



CURRICULUM VITAE (CVA)

IMPORTANT – The Curriculum Vitae cannot exceed 4 pages. Instructions to fill this document are available in the website.

Part A. PERSONAL INFORMATION

CV date 02/12/2025

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|--|--------------------------------|-------------------------|----------------------|
| First name | Juan Antonio | | |
| Family name | Gabaldón | | |
| Gender (*) | Male | Birth date (dd/mm/yyyy) | 18/11/1973 |
| Social Security, Passport, ID number | 22569511W | | |
| e-mail | toni.gabaldon@irbbarcelona.org | URL Web | http://cgenomics.org |
| Open Researcher and Contributor ID (ORCID) (*) | 0000-0003-0019-1735 | | |

(*) Mandatory

A.1. Current position

| | | | |
|-------------------|---|----------------|-----------|
| Position | Principal Investigator | | |
| Initial date | 04/2019 | | |
| Institution | Barcelona Supercomputing Centre (BSC) and Institute for Research in Biomedicine (IRB) | | |
| Department/Center | Life Sciences (BSC) and Mechanisms of Disease (IRB) | | |
| Country | Spain | Teleph. number | 616953333 |
| Key words | Bioinformatics, genomics, evolution, candida, infectious diseases | | |

A.2. Previous positions (research activity interruptions, see call)

| Period | Position/Institution/Country/Interruption cause |
|--------------|---|
| 2009-Present | Associate Professor, Universitat Pompeu Fabra, Spain |
| 2008-2019 | Junior Group Leader (CRG), Barcelona, Spain |
| 2005-2008 | Postdoctoral Researcher (CIPF), Valencia, Spain |
| 2001-2005 | Doctoral candidate (NCMLS), Nijmegen, The Netherlands |

A.3. Education

| PhD, Licensed, Graduate | University/Country | Year |
|--|---|------|
| Doctorate in Medical Sciences | Radboud University Nijmegen (The Netherlands) | 2005 |
| Certificate in Molecular Life Sciences | NCMLS – Radboud University Nijmegen (The Netherlands) | 2005 |
| Suficiencia Investigadora-programa de doctorado de Bioquímica y Biología Molecular | Universidad de Valencia, Spain | 1999 |

Part B. CV SUMMARY (max. 5000 characters, including spaces)

I have a degree in Biology and an advanced degree in Biochemistry and Molecular Biology from the University of Valencia, with special mention. In 2005 I obtained my PhD in the Medical Sciences from the Nijmegen University and the **best thesis of the year** (NCMLS award). I obtained an **EMBO Long-term fellowship** to move to the CIPF (Valencia), where I worked for three years. During that time I was awarded **Juan de La Cierva** and **FIS** grants. In September 2008 I was hired as a junior group leader at the CRG (Barcelona), where I led my group for 11 years. In 2013 I became an **ICREA Research Professor**. In April 2019 I moved my group with a Joint affiliation as a **Senior group leader** to the **Barcelona Supercomputing Centre (BSC)** and the **Institute for Research in Biomedicine (IRB)**. Since 2009 I am also **Associate Professor** at the UPF, where I teach

bioinformatics. I am recognized internationally by my peers as a lead expert in comparative genomics, bioinformatics, and molecular evolution. I have made relevant contributions in various fields, including the origin and evolution of eukaryotic organelles, evolutionary genomics of main eukaryotic lineages, including fungi, plants and animals, and the implementation of high-throughput evolutionary analyses to address the evolution of traits related to disease and pathogenesis. I have co-authored 13 book chapters, and over **350 peer-reviewed publications**, in journals such as *Science* (4), *Nature* (4), *Cell* (1), or *Nature Microbiology* (6), and in leading journals of our field. Overall my work has received over 50,600 citations, and an **h-index of 101**. In all co-authored articles I took a very active role, and in most of them I am first or senior author.

My group currently consists of 23 members; from PhD candidates to experienced post-docs, and is recognized with a **consolidated group of excellence label** by the Catalan research agency. Through continuous mentoring and support I help members of my group to follow on with their desired careers. All past members of the group have continued in research one way or another, seven of them are now principal investigators at centers in Spain, France, Denmark. and Greece. They obtained three ERC starting or consolidator grants, and five Ramón y Cajal grants. One past member is CSO of a start-up company, and six others work as researchers in industry. Other members are currently staff scientists in public research institutions or postdoctoral researchers, in Spain or elsewhere.

Throughout all periods, I have been able to secure funding for my group from highly competitive sources, including the European Programs, the Qatar foundation, the Moore foundation, the Association for International Cancer Research, and the Spanish Ministry of Science. I am often solicited as an expert to evaluate articles at recognized journals, and projects at international agencies, including the ERC. I have also served in several evaluation panels (ERC, FWO, EMBO), and in scientific advisory boards of prestigious institutions (France Genomic). I am chief section editor or associate editor at several journals (IUBMB-Life, FEMS Yeast, NAR Genomics and Bioinformatics). I have been invited to write book chapters, reviews and opinion articles in prestigious journals (i.e. *Nature Rev. Genetics*, *An Rev. Microb.*, etc), as well as to deliver plenary seminars in the most-recognized international conferences in my field. I have collaborated in several initiatives for the popular communication of science (articles in popular magazines, TV/radio interviews) and I have led a large “citizen science” project www.sacalalengua.org. I have been awarded the competitive and highly prestigious **ERC Starting and Consolidator Grants**, and the **ICREA Research Professorship**. I am **member of EMBO**, of the **American Academy of Microbiolog**, correspondent member of the Spanish Royal Academy of Pharmacy, and an elected ISCB fellow. Since 2017 I am the President of the Spanish Society for Evolutionary Biology. I have been awarded the **Margaret Dayhoff Mid-Career Award** by the international Society of Molecular Biology and Evolution (2017). I have been selected as a **highly cited researcher in 2025 and 2018** (clarivate analytics), and among the top-10 biomedical researchers in Spain (Stanford University ranking). I am the founder and Chief Scientific Advisor of a biotechnological spin-off - (www.microomics.com)- which currently employs 15 persons. I am scientific advisor of another spin-off (www.sbiomedic.com), which currently employs 19 persons and has developed a probiotic-based treatment that is now in clinical trials.

Part C. RELEVANT MERITS

C.1. Publications

- Nunez-Rodriguez JC, Schikora-Tamarit MÀ, Ksiezopolska E, **Gabaldón T** (CA 4/4). (2025) Simple large-scale quantitative phenotyping and antimicrobial susceptibility testing with Q-PHAST. *Nat Protoc.* Epub ahead of print (citations=0). <https://doi.org/10.1038/s41596-025-01179-z>
- Schikora-Tamarit MÀ, **Gabaldón T** (CA 2/2). (2024) Recent gene selection and drug resistance underscore clinical adaptation across *Candida* species. *Nat Microbiol.* 9(1):284-307 (citations=32). <https://doi.org/10.1038/s41564-023-01547-z>
- Carolus H, Sofras D et al (including **Gabaldón T** (16/17)). (2024) Collateral sensitivity counteracts the evolution of antifungal drug resistance in *Candida auris*.

- Del Olmo V, Mixão V, et al. **Gabaldón T.** (CA 9/9) (2023) Origin of fungal hybrids with pathogenic potential from warm seawater environments. *Nat Commun.* 30;14(1):6919 (citations=25). <https://doi.org/10.1038/s41467-023-42679-4>
- Carreté L, Ksiezopolska E, et al. **Gabaldón T.** (CA 10/10). (2022) Patterns of Genomic Variation in the Opportunistic Pathogen *Candida glabrata* Suggest the Existence of Mating and a Secondary Association with Humans. *Curr Biol.* 32(14):3219 (Citations=127). <https://doi.org/10.1101/105791>
- Hovhannisyan H, **Gabaldón T.** (CA 2/2). (2021) The long non-coding RNA landscape of *Candida* yeast pathogens. *Nat Commun.* 12(1):7317 (Citations=34). <https://doi.org/10.1038/s41467-021-27635-4>
- Pekmezovic M, Hovhannisyan H, et al. **Gabaldón T &**, Hube B. (CA 15/15) (2021) *Candida* pathogens induce protective mitochondria-associated type I interferon signaling and a damage-driven response in vaginal epithelial cells. *Nat Microbiol.* 6, 643–657 (Citations=89). <https://doi.org/10.1038/s41564-021-00875-2>

C.2. Congress

- 2025 – **Gabaldón T.** Opening talk at Congress of the Spanish Genetics Society. Cartagena (Spain)- Invited speaker
- 2024 – **Gabaldón T.** “Comparative Genomics of Fungi: Illuminating Mechanisms of Adaptation and Pathogenesis”, 12th International Mycological Congress (IMC12). Maastricht (The Netherlands)- Keynote speaker [International]
- 2023 – **Gabaldón T.** “Crossroads in drug resistance and host adaptation in *Candida* opportunistic pathogens”, ECFG Plenary Talk (Austria)- Invited speaker [International]
- 2022 – **Gabaldón T.** “Origin of new lineages by hybridization: genomes, species, and the taxonomic conundrum”, Symposium Rise of the Fungi (The Netherlands)- Invited speaker [International]
- 2022 – **Gabaldón T.** “From Genotype to Phenotype”, Company of Biologists Workshop (UK)- Invited speaker [International]
- 2021 – Mixão V, **Gabaldón T.** Microbial Society *Candida* and Candidiasis meeting (online)- selected oral presentation [International]

C.3. Research projects

202328-31 “Neoadjuvant-adjuvant immunotherapy and cancer vaccines to improve survival in hepatocellular carcinoma”

Fundación Científica de la AECC / 40,000 euros / Jul 2024- Jul 2025. Role: PI (IRB).

202328-31 “Blood pressure screening at the dentist: looking at nitrate-reducing bacteria as a link between periodontal disease and hypertension”

Fundació la Marató de TV3 / 125,000 euros / Jan 2024- Dec 2026. Role: PI (IRB).

PRYGN234923GABA “ Perfiles metagenómicos en tubos de test de inmunoquímica fecal para la identificación de factores y marcadores de diagnóstico temprano en cáncer colorrectal”

Fundación científica asociación española contra el cáncer (AECC) / 290,878 euros / Dec 2023- Feb 2027. Role: PI (IRB).

290045 "Disrupting drug resistance by exploiting collateral sensitivity to design novel"

Ministerio de Ciencia e Innovación / 213.651,00€ / Dec 2022 - Dec 2025

CI23-20260 "Microbial biomarker test for early diagnosis of colorectal cancer (MiCRC)"

CaixaImpuls Innovación. Fundación La Caixa / 150,000 EUR / Sept 2023 - Dec 2024 . Role: PI (IRB)

PID2021-126067NB-I00 "Origen, evolución y adaptación en patógenos del género *Cándida*: una aproximación genómica y transcriptómica" Ministerio de Ciencia Innovación (Plan estatal) / 393,250 EUR / Sept 2022 - Sept 2025. Role: PI (IRB)

2021 SGR 01551. "Comparative genomics" AGAUR / 60.000 EUR / Jan 2022 – Jun 2025. Role: PI (BSC)

AI-2021-034 "Microbiota Oral en Fibrosis Quística" – Fundación Española de Enfermedades Raras (FEDER) / 25,000 EUR – Oct 2021 – Oct 2023 Role: PI (IRB)

HR21-00737-AntiFun "Acquisition of fungal resistance in pathogenic *Candida* spp: evolutionary paths, fitness trade-offs, and interaction with the immune system"- Fundació La Caixa / 499,244 EUR / Dec 2021 – Dec 2024. Role: PI (IRB)

9742-LECA-TIME "Relative Timing and Modularity in The Path to the Last Eukaryotic Common Ancestor" Gordon and Betty Moore Foundation / \$379,125 / Sept 2020 – Sept 2024. Role: PI (BSC)

724173-RETVOLUTION. "Reticulate evolution: patterns and impacts of non-vertical inheritance in eukaryotic genomes" European Commission (H2020) ERC Consolidator Grant / 1.986.178 EUR / Jan 2018 – Sept 2024. Role: PI (Centre for Genomic Regulation)

C.4. Contracts, technological or transfer merits

- Most software produced by my group is open source and has been transferred to the public domain, and is publicly and freely available at: <https://github.com/Gabaldonlab>. **PI:** Toni Gabaldón. Collectively our tools have received over 10,000 citations and are broadly used. We consider this a technological and transfer merit.
- **Inventor** on PATENT: Toni Gabaldón (EP2217947) "Method for screening for colorectal cancer using fecal microbiome profiling" filed 17-June-2022.
- Contrato de colaboración tecnológica "Biodegradación de microplásticos" Repsol S.A / 49743 EUR/ Sept 2021 -Dec 2021. **PI:** Toni Gabaldón (Barcelona Supercomputing Centre).
- **Founder and chief scientific advisor** of the CRG-ICREA spin-off Microomics Systems S.L. (www.microomics.eu) incorporated in 2017. This company now employs 15 people.
- **Scientific advisor** for Sbiomedic (www.sbiomedic.com), which currently employs 19 persons and has developed a probiotic-based treatment that is now in clinical trials.
- Contrato de proyecto "Secuenciación del genoma del Olivo (*Olea europaea*)". Banco Santander / 130.698 EUR / Jan 2014 – Dec 2016. **PI:** Toni Gabaldón. (Centre for Genomic Regulation).