S., Westaway, M., Flinders, C., and **Willerslev, E**.* and Lambert, D.*, 2020. Insights into Aboriginal Australian Mortuary Practices: Perspectives from Ancient DNA. *Frontiers in Ecology and Evolution*, 8. * Joint senior authors. DOI: 10.3389/fevo.2020.00217

Lord, E., Dussex, N., Kierczak, M., Díez-del-Molino, D., Ryder, O. A., Stanton, D. W. G., Gilbert, M.T.P., Sánchez-Barreiro, F., Zhang, G., Sinding, M.H.S., Lorenzen, E.D., **Willerslev, E.**, Protopopov, A., Shidlovskiy, F., Fedorov, S., Bocherens, H., Nathan, S.K.S.S., Goossens, B., van der Plicht, J., Chan, Y.L., Prost, S., Potapova, O., Kirillova, I., Lister, A.M., Heintzman, P.D., Kapp, J.D., Shapiro, B., Vartanyan, S., Götherström, A., Dalén, L., 2020. Pre-extinction Demographic Stability and Genomic Signatures of Adaptation in the Woolly Rhinoceros. *Current Biology*, *30*(19), 3871-3879, e1-e7. DOI:10.1016/j.cub.2020.07.046

Kristiansen, K., Allentoft, M.E., Frei, K.M., Iversen, R., Johannsen, N.N., Kroonen, G., Pospieszny, Ł., Price, T.D., Rasmussen, S., Sjögren, K.G., Sikora, M., **Willerslev, E**., 2020. Re-theorising mobility and the formation of culture and language among the Corded Ware Culture in Europe—CORRIGENDUM. 94. 839-839. DOI: 10.15184/aqy.2020.84.

** Welker, F., Ramos-Madrigal, J., Gutenbrunner, P., Mackie, M., Tiwary, S., Rakownikow Jersie-Christensen, R., Chiva, C., Dickinson, M., Kuhlwilm, M., de Manuel, M., Gelabert, P., Martinón-Torres, M., Margvelashvili, A., Arsuaga, J., Carbonell, E., Marques-Bonet, T., Penkman, K., Sabidó, E., Cox, J., Olsen, J., Lordkipanidze, D., Racimo, F., Lalueza-Fox, C., Bermúdez de Castro, J., **Willerslev, E.*** and Cappellini, E.*, 2020. The dental proteome of Homo antecessor. *Nature*, 580(7802), pp.235-238. *Joint senior authors. DOI: 10.1038/s41586-020-2153-8

Sinding, M.H., Gopalakrishnan, S., Ramos-Madrigal, J., Manuel, M.D., Pitulko, V., Kuderna, L., Feuerborn, T.R., Frantz, L.A., Vieira, F., Niemann, J., Castruita, J.A., Carøe, C., Andersen-Ranberg, E.U., Jordan, P., Pavlova, E., Nikolskiy, P., Kasparov, A., Ivanova, V., **Willerslev, E., Skoglund, P., Fredholm, M., Wennerberg, S.E., Heide-Jørgensen, M., Dietz, R., Sonne, C., Meldgaard, M., Dalén, L., Larson, G., Petersen, B., Sicheritz-Pontén, T., Bachmann, L., Wiig, Ø., Marquès-Bonet, T., Hansen, A., & Gilbert, M., 2020. Arctic-adapted dogs emerged at the Pleistocene–Holocene transition. *Science, 368*, 1495 - 1499. DOI:10.1126/science.aaz8599

Mathieson, I., Abascal, F., Vinner, L., Skoglund, P., Pomilla, C., Mitchell, P., Arthur, C., Gurdasani, D., **Willerslev, E.,** Sandhu, M., & Dewar, G., 2020. An Ancient Baboon Genome Demonstrates Long-Term Population Continuity in Southern Africa. *Genome Biology and Evolution, 12*, 407 - 412. DOI:10.1093/gbe/evaa019

Gakuhari, T., Nakagome, S., Rasmussen, S., Allentoft, M., Sato, T., Korneliussen, T., Chuinneagáin, B.N., Matsumae, H., Koganebuchi, K., Schmidt, R., Mizushima, S., Kondo, O., Shigehara, N., Yoneda, M., Kimura, R., Ishida, H., Masuyama, T., Yamada, Y., Tajima, A., Shibata, H., Toyoda, A., Tsurumoto, T., Wakebe, T., Shitara, H., Hanihara, T., **Willerslev, E.,** Sikora, M., & Oota, H., 2020. Ancient Jomon genome sequence analysis sheds light on migration patterns of early East Asian populations. *Communications Biology, 3*. DOI:10.1038/s42003-020-01162-2

Loog, L., Thalmann, O., Sinding, M.S., Schuenemann, V.J., Perri, A., Germonpré, M., Bocherens, H., Witt, K.E., Samaniego Castruita, J.A., Velasco, M.S., Lundstrøm, I.K.C., Wales, N., Sonet, G., Frantz, L., Schroeder, H., Budd, J., Jimenez, E.L., Fedorov, S., Gasparyan, B., Kandel, A.W., Lázničková-Galetová, M., Napierala, H., Uerpmann, H.P., Nikolskiy, P.A., Pavlova, E.Y., Pitulko, V.V.,Herzig, K.H., Malhi, R.S., **Willerslev,** E., Hansen, A.J., Dobney, K., Gilbert, M.T.P., Krause, J., Larson, G., Eriksson, A., Manica, A., 2020. Ancient DNA suggests modern wolves trace their origin to a Late Pleistocene expansion from Beringia. *Mol Ecol.,* 29(9):1596-1610. doi: 10.1111/mec.15329.

**Cappellini, E., Welker, F., Pandolfi, L., Ramos-Madrigal, J., Samodova, D., Rüther, P., Fotakis, A., Lyon, D., Moreno-Mayar, J., Bukhsianidze, M., Rakownikow Jersie-Christensen, R., Mackie, M., Ginolhac, A., Ferring, R., Tappen, M., Palkopoulou, E., Dickinson, M., Stafford, T., Chan, Y., Götherström, A., Nathan, S., Heintzman, P., Kapp, J., Kirillova, I., Moodley, Y., Agusti, J., Kahlke, R., Kiladze, G., Martínez-Navarro, B., Liu, S., Sandoval

Velasco, M., Sinding, M., Kelstrup, C., Allentoft, M., Orlando, L., Penkman, K., Shapiro, B., Rook, L., Dalén, L., Gilbert, M., Olsen, J., Lordkipanidze, D. and **Willerslev, E.,** 2019. Early Pleistocene enamel proteome from Dmanisi resolves Stephanorhinus phylogeny. *Nature*, 574(7776), pp.103-107. DOI: 10.1038/s41586-019-1555-y

Mollerup, S., Asplund, M., Friis-Nielsen, J., Kjartansdóttir, K. R., Fridholm, H., Hansen, T. A., Herrera, J. A. R., Barnes, C. J., Jensen, R. H., Richter, S. R., Nielsen, I. B., Pietroni, C., Alquezar-Planas, D. E., Rey-Iglesia, A., Olsen, P. V. S., Rajpert-De Meyts, E., Groth-Pedersen, L., von Buchwald, C., Jensen, D. H., Gniadecki, R., Høgdall, E., Langhoff, J.L., Pete, I., Vereczkey, I., Baranyai, Z., Dybkaer, K., Johnsen, H.E., Steiniche, T., Hokland, P., Rosenberg, J., Baandrup, U., Sicheritz-Pontén, T., **Willerslev,** E., Brunak, S., Lund, O., Mourier, T., Vinner, L., Izarzugaza, J.M.G., Nielsen, L.P., Hansen, A.J., 2019. High-Throughput Sequencing-Based Investigation of Viruses in Human Cancers by Multienrichment Approach. *J Infect Dis.,* 220(8), 1312-1324. DOI: 10.1093/infdis/jiz318

Renaud, G., Hanghøj, K., Korneliussen, T.S., **Willerslev,** E., Orlando, L., 2019. Joint Estimates of Heterozygosity and Runs of Homozygosity for Modern and Ancient Samples. *Genetics*, 212, 587-614. DOI: 10.1534/genetics.119.302057

** Sikora, M., Pitulko, V., Sousa, V., Allentoft, M.E., Vinner, L., Rasmussen, S., Margaryan, S., de Barros Damgaard, P., de la Fuente, C., Renaud, G., Yang, M., Fu, Q., Dupanloup, I., Giampoudakis, K., Nogues, D.B., Rahbek, C., Kroonen, G., Peyrot, M., McColl, H., Vasilyev, S., Veselovskaya, E., Gerasimova, M., Pavlova, E., Chasnyk, V., Nikolskiy, P., Grebenyuk, P., Fedorcko, A., Lebedintsev, A., Malyarchuk, B., Meldgaard, M., Martiniano, R., Arppe, L., Palo, J., Sundell, T., Mannermaa, K., Putkonen, M., Alexandersen, V., Primeau, C., Mahli, R., Sjögren, K.G., Kristiansen, K., Wessman, A., Sajantila, A., Lahr, M.L.K., Durbin, R., Nielsen, R., Meltzer. D., Excoffier, L., and **Willerslev, E**., 2019. The population history of northeastern Siberia since the Pleistocene. *Nature*, 570(7760):182-188. DOI: 10.1038/s41586-019-1279-z

Fages, A., Hanghøj, K., Khan, N., Gaunitz, C., Seguin-Orlando, A., Leonardi, M., McCrory Constantz, C., Gamba, C., Al-Rasheid, K.A.S., Albizuri, S., Alfarhan, A.H., Allentoft, M., Alquraishi, S., Anthony, D., Baimukhanov, N., Barrett, J.H., Bayarsaikhan, J., Benecke, N., Bernáldez-Sánchez, E., Berrocal-Rangel, L., Biglari,.F., Boessenkool, S., Boldgiv, B., Brem, G., Brown, D., Burger, J., Crubézy, E., Daugnora, L., Davoudi, H., de Barros Damgaard, P., de Los Ángeles de Chorro Y de Villa-Ceballos, M., Deschler-Erb, S., Detry, C., Dill, N., do Mar Oom, M., Dohr, A., Ellingvåg, S., Erdenebaatar, D., Fathi, H., Felkel, S., Fernández-Rodríguez, C., García-Viñas, E., Germonpré, M., Granado, J.D., Hallsson, J.H., Hemmer, H., Hofreiter, M., Kasparov, A., Khasanov, M., Khazaeli, R., Kosintsev, P., Kristiansen, K., Kubatbek, T., Kuderna, L., Kuznetsov, P., Laleh, H., Leonard, J.A., Lhuillier, J., Liesau von Lettow-Vorbeck, C., Logvin, A., Lõugas, L., Ludwig, A., Luis, C., Arruda, A.M., Marques-Bonet, T., Matoso Silva, R., Merz, V., Mijiddorj, E., Miller, B.K., Monchalov, O., Mohaseb, F.A., Morales, A., Nieto-Espinet,

A., Nistelberger, H., Onar, V., Pálsdóttir, A.H., Pitulko, V., Pitskhelauri, K., Pruvost, M., Rajic Sikanjic, P., Rapan Papeša, A., Roslyakova, N., Sardari, A., Sauer, E., Schafberg, R., Scheu, A., Schibler, J., Schlumbaum, A., Serrand, N., Serres-Armero, A., Shapiro, B., Sheikhi Seno, S., Shevnina, I., Shidrang, S., Southon, J., Star, B., Sykes, N., Taheri, K., Taylor, W., Teegen, W.R., Trbojević Vukičević, T., Trixl, S., Tumen, D., Undrakhbold, S., Usmanova, E., Vahdati, A., Valenzuela-Lamas, S., Viegas, C., Wallner, B., Weinstock, J., Zaibert, V., Clavel, B., Lepetz, S., Mashkour, M., Helgason, A., Stefánsson, K., Barrey, E., **Willerslev,** E., Outram, A.K., Librado, P., Orlando, L., 2019. Tracking Five Millennia of Horse Management with Extensive Ancient Genome Time Series. *Cell*, *177*(6), 1419-1435.e31. DOI: 10.1016/j.cell.2019.03.049

Schroeder, H., Margaryan, A., Szmyt, M., Theulot, B., Włodarczak, P., Rasmussen, S., Gopalakrishnan, S., Szczepanek, A., Konopka, T., Jensen, T.Z., Witkowska, B., Wilk, S., Przybyła, M.M., Pospieszny, Ł., Sjögren, K., Belka, Z., Olsen, J., Kristiansen, K., **Willerslev, E.,** Frei, K., Sikora, M., Johannsen, N., and Allentoft, M., 2019. Unraveling ancestry, kinship, and violence in a Late Neolithic mass grave. *PNAS* 116, 10705 - 10710. DOI:10.1073/pnas.1820210116

Sengupta, M., Hellström, M., Kariuki, H., Olsen, A., Thomsen, P.F., Mejer, H., **Willerslev, E.**, Mwanje, M.T., Madsen, H., Kristensen, T., Stensgaard, A., and Vennervald, B., 2019. Environmental DNA for improved detection and environmental surveillance of schistosomiasis. *PNAS* 116, 8931 - 8940. DOI:10.1073/pnas.1815046116

Zinger, L., Bonin, A., Alsos, I., Bálint, M., Bik, H., Boyer, F., Chariton, A., Creer, S., Coissac, E., Deagle, B., De Barba, M., Dickie, I., Dumbrell, A., Ficetola, G., Fierer, N., Fumagalli, L., Gilbert, M., Jarman, S., Jumpponen, A., Kauserud, H., Orlando, L., Pansu, J., Pawlowski, J., Tedersoo, L., Thomsen, P., **Willerslev, E.*** and Taberlet, P.*, 2019. DNA metabarcoding—Need for robust experimental designs to draw sound ecological conclusions. *Molecular Ecology*, 28(8), pp.1857-1862. *Joint senior authors. DOI: 10.1111/mec.15060

Prohaska, A., Racimo, F., Schork, A., Sikora, M., Stern, A., Ilardo, M., Allentoft, M., Folkersen, L., Buil, A., Moreno-Mayar, J., Korneliussen, T., Geschwind, D., Ingason, A., Werge, T., Nielsen, R. and **Willerslev, E.**, 2019. Human Disease Variation in the Light of Population Genomics. *Cell*, 177(1), pp.115-131. DOI: 10.1016/j.cell.2019.01.052

Cappellini. E., Welker, F., Olsen, J.V., Lordkipanidze, D., and **Willerslev, E**., 2019. Enamel proteome sequences from Dmanisi (Georgia) enable molecular phylogeny beyond the limits of ancient DNA preservation. *American Journal of Physical Anthropology*, 168, no. suppl. 68, p.35. DOI: 10.1002/ajpa.23802

De la Fuente, C., Campbell, R., Santana, F., Moraga, M. and **Willerslev, E.** 2019, Polynesian ancestry in South America? A genomic insight from Mocha Island, Chile, *American*

Journal of Physical Anthropology, vol. 168, no. suppl. 68, p. 56. DOI: 10.1002/ajpa.23802

Rascován N, Sjögren KG, Kristiansen K, Nielsen R, **Willerslev,** E., Desnues, C., Rasmussen S. Emergence and Spread of Basal Lineages of Yersinia pestis during the Neolithic Decline. *Cell, 176*, 295-305.e10. DOI:10.1016/j.cell.2018.11.005

Wasef, S., Subramanian, S., O'Rorke, R., Huynen, L., El-marghani, S., Curtis, C., Holland, B., Ikram, S., Millar, C., **Willerslev, E.*,** Lambert, D.*, and Caramelli, D.* 2019. Mitogenomic diversity in Sacred Ibis Mummies sheds light on early Egyptian practices. *PLoS ONE*, 14(11), [e0223964]. *Joint senior authors. DOI: 10.1371/journal.pone.0223964.

** McColl, H., Racimo, F., Vinner, L., Demeter, F. P. M., Gakuhari, T., Moreno Mayar, J. V., van Driem, G., Gram Wilken, U., Seguin-Orlando, A., de la Fuente Castro, C.P., Wasef, S., Shoocongdej, R., Souksavatdy, V., Sayavongkhamdy, T., Saidin, M.M., Allentoft, M.E., Sato, T., Malaspinas, A.-S., Aghakhanian, F.A., Korneliussen, T.S., Prohaska, A., Margaryan, A., Damgaard, P.D.B., Kaewsutthi, S., Lertrit, P., Nguyen, T.M.H., Hung, H.-C., Minh Tran, T., Nghia Truong, H., Nguyen, G.H., Shahidan, S., Wiradnyana, K., Matsumae, H., Shigehara, N., Yoneda, M., Ishida, H., Masuyama, T., Yamada, Y., Tajima, A., Shibata, H., Toyoda, A., Hanihara, T., Nakagome, S., Deviese, T., Bacon, A.-M., Duringer, P., Ponche, J.-L., Shackelford, L., Patole-Edoumba, E., Nguyen, A.T., Bellina-Pryce, B., Galipaud, J.-C., Kinaston, R., Buckley, H., Pottier, C., Rasmussen, S., Higham, T., Foley, R.A., Lahr, M.M., Orlando, L., Sikora, M., Phipps, M.E., Oota, H., Higham, C., Lambert, D.M. and **Willerslev, E.,** 2018. The prehistoric peopling of Southeast Asia. *Science* 2018. The prehistoric peopling of Southeast Asia. *Science*, *361*(6397), 88-92. DOI: 10.1126/science.aat3628

de Barros Damgaard, P., Martiniano, R., Kamm, J., Moreno-Mayar, J., Kroonen, G., Peyrot, M., Barjamovic, G., Rasmussen, S., Zacho, C., Baimukhanov, N., Zaibert, V., Merz, V., Biddanda, A., Merz, I., Loman, V., Evdokimov, V., Usmanova, E., Hemphill, B., Seguin-Orlando, A., Yediay, F., Ullah, I., Sjögren, K., Iversen, K., Choin, J., de la Fuente, C., Ilardo, M., Schroeder, H., Moiseyev, V., Gromov, A., Polyakov, A., Omura, S., Senyurt, S., Ahmad, H., McKenzie, C., Margaryan, A., Hameed, A., Samad, A., Gul, N., Khokhar, M., Goriunova, O., Bazaliiskii, V., Novembre, J., Weber, A., Orlando, L., Allentoft, M., Nielsen, R., Kristiansen, K., Sikora, M., Outram, A., Durbin, R. and **Willerslev, E., 2018. The first horse herders and the impact of early Bronze Age steppe expansions into Asia. *Science*, 360(6396), p.eaar7711. DOI: 10.1126/science.aar7711 (cover)

**de Barros Damgaard, P., Marchi, N., Rasmussen, S., Peyrot, M., Renaud, G., Korneliussen, T., Moreno-Mayar, J., Pedersen, M., Goldberg, A., Usmanova, E., Baimukhanov, N., Loman, V., Hedeager, L., Pedersen, A., Nielsen, K., Afanasiev, G., Akmatov, K., Aldashev, A., Alpaslan, A., Baimbetov, G., Bazaliiskii, V., Beisenov, A., Boldbaatar, B., Boldgiv, B., Dorzhu, C., Ellingvag, S., Erdenebaatar, D., Dajani, R., Dmitriev, E.,

Evdokimov, V., Frei, K., Gromov, A., Goryachev, A., Hakonarson, H., Hegay, T., Khachatryan, Z., Khaskhanov, R., Kitov, E., Kolbina, A., Kubatbek, T., Kukushkin, A., Kukushkin, I., Lau, N., Margaryan, A., Merkyte, I., Mertz, I., Mertz, V., Mijiddorj, E., Moiyesev, V., Mukhtarova, G., Nurmukhanbetov, B., Orozbekova, Z., Panyushkina, I., Pieta, K., Smrčka, V., Shevnina, I., Logvin, A., Sjogren, K., Štolcova, T., Taravella, A., Tashbaeva, K., Tkachev, A., Tulegenov, T., Voyakin, D., Yepiskoposyan, L., Undrakhbold, S., Varfolomeev, V., Weber, A., Wilson Sayres, M., Kradin, N., Allentoft, M., Orlando, L., Nielsen, R., Sikora, M., Heyer, E., Kristiansen, K. and **Willerslev, E.,** 2018. 137 ancient human genomes from across the Eurasian steppes. *Nature*, 557, pp. 369-374. DOI: 10.1038/s41586-018-0094-2

Mühlemann, B., Jones, T., Damgaard, P., Allentoft, M., Shevnina, I., Logvin, A., Usmanova, E., Panyushkina, I., Boldgiv, B., Bazartseren, T., Tashbaeva, K., Merz, V., Lau, N., Smrčka, V., Voyakin, D., Kitov, E., Epimakhov, A., Pokutta, D., Vicze, M., Price, T., Moiseyev, V., Hansen, A., Orlando, L., Rasmussen, S., Sikora, M., Vinner, L., Osterhaus, A., Smith, D., Glebe, D., Fouchier, R., Drosten, C., Sjögren, K., Kristiansen, K. and **Willerslev, E., 2018. Ancient hepatitis B viruses from the Bronze Age to the Medieval period. *Nature*, 557(7705), pp.418-423. DOI: 10.1038/s41586-018-0097-z

Ilardo, M., Moltke, I., Korneliussen, T., Cheng, J., Stern, A., Racimo, F., de Barros Damgaard, P., Sikora, M., Seguin-Orlando, A., Rasmussen, S., van den Munckhof, I., ter Horst, R., Joosten, L., Netea, M., Salingkat, S., Nielsen, R. and **Willerslev, E**., 2018. Physiological and Genetic Adaptations to Diving in Sea Nomads. *Cell*, 173(3), pp.569-580.e15. DOI: 10.1016/j.cell.2018.03.054 (cover)

Moreno-Mayar, J., Potter, B., Vinner, L., Steinrücken, M., Rasmussen, S., Terhorst, J., Kamm, J., Albrechtsen, A., Malaspinas, A., Sikora, M., Reuther, J., Irish, J., Malhi, R., Orlando, L., Song, Y., Nielsen, R., Meltzer, D. and **Willerslev, E., 2018. Terminal Pleistocene Alaskan genome reveals first founding population of Native Americans. *Nature*, 553(7687), pp.203-207. DOI: 10.1038/nature25173

** Moreno-Mayar, J.V., Vinner, L., Damgaard, P.D., Fuente, C.D., Chan, J., Spence, J.P., Allentoft, M., Vimala, T., Racimo, F., Pinotti, T., Rasmussen, S., Margaryan, A., Orbegozo, M.I., Mylopotamitaki, D., Wooller, M., Bataille, C., Becerra-Valdivia, L., Chivall, D., Comeskey, D., Devièse, T., Grayson, D.K., George, L., Harry, H., Alexandersen, V., Primeau, C., Erlandson, J., Rodrigues-Carvalho, C., Reis, S., Bastos, M., Cybulski, J.S., Vullo, C., Morello, F., Vilar, M., Wells, S., Gregersen, K., Hansen, K.M., Lynnerup, N., Lahr, M.M., Kjær, K., Strauss, A., Alfonso-Durruty, M., Salas, A., Schroeder, H., Higham, T., Malhi, R., Rasic, J., Souza, L., Santos, F.R., Malaspinas, A., Sikora, M., Nielsen, R., Song, Y., Meltzer, D. and **Willerslev E.,** 2018. Early human dispersals within the Americas. *Science* 362(6419), eaav2621, DOI: 10.1126/science.aav2621.

Mühlemann, B., Margaryan, A., Damgaard, P.D., Allentoft, M.E., Vinner, L., Hansen, A.J., Weber, A.W., Bazaliiskii, V.I., Molak, M., Arneborg, J., Bogdanowicz, W., Falys, C., Sablin, M.V., Smrčka, V., Sten, S., Tashbaeva, K., Lynnerup, N., Sikora, M., Smith, D.J., Fouchier, R.A., Drosten, C., Sjögren, K., Kristiansen, K., **Willerslev, E.,** and Jones, T.C. (2018). Ancient human parvovirus B19 in Eurasia reveals its long-term association with humans. Proceedings of the National Academy of Sciences, 115, 7557 - 7562. DOI: 10.1073/pnas.1804921115

** Gaunitz, C., Fages, A., Hanghøj, K., Albrechtsen, A., Khan, N., Schubert, M., Seguin-Orlando, A., Owens, I.J., Felkel, S., Bignon-Lau, O., Damgaard, P.D., Mittnik, A., Mohaseb, A., Davoudi, H., Alquraishi, S., Alfarhan, A.H., Al-Rasheid, K., Crubézy, E., Benecke, N., Olsen, S., Brown, D., Anthony, D., Massy, K., Pitulko, V., Kasparov, A., Brem, G., Hofreiter, M., Mukhtarova, G., Baimukhanov, N., Lõugas, L., Onar, V., Stockhammer, P., Krause, J., Boldgiv, B., Undrakhbold, S., Erdenebaatar, D., Lepetz, S., Mashkour, M., Ludwig, A., Wallner, B., Merz, V., Merz, I., Zaibert, V., **Willerslev, E.,** Librado, P., Outram, A., and Orlando, L., 2018. Ancient genomes revisit the ancestry of domestic and Przewalski's horses. *Science*, 360, 111-114. doi: 10.1126/science.aao3297

**Thompson, L., Sanders, J., McDonald, D., Amir, A., Ladau, J., Locey, K.J., Prill, R., Tripathi, A., Gibbons, S., Ackermann, G., Navas-Molina, J.A., Janssen, S., Kopylova, E., Vázquez-Baeza, Y., González, A., Morton, J., Mirarab, S., Xu, Z.Z., Jiang, L., Haroon, M.F., Kanbar, J.N., Zhu, Q., Song, S.J., Kosciolek, T., Bokulich, N.A., Lefler, J.D., Brislawn, C.J., Humphrey, G., Owens, S.M., Hampton-Marcell, J.T., Berg-Lyons, D., McKenzie, V., Fierer, N., Fuhrman, J., Clauset, A., Stevens, R., Shade, A., Pollard, K., Goodwin, K., Jansson, J., Gilbert, J., Knight, R., An, J.L., Rivera, J.L., Al-Moosawi, L., Alverdy, J., Amato, K., Andras, J., Angenent, L.T., Antonopoulos, D.A., Apprill, A., Armitage, D., Ballantine, K.A., Bárta, J., Baum, J., Berry, A., Bhatnagar, A., Bhatnagar, M., Biddle, J., Bittner, L., Boldgiv, B., Bottos, E.M., Boyer, D., Braun, J., Brazelton, W., Brearley, F., Campbell, A.H., Caporaso, J., Cardona, C., Carroll, J., Cary, S., Casper, B., Charles, T.C., Chu, H., Claar, D., Clark, R.G., Clayton, J.B., Clemente, J., Cochran, A., Coleman, M., Collins, G., Colwell, R., Contreras, M., Crary, B.B., Creer, S., Cristol, D., Crump, B., Cui, D., Daly, S.E., Dávalos, L., Dawson, R.D., Defazio, J.R., Delsuc, F., Dionisi, H., Dominguez-Bello, M., Dowell, R., Dubinsky, E.A., Dunn, P., Ercolini, D., Espinoza, R.E., Ezenwa, V., Fenner, N., Findlay, H., Fleming, I.D., Fogliano, V., Forsman, A., Freeman, C., Friedman, E.S., Galindo, G., Garcia, L., García-Amado, M.A., Garshelis, D., Gasser, R., Gerdts, G., Gibson, M.K., Gifford, I., Gill, R.T., Giray, T., Gittel, A., Golyshin, P., Gong, D., Grossart, H., Guyton, K.L., Haig, S., Hale, V., Hall, R.S., Hallam, S., Handley, K., Hasan, N., Haydon, S.R., Hickman, J.E., Hidalgo, G., Hofmockel, K., Hooker, J., Hulth, S., Hultman, J., Hyde, E.R., Ibáñez-Álamo, J.D., Jastrow, J., Jex, A., Johnson, L., Johnston, E., Joseph, S., Jurburg, S.D., Jurelevicius, D., Karlsson, A., Karlsson, R., Kauppinen, S., Kellogg, C.T., Kennedy, S.J., Kerkhof, L.J., King, G., Kling, G., Koehler, A., Krezalek, M.A., Kueneman, J.G., Lamendella, R., Landon, E., Lane-deGraaf, K., Laroche, J., Larsen, P., Laverock, B., Lax, S., Lentino, M., Levin, I.I., Liancourt, P., Liang, W., Linz, A.M., Lipson, D., Liu, Y., Lladser, M.E., Lozada, M., Spirito, C.M.,

MacCormack, W., Macrae-Crerar, A., Magris, M., Martín-Platero, A., Martín-Vivaldi, M., Martínez, L.M., Martínez-Bueno, M., Marzinelli, E., Mason, O., Mayer, G., McDevitt-Irwin, J.M., McDonald, J., McGuire, K., McMahon, K.D., McMinds, R., Medina, M., Mendelson, J., Metcalf, J., Meyer, F., Michelangeli, F., Miller, K., Mills, D., Minich, J., Mocali, S., Moitinho-Silva, L., Moore, A., Morgan-Kiss, R., Munroe, P., Myrold, D., Neufeld, J.D., Ni, Y., Nicol, G., Nielsen, S., Nissimov, J.I., Niu, K., Nolan, M., Noyce, K., O'Brien, S.L., Okamoto, N., Orlando, L., Castellano, Y.O., Osuolale, O., Oswald, W., Parnell, J., Peralta-Sánchez, J.M., Petraitis, P., Pfister, C., Pilon-Smits, E., Piombino, P., Pointing, S., Pollock, F., Potter, C., Prithiviraj, B., Quince, C., Rani, A., Ranjan, R., Rao, S., Rees, A., Richardson, M., Riebesell, U., Robinson, C., Rockne, K., Rodriguezl, S.M., Rohwer, F., Roundstone, W., Safran, R.J., Sangwan, N., Sanz, V., Schrenk, M., Schrenzel, M., Scott, N.M., Seger, R.L., Seguin-Orlando, A., Seldin, L., Seyler, L.M., Shakhsheer, B., Sheets, G.M., Shen, C., Shi, Y., Shin, H., Shogan, B.D., Shutler, D., Siegel, J., Simmons, S., Sjöling, S., Smith, D.P., Soler, J.J., Sperling, M., Steinberg, P., Stephens, B., Stevens, M., Taghavi, S., Tai, V., Tait, K., Tan, C., Tas¸, N., Taylor, D.L., Thomas, T., Timling, I., Turner, B.L., Urich, T., Ursell, L.K., Lelie, D.V., Treuren, W.V., Zwieten, L.V., Vargas-Robles, D., Thurber, R., Vitaglione, P., Walker, D., Walters, W.A., Wang, S., Wang, T., Weaver, T., Webster, N., Wehrle, B., Weisenhorn, P.B., Weiss, S., Werner, J.J., West, K., Whitehead, A., Whitehead, S., Whittingham, L.A., **Willerslev, E.,** Williams, A.E., Wood, S.A., Woodhams, D., Yang, Y., Zaneveld, J., Zarraonaindia, I., Zhang, Q., and Zhao, H.,2017. A communal catalogue reveals Earth's multiscale microbial diversity. *Nature, 551*, 457-463. doi: 10.1038/nature24621

Zobel, M., Davison, J., Edwards, M., Brochmann, C., Coissac, E., Taberlet, P., **Willerslev, E.,** and Moora, M., 2017. Ancient environmental DNA reveals shifts in dominant mutualisms during the late Quaternary. *Nature Communications,* 9, 139. DOI:10.1038/s41467-017-02421-3

Nielsen, R., Akey, J., Jakobsson, M., Pritchard, J., Tishkoff, S. and **Willerslev, E., 2017. Tracing the peopling of the world through genomics. *Nature*, 541(7637), pp.302-310. DOI: 10.1038/nature21347

Demeter, F., Shackelford, L.L., Westaway, K.E., Barnes, L., Duringer, P., Ponche, J.L., Dumoncel, J., Sénégas, F., Sayavongkhamdy, T., Zhao, J., Sichanthongtip, P., Patole-Edoumba, É., Dunn, T.E., Zachwieja, A., Coppens, Y., **Willerslev, E.,** and Bacon, A., 2017. Early Modern Humans from Tam Pà Ling, Laos: Fossil Review and Perspectives. *Current Anthropology, 58*, S527 - S538. DOI:10.1086/694192

Ullah, I., Olofsson, J.K., Margaryan, A., Ilardo, M., Ahmad, H., Sikora, M., Hansen, A., Nadeem, M.S., Fazal, N., Ali, M., Buchard, A., Hemphill, B., **Willerslev, E.,** and Allentoft, M., 2017. High Y-chromosomal Differentiation Among Ethnic Groups of Dir and Swat Districts, Pakistan. *Annals of Human Genetics*, 81, 234–248. DOI:10.1111/ahg.12204

Sengupta, M., Hellstrom, A., Kariuki, H., Olsen, A., Mejer, H., **Willerslev, E.,** Kristensen, T., and Vennervald, B., 2017. Detecting Schistosoma mansoni transmission using environmental DNA in water samples. *Tropical Medicine and International Health*, 22 1S3.5, 7-8.

Saag, L., Varul, L., Scheib, C., Stenderup, J., Allentoft, M., Saag, L., Pagani, L., Reidla, M., Tambets, K., Metspalu, E., Kriiska, A., **Willerslev, E.,** Kivisild, T., and Metspalu, M., 2017. Extensive Farming in Estonia Started through a Sex-Biased Migration from the Steppe. *Current Biology, 27*, 2185-2193.e6. DOI:10.1016/j.cub.2017.06.022

Margaryan, A., Derenko, M., Hovhannisyan, H., Malyarchuk, B., Heller, R., Khachatryan, Z., Avetisyan, P., Badalyan, R., Bobokhyan, A., Melikyan, V., Sargsyan, G., Piliposyan, A., Simonyan, H., Mkrtchyan, R., Denisova, G., Yepiskoposyan, L., **Willerslev, E.,** and Allentoft, M., 2017. Eight Millennia of Matrilineal Genetic Continuity in the South Caucasus. *Current Biology*, 27, 2023-2028.e7. DOI:10.1016/j.cub.2017.05.087

Frei, K., Villa, C., Jørkov, M., Allentoft, M., Kaul, F., Ethelberg, P., Reiter, S.S., Wilson, A., Taube, M., Olsen, J., Lynnerup, N., **Willerslev, E.,** Kristiansen, K., and Frei, R., 2017. A matter of months: High precision migration chronology of a Bronze Age female. *PLoS ONE*, 12, 6, e0178834. DOI:10.1371/journal.pone.0178834

Buckley, M.T., Racimo, F., Allentoft, M., Jensen, M., Jonsson, A., Huang, H., Hormozdiari, F., Sikora, M., Marnetto, D., Eskin, E., Jørgensen, M., Grarup, N., Pedersen, O., Hansen, T., Kraft, P., **Willerslev, E.,** and Nielsen, R., 2017. Selection in Europeans on Fatty Acid Desaturases Associated with Dietary Changes. *Molecular Biology and Evolution, 34*, 1307 - 1318. DOI:10.1093/molbev/msx103

Cruz-Dávalos, D.I., Llamas, B., Gaunitz, C., Fages, A., Gamba, C., Soubrier, J., Librado, P., Seguin-Orlando, A., Pruvost, M., Alfarhan, A., Alquraishi, S., Al-Rasheid, K., Scheu, A., Beneke, N., Ludwig, A., Cooper, A., **Willerslev, E.,** and Orlando, L., 2017. Experimental conditions improving in-solution target enrichment for ancient DNA. *Molecular Ecology Resources*, 17, 508-522. DOI:10.1111/1755-0998.12595

Librado, P., Gamba, C., Gaunitz, C., Sarkissian, C.D., Pruvost, M., Albrechtsen, A., Fages, A., Khan, N., Schubert, M., Jagannathan, V., Serres-Armero, A., Kuderna, L.F., Povolotskaya, I., Seguin-Orlando, A., Lepetz, S., Neuditschko, M., Thèves, C., Alquraishi, S., Alfarhan, A.H., Al-Rasheid, K., Rieder, S., Samashev, Z., Francfort, H., Benecke, N., Hofreiter, M., Ludwig, A., Keyser, C., Marquès-Bonet, T., Ludes, B., Crubézy, E., Leeb, T., **Willerslev, E., and Orlando, L. (2017). Ancient genomic changes associated with domestication of the horse. Science, 356, 442 - 445. DOI:10.1126/science.aam5298

Lindo, J., Achilli, A., Perego, U., Archer, D., Valdiosera, C.E., Petzelt, B., Mitchell, J., Worl, R., Dixon, E.J., Fifield, T.E., Rasmussen, M., **Willerslev, E.**, Cybulski, J.S., Kemp, B.,

DeGiorgio, M., and Malhi, R., 2017. Ancient individuals from the North American Northwest Coast reveal 10,000 years of regional genetic continuity. *Proceedings of the National Academy of Sciences,* 114, 4093 - 4098. DOI:10.1073/pnas.1620410114

Kristiansen, K., Allentoft, M., Frei, K., Iversen, R., Johannsen, N., Kroonen, G., Pospieszny, Ł., Price, T., Rasmussen, S., Sjögren, K., Sikora, M. and **Willerslev, E.**, 2017. Re-theorising mobility and the formation of culture and language among the Corded Ware Culture in Europe. *Antiquity*, 91(356), pp.334-347. DOI:10.15184/aqy.2017.17

Chang, D., Knapp, M., Enk, J., Lippold, S., Kircher, M., Lister, A., Macphee, R., Widga, C., Czechowski, P., Sommer, R., Hodges, E., Stümpel, N., Barnes, I., Dalén, L., Derevianko, A., Germonpré, M., Hillebrand-Voiculescu, A., Constantin, S., Kuznetsova, T., Mol, D., Rathgeber, T., Rosendahl, W., Tikhonov, A., **Willerslev, E.,** Hannon, G.E., Lalueza-Fox, C., Joger, U., Poinar, H., Hofreiter, M., and Shapiro, B., 2017. The evolutionary and phylogeographic history of woolly mammoths: a comprehensive mitogenomic analysis. *Scientific Reports, 7*, 44585. DOI:10.1038/srep44585

Metcalf, J., Song, S., Morton, J., Weiss, S., Seguin-Orlando, A., Joly, F., Feh, C., Taberlet, P., Coissac, E., Amir, A., **Willerslev, E.,** Knight, R., McKenzie, V., and Orlando, L., 2017. Evaluating the impact of domestication and captivity on the horse gut microbiome. *Scientific Reports,* 7, 1, 1547. DOI:10.1038/s41598-017-15375-9

Sikora, M., Seguin-Orlando, A., Sousa, V., Albrechtsen, A., Korneliussen, T., Ko, A., Rasmussen, S., Dupanloup, I., Nigst, P., Bosch, M., Renaud, G., Allentoft, M., Margaryan, A., Vasilyev, S., Veselovskaya, E., Borutskaya, S., Deviese, T., Comeskey, D., Higham, T., Manica, A., Foley, R., Meltzer, D., Nielsen, R., Excoffier, L., Mirazon Lahr, M., Orlando, L. and **Willerslev, E., 2017. Ancient genomes show social and reproductive behavior of early Upper Paleolithic foragers. *Science*, 358(6363), pp.659-662. DOI:10.1126/science.aao1807

Lambert, D., Millar, C. and **Willerslev, E., 2017. Data sharing: do scientists know best? *Nature*, 548(7667), pp.281-281. DOI: 10.1038/548281b

Klejn, L., Haak, W., Lazaridis, I., Patterson, N., Reich, D., Kristiansen, K., Sjögren, K., Allentoft, M., Sikora, M. and **Willerslev, E.**, 2017. Discussion: Are the Origins of Indo-European Languages Explained by the Migration of the Yamnaya Culture to the West? *European Journal of Archaeology*, 21(1), pp.3-17. DOI: 10.1017/eaa.2017.35

Mollerup, S., Fridholm, H., Vinner, L., Kjartansdóttir, K.R., Friis-Nielsen, J., Asplund, M., Herrera, J.A., Steiniche, T., Mourier, T., Brunak, S., **Willerslev, E.,** Izarzugaza, J., Hansen, A., and Nielsen, L., 2017. Cutavirus in Cutaneous Malignant Melanoma. *Emerging Infectious Diseases, 23*, 363 - 365. DOI:10.3201/eid2302.161564

Yonezawa, T., Segawa, T., Mori, H., Campos, P., Hongoh, Y., Endo, H., Akiyoshi, A., Kohno, N., Nishida, S., Wu, J., Jin, H., Adachi, J., Kishino, H., Kurokawa, K., Nogi, Y., Tanabe, H., Mukoyama, H., Yoshida, K., Rasoamiaramanana, A., Yamagishi, S., Hayashi, Y., Yoshida, A., Koike, H., Akishinonomiya, F., **Willerslev, E.,** and Hasegawa, M., 2017. Phylogenomics and Morphology of Extinct Paleognaths Reveal the Origin and Evolution of the Ratites. *Current Biology*, 27, 68-77. DOI:10.1016/j.cub.2016.10.029

Cruz-Dávalos, D.I., Llamas, B., Gaunitz, C., Fages, A., Gamba, C., Soubrier, J., Librado, P., Seguin-Orlando, A., Pruvost, M., Alfarhan, A., Alquraishi, S., Al-Rasheid, K., Scheu, A., Beneke, N., Ludwig, A., Cooper, A., **Willerslev, E.**, and Orlando, L., 2017. Experimental conditions improving in-solution target enrichment for ancient DNA. *Molecular Ecology Resources, 17*. DOI:10.1111/1755-0998.12595

Hansen, H.B., Damgaard, P., Margaryan, A., Stenderup, J., Lynnerup, N., **Willerslev, E.**, and Allentoft, M., 2017. Comparing Ancient DNA Preservation in Petrous Bone and Tooth Cementum. *PLoS ONE*, 12. DOI:10.1371/journal.pone.0170940

Kristiansen, K., Allentoft, M., Frei, K.M., Iversen, R., Johannsen, N., Kroonen, G., Pospieszny, Ł., Price, T.D., Rasmussen, S., Sjögren, K., Sikora, M., and **Willerslev, E.**, 2017. Re-theorising mobility and the formation of culture and language among the Corded Ware Culture in Europe. *Antiquity*, 91 (356), 334 - 347. DOI:10.15184/aqy.2017.17

Leonardi, M., Librado, P., Sarkissian, C.D., Schubert, M., Alfarhan, A.H., Alquraishi, S., Al-Rasheid, K., Gamba, C., **Willerslev, E.,** and Orlando, L., 2017. Evolutionary Patterns and Processes: Lessons from Ancient DNA. *Systematic Biology*, 66, e1 - e29. DOI:10.1093/sysbio/syw059

Llamas, B., **Willerslev, E.,** and Orlando, L., 2017. Human evolution: a tale from ancient genomes. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 372 (1713). DOI:10.1098/rstb.2015.0484

Renaud, G., Hanghøj, K., **Willerslev, E.,** and Orlando, L., 2017. Gargammel: a sequence simulator for ancient DNA. *Bioinformatics, 33*, 577 - 579. DOI:10.1093/bioinformatics/btw670

** Malaspinas, A-S., Westaway, M. C., Muller, C., Sousa, V. C., Lao, O., Alves, I., Bergström, A., Athanasiadis, G., Cheng, J. Y., Crawford, J. E., Rasmussen, S., Albrechtsen, A., Margaryan, A., Moltke, I., Korneliussen, T. S., Moreno-Mayar, J. V., Sikora, M., Brunak, S., Campos, P. F., Clark, W., Ellingvåg, S., Fourmile, G., Gerbault, P., Injie, D., Kok, G., Leavesley, M., Logan, B., Lynch, A., Matisoo-Smith, E.A., McAllister, P.J., Mentzer, A.J., Metspalu, M., Migliano, A.B., Murgha, L., Phipps, M.E., Pomat, W., Reynolds, D., Ricaut, F.-X., Siba, P., Thomas, M.G., Wales, T., Wall, C., Oppenheimer, S.J., Tyler-Smith, C., Durbin, R., Dortch, J., Manica, A., Schierup, M.H., Foley, R., Lahr, M.M., Bowern, C., Wall, J.D., Mailund, T., Stoneking, M., Nielsen, R., Sandhu, M.S., Excoffier,

L., Lambert, D.M., and **Willerslev, E.,** 2016. A genomic history of Aboriginal Australia. *Nature*, 538(7624), 207-214. DOI: 10.1038/nature18299 (cover)

Pagani, L., Lawson, D. J., Jagoda, E., Mörseburg, A., Eriksson, A., Mitt, M., Clemente, F., Hudjashov, G., DeGiorgio, M., Saag, L., Wall, J. D., Cardona, A., Mägi, R., Wilson Sayres, M. A., Kaewert, S., Inchley, C., Scheib, C. L., Järve, M., Karmin, M., Jacobs, G. S., Antao, T., Iliescu, F.M., Kushniarevich, A., Ayub, Q., Tyler-Smith, C., Xue, Y., Yunusbayev, B., Tambets, K., Mallick, C.B., Saag, L., Pocheshkhova, E., Andriadze, G., Muller, C., Westaway, M.C., Lambert, D.M., Zoraqi, G., Turdikulova, S., Dalimova, D., Sabitov, Z., Sultana, G.N.N., Lachance, J., Tishkoff, S., Momynaliev, K., Isakova, J., Damba, L.D., Gubina, M., Nymadawa, P., Evseeva, I., Atramentova, L., Utevska, O., Ricaut, F.-X., Brucato, N., Sudoyo, H., Letellier, T., Cox, M.P., Barashkov, N.A., Skaro, V., Mulahasanovic, L., Primorac, D., Sahakyan, H., Mormina, M., Eichstaedt, C.A., Lichman, D.V., Abdullah, S., Chaubey, G., Wee, J.T.S., Mihailov, E., Karunas, A., Litvinov, S., Khusainova, R., Ekomasova, N., Akhmetova, V., Khidiyatova, I., Marjanović, D., Yepiskoposyan, L., Behar, D.M., Balanovska, E., Metspalu, E., Derenko, M., Malyarchuk, B., Voevoda, M., Fedorova, S.A., Osipova, L.P., Lahr, M.M., Gerbault, P., Leavesley, M., Migliano, A.B., Petraglia, M., Balanovsky, O., Khusnutdinova, E.K., Metspalu, E., Thomas, M.G., Manica, A., Nielsen, R., Villems, R., **Willerslev, E.*, Kivisild, T.*, Metspalu, M.*, 2016. Genomic analyses inform on migration events during the peopling of Eurasia. *Nature*, *538*(7624), 238–242. *Joint senior authors. DOI: 10.1038/nature19792

Pedersen, M.W., Ruter, A., Schweger, C., Friebe, H., Staff, R., Kjeldsen, K., Mendoza, M.L., Beaudoin, A.B., Zutter, C., Larsen, N.K., Potter, B., Nielsen, R., Rainville, R.A., Orlando, L., Meltzer, D., Kjær, K. and **Willerslev, E., 2016. Postglacial viability and colonization in North America's ice-free corridor. *Nature* 537, 45-49. DOI:10.1038/nature19085

Heupink, T., Subramanian, S., Wright, J., Endicott, P., Westaway, M., Huynen, L., Parson, W., Millar, C., **Willerslev, E.*** and Lambert, D.*, 2016. Ancient mtDNA sequences from the First Australians revisited. *Proceedings of the National Academy of Sciences*, 113(25), pp.6892-6897. *Joint senior authors. DOI: 10.1073/pnas.1521066113

Hansen, T.A., Joshi, T., Larsen, A., Andersen, P., Harms, K., Mollerup, S., **Willerslev, E.,** Fuursted, K., Nielsen, L., and Hansen, A., 2016. Vancomycin gene selection in the microbiome of urban Rattus norvegicus from hospital environment. *Evolution, Medicine, and Public Health, 2016*, 219 - 226. DOI:10.1093/emph/eow021

Hansen, T.A., Mollerup, S., Nguyen, N., White, N., Coghlan, M.L., Alquezar-Planas, D.E., Joshi, T., Jensen, R.H., Fridholm, H., Kjartansdóttir, K.R., Mourier, T., Warnow, T., Belsham, G., Bunce, M., **Willerslev, E.**, Nielsen, L., Vinner, L., and Hansen, A., 2016. High diversity of picornaviruses in rats from different continents revealed by deep sequencing. *Emerging Microbes and Infections*, 5. DOI:10.1038/emi.2016.90

De la Fuente, C., Ávila-Arcos, M.C., Carpenter, M., Homburger, J., Blanco, A.E., Contreras, P., Moreno-Estrada, A., Campos, P., Eng, C., Huntsman, S., Burchard, E., Bustamante, C., **Willerslev, E.,** Llop, E., Verdugo, R.A., and Moraga, M., 2016. Insight into the population history of the Chilean Patagonia through the analysis of ancient and modern genomic data. *American Journal of Physical Anthropology* 159, 127.

Vilar, M., Alfonso-Durruty, M., Castro, C.D., Morello, F., Campos, P., Wells, S., and **Willerslev, E.,** 2016. Genome from Early Holocene Remains from Patagonia Suggest Demographic Shift, Supporting the Material Culture Transition. *American Journal of Physical Anthropology*, 159, suppl. 62, p. 323

Friis-Nielsen, J., Kjartansdóttir, K.R., Mollerup, S., Asplund, M., Mourier, T., Jensen, R.H., Hansen, T.A., Rey-Iglesia, A., Richter, S.R., Nielsen, I.B., Alquezar-Planas, D.E., Olsen, P.S., Vinner, L., Fridholm, H., Nielsen, L., **Willerslev, E.,** Sicheritz-Pontén, T., Lund, O., Hansen, A., Izarzugaza, J.M., and Brunak, S., 2016. Identification of Known and Novel Recurrent Viral Sequences in Data from Multiple Patients and Multiple Cancers. *Viruses,* 8(2), 53. DOI: 10.3390/v8020053

Valentini, A., Taberlet, P., Miaud, C., Civade, R., Herder, J., Thomsen, P.F., Bellemain, E., Besnard, A., Coissac, E., Boyer, F., Gaboriaud, C., Jean, P., Poulet, N.F., Roset, N., Copp, G., Geniez, P., Pont, D., Argillier, C., Baudoin, J., Peroux, T., Crivelli, A., Olivier, A., Acqueberge, M., Brun, M.L., Møller, P., **Willerslev, E.,** and Dejean, T., 2016. Next-generation monitoring of aquatic biodiversity using environmental DNA metabarcoding. *Molecular Ecology, 25*, 929-942. DOI:10.1111/mec.13428

Librado, P., Sarkissian, C.D., Ermini, L., Schubert, M., Jónsson, H., Albrechtsen, A., Fumagalli, M., Yang, M.A., Gamba, C., Seguin-Orlando, A., Mortensen, C.D., Petersen, B., Hoover, C., Lorente-Galdos, B., Nedoluzhko, A., Boulygina, E., Tsygankova, S., Neuditschko, M., Jagannathan, V., Thèves, C., Alfarhan, A., Alquraishi, S., Al-Rasheid, K., Sicheritz-Pontén, T., Popov, R., Grigoriev, S., Alekseev, A.N., Rubin, E., McCue, M., Rieder, S., Leeb, T., Tikhonov, A., Crubézy, E., Slatkin, M., Marquès-Bonet, T., Nielsen, R., **Willerslev, E.,** Kantanen, J., Prokhortchouk, E., and Orlando, L., 2015. Tracking the origins of Yakutian horses and the genetic basis for their fast adaptation to subarctic environments. *Proceedings of the National Academy of Sciences,* 112, E6889 - E6897. DOI:10.1073/pnas.1513696112

Mourier, T., Mollerup, S., Vinner, L., Hansen, T.A., Kjartansdóttir, K.R., Frøslev, T.G., Boutrup, T.S., Nielsen, L.P., **Willerslev,** E., Hansen, A.J., 2015. Characterizing novel endogenous retroviruses from genetic variation inferred from short sequence reads. *Scientific Reports,* 5, 15644. Published online 2015 Oct 23. DOI: 10.1038/srep15644

Vinner, L., Mourier, T., Friis-Nielsen, J., Gniadecki, R., Dybkaer, K., Rosenberg, J., Langhoff, J.L., Cruz, D.F., Fonager, J., Izarzugaza, J., Gupta, R., Sicheritz-Pontén, T., Brunak, S., **Willerslev, E.,** Nielsen, L., and Hansen, A., 2015. Investigation of Human Cancers for

Retrovirus by Low-Stringency Target Enrichment and High-Throughput Sequencing. *Scientific Reports, 5*, 13201. Published online 2015 Aug 19. DOI: 10.1038/srep13201

Kjeldsen, K.K., Korsgaard, N.J., Bjørk, A.A., Khan, S.A., Box, J.E., Funder, S., Larsen, N.K., Bamber, J., Colgan, W., Broeke, M.V., Siggaard-Andersen, M., Nuth, C., Schomacker, A., Andresen, C.S., **Willerslev, E., and Kjær, K., 2015. Spatial and temporal distribution of mass loss from the Greenland Ice Sheet since AD 1900. *Nature, 528*, 396-400. DOI:10.1038/nature16183

Rasmussen, S., Allentoft, M., Nielsen, K., Orlando, L., Sikora, M., Sjögren, K., Pedersen, A., Schubert, M., Van Dam, A., Kapel, C., Nielsen, H., Brunak, S., Avetisyan, P., Epimakhov, A., Khalyapin, M., Gnuni, A., Kriiska, A., Lasak, I., Metspalu, M., Moiseyev, V., Gromov, A., Pokutta, D., Saag, L., Varul, L., Yepiskoposyan, L., Sicheritz-Pontén, T., Foley, R., Lahr, M., Nielsen, R., Kristiansen, K. and **Willerslev, E.**, 2015. Early Divergent Strains of Yersinia pestis in Eurasia 5,000 Years Ago. *Cell*, 163(3), pp.571-582. DOI: 10.1016/j.cell.2015.10.009 (cover)

Sarkissian, C.D., Ermini, L., Schubert, M., Yang, M.A., Librado, P., Fumagalli, M., Jónsson, H., Bar-Gal, G.K., Albrechtsen, A., Vieira, F., Petersen, B., Ginolhac, A., Seguin-Orlando, A., Magnussen, K., Fages, A., Gamba, C., Lorente-Galdos, B., Polani, S., Steiner, C., Neuditschko, M., Jagannathan, V., Feh, C., Greenblatt, C., Ludwig, A., Abramson, N., Zimmermann, W., Schafberg, R., Tikhonov, A., Sicheritz-Pontén, T., **Willerslev, E.,** Marquès-Bonet, T., Ryder, O., McCue, M., Rieder, S., Leeb, T., Slatkin, M., and Orlando, L., 2015. Evolutionary Genomics and Conservation of the Endangered Przewalski's Horse. *Current Biology, 25*, 2577-2583. DOI:10.1016/j.cub.2015.08.032

Hansen, T.A., Fridholm, H., Frøslev, T.G., Kjartansdóttir, K.R., **Willerslev, E.,** Nielsen, L., and Hansen, A., 2015. New Type of Papillomavirus and Novel Circular Single Stranded DNA Virus Discovered in Urban Rattus norvegicus Using Circular DNA Enrichment and Metagenomics. *PLoS ONE, 10*. DOI:10.1371/journal.pone.0141952

** Raghavan, M., Steinrücken, M., Harris, K., Schiffels, S., Rasmussen, S., DeGiorgio, M., Albrechtsen, A., Valdiosera, C., Ávila-Arcos, M. C., Malaspinas, A. S., Eriksson, A., Moltke, I., Metspalu, M., Homburger, J. R., Wall, J., Cornejo, O. E., Moreno-Mayar, J. V., Korneliussen, T. S., Pierre, T., Rasmussen, M., Campos, P.F., Damgaard, P.B., Allentoft, M.E., Lindo, J., Metspalu, E., Rodríguez-Varela, R., Mansilla, J., Henrickson, C., Seguin-Orlando, A., Malmström, H., Stafford, T. Jr., Shringarpure, S.S., Moreno-Estrada, A., Karmin, M., Tambets, K., Bergström, A., Xue, Y., Warmuth, V., Friend, A.D., Singarayer, J., Valdes, P., Balloux, F., Leboreiro, I., Vera, J.L., Rangel-Villalobos, H., Pettener, D., Luiselli, D., Davis, L.G., Heyer, E., Zollikofer, C.P., Ponce de León, M.S., Smith, C.I., Grimes, V., Pike, K.A., Deal, M., Fuller, B.T., Arriaza, B., Standen, V., Luz, M.F., Ricaut, F., Guidon, N., Osipova, L., Voevoda, M.I., Posukh, O.L., Balanovsky, O., Lavryashina, M., Bogunov, Y., Khusnutdinova, E., Gubina, M., Balanovska, E.,

Fedorova, S., Litvinov, S., Malyarchuk, B., Derenko, M., Mosher, M.J., Archer, D., Cybulski, J., Petzelt, B., Mitchell, J., Worl, R., Norman, P.J., Parham, P., Kemp, B.M., Kivisild, T., Tyler-Smith, C., Sandhu, M.S., Crawford, M., Villems, R., Smith, D.G., Waters, M.R., Goebel, T., Johnson, J.R., Malhi, R.S., Jakobsson, M., Meltzer, D.J., Manica, A., Durbin, R., Bustamante, C.D., Song, Y.S., Nielsen, R., and **Willerslev, E.,** 2015. POPULATION GENETICS. Genomic evidence for the Pleistocene and recent population history of Native Americans. *Science*, 349(6250), aab3884. DOI: 10.1126/science.aab3884

Damgaard, P., Margaryan, A., Schroeder, H., Orlando, L., **Willerslev, E.,** & Allentoft, M., 2015. Improving access to endogenous DNA in ancient bones and teeth. *Scientific Reports, 5,*11184. DOI: 10.1038/srep11184.

Frei, K.M., Mannering, U., Kristiansen, K., Allentoft, M., Wilson, A., Skals, I., Tridico, S., Nosch, M.L., **Willerslev, E.,** Clarke, L., & Frei, R., 2015. Tracing the dynamic life story of a Bronze Age Female. *Scientific Reports, 5,* 10431. DOI: 10.1038/srep10431.

Seguin-Orlando, A., Gamba, C., Sarkissian, C.D., Ermini, L., Louvel, G., Boulygina, E., Sokolov, A., Nedoluzhko, A., Lorenzen, E., López, P., McDonald, H.G., Scott, E., Tikhonov, A., Stafford, T.W., Alfarhan, A., Alquraishi, S., Al-Rasheid, K., Shapiro, B., **Willerslev, E.,** Prokhortchouk, E., & Orlando, L., 2015. Pros and cons of methylation-based enrichment methods for ancient DNA. *Scientific Reports, 5*, 11826. DOI: 10.1038/srep11826.

Springer, M., Signore, A.V., Paijmans, J.L., Vélez-Juarbe, J., Domning, D., Bauer, C.E., He, K., Crerar, L.D., Campos, P.F., Murphy, W., Meredith, R.W., Gatesy, J., **Willerslev, E.,** Macphee, R., Hofreiter, M., and Campbell, K., 2015. Interordinal gene capture, the phylogenetic position of Steller's sea cow based on molecular and morphological data, and the macroevolutionary history of Sirenia. *Molecular phylogenetics and evolution, 91*, 178-93. DOI: 10.1016/j.ympev.2015.05.022.

Rasmussen, M., Sikora, M., Albrechtsen, A., Korneliussen, T., Moreno-Mayar, J., Poznik, G., Zollikofer, C., Ponce de León, M., Allentoft, M., Moltke, I., Jónsson, H., Valdiosera, C., Malhi, R., Orlando, L., Bustamante, C., Stafford, T., Meltzer, D., Nielsen, R. and **Willerslev, E., 2015. The ancestry and affiliations of Kennewick Man. *Nature*, 523(7561), 455-458. DOI: 10.1038/nature14625

Orlando, L., Gilbert, M. and **Willerslev, E.**, 2015. Reconstructing ancient genomes and epigenomes. *Nature Reviews Genetics*, 16(7), 395-408. DOI: 10.1038/nrg3935

** Allentoft, M. E., Sikora, M., Sjögren, K. G., Rasmussen, S., Rasmussen, M., Stenderup, J., Damgaard, P. B., Schroeder, H., Ahlström, T., Vinner, L., Malaspinas, A. S., Margaryan, A., Higham, T., Chivall, D., Lynnerup, N., Harvig, L., Baron, J., Della Casa, P., Dąbrowski, P., Duffy, P. R., Ebel, A.V., Epimakhov, A., Frei, K., Furmanek, M., Gralak,

T., Gromov, A., Gronkiewicz, S., Grupe, G., Hajdu, T., Jarysz, R., Khartanovich, V., Khokhlov, A., Kiss, V., Kolář, J., Kriiska, A., Lasak, I., Longhi, C., McGlynn, G., Merkevicius, A., Merkyte, I., Metspalu, M., Mkrtchyan, R., Moiseyev, V., Paja, L., Pálfi, G., Pokutta, D., Pospieszny, L., Price, T.D., Saag, L., Sablin, M., Shishlina, N., Smrčka, V.C., Soenov, V.I., Szeverényi, V., Tóth, G., Trifanova, S.V., Varul, L., Vicze, M., Yepiskoposyan, L., Zhitenev, V., Orlando, L., Sicheritz-Pontén, T., Brunak, S., Nielsen, R., Kristiansen, K. and **Willerslev, E.,** 2015. Population genomics of Bronze Age Eurasia. *Nature*, 522(7555), 167–172. DOI: 10.1038/nature14507

Jensen, R.H., Mollerup, S., Mourier, T., Hansen, T.A., Fridholm, H., Nielsen, L., **Willerslev, E.,** Hansen, A., and Vinner, L., 2015. Target-Dependent Enrichment of Virions Determines the Reduction of High-Throughput Sequencing in Virus Discovery. *PLoS ONE*, 10(4),e0122636.

Karmin, M., Saag, L., Vicente, M., Sayres, M.A., Järve, M., Talas, U.G., Rootsi, S., Ilumäe, A., Mägi, R., Mitt, M., Pagani, L., Puurand, T., Faltyskova, Z., Clemente, F., Cardona, A., Metspalu, E., Sahakyan, H., Yunusbayev, B., Hudjashov, G., DeGiorgio, M., Loogväli, E., Eichstaedt, C.A., Eelmets, M., Chaubey, G., Tambets, K., Litvinov, S., Mormina, M., Xue, Y., Ayub, Q., Zoraqi, G., Korneliussen, T., Akhatova, F., Lachance, J., Tishkoff, S., Momynaliev, K., Ricaut, F., Kusuma, P., Razafindrazaka, H., Pierron, D., Cox, M., Sultana, G.N., Willerslev, R., Muller, C., Westaway, M.C., Lambert, D., Škaro, V., Kovačević, L., Turdikulova, S., Dalimova, D., Khusainova, R., Trofimova, N., Akhmetova, V., Khidiyatova, I., Lichman, D.V., Isakova, J., Pocheshkhova, E., Sabitov, Z.M., Barashkov, N., Nymadawa, P., Mihailov, E., Seng, J.W., Evseeva, I., Migliano, A., Abdullah, S., Andriadze, G., Primorac, D., Atramentova, L., Utevska, O., Yepiskoposyan, L., Marjanovic, D., Kushniarevich, A., Behar, D., Gilissen, C., Vissers, L., Veltman, J., Balanovska, E., Derenko, M., Malyarchuk, B., Metspalu, A., Fedorova, S., Eriksson, A., Manica, A., Mendez, F., Karafet, T., Veeramah, K.R., Bradman, N., Hammer, M., Osipova, L., Balanovsky, O., Khusnutdinova, E., Johnsen, K., Remm, M., Thomas, M.G., Tyler-Smith, C., Underhill, P., **Willerslev, E.**, Nielsen, R., Metspalu, M., Villems, R., and Kivisild, T., 2015. A recent bottleneck of Y chromosome diversity coincides with a global change in culture. *Genome research, 25 4*, 459-66. DOI:10.1101/gr.186684.114

Sarkissian, C.D., Vilstrup, J.T., Schubert, M., Seguin-Orlando, A., Eme, D., Weinstock, J., Alberdi, M.T., Martin, F., López, P., Prado, J.L., Prieto, A., Douady, C., Stafford, T.W., **Willerslev, E.,** and Orlando, L., 2015. Mitochondrial genomes reveal the extinct Hippidion as an outgroup to all living equids. *Biology Letters,* 11(3), pii: 20141058. DOI: 10.1098/rsbl.2014.1058

Schroeder, H., Ávila-Arcos, M.C., Malaspinas, A., Poznik, G.D., Sandoval-Velasco, M., Carpenter, M., Moreno-Mayar, J.V., Sikora, M., Johnson, P.L., Allentoft, M., Samaniego, J.A., Haviser, J., Dee, M., Stafford, T., Salas, A., Orlando, L., **Willerslev, E.,** Bustamante, C., and Gilbert, M., 2015. Genome-wide ancestry of 17th-century

enslaved Africans from the Caribbean. *Proceedings of the National Academy of Sciences,* 112, 3669 - 3673. DOI:10.1073/pnas.1421784112

Kjartansdóttir, K.R., Friis-Nielsen, J., Asplund, M., Mollerup, S., Mourier, T., Jensen, R.H., Hansen, T.A., Rey-Iglesia, A., Richter, S.R., Alquezar-Planas, D.E., Olsen, P.S., Vinner, L., Fridholm, H., Sicheritz-Pontén, T., Nielsen, L., Brunak, S., **Willerslev, E.,** Izarzugaza, J., and Hansen, A. (2015). Traces of ATCV-1 associated with laboratory component contamination. *Proceedings of the National Academy of Sciences, 112*, E925 - E926. DOI:10.1073/pnas.1423756112

** Welker, F., Collins, M., Thomas, J.A., Wadsley, M., Brace, S., Cappellini, E., Turvey, S., Reguero, M., Gelfo, J., Kramarz, A., Burger, J., Thomas-Oates, J., Ashford, D., Ashton, P., Rowsell, K., Porter, D., Kessler, B., Fischer, R., Baessmann, C., Kaspar, S., Olsen, J., Kiley, P., Elliott, J.A., Kelstrup, C.D., Mullin, V.E., Hofreiter, M., **Willerslev, E.,** Hublin, J., Orlando, L., Barnes, I., and Macphee, R., 2015. Ancient proteins resolve the evolutionary history of Darwin's South American ungulates. *Nature,* 522, 81-84. DOI:10.1038/nature14249

Ermini, L., Sarkissian, C.D., **Willerslev, E.,** and Orlando, L., 2015. Major transitions in human evolution revisited: a tribute to ancient DNA. *Journal of human evolution, 79*, 4-20. DOI:10.1016/j.jhevol.2014.06.015.

Schubert, M., Jónsson, H., Chang, D., Sarkissian, C.D., Ermini, L., Ginolhac, A., Albrechtsen, A., Dupanloup, I., Foucal, A., Petersen, B., Fumagalli, M., Raghavan, M., Seguin-Orlando, A., Korneliussen, T., Velazquez, A.M., Stenderup, J., Hoover, C., Rubin, C., Alfarhan, A., Alquraishi, S., Al-Rasheid, K., MacHugh, D., Kalbfleisch, T.S., MacLeod, J., Rubin, E., Sicheritz-Pontén, T., Andersson, L., Hofreiter, M., Marquès-Bonet, T., Gilbert, M., Nielsen, R., Excoffier, L., **Willerslev, E.,** Shapiro, B., and Orlando, L., 2014. Prehistoric genomes reveal the genetic foundation and cost of horse domestication. *Proceedings of the National Academy of Sciences,* 111, E5661 - E5669. DOI:10.1073/pnas.1416991111

Jónsson, H., Schubert, M., Seguin-Orlando, A., Ginolhac, A., Petersen, L., Fumagalli, M., Albrechtsen, A., Petersen, B., Korneliussen, T., Vilstrup, J.T., Lear, T., Myka, J.L., Lundquist, J., Miller, D., Alfarhan, A., Alquraishi, S., Al-Rasheid, K., Stagegaard, J., Strauss, G., Bertelsen, M., Sicheritz-Pontén, T., Antczak, D., Bailey, E., Nielsen, R., **Willerslev, E.,** and Orlando, L., 2014. Speciation with gene flow in equids despite extensive chromosomal plasticity. *Proceedings of the National Academy of Sciences,* 111, 18655 - 18660. DOI:10.1073/pnas.1412627111.

Pedersen, M.W., Overballe-Petersen, S., Ermini, L., Sarkissian, C., Haile, J., Hellstrom, M., Spens, J., Thomsen, P. F., Bohmann, K., Cappellini, E., Schnell, I. B., Wales, N. A., Carøe, C., Campos, P. F., Schmidt, A. M. Z., Gilbert, M. T. P., Hansen, A. J., Orlando, L., and **Willerslev, E.,** 2015. Ancient and modern environmental DNA. *Philosophical*

Transactions of the Royal Society of London Series B – Biological Sciences, *370*(1660). DOI: 10.1098/rstb.2013.0383

** Zhang, G., Li, C., Li, Q., Li, B., Larkin, D., Lee, C., Storz, J.F., Antunes, A., Greenwold, M.J., Meredith, R., Ödeen, A., Cui, J., Zhou, Q., Xu, L., Pan, H., Wang, Z., Jin, L., Zhang, P., Hu, H., Yang, W., Hu, J., Xiao, J., Yang, Z., Liu, Y., Xie, Q., Yu, H., Lian, J., Wen, P., Zhang, F., Li, H., Zeng, Y., Xiong, Z., Liu, S., Zhou, L., Huang, Z., An, N., Wang, J., Zheng, Q., Xiong, Y., Wang, G., Wang, B., Wang, J., Fan, Y., Fonseca, R., Alfaro-Núñez, A., Schubert, M., Orlando, L., Mourier, T., Howard, J., Ganapathy, G., Pfenning, A., Whitney, O., Rivas, M., Hara, E., Smith., J., Farré, M., Narayan, J., Slavov, G., Romanov, M.N., Borges, R., Machado, J.P., Khan, I., Springer, M., Gatesy, J., Hoffmann, F., Opazo, J., Håstad, O., Sawyer, R., Kim, H., Kim, K., Kim, H.J., Cho, S., Li, N., Huang, Y., Bruford, M., Zhan, X., Dixon, A., Bertelsen, M., Derryberry, E., Warren, W., Wilson, R., Li, S., Ray, D., Green, R.E., O'Brien, S., Griffin, D., Johnson, W., Haussler, D., Ryder, O., **Willerslev, E.,** Graves, G., Alström, P., Fjeldså, J., Mindell, D.P., Edwards, S., Braun, E., Rahbek, C., Burt, D., Houde, P., Zhang, Y., Yang, H., Maldonado, E., Jarvis, E., and Gilbert, M., 2014. Comparative genomics reveals insights into avian genome evolution and adaptation. *Science,* 346, 1311 - 1320. DOI:10.1126/science.1251385

Jarvis, E., Mirarab, S., Aberer, A., Li, B., Houde, P., Li, C., Ho, S., Faircloth, B., Nabholz, B., Howard, J., Suh, A., Weber, C., da Fonseca, R., Li, J., Zhang, F., Li, H., Zhou, L., Narula, N., Liu, L., Ganapathy, G., Boussau, B., Bayzid, M., Zavidovych, V., Subramanian, S., Gabaldon, T., Capella-Gutierrez, S., Huerta-Cepas, J., Rekepalli, B., Munch, K., Schierup, M., Lindow, B., Warren, W., Ray, D., Green, R., Bruford, M., Zhan, X., Dixon, A., Li, S., Li, N., Huang, Y., Derryberry, E., Bertelsen, M., Sheldon, F., Brumfield, R., Mello, C., Lovell, P., Wirthlin, M., Schneider, M., Prosdocimi, F., Samaniego, J., Velazquez, A., Alfaro-Nunez, A., Campos, P., Petersen, B., Sicheritz-Ponten, T., Pas, A., Bailey, T., Scofield, P., Bunce, M., Lambert, D., Zhou, Q., Perelman, P., Driskell, A., Shapiro, B., Xiong, Z., Zeng, Y., Liu, S., Li, Z., Liu, B., Wu, K., Xiao, J., Yinqi, X., Zheng, Q., Zhang, Y., Yang, H., Wang, J., Smeds, L., Rheindt, F., Braun, M., Fjeldsa, J., Orlando, L., Barker, F., Jonsson, K., Johnson, W., Koepfli, K., O'Brien, S., Haussler, D., Ryder, O., Rahbek, C., **Willerslev, E., Graves, G., Glenn, T., McCormack, J., Burt, D., Ellegren, H., Alstrom, P., Edwards, S., Stamatakis, A., Mindell, D., Cracraft, J., Braun, E., Warnow, T., Jun, W., Gilbert, M. and Zhang, G., 2014. Whole-genome analyses resolve early branches in the tree of life of modern birds. *Science*, 346(6215), 1320-1331. DOI: 10.1126/science.1253451

Malmström, H., Linderholm, A., Skoglund, P., Storå, J., Sjoedin, P., Gilbert, M., Holmlund, G., **Willerslev, E.,** Jakobsson, M., Lidén, K., and Götherström, A., 2015. Ancient mitochondrial DNA from the northern fringe of the Neolithic farming expansion in Europe sheds light on the dispersion process. *Philosophical Transactions of the Royal Society B: Biological Sciences, 370*. DOI:10.1098/rstb.2013.0373

Sarkissian, C.D., Allentoft, M., Ávila-Arcos, M.C., Barnett, R., Campos, P., Cappellini, E., Ermini, L., Fernández, R., Fonseca, R.D., Ginolhac, A., Hansen, A., Jónsson, H., Korneliussen, T., Margaryan, A., Martin, M.D., Moreno-Mayar, J.V., Raghavan, M., Rasmussen, M., Velasco, M., Schroeder, H., Schubert, M., Seguin-Orlando, A., Wales, N., Gilbert, M., **Willerslev, E.,** and Orlando, L., 2015. Ancient genomics. *Philosophical Transactions of the Royal Society B: Biological Sciences, 370*. DOI:10.1098/rstb.2013.0387

Clemente, F., Cardona, A., Inchley, C.E., Peter, B., Jacobs, G., Pagani, L., Lawson, D., Antão, T., Vicente, M., Mitt, M., DeGiorgio, M., Faltyskova, Z., Xue, Y., Ayub, Q., Szpak, M., Mägi, R., Eriksson, A., Manica, A., Raghavan, M., Rasmussen, M., Rasmussen, S., Willerslev, E., Vidal-Puig, A., Tyler-Smith, C., Villems, R., Nielsen, R., Metspalu, M., Malyarchuk, B., Derenko, M., and Kivisild, T., 2014. A Selective Sweep on a Deleterious Mutation in CPT1A in Arctic Populations. *American journal of human genetics, 95 5*, 584-589. DOI:10.1016/j.ajhg.2014.09.016

Mourier, T., Nielsen, L.P., Hansen, A., and **Willerslev, E.**, 2014. Transposable elements in cancer as a by-product of stress-induced evolvability. *Frontiers in Genetics, 5*. DOI:10.3389/fgene.2014.00156

Malaspinas, A., Lao, O., Schroeder, H., Rasmussen, M., Raghavan, M., Moltke, I., Campos, P., Sagredo, F., Rasmussen, S., Gonçalves, V.F., Albrechtsen, A., Allentoft, M., Johnson, P.F., Li, M., Reis, S., Bernardo, D., DeGiorgio, M., Duggan, A.T., Bastos, M., Wang, Y., Stenderup, J., Moreno-Mayar, J.V., Brunak, S., Sicheritz-Pontén, T., Hodges, E., Hannon, G., Orlando, L., Price, T., Jensen, J., Nielsen, R., Heinemeier, J., Olsen, J., Rodrigues-Carvalho, C., Lahr, M., Neves, W., Kayser, M., Higham, T., Stoneking, M., Pena, S., and **Willerslev, E.,** 2014. Two ancient human genomes reveal Polynesian ancestry among the indigenous Botocudos of Brazil. *Current Biology, 24*, R1035-R1037. DOI:10.1016/j.cub.2014.09.078

Moreno-Mayar, J.V., Rasmussen, S., Seguin-Orlando, A., Rasmussen, M., Liang, M., Flåm, S.T., Lie, B., Gilfillan, G., Nielsen, R., Thorsby, E., **Willerslev, E.,** and Malaspinas, A., 2014. Genome-wide Ancestry Patterns in Rapanui Suggest Pre-European Admixture with Native Americans. *Current Biology, 24*, 2518-2525. DOI:10.1016/j.cub.2014.09.057

Seguin-Orlando, A., Korneliussen, T., Sikora, M., Malaspinas, A., Manica, A., Moltke, I., Albrechtsen, A., Ko, A., Margaryan, A., Moiseyev, V., Goebel, T., Westaway, M., Lambert, D., Khartanovich, V., Wall, J., Nigst, P., Foley, R., Lahr, M., Nielsen, R., Orlando, L. and **Willerslev, E., 2014. Genomic structure in Europeans dating back at least 36,200 years. *Science*, 346(6213), pp.1113-1118. DOI: 10.1126/science.aaa0114

Overballe-Petersen, S., and **Willerslev, E.**, 2014. Horizontal transfer of short and degraded DNA has evolutionary implications for microbes and eukaryotic sexual reproduction. *Bioessays, 36*, 1005 - 1010. DOI:10.1002/bies.201400035

Malaspinas, A., Tange, O., Moreno-Mayar, J.V., Rasmussen, M., DeGiorgio, M., Wang, Y., Valdiosera, C.E., Politis, G., **Willerslev, E.,** and Nielsen, R., 2014. bammds: a tool for assessing the ancestry of low-depth whole-genome data using multidimensional scaling (MDS). *Bioinformatics, 30*, 2962 - 2964. DOI:10.1093/bioinformatics/btu410

Fabre, P., Vilstrup, J.T., Raghavan, M., Sarkissian, C.D., **Willerslev, E.,** Douzery, E., and Orlando, L., 2014. Rodents of the Caribbean: origin and diversification of hutias unravelled by next-generation museomics. *Biology Letters, 10*. DOI:10.1098/rsbl.2014.0266

** Orlando, L., and **Willerslev, E.**, 2014. An epigenetic window into the past? *Science, 345*, 511 - 512. DOI:10.1126/science.1256515

Juras, A., Dabert, M., Kushniarevich, A., Malmström, H., Raghavan, M., Kosicki, J., Metspalu, E., **Willerslev, E.,** and Piontek, J., 2014. Ancient DNA Reveals Matrilineal Continuity in Present-Day Poland over the Last Two Millennia. *PLoS ONE, 9*. DOI:10.1371/journal.pone.0110839

** Grayson, D., Meltzer, D., Buikstra, J.E., Flannery, K.V., Fowler, C., Marcus, J., O'connell, J., Piperno, D., Sabloff, J., Smith, B.D., Thomas, D.H., **Willerslev, E.**, and Zeder, M., 2014. Early Americans: respecting ancestors. *Science, 345 6195*, 390. DOI:10.1126/science.345.6195.390-b

Raghavan, M., DeGiorgio, M., Albrechtsen, A., Moltke, I., Skoglund, P., Korneliussen, T., Gronnow, B., Appelt, M., Gullov, H., Friesen, T., Fitzhugh, W., Malmstrom, H., Rasmussen, S., Olsen, J., Melchior, L., Fuller, B., Fahrni, S., Stafford, T., Grimes, V., Renouf, M., Cybulski, J., Lynnerup, N., Lahr, M., Britton, K., Knecht, R., Arneborg, J., Metspalu, M., Cornejo, O., Malaspinas, A., Wang, Y., Rasmussen, M., Raghavan, V., Hansen, T., Khusnutdinova, E., Pierre, T., Dneprovsky, K., Andreasen, C., Lange, H., Hayes, M., Coltrain, J., Spitsyn, V., Gotherstrom, A., Orlando, L., Kivisild, T., Villems, R., Crawford, M., Nielsen, F., Dissing, J., Heinemeier, J., Meldgaard, M., Bustamante, C., O'Rourke, D., Jakobsson, M., Gilbert, M., Nielsen, R. and **Willerslev, E., 2014. The genetic prehistory of the New World Arctic. *Science*, 345(6200), pp.1255832-1255832. DOI: 10.1126/science.1255832

Mourier, T., Nielsen, L.P., Hansen, A., and **Willerslev, E.**, 2014. Transposable elements in cancer as a by-product of stress-induced evolvability. *Frontiers in Genetics, 5*. DOI:10.3389/fgene.2014.00156

Cardona, A., Pagani, L., Antao, T., Lawson, D., Eichstaedt, C.A., Yngvadóttir, B., Shwe, M.T., Wee, J., Romero, I., Raj, S., Metspalu, M., Villems, R., **Willerslev, E.,** Tyler-Smith, C., Malyarchuk, B., Derenko, M., and Kivisild, T., 2014. Genome-Wide Analysis of Cold Adaptation in Indigenous Siberian Populations. *PLoS ONE, 9*. DOI:10.1371/journal.pone.0098076

Liu, S., Lorenzen, E., Fumagalli, M., Li, B., Harris, K., Xiong, Z., Zhou, L., Korneliussen, T., Somel, M., Babbitt, C., Wray, G., Li, J., He, W., Wang, Z., Fu, W., Xiang, X., Morgan, C.C., Doherty, A., O'Connell, M., McInerney, J., Born, E., Dalén, L., Dietz, R., Orlando, L., Sonne, C., Zhang, G., Nielsen, R., **Willerslev, E.**, and Wang, J., 2014. Population Genomics Reveal Recent Speciation and Rapid Evolutionary Adaptation in Polar Bears. *Cell, 157*, 785-794. DOI:10.1016/j.cell.2014.03.054

** Skoglund, P., Malmström, H., Omrak, A., Raghavan, M., Valdiosera, C.E., Günther, T., Hall, P., Tambets, K., Parik, J., Sjögren, K., Apel, J., **Willerslev, E.,** Storå, J., Götherström, A., and Jakobsson, M. (2014). Genomic Diversity and Admixture Differs for Stone-Age Scandinavian Foragers and Farmers. *Science, 344*, 747 - 750. DOI:10.1126/science.1253448

** Rasmussen, M., Anzick, S., Waters, M., Skoglund, P., DeGiorgio, M., Stafford, T., Rasmussen, S., Moltke, I., Albrechtsen, A., Doyle, S., Poznik, G., Gudmundsdottir, V., Yadav, R., Malaspinas, A., V, S., Allentoft, M., Cornejo, O., Tambets, K., Eriksson, A., Heintzman, P., Karmin, M., Korneliussen, T., Meltzer, D., Pierre, T., Stenderup, J., Saag, L., Warmuth, V., Lopes, M., Malhi, R., Brunak, S., Sicheritz-Ponten, T., Barnes, I., Collins, M., Orlando, L., Balloux, F., Manica, A., Gupta, R., Metspalu, M., Bustamante, C., Jakobsson, M., Nielsen, R. and **Willerslev, E.**, 2014. The genome of a Late Pleistocene human from a Clovis burial site in western Montana. *Nature*, 506(7487), pp.225-229. DOI: 10.1038/nature13025

****Willerslev, E.,** Davison, J., Moora, M., Zobel, M., Coissac, E., Edwards, M., Lorenzen, E., Vestergård, M., Gussarova, G., Haile, J., Craine, J., Gielly, L., Boessenkool, S., Epp, L., Pearman, P., Cheddadi, R., Murray, D., Bråthen, K., Yoccoz, N., Binney, H., Cruaud, C., Wincker, P., Goslar, T., Alsos, I., Bellemain, E., Brysting, A., Elven, R., Sønstebø, J., Murton, J., Sher, A., Rasmussen, M., Rønn, R., Mourier, T., Cooper, A., Austin, J., Möller, P., Froese, D., Zazula, G., Pompanon, F., Rioux, D., Niderkorn, V., Tikhonov, A., Savvinov, G., Roberts, R., MacPhee, R., Gilbert, M., Kjær, K., Orlando, L., Brochmann, C. and Taberlet, P., 2014. Fifty thousand years of Arctic vegetation and megafaunal diet. *Nature*, 506(7486), pp.47-51. DOI: 10.1038/nature12921

Pedersen, J., Valen, E., Velazquez, A.M., Parker, B., Rasmussen, M., Lindgreen, S., Lilje, B., Tobin, D., Kelly, T., Vang, S., Andersson, R., Jones, P., Hoover, C., Tikhonov, A., Prokhortchouk, E., Rubin, E., Sandelin, A., Gilbert, M., Krogh, A., **Willerslev, E.,** and Orlando, L., 2014. Genome-wide nucleosome map and cytosine methylation levels of an ancient human genome. *Genome research, 24 3*, 454-66. DOI:10.1101/gr.163592.113

** Olalde, I., Allentoft, M., Sánchez-Quinto, F., Santpere, G., Chiang, C.W., DeGiorgio, M., Prado-Martinez, J., Rodríguez, J., Rasmussen, S., Quilez, J., Ramírez, O., Marigorta, U., Fernández-Callejo, M., Prada, M., Encinas, J., Nielsen, R., Netea, M., Novembre, J., Sturm, R., Sabeti, P.C., Marquès-Bonet, T., Navarro, A., **Willerslev, E.,** and Lalueza-

Fox, C., 2014. Derived immune and ancestral pigmentation alleles in a 7,000-year-old Mesolithic European. *Nature, 507*, 225-228. DOI:10.1038/nature12960

Raghavan, M., Skoglund, P., Graf, K., Metspalu, M., Albrechtsen, A., Moltke, I., Rasmussen, S., Stafford, T.W., Orlando, L., Metspalu, E., Karmin, M., Tambets, K., Rootsi, S., Mägi, R., Campos, P., Balanovska, E., Balanovsky, O., Khusnutdinova, E., Litvinov, S., Osipova, L., Fedorova, S., Voevoda, M., DeGiorgio, M., Sicheritz-Pontén, T., Brunak, S., Demeshchenko, S., Kivisild, T., Villems, R., Nielsen, R., Jakobsson, M., and **Willerslev, E. 2014. Upper Palaeolithic Siberian genome reveals dual ancestry of Native Americans. *Nature, 505*, 87-91. DOI: 10.1038/nature12736

Schubert, M., Ermini, L., Sarkissian, C.D., Jónsson, H., Ginolhac, A., Schaefer, R., Martin, M.D., Fernández, R., Kircher, M., McCue, M., **Willerslev, E.,** and Orlando, L., 2014. Characterization of ancient and modern genomes by SNP detection and phylogenomic and metagenomic analysis using PALEOMIX. *Nature Protocols, 9*, 1056-1082. DOI:10.1038/nprot.2014.063

Carpenter, M.A., Buenrostro, J., Valdiosera, C.E., Schroeder, H., Allentoft, M., Sikora, M., Rasmussen, M., Gravel, S., Guillén, S., Nekhrizov, G., Leshtakov, K., Dimitrova, D.E., Theodossiev, N., Pettener, D., Luiselli, D., Sandoval, K., Moreno-Estrada, A., Li, Y., Wang, J., Gilbert, M., **Willerslev, E.,** Greenleaf, W., and Bustamante, C., 2013. Pulling out the 1%: whole-genome capture for the targeted enrichment of ancient DNA sequencing libraries. *American journal of human genetics,* 93(5), 852-64. DOI:10.1016/j.ajhg.2013.10.002.

Warinner, C., Rodrigues, J., Vyas, R., Trachsel, C., Shved, N., Grossmann, J., Radini, A., Hancock, Y., Tito, R., Fiddyment, S., Speller, C., Hendy, J., Charlton, S., Luder, H.U., Salazar-García, D.C., Eppler, E., Seiler, R., Hansen, L., Castruita, J.A., Barkow-Oesterreicher, S., Teoh, K.Y., Kelstrup, C.D., Olsen, J., Nanni, P., Kawai, T., **Willerslev, E.,** Mering, C.V., Lewis, C., Collins, M., Gilbert, M., Rühli, F., and Cappellini, E., 2014. Pathogens and host immunity in the ancient human oral cavity. *Nature genetics, 46*, 336 - 344. DOI:10.1038/ng.2906

Overballe-Petersen, S., Harms, K., Orlando, L., Mayar, J.V., Rasmussen, S., Dahl, T.W., Rosing, M., Poole, A., Sicheritz-Pontén, T., Brunak, S., Inselmann, S., Vries, J.D., Wackernagel, W., Pybus, O., Nielsen, R., Johnsen, P., Nielsen, K., and **Willerslev, E.**, 2013. Bacterial natural transformation by highly fragmented and damaged DNA. *Proceedings of the National Academy of Sciences, 110*, 19860 - 19865. DOI:10.1073/pnas.1315278110

Pedersen, M., Ginolhac, A., Orlando, L., Olsen, J., Andersen, K., Holm, J., Funder, S., **Willerslev, E.**, and Kjær, K., 2013. A comparative study of ancient environmental DNA to pollen and macrofossils from lake sediments reveals taxonomic overlap and additional plant taxa. *Quaternary Science Reviews, 75*, 161-168. DOI:10.1016/J.QUASCIREV.2013.06.006

Seguin-Orlando, A., Schubert, M., Clary, J., Stagegaard, J., Alberdi, M.T., Prado, J.L., Prieto, A., **Willerslev, E.,** and Orlando, L., 2013. Ligation Bias in Illumina Next-Generation DNA Libraries: Implications for Sequencing Ancient Genomes. *PLoS ONE,* 8, e78575. DOI:10.1371/journal.pone.0078575

Parducci, L., Matetovici, I., Fontana, S., Bennett, K.D., Suyama, Y., Haile, J., Kjær, K.H., Larsen, N.K., Drouzas, A.D., and **Willerslev, E.**, 2013. Molecular- and pollen-based vegetation analysis in lake sediments from central Scandinavia. *Molecular Ecology, 22*, 3511-3524. DOI:10.1111/mec.12298

Orlando, L., Ginolhac, A., Zhang, G., Froese, D., Albrechtsen, A., Stiller, M., Schubert, M., Cappellini, E., Petersen, B., Moltke, I., Johnson, P., Fumagalli, M., Vilstrup, J., Raghavan, M., Korneliussen, T., Malaspinas, A., Vogt, J., Szklarczyk, D., Kelstrup, C., Vinther, J., Dolocan, A., Stenderup, J., Velazquez, A., Cahill, J., Rasmussen, M., Wang, X., Min, J., Zazula, G., Seguin-Orlando, A., Mortensen, C., Magnussen, K., Thompson, J., Weinstock, J., Gregersen, K., Røed, K., Eisenmann, V., Rubin, C., Miller, D., Antczak, D., Bertelsen, M., Brunak, S., Al-Rasheid, K., Ryder, O., Andersson, L., Mundy, J., Krogh, A., Gilbert, M., Kjær, K., Sicheritz-Ponten, T., Jensen, L., Olsen, J., Hofreiter, M., Nielsen, R., Shapiro, B., Wang, J. and **Willerslev, E., 2013. Recalibrating Equus evolution using the genome sequence of an early Middle Pleistocene horse. *Nature*, 499(7456), pp.74-78. DOI: 10.1038/nature12323

Martin, M.D., Cappellini, E., Samaniego, J.A., Zepeda, M., Campos, P., Seguin-Orlando, A., Wales, N., Orlando, L., Ho, S.Y., Dietrich, F., Mieczkowski, P., Heitman, J., **Willerslev, E.**, Krogh, A., Ristaino, J., and Gilbert, M., 2013. Reconstructing genome evolution in historic samples of the Irish potato famine pathogen. *Nature Communications, 4*, 2172. DOI:10.1038/ncomms3172

Gonçalves, V., Stenderup, J., Rodrigues-Carvalho, C., Silva, H., Gonçalves-Dornelas, H., Líryo, A., Kivisild, T., Malaspinas, A., Campos, P., Rasmussen, M., **Willerslev, E.**, and Pena, S.D., 2013. Identification of Polynesian mtDNA haplogroups in remains of Botocudo Amerindians from Brazil. *Proceedings of the National Academy of Sciences, 110*, 6465 - 6469. DOI:10.1073/pnas.1217905110

Foote, A.D., Kaschner, K., Schultze, S., Garilao, C., Ho, S.Y., Post, K., Higham, T.F., Stokowska, C., Es, H.V., Embling, C.B., Gregersen, K., Johansson, F., **Willerslev, E.**, and Gilbert, M., 2013. Ancient DNA reveals that bowhead whale lineages survived Late Pleistocene climate change and habitat shifts. *Nature communications, 4*, 1677. DOI:10.1038/ncomms2714

Shapiro, M., Kronenberg, Z., Li, C., Domyan, E.T., Pan, H., Campbell, M., Tan, H., Huff, C., Hu, H., Vickrey, A.I., Nielsen, S., Stringham, S.A., Hu, H., **Willerslev, E., Gilbert, M., Yandell, M., Zhang, G., and Wang, J., 2013. Genomic Diversity and Evolution of the

Head Crest in the Rock Pigeon. *Science, 339*, 1063 - 1067. DOI:10.1126/science.1230422

Bellemain, E., Davey, M., Kauserud, H., Epp, L., Boessenkool, S., Coissac, E., Geml, J., Edwards, M., **Willerslev, E.,** Gussarova, G., Taberlet, P., Haile, J., and Brochmann, C., 2013. Fungal palaeodiversity revealed using high-throughput metabarcoding of ancient DNA from arctic permafrost. *Environmental microbiology, 15 4*, 1176-89. DOI:10.1111/1462-2920.12020

Moeller, P., Östlund, O., Barnekow, L., Sandgren, P., Palmbo, F., and **Willerslev, E.**, 2013. Living at the margin of the retreating Fennoscandian Ice Sheet: The early Mesolithic sites at Aareavaara, northernmost Sweden. *The Holocene, 23*, 104 - 116. DOI:10.1177/0959683612455546

Ávila-Arcos, M.C., Ho, S., Ishida, Y., Nikolaidis, N., Tsangaras, K., Hönig, K., Medina, R., Rasmussen, M., Fordyce, S., Calvignac-Spencer, S., **Willerslev, E.,** Gilbert, M., Helgen, K., Roca, A., and Greenwood, A., 2013. One Hundred Twenty Years of Koala Retrovirus Evolution Determined from Museum Skins. *Molecular Biology and Evolution, 30*, 299 - 304. DOI:10.1093/molbev/mss223

Jenkins, D., Davis, L., Stafford, T., Campos, P., Hockett, B., Jones, G., Cummings, L., Yost, C., Connolly, T., Yohe, R., Gibbons, S., Raghavan, M., Rasmussen, M., Paijmans, J., Hofreiter, M., Kemp, B., Barta, J., Monroe, C., Gilbert, M. and **Willerslev, E., 2012. Clovis Age Western Stemmed Projectile Points and Human Coprolites at the Paisley Caves. *Science*, 337(6091), pp.223-228. DOI: 10.1126/science.1218443

Fordyce, S., Ávila-Arcos, M.C., Rasmussen, M., Cappellini, E., Romero-Navarro, J.A., Wales, N., Alquezar-Planas, D.E., Penfield, S., Brown, T., Vielle-Calzada, J., Montiel, R., Jørgensen, T., Odegaard, N., Jacobs, M., Arriaza, B., Higham, T.F., Ramsey, C., **Willerslev, E.**, and Gilbert, M., 2013. Deep Sequencing of RNA from Ancient Maize Kernels. *PLoS ONE,* 8, e50961. DOI:10.1371/journal.pone.0050961

Allentoft, M., Collins, M., Harker, D., Haile, J., Oskam, C.L., Hale, M., Campos, P., Samaniego, J.A., Gilbert, M., **Willerslev, E**., Zhang, G., Scofield, R., Holdaway, R., and Bunce, M., 2012. The half-life of DNA in bone: measuring decay kinetics in 158 dated fossils. *Proceedings of the Royal Society B: Biological Sciences, 279*, 4724 - 4733. DOI:10.1098/rspb.2012.1745

Biagini, P., Thèves, C., Balaresque, P., Géraut, A., Cannet, C., Keyser, C., Nikolaeva, D., Gérard, P., Duchesne, S., Orlando, L., **Willerslev, E.,** Alekseev, A., Micco, P.D., Ludes, B., and Crubézy, E., 2012. Variola virus in a 300-year-old Siberian mummy. *The New England*

journal of medicine, 367 21, 2057-9. DOI: 10.1056/NEJMc1208124

Schubert, M., Ginolhac, A., Lindgreen, S. Thompson, J.F., Al-Rasheid, K.A., **Willerslev, E**., Krogh, A., Orlando, L., 2012. Improving ancient DNA read mapping against modern reference genomes. *BMC Genomics* 13**,** 178. DOI: 10.1186/1471-2164-13-178

Ginolhac, A., Vilstrup, J.T., Stenderup, J., Rasmussen, M., Stiller, M., Shapiro, B., Zazula, G., Froese, D., Steinmann, K., Thompson, J., Al-Rasheid, K., Gilbert, T.M., **Willerslev, E**., and Orlando, L., 2011. Improving the performance of true single molecule sequencing for ancient DNA. *BMC Genomics, 13*, 177. DOI:10.1186/1471-2164-13-177

Parducci, L., Edwards, M., Bennett, K., Alm, T., Elverland, E., Tollefsrud, M.M., Jørgensen, T., Houmark-Nielsen, M., Larsen, N.K., Kjær, K., Fontana, S.L., Alsos, I., and **Willerslev, E. 2012. Response to Comment on "Glacial Survival of Boreal Trees in Northern Scandinavia". *Science, 338*, 742 - 742. DOI:10.1126/SCIENCE.1225476

Kjaer, K., Khan, S., Korsgaard, N., Wahr, J., Bamber, J., Hurkmans, R., van den Broeke, M., Timm, L., Kjeldsen, K., Bjork, A., Larsen, N., Jorgensen, L., Faerch-Jensen, A. and **Willerslev, E., 2012. Aerial Photographs Reveal Late-20th-Century Dynamic Ice Loss in Northwestern Greenland. *Science*, 337(6094), pp.569-573. DOI: 10.1126/science.1220614

Dalén, L., Orlando, L., Shapiro, B., Brandström-Durling, M., Quam, R., Gilbert, M., Fernández-Lomana, J.C., **Willerslev, E**., Arsuaga, J.L., and Götherström, A., 2012. Partial genetic turnover in neandertals: continuity in the East and population replacement in the West. *Molecular biology and evolution, 29 8*, 1893-7. DOI:10.1093/molbev/mss074

Overballe-Petersen, S., Orlando, L., and **Willerslev, E.**, 2012. Next-generation sequencing offers new insights into DNA degradation. *Trends in biotechnology, 30 7*, 364-8. DOI:10.1016/j.tibtech.2012.03.007

Thomsen, P.F., Kielgast, J., Iversen, L., Møller, P., Rasmussen, M., and **Willerslev, E.,** 2012. Detection of a Diverse Marine Fish Fauna Using Environmental DNA from Seawater Samples. *PLoS ONE, 7*, e41732. DOI:10.1371/journal.pone.0041732

Jenkins, D.L., Davis, L., Stafford, T., Campos, P., Hockett, B., Jones, G.T., Cummings, L., Yost, C., Connolly, T.J., Yohe, R., Gibbons, S.C., Raghavan, M., Rasmussen, M., Paijmans, J.L., Hofreiter, M., Kemp, B., Barta, J.L., Monroe, C., Gilbert, M., and **Willerslev, E., 2012. Clovis Age Western Stemmed Projectile Points and Human Coprolites at the Paisley Caves. *Science, 337*, 223 - 228.

Jacobsen, M., Hansen, M., Orlando, L., Bekkevold, D., Bernatchez, L., **Willerslev, E.**, and Gilbert, M., 2012. Mitogenome sequencing reveals shallow evolutionary histories and recent divergence time between morphologically and ecologically distinct European

whitefish (Coregonus spp.). *Molecular Ecology,* 21, 2727-2742. DOI:10.1111/j.1365-294X.2012.05561.x

Yoccoz, N. G., Bråthen, K. A., Gielly, L., Haile, J., Edwards, M. E., Goslar, T., Von Stedingk, H., Brysting, A. K., Coissac, E., Pompanon, F., Sønstebø, J. H., Miquel, C., Valentini, A., De Bello, F., Chave, J., Thuiller, W., Wincker, P., Cruaud, C., Gavory, F., Rasmussen, M., Gilbert, M.T.P., Orlando, L., Brochmann, C., **Willerslev., E.,** Taberlet, P., 2012. DNA from soil mirrors plant taxonomic and growth form diversity. *Molecular ecology*, *21*(15), 3647–3655. DOI: 10.1111/j.1365-294X.2012.05545.x

Lavstsen, T., Turner, L., Saguti, F., Magistrado, P., Rask, T., Jespersen, J.S., Wang, C., Berger, S.S., Baraka, V., Marquard, A.M., Seguin-Orlando, A., **Willerslev, E.,** Gilbert, M., Lusingu, J., and Theander, T., 2012. Plasmodium falciparum erythrocyte membrane protein 1 domain cassettes 8 and 13 are associated with severe malaria in children. *Proceedings of the National Academy of Sciences, 109*, E1791 - E1800. DOI:10.1073/pnas.1120455109

Mourier, T., Ho, S.Y., Gilbert, M., **Willerslev, E.,** and Orlando, L., 2012. Statistical guidelines for detecting past population shifts using ancient DNA. *Molecular biology and evolution, 29 9*, 2241-51. DOI:10.1093/molbev/mss094

Bengtsson, C., Olsen, M., Brandt, L.Ø., Bertelsen, M.F., **Willerslev, E.,** Tobin, D.J., Wilson, A.S., and Gilbert, M., 2012. DNA from keratinous tissue. Part I: hair and nail. *Annals of anatomy = Anatomischer Anzeiger: official organ of the Anatomische Gesellschaft, 194 1*, 17-25. DOI:10.1016/j.aanat.2011.03.013

Thomsen, P.F., Kielgast, J., Iversen, L., Wiuf, C., Rasmussen, M., Gilbert, M., Orlando, L., and **Willerslev, E.,** 2012. Monitoring endangered freshwater biodiversity using environmental DNA. *Molecular ecology, 21 11*, 2565-73. DOI:10.1111/j.1365-294X.2011.05418.x

Campos, P., Craig, O., Turner-Walker, G., Peacock, E., **Willerslev, E.,** and Gilbert, M., 2012. DNA in ancient bone - where is it located and how should we extract it? *Annals of anatomy = Anatomischer Anzeiger: official organ of the Anatomische Gesellschaft, 194 1*, 7-16. DOI:10.1016/j.aanat.2011.07.003

Skoglund, P., Malmström, H., Raghavan, M., Storå, J., Hall, P., **Willerslev, E., Gilbert, M., Götherström, A., and Jakobsson, M., 2012. Origins and Genetic Legacy of Neolithic Farmers and Hunter-Gatherers in Europe. *Science, 336*, 466 - 469. DOI:10.1126/science.1216304

Malmström, H., Vretemark, M., Tillmar, A., Durling, M., Skoglund, P., Gilbert, M., **Willerslev, E.,** Holmlund, G., and Götherström, A., 2012. Finding the founder of Stockholm - a kinship study based on Y-chromosomal, autosomal and mitochondrial DNA. *Annals of*

anatomy = Anatomischer Anzeiger: official organ of the Anatomische Gesellschaft, 194 1, 138-45. DOI:10.1016/j.aanat.2011.03.014

Olsen, M., Bengtsson, C.F., Bertelsen, M., **Willerslev, E.,** and Gilbert, M. (2012). DNA from keratinous tissue. Part II: feather. *Annals of anatomy= Anatomischer Anzeiger: official organ of the Anatomische Gesellschaft, 194 1*, 31-5. DOI:10.1016/j.aanat.2011.03.003

Schnell, I.B., Thomsen, P.F., Wilkinson, N., Rasmussen, M., Jensen, L.R., **Willerslev, E.,** Bertelsen, M., and Gilbert, M., 2012. Screening mammal biodiversity using DNA from leeches. *Current Biology, 22*, R262-R263. DOI:10.1016/j.cub.2012.02.058

Cappellini, E., Jensen, L., Szklarczyk, D., Ginolhac, A., Fonseca, R.R., Stafford, T., Holen, S.R., Collins, M., Orlando, L., **Willerslev, E.,** Gilbert, M., and Olsen, J.V., 2012. Proteomic analysis of a pleistocene mammoth femur reveals more than one hundred ancient bone proteins. *Journal of proteome research, 11 2*, 917-26. DOI: 10.1021/pr200721u

Jones, E., Skírnisson, K., McGovern, T., Gilbert, M., **Willerslev, E.,** and Searle, J., 2011. Fellow travellers: a concordance of colonization patterns between mice and men in the North Atlantic region. *BMC Evolutionary Biology, 12*, 35. DOI:10.1186/1471-2148-12-35

Andersen, K., Bird, K.L., Rasmussen, M., Haile, J., Breuning-Madsen, H., Kjær, K.H., Orlando, L., Gilbert, M., and **Willerslev, E.**, 2012. Meta-barcoding of 'dirt' DNA from soil reflects vertebrate biodiversity. *Molecular Ecology, 21*, 1966–1979. DOI:10.1111/j.1365-294X.2011.05261.x

Boessenkool, S., Epp, L., Haile, J., Bellemain, E., Edwards, M., Coissac, E., **Willerslev, E**., and Brochmann, C., 2012. Blocking human contaminant DNA during PCR allows amplification of rare mammal species from sedimentary ancient DNA. *Molecular Ecology, 21*, 1806–1815. DOI:10.1111/j.1365-294X.2011.05306.x

Epp, L.S., Boessenkool, S., Bellemain, E.P., Haile, J., Esposito, A., Riaz, T., Erséus, C., Gusarov, V.I., Edwards, M.E., Johnsen, A., Stenøien, H.K., Hassel, K., Kauserud, H., Yoccoz, N.G., Bråthen, K.A., **Willerslev, E**., Taberlet, P., Coissac, E., and Brochmann, C., 2012. New environmental metabarcodes for analysing soil DNA: potential for studying past and present ecosystems. *Molecular Ecology, 21*, 1821–1833. DOI:10.1111/j.1365-294X.2012.05537.x

Jørgensen, T., Haile, J., Möller, P., Andreev, A., Boessenkool, S., Rasmussen, M., Kienast, F.D., Coissac, E., Taberlet, P., Brochmann, C., Bigelow, N.H., Andersen, K., Orlando, L., Gilbert, M., and **Willerslev, E.,** 2012. A comparative study of ancient sedimentary DNA, pollen and macrofossils from permafrost sediments of northern Siberia reveals long-term vegetational stability. *Molecular Ecology, 21*, 1989–2003. DOI:10.1111/j.1365-294X.2011.05287.x

Jørgensen, T., Kjær, K.H., Haile, J., Rasmussen, M., Boessenkool, S., Andersen, K., Coissac, E., Taberlet, P., Brochmann, C., Orlando, L., Gilbert, M., and **Willerslev, E.**, 2012. Islands in the ice: detecting past vegetation on Greenlandic nunataks using historical records and sedimentary ancient DNA Meta-barcoding. *Molecular Ecology, 21*, 1980–1988. DOI:10.1111/j.1365-294X.2011.05278.x

Taberlet, P., Coissac, E., Pompanon, F., Brochmann, C., and **Willerslev, E.**, 2012. Towards next-generation biodiversity assessment using DNA metabarcoding. *Molecular Ecology, 21*. 2045-2050. DOI:10.1111/j.1365-294X.2012.05470.x

Parducci, L., Jorgensen, T., Tollefsrud, M., Elverland, E., Alm, T., Fontana, S., Bennett, K., Haile, J., Matetovici, I., Suyama, Y., Edwards, M., Andersen, K., Rasmussen, M., Boessenkool, S., Coissac, E., Brochmann, C., Taberlet, P., Houmark-Nielsen, M., Larsen, N., Orlando, L., Gilbert, M., Kjaer, K., Alsos, I. and **Willerslev, E., 2012. Glacial Survival of Boreal Trees in Northern Scandinavia. *Science*, 335(6072), pp.1083-1086. DOI:10.1126/science.1216043

Waters, M., Stafford, T., McDonald, H., Gustafson, C., Rasmussen, M., Cappellini, E., Olsen, J., Szklarczyk, D., Jensen, L., Gilbert, M. and **Willerslev, E., 2011. Pre-Clovis Mastodon Hunting 13,800 Years Ago at the Manis Site, Washington. *Science*, 334(6054), pp.351-353. DOI: 10.1126/science.1207663

Kuzmina, S., Sher, A., Edwards, M., Haile, J., Yan, E., Kotov, A.V., and **Willerslev, E.**, 2011. The late Pleistocene environment of the Eastern West Beringia based on the principal section at the Main River, Chukotka. *Quaternary Science Reviews, 30*, 2091-2106. DOI:10.1016/J.QUASCIREV.2010.03.019

Boeskorov, G., Lazarev, P.A., Sher, A., Davydov, S., Bakulina, N.T., Shchelchkova, M., Binladen, J., **Willerslev, E.,** Buigues, B., and Tikhonov, A., 2011. Woolly rhino discovery in the lower Kolyma River. *Quaternary Science Reviews, 30*, 2262-2272. DOI:10.1016/J.QUASCIREV.2011.02.010

Lorenzen, E., Nogués-Bravo, D., Orlando, L., Weinstock, J., Binladen, J., Marske, K., Ugan, A., Borregaard, M., Gilbert, M., Nielsen, R., Ho, S., Goebel, T., Graf, K., Byers, D., Stenderup, J., Rasmussen, M., Campos, P., Leonard, J., Koepfli, K., Froese, D., Zazula, G., Stafford, T., Aaris-Sørensen, K., Batra, P., Haywood, A., Singarayer, J., Valdes, P., Boeskorov, G., Burns, J., Davydov, S., Haile, J., Jenkins, D., Kosintsev, P., Kuznetsova, T., Lai, X., Martin, L., McDonald, H., Mol, D., Meldgaard, M., Munch, K., Stephan, E., Sablin, M., Sommer, R., Sipko, T., Scott, E., Suchard, M., Tikhonov, A., Willerslev, R., Wayne, R., Cooper, A., Hofreiter, M., Sher, A., Shapiro, B., Rahbek, C. and **Willerslev, E., 2011. Species-specific responses of Late Quaternary megafauna to climate and humans. *Nature*, 479(7373), pp.359-364. DOI: 10.1038/nature10574

Funder, S., Goosse, H., Jepsen, H., Kaas, E., Kjaer, K., Korsgaard, N., Larsen, N., Linderson, H., Lysa, A., Moller, P., Olsen, J. and **Willerslev, E., 2011. A 10,000-Year Record of Arctic Ocean Sea-Ice Variability--View from the Beach. *Science*, 333(6043), pp.747-750. DOI: 10.1126/science.1202760

Rasmussen, M., Guo, X., Wang, Y., Lohmueller, K., Rasmussen, S., Albrechtsen, A., Skotte, L., Lindgreen, S., Metspalu, M., Jombart, T., Kivisild, T., Zhai, W., Eriksson, A., Manica, A., Orlando, L., De La Vega, F., Tridico, S., Metspalu, E., Nielsen, K., Avila-Arcos, M., Moreno-Mayar, J., Muller, C., Dortch, J., Gilbert, M., Lund, O., Wesolowska, A., Karmin, M., Weinert, L., Wang, B., Li, J., Tai, S., Xiao, F., Hanihara, T., van Driem, G., Jha, A., Ricaut, F., de Knijff, P., Migliano, A., Gallego Romero, I., Kristiansen, K., Lambert, D., Brunak, S., Forster, P., Brinkmann, B., Nehlich, O., Bunce, M., Richards, M., Gupta, R., Bustamante, C., Krogh, A., Foley, R., Lahr, M., Balloux, F., Sicheritz-Ponten, T., Villems, R., Nielsen, R., Wang, J. and **Willerslev, E., 2011. An Aboriginal Australian Genome Reveals Separate Human into Asia. *Science*, 334(6052), pp.94-98. DOI: 10.1126/science.1211177 Cover

Brandt, L.Ø., Tranekjer, L.D., Mannering, U., Ringgaard, M., Frei, K., **Willerslev, E.,** M. Gleba, and Gilbert, M., 2011. Characterising the potential of sheep wool for ancient DNA analyses. *Archaeological and Anthropological Sciences, 3*, 209-221. DOI:10.1007/S12520-011-0055-2

Kampmann, M., Fordyce, S., Ávila-Arcos, M.C., Rasmussen, M., **Willerslev, E.,** Nielsen, L., and Gilbert, M., 2011. A simple method for the parallel deep sequencing of full influenza A genomes. *Journal of virological methods, 178 1-2*, 243-8. DOI:10.1016/j.jviromet.2011.09.001

Foote, A., Morin, P., Durban, J., **Willerslev, E.,** Orlando, L., and Gilbert, M., 2011. Out of the Pacific and Back Again: Insights into the Matrilineal History of Pacific Killer Whale Ecotypes. *PLoS ONE, 6*, e24980. DOI:10.1371/journal.pone.0024980

Lippold, S., Knapp, M., Kuznetsova, T., Leonard, J.A., Benecke, N., Ludwig, A., Rasmussen, M., Cooper, A., Weinstock, J., **Willerslev, E.,** Shapiro, B., and Hofreiter, M., 2011. Discovery of lost diversity of paternal horse lineages using ancient DNA. *Nature communications, 2*, 450. DOI:10.1038/ncomms1447

Rodríguez, R., Ramírez, O., Valdiosera, C.E., García, N., Alda, F., Madurell-Malapeira, J., Marmi, J., Doadrio, I., **Willerslev, E.,** Götherström, A., Arsuaga, J.L., Thomas, M.G., Lalueza-Fox, C., and Dalén, L., 2011. 50,000 years of genetic uniformity in the critically endangered Iberian lynx. *Molecular Ecology, 20*, 3785-37895. DOI:10.1111/j.1365-294X.2011.05231.x

Bohmann, K., Monadjem, A., Noer, C.L., Rasmussen, M., Zeale, M.R., Clare, E., Jones, G., **Willerslev, E.,** and Gilbert, M., 2011. Molecular Diet Analysis of Two African Free-

Tailed Bats (Molossidae) Using High Throughput Sequencing. *PLoS ONE, 6*, e21441. DOI:10.1371/journal.pone.0021441

Doorn, N.V., Wilson, A., **Willerslev, E.,** and Gilbert, M., 2011. Bone Marrow and Bone as a Source for Postmortem RNA *. *Journal of Forensic Sciences, 56*, 720-725. DOI:10.1111/j.1556-4029.2010.01684.x

Orlando, L., Ginolhac, A., Raghavan, M., Vilstrup, J.T., Rasmussen, M., Magnussen, K., Steinmann, K., Kapranov, P., Thompson, J., Zazula, G., Froese, D., Moltke, I., Shapiro, B., Hofreiter, M., Al-Rasheid, K., Gilbert, M., and **Willerslev, E.**, 2011. True single-molecule DNA sequencing of a pleistocene horse bone. *Genome research, 21 10*, 1705-19. DOI:10.1101/gr.122747.111

Fordyce, S., Ávila-Arcos, M.C., Rockenbauer, E., Børsting, C., Frank-Hansen, R., Petersen, F., **Willerslev, E.,** Hansen, A., Morling, N., and Gilbert, M., 2011. High-throughput sequencing of core STR loci for forensic genetic investigations using the Roche Genome Sequencer FLX platform. *BioTechniques, 51 2*, 127-33. DOI:10.2144/000113721

Lalueza-Fox, C., Rosas, A., Rasilla, M.D., Gilbert, M., and **Willerslev, E.**, 2011. Reply to Vigilant and Langergraber: Patrilocality in Neandertals is still the most plausible explanation. *Proceedings of the National Academy of Sciences, 108*, E88 - E88. DOI:10.1073/pnas.1103479108

Edwards, C., Suchard, M., Lemey, P., Welch, J., Barnes, I., Fulton, T., Barnett, R., O'Connell, T., Coxon, P., Monaghan, N., Valdiosera, C.E., Lorenzen, E., **Willerslev, E.**, Baryshnikov, G., Rambaut, A., Thomas, M.G., Bradley, D., and Shapiro, B., 2011. Ancient Hybridization and an Irish Origin for the Modern Polar Bear Matriline. *Current Biology, 21*, 1251-1258. DOI:10.1016/j.cub.2011.05.058

White, N., Phillips, M., Gilbert, M., Alfaro-Núñez, A., **Willerslev, E.,** Mawson, P., Spencer, P., and Bunce, M., 2011. The evolutionary history of cockatoos (Aves: Psittaciformes: Cacatuidae). *Molecular phylogenetics and evolution, 59 3*, 615-22. DOI:10.1016/j.ympev.2011.03.011

Vilstrup, J.T., Ho, S.Y., Foote, A., Morin, P., Kreb, D., Krützen, M., Parra, G., Robertson, K., Stephanis, R.D., Verborgh, P., **Willerslev, E.,** Orlando, L., and Gilbert, M., 2010. Mitogenomic phylogenetic analyses of the Delphinidae with an emphasis on the Globicephalinae. *BMC Evolutionary Biology, 11*, 65.

Allentoft, M., Oskam, C.L., Houston, J., Hale, M., Gilbert, M., Rasmussen, M., Spencer, P., Jacomb, C., **Willerslev, E.,** Holdaway, R., and Bunce, M., 2011. Profiling the Dead: Generating Microsatellite Data from Fossil Bones of Extinct Megafauna—Protocols, Problems, and Prospects. *PLoS ONE, 6*, e16670. DOI:10.1371/journal.pone.0016670

Ávila-Arcos, M.C., Cappellini, E., Romero-Navarro, J.A., Wales, N., Moreno-Mayar, J.V., Rasmussen, M., Fordyce, S., Montiel, R., Vielle-Calzada, J., **Willerslev, E.,** and Gilbert, M. 2011. Application and comparison of large-scale solution-based DNA capture-enrichment methods on ancient DNA. *Scientific Reports, 1*, 74. DOI:10.1038/srep00074

Lalueza-Fox, C., Rosas, A., Estalrrich, A., Gigli, E., Campos, P., García-Tabernero, A., García-Vargas, S., Sánchez-Quinto, F., Ramírez, O., Civit, S., Bastir, M., Huguet, R., Santamaría, D., Gilbert, M., **Willerslev, E.,** and Rasilla, M.D., 2010. Genetic evidence for patrilocal mating behavior among Neandertal groups. *Proceedings of the National Academy of Sciences, 108*, 250 - 253. DOI:10.1073/pnas.1011553108

Foote, A.D., Vilstrup, J.T., Stephanis, R.D., Verborgh, P., Nielsen, S.C., Deaville, R., Kleivane, L., Martín, V., Miller, P., Øien, N., Perez-Gil, M., Rasmussen, M., Reid, R.J., Robertson, K.M., Rogan, E., Similä, T., Tejedor, M.L., Vester, H., Víkingsson, G.A., **Willerslev, E.,** Gilbert, M., and Piertney, S.B., 2011. Genetic differentiation among North Atlantic killer whale populations. *Molecular Ecology, 20*, 629-641. DOI:10.1111/j.1365-294X.2010.04957.x

Foote, A., Morin, P., Durban, J., Pitman, R.L., Wade, P., **Willerslev, E.**, Gilbert, M., and Fonseca, R.R., 2010. Positive selection on the killer whale mitogenome. *Biology Letters, 7*, 116 - 118. DOI:10.1098/rsbl.2010.0638

Charlier, P., Huynh-Charlier, I., Poupon, J., Keyser, C., Lancelot, E., Favier, D., Vignal, J., Sorel, P., Chaillot, P., Boano, R., Grilletto, R., Delacourte, S., Duriez, J., Loublier, Y., Campos, P., **Willerslev, E.,** Gilbert, M., Eisenberg, L., Ludes, B., and Grandmaison, G.L., 2010. Multidisciplinary medical identification of a French king's head (Henri IV). *BMJ: British Medical Journal, 341,* c6805. DOI:10.1136/bmj.c6805

Rasmussen, M., Li, Y., Lindgreen, S., Pedersen, J., Albrechtsen, A., Moltke, I., Metspalu, M., Metspalu, E., Kivisild, T., Gupta, R., Bertalan, M., Nielsen, K., Gilbert, M., Wang, Y., Raghavan, M., Campos, P., Kamp, H., Wilson, A., Gledhill, A., Tridico, S., Bunce, M., Lorenzen, E., Binladen, J., Guo, X., Zhao, J., Zhang, X., Zhang, H., Li, Z., Chen, M., Orlando, L., Kristiansen, K., Bak, M., Tommerup, N., Bendixen, C., Pierre, T., Grønnow, B., Meldgaard, M., Andreasen, C., Fedorova, S., Osipova, L., Higham, T., Ramsey, C., Hansen, T., Nielsen, F., Crawford, M., Brunak, S., Sicheritz-Pontén, T., Villems, R., Nielsen, R., Krogh, A., Wang, J. and **Willerslev, E., 2010. Ancient human genome sequence of an extinct Palaeo-Eskimo. *Nature*, 463(7282), pp.757-762. DOI: 10.1038/nature08835 Cover

Lorenzen, E., and **Willerslev, E.**, 2010. King Tutankhamun's family and demise. *JAMA, 303 24*, 2471; author reply 2473-5. DOI:10.1001/jama.2010.818

Campos, P.F., Kristensen, T., Orlando, L., Sher, A., Kholodova, M.A., Götherström, A., Hofreiter, M., Drucker, D., Kosintsev, P., Tikhonov, A., Baryshnikov, G.F., **Willerslev, E.,** and Gilbert, M., 2010. Ancient DNA sequences point to a large loss of mitochondrial genetic diversity in the saiga antelope (Saiga tatarica) since the Pleistocene. *Molecular Ecology, 19*, 4863-75. DOI:10.1111/j.1365-294X.2010.04826.x

Sønstebø, J.H., Gielly, L., Brysting, A., Elven, R., Edwards, M., Haile, J., **Willerslev, E.,** Coissac, E., Rioux, D., Sannier, J., Taberlet, P., and Brochmann, C., 2010. Using next-generation sequencing for molecular reconstruction of past Arctic vegetation and climate. *Molecular Ecology Resources, 10*, 1009-1018. DOI:10.1111/j.1755-0998.2010.02855.x

Arnold, L., Roberts, R., Macphee, R., Haile, J., Brock, F., Moeller, P., Froese, D., Tikhonov, A., Chivas, A., Gilbert, M.T., and **Willerslev, E.**, 2011. Paper II – Dirt, dates and DNA: OSL and radiocarbon chronologies of perennially frozen sediments in Siberia, and their implications for sedimentary ancient DNA studies. *Boreas, 40*, 417-445. DOI:10.1111/J.1502-3885.2010.00181.X

Axelsson, E., Albrechtsen, A., Van, A.P., Li, L., Megens, H., Vereijken, A., Crooijmans, R.P., Groenen, M., Ellegren, H., **Willerslev, E.,** and Nielsen, R., 2010. Segregation distortion in chicken and the evolutionary consequences of female meiotic drive in birds. *Heredity, 105*, 290-298. DOI:10.1038/hdy.2009.193

Mourier, T., and **Willerslev, E.**, 2009. Large-scale transcriptome data reveals transcriptional activity of fission yeast LTR retrotransposons. *BMC Genomics, 11*, 167. DOI:10.1186/1471-2164-11-167

Morin, P., Archer, F., Foote, A., Vilstrup, J.T., Allen, E., Wade, P., Durban, J., Parsons, K., Pitman, R., Li, L., Bouffard, P., Nielsen, S.C., Rasmussen, M., **Willerslev, E.,** Gilbert, M., and Harkins, T., 2010. Complete mitochondrial genome phylogeographic analysis of killer whales (Orcinus orca) indicates multiple species. *Genome research, 20 7*, 908-16. DOI:10.1101/gr.102954.109

Oskam, C.L., Haile, J., McLay, E., Rigby, P., Allentoft, M., Olsen, M., Bengtsson, C., Miller, G., Schwenninger, J., Jacomb, C., Walter, R., Baynes, A., Dortch, J., Parker-Pearson, M., Gilbert, M., Holdaway, R., **Willerslev, E.,** and Bunce, M., 2010. Fossil avian eggshell preserves ancient DNA. *Proceedings of the Royal Society B: Biological Sciences, 277*, 1991 - 2000.

Willerslev, E., 2010. Humans on the brink of extinction. *Trends in Ecology and Evolution, 25*, 265-266. DOI:10.1016/J.TREE.2010.01.004

Schnell, I.B., Fraser, M., **Willerslev, E.,** and Gilbert, M., 2010. Characterisation of insect and plant origins using DNA extracted from small volumes of bee honey. *Arthropod-Plant Interactions, 4*, 107-116. DOI: 10.1007/s11829-010-9089-0

Campos, P., **Willerslev, E.,** Sher, A., Orlando, L., Axelsson, E., Tikhonov, A., Aaris-Sørensen, K., Greenwood, A., Kahlke, R., Kosintsev, P., Krakhmalnaya, T., Kuznetsova, T., Lemey, P., Macphee, R., Norris, C., Shepherd, K., Suchard, M., Zazula, G., Shapiro, B., and Gilbert, M., 2010. Ancient DNA analyses exclude humans as the driving force behind late Pleistocene musk ox (Ovibos moschatus) population dynamics. *Proceedings of the National Academy of Sciences, 107*, 5675 - 5680. DOI:10.1073/pnas.0907189107

Charlier, P., Poupon, J., Eb, A., Mazancourt, P.D., Gilbert, T., Huynh-Charlier, I., Loublier, Y., Verhille, A., Moulheirat, C., Patou-Mathis, M., Robbiola, L., Montagut, R., Masson, F., Etcheberry, A., Brun, L., **Willerslev, E.,** Grandmaison, G.L., and Durigon, M., 2010. The 'relics of Joan of Arc': a forensic multidisciplinary analysis. *Forensic science international, 194 1-3*, e9-15. DOI:10.1016/j.forsciint.2009.09.006

Binladen, J., and **Willerslev, E.,** 2010. Why study ancient DNA damage. *Journal of Nordic Archaeological Science,* 17, 11-14.

Cappellini, E., Gilbert, M., Geuna, F., Fiorentino, G., Hall, A., Thomas-Oates, J., Ashton, P., Ashford, D., Arthur, P., Campos, P., Kool, J., **Willerslev, E.,** and Collins, M., 2009. A multidisciplinary study of archaeological grape seeds. *Die Naturwissenschaften, 97*, 205 - 217. DOI:10.1007/s00114-009-0629-3

Lira, J., Linderholm, A., Olària, C., Durling, M.B., Gilbert, M., Ellegren, H., **Willerslev, E.,** Lidén, K., Arsuaga, J.L., and Götherström, A., 2010. Ancient DNA reveals traces of Iberian Neolithic and Bronze Age lineages in modern Iberian horses. *Molecular Ecology, 19*, 64-78. DOI:10.1111/j.1365-294X.2009.04430.x

Campos, P., **Willerslev, E.,** Mead, J., Hofreiter, M., and Gilbert, M., 2010. Molecular identification of the extinct mountain goat, Oreamnos harringtoni (Bovidae). *Boreas, 39*, 18-23. DOI:10.1111/J.1502-3885.2009.00111.X

Campos, P., Sher, A., Mead, J., Tikhonov, A., Buckley, M., Collins, M., **Willerslev, E.,** and Gilbert, M., 2010. Clarification of the taxonomic relationship of the extant and extinct ovibovids, Ovibos, Praeovibos, Euceratherium and Bootherium. *Quaternary Science Reviews, 29*, 2123-2130. DOI:10.1016/J.QUASCIREV.2010.05.006

Rasmussen, M., Cummings, L., Gilbert, M.T., Bryant, V., Smith, C.I., Jenkins, D.L., and **Willerslev, E., 2009. Response to Comment by Goldberg et al. on "DNA from Pre-Clovis Human Coprolites in Oregon, North America". *Science, 325*, 148 - 148. DOI:10.1126/SCIENCE.1167672

Gilbert, M., Jenkins, D.L., Higham, T., Rasmussen, M., Malmström, H., Svensson, E., Sánchez, J.J., Cummings, L., Yohe, R., Hofreiter, M., Götherström, A., and **Willerslev, E., 2009. Response to Comment by Poinar et al. on "DNA from Pre-Clovis Human Coprolites in Oregon, North America". *Science, 325*, 148. DOI:10.1126/science.1168457

Haile, J., Froese, D., Macphee, R., Roberts, R., Arnold, L., Reyes, A.V., Rasmussen, M., Nielsen, R., Brook, B., Robinson, S., Demuro, M., Gilbert, M., Munch, K., Austin, J., Cooper, A., Barnes, I., Möller, P., and **Willerslev, E.**, 2009. Ancient DNA reveals late survival of mammoth and horse in interior Alaska. *Proceedings of the National Academy of Sciences, 106*, 22352 - 22357. DOI:10.1073/pnas.0912510106

Bunce, M., Worthy, T., Phillips, M., Holdaway, R., **Willerslev, E.,** Haile, J., Shapiro, B., Scofield, R., Drummond, A., Kamp, P., and Cooper, A., 2009. The evolutionary history of the extinct ratite moa and New Zealand Neogene paleogeography. *Proceedings of the National Academy of Sciences, 106*, 20646 - 20651. DOI:10.1073/pnas.0906660106

Steeman, M.E., Hebsgaard, M., Fordyce, R.E., Ho, S.Y., Rabosky, D., Nielsen, R., Rahbek, C., Glenner, H., Sørensen, M., and **Willerslev, E.,** 2009. Radiation of Extant Cetaceans Driven by Restructuring of the Oceans. *Systematic Biology, 58*, 573 - 585. DOI:10.1093/sysbio/syp060

Malmström, H., Gilbert, M., Thomas, M.G., Brandström, M., Storå, J., Molnár, P., Andersen, P.K., Bendixen, C., Holmlund, G., Götherström, A., and **Willerslev, E.**, 2009. Ancient DNA Reveals Lack of Continuity between Neolithic Hunter-Gatherers and Contemporary Scandinavians. *Current Biology, 19*, 1758-1762. DOI:10.1016/j.cub.2009.09.017

Mourier, T., and **Willerslev, E.**, 2009. Retrotransposons and non-protein coding RNAs. *Briefings in functional genomics and proteomics, 8 6*, 493-501. DOI:10.1093/bfgp/elp036

Foote, A., Newton, J.L., Piertney, S., **Willerslev, E.,** and Gilbert, M., 2009. Ecological, morphological and genetic divergence of sympatric North Atlantic killer whale populations. *Molecular Ecology, 18*, 5207-5217. DOI:10.1111/j.1365-294X.2009.04407.x

Gigli, E., Rasmussen, M., Civit, S., Rosas, A., Rasilla, M., Fortea, J., Gilbert, M., **Willerslev, E.,** and Lalueza-Fox, C., 2009. An improved PCR method for endogenous DNA retrieval in contaminated Neandertal samples based on the use of blocking primers. *Journal of Archaeological Science, 36*, 2676-2679. DOI:10.1016/J.JAS.2009.08.004

Weinstock, J., Shapiro, B., Prieto, A., Marín, J., González, B., Gilbert, M., and **Willerslev, E.,** 2009. The Late Pleistocene distribution of vicuñas (Vicugna vicugna) and the

"extinction" of the gracile llama ("Lama gracilis"): New molecular data. *Quaternary Science Reviews, 28*, 1369-1373. DOI:10.1016/J.QUASCIREV.2009.03.008

Willerslev, E., Gilbert, M., Binladen, J., Ho, S.Y., Campos, P., Ratan, A., Tomsho, L., Fonseca, R.R., Sher, A., Kuznetsova, T.V., Nowak-Kemp, M., Roth, T., Miller, W., and Schuster, S., 2008. Analysis of complete mitochondrial genomes from extinct and extant rhinoceroses reveals lack of phylogenetic resolution. *BMC Evolutionary Biology, 9*, 95. DOI:10.1186/1471-2148-9-95

King, G., Gilbert, M., **Willerslev, E.,** Collins, M., and Kenward, H., 2009. Recovery of DNA from archaeological insect remains: first results, problems and potential. *Journal of Archaeological Science, 36*, 1179-1183. DOI:10.1016/J.JAS.2009.01.006

Allentoft, M., Schuster, S., Holdaway, R., Hale, M., McLay, E., Oskam, C.L., Gilbert, M., Spencer, P., **Willerslev, E.,** and Bunce, M., 2009. Identification of microsatellites from an extinct moa species using high-throughput (454) sequence data. *BioTechniques, 46 3*, 195-200. DOI:10.2144/000113086

Hebsgaard, M., Gilbert, M.T., Arneborg, J., Heyn, P., Allentoft, M., Bunce, M., Munch, K., Schweger, C., and **Willerslev, E.**, 2009. 'The Farm Beneath the Sand' – an archaeological case study on ancient 'dirt' DNA. *Antiquity, 83*, 430 - 444. DOI:10.1017/S0003598X00098537

Gilbert, M., Kivisild, T., Gronnow, B., Andersen, P., Metspalu, E., Reidla, M., Tamm, E., Axelsson, E., Gotherstrom, A., Campos, P., Rasmussen, M., Metspalu, M., Higham, T., Schwenninger, J., Nathan, R., De Hoog, C., Koch, A., Moller, L., Andreasen, C., Meldgaard, M., Villems, R., Bendixen, C. and **Willerslev, E., 2008. Paleo-Eskimo mtDNA Genome Reveals Matrilineal Discontinuity in Greenland. *Science*, 320(5884), pp.1787-1789. DOI: 10.1126/science.1159750

Gilbert, M., Jenkins, D., Gotherstrom, A., Naveran, N., Sanchez, J., Hofreiter, M., Thomsen, P., Binladen, J., Higham, T., Yohe, R., Parr, R., Cummings, L. and **Willerslev, E., 2008. DNA from Pre-Clovis Human Coprolites in Oregon, North America. *Science*, 320(5877), pp.786-789. DOI: 10.1126/science.1154116

Thomsen, P.F., Elias, S., Gilbert, M., Haile, J., Munch, K., Kuzmina, S., Froese, D., Sher, A., Holdaway, R., and **Willerslev, E.,** 2009. Non-Destructive Sampling of Ancient Insect DNA. *PLoS ONE, 4*, e5048. DOI:10.1371/journal.pone.0005048

Munch, K., Boomsma, W., **Willerslev, E**., and Nielsen, R., 2008. Fast phylogenetic DNA barcoding. *Philosophical Transactions of the Royal Society B: Biological Sciences, 363*, 3997 - 4002. DOI:10.1098/rstb.2008.0169

Mourier, T., and **Willerslev, E.,** 2008. Does Selection against Transcriptional Interference Shape Retroelement-Free Regions in Mammalian Genomes? *PLoS ONE, 3*, e3760. DOI:10.1371/journal.pone.0003760

Munch, K., Boomsma, W., Huelsenbeck, J., **Willerslev, E.,** and Nielsen, R., 2008. Statistical assignment of DNA sequences using Bayesian phylogenetics. *Systematic biology, 57 5*, 750-7. DOI:10.1080/10635150802422316

Axelsson, E., **Willerslev, E.,** Gilbert, M., and Nielsen, R., 2008. The effect of ancient DNA damage on inferences of demographic histories. *Molecular biology and evolution, 25 10*, 2181-7. DOI:10.1093/molbev/msn163

Sørensen, M., Hebsgaard, M., Heiner, I., Glenner, H., **Willerslev, E.,** and Kristensen, R., 2008. New data from an enigmatic phylum: evidence from molecular sequence data supports a sister-group relationship between Loricifera and Nematomorpha. *Journal of Zoological Systematics and Evolutionary Research, 46*, 231-239. DOI:10.1111/J.1439-0469.2008.00478.X

Gilbert, M., Drautz, D.I., Lesk, A., Ho, S., Qi, J., Ratan, A., Hsu, C., Sher, A., Dalén, L., Götherström, A., Tomsho, L., Rendulic, S., Packard, M., Campos, P., Kuznetsova, T., Shidlovskiy, F., Tikhonov, A., **Willerslev, E.,** Iacumin, P., Buigues, B., Ericson, P.G., Germonpré, M., Kosintsev, P., Nikolaev, V., Nowak-Kemp, M., Knight, J., Irzyk, G., Perbost, C., Fredrikson, K.M., Harkins, T., Sheridan, S., Miller, W., and Schuster, S., 2008. Intraspecific phylogenetic analysis of Siberian woolly mammoths using complete mitochondrial genomes. *Proceedings of the National Academy of Sciences, 105*, 8327 - 8332. DOI:10.1073/pnas.0802315105

Malmström, H., Vilà, C., Gilbert, M., Storå, J., **Willerslev, E.,** Holmlund, G., and Götherström, A., 2007. Barking up the wrong tree: Modern northern European dogs fail to explain their origin. *BMC Evolutionary Biology, 8*, 71. DOI:10.1186/1471-2148-8-71

Arnold, L., Roberts, R.G., Macphee, R., **Willerslev, E.,** Tikhonov, A., and Brock, F., 2008. Optical dating of perennially frozen deposits associated with preserved ancient plant and animal DNA in north-central Siberia. *Quaternary Geochronology, 3*, 114-136. DOI:10.1016/J.QUAGEO.2007.09.002

Gilbert, M., Tomsho, L., Rendulic, S., Packard, M., Drautz, D.I., Sher, A., Tikhonov, A., Dalén, L., Kuznetsova, T., Kosintsev, P., Campos, P., Higham, T., Collins, M., Wilson, A., Shidlovskiy, F., Buigues, B., Ericson, P.G., Germonpré, M., Götherström, A., Iacumin, P., Nikolaev, V.I., Nowak-Kemp, M., **Willerslev, E., Knight, J., Irzyk, G., Perbost, C., Fredrikson, K.M., Harkins, T., Sheridan, S., Miller, W., and Schuster, S., 2007. Whole-Genome Shotgun Sequencing of Mitochondria from Ancient Hair Shafts. *Science, 317*, 1927 - 1930. DOI:10.1126/science.1146971

**Willerslev, E., Cappellini, E., Boomsma, W., Nielsen, R., Hebsgaard, M., Brand, T., Hofreiter, M., Bunce, M., Poinar, H., Dahl-Jensen, D., Johnsen, S., Steffensen, J., Bennike, O., Schwenninger, J., Nathan, R., Armitage, S., de Hoog, C., Alfimov, V., Christl, M., Beer, J., Muscheler, R., Barker, J., Sharp, M., Penkman, K., Haile, J., Taberlet, P., Gilbert, M., Casoli, A., Campani, E. and Collins, M., 2007. Ancient Biomolecules from Deep Ice Cores Reveal a Forested Southern Greenland. *Science*, 317(5834), pp.111-114. DOI: 10.1126/science.1141758

Poole, A., and **Willerslev, E.**, 2007. Can identification of a fourth domain of life be made from sequence data alone, and could it be done on Mars? *Astrobiology, 7 5*, 801-14. DOI:10.1089/AST.2006.0094

Johnson, S., Hebsgaard, M., Christensen, T., Mastepanov, M., Nielsen, R., Munch, K., Brand, T.B., Gilbert, M., Zuber, M., Bunce, M., Rønn, R., Gilichinsky, D., Froese, D., and **Willerslev, E.**, 2007. Ancient bacteria show evidence of DNA repair. *Proceedings of the National Academy of Sciences, 104*, 14401 - 14405.

Gilbert, M., and **Willerslev, E.**, 2007. Rescuing ancient DNA. *Nature Biotechnology, 25*, 872-874. DOI:10.1038/nbt0807-872

Haile, J., Holdaway, R., Oliver, K., Bunce, M., Gilbert, M., Nielsen, R., Munch, K., Ho, S.Y., Shapiro, B., and **Willerslev, E.**, 2007. Ancient DNA chronology within sediment deposits: are paleobiological reconstructions possible and is DNA leaching a factor? *Molecular biology and evolution, 24 4*, 982-9. DOI:10.1093/MOLBEV/MSM016

Malmström, H., Svensson, E., Gilbert, M., **Willerslev, E.,** Götherström, A., and Holmlund, G., 2007. More on contamination: the use of asymmetric molecular behavior to identify authentic ancient human DNA. *Molecular biology and evolution, 24 4*, 998-1004. DOI:10.1093/MOLBEV/MSM015

Kuch, M., Gröcke, D.R., Knyf, M., Gilbert, M., Younghusband, B., Young, T., Marshall, I., **Willerslev, E.,** Stoneking, M., and Poinar, H., 2007. A preliminary analysis of the DNA and diet of the extinct Beothuk: a systematic approach to ancient human DNA. *American journal of physical anthropology, 132 4*, 594-604. DOI:10.1002/AJPA.20536

Dissing, J., Binladen, J., Hansen, A., Sejrsen, B., **Willerslev, E.,** and Lynnerup, N., 2007. The last Viking King: a royal maternity case solved by ancient DNA analysis. *Forensic science international, 166 1*, 21-7. DOI:10.1016/J.FORSCIINT.2006.03.020

Binladen, J., Gilbert, M., Campos, P., and **Willerslev, E**., 2007. 5'-tailed sequencing primers improve sequencing quality of PCR products. *BioTechniques, 42 2*, 174-176. DOI:10.2144/000112316

Taberlet, P., Coissac, E., Pompanon, F., Gielly, L., Miquel, C., Valentini, A., Vermat, T., Corthier, G., Brochmann, C., and **Willerslev, E.,** 2007. Power and limitations of the chloroplast trnL (UAA) intron for plant DNA barcoding. *Nucleic Acids Research, 35*, e14. DOI:10.1093/nar/gkl938

Binladen, J., Gilbert, M., Bollback, J.P., Panitz, F., Bendixen, C., Nielsen, R., and **Willerslev, E.**, 2007. The Use of Coded PCR Primers Enables High-Throughput Sequencing of Multiple Homolog Amplification Products by 454 Parallel Sequencing. *PLoS ONE, 2,* e197 1-9. DOI:10.1371/JOURNAL.PONE.0000197

Gilbert, M., **Willerslev,** E., 2007. PALEOBOTANY | Ancient Plant DNA. Encyclopedia of Quaternary Science 3, 1574-1581. DOI:10.1016/B0-44-452747-8/00213-1

Gilbert, M., Binladen, J., Miller, W., Wiuf, C., **Willerslev, E.,** Poinar, H., Carlson, J., Leebens-Mack, J., and Schuster, S., 2007. Recharacterization of ancient DNA miscoding lesions: insights in the era of sequencing-by-synthesis. *Nucleic Acids Research, 35*, 1 - 10. DOI:10.1093/NAR/GKL483

Binladen, J., Gilbert, M., and **Willerslev, E.**, 2006. 800 000 year old mammoth DNA, modern elephant DNA or PCR artefact? *Biology Letters, 3*, 55 - 57. DOI:10.1098/rsbl.2006.0537

Hebsgaard, M., Wiuf, C., Gilbert, M.T., Glenner, H., and **Willerslev, E.**, 2006. Evaluating Neanderthal Genetics and Phylogeny. *Journal of Molecular Evolution, 64*, 50-60. DOI:10.1007/s00239-006-0017-y

** Glenner, H., Thomsen, P.F., Hebsgaard, M., Sørensen, M., and **Willerslev, E.**, 2006. The Origin of Insects. *Science, 314*, 1883 - 1884. DOI: 10.1126/science.1129844

Römpler, H., Rohland, N., Lalueza-Fox, C., **Willerslev, E., Kuznetsova, T., Rabeder, G., Bertranpetit, J., Schöneberg, T., and Hofreiter, M., 2006. Nuclear Gene Indicates Coat-Color Polymorphism in Mammoths. *Science, 313*, 62. DOI:10.1126/science.1128994

Gilbert, M., and **Willerslev, E.**, 2006. Authenticity in ancient DNA studies. *Medicina nei secoli* (*Journal of History of Medicine), 18 3*, 701-23.

Hansen, A., Mitchell, D., Wiuf, C., Paniker, L., Brand, T.B., Binladen, J., Gilichinsky, D., Rønn, R., and **Willerslev, E.**, 2006. Crosslinks Rather Than Strand Breaks Determine Access to Ancient DNA Sequences From Frozen Sediments. *Genetics, 173*, 1175 - 1179. DOI:10.1534/genetics.106.057349

Gilbert, M., Hansen, A., **Willerslev, E**., Turner-Walker, G., and Collins, M., 2006. Insights into the processes behind the contamination of degraded human teeth and bone samples

with exogenous sources of DNA. *International Journal of Osteoarchaeology, 16*, 156-164. DOI:10.1002/OA.832

Binladen, J., Wiuf, C., Gilbert, M., Bunce, M., Barnett, R., Larson, G., Greenwood, A.D., Haile, J., Ho, S., Hansen, A., and **Willerslev, E.**, 2006. Assessing the Fidelity of Ancient DNA Sequences Amplified From Nuclear Genes. *Genetics, 172*, 733 - 741. DOI:10.1534/genetics.105.049718

Willerslev, E., and Cooper, A., 2005. Pathogenic microbial ancient DNA: a problem or an opportunity? *Proceedings of the Royal Society B: Biological Sciences, 273*, 643 - 643. DOI:10.1098/rspb.2005.3262

Larson, G., Dobney, K., Albarella, U., Fang, M., Matisoo-Smith, E., Robins, J., Lowden, S., Finlayson, H., Brand, T.B., **Willerslev, E., Rowley-Conwy, P., Andersson, L., and Cooper, A., 2005. Worldwide Phylogeography of Wild Boar Reveals Multiple Centers of Pig Domestication. *Science, 307*, 1618 - 1621. DOI:10.1126/SCIENCE.1106927

Gilbert, M., Rudbeck, L., **Willerslev, E**., Hansen, A., Smith, C., Penkman, K., Prangenberg, K., Nielsen-Marsh, C., Jans, M., Arthur, P., Lynnerup, N., Turner-Walker, G., Biddle, M., Kjølbye-Biddle, B., and Collins, M., 2005. Biochemical and physical correlates of DNA contamination in archaeological human bones and teeth excavated at Matera, Italy. *Journal of Archaeological Science, 32*, 785-793. DOI:10.1016/J.JAS.2004.12.008

Willerslev, E., and Hebsgaard, M., 2005. New evidence for 250 Ma age of halotolerant bacterium from a Permian salt crystal: Comment and reply COMMENT. *Geology, 33,* e93. DOI:10.1130/0091-7613-33.1.E93

Weinstock, J., **Willerslev, E.,** Sher, A., Tong, W., Ho, S.Y., Rubenstein, D., Storer, J., Burns, J., Martin, L., Bravi, C., Prieto, A., Froese, D., Scott, E., Xulong, L., and Cooper, A., 2005. Evolution, Systematics, and Phylogeography of Pleistocene Horses in the New World: A Molecular Perspective. *PLoS Biology, 3*, e241-e248. DOI:10.1371/journal.pbio.0030241

Rudbeck, L., Gilbert, M., **Willerslev, E.**, Hansen, A., Lynnerup, N., Christensen, T., and Dissing, J., 2005. mtDNA analysis of human remains from an early Danish Christian cemetery. *American journal of physical anthropology, 128 2*, 424-9. DOI:10.1002/AJPA.20294

Hebsgaard, M., Phillips, M., and **Willerslev, E**., 2005. Geologically ancient DNA: fact or artefact? *Trends in microbiology, 13 5*, 212-20. DOI:10.1016/J.TIM.2005.03.010

Willerslev, E., and Cooper, A., 2005. Ancient DNA. *Proceedings. Biological sciences*, *272*(1558), 3–16. DOI: 10.1098/rspb.2004.2813

Mitchell, D., **Willerslev, E.,** and Hansen, A., 2005. Damage and repair of ancient DNA. *Mutation research, 571 1-2*, 265-76. DOI:10.1016/J.MRFMMM.2004.06.060

Lydolph, M.C., Jacobsen, J., Arctander, P., Gilbert, M., Gilichinsky, D., Hansen, A., **Willerslev, E.**, and Lange, L., 2005. Beringian Paleoecology Inferred from Permafrost-Preserved Fungal DNA. *Applied and Environmental Microbiology, 71*, 1012 - 1017. DOI:10.1128/AEM.71.2.1012-1017.2005

Glenner, H., Hansen, A., Sørensen, M., Ronquist, F., Huelsenbeck, J., and **Willerslev, E.**, 2004. Bayesian Inference of the Metazoan Phylogeny A Combined Molecular and Morphological Approach. *Current Biology, 14*, 1644-1649. DOI:10.1016/j.cub.2004.09.027

Gilbert, M.T., Wilson, A., Bunce, M., Hansen, A., **Willerslev, E.**, Shapiro, B., Higham, T.F., Richards, M., O'Connell, T., Tobin, D., Janaway, R., and Cooper, A., 2004. Ancient mitochondrial DNA from hair. *Current Biology, 14*, R463-R464. DOI:10.1016/j.cub.2004.06.008

Cooper, A., Drummond, A., and **Willerslev, E.,** 2004. Ancient DNA: Would the Real Neandertal Please Stand up? *Current Biology, 14*, R431-R433. DOI:10.1016/j.cub.2004.05.037

Willerslev, E., Hansen, A., and Poinar, H., 2004. Isolation of nucleic acids and cultures from fossil ice and permafrost. *Trends in ecology and evolution, 19 3*, 141-7. DOI:10.1016/J.TREE.2003.11.010

Willerslev, E., Hansen, A., Rønn, R., Brand, T.B., Barnes, I., Wiuf, C., Gilichinsky, D., Mitchell, D., and Cooper, A., 2004. Long-term persistence of bacterial DNA. *Current Biology, 14*, R9-R10. DOI:10.1016/j.cub.2003.12.012

Shapiro, B., Drummond, A., Rambaut, A., Wilson, M., Matheus, P., Sher, A., Pybus, O., Gilbert, M., Barnes, I., Binladen, J., **Willerslev, E., Hansen, A., Baryshnikov, G., Burns, J., Davydov, S., Driver, J., Froese, D., Harington, C., Keddie, G., Kosintsev, P., Kunz, M.L., Martín, L., Stephenson, R., Storer, J., Tedford, R., Zimov, S., and Cooper, A., 2004. Rise and Fall of the Beringian Steppe Bison. *Science, 306*, 1561 - 1565. DOI:10.1126/SCIENCE.1101074

Willerslev, E., Hansen, A.J., Brand, T., Binladen, J., Gilbert, T.M.P., Shapiro, B.A., Wiuf, C., Gilichinsky, D.A., Cooper, A., 2003. Diverse Plant and Animal Genetic Records from Holocene and Pleistocene Sediments. *Science*, 300(5620), pp.791-795. DOI: 10.1126/science.1084114

Bunce, M., Worthy, T., Ford, T., Hoppitt, W., **Willerslev, E., Drummond, A., and Cooper, A., 2003. Extreme reversed sexual size dimorphism in the extinct New Zealand moa Dinornis. *Nature, 425*, 172-175. DOI:10.1038/nature01871

Willerslev, E., Hansen, A.J., Rønn, R., and Nielsen, O., 2003. Panspermia—true or false? *The Lancet, 362*, 406. DOI:10.1016/S0140-6736(03)14039-1

Gilbert, M., **Willerslev, E**., Hansen, A., Barnes, I., Rudbeck, L., Lynnerup, N., and Cooper, A., 2003. Distribution patterns of postmortem damage in human mitochondrial DNA. *American journal of human genetics, 72 1*, 32-47. DOI:10.1086/345378

Gilbert, M., Hansen, A., **Willerslev, E**., Rudbeck, L., Barnes, I., Lynnerup, N., and Cooper, A., 2003. Characterization of genetic miscoding lesions caused by postmortem damage. *American journal of human genetics, 72 1*, 48-61. DOI:10.1086/345379

Endicott, P., Gilbert, M., Stringer, C., Lalueza-Fox, C., **Willerslev, E**., Hansen, A., and Cooper, A., 2003. The genetic origins of the Andaman Islanders. *American journal of human genetics, 72 1*, 178-84. DOI:10.1086/345487

Willerslev, E., Mourier, T., Hansen, A., Christensen, B., Barnes, I., and Salzberg, S., 2002. Contamination in the Draft of the Human Genome Masquerades As Lateral Gene Transfer. *DNA Sequence, 13*, 75 - 76. DOI:10.1080/10425170290023392

Willerslev, E., Hansen, A., Nielsen, K., and Adsersen, H., 2002. Number of endemic and native plant species in the Galapagos Archipelago in relation to geographical parameters. *Ecography, 25*, 109-119. DOI:10.1034/J.1600-0587.2002.250113.X

Hansen, A., **Willerslev, E**., Wiuf, C., Mourier, T., and Arctander, P., 2001. Statistical evidence for miscoding lesions in ancient DNA templates. *Molecular biology and evolution, 18 2*, 262-5. DOI:10.1093/OXFORDJOURNALS.MOLBEV.A003800

Mourier, T., Hansen, A., **Willerslev, E.,** and Arctander, P., 2001. The Human Genome Project reveals a continuous transfer of large mitochondrial fragments to the nucleus. *Molecular biology and evolution, 18 9*, 1833-7. DOI:10.1093/OXFORDJOURNALS.MOLBEV.A003971

Cooper, A., Rambaut, A., Macaulay, V., **Willerslev, E., Hansen, A., and Stringer, C., 2001. Human Origins and Ancient Human DNA. *Science, 292*, 1655 - 1656. DOI:10.1126/SCIENCE.292.5522.1655

Sørensen, M., Funch, P., **Willerslev, E.,** Hansen, A., and Olesen, J., 2000. On the phylogeny of the Metazoa in the light of Cycliophora and Micrognathozoa. *Zoologischer Anzeiger, 239*, 297-318.

Willerslev, E., Hansen, A., Christensen, B., Steffensen, J., and Arctander, P., 1999. Diversity of Holocene life forms in fossil glacier ice. *Proceedings of the National Academy of*

Sciences of the United States of America, 96 14, 8017-21. DOI:10.1073/PNAS.96.14.8017

POPULAR BOOKS

Willerslev, E., 2023. *Jagten på verdens ældste DNA. (The hunt for the world's oldest DNA).* Gyldendal

Willerslev, E., 2022. *Det er et fucking eventyr! Med dna-forskeren på sporet af mennesket. (It's a fucking adventure! With the DNA scientist on the trail of humankind).* Gyldendal

Willerslev, E. and Brunstrøm, T., 2022. *Eske Willerslev fortæller om kloge neandertalere, alienkranier og syge vikinger - En bog om evolution for børn*. (*Eske Willerslev talks about clever Neanderthals, alien skulls and sick Vikings - A book about evolution for children*). Carlsen

Leth, C. and **Willerslev, E.**, 2015. *Historien om det hele. (The history of it all).* People's Press

Frøkjær, K. and **Willerslev, E.,** 2014. *Eske Willerslev – han gør det døde levende. (Eske Willerslev – he brings the dead to life).* Gyldendal

Willerslev, E., 2005**.** *Fra Pelsjæger til Professor. (From trapper to professor).* Jyllandspostens forlag

Willerslev, R. and **Willerslev, E.,** 1996. *Pelsjæger i ødemarken*. (Trapper in the wilderness) Klematis

POPULAR ARTICLES AND BOOK CHAPTERS

Willerslev, E. and Willerslev, R., 2003. Udtømningsapparatet og andre fortællinger fra Sibirien (The Discharge Apparatus and Other Tales from Siberia), *Eventyrernes Klub: 24 historier fra Det Runde Bord*

Willerslev, E. and Hansen, A. J., 2000. Fossilt DNA (Fossile DNA). *Naturens verden* 1, 33-40

Willerslev, E., Hansen, A. J. and Sørensen, M. V., 1998. Ringbærene, en ny dyrerække (The wolfberry, a new species). *Naturens verden* 1, 15-25

Willerslev, E., 1997. Tajgaens spisekammer (The Tajga pantry). *Jæger* 11, 96-99

Willerslev, E., 1997. Bjørnejagt i Sibirien (Bear hunt in Siberia). *Jæger* 9, 54-57

Willerslev, E., 1997. Ekspeditions liv i Sibirien (Expedition life in Siberia). *Adventure world* no. 10, 6-11

Willerslev, E., 1997. Det anarkistiske vilde vesten (The anarchistic wild west). *Adventure world* no. 8, 65-70

Willerslev, E., 1997. Pelsjæger liv i Sibirien (Trapper's life in Siberia). *Diana* no. 2, 4-11

Willerslev, E., 1996. Sibiriens naturmiljø (The natural environment of Siberia), in Damm, A., Asmussen, I.H., Pedersen, M. (eds), *På rejse i Sibirien*, 44-49. Moesgård Museum of Århus.

Willerslev, E., 1996. Fortabt i Sibirien (Lost in Siberia). in Damm, A., Asmussen, I.H., Pedersen, M. (eds), *På rejse i Sibirien*, 50-55. Moesgård Museum of Århus.

Willerslev, E., 1993. Kengen den brune bjørn (Kengen the brown bear). *Berlingske Tidende*, 11/9, 18-20

DOCTORAL THESIS

Willerslev, E., 2004. *Recovery and analysis of ancient DNA from ice, sediments, and fossil remains.* DSc thesis, University of Copenhagen 2004 pp. 1-346, HCØ tryk, University of Copenhagen, Denmark.

ACADEMIC BOOK CHAPTERS

Hebsgaard MB, **Willerslev E**., 2008. Very Old DNA. In: Margesin R. (ed.) Permafrost Soils (Soil Biology), pp. 47-59, Vol. 16. Springer, Boston, MA.

Hansen, A.J., **Willerslev, E.**, Mørk, S., Hedegaard, M.M., Rønn, R., Jeffares, D.C., 2002. JAWS: Just add water system – a device for detection of nucleic acids in the Martian ice caps. In: Lacoste H. (ed.) Proceedings of the Second European workshop on Exo/Astrobiology Graz, Austria (ESA SP-518, Novembre 2002), pp. 309-311. ESA Publication Division, ESTEC.

Hansen, A.J., **Willerslev, E**., 2002. Perspectives for DNA studies on polar ice cores. In: Casassa G., Sepúlveda F.V., Sinclair R.M. (eds) The Patagonian Icefields. Series of the Centro de Estudios Científicos, pp.17-27. Springer, Boston, MA. DOI:10.1007/978-1-4615-0645-4_3