

Johannes Krause

Born 1980 in Leinefelde, Thuringen, Germany
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Research Focus

- **Ancient DNA**
- **Human Evolution**
- **Ancient Pathogen Genomics**
- **Comparative and Evolutionary Genomics**

Present Positions

Since 2016 **Director, Max-Planck – Harvard Research Center** for the Archaeoscience of the Ancient Mediterranean (MHAAM)
Since 2015 **Professor** for Archaeo- and Paleogenetics, Institute for Archaeological Sciences, Eberhard Karls University Tuebingen
Since 2014 **Director, Max Planck Institute for the Science of Human History**, Jena, Department of Archaeogenetics

Professional Career

2013-2015 **Professor (W3)** for Archaeo- and Paleogenetics, Institute for Archaeological Sciences, Eberhard Karls University Tuebingen
2010-2013 **Junior Professor** for Palaeogenetics, Institute for Archaeological Sciences, Eberhard Karls University Tuebingen
2008-2010 **Postdoctoral Fellow** at the Max Planck Institute for Evolutionary Anthropology, Department of Evolutionary Genetics, Leipzig, Germany. Research: Ancient human genetics and genomics
2003-2005 **Student Assistant** at the Max Planck Institute for Evolutionary Anthropology, Department of Evolutionary Genetics, Leipzig, Germany
2005-2008 **Dr. rer. nat.** (PhD) *From Genes to Genomes: Applications for Multiplex PCR in Ancient DNA Research*, Grade: 1.0 "Summa cum laude", University of Leipzig & Max Planck Institute for Evolutionary Anthropology, Germany

University Education

2000-2005 **Biochemistry**, University Leipzig, Germany
2002-2003 **Biochemistry**, University College Cork, Ireland

Selected Research Grants

- 2017-2019 **GENESEZS: “Genetic exploitation of epidemics in central Asia”** – BMBF supported project with Kazakh Scientific Center of Quarantine and Zoonotic Diseases (KSCQZD) and Institute of General Genetics and Cytology (IGGC) in Almaty Kazakhstan. Financial grant: 170.000 Euro
- 2016-2021 **Max-Planck – Harvard Research Center for the Archaeoscience in the Ancient Mediterranean (MHAAM)**. Financial volume: 5.000.000 Euro
- 2015 – 2018 **D-A-Ch Project: “The Oberbipp Dolmen in the context of the Neolithic Revolution.”** Financial grant: 200.000 Euro for Johannes Krause
- 2013-2018 **ERC Starting Grant: “Ancient Pathogen Genomics of Re-emerging Infectious Disease.”** Total financial grant: 1,500,000 Euro
- 2013-2016 **WIN-Kolleg Heidelberger Akademie Projekt: “New ways to integrate natural sciences and humanities.”** Total financial grant for Palaeogenetics research group: 130,000 Euro
- 2013-2016 **Landesstiftung Baden Wuerttemberg: “Genetic investigation of the prehistorical settlement of the Ach- and Lone Valleys.”** Total financial grant: 150,000 Euro
- 2012-2015 **DFG Research Grant: “The settlement of Europe: Population genetic history of Pleistocene modern humans in Europe.”** Total financial grant: 252,000 Euro
- 2010-2014 **Carl-Zeiss-Foundation** (structural innovation program) Environmental Archaeology (Umweltarchaeologie): “The impact of climate change on early societies.” Total financial grant for Palaeogenetics research group: 400,000 Euro

Fellowships and Honors

- 2017 **Annual Thuringian Research Prize** in the area of fundamental research
- since 2016 Corresponding Member, **CARTA** (Center for Academic Research & Training in Anthropogeny)
- since 2016 Corresponding Member, **German Archaeological Institute**
- 2015 **Boerhaave Nascholing**, Excellent Speaker Award
- since 2013 **WIN-Kolleg Fellow** (Heidelberg Academy of Sciences and Humanities)
- 2010 **Tübinger Förderpreis** of the Society of Early Prehistory and Quaternary Ecology for doctoral thesis
- 2010 **AAAS Newcomb Cleveland Prize** for the most outstanding paper published in *Science*

Academic Service

- 2013-2015 Speaker at **EVEREST** - Evolution and Ecology Research School Tuebingen
- Since 2012 Executive Board Member of **EVE** - Evolution and Ecology Forum Tuebingen
- Since 2011 Executive Board Member of **TZA** – Tuebinger Inter-faculty Centre for Archaeology

Since 2010 Associate Editor for **BMC Genomics**
Since 2005 Reviewer (ad hoc) for *Science*, *Nature*, *Nature Reviews Genetics*, *PLoS Biology*, *PLoS ONE*, *Molecular Biology and Evolution*, *Am. J. Phys. Anthropol.*, *BMC Evolutionary Biology*, *Mitochondria*, *BMC Bioinformatics*, *Biotechniques*, *Genome research*, *MBE*, *Biolinguistics*, *PNAS*, Reviewing Editor for eLife

Teaching

2013-2015 Seminar, lecture in **Introduction to Evolutionary Genetics**, Palaeoanthropology Bachelor, University of Tuebingen
2011-2015 Seminar, lecture and practical session in **Paleogenetics**, Palaeoanthropology Bachelor, University of Tuebingen
2010-2015 Seminar, lecture and practical session in **Human Genetics**, Palaeoanthropology Bachelor, University of Tuebingen
2009/2001 Seminar and practical session in **Biochemistry**, Polyvalenter Bachelor, University of Leipzig
2009 Practical session: **Evolutionary Ecology**, master module for biologists, University of Leipzig

Public Outreach

Selected television contributions:

Zweites Deutsches Fernsehen: "Terra X" (**November 2017, October 2018**)
Latestthinking.org (**2016**)
MDR aktuell (**2015, 2016, 2017**)
BBC: "The Mystery of Rome's X Tombs" (**2013**)
3Sat - Scobel: "Viren" (**2013**)
Planetopia: "Der Schwarze Tod" (**2012**)
Bundesfilmverband BDFV: "Neandertaler Sind wir wirklich verwandt" (**2011**)
ARTE: "Der Neandertaler in Uns" (**2010**)
WDR - Quarks & Co: "Wieviel Neandertaler steckt in uns?" (**2010**)
Zweites Deutsches Fernsehen, History: "Der Neandertaler-Code" (**2010**)
National Geographic Documentary: "Neanderthal Code" (**2008**)
The History Channel Documentary: "Clash of the Cavemen" (**2008**)
Exploratorium Virtual Museum's Evidence: "How we know what we know" (**2008**)
Zweites Deutsches Fernsehen: "Der Neandertaler" (**2006**)

Selected radio contributions:

Deutschlandradio, Radio Eins, Deutschlandfunk, Radioeins, SRF, NPR, CBC Radio, BBC Radio, Radio Scotland, RBB Kulturradio, MDR Figaro, Mephisto, Radio Schweden, Radio NZ, BBC World, BBC Africa, ORF Radiokolleg, Irish Radio, Radio Sachsen, SBS Sydney

Selected print media:

Science, Nature, The New York Times, National Geographic, Discovery News, GEO Magazine, Times (London), The Guardian, The Independent, Der Spiegel, Der Fokus, FAZ, Die Zeit, Die Welt, Sueddeutsche Zeitung, Channel Four News, USA Today, CNN Online, Washington Post, Frankfurter Rundschau, Science Daily, Neue Zürcher Zeitung, Der Standard, Spektrum der Wissenschaft, International Business Times, Times of India, Science Daily, La Vanguardia, El Pais, Le Figaro

Invited Presentations

Total 105 (23 Keynote lectures)

Publications

(Current as of August 2017. A continuously updated list of publications can be found at: www.shh.mpg.de/Johannes-Krause-Publications)

Total number	83
Peer reviewed	82
Book chapters	1
H-Index	42

Yao, Hong-Bing, Chuan-Chao Wang, Jiang Wang, Xiaolan Tao, Lei Shang, Shao-Qing Wen, Qiajun Du, Qiongying Deng, Bingying Xu, Ying Huang, Hong-Dan Wang, Shujin Li, Bin Cong, Liying Ma, Li Jin, **Johannes Krause**, and Hui Li (2017) Genetic structure of Tibetan populations in Gansu revealed by forensic STR loci. *Scientific Reports* 7.

Warinner, Christina, Alexander Herbig, Allison Mann, James A. Fellows Yates, Clemens L. Weiß, Hernán A Burbano, Ludovic Orlando, and **Johannes Krause** (2017) A Robust Framework for Microbial Archaeology. *Annual Review of Genomics and Human Genetics* 18.

Szécsényi-Nagy, Anna, Christina Roth, Guido Brandt, Cristina Rihuete-Herrada, Cristina Tejedor-Rodríguez, Petra Held, Íñigo García-Martínez-de-Lagrán, Héctor Arcusa Magallón, Stephanie Zesch, Corina Knipper, Eszter Bánffy, Susanne Friederich, Harald Meller, Primitiva Bueno Ramírez, Rosa Barroso Bermejo, Rodrigo de Balbín Behrmann, Ana M. Herrero-Corral, Raúl Flores Fernández, Carmen Alonso Fernández, Javier Jiménez Echevarria, Laura Rindlisbacher, Camila Oliart, María-Inés Fregeiro, Ignacio Soriano, Oriol Vicente, Rafael Micó, Vicente Lull, Jorge Soler Díaz, Juan Antonio López Padilla, Consuelo Roca de Togores Muñoz, Mauro S. Hernández Pérez, Francisco Javier Jover Maestre, Joaquín Lomba Maurandi, Azucena Avilés Fernández, Katina T. Lillios, Ana Maria Silva, Miguel Magalhães Ramalho, Luiz Miguel Oosterbeek, Claudia Cunha, Anna J. Waterman, Jordi Roig Buxó, Andrés Martínez, Juana Ponce Martínez, Mark Hunt Ortiz, Juan Carlos Mejías-García, Juan Carlos Pecero Espín, Rosario Cruz-Auñón Briones, Tiago Tomé, Eduardo Carmona Ballester, João Luís Cardoso, Ana Cristina Araújo, Corina Liesau von Lettow-Vorbeck, Concepción Blasco Bosqued, Patricia Ríos Mendoza, Ana Pujante, José I. Royo-Guillén, Marco Aurelio Esquembre Beviá, Victor Manuel Dos Santos Goncalves, Rui Parreira, Elena Morán Hernández, Elena Méndez Izquierdo, Jorge Vega y Miguel, Roberto Menduiña García,

- Victoria Martínez Calvo, Oscar López Jiménez, **Johannes Krause**, Sandra L. Pichler, Rafael Garrido-Pena, Michael Kunst, Roberto Risch, Manuel A. Rojo-Guerra, Wolfgang Haak, and Kurt W. Alt (2017) The maternal genetic make-up of the Iberian Peninsula between the Neolithic and the Early Bronze Age. *Scientific Reports* 7: 15644.
- Swarts, Kelly, Rafal M. Gutaker, Bruce Benz, Michael Blake, Robert Bukowski, James Holland, Melissa Kruse-Peeples, Nicholas Lepak, Lynda Prim, M., Cinta Romay, Jeffrey Ross-Ibarra, Jose Jesus de Sanchez-Gonzalez, Chris Schmidt, Verena Schuenemann, **Johannes Krause**, R. G. Matson, Detlef Weigel, Edward S. Buckler, and Hernán A. Burbano (2017) Genomic estimation of complex traits reveals ancient maize adaptation to temperate North America. *Science* 357: 512-515.
- Skoglund, Pontus, Jessica C. Thompson, Mary E. Prendergast, Alissa Mittnik, Kendra Sirak, Mateja Hajdinjak, Tasneem Salie, Swapan Mallick, Alexander Peltzer, Anja Heinze, Iñigo Olalde, Matthew Ferry, Eadaoin Harney, Megan Michel, Kristin Stewardson, Jessica I. Cerezo-Román, Chrissy Chiumia, Alison Crowther, Elizabeth Gomani-Chindebvu, Agness O. Gidna, Katherine M. Grillo, Iiro Taneli Helenius, Garrett Hellenthal, Richard Helm, Mark Horton, Saioa López, Audax Z. P. Mabulla, John Parkington, Ceri Shipton, Mark G. Thomas, Ruth Tibesasa, Menno Welling, Vanessa M. Hayes, Douglas J. Kennett, Raj Ramesar, Matthias Meyer, Svante Pääbo, Nick Patterson, Alan G. Morris, Nicole Boivin, Ron Pinhasi, **Johannes Krause**, and David Reich (2017) Reconstructing prehistoric African population structure. *Cell* 171: 59-71.
- Schuenemann, Verena J., Alexander Peltzer, Beatrix Welte, W. Paul van Pelt, Martyna Molak, Chuan-Chao Wang, Anja Furtwängler, Christian Urban, Ella Reiter, Kay Nieselt, Barbara Teßmann, Michael Francken, Katerina Harvati, Wolfgang Haak, Stephan Schiffels, and **Johannes Krause** (2017) Ancient Egyptian mummy genomes suggest an increase of Sub-Saharan African ancestry in post-Roman periods. *Nature Communications* 8: 15694.
- Prendergast, Mary E., Michael Buckley, Alison Crowther, Laurent Frantz, Heidi Eager, Ophélie Lebrasseur, Rainer Hutterer, Ardern Hulme-Beaman, Wim van Neer, Katerina Douka, Margaret-Ashley Veall, Eriéndira M. Quintana Morales, Verena J. Schuenemann, Ella Reiter, Richard Allen, Evangelos A. Dimopoulos, Richard M. Helm, Ceri Shipton, Ogeto Mwebi, Christiane Denys, Mark Horton, Stephanie Wynne-Jones, Jeffrey Fleisher, Chantal Radimilahy, Henry Wright, Jeremy B. Searle, **Johannes Krause**, Greger Larson, and Nicole L. Boivin (2017) Reconstructing Asian faunal introductions to eastern Africa from multi-proxy biomolecular and archaeological datasets. *PLoS One* 12: e0182565
- Posth, Cosimo, Christoph Wißing, Keiko Kitagawa, Luca Pagani, Laura van Holstein, Fernando Racimo, Kurt Wehrberger, Nicholas J. Conard, Claus Joachim Kind, Hervé Bocherens, and **Johannes Krause** (2017) Deeply divergent archaic mitochondrial genome provides lower time boundary for African gene flow into Neanderthals. *Nature Communications* 8: 16046.
- Lazaridis, Iosif, Alissa Mittnik, Nick Patterson, Swapan Mallick, Nadin Rohland, Saskia Pfengle, Anja Furtwängler, Alexander Peltzer, Cosimo Posth, Andonis Vasilakis, P. J. P. McGeorge, Eleni Konsolaki-Yannopoulou, George Korres, Holley Martlew, Manolis Michalodimitrakis, Mehmet Özsait, Nesrin Özsait, Anastasia Papatou, Michael Richards, Songül Alpaslan Roodenberg, Yannis Tzedakis, Robert Arnott, Daniel M. Fernandes, Jeffery R. Hughey, Dimitra M. Lotakis, Patrick A. Navas, Yannis Maniatis, John A. Stamatoyannopoulos, Kristin Stewardson, Philipp Stockhammer, Ron Pinhasi, David Reich, **Johannes Krause**, and George Stamatoyannopoulos (2017) Genetic origins of the Minoans and Mycenaeans. *Nature* 548.

- Knipper, Corina, Alissa Mittnik, Ken Massy, Catharina Kociumaka, Isil Kucukkalipci, Michael Maus, Fabian Wittenborn, Stephanie E. Metz, Anja Staskiewicz, **Johannes Krause**, and Philipp W. Stockhammer (2017) Female exogamy and gene pool diversification at the transition from the Final Neolithic to the Early Bronze Age in central Europe. *Proceedings of the National Academy of Sciences of the United States of America* 114: 10083-10088.
- Key, Felix M., Cosimo Posth, **Johannes Krause**, Alexander Herbig, and Kirsten I. Bos (2017) Mining Metagenomic Data Sets for Ancient DNA: Recommended Protocols for Authentication. *Trends in Genetics* 33: 508-520.
- Andrades Valtueña, Aida, Alissa Mittnik, Felix Michael Key, Wolfgang Haak, Raili Allmäe, Andrej Belinskij, Mantas Daubaras, Michal Feldman, Rimantas Jankauskas, Ivor Janković, Ken Massy, Mario Novak, Saskia Pfrengle, Sabine Reinhold, Mario Šlaus, Maria A. Spyrou, Anna Szécsényi-Nagy, Mari Törv, Svend Hansen, Kirsten I. Bos, Philipp W. Stockhammer, Alexander Herbig, and **Johannes Krause** (2017) The Stone Age plague and its persistence in Eurasia. *Current Biology* 27: 3683 - 3691.e3688.
- Weiβ, Clemens L., Verena J. Schuenemann, Jane Devos, Gautam Shirsekar, Ella Reiter, Billie A. Gould, John R. Stinchcombe, **Johannes Krause**, and Hernán A. Burbano (2016) Temporal patterns of damage and decay kinetics of DNA retrieved from plant herbarium specimens. *Royal Society Open Science* 3: 160239
- Spyrou, Maria A., Rezeda Tukhbatova, Michal Feldman, Joanna Drath, Sacha Kacki, Julia Beltrán de Heredia, Susanne Arnold, Airat G. Sitdikov, Dominique Castex, Joachim Wahl, Ilgizar R. Gazimzyanov, Danis K. Nurgaliev, Alexander Herbig, Kirsten Bos, and **Johannes Krause** (2016) Historical Y. pestis genomes reveal the European Black Death as the source of ancient and modern plague pandemics. *Cell Host & Microbe* 19: 874-881.
- Soubrier, Julien, Graham Gower, Kefei Chen, Stephen M. Richards, Bastien Llamas, Kieren J. Mitchell, Simon Y. W. Ho, Pavel Kosintsev, Michael S. Y. Lee, Gennady Baryshnikov, Ruth Bollongino, Pere Bover, Joachim Burger, David Chivall, Evelyne Crégut-Bonnoure, Jared E. Decker, Vladimir B. Doronichev, Katerina Douka, Damien A. Fordham, Federica Fontana, Carole Fritz, Jan Glimmerveen, Liubov V. Golovanova, Colin Groves, Antonio Guerreschi, Wolfgang Haak, Tom Higham, Emilia Hofman-Kamińska, Alexander Immel, Marie-Anne Julien, **Johannes Krause**, Oleksandra Krotova, Frauke Langbein, Greger Larson, Adam Rohrlach, Amelie Scheu, Robert D. Schnabel, Jeremy F. Taylor, Małgorzata Tokarska, Gilles Tosello, Johannes van der Plicht, Ayla van Loenen, Jean-Denis Vigne, Oliver Wooley, Ludovic Orlando, Rafał Kowalczyk, Beth Shapiro, and Alan Cooper (2016) Early cave art and ancient DNA record the origin of European bison. *Nature Communications* 7: 713158
- Skoglund, Pontus, Cosimo Posth, Kendra Sirak, Matthew Spriggs, Frederique Valentin, Stuart Bedford, Geoffrey A. Clark, Christian Reepmeyer, Fiona Petchey, Daniel Fernandes, Qiaomei Fu, Eadaoin Harney, Mark Lipson, Swapan Mallick, Mario Novak, Nadine Rohland, Kristin Stewardson, Syafiq Abdullah, Murray P. Cox, Françoise R. Friedlaender, Jonathan S. Friedlaender, Toomas Kivisild, George Koki, Pradiptajati Kusuma, D. Andrew Merriwether, Francois-X. Ricaut, Joseph T. S. Wee, Nick Patterson, **Johannes Krause**, Ron Pinhasi, and David Reich (2016) Genomic insights into the peopling of the Southwest Pacific. *Nature* 538: 510-518.
- Rougier, Hélène, Isabelle Crevecoeur, Cédric Beauval, Cosimo Posth, Damien Flas, Christoph Wissing, Anja Furtwängler, Mietje Germonpré, Asier Gómez-Olivencia, Patrick Semal, Johannes van der Plicht, Hervé Bocherens, and **Johannes Krause** (2016) Neandertal cannibalism and Neandertal bones used as tools in Northern Europe. *Scientific Reports* 6: 29005

- Posth, Cosimo, Gabriel Renaud, Alissa Mittnik, Dorothée G. Drucker, Hélène Rougier, Christophe Cupillard, Frédérique Valentin, Corinne Thevenet, Furtwängler Anja, Christoph Wißing, Michael Francken, Maria Malina, Michael Bolus, Martina Lari, Elena Gigli, Giulia Capecchi, Isabelle Crevecoeur, Cédric Beauval, Damien Flas, Mietje Germonpré, Johannes van der Plicht, Richard Cottiaux, Bernard Gély, Annamaria Ronchitelli, Kurt Wehrberger, Dan Grigorescu, Jirí Svoboda, Patrick Semal, David Caramelli, Hervé Bocherens, Katerina Harvati, Nicholas J. Conard, Wolfgang Haak, Adam Powell, and **Johannes Krause** (2016) Pleistocene mitochondrial genomes suggest a single major dispersal of non-Africans and late glacial population turnover in Europe. *Current Biology* 26: 827 - 833
- Pelzer, Alexander, Günter Jäger, Alexander Herbig, Alexander Seitz, Christian Knip, **Johannes Krause**, and Kay Nieselt (2016) EAGER: efficient ancient genome reconstruction. *Genome Biology* 17: 60.
- Mittnik, Alissa, Chuan-Chao Wang, Jiří Svoboda, and **Johannes Krause** (2016) A molecular approach to the sexing of the triple burial at the upper paleolithic site of Dolní Věstonice. *PLoS One* 11: e0163019.
- Mascher, Martin, Verena J. Schuenemann, Uri Davidovich, Nimrod Marom, Axel Himmelbach, Sarel Hübner, Abraham Korol, Michal David, Ella Reiter, Simone Riehl, Mona Schreiber, Samuel H. Vohr, Richard E. Green, Ian K. Dawson, Joanne Russell, Benjamin Kilian, Gary J. Muehlbauer, Robbie Waugh, Tzion Fahima, **Johannes Krause**, Ehud Weiss, and Nils Stein (2016) Genomic analysis of 6,000-year-old cultivated grain illuminates the domestication history of barley. *Nature Genetics* 48: 1089–1093.
- Maixner, Frank, Ben Krause-Kyora, Dmitrij Turaev, Alexander Herbig, Michael R. Hoopmann, Janice L. Hallows, Ulrike Kusebauch, Eduard Egarter Vigl, Peter Malfertheiner, Francis Megraud, Niall O’Sullivan, Giovanna Cipollini, Valentina Coia, Marco Samadelli, Lars Engstrand, Bodo Linz, Robert L. Moritz, Rudolf Grimm, **Johannes Krause**, Almut Nebel, Yoshan Moodley, Thomas Rattei, and Albert Zink (2016) The 5300-year-old *Helicobacter pylori* genome of the Iceman. *Science* 351: 162 - 165
- Lazaridis, Iosif, Dani Nadel, Gary Rollefson, Deborah C. Merrett, Nadin Rohland, Swapan Mallick, Daniel Fernandes, Mario Novak, Beatriz Gamarra, Kendra Sirak, Sarah Connell, Kristin Stewardson, Eadaoin Harney, Qiaomei Fu, Gloria Gonzalez-Fortes, Eppie R. Jones, Songül Alpaslan Roodenberg, György Lengyel, Fanny Bocquentin, Boris Gasparian, Janet M. Monge, Michael Gregg, Vered Eshed, Ahuva-Sivan Mizrahi, Christopher Meiklejohn, Fokke Gerritsen, Luminita Bejenaru, Matthias Blüher, Archie Campbell, Gianpiero Cavalleri, David Comas, Philippe Froguel, Edmund Gilbert, Shona M. Kerr, Peter Kovacs, **Johannes Krause**, Darren McGettigan, Michael Merrigan, D. Andrew Merriwether, Seamus O’Reilly, Martin B. Richards, Ornella Semino, Michel Shamoon-Pour, Gheorghe Stefanescu, Michael Stumvoll, Anke Tönjes, Antonio Torroni, James F. Wilson, Loic Yengo, Nelli A. Hovhannisyán, Nick Patterson, Ron Pinhasi, and David Reich (2016) Genomic insights into the origin of farming in the ancient Near East. *Nature* 536: 419-424.
- Krause, Johannes**, and Svante Pääbo (2016) Genetic time travel. *Genetics* 203: 9-12.
- Immel, Alexander, Adeline Le Cabec, Marion Bonazzi, Alexander Herbig, Heiko Temming, Verena Schuenemann, Kirsten I. Bos, Frauke Langbein, Katerina Harvati, Anne Bridault, Gilbert Pion, Marie-Anne Julien, Oleksandra Krotova, Nicholas J. Conard, Susanne C. Münzel, Dorothée G. Drucker, Bence Viola, Jean-Jacques Hublin, Pau Tafforeau, and **Johannes Krause** (2016) Effect of X-ray irradiation on ancient DNA in sub-fossil bones : guidelines for safe X-ray imaging. *Scientific Reports* 6: 32969

- Gogarten, Jan F., Ariane Dux, Verena J. Schuenemann, Kathrin Nowak, Christophe Boesch, Roman M. Wittig, **Johannes Krause**, Sébastien Calvignac-Spencer, and Fabian H. Leendertz (2016) Tools for opening new chapters in the book of *Treponema pallidum* evolutionary history. *Clinical Microbiology and Infection* 22: 916-921.
- Fu, Qiaomei, Cosimo Posth, Mateja Hajdinjak, Martin Petr, Swapan Mallick, Daniel Fernandes, Anja Furtwängler, Wolfgang Haak, Matthias Meyer, Alissa Mittnik, Birgit Nickel, Alexander Peltzer, Nadin Rohland, Viviane Slon, Sahra Talamo, Iosif Lazaridis, Mark Lipson, Iain Mathieson, Stephan Schiffels, Pontus Skoglund, Anatoly P. Derevianko, Nikolai Drozdov, Vyacheslav Slavinsky, Alexander Tsybankov, Renata Grifoni Cremonesi, Francesco Mallegni, Bernard Gély, Eligio Vacca, Manuel R. González Morales, Lawrence G. Straus, Christine Neugebauer-Maresch, Maria Teschler-Nicola, Silviu Constantin, Oana Teodora Moldovan, Stefano Benazzi, Marco Peresani, Donato Coppola, Martina Lari, Stefano Ricci, Annamaria Ronchitelli, Frédérique Valentin, Corinne Thevenet, Kurt Wehrberger, Kurt Grigorescu, Hélène Rougier, Isabelle Crevecoeur, Damien Flas, Patrick Semal, Marcello A. Mannino, Christophe Cupillard, Hervé Bocherens, Nicholas J. Conard, Katerina Harvati, Vyacheslav Moiseyev, Dorothée G. Drucker, Jiří Svoboda, Michael P. Richards, David Caramelli, Ron Pinhasi, Janet Kelso, Nick Patterson, **Johannes Krause**, Svante Pääbo, and David Reich (2016) The genetic history of Ice Age Europe. *Nature* 534: 200-205.
- Feldman, Michal, Michaela Harbeck, Marcel Keller, Maria A. Spyrou, Andreas Rott, Bernd Trautmann, Holger C. Scholz, Bernd Päffgen, Joris Peters, Michael McCormick, Kirsten Bos, Alexander Herbig, and **Johannes Krause** (2016) A high-coverage *Yersinia pestis* genome from a 6th-century Justinianic plague victim. *Molecular Biology and Evolution* 33: 2911-2923.
- Bos, Kirsten, Alexander Herbig, Jason Sahl, Nicholas Waglechner, Mathieu Fourment, Stephen A. Forrest, Jennifer Klunk, Verena J. Schuenemann, Debi Poinar, Melanie Kuch, Brian G. Golding, Olivier Dutour, Paul Keim, David M. Wagner, Edward C. Holmes, **Johannes Krause**, and Hendrik N. Poinar (2016) Eighteenth century *Yersinia pestis* genomes reveal the long-term persistence of an historical plague focus. *eLife* 5: e12994
- Arora, Natasha, Verena J. Schuenemann, Günter Jäger, Alexander Peltzer, Alexander Seitz, Alexander Herbig, Michal Strouhal, Linda Grillová, Leonor Sánchez-Busó, Denise Kühnert, Kirsten I. Bos, Leyla Rivero Davis, Lenka Mikalová, Sylvia Bruisten, Peter Komericki, Patrick French, Paul R. Grant, María A. Pando, Lucía Gallo Vaulet, Marcelo Rodríguez Fermepin, Antonio Martinez, Arturo Centurion Lara, Lorenzo Giacani, Steven J. Norris, David Šmajš, Philipp P. Bosshard, Fernando González-Candelas, Kay Nieselt, **Johannes Krause**, and Homayoun C. Bagheri (2016) Origin of modern syphilis and emergence of a pandemic *Treponema pallidum* cluster. *Nature Microbiology* 2: 16245
- Stockhammer, Philipp W., Ken Massy, Corina Knipper, Ronny Friedrich, Bernd Kromer, Susanne Lindauer, Jelena Radosavljevic, Fabian Wittenborn, and **Johannes Krause** (2015) Rewriting the Central European Early Bronze Age Chronology: Evidence from Large-Scale Radiocarbon Dating. *PloS one* 10: e0139705.
- Singh, Pushpendra, Andrej Benjak, Verena J. Schuenemann, Alexander Herbig, Charlotte Avanzi, Philippe Busso, Kay Nieselt, **Johannes Krause**, Lucio Vera-Cabrera, and Stewart T. Cole (2015) Insight into the evolution and origin of leprosy bacilli from the genome sequence of *Mycobacterium lepromatosis*. *Proceedings of the National Academy of Sciences of the USA* 112: 4459 - 4464.
- Shafer, Aaron B. A., Jochen B. W. Wolf, Paulo C. Alves, Linnea Bergstrom, Michael W. Bruford, Ioana Brannstrom, Guy Colling, Love Dalen, Luc De Meester, Robert Ekblom, Katie D. Fawcett, Simone Fior, Mehrdad Hajibabaei, Jason A. Hill, A. Rus

- Hoewel, Jacob Hoglund, Evelyn L. Jensen, **Johannes Krause**, Torsten N. Kristensen, Michael Kruetzen, John K. McKay, Anita J. Norman, Rob Ogden, E. Martin Osterling, N. Joop Ouborg, John Piccolo, Danijela Popovic, Craig R. Primmer, Floyd A. Reed, Marie Roumet, Jordi Salmons, Tamara Schenker, Michael K. Schwartz, Gernot Segelbacher, Helen Senn, Jens Thaulow, Mia Valtonen, Andrew Veale, Philippine Vergeer, Nagarjun Vijay, Caries Vila, Matthias Weissensteiner, Lovisa Wennerstrom, Christopher W. Wheat, and Piotr Zielinski (2015) Genomics and the challenging translation into conservation practice. *Trends in Ecology and Evolution* 30: 78 - 87.
- Mathieson, Iain, Iosif Lazaridis, Nadin Rohland, Swapan Mallick, Nick Patterson, Songül Alpaslan Roodenberg, Eadaoin Harney, Kristin Stewardson, Daniel Fernandes, Mario Novak, Kendra Sirak, Cristina Gamba, Eppie R. Jones, Bastien Llamas, Stanislav Dryomov, Joseph Pickrell, Juan Luis Arsuaga, José María Bermúdez de Castro, Eudald Carbonell, Fokke Gerritsen, Aleksandr Khokhlov, Pavel Kuznetsov, Marina Lozano, Harald Meller, Oleg Mochalov, Vyacheslav Moiseyev, Manuel A. Rojo Guerra, Jacob Roodenberg, Josep Maria Vergès, **Johannes Krause**, Alan Cooper, Kurt W. Alt, Dorcas Brown, David Anthony, Carles Lalueza-Fox, Wolfgang Haak, Ron Pinhas, and David Reich (2015) Genome-wide patterns of selection in 230 ancient Eurasians. *Nature* 528: 499-503.
- Krause, Johannes** (2015) Ancient human migrations. *Die Kunde* 64: 87-99.
- Immel, Alexander, Dorothee G Drucker, Marion Bonazzi, Tina K Jahnke, Susanne C Munzel, Verena J Schuenemann, Alexander Herbig, Claus-Joachim Kind, and **Johannes Krause** (2015) Mitochondrial genomes of giant deers suggest their late survival in Central Europe. *Scientific Reports* 5: 10853
- Harkins, Kelly M., Jane E. Buikstra, Tessa Campbell, Kirsten I. Bos, Eric D. Johnson, **Johannes Krause**, and Anne C. Stone (2015) Screening ancient *tuberculosis* with qPCR: challenges and opportunities. *Philosophical Transactions of the Royal Society of London, Series B: Biological Sciences* 370: 20130622
- Haak, Wolfgang, Iosif Lazaridis, Nick Patterson, Nadin Rohland, Swapan Mallick, Bastien Llamas, Guido Brandt, Susanne Nordenfelt, Eadaoin Harney, Kristin Stewardson, Qiaomei Fu, Alissa Mittnik, Eszter Bánffy, Christos Economou, Michael Francken, Susanne Friederich, Rafael Garrido Pena, Fredrik Hallgren, Valery Khartanovich, Aleksandr Khokhlov, Michael Kunst, Pavel Kuznetsov, Harald Meller, Oleg Mochalov, Vyacheslav Moiseyev, Nicole Nicklisch, Sandra L. Pichler, Roberto Risch, Manuel A. Rojo Guerra, Christina Roth, Anna Szécsényi-Nagy, Joachim Wahl, Matthias Meyer, **Johannes Krause**, Dorcas Brown, David Anthony, Alan Cooper, Kurt Werner Alt, and David Reich (2015) Massive migration from the steppe was a source for Indo-European languages in Europe. *Nature* 522: 207-211.
- Bos, Kirsten I., Guenter Jaeger, Verena J. Schuenemann, Ashild J. Vagene, Maria A. Spyrou, Alexander Herbig, Kay Nieselt, and **Johannes Krause** (2015) Parallel detection of ancient pathogens via array-based DNA capture. *Philosophical Transactions of the Royal Society of London, Series B: Biological Sciences* 370: 20130375
- Zink, Albert, L. Samuel Wann, Randall C. Thompson, Andreas Keller, Frank Maixner, Adel H. Allam, Caleb E. Finch, Bruno Frohlich, Hillard Kaplan, Guido P. Lombardi, M. Linda Sutherland, James D. Sutherland, Lucia Watson, Samantha L. Cox, Michael I. Miyamoto, Jagat Narula, Alexandre F.R. Stewart, Gregory S. Thomas, and **Johannes Krause** (2014) Genomic correlates of atherosclerosis in ancient humans. *Global Heart* 9: 203 - 209.
- Yoshida, Kentaro, Hernan A. Burbano, **Johannes Krause**, Marco Thines, Detlef Weigel, and Sophien Kamoun (2014) Mining herbaria for plant pathogen genomes: Back to the future. *PLoS Pathogens* 10: e1004028

- Skoglund, Pontus, Bernd H. Northoff, Michael V. Shunkov, Anatoli P. Derevianko, Svante Paabo, **Johannes Krause**, and Mattias Jakobsson (2014) Separating endogenous ancient DNA from modern day contamination in a Siberian Neandertal. *Proceedings of the National Academy of Sciences of the United States of America* 111: 2229 - 2234.
- Schünemann, Verena J., and **Johannes Krause** (2014) Wo der Mensch auf den Hund kam : Genetische Untersuchungen deuten darauf hin, dass der Ursprung der Domestikation in Europa liegt. *Senckenberg : Natur, Forschung, Museum; das Senckenberg-Wissenschaftsmagazin* 144: 278 - 281.
- Mendum, Tom A., Verena J. Schuenemann, Simon Roffey, G. Michael Taylor, Huihai Wu, Pushpendra Singh, Katie Tucker, Jason Hinds, Stewart T. Cole, Andrzej M. Kierzek, Kay Nieselt, **Johannes Krause**, and Graham R. Stewart (2014) *Mycobacterium leprae* genomes from a British medieval leprosy hospital: towards understanding an ancient epidemic. *BMC Genomics* 15: 270.
- Lazaridis, Iosif, Nick Patterson, Alissa Mittnik, Gabriel Renaud, Swapan Mallick, Karola Kirsanow, Peter H. Sudmant, Joshua G. Schraiber, Sergi Castellano, Mark Lipson, Bonnie Berger, Christos Economou, Ruth Bollongino, Qiaomei Fu, Kirsten I. Bos, Susanne Nordenfelt, Heng Li, Cesare de Filippo, Kay Prüfer, Susanna Sawyer, Cosimo Posth, Wolfgang Haak, Fredrik Hallgren, Elin Fornander, Nadin Rohland, Dominique Delsate, Michael Francken, Jean-Michel Guinet, Joachim Wahl, George Ayodo, Hamza A. Babiker, Graciela Bailliet, Elena Balanovska, Oleg Balanovsky, Ramiro Barrantes, Gabriel Bedoya, Haim Ben-Ami, Judit Bene, Fouad Berrada, Claudio M. Bravi, Francesca Brisighelli, George B. J. Busby, Francesco Cali, Mikhail Churnosov, David E. C. Cole, Daniel Corach, Larissa Damba, George van Driem, Stanislav Dryomov, Jean-Michel Dugoujon, Sardana A. Fedorova, Irene Gallego Romero, Marina Gubina, Michael Hammer, Brenna M. Henn, Tor Hervig, Ugur Hodoglugil, Aashish R. Jha, Sena Karachanak-Yankova, Rita Khusainova, Elza Khusnutdinova, Rick Kittles, Toomas Kivisild, William Klitz, Vaidutis Kucinskas, Alena Kushniarevich, Leila Laredj, Sergey Litvinov, Theologos Loukidis, Robert W. Mahley, Bela Melegh, Ene Metspalu, Julio Molina, Joanna Mountain, Klemetti Nakkalajarvi, Desislava Nesheva, Thomas Nyambo, Ludmila Osipova, Jueri Parik, Fedor Platonov, Olga Posukh, Valentino Romano, Francisco Rothhammer, Igor Rudan, Ruslan Ruizbakiev, Hovhannes Sahakyan, Antti Sajantila, Antonio Salas, Elena B. Starikovskaya, Ayele Tarekegn, Draga Toncheva, Shahlo Turdikulova, Ingrida Uktveryte, Olga Utevska, Rene Vasquez, Mercedes Villena, Mikhail Voevoda, Cheryl A. Winkler, Levon Yepiskoposyan, Pierre Zalloua, Tatijana Zemunik, Alan Cooper, Cristian Capelli, Mark G. Thomas, Andres Ruiz-Linares, Sarah A. Tishkoff, Lalji Singh, Kumarasamy Thangaraj, Richard Villems, David Comas, Rem Sukernik, Mait Metspalu, Matthias Meyer, Evan E. Eichler, Joachim Burger, Montgomery Slatkin, Svante Pääbo, Janet Kelso, David Reich, and **Johannes Krause** (2014) Ancient human genomes suggest three ancestral populations for present-day Europeans. *Nature* 513: 409 - 413.
- Krause, Johannes** (2014) Die molekulare Stammesgeschichte des Menschen : Steckt in uns allen ein kleiner Neandertaler? *Senckenberg : Natur, Forschung, Museum; das Senckenberg-Wissenschaftsmagazin* 144: 274 - 277.
- Bos, Kirsten I., Kelly M. Harkins, Alexander Herbig, Mireia Coscolla, Nico Weber, Inaki Comas, Stephen A. Forrest, Josephine M. Bryant, Simon R. Harris, Verena J. Schuenemann, Tessa J. Campbell, Kerttu Majander, Alicia K. Wilbur, Ricardo A. Guichon, Dawnie L. Wolfe Steadman, Della Collins Cook, Stefan Niemann, Marcel A. Behr, Martin Zumarraga, Ricardo Bastida, Daniel Huson, Kay Nieselt, Douglas Young, Julian Parkhill, Jane E. Buikstra, Sebastien Gagneux, Anne C. Stone, and **Johannes Krause** (2014) Pre-Columbian mycobacterial genomes

- reveal seals as a source of New World human tuberculosis. *Nature* 514: 494 - 497.
- Yoshida, Kentaro, Verena J. Schuenemann, Lililana M. Cano, Marina Pais, Bagdevi Mishra, Rahul Sharma, Christa Lanz, Frank N. Martin, Sophien Kamoun, **Johannes Krause**, Marco Thines, Detlef Weigel, and Hernan A. Burbano (2013) The rise and fall of the *Phytophthora infestans* lineage that triggered the Irish potato famine. *eLife* 2: e01108
- Thalmann, O., B. Shapiro, Pin Cui, V. J. Schuenemann, Susanna Sawyer, D. L. Greenfield, M. B. Germonpré, M. V. Sablin, F. López-Giráldez, X. Domingo-Roura, H. Napierala, H-P. Uerpmann, D. M. Loponte, A. A. Acosta, L. Giemisch, R. W. Schmitz, B. Worthington, J. E. Buikstra, A. Druzhkova, A. S. Graphodatsky, N. D. Ovodov, N. Wahlberg, A. H. Freedman, R. M. Schweizer, K.-P. Koepfli, J. A. Leonard, Matthias Meyer, **Johannes Krause**, Svante Pääbo, R. E. Green, and R. K. Wayne (2013) Complete mitochondrial genomes of ancient canids suggest a European origin of domestic dogs. *Science* 342: 871 - 874.
- Schuenemann, Verena J., Pushpendra Singh, Thomas A. Mendum, Ben Krause-Kyora, Guenter Jaeger, Kirsten I. Bos, Alexander Herbig, Christos Economou, Andrej Benjak, Philippe Busso, Almut Nebel, Jesper L. Boldsen, Anna Kjellstrom, Huihai Wu, Graham R. Stewart, G. Michael Taylor, Peter Bauer, Oona Y. -C. Lee, Houdini H. T. Wu, David E. Minnikin, Gurdyal S. Besra, Katie Tucker, Simon Roffey, Samba O. Sow, Stewart T. Cole, Kay Nieselt, and **Johannes Krause** (2013) Genome-wide comparison of medieval and modern *Mycobacterium leprae*. *Science* 341: 179 - 183.
- Krause, Johannes**. "Ancient human migrations." *Migration : [Österreichischer Wissenschaftstag 2011]*. Eds. Neck, Reinhard and Heinrich Schmidinger. Wissenschaft - Bildung - Politik. Wien: Böhlau, 2013. 45 - 64.
- Guschanski, Katerina, **Johannes Krause**, Susanna Sawyer, Luis M. Valente, Sebastian Bailey, Knut Finstermeier, Richard Sabin, Emmanuel Gilissen, Gontran Sonet, Zoltan T. Nagy, Georges Lenglet, Frieder Mayer, and Vincent Savolainen (2013) Next-generation museomics disentangles one of the largest primate radiations. *Systematic Biology* 62: 539 - 554.
- Fu, Qiaomei, Alissa Mittnik, Philip L. F. Johnson, Kirsten Bos, Martina Lari, Ruth Bollongino, Chengkai Sun, Liane Giemisch, Ralf Schmitz, Joachim Burger, Anna Maria Ronchitelli, Fabio Martini, Renata G. Cremonesi, Jiri Svoboda, Peter Bauer, David Caramelli, Sergi Castellano, David Reich, Svante Pääbo, and **Johannes Krause** (2013) A revised timescale for human evolution based on ancient mitochondrial genomes. *Current Biology* 23: 553 - 559.
- Sawyer, Susanna, **Johannes Krause**, Katerina Guschanski, Vincent Savolainen, and Svante Pääbo (2012) Temporal patterns of nucleotide misincorporations and DNA Fragmentation in ancient DNA. *PLoS One* 7: e34131.
- Krause, Johannes** (2012) Human origins and the search for "Missing Links". *PLoS Biology* 10: e1001333.
- Fu, Qiaomei, Pavao Rudan, Svante Pääbo, and **Johannes Krause** (2012) Complete mitochondrial genomes reveal neolithic expansion into Europe. *PLoS One* 7: e32473
- Bos, Kirsten I., Philip Stevens, Kay Nieselt, Hendrik N. Poinar, Sharon N. DeWitte, and **Johannes Krause** (2012) *Yersinia pestis*: new evidence for an old infection. *PLoS One* 7: e49803
- Stoneking, Mark, and **Johannes Krause** (2011) Learning about human population history from ancient and modern genomes. *Nature Reviews Genetics* 12: 603 - 614.
- Schuenemann, Verena J., Kirsten Bos, Sharon DeWitte, Sarah Schmedes, Joslyn Jamieson, Alissa Mittnik, Stephen Forrest, Brian K. Coombes, James W. Wood, David J. D. Earn, William White, **Johannes Krause**, and Hendrik N. Poinar (2011)

- Targeted enrichment of ancient pathogens yielding the pPCP1 plasmid of *Yersinia pestis* from victims of the Black Death. *Proceedings of the National Academy of Sciences of the United States of America* 108: E746 - E752.
- Jordan, Stefan, **Johannes Krause**, Adrian Prager, Maja Mitrovic, Stipan Jonjic, Ulrich H. Koszinowski, and Barbara Adler (2011) Virus progeny of murine Cytomegalovirus bacterial artificial chromosome pSM3fr show reduced growth in salivary glands due to a fixed mutation of MCK-2. *Journal of Virology* 85: 10346 - 10353.
- Bos, Kirsten I., Verena J. Schuenemann, G. Brian Golding, Hernan A. Burbano, Nicholas Waglechner, Brian K. Coombes, Joseph B. McPhee, Sharon N. DeWitte, Matthias Meyer, Sarah Schmedes, James Wood, David J. D. Earn, D. Ann Herring, Peter Bauer, Hendrik N. Poinar, and **Johannes Krause** (2011) A draft genome of *Yersinia pestis* from victims of the Black Death. *Nature* 478: 506 - 510.
- Reich, David, Richard E. Green, Martin Kircher, **Johannes Krause**, Nick Patterson, Eric Y. Durand, Bence Viola, Adrian W. Briggs, Udo Stenzel, Philip L. F. Johnson, Tomislav Maricic, Jeffrey M. Good, Tomas Marques-Bonet, Can Alkan, Qiaomei Fu, Swapan Mallick, Heng Li, Matthias Meyer, Evan E. Eichler, Mark Stoneking, Michael Richards, Sahra Talamo, Michael V. Shunkov, Anatoli P. Derevianko, Jean-Jacques Hublin, Janet Kelso, Montgomery Slatkin, and Svante Pääbo (2010) Genetic history of an archaic hominin group from Denisova cave in Siberia. *Nature* 468: 1053 - 1060.
- Krause, Johannes**, Qiaomei Fu, Jeffrey M. Good, Bence Viola, Michael V. Shunkov, Anatoli P. Derevianko, and Svante Pääbo (2010) The complete mitochondrial DNA genome of an unknown hominin from Southern Siberia. *Nature* 464: 894 - 897.
- Krause, Johannes**, Adrian W. Briggs, Martin Kircher, Tomislav Maricic, Nicolas Zwyns, Anatoly P. Derevianko, and Svante Pääbo (2010) A complete mtDNA genome of an early modern human from Kostenki, Russia. *Current Biology* 20: 231 - 236.
- Krause, Johannes** (2010) From genes to genomes: what is new in ancient DNA? *Mitteilungen der Gesellschaft für Urgeschichte* 19: 11 - 34.
- Green, Richard E., **Johannes Krause**, Adrian W. Briggs, Tomislav Maricic, Udo Stenzel, Martin Kircher, Nick Patterson, Heng Li, Weiwei Zhai, Markus Hsi-Yang Fritz, Nancy F. Hansen, Eric Y. Durand, Anna-Sapfo Malaspinas, Jeffrey D. Jensen, Tomas Marques-Bonet, Can Alkan, Kay Prüfer, Matthias Meyer, Hernán A. Burbano, Jeffrey M. Good, Rigo Schultz, Ayinuer Aximu-Petri, Anne Butthoff, Barbara Höber, Barbara Höffner, Madlen Siegemund, Antje Weihmann, Chad Nusbaum, Eric S. Lander, Carsten Russ, Nathaniel Novod, Jason Affourtit, Michael Egholm, Christine Verna, Pavao Rudan, Dejana Brajkovic, Zeljko Kucan, Ivan Gusic, Vladimir B. Doronichev, Liubov V. Golovanova, Carles Lalueza-Fox, Marco de la Rasilla, Javier Fortea, Antonio Rosas, Ralf W. Schmitz, Philip L. F. Johnson, Evan E. Eichler, Daniel Falush, Ewan Birney, James C. Mullikin, Montgomery Slatkin, Rasmus Nielsen, Janet Kelso, Michael Lachmann, David Reich, and Svante Pääbo (2010) A draft sequence of the Neandertal genome. *Science* 328: 710 - 722.
- Burbano, Hernán A., Emily Hodges, Richard E. Green, Adrian W. Briggs, **Johannes Krause**, Matthias Meyer, Jeffrey M. Good, Tomislav Maricic, Philip L. F. Johnson, Zhenyu Xuan, Michelle Rooks, Arindam Bhattacharjee, Leonardo Brizuela, Frank W. Albert, Marco de la Rasilla, Javier Fortea, Antonio Rosas, Michael Lachmann, Gregory J. Hannon, and Svante Pääbo (2010) Targeted investigation of the Neandertal genome by array-based sequence capture. *Science* 328: 723 - 725.
- Briggs, Adrian W., Udo Stenzel, Matthias Meyer, **Johannes Krause**, Martin Kircher, and Svante Pääbo (2010) Removal of deaminated cytosines and detection of *in vivo* methylation in ancient DNA. *Nucleic Acids Research* 38: e87.

- Ptak, Susan E., Wolfgang Enard, Victor Wiebe, Ines Hellmann, **Johannes Krause**, Michael Lachmann, and Svante Pääbo (2009) Linkage disequilibrium extends across putative selected sites in FOXP2. *Molecular Biology and Evolution* 26: 2181 - 2184.
- Green, Richard E., Adrian W. Briggs, **Johannes Krause**, Kay Prüfer, Hernan A. Burbano, Michael Siebauer, Michael Lachmann, and Svante Pääbo (2009) The Neandertal genome and ancient DNA authenticity. *EMBO Journal* 28: 2494 - 2502.
- Briggs, Adrian W, Jeffrey M Good, Richard E Green, **Johannes Krause**, Tomislav Maricic, Udo Stenzel, and Svante Paabo (2009) Primer extension capture: targeted sequence retrieval from heavily degraded DNA sources (Videodocumentation). *Journal of Visualized Experiments : JoVE* Issue 31: 1573 - 1573.
- Briggs, Adrian W., Jeffrey M. Good, Richard E. Green, **Johannes Krause**, Tomislav Maricic, Udo Stenzel, Carles Lalueza-Fox, Pavao Rudan, Dejana Brajkovic, Zeljko Kucan, Ivan Gusic, Ralf Schmitz, Vladimir B. Doronichev, Liubov V. Golovanova, Marco de la Rasilla, Javier Fortea, Antonio Rosas, and Svante Pääbo (2009) Targeted retrieval and analysis of five Neandertal mtDNA genomes. *Science* 325: 318 - 321.
- Meyer, Matthias, Adrian W. Briggs, Tomislav Maricic, Barbara Hoerber, Barbara Ho Hoeffner, **Johannes Krause**, Antje Weihmann, Svante Pääbo, and Michael Hofreiter (2008) From micrograms to picograms: quantitative PCR reduces the material demands of high-throughput sequencing. *Nucleic Acids Research (London)* 36: e5.
- Lalueza-Fox, Carles, Elena Gigli, Marco de la Rasilla, Javier Fortea, Antonio Rosas, Jaume Bertranpetit, and **Johannes Krause** (2008) Genetic characterization of the ABO blood group in Neandertals. *BMC Evolutionary Biology* 8: 342.
- Krause, Johannes**, Tina Unger, Aline Nocon, Anna-Sapfo Malaspinas, Sergios-Orestis Kolokotronis, Mathias Stiller, Leopoldo Soibelzon, Helen Spriggs, Paul H. Dear, Adrian W. Briggs, Sarah C. E. Bray, Stephen J. O'Brien, Gernot Rabeder, Paul Matheus, Alan Cooper, Montgomery Slatkin, Svante Pääbo, and Michael Hofreiter (2008) Mitochondrial genomes reveal an explosive radiation of extinct and extant bears near the Miocene-Pliocene boundary. *BMC Evolutionary Biology* 8: 220.
- Green, Richard E., Anna-Sapfo Malaspinas, **Johannes Krause**, Adrian W. Briggs, Philip L. F. Johnson, Caroline Uhler, Matthias Meyer, Jeffrey M. Good, Tomislav Maricic, Udo Stenzel, Kay Prüfer, Michael Siebauer, Hernan A. Burbano, Michael Ronan, Jonathan M. Rothberg, Michael Egholm, Pavao Rudan, Dejana Brajkovic, Zeljko Kucan, Ivan Gusic, Marten Wikstrom, Liisa Laakkonen, Janet Kelso, Montgomery Slatkin, and Svante Pääbo (2008) A complete Neandertal mitochondrial genome sequence determined by high-throughput sequencing. *Cell* 134: 416 - 426.
- Krause, Johannes**, Ludovic Orlando, David Serre, Bence Viola, Kay Prüfer, Michael P. Richards, Jean-Jacques Hublin, Catherine Haenni, Anatoly P. Derevianko, and Svante Pääbo (2007) Neanderthals in central Asia and Siberia. *Nature* 449: 902 - 904.
- Krause, Johannes**, Carles Lalueza-Fox, Ludovic Orlando, Wolfgang Enard, Richard E. Green, Hernan A. Burbano, Jean-Jacques Hublin, Catherine Hanni, Javier Fortea, Marco de la Rasilla, Jaume Bertranpetit, Antonio Rosas, and Svante Paabo (2007) The derived FOXP2 variant of modern humans was shared with Neandertals. *Current Biology* 17: 1908 - 1912.
- Briggs, Adrian W., Udo Stenzel, Philip L. F. Johnson, Richard E. Green, Janet Kelso, Kay Prüfer, Matthias Meyer, **Johannes Krause**, Michael T. Ronan, Michael Lachmann, and Svante Pääbo (2007) Patterns of damage in genomic DNA

- sequences from a Neandertal. *Proceedings of the National Academy of Sciences of the United States of America* 104: 14616 - 14621.
- Roempler, Holger, Paul H. Dear, **Johannes Krause**, Matthias Meyer, Nadin Rohland, Torsten Schoeneberg, Helen Spriggs, Mathias Stiller, and Michael Hofreiter (2006) Multiplex amplification of ancient DNA. *Nature Protocols* 1: 720 - 728.
- Noonan, James P., Graham Coop, Sridhar Kudaravalli, Doug Smith, **Johannes Krause**, Joe Alessi, Darren Platt, Svante Paabo, Jonathan K. Pritchard, and Edward M. Rubin (2006) Sequencing and analysis of Neanderthal genomic DNA. *Science* 314: 1113 - 1118.
- Lalueza-Fox, Caries, **Johannes Krause**, David Caramelli, Giulio Catalano, Lucio Milani, Maria Lourdes Sampietro, Francesc Calafell, Cayetana Martinez-Maza, Markus Bastir, Antonio Garcia-Taberner, Marco de la Rasilla, Javier Fortea, Svante Paabo, Jaume Bertranpetit, and Antonio Rosas (2006) Mitochondrial DNA of an Iberian Neandertal suggests a population affinity with other European Neandertals. *Current Biology* 16: R629 - R630.
- Krause, J.**, PH Dear, JL Pollack, M Slatkin, H Spriggs, I Barnes, AM Lister, I Ebersberger, S Paabo, and M Hofreiter (2006) Multiplex amplification of the mammoth mitochondrial genome and the evolution of Elephantidae. *Nature* 439: 724 - 727.
- Green, Richard E., **Johannes Krause**, Susan E. Ptak, Adrian W. Briggs, Michael T. Ronan, Jan F. Simons, Lei Du, Michael Egholm, Jonathan M. Rothberg, Maja Paunovic, and Svante Paeaebo (2006) Analysis of one million base pairs of Neanderthal DNA. *Nature* 444: 330 - 336.
- Noonan, James P., Michael Hofreiter, Doug Smith, James R. Priest, Nadin Rohland, Gernot Rabeder, **Johannes Krause**, J. Chris Detter, Scantje Paabo, and Edward M. Rubin (2005) Genomic sequencing of Pleistocene cave bears. *Science* 309: 597 - 600.
- Heissig, Florian, **Johannes Krause**, Jaroslaw Bryk, Philipp Khaitovich, Wolfgang Enard, and Svante Paabo (2005) Functional analysis of human and chimpanzee promoters. *Genome Biology* 6: R57.
- Paabo, Svante, Hendrik N. Poinar, David Serre, Viviane Jaenicke-Despres, Juliane Hebler, Nadin Rohland, Melanie Kuch, **Johannes Krause**, Linda Vigilant, and Michael Hofreiter (2004) Genetic analyses from ancient DNA. *Annual Review of Genetics* 38: 645 - 679.