

## LIST OF PUBLICATIONS OF NIKOLAY OSKOLKOV

- 1) **Oskolkov N**, Jin C, Clinton SL, Guinet B, Wijnands F, Johnson E, Kutschera VE, Kinsella CM, Heintzman PD, van der Valk T. Improving taxonomic inference from ancient environmental metagenomes by masking microbial-like regions in reference genomes, *Giga Science* **2025**, Jan 6;14:giaf108. doi: 10.1093/gigascience/giaf108. PMID: 41041810; PMCID: PMC12491943.
- 2) Kristoffer Ström\*, **Nikolay Oskolkov\***, Tugce Karaderi et al. Genetic variation at RAB3GAP2 and its role in exercise-related adaptation and recovery, accepted in *Cell Reports* **2025**, PREPRINT v.1 available at Research Square [<https://doi.org/10.21203/rs.3.rs-701652/v1>]
- 3) Martin Sikora, Elisabetta Canteri, Antonio Fernandez-Guerra, **Nikolay Oskolkov**, Rasmus Ågren, Lena Hansson, Evan K. Irving-Pease, Barbara Mühlemann, Sofie Holtsmark Nielsen, Gabriele Scorrano, Morten E. Allentoft, Frederik Valeur Seersholm, Hannes Schroeder, Charleen Gaunitz, Jesper Stenderup, Lasse Vinner, Terry C. Jones, Björn Nystedt, Karl-Göran Sjögren, Julian Parkhill, Lars Fugger, Fernando Racimo, Kristian Kristiansen, Astrid K. N. Iversen, **Eske Willerslev**, The spatiotemporal distribution of human pathogens in ancient Eurasia. *Nature* **2025**. <https://doi.org/10.1038/s41586-025-09192-8>.
- 4) Guinet B, **Oskolkov N**, Moreland K, Dehasque M, Chacón-Duque JC, Angerbjörn A, Arsuaga JL, Danilov G, Kanellidou F, Kitchener AC, Muller H, Plotnikov V, Protopopov A, Tikhonov A, Termes L, Zazula G, Mortensen P, Grigorieva L, Richards M, Shapiro B, Lister AM, Vartanyan S, Díez-Del-Molino D, Götherström A, Pečnerová P, Nikolskiy P, Dalén L, van der Valk T. Ancient host-associated microbes obtained from mammoth remains. *Cell* **2025** Sep 2:S0092-8674(25)00917-1. doi: 10.1016/j.cell.2025.08.003. Epub ahead of print. PMID: 40902595.
- 5) Mikhail M. Khandokhin, Aleksandr V. Sokolov, **Nikolay Oskolkov**, Robert Fredriksson, Olga E. Titova, Helgi B. Schiöth, NCBI Metabolomics Workbench: Data content, classification of chemical groups, correlation of metabolite classes, biomarkers and drugs, under review in *Nature Communications* **2025**.
- 6) Emilio Mármol-Sánchez, M. Thomas P. Gilbert, Bastian Fromm, Glenn Dunshea, Sebastien Calvignac-Spencer, **Nikolay Oskolkov**, Michael D. Martin, Ludovic Orlando, Marc Friedländer, Anders Johannes Hansen, Oliver Smith, Hannes Schroeder, Liam Thomas Lanigan, Karina Krarup Svenninggaard Sand, Sarah S.T. Mak, Verena J. Schuenemann, Hinzke Tjorven, Ancient RNA: Unveiling the hidden past to unlock future horizons, under review in *Nature Reviews Genetics* **2025**
- 7) Emilio Mármol-Sánchez, Bastian Fromm, **Nikolay Oskolkov**, Zoé Pochon, Marianne Dehasque, Morteza Aslanzadeh1, Elif Bozlak, Katherine Brown, Tom van der Valk, Panagiotis Kalogeropoulos, J Camilo Chacón-Duque, Inna Biryukova, Valeri Plotnikov, Albert Protopopov, Björn Andersson, Erik Ersmark, Kevin J Peterson, Marc R Friedländer, Love Dalén, Ancient RNA expression profiles from the extinct woolly mammoth, accepted in *Cell* **2025**
- 8) Zoé Pochon, Amanj Bajalan, Alicia Muriel, Emrah Kırdök, Petter Larsson, **Nikolay Oskolkov**, Lars Einarsson, Thijessen Naidoo, Michael Lindberg, Erika Hagelberg, Tobias Allander, Alex Hildred, Anna Kjellström, Reyhan Yaka, Ricardo Rodríguez-Varela, Maja Krzewińska, Anders Götherström, Björn Andersson, Parvovirus B19 in sailors from sunken warships from the 16th and 17th centuries, under review in *Nature Communications* **2025**.
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- 10) Fellows Yates, J. A., Warinner, C., Andrades Valtueña, A., Borry, M., Guellil, M., Herbig, A., Hiß, A., Hübner, A., Kocher, A., Lamnidis, T. C., Michel, M. E., Nota, K., **Oskolkov, N.**, Pach,

A. L., Pérez, V., Schmid, C., Velsko, I. M., Warner, R., Zampirolo, G., & Zeibig, T. (2024). Introduction to Ancient Metagenomics. Zenodo. <https://doi.org/10.5281/zenodo.13784555>

- 11) **Nikolay Oskolkov**, Refining filtering criteria for accurate taxonomic classification of ancient metagenomic data, accepted in *Frontiers in Microbiology* **2025**
- 12) Nora Bergfeldt, **Nikolay Oskolkov**, Ricardo Rodriguez-Varela, Benjamin Guinet, Petter Larsson, Jorge Arturo Talavera, Sandra Guevara Flores, Federico Navarrete Linares, Anders Götherström\*, Cristina Valdiosera\*, *Vibrio cholerae* in 18th century Mexico, under review in *Nature Communications* **2025**
- 13) Zaher Elbeck, Mohammad Bakhtiar Hossain, Humam Siga, **Nikolay Oskolkov**, Fredrik Karlsson, Julia Lindgren, Anna Walentinsson, Cristobal Dos Remedios, Dominique Koppenhöfer, Rebecca Jarvis, Roland Bürli, Tanguy Jamier, Elske Franssen, Mike Firth, Andrea Degasperi, Claus Bendtsen, Jan Dudek, Michael Kohlhaas, Alexander G. Nickel, Lars H. Lund, Christoph Maack, Ákos Végvári, Christer Betsholtz, Epigenetic modulators link mitochondrial redox homeostasis to cardiac function in a sex-dependent manner. *Nature Communications* **2024**, 15, 2358. <https://doi.org/10.1038/s41467-024-46384-8>
- 14) Bergfeldt N, Kirdök E, **Oskolkov N**, Mirabello C, Unneberg P, Malmström H, Fraser M, Sanchez-Quinto F, Jorgensen R, Skar B, Lidén K, Jakobsson M, Storå J, Götherström A. Identification of microbial pathogens in Neolithic Scandinavian humans. *Scientific Reports* **2024** Mar 7;14(1):5630. <https://doi.org/10.1038/s41598-024-56096-0>
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- 17) Tina Rönn, Alexander Perfilyev, **Nikolay Oskolkov\*** and Charlotte Ling\*, Predicting type 2 diabetes via Machine Learning integration of multiple Omics from human pancreatic islets, *Scientific Reports* **2024**, Jun 25;14(1):14637. <https://doi.org/10.1038/s41598-024-64846-3>
- 18) Zoé Pochon, Nora Bergfeldt, Emrah Kirdök, Mário Vicente, Thijessen Naidoo, Tom van der Valk, N. Ezgi Altınışık, Maja Krzewińska, Love Dalen, Anders Götherström, Claudio Mirabello\*, Per Unneberg\* and **Nikolay Oskolkov\***, aMeta: an accurate and memory-efficient ancient Metagenomic profiling workflow, *Genome Biology* **2023**, 24, 242, <https://doi.org/10.1186/s13059-023-03083-9>
- 19) Mármol-Sánchez E, Fromm B, **Oskolkov N**, Pochon Z, Kalogeropoulos P, Eriksson E, Biryukova I, Sekar V, Ersmark E, Andersson B, Dalén L, Friedländer MR. Historical RNA expression profiles from the extinct Tasmanian tiger. *Genome Research* **2023** Aug;33(8):1299-1316. doi: 10.1101/gr.277663.123. Epub 2023 Jul 18. PMID: 37463752.

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- 22) Zhang Y, Ruff SE, **Oskolkov N**, Tierney BT, Ryon K, Danko D, Mason CE, Elhaik E. The microbial biodiversity at the archeological site of Tel Megiddo (Israel). *Front Microbiol.* **2023** Sep 22;14:1253371. <https://doi.org/10.3389/fmicb.2023.1253371>
- 23) Louise Brunkwall, Filip Ottosson, Dmytro Kryvokhyzha, Ulrika Ericson, Sergi Sayols-Baixeras, Koen F Dekkers, Jacob Bak Holm, Henrik Bjørn Nielsen, Aron Eklund, Nynne Nielsen, Göran Bergström, **Nikolay Oskolkov**, Johan Årnlöv, Peter M Nilsson, Gunnar Engström, Olle Melander, Tove Fall and Marju Orho-Melander, The gut microbiome and obesity in a population of 12 040 individuals, under review in *Nature Communications* **2025**
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