Viviana June

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Summary

- Highly skilled bioinformatician and molecular biologist with ten years of experience in academic labs.
- Experienced data analyst, particularly with large datasets and bioinformatics tools for variant calling, gene expression analysis and protein expression analysis.
- Highly proficient in a variety wet-lab molecular biology techniques, including sample prep for next-generation sequencing and proteomics.

Education

University of Texas at Austin — Austin, TX
PhD in Cell and Molecular Biology, advised by Dr Z. Jeffrey Chen — Dec 2022
Dissertation title: "The roles of protein solubility, nonadditive protein expression and genetic imprinting in hybrid vigor"

University of Cambridge — Cambridge, UK
M. Sci with First Class Honors in Biochemistry — June 2015
B.A. with Upper Second Class Honors in Natural Sciences (Biochemistry) — June 2014

Research Experience

Graduate Research Assistant — Austin, TX
Institute of Cell and Molecular Biology at the University of Texas at Austin — Aug 2015-Dec 2022

- Identified SNPs from next-generation sequencing data to genotype Arabidopsis lines.
- Designed and performed experiments to investigate the role of protein solubility in heterosis using proteomic approaches.
- Characterized gene expression in the embryo and endosperm of Arabidopsis seeds using laser capture microdissection followed by mRNA sequencing and RT-PCR.
- Designed experiments to characterize the phenotype of several novel Arabidopsis mutants in collaboration with Dr. Edward Marcotte's lab, leading to a publication in Cell.
- Performed statistical analysis of datasets using R, Unix, and Python to identify genomic variants, differentially expressed genes and imprinted genes.

M. Sci Researcher — Cambridge, UK
University of Cambridge Department of Biochemistry — 2014 - 2015

- Analyzed the structure of xlyan in an Arabidopsis mutant using size exclusion chromatography and gel electrophoresis.
- Wrote dissertation based on these results and presented work to M. Sci class.

BBSRC Research Experience Placement — Harpenden UK
Rothamsted Research — Jul-Sept 2014

- Studied the phenotype of mutants in Arabidopsis using a LiCOR system to measure photosynthetic capacity.
- Performed biochemical analysis of chlorophyll and anthocyanin content of these mutants.

Undergraduate Researcher — Cambridge, UK
University of Cambridge Department of Biochemistry — Jan-Apr 2014

- Studied a cys-loop receptor in Varroa destructor by introducing mutations at key residues in the protein
- Expressed the mutated receptors in Xenopus laevis oocytes and studied their electrophysiology using two-electrode voltage clamp.

Genes and Development Summer Studentship — Cambridge, UK
Sainsbury Laboratory at the University of Cambridge — July-Sept 2013

- Conducted a genetic screen for mutants defective in the temperature sensing pathway in Arabidopsis and mapped mutations.
- Presented the results at a meeting for all students awarded a Genes and Development studentship.

Undergraduate Researcher — Cambridge, UK
University of Cambridge Department of Plant Sciences — July-Sept 2012

- Used fluorescence microscopy and flow cytometry to score fluorescent markers to determine recombination frequencies in different lines of *Arabidopsis*, leading to a publication in eLife.

Technical Skills

Programming	Languages: Python, Unix, R Packages: Pandas, Numpy, Scipy, Tidyverse, Bioconductor
Bioinformatics	Short read mapping (Bowtie, STAR), variant calling (samtools, freebayes, GATK), statistical analysis of differential gene and protein expression (cufflinks, HTSeq, edgeR, MSstats), data visualization with ggplot2, analysis of DNA and mRNA-seq data
Molecular biology	DNA/RNA extraction, PCR, RT-PCR, cloning, *Arabidopsis* transformation, bacterial transformation, yeast transformation, in vitro transcription, protein expression in *Xenopus* oocytes, two-electrode voltage clamp
Biochemistry	Protein extraction, western blots, protein preparation for mass spectrometry, polysaccharide extraction, size exclusion chromatography, polysaccharide analysis by carbohydrate gel electrophoresis
Microscopy	Light microscopy, fluorescence light microscopy, confocal microscopy, laser capture microdissection, preparation of paraffin embedded tissue

Leadership and Teamwork

Presenter with the Present Your PhD Project Austin,TX
University of Texas at Austin 2019-Dec 2022

- Presented my PhD research in middle school classrooms in Austin, TX.
- Participated in Youth Science Workshops where middle schoolers learnt about graduate student research and how to present science. Collected data on the student's experiences leading to a publication in PLoS Biology

Teaching Assistant Austin,TX
University of Texas at Austin Aug 2017-Dec 2022

- Teaching assistant for undergraduate genetics courses at UT Austin for five semesters.
- Planned discussion section activities for 80-100 students each semester where students were encouraged to apply lecture knowledge towards problem solving

Associate Consultant Austin,TX
Jon Brumley Texas Venture Labs at McCombs School of Business Aug-Dec 2020

- Performed market research for client to develop buyer personas.
- Provided UI/UX feedback to guide product development

Member of the Master Plant Science team Austin,TX
American Society of Plant Biology 2019-2021

- Managed teams of mentors that work with teams of high school students to conduct month-long experiments via the online science platform PlantingScience.

Publications

- **June V**, Xu D, Papoulas O, Boutz D, Marcotte EM, Chen ZJ (2023) Protein nonadditive expression and solubility in *Arabidopsis* hybrids and allotetraploids. bioRxiv (DOI: 10.1101/2023.03.01.530688)
- Kathare PK, Xin R, Ganesan AS, **June V**, Reddy ASN, Huq E (2022) SWAP1-SFPS-RRC1 splicing factor complex modulates pre-mRNA splicing to promote photomorphogenesis in *Arabidopsis.* PNAS (DOI: 10.1073/pnas.2214565119)
- McWhite CD, Papoulas O, Drew K, Cox RM, **June V**, Dong OX, Kwon T, Wan C, Salmi ML, Roux, SJ Jr., Browning KS, Chen ZJ, Ronald PC, Marcotte EM (2020) A pan-plant protein complex map reveals deep conservation and novel assemblies. Cell (DOI: 10.1016/j.cell.2020.02.049)
- Kompella P, Gracia B, LeBlanc L, Engelman S, Kulkarni C, Desai N, **June V**, March S, Pattengale S, Rodriguez-Rivera G, Ryu SW, Strohkendl I, Mandke P, Clark G (2020) Interactive Youth Science Workshops benefit student participants and graduate student mentors. PLoS Biol. (DOI: 10.1371/journal.pbio.3000668)
- Ziolkowski PA, Berchowitz LE, Lambing C, Yelina NE, Zhao X, Kelly KA, Choi K, Ziolkowska L, **June V**, Sanchez-Moran E, Franklin C, Copenhaver GP, Henderson IR (2015) Juxtaposition of heterozygous and homozygous regions causes reciprocal crossover remodelling via interference during Arabidopsis meiosis. eLife (DOI: 10.7554/eLife.03708)

Honors and awards

- Provost's Graduate Excellence Fellowship (University of Texas at Austin), 2015-2020
- Dorothy Moyle Needham Prize for Biochemistry (Gonville and Caius College at the University of Cambridge), 2014