



Dr. Tomas Marques-Bonet

Institute of Evolutionary Biology

Icrea Research and Full Professor at University Pompeu Fabra

Dr. Aiguader 88, 08003, Barcelona, Spain

tomas.marques@upf.edu

Summary

Over the past 15 years, my study of primates has been foundational in advancing our understanding of human biology. Genomic insights from primates have significantly contributed to medical advancements and the field of evolutionary biology. In 2023, my lab achieved a major milestone by leading a Special Issue in Science, publishing the complete genomes of 50% of the world's primate species. This international effort underscored how mutations in primate genomes inform the functional consequences in humans. Additionally, in 2024, a co-led study on human noncoding genome regions was published in Nature, further enhancing our understanding of human biology. As an independent researcher, I led the first global study on great ape genome diversity, revealing the genetic distinctions between humans and apes (Prado-Martinez et al. Nature 2013; deManuel et al. Science 2016). My lab has also achieved breakthroughs, such as recovering the oldest ape genetic material and identifying unique introgression events in bonobos, which has implications for conservation and combating illegal trafficking (Welker et al. Nature 2019). In functional genomics, my team has explored molecular differences between humans and great apes, uncovering regulatory mechanisms and human-specific genomic features (Ferrandez et al. Genome Research 2022). Throughout my career, I have published over 200 peer-reviewed articles, with about a quarter appearing in high-impact journals (Nature, Cell, Science). I also hold a European patent and have secured prestigious funding, including ERC and NIH grants, and private conservation funding from Revive&Restore.

In service to the scientific community, I have held leadership roles, such as Director of the Institute of Evolutionary Biology and panelist for the European Research Council. Additionally, I founded the Cryozoo at the Barcelona Zoo, a cell bank for animal species. My mentorship includes training 23 PhD students and nine postdoctoral researchers, many of whom have advanced to prominent roles globally. Notably, I recently received the Premi Ciutat de Barcelona 2023 and I was elected member of the Royal Academy of Sciences in Spain. My career is driven by a commitment to interdisciplinary research, collaboration, and a vision to understand human biology through primate genomics.

Most relevant publications

- Kuderna et al. Rogers+, Tomas Marques-Bonet +, Farh+ “Identification of constrained sequence elements across 239 primate genomes” *Nature* 2024
- Kuderna et al. Rogers+, Farh+, Tomas Marques-Bonet +.(2023).” A global catalog of whole-genome diversity from 233 primate species” *Science* 2023
- Gao et al. . Rogers+, Tomas Marques-Bonet +, Farh+(2023) “The landscape of tolerated genetic variation in humans and primates” *Science* 2023
- Luis Ferrández-Peral et al. Tomas Marques-Bonet “Transcriptome innovations in primates revealed by single-molecule long-read sequencing” *Genome Research* 2022
- Fontserè et al. Tomas Marques-Bonet “Population dynamics and genetic connectivity in recent chimpanzee history” *Cell Genomics* 2022
- Walker et al. Tomas Marques-Bonet*, Enrico Capellini* “Dental enamel proteome sequencing reveals Gigantopithecus as an early diverging pongine” *Nature* 2019.
- M Kuhlwiilm, S Han, VC Sousa, L Excoffier, Tomas Marques-Bonet “Ancient admixture from an extinct ape lineage into bonobos”. *Nature ecology & evolution*, 2019
- deManuel et al. Tomas Marques-Bonet. “Chimpanzee diversity reveals ancestral admixture with bonobos” *Science* 2016.
- Tugce Bilgin Sonay et al. Tomás-Marques Bonet*, Andreas Wagner*. “Human and great ape variation in tandem repeats population variation and its correspondence impact to on gene expression divergence” *Genome Research* 2015
- Javier Prado-Martinez et al. Tomas Marques-Bonet “Great ape genetic diversity and population history”. *Nature* 2013