

BIOGRAPHICAL SKETCH

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NAME: Rambaldi Migliore, Nicola

eRA COMMONS USER NAME (credential, e.g., agency login):

POSITION TITLE: Postdoc (assegno di ricerca SSD BIO/18 – Genetica)

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE (if applicable)	Completion Date MM/YYYY	FIELD OF STUDY
University of Pavia, Pavia, Italy	BS	07/2016	Biology
University of Pavia, Pavia, Italy	MS	07/2018	Molecular Biology and Genetics
University of Pavia, Pavia, Italy	PhD	04/2022	Genetics, Molecular and Cellular Biology
University of Pavia, Pavia, Italy	Research fellow (borsa di studio)	12/2022	Genetics
University of Pavia, Pavia, Italy	Postdoc	03/2024	Genetics
University of Pavia, Pavia, Italy	Postdoc	03/2027	Genetics

A. Personal Statement

My research focuses on population genetics in both modern and ancient populations across multiple species, with an emphasis on understanding genetic variation and evolutionary processes using high-throughput sequencing data, including whole-genome sequencing and genome-wide SNP arrays. I have extensive experience in the analysis of both modern and ancient DNA, including ancient DNA laboratory work, using bioinformatic pipelines and tools.

During my PhD, I investigated mitochondrial DNA variation in humans and non-human species, addressing questions at both broad geographic scales and fine-scale population contexts. More recently, my work has expanded to population genomic analyses of genome-wide data from modern and ancient humans, as well as other organisms. After completing my PhD, I was awarded a one-year fellowship named after Prof. L. L. Cavalli-Sforza, funded by the Fondazione Adriano Buzzati-Traverso (call no. 841), and subsequently continued my research as a postdoctoral fellow. My current research interests also encompass museomics, supported by a Fondazione Cariplo – Bando Giovani Ricercatori 2023 grant (ref. 2023-1373). I am the principal investigator of the project “From museum exhibits to DNA sequences: museomics of ancient specimens,” which integrates genomic approaches with museum collections to study historical specimens.

B. Positions, Scientific Appointments, and Honors**Current position(s):**

01/01/2023 – current. Postdoc (assegno di ricerca SSD BIO/18 – Genetica) at the Dept. of Biology and Biotechnology “L. Spallanzani”, University of Pavia.

Previous positions:

01/01/2022 – 31/12/2022. Research fellow (borsa di studio) at the Dept. of Biology and Biotechnology “L. Spallanzani”, University of Pavia.

Education and training:

- 17-19/06/2024. selected as participant to the “HAAM - Summer School 2024, Connecting the past, present and future” (online) (<https://haamcommunity.github.io/news/2024/04/05/event/>).

- 10/2018-04/2022. PhD in “Genetics, Molecular and Cellular Biology”, Dept. of Biology and Biotechnology “L. Spallanzani”, University of Pavia.
- 12/2019. Acquisition of Italian license to work/practice as a Senior Biologist (esame di stato).
- 29/07/2019-02/10/2019. Selected as participant to the “Summer course in analyses of genotyping and NGS data in medical and population genetics 2019”, Copenhagen, Denmark (<https://popgen.dk/popgen19/>).
- 10/2016-07/2018. Master’s degree in “Molecular Biology and Genetics” (held in English), Dept. of Biology and Biotechnology “L. Spallanzani”, University of Pavia (110/110 cum laude).
- 10/2013-07/2016. Bachelor’s degree in “Biological Sciences” (“Biomolecular and Genetic Sciences” curriculum), Dept. of Biology and Biotechnology “L. Spallanzani”, University of Pavia (110/110 cum laude).
- 09/2008-07/2013. High school degree at Classic Lyceum “D. Manin”, Cremona, Italy (100/100).

Fellowships and grants:

- 01/04/2024 - 31/03/2027. PI of the proposal entitled “From museum exhibits to DNA sequences: museomics of ancient specimens” funded by the Fondazione Cariplo - Bando Giovani Ricercatori 2023 (rif: 2023-1373).
- 01/01/2023 - 31/03/2024. Postdoc fellowship funded by the MUR project PRIN2017 entitled “A multi-species genomic approach to assess pre- and post-Columbian population dynamics in South America” (cod. 20174BTC4R).
- 2022-2023. Team member for the project “Genesi. Dal presente alle diverse origini. La storia della valle di Ledro raccontata dal DNA” funded by MUSE di Trento and Cassa Rurale di Ledro.
- 01/01/2022 - 31/12/2022. Winner of a one-year fellowship (borsa di studio) entitled to Prof. L. L. Cavalli-Sforza and funded by the “Fondazione Adriano Buzzati-Traverso” (bando n. 841).

Supervision of students:

- 10/2017 – current. supervision of 9 Master Students from different Master’s Degrees of the Dept. of Biology and Biotechnology “L. Spallanzani”, University of Pavia.

Teaching activities:

- 2017/2018. Lab tutor for the course in “Molecular Genetics”, bachelor’s degree in Biotechnology, Dept. of Biology and Biotechnology “L. Spallanzani”, University of Pavia.
- 2018/2019, 2019/2020, 2020/2021. Lab tutor for the course in “Molecular and Genetic Methodologies”, master’s degree in Biology, Dept. of Biology and Biotechnology “L. Spallanzani”, University of Pavia.
- 2021/2022, 2022/2023, 2023/2024. Lab tutor for the course in “Evolution and Medicine”, Harvey Medical Course, Dept. of Molecular Medicine, University of Pavia.
- 2022/2023, 2024/2025. Lab tutor for the course in “Molecular genomics and DNA profiling”, Dept. of Biology and Biotechnology “L. Spallanzani”, University of Pavia.
- 2023/2024, 2024/2025. Didactic seminars for the course in “Molecular and Genetic Methodologies”, master’s degree in Biology, Dept. of Biology and Biotechnology “L. Spallanzani”, University of Pavia.

Workshops:

- 30/08/2021 – 01/09/2021. Invited speaker to the workshop “The reconstruction of human history through an interdisciplinary approach” at the University of Zurich (Switzerland).

Reviewing activities:

- 2024-current. reviewer for the following international journals:
 - Cell Press Multi-Journal submissions
 - Science Advances
 - Archaeological and Anthropological Sciences.

Memberships of scientific societies:

- 2022-current. Member of the “Italian Society of Evolutionary Biology (SIBE)” (<https://www.sibe-iseb.it/>).
- 2021-current. Member of the “Italian Genetics Association (AGI)” (<https://www.associazionegeneticaitaliana.it/>).
- 2025-current. Member of the “International Society for Biomolecular Archaeology (ISBA)” (<https://www.isbarch.org/>).

C. Contributions to Science

Researcher unique identifier(s):

ORCID: [0000-0003-1523-0450](https://orcid.org/0000-0003-1523-0450).

Scopus: [57217486091](https://scopus.org/57217486091).

ISI-Web of Science: [OIR-8787-2025](https://www.isinet.com/0IR-8787-2025).

Google Scholar: [Google scholar](https://scholar.google.com/citations?user=Google scholar).

Publications as first/last/corresponding author:

- Desai, S. *, P. Pratap Singh, R. Kumar Pandey, R. Kumar Mishra, A. Kumar Chaubey, A. Kumar, S. Kr Tiwary, S. Gupta*, A. Achilli, N. Rambaldi Migliore*, G. Chaubey*. Multiple domestication centres of the Indian pig population. *GBE evaf030* (2025).
- Rambaldi Migliore, N. *+, D. Bigi+, M. Milanese+, et al. Mitochondrial DNA control-region and coding-region data highlight geographically structured diversity and post-domestication population dynamics in worldwide donkeys. *PLoS ONE* 19(8): e0307511 (2024).
- Rambaldi Migliore, N. +, G. Colombo+, et al. Weaving Mitochondrial DNA and Y-Chromosome Variation in the Panamanian Genetic Canvas. *Genes* 12(12), 1921 (2021).

Publications as coauthor:

- Tommasi, A.+ , R. Boscolo Agostini+, G. Villani+, N. Rambaldi Migliore, et al. Fifteen millennia of human mitogenome evolution in Sicily. *Sci Adv* 14;11(46):eady1674 (2025).
- Pryor, N. Rambaldi Migliore, et al. Whole methylomes reveal differential methylation between High and Low-Altitude Andean Populations within Hypoxia-Response and Pigmentation genes. *Environ Epigenetics*, 11(1):dvaf026 (2025).
- Colombo, G., E. Moroni, A. Raveane, N. Rambaldi Migliore, et al. The origin of modern North Africans as depicted by a massive survey of mitogenomes. *Sci Rep* 15, 27025 (2025).
- Hou, J. +, X. Guan+, X. Xia+, Y. Lyu+, X. Liu, Y. Mazei, P. Xie, F. Chang, X. Zhang, J. Chen, X. Li, F. Zhang, L. Jin, X. Luo, M. S. Sinding, X. Sun, A. Achilli, N. Rambaldi Migliore, et al. Evolution and legacy of East Asian aurochs. *Science Bulletin* 69, 3425–3433 (2024).
- Chen, N., X. Xia, Q. Hanif, F. Zhang, R. Dang, B. Huang, Y. Lyu, X. Luo, H. Zhang, H. Yan, S. Wang, F. Wang, J. Chen, X. Guan, Y. Liu, S. Li, L. Jin, P. Wang, L. Sun, J. Zhang, J. Liu, K. Qu, Y. Cao, J. Sun, Y. Liao, Z. Xiao, M. Cai, L. Mu, A. Z. Siddiki, M. Asif, S. Mansoor, M. E. Babar, T. Hussain, G. Liyanage L. Pradeepa Silva, N. A. Gorkhali, E. Terefe, G. Belay, A. Tijjani, T. Zegeye, M. G. Gebre, Y. Ma, Y. Wang, Y. Huang, X. Lan, H. Chen, N. Rambaldi Migliore, et al. Global genetic diversity, introgression, and evolutionary adaptation of indicine cattle revealed by whole genome sequencing. *Nat Commun* 14, 7803 (2023).
- Capodiferro, M.R., A.M. Chero Osorio, N. Rambaldi Migliore, et al. The multifaceted genomic history of Ashaninka from Amazonian Peru. *Curr Biol* 33(8): 1573-1581.e5 (2023).
- Joseph, S.K., N. Rambaldi Migliore, et al. Genomic evidence for adaptation to tuberculosis in the Andes before European contact. *iScience* 26(2): 106034 (2023).
- Battaglia, V. +, V. Agostini+, E. Moroni, G. Colombo, G. Lombardo, N. Rambaldi Migliore, et al. The worldwide spread of *Aedes albopictus*: New insights from mitogenomes. *Front Genet* 13:931163 (2022).
- Raveane, A., L. Molinaro, S. Aneli, M.R. Capodiferro, L. De Gennaro, L. Ongaro, N. Rambaldi Migliore, et al. Assessing temporal and geographic contacts across the Adriatic Sea through the analysis of genome-wide data from Southern Italy. *Genomics* 114(4): 110405 (2022).
- Lombardo, G., N. Rambaldi Migliore, et al. The Mitogenome Relationships and Phylogeography of Barn Swallows (*Hirundo rustica*). *Mol Biol Evol* msac113 (2022).
- Colombo, G. +, L. Traverso+, L. Mazzocchi, V. Grugni, N. Rambaldi Migliore, et al. Overview of the Americas' First Peopling from a Patrilineal Perspective: New Evidence from the Southern Continent. *Genes* 13(2):220 (2022).
- Cardinali, M. Bodner, M.R. Capodiferro, C. Amory, N. Rambaldi Migliore, et al. Mitochondrial DNA Footprints from Western Eurasia in Modern Mongolia. *Front Genet* 12:819337 (2022).
- Bodner, M., U.A. Perego, J.E. Gomez. R.M. Cerda Flores, N. Rambaldi Migliore, et al. The mitochondrial DNA landscape of modern Mexico. *Genes* 12(9), 1453 (2021).

- Dato, S., P. Crocco, N. Rambaldi Migliore, F. Lescai. Omics in a digital world: the role of bioinformatics in providing new insights into human aging. Front Genet 12: 689824 (2021).
- Capodiferro, M.R., B. Aram, A. Raveane, N. Rambaldi Migliore, et al. Archaeogenomic Distinctiveness of the Isthmo-Colombian Area. Cell 184(7), 1706-1723 (2021).
- Modi, A.+, H. Lancioni+, I. Cardinali+, M.R. Capodiferro+, N. Rambaldi Migliore, et al. The mitogenome portrait of Umbria in Central Italy as depicted by contemporary inhabitants and pre-Roman remains. Sci Rep 10, 10700 (2020).

+Equal contribution

*Corresponding author(s)

Pavia,
30/01/2026

Nicola Rambaldi Migliore, Ph.D.

