

Kirsten I. Bos

Curriculum Vitae

Max Planck Institute for the Science of Human History
Kahlaische Str. 10
Jena, Germany
07745

Email: bos[at]shh.mpg.de

Citizenship: Canadian

Academic Affiliation

Group Leader, Molecular Palaeopathology
Max Planck Institute for the Science of Human History

Research Interests: palaeopathology, infectious disease, ancient DNA, skeletal biology, microbiology, disease resistance

Citations since 2012: 1608
h-index since 2012: 15

Education

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| 2012 | Doctor of Philosophy, Department of Anthropology, McMaster University
Thesis title: <i>Genetic investigations into the Black Death</i>
Supervisory committee: Hendrik Poinar (advisor),
D. Ann Herring, G. Brian Golding |
| 2006 | Ph.D. comprehensive examination completed, "with distinction" |

- 2004 Master of Arts, Department of Anthropology, McMaster University
Thesis title: *Trinitapoli: a preliminary evaluation of the human skeletal material recovered from a Middle Bronze Age burial site in southern Italy*
Supervisory committee: Shelley R. Saunders (advisor), D. Ann Herring, Anne Keenleyside
- 2002 pre-Master's year, University of Manitoba, Department of Anthropology
Supervisor: Robert D. Hoppa
- 2001 Honours Bachelor of Science "with distinction",
Specialized Honours Bio-medical Science,
University of Guelph

Grants and fellowships

Currency shown in Canadian dollars

- 2011 SSHRC postdoctoral fellowship (24 months) (\$81,000)
- 2009 McMaster University Graduate Student Association Travel Grant (\$500)
- 2008 McMaster University Graduate Fellowship (PhD level) (\$10,000)
- 2004 SSHRC Canada Graduate Scholarship (PhD level) (\$105,000)
- 2004 Ontario Graduate Scholarship (\$15,000), declined
- 2003 McMaster University Graduate Student Association Travel Grant (\$200)
- 2003 SSHRC Canada Graduate Scholarship (Master's level) (\$17,500)
- 2003 Ontario Graduate Scholarship (\$15,000), declined
- 2003 Italian Government "Borsa di studio" (\$1838)
- 2002 McMaster University Graduate Fellowship (\$4000)
- 2002 McMaster University Dept. of Anthropology entrance scholarship (\$2000)

Employment

2015 – present	Group Leader, Max Planck Institute for the Science of Human History
2012 – 2015	Postdoctoral researcher, University of Tuebingen
2001 – 2012	Principal oboe, Guelph Symphony Orchestra
2002 – 2010	McMaster University teaching assistant, Dept. of Anthropology
2004 – 2008	Editorial assistant, International Journal of Osteoarchaeology
2001	Research assistant, University of Manitoba, Department of Anthropology
2000	National Research Council of Canada summer student

Internal funding

Current position includes a 100,000€ annual research budget

Refereed Journal Publications

* denotes corresponding author

2017*	Felix M. Key, Cosimo Posth, Johannes Krause, Alexander Herbig, and Kirsten I. Bos . Mining metagenomic datasets for ancient DNA: recommended protocols for authentication. <i>Trends in Genetics</i> , dx.doi.org/10.1016/j.tig.2017.05.005.
2016	Alexander Immel, Adeline Le Cabec, Marion Bonazzi, Alexander Herbig, Heiko Temming, Verena J. Schuenemann, Kirsten I. Bos , et. al. Effect of X-ray imaging on ancient DNA in sub-fossil bones – recommendations for safe imaging. <i>Scientific Reports</i> , 6:32969, doi: 10.1038/srep32969.

- 2016 Natasha Arora, Verena J. Schuenemann, Günter Jäger, Alexander Peltzer, Alexander Seitz, Alexander Herbig, Michal Strouhal, Linda Grillová, Leonor Sánchez-Busó, Denise Kühnert, **Kirsten I Bos**, et al. Origin of modern syphilis and emergence of a contemporary pandemic cluster, *Nature Microbiology*, 2:16245, doi: 10.1038/nmicrobiol.2016.245.
- 2016* Maria A. Spyrou, Rezeda I. 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 I. Bos**, and Johannes Krause. Historical *Y. pestis* Genomes Reveal the European Black Death as the Source of Ancient and Modern Plague Pandemics. *Cell Host and Microbe*, 19:874-881, dx.doi.org/10.1016/j.chom.2016.05.012.
- 2016* **Kirsten I. Bos**, Alexander Herbig, Jason Sahl, Nicholas Waglechner, Mathieu Fourment, Stephen A. Forrest Jennifer Klunk, Verena J. Schuenemann, Debi Poinar, Melanie Kuch, G. Brian Golding, Olivier Dutour, Paul Keim, David M. Wagner, Edward C. Holmes, Johannes Krause, and Hendrik N. Poinar. Eighteenth century *Yersinia pestis* genomes reveal the long-term persistence of an historical plague focus. *eLife*, 12994, doi.org/10.7554/eLife.12994.
- 2015* **Kirsten I. Bos**, Günter Jäger, Verena J. Schuenemann, Åshild J. Vågane, Maria A. Spyrou, Alexander Herbig, Kay Nieselt, and Johannes Krause. Parallel detection of ancient pathogens via array-based DNA capture *Phil. Trans. R. Soc. B* **370** (1660) (19 January 2015) doi: 10.1098/rstb.2013.0375.
- 2015 Kelly M. Harkins, Jane E. Buikstra, Tessa Campbell, **Kirsten I. Bos**, Eric D. Johnson, Johannes Krause, and Anne C. Stone. Screening ancient tuberculosis with qPCR: challenges and opportunities *Phil. Trans. R. Soc. B* **370**(1660) (19 January 2015) doi: 10.1098/rstb.2013.0622.

- 2014* **Kirsten I. Bos**, Kelly M. Harkins, Alexander Herbig, Mireia Coscolla, Nico Weber, Iñaki Comas, Stephen A. Forrest, Josephine M. Bryant, Simon R. Harris, Verena J. Schuenemann, Tessa J. Campbell, Keritu 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. Stoner, and Johannes Krause. Pre-Columbian Mycobacterial Genomes Reveal Seals as a Source of New World Human Tuberculosis. *Nature*; 514(7523):494-497.
- 2014 Iosif Lazaridis, 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**, ... , Svante Pääbo, Janet Kelso, David Reich, and Johannes Krause. Ancient human genomes suggest three ancestral populations for present-day Europeans. *Nature*; 513(7518):409-413.
- 2014 Alison M. Devault, M.A., G. Brian Golding, Ph.D., Nicholas Waglechner, M.Sc., Jacob M. Enk, M.Sc., Melanie Kuch, M.Sc., Joseph H. Tien, Ph.D., Mang Shi, M.Phil., David N. Fisman, M.D., M.P.H., Anna N. Dhody, M.F.S., Stephen Forrest, M.Sc., Kirsten I. Bos, Ph.D., David J.D. Earn, Ph.D., Edward C. Holmes, Ph.D., and Hendrik N. Poinar, Ph.D. Second-Pandemic Strain of *Vibrio cholerae* from the Philadelphia Cholera Outbreak of 1849. *N Engl J Med*; 370:334-340.
- 2013 Verena J. Schuenemann, Pushpendra Singh, Thomas A. Mendum, Ben Krause-Kyora, Günter Jäger, **Kirsten I. Bos**, Alexander Herbig, Christos Economou, Andrej Benjak, Philippe Busso, Almut Nebel, Jesper L. Boldsen, Anna Kjellström, 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. Genome-Wide Comparison of Medieval and Modern *Mycobacterium leprae*. *Science*; 341(6142):179-183.

- 2013 Qiaomei Fu, Alissa Mittnik, Philip L.F. Johnson, **Kirsten Bos**, Martina Lari, Ruth Bollongino, Chengkai Sun, Liane Giemsch, Ralf Schmitz, Joachim Burger, Anna Maria Ronchitelli, Fabio Martini, Renata G. Cremonesi, Jiří Svoboda, Peter Bauer, David Caramelli, Sergi Castellano, David Reich, Svante Pääbo and Johannes Krause. A revised timescale for human evolution based on ancient mitochondrial genomes. *Current Biology*; Volume 23, Issue 7: 553-559.
- 2012* **Kirsten I. Bos**, Philip Stevens, Kay Nieselt, Hendrik N. Poinar, Sharon N. DeWitte, and Johannes Krause. *Yersinia pestis*: new evidence for an old infection. *PLOS ONE*; Volume 7, Issue 11, e49803. doi:10.1371/journal.pone.0049803.
- 2011 **Kirsten I. Bos**, 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 & Johannes Krause. A draft genome of *Yersinia pestis* from victims of the Black Death. *Nature*; Volume 478:506 – 510. doi:10.1038/nature10549.
- 2011 Schuenemann VJ, **Bos KI**, DeWitte SN, Schmedes S, Jamieson J, Mittnik A, Forrest SA, Coombes B, Wood JW, Earn D, White Wi, Krause, and Poinar HN (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*; doi/10.1073/pnas.1105107108.
- 2010 John BA Okello, Linda Rodriguez, Debi Poinar, **Kirsten Bos**, Andrew L. Okwi, Gabriel S Bimenya, Nelson K Sewankambo, Kenneth R Henry, Hendrik N Poinar. Quantitative Assessment of the Sensitivity of Various Commercial Reverse Transcriptases Based on Armored HIV RNA. *PLoS ONE*; Volume 5, Issue 11, e13931. doi:10.1371/journal.pone.0013931.
- 2009 Linda Y. Rutledge, **Kirsten I. Bos**, Robert J. Pearce, Bradley N. White. Genetic and morphometric data from 16th century skull fragments support the eastern wolf as a distinct species from the gray wolf. *Conservation Genetics*; Volume 11, Issue 4:1273-1281.
- 2009 Hendrik Poinar, Stuart Fiedel, Christine E. King, Alison M. Devault, **Kirsti Bos**, Melanie Kuch, Regis Debruyne. Commenton "DNA from Pre-Clovis Human Coprolites in Oregon, North America". *Science*; Volume 325 Issue 5937:148.

2008 Regis Debruyne, Genevieve Chu, Christine E. King, **Kirsti Bos**, Melanie Kuch, Carsten Schwarz, Paul Szpak, Darren R. Gröcke, Paul Matheus, Grant Zazula, Dale Guthrie, Duane Froese, Bernard Buigues, Christian de Marliave, Clare Flemming, Debi Poinar, Daniel Fisher, John Southon, Alexei N. Tikhonov, Ross D.E. MacPhee and Hendrik N. Poinar. Out of America: Ancient DNA Evidence for a New World Origin of Late Quaternary Woolly Mammoths. *Current Biology*; Volume 18, Issue 17:1320-1326.

Non-Refereed Manuscripts

Åshild J. Vågane, Michael G. Campana, Nelly M. Robles García, Christina Warriner, Maria A. Spyrou, Aida Andrades Valtueña, Daniel Huson, Noreen Tuross, Alexander Herbig, **Kirsten I. Bos** and Johannes Krause. *Salmonella enterica* genomes recovered from victims of a major 16th century epidemic in Mexico, *bioRxiv*, 106740.

A Herbig, F Maixner, **KI Bos**, A Zink, J Krause, DH Huson, MALT: Fast alignment and analysis of metagenomic DNA sequence data applied to the Tyrolean Iceman, *bioRxiv*, 050559.

Aida Andrades Valtuena, Alissa Mittnik, Ken Massy, Raili Allmae, Mantas Daubaras, Rimantas Jankauskas, Mari Torv, Saskia Pfrengle, Maria A Spyrou, Michal Feldman, Wolfgang Haak, **Kirsten I Bos**, et al. The Stone Age Plague: 1000 years of Persistence in Eurasia, *bioRxiv*, 094243.

Manuscripts in Preparation

Kirsten I. Bos, Alexander Herbig, Johannes Krause. Paleomicrobiology: Diagnosis and Evolution of Ancient Diseases. Invited review for the *Annual Review of Microbiology*. Expected submission date: January 5, 2018

Published Abstracts/Professional Meeting Presentations

2017 Felix M. Key, Ron Hübner, Christina Warriner, **Kirsten I. Bos**, Wolfgang Haak, Johannes Krause, and Alexander Herbig. High-throughput pathogen detection in ancient metagenomic data. Presented at the 2017 meeting for the Society of Molecular Biology and Evolution, Austin, Texas.

- 2017 Allison E. Mann, Susanna Sabin, Kirsten Ziesemer, Krithivasan Sankaranarayanan, Andrew Ozga, Menno Hoogland, Corrine Hoffman, Åshild J. Vågene, James Fellow-Yates, Christopher Read, Alexander Herbig, Johannes Krause, **Kirsten I. Bos**, and Christina Warriner. Differential preservation of endogenous human and microbial DNA in dental calculus and dentin. Poster presented at the 87th annual meeting for the American Association for Physical Anthropology, New Orleans, LA.
- 2017 Åshild J, Vågene, Michael G. Campana, Nelly Robles García, Christina Warriner, Daniel Huson, Noreen Tuross, Alexander Herbig, **Kirsten I. Bos**, and Johannes Krause. Searching for pathogens in the earliest known colonial epidemic burial in Mexico, Teposcolula-Yucundaa. Poster presented at the 87th annual meeting for the American Association for Physical Anthropology, New Orleans, LA.
- 2017 **Kirsten I. Bos**, Åshild J. Vågene, Tanvi Honap, Frank Maixner, Albert Zink, Jane E. Buikstra, Anne C. Stone, Daniel Huson, Alexander Herbig, and Johannes Krause. Needles in haystacks: bacterial profiling and pathogen identification in ancient DNA. Presented at the 44th annual meeting for the Paleopathology Association, New Orleans, LA.
- 2017 **Kirsten I. Bos**, Åshild Vågene, Tanvi Honap, Alexander Herbig, Jane E. Buikstra, Anne C. Stone, and Johannes Krause. Tuberculosis in Past Peruvian Populations. Presented at the 82nd annual meeting of the Society for American Archeology, Vancouver, BC.
- 2017 **Kirsten Bos**, Åshild Vågene, Tanvi Honap, Alexander Herbig, Hane Buikstra, Anne Stone, and Johannes Krause. Zoonotic infections of *Mycobacterium tuberculosis* in the precontact New World. Presented at the One Past Health zoonosis conference in Plön, Germany.
- 2016 **Kirsten I. Bos**, Maria Spyrou, Rezeda I. Tukhbatova, Ilgizar R. Gazimzyanov, Airat G. Sitdikov, Danis K. Nurgaliev, Alexander Herbig, and Johannes Krause. A 14th-century *Yersinia pestis* genome from Tatarstan: tracing the aftermath of the Black Death. Presented at 21st meeting of the European Paleopathology Association, Moscow, Russia.

- 2016 **Kirsten I. Bos**, Maria Spyrou, Rezeda Tukhbatova, Joachim Wahl, Alexander Herbig, and Johannes Krause. Tracing the aftermath of the Black Death through analyses of ancient genomes. Presented at the 2016 meeting for the Society of Molecular Biology and Evolution, Gold Coast, Australia.
- 2016 **Kirsten Bos**, Alexander Herbig, Daniel H. Huson, Noreen Tuross and Johannes Krause. Searching for Pathogens in a New World Colonial Epidemic Burial. Presented at the 81st annual meeting for the Society of American Archeology, Orlando, FL.
- 2016 Johannes Krause, Maria A. Spyrou, Michal Feldman, Alexander Herbig and **Kirsten I. Bos**. Genome Analysis of Medieval *Yersinia Pestis* Suggests an Ancient European Source Population for the Majority Of Modern Plague Strains. Presented at the 81st meeting for the Society of American Archeology, Orlando FL.
- 2015 Johannes Krause, **Kirsten Bos**, Alexander Herbig, Sebastien Gagneux, Jane Buikstra, and Anne C. Stone. Ancient *Mycobacterium tuberculosis* genomes suggest re-adaptation to pre-Columbian human populations. Invited talk presented at the 2015 meeting for the Society for Molecular Biology and Evolution, Vienna, Austria.
- 2015 Maria Spyrou, Åshild Vågane, Luca Bondioli, Alessandra Sperduti, **Kirsten I. Bos**, and Johannes Krause. Investigation of mitochondrial DNA diversity in early medieval Southern Italy. Poster presented at the 2015 meeting for the Society of Molecular Biology and Evolution, Vienna, Austria.
- 2015 Alexander Herbig, Frank Maixner, **Kirsten Bos**, Benjamin Buchfink, Chao Xie, Albert Zink, Johannes Krause, and Daniel Huson. Ultra-fast alignment and analysis of metagenomic DNA sequence data from the Tyrolean Iceman. Poster presented at the 2015 meeting of the Society for Molecular Biology and Evolution, Vienna, Austria.
- 2015 **Kirsten I. Bos**, Kelly M. Harkins, Alexander Herbig, Sebastian Gagneux, Jane E. Buikstra, Anne C. Stone, and Johannes Krause. *Mycobacterium tuberculosis* genomes from the pre-Columbian New World suggest a marine route of disease transmission. Presented at the 42nd annual meeting of the Paleopathology Association, St. Louis Missouri, United States.

- 2014 **Kirsten I. Bos**, Kelly M. Harkins, Alexander Herbig, Jane E. Buikstra, Sebastien Gagneux, Anne C. Stone, and Johannes Krause. Analyses of *Mycobacterium tuberculosis* genomes from the pre-contact New World using high throughput sequencing. Presented at the 20th Paleopathology Association Meeting, Lund, Sweden.
- 2014 **Kirsten I. Bos**, Kelly M. Harkins, Alexander Herbig, Jane E. Buikstra, Sebastien Gagneux, Anne Stone, and Johannes Krause. A preliminary evaluation of *Mycobacterium tuberculosis* in the pre-contact New World using high throughput sequencing. Presented at the 83rd annual meeting of the American Association for Physical Anthropologists, Calgary, Alberta.
- 2013 **Kirsten I. Bos**, Johannes Krause. Palaeopathology in the era of high throughput sequencing. Presented at the 15th annual conference for the British Association for Biological Anthropology and Osteoarchaeology, York, United Kingdom.
- 2013 **Kirsten I. Bos**, Johannes Krause. Genetic investigations of *Y. pestis* from archaeological populations. Presented at Cold Spring Harbor Asia, Yersinia 11, Suzhou, China.
- 2013 **Kirsten I. Bos**, Johannes Krause. Ancient pathogen DNA: protocols, progress, and possibilities. Presented at the 78th annual meeting for the Society of American Archeology, Honolulu, Hawaii.
- 2013 **Kirsten I. Bos**, Johannes Krause. The evolutionary history of *Yersinia pestis*. Presented at the 82nd annual meeting of the American Association for Physical Anthropologists, Knoxville, Tennessee.
- 2012 **Kirsten I. Bos**, Verena J. Schuenemann, Sharon N. DeWitte, Hendrik N. Poinar, and Johannes Krause. A draft genome of *Yersinia pestis* from victims of the Black Death. Presented at the European Meeting of the Paleopathology Association, Lille, France.
- 2012 **Kirsten I. Bos**, Verena J. Schuenemann, G. Brian Golding, Hernàn A. Burbano, Nicholas Waglechner, Brian K. Coombes, Joseph B. McPhee, Sharon N. DeWitte, Hendrik N. Poinar, and Johannes Krause. A draft genome of *Yersinia pestis* from victims of the Black Death. Presented at the 81st annual meeting of the American Association for Physical Anthropologists, Portland, Oregon.

- 2011 **Bos KI**, Schuenemann VJ, Krause J, and Poinar HN. Fishing for ancient pathogens: reconstruction of the virulence-associated pPCP1 plasmid of *Y. pestis* from victims of the Black Death. Talk presented at the 39th annual meeting for the Canadian Association for Physical Anthropology, Montreal, Q.C.
- 2011 **Kirsten I. Bos**, "Fishing for ancient pathogens: *Yersinia pestis* DNA from victims of the medieval plague in London, England". Talk presented at the "Archéologie des épidémies" Workshop in Bordeaux, France.
- 2009 **Bos KI**, Forrest SA, and Poinar HN "Metagenomics and Ancient Human Disease: efficient targeted retrieval of ancient pathogen DNA for high-throughput sequencing applications". Talk presented at the 37th annual meeting for the Canadian Association for Physical Anthropology, Vancouver B.C.
- 2008 **Bos KI**, DeWitte SN, and Poinar HN. "Metagenomics and disease in past human populations". Talk presented at the 36th conference for the Canadian Association of Physical Anthropology, Hamilton, Ontario.
- 2007 Poinar HN, **Bos KI**, Sobolik K. "Metagenomics in Archaeology: the palaeofaecal record". Talk presented at the 72nd meeting for the Society of American Archaeology, Austin, Texas.
- 2002 Hoppa RD, Pletcher S and **Bos K.** "Mutation Accumulation and Reduced Mortality in Human Populations". Poster presented at the 71st Annual Meeting of the American Association of Physical Anthropologists, Buffalo, New York.

Theses

- 2011 **Bos KI.** Genetic Investigations into the Black Death. Ph.D. thesis. McMaster University, Department of Anthropology.
- 2004 **Bos KI.** Trinitapoli: a preliminary evaluation of the human skeletal material recovered from a Middle Bronze Age burial site in southern Italy. M.A. thesis. McMaster University, Department of Anthropology.

Guest lectures and invited talks

- 2016 *"Ancient bacterial genomics: what we learn from historical pandemics"*. Invited talk given at the Réunion Interdisciplinaire de Chimiothérapie et Anti-Infectieuse conference in Paris, France, December 12, 2016
- 2016 *"Genomic Analyses of Ancient Pathogens"*. Invited graduate lecture given at the École Pratique des Hautes Études, Lyon, France, September 29, 2016
- 2016 *"Genomic analyses of historical pathogens"* Invited talk delivered at the European Molecular Biology Laboratory symposium on New Model Systems for Linking Evolution and Ecology, Heidelberg, Germany.
- 2015 *"Genomic analyses of ancient pathogens"* Invited talk delivered at the Ancient DNA: A Window to the Past and Future symposium in Thessaloniki, Greece.
- 2015 *"Genomic analyses of historical pathogens"* Invited talk delivered at the 2015 meeting for the European Society for Human Genetics in Glasgow, Scotland, United Kingdom.
- 2015 *"Genomics analyses of historical pathogens"*. Invited talk delivered at the Institute for Evolutionary Biology, University of Zurich, Switzerland.
- 2015 *"Ancient pathogen genomics"*. Lecture delivered as part of the European course on Comparative Genomics, Ecole Normale Supérieure (ENS), Lyon, France.
- 2014 *"The great plagues of Europe and their biological legacies"*. Delivered at the University of Leuven, Belgium.
- 2014 *"Plagues of our ancestors as revealed through ancient DNA"*. Delivered at the Genetic Genealogy Conference 2014 in Dublin, Ireland.
- 2014 *"Genomic Investigations of Tuberculosis in the Precontact New World"*. Delivered at the Institute for Archaeological Sciences, University of Tuebingen, Germany.
- 2014 *"Reconstructing Ancient Pathogen Genomes from Historical Bone"*. Delivered at the 2014 Forensica conference, Prague, Czech Republic.

- 2014 *"Genetic Investigations into the Black Death"*. Public talk delivered at the Who Do You Think You Are convention, London, England.
- 2013 *"Ancient pathogen genomics: what we learn from historical diseases"*. Talk delivered at the University of Leiden, the Netherlands.
- 2013 *"A draft genome of Yersinia pestis from victims of the Black Death"*. Public talk delivered at the European Molecular Biology Laboratory (EMBL), Heidelberg, Germany.
- 2013 *"A draft genome of Yersinia pestis from victims of the Black Death"*. Public talk delivered at the Institute of Forensic Medicine, Bern, Switzerland.
- 2012 *"Human health in the past as revealed through the genomes of ancient pathogens"*. Plenary lecture delivered at the McMaster Life Sciences Interdisciplinary Research Symposium.
- 2011 *"Fishing for ancient pathogens and the genome of the Black Death"*. Talk delivered at the Hamilton Science Cafe.
- 2011 *"Genetic Investigations into the Black Death"* McMaster University undergraduate level course lecture, ANTH 2U03.
- 2010 *"Plagues in Ancient Populations"*, talk delivered for the McMaster University Medical School.
- 2009 *"Secrets of 'Secrets of the Dead'"*, McMaster University undergraduate lecture level course lecture, ANTH 2E03.
- 2009 *"The Black Death from a Molecular Perspective"*, McMaster University undergraduate level course lecture, ANTH 2U03.
- 2009 *"Medieval Mysteries meet Modern Technologies"*, McMaster University undergraduate level course lecture, ANTH 2U03.
- 2009 *"Medieval Mysteries meet Modern Technologies: the case of the Black Death"*, McMaster University Alumni Association.
- 2008 *"Ancient DNA and disease"*, McMaster University undergraduate level course lecture, ANTH 4J03.
- 2006 *"The anthropology of health and the contributions of ancient DNA data"*, McMaster University graduate level course lecture.

Internal Symposia presentations

- 2007 McMaster Ancient DNA Centre laboratory seminar: *"Molecular approaches to ancient pathogens: the case of the Black Death"*
- 2006 McMaster University Anthropology departmental seminar:
"Unlocking the bowels of history: the secrets that coprolites hold with special reference to the peopling of the Americas"

Courses Taught

- 2015 Special topics in Palaeogenetics, University of Tuebingen

Mentoring Experience

Committee member for the following doctoral candidates:

Åshild Vågane (University of Tuebingen)
Maria Spyrou (University of Tuebingen)
Michal Feldman (University of Tuebingen)
Elizabeth Nelson (MPI, Science of Human History)
Cody Parker (MPI, Science of Human History)
Susanna Sabin (MPI, Science of Human History)
Karen Giffin (MPI, Science of Human History)

Public Outreach

- 2017 **Kirsten I. Bos** and Maria Spyrou. Molecular time travel: reconstructing the pathogen of ancient plagues. Invited article for Natural History Magazine. In press. Expected publication: September 2017.
- 2017 **Kirsten I. Bos**, Elizabeth Nelson, and Maria Spyrou. "Identifying plague through ancient DNA analysis". In Crossrail Archaeology. The New Churchyard: from Moorfields Marsh to Bethlem Burial Ground, Brookers Row, and Liverpool Street. In press.
- 2014 **Kirsten I. Bos**. "Tales from a plague pit: what caused the Black Death?". Article written for the Science in School journal issued by the European Molecular Biology Laboratory.

- 2013 "The Mystery of Rome's X Tomb" filming for BBC documentary on a Roman catacomb, television programme aired July 2013.
- 2013 "Secrets in the Bones: the Hunt for the Black Death Killer" filming for CBC programme special edition of The Nature of Things, aired January 16, 2014

Peer Reviewer for:

Nature Communications

American Journal of Physical Anthropology

European Research Council Consolidator Grants

Leaky Grants

Marsden Grants (New Zealand)

Scientific Reports

PLOS ONE

Clinical Microbiology and Infection

Journal of Microbiology

Molecular Biology and Evolution

Trends in Evolution and Ecology

Molecular Ecology Resources

International Journal of Osteoarchaeology

Nexus (McMaster University)

Service

2014	AERES departmental review, AMIS, Anthropologie Moléculaire et Imagerie de Synthèse, Toulouse, France
2009 – 2011	Hiring committee, Guelph Symphony Orchestra Artistic Director
2008 – 2011	Guelph Symphony Orchestra Board Member (player representative)
2007 – 2010	Joint Health and Safety Committee member for Science, McMaster University
2009	Hiring committee for tier 1 Canada Research Chair in skeletal biology, McMaster University
2008	Department of Anthropology Graduate Student Representative
2003	Forensic consultant, City of Hamilton Police Dept.

Professional organisations:

American Association of Physical Anthropologists

Paleopathology Association

Society for American Archeology