MINISTERIO DE CIENCIA, INNOVACIÓN Y UNIVERSIDADES

Cofinanciado por la Unión Europea

AGENCIA ESTATAL DE INVESTIGACIÓN

CURRICULUM VITAE (CVA)

Part A. PERSONAL INFORMATION

CV date	23/04/2025

First name	José Tomás		
Family name	Matus Picero		
Gender	Male	Birth date (dd/mm/yyyy)	21/12/1979
Social Security, Passport, ID number	DNI: 30313330C		
e-mail	tomas.matus@uv.es	URL Web	https://tomsbiolab.com/
Open Researcher and Contributor ID (ORCID) (*)		ResearcherID: G-3195-2016 ORCID: 0000-0002-9196-1813	

A.1. Current position

Position	Principal Investigator, Researcher Ramón y Cajal Program (second stage)		
Initial date	2019		
Institution	Institute for Integrative Systems Biology (I^2SysBio)		
Department/Center	Program for Systems Biology of Molecular Interactions & Regulation		
Country	Spain	Teleph. number	963 544 177
Key words	Genetics; omics technologies; viticulture; fruits; secondary metabolism		

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

Period	Position/Institution/Country/Interruption cause
2015-2019	Postdoctoral Researcher / Consorci CSIC-IRTA-UAB-UB Centre de Recerca En Agrigenomica (CRAG) / Cerdanyola del Valles, Spain
2014-2015	Scientific Consultant / Center for Research and Innovation (CII) Viña Concha y Toro S.A. / Chile
2009-2013	Postdoctoral Researcher (long-term EMBO fellow, 2010-2012) / Consorci CSIC-IRTA-UAB-UB Centre de Recerca En Agrigenomica (CRAG) / Cerdanyola del Valles, Spain

A.3. Education

PhD, Licensed, Graduate	University/Country	Year
PhD in Agricultural Sciences	Pontificia Universidad Católica de Chile Maximum Degree. PhD Equivalence by Universidad Autónoma de Barcelona (19/07/2016)	2008
Degree in Biological Sciences	Pontificia Universidad Católica de Chile Extraordinary undergraduate award for best thesis	2003

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

I am a plant biologist and PhD in Agricultural Sciences, with experience in the use of integrative omics approaches for understanding plant development and metabolism. After concluding my bachelor's degree and my PhD both at P. Universidad Católica de Chile, on 2009 I joined Dr. J.L. Riechmann's group at the Center for Research in Agricultural Genomics (CRAG) as a postdoctoral researcher until 2018 (long-term EMBO fellow, 2010-2012), where I performed genetic and genome-wide analyses of reproductive organ development by using high-throughput omic tools such as RNA-Seq, ChIP-Seq and proteomics. I was awarded a Ramon y Cajal contract (in the area of Agriculture) and joined the Institute of Integrative Systems Biology (I2SysBio) as a Principal Investigator (PI) in 2019. In the course of my scientific career, I have published 50 ISI-WoS-indexed research articles currently gathering an h-index of 25 (2,720 times being cited, ISI-WoS). Among the most relevant activities in my career I emphasize Project Coordination, R&D Dissemination, Activity Organization and Evaluation roles, being currently the Chair of the COST GRAPEDIA Initiative (https://grapedia.org) and the Coordinator of the Grape Gene Reference Catalogue Initiative (https://tinyurl.com/yxndnedj). I've had editor roles such as being Associate Editor in 'Frontiers in Plant Science' (Research Topic: Omics and systems approaches in grapevine fruit composition to understand responses to environmental factors and agronomical practices) and Editor in 'Biomolecules' Special Issue "Gene Regulatory Networks Controlling Secondary Metabolism in Plants". I have participated in different international scientific committees such as the INTEGRAPE COST Action, the 11th International Symposium on Grapevine Physiology and Biotechnology organized by ISHS and the XII International Grapevine Genetics and Breeding

Symposium. I have participated in several R&D project evaluation instances: (MINECO- Plan Nacional in 2021-2023, MINECO Juan de la Cierva in 2021, Fondazione Cassa di Risparmio di Cuneo programme (CRC)-Italy in 2018, and FONDECYT-Chile in 2017). I also highlight the following achievements and mention several thesis supervisions:

Awards/Appointments:

- R3-Established Researcher Certificate. Granted 20/12/23. Agencia Estatal de Investigación.
- 'Sexenios': 2 (awarded 01/01/23). Periods: 2004-2012; 2013-2020 (Panel CNEAI: CC 05).
- Ramon y Cajal contract (Program RyC-2017 Call; 2019-2024).
- Postdoc fellowships: Long-term Fellowship / Marie Curie/European Molecular Biology Organization- EMBO, awarded 2010-2012 (ALTF 406-2010).
- PhD fellowships: 4 during period of PhD in Agricultural Sciences. U. Católica de Chile (2004-2008): DIPUC-Congress, CONICYT AT-24060171, CONICYT-Congress and MECESUP.

PhD Thesis supervision:

1. **Chen Zhang:** Topology and evolution of gene regulatory networks controlling terpene synthesis in fleshy fruits. University of Valencia. (Funded: China Scholarship Council). **Defended 2023, Cum Laude**
2. **Raquel Alvarez** (co-supervision)**:** Proteome/peptidome and transcriptome interactions during the early flower developmental program in Arabidopsis thaliana. Autonomous University of Barcelona. (Funded: FPI contract). **Defended 2023, Cum Laude**
3. **Luis Orduña:** Genome-wide identification of the grape R2R3-MYB cistrome for discovering novel regulators of secondary metabolism in grape. University of Valencia. (Funding: FPI contract). **Defended 2024, Cum Laude**.
4. **Alvaro Vidal Valenzuela** (co-supervision)**:** Use of systems biology and New Breeding Technology (NBT) approaches to develop biotic and abiotic stress-resistant grapevine plants. University of Trento. (Funding: C3A Program from Fondazione Edmund Mach and Center for Agriculture, Food and Environment). **Defended 2025**
5. **Antonio Santiago Pajuelo:** Developing pipelines for improving genome assemblies and their annotations and generating omics data visualization tools for plant crops biotechnological purposes. Polytechnic University of Valencia. **Started 2022.**
6. **Jone Echeverría:** Use of cell suspension cultures to understand regulation of plant specialized metabolism in several plant species. University of Valencia. **Started 2023** (HFSP contract).

Master's Thesis supervision: last 10:

1. Iñigo de Martín Aguirre. **Master in Bioinformatics UOC**. Reensamblaje y anotación del megagenoma del pino chileno *Araucaria araucana*. Defended January 2025.
2. Julián García del Pozo. **Master in Molecular and Cellular Plant Biotechnology UPV**. Caracterización de receptores PYL involucrados en la ruta de señalización del Ácido Abscísico (ABA) en *Cannabis sativa* . Defended December 2024.
3. Vanessa Silvestre Duarte. **Master in Plant Biotechnology and Functional Biology UniPorto**. Understanding early and late ABA Responses in Grapevine and Characterizing the ABA-induced MYB30A Transcription Factor. Defended December 2024.
4. Chaimae Bakkali. **Master Universitario en Investigación y Desarollo en Biotecnología y Biomedicina UV**. Estudios de criopreservación y crecimiento de cultivos celulares vegetales para la producción biotecnológica de metabolitos de interés. Defended September 2024.
5. David Martín de los Reyes. **Master in Marine Biotechnology UCV**. Improvement in the specialised metabolism of *Chlorella vulgaris* via hormone treatments. Defended July 2024.
6. Paula Catalá Román. **Master in Bioinformatics UV**. Desarrollo de una plataforma web de análisis y visualización de datos ómicos para tomate (Solanum lycopersicum L.). Defended September 2023
7. Arnau Peris. **Master in Bioinformatics Uni Bologna**. Transcriptomic profiling to study the role of MYBA1 and MYB24 in the *Vitis vinifera* variegation. Defended 01/03/2022.
8. Jone Echeverría. **Máster Universitario En I+D En Biotecnología Y Biomedicina**. UV. Caracterización fisiológica de suspensiones celulares de Artemisia annua y estudios de elicitación hormonal para la producción de artemisinina. Defended September 2021
9. Alberto Pérez Tejeda. **Master in Bioinformatics UV.** Title. Defended month year.
10. Antonio Santiago. **Master in Bioinformatics UV in Bioinformatics**. *De Novo* Transcriptome Assembly Of Mulberry (*Morus Alba*) For The Identification Of Its Complete Stilbenoid Biosynthesis Pathway. Defended September 2021

Part C. RELEVANT MERITS *(sorted by typology)*

C.1. Publications/book chapters. 10 most relevant (*corresponding author, CA; 2023 JCR IF)

1. Álvarez-Urdiola R., Matus J.T,, González-Miguel V., Bernardo-Faura M., Riechmann J.L. (2025). Chronology of transcriptome and proteome expression during early Arabidopsis flower development, *Journal of Experimental Botany*, 2025;, eraf005.
2. Foresti, C., Orduña, L., **Matus, J.T.**, Vandelle, E., Danzi, D., Bellon, O., Tornielli, G.B., *Amato, A., Zenoni, S. (2024). NAC61 regulates late- and post-ripening osmotic, oxidative, and biotic stress responses in grapevine. *J Exp Bot.*, erad507. doi: 10.1093/jxb/erad507. IF: 6.9
3. Orduña, L., Santiago, A., Navarro-Payá, D., Zhang, C., *Wong, D.C.J., ***Matus, J.T.** (2023). Aggregated gene co-expression networks predict transcription factor regulatory landscapes in grapevine. *J Exp Bot.*, 74(21): 6522–6540. doi: 10.1093/jxb/erad344. IF: 6.9
4. Zhang, C., Dai, Z., Ferrier, T., …*Barrieu, F., ***Matus, J.T.** (2023). MYB24 orchestrates terpene and flavonol metabolism as light responses to anthocyanin depletion in variegated grape berries. *Plant Cell*, 35(12): 4238–4265. doi:10.1093/plcell/koad228. IF: 12.085
5. Shi, X., Cao, S., Wang, X., …, **Matus, J.T.**, …,*Rustenholz, C., *Cheng, Z., *Xiao, H., *Zhou, Y. (23/31) (2023). The complete reference genome for grapevine (*Vitis vinifera* L.) genetics and breeding. *Hortic. Res.*, 10(5): uhad061. doi: 10.1093/hr/uhad061. IF: 8.7
6. D'Incà, E., Foresti, C., Orduña, L., …, ***Matus, J.T.**, *Tornielli, G. B., *Zenoni, S. (13/15) (2023). The transcription factor VviNAC60 regulates senescence- and ripening-related processes in grapevine. *Plant Physiol.*, 192(3): 1928–1946. doi: 10.1093/plphys/kiad050. IF: 7.4
7. Savoi, S., Santiago, A., Orduña, L., ***Matus, J.T.** (2022). Transcriptomic and metabolomic integration as a resource in grapevine to study fruit metabolite quality traits. *Front. Plant Sci.* 13: 937927. doi: 10.3389/fpls.2022.937927. IF: 6.627
8. Orduña, L., Li, M., Navarro-Payá, D., …, ***Matus, J.T.** (2022). Direct regulation of shikimate, early phenylpropanoid and stilbenoid pathways by Subgroup 2 R2R3-MYBs in grapevine. *Plant J.* 110: 529–547. doi: 10.1111/tpj.15686. IF: 7.091
9. Navarro-Payá, Santiago, A., Orduña, L., …, ***Matus, J.T.** (2022). The grape gene reference catalogue as a standard resource for gene selection and genetic improvement. *Front. Plant Sci.* 12: 803977. doi: 10.3389/fpls.2021.803977. IF: 6.627
10. *Llorente, B., Torres-Montilla, S., Morelli, L., …, **Matus, J.T.**, …, *Rodríguez-Concepción, M. (5/13) (2020). Synthetic conversion of leaf chloroplasts into carotenoid-rich plastids reveals mechanistic basis of natural chromoplast development. *PNAS,* 117(35): 21796–21803. doi: 10.1073/pnas.2004405117. IF: 11.1

C.2. Conferences/Congresses (*corresponding author)

1. ***Matus, J.T.** Herramientas biotecnológicas para la biofortificación de alimentos y la producción via cultivos celulares de compuestos beneficiosos para la salud. *IV WORKSHOP de jóvenes investigadores en ciencias agronómicas.* Termas de Chillán, Chile. **Oral. 2023 (keynote speaker)**
2. ***Matus, J.T.** Integrating genetics, omics, and literature-based data for grapevine improvement: GRAPEDIA. *10th International Table Grape Symposium (ITGS).* Stellenbosch, South Africa. **Oral. 2023 (keynote speaker)**
3. ***Matus, J.T.** What can we learn from expression data to understand grape biology? Gene networks and visualization tools for exploring co-expression. *II International Congress on Grapevine and Wine Sciences (2ICGWS).* Logroño, Spain. **Oral. 2023 (keynote speaker)**
4. ***Matus, J.T.** Gene functional characterization assisted by genome-wide TF-binding site interrogation. *XIII International Symposium on Grapevine Breeding and Genetics.* Landau, Germany. **Oral. 2022**
5. Navarro-Payá, Orduña, Zhang, Santiago, Li, Huang, ***Matus, J.T.** Genome-wide exploration of transcription factor targets involved in grape specialized metabolism and visualization through DAPBrowse: a centralized genome-browser for DAP-seq data. *XI International Symposium on Grapevine Physiology and Biotechnology.* Stellenbosch, South Africa. **Oral. 2021.**

6. Pilati, Navarro-Payá, Malacarne, Tomé, Riscica, Cavecchia, **Matus, J.T.**, Moser, Blanzieri. Vitis OneGenE: a causality-based method for gene network analysis in grapevine. Characterization of the laccase and dirigent protein gene families. *XI International Symposium on Grapevine Physiology and Biotechnology.* Stellenbosch, South Africa. **Oral. 2021.**
7. Orduña, Zhang, Cantu, Huang, ***Matus, J.T.**: DAP-Seq used to unveil MYB cistrome landscapes specifically associated to the regulation of secondary metabolism in grape. *XV Meeting of Plant Molecular Biology.* Online. **Oral. 2020.**

C.3. Research projects with leading or co-leading roles

1. **Project.** Design of biofortified silk as a nutraceutical bioactive coating for seed and food protection (NutraSHIELD). Funding Agency: *Interreg NEXT MED*. (EU-funded program) Duration: 01/07/2025 - 31/06/2028. Total amount: **2,402,878.27€.** Role: **Coordinator** (LP).

2. **Project.** Genomic Insights into Three Locally Adapted Diatoms from the Albufera Coasta Lagoon. D'ajuts per a la Recerca en Biogenoma (Genoma de la Diversitat). Iniciativa catalana per a l'Earth Biogenome Project (CBP). Funding Agency: *Institut d'Estudis Catalans (IEC)*. Duration: 01/01/2025 - 31/12/2025. Total amount: **60,379€.** Role: **PI.**

3. **Project.** Development and implementation of standardised processes (pipelines) for genome assembly and annotation. D'ajuts per a la Recerca en Biogenoma (Genoma de la Diversitat). Iniciativa catalana per a l'Earth Biogenome Project (CBP). Funding Agency: *Institut d'Estudis Catalans (IEC)*. Duration: 01/09/2022 - 31/10/2024. Total amount: **12,460€.** Role: **PI.**

4. **Project.** The Grapevine Genomics Encyclopedia: an innovative portal to integrate knowledge, resources and services for the grape scientific community and industry (GRAPEDIA). COST Innovators Grant. Innovation and Applied Research. Funding Agency: *European Cooperation in Science and Technology Organization (COST)*. Duration: 01/11/2022 - 01/11/2023. Total amount: **125,000€.** Role: **Chair.**

5. **Project.** VALINET. Validation and visualization of gene regulatory networks of plant specialized metabolism using integrative omics methods. PID2021-128865NB-I00 *Ministerio de Ciencia e Innovación.* Funded Center: UV- I^{2}SysBio. Duration: 01/09/2022 - 01/09/2025. Total amount: **229,900€.** Role: **PI.**

6. **Project.** Good Vibes: how do plants recognise and respond to pollinator vibroacoustic signals? *Human Frontiers Science Program. Research (HFSP).* IPs: Barbero, Francesca; Matus, José Tomás, Oberst, Sebastian. Duration: 01/09/2022 - 01/09/2025. Total amount: **1,140,000 USD.** Role: **Co-PI.**

7. **Project.** NETFRUIT: Systems biology approaches to understand the role of MYB transcription factors in the regulatory networks of secondary metabolism. *Ministerio de Ciencia e Innovación.* Funded Center: UV-I^{2}SysBio. Duration: 01/01/2019- 31/12/2021. Total amount: **127.050€.** Role: **PI.**

C.4. Contracts, technological or transfer merits

1. **Technological Support Contract (CSIC-CIJA).** Conservation and maintenance of genetic lines of *Cannabis sativa*. CIJA PRESERVATION S.L. (contract with I^{2}SysBio through CSIC). Duration: 07/09/2021-07/09/2022. 33.600€. Role: PI.
2. **Technological Support Contract (CSIC-Cannaflos).** Part 2 of: Conservation and maintenance of genetic lines of *Cannabis sativa*. Cannaflos GmbH. (contract with I^{2}SysBio through CSIC). Duration: 14/11/2022-14/01/2024. 28.307€ + 40.614€ (Adendum). Role: PI.
3. **Technological Support Contract** (**CSIC-Cannaflos Genetics SL).** Conservation and maintenance of genetic lines of *Cannabis sativa*. (Contract with I^{2}SysBio through CSIC). Duration: 01/03/2024-01/03/2025. 86,143€**.** Role: PI.
4. **Patent.** Reference PT2022/0031. Método de obtención de estilbenos por cultivos celulares de una planta del género *Morus*. Inventors: ***Matus, J.T.**, *Bru R, Martínez MJ, Martínez A, Samper A, Montesinos J. Registered: 20th December 2022. State: rectified documents ('subsanación').