



Justin Joseph

Date of birth: 25/07/1990 | Nationality: Indian | Phone: (+39) 0498272816 (Work) | Email address: justinjoseph2579@gmail.com, justin.joseph@unipd.it | LinkedIn: [justinjoseph2507](#) | X [mizoutora](#) | Address: Agripolis, viale dell'Universita, 16, Legnaro, 35020, Legnaro, Italy (Work)

About me

Accomplished Postdoctoral Scientist in Plant Functional Genomics and Epigenetics with experience in *Vitis vinifera* and *Prunus persica*. Experienced in multi-omic data integration and R/Shiny application development. With multi-disciplinary background in molecular biology and microbiology from a bio-process perspective.

Work experience

Postdoctoral scientist | University of Padova | 01/01/2024 - Current | Padova, Italy

Led the molecular and morphological characterization of grapevine dioecy (male sterility), revealing critical deficiencies in pollen germinability and completing transcriptional analysis of the MYB108A gene.

Assisted in the development and empirical validation of Vine-SCROLL, a novel dCas9-mediated chromatin purification protocol for targeted functional genomics in *Vitis vinifera* using the MYB14/STS pathway.

Established a robust Multi-Omic Discovery Platform, integrating DAP-seq and RNA-seq data via a custom bioinformatics pipeline, resulting in the development of the PETAL (R/Shiny) application for high-confidence regulatory target identification and secured the Best Poster Award at the SIGA 68th Annual Congress for the TENDRIL platform which led to PETAL.

Designed and implemented a high-rigor functional validation pipeline, including the establishment of Droplet Digital PCR (ddPCR) for low-input quantification and the Dual-Luciferase Assay system in *N. benthamiana*.

PhD researcher | University of Padova | 20/12/2020 - 20/12/2023 | Padova, Italy

Led studies in peach (*Prunus persica*) transcriptomics and epigenetics, focusing on the role of environmental cues in vegetative bud dormancy and winter development.

Acquired and independently applied extensive bioinformatics expertise during the project, including end-to-end RNA-seq analysis and leveraging R programming for complex data handling, processing, and visualization.

Conducted comprehensive molecular analyses, including Gene localization and Protein-protein interaction studies, to elucidate regulatory networks governing fruit tree development.

Presented key findings at four major international and national conferences, receiving the Best Poster Prize at the 66th SIGA Annual Congress (2023).

Managed all aspects of sample preparation, including specialized tissue preservation and preparation for advanced cytology and fluorescence microscopy.

Education & Training

PhD in Crop Sciences | University of Padova | 20/12/2020 - 20/12/2023 | Legnaro, Italy

Field of study Plant Genetics | **Level in EQF** 8 | **Thesis:** Dormancy or Cold development? A comparative genetic study on peach vegetative buds | **Link:** <https://tesidottorato.depositolegale.it/handle/20.500.14242/104124>

Master of Research in Molecular Genetics | University of Glasgow | 12/09/2016 - 12/09/2017 | Glasgow, United Kingdom

Bachelor of Technology in Biotechnology Engineering | University of Calicut | 01/06/2008 - 01/06/2012 | Calicut, India

Advanced course in fluorescence microscopy | University of Padova | 10/03/2021 - 21/04/2021

Certification of Hands-on RNAseq data analysis training | Sequentia Biotech | 30/08/2021 - 03/09/2021

Certificate in Molecular biology and recombinant DNA technology | UniBioSys Research Labs | 01/10/2014 - 31/12/2014 | Kochi, India

VIRT2UE - Research integrity certification | The Embassy of Good Science | 01/04/2021 - 31/05/2021

Conferences & Seminars

Xth International Peach Symposium | 30/05/2022 - 03/06/2022 | Naoussa, Greece

Presented a poster titled "Nitrogen dynamics and bud dormancy: A transcriptomic study in peach"

SIGA 65th Annual congress "On Mendel's footsteps: From genes to fork" | 06/09/2022 - 09/09/2022 | Piacenza, Italy

Made an oral presentation summarizing the work done over the first two years on peach vegetative buds titled "A transcriptomic study on Peach floral and vegetative buds" during the session "Genetics and beyond: from Mendel to epigenomics"

CROPINNO workshop on "Introduction to (CROP) epigenetics" | 23/02/2023 - 24/02/2023 | Legnaro, Italy

Presented a talk during the workshop held at DAFNAE - UNIPD, on "Collecting plant material for Transcriptome studies"

SIGA 66th Annual congress "Climate-smart plants to feed the future" | 05/09/2023 - 08/09/2023 | Bari, Italy

Presented a poster on work done in the final year on peach vegetative buds titled "Stone fruit trees and the role of environmental cues during winter development: the peach perspective" during the session "Fruit and forest trees genomics, genetics and breeding" and received a prize for the best poster for the same.

XVII Edition of the Congress of the Italian Federation of Life Sciences (FISV) | 18/09/2024 - 20/09/2024 | Padova, Italy

Presented the preliminary results from my postdoctoral work with a poster titled "The genetics of dioecy in grapevine varieties"

Scientific workshop organized by AGRITECH Spoke 4 | 03/07/2025 - Current | Sesto Fiorentino, Italy

SIGA 68th Annual congress "Leveraging Genetic Innovation for Future-proofing Crops" | 09/09/2025 - Current | Viterbo, Italy

Presented a poster on the TENDRIL platform which received the best poster prize.

Publications

Beyond dormancy: organ-specific gene regulatory networks control winter development in peach buds.

Joseph, J., Perrella, G., Cigliano, R. A.,... Bonghi, C., Varotto, S. (2025). Joseph, J., Perrella, G., Cigliano, R. A., di Marsico, M., Canton, M., Carrera, E., Conti, L., Bonghi, C., Varotto, S. [doi: 10.1093/hr/uhaf310]. Horticulture Research

An efficient chromatin immunoprecipitation (ChIP) protocol for studying histone modifications in peach reproductive tissues

2022. Canton, M., Farinati, S., Forestan, C., Joseph, J., Bonghi, C., Varotto, S. Plant Methods 18, 43. .

<https://doi.org/10.1186/s13007-022-00876-0>

<https://rdcu.be/dtdJq>

Teaching Experience

PhD | 20/12/2020 - 20/12/2023

Mentored three (3) Master of Science (MSc) students throughout their thesis research, providing hands-on training and supervision in advanced molecular biology techniques (e.g., ChIP, qPCR) and data analysis relevant to plant genetics and transcriptomics.

Skills

Laboratory | microscopic techniques | Histology | molecular genetics | Molecular microbiology

Bioinformatics | Excellent command of R R Studio R Shiny | Bioinformatics tools & databases | NGS Transcriptomics | data visualization data wrangling | Microsoft Excel

Softskills | Good listener and communicator | Data Gathering, Data Processing, Data Visualization | Microsoft Office

Language Skills

Mother tongue(s): **Malayalam**

	Understanding		Speaking		Writing
	Listening	Reading	Spoken production	Spoken interaction	
English	C2	C2	C2	C2	C2
Hindi	C1	B2	B1	B1	B1
Italian	B2	B2	B1	B2	B1