

## Dr. JAYA R. SONEJI

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### 1. EDUCATIONAL QUALIFICATIONS

- **Doctor of Philosophy** in Botany (PhD) [1997-2002] Nuclear Agriculture & Biotechnology Division, Bhabha Atomic Research Centre (BARC, Place of work), University of Mumbai, Mumbai, India
- **Master of Science** (MSc.) [1994-1996]: Botany (Cytogenetics, Plant Breeding & Molecular Biology), University of Mumbai, Mumbai, India
- **Bachelor of Science** (BSc.) [1992-1994]: Botany (with subsidiary subjects: Chemistry, Zoology), University of Mumbai, Mumbai, India

### 2. PROFESSIONAL APPOINTMENTS

- **Post-Doctoral Research Associate** [2004-to present] University of Florida, CREC, USA
- **Research Associate** [2002-2004], Indian Institute of Horticultural Research (IIHR, [www.iihr.res.in](http://www.iihr.res.in)), Hessaraghatta, Bangalore, India
- **Lecturer** [1996-1997], Junior College, Ramnivas Ruia College ([www.ruiacollege.edu](http://www.ruiacollege.edu)), Matunga, Mumbai, India

### 3. RESEARCH PUBLICATIONS

#### Journal Papers:

1. **Jaya R Soneji**, PS Rao & M Mhatre. 2001. Enhanced regeneration of multiple shoots and plantlets in young cotyledons of neem, *Azadirachta indica* A. Juss. *Physiology & Molecular Biology of Plants*, 7(2):175-180.
2. **Jaya R Soneji**, PS Rao & M Mhatre. 2002. Somaclonal variation in micropropagated dormant axillary buds of pineapple (*Ananas comosus* L., Merr.). *Journal of Horticultural Science & Biotechnology*, Vol. 77(1):28-32.
3. **Jaya R Soneji**, PS Rao & M Mhatre. 2002. Germination from synthetic seeds of pineapple (*Ananas comosus* L., Merr.). *Plant Cell Reports*, 20: 891-894.
4. **Jaya R Soneji**, PS Rao & M Mhatre. 2002. Suitability of RAPD analysis of “spined” and “spineless” variant regenerants of pineapple (*Ananas comosus* L., Merr.). *Plant Molecular Biology Reporter*, 20(3):307a-307i.
5. **Jaya R Soneji**, PS Rao & M Mhatre. 2002. Plantlet regeneration from leaf ex-plant of pineapple (*Ananas comosus* L., Merr.). *Journal of Plant Biochemistry & Biotechnology*, 11(2):117-119.
6. L Sahijram, **Jaya R Soneji** & KT Bollamma. 2003. Analyzing somaclonal variation in micropropagated bananas (*Musa* spp.). *In Vitro Cellular & Developmental Biology – Plant*, 39(6): 551-556.

7. L Sahijram, KT Bollamma, A Naren, **Jaya R Soneji**, MR Dinesh & GK Halesh. 2005. *In vitro* hybrid embryo rescue in mango (*Mangifera indica* L.) breeding. *Indian Journal of Horticulture*, 62(3): 235-237.
8. **Jaya R Soneji**, C Chen, M Nageswara Rao, S Huang, YA Choi & FG Gmitter Jr. 2007. *Agrobacterium*-mediated Transformation of Citrus Using Two Binary Vectors. *Acta Horticulturae*, 738:261-264.
9. M Nageswara Rao, **Jaya R Soneji**, C Chen, S Huang & FG Gmitter Jr., 2007, Characterization of zygotic and nucellar seedlings from citrus rootstock candidates using RAPD and EST-SSR markers, *Tree Genetics and Genomes*, DOI 10.1007/s11295-007-0092-2.
10. C Chen, Q Zheng, X Xiang, **Jaya R Soneji**, S Huang, YA Choi, M Nageswara Rao & FG Gmitter Jr. 2007. Development of New GFP Binary Ti Vectors and Evaluation on Citrus *Agrobacterium*-mediated Transformation. *HortScience*, 42(1): 7-10.
11. C Chen, KD Bowman, YA Choi, PM Dang, M Nageswara Rao, S Huang, **Jaya R Soneji**, TG McCollum & FG Gmitter Jr., 2007. EST-SSR Genetic Maps for *Citrus sinensis* and *Poncirus trifoliata*. *Tree Genetics & Genomes*, DOI 10.1007/s11295-007-0083-3.
12. M Nageswara Rao, **Jaya R Soneji**, C Chen, YA Choi, S Huang & FG Gmitter Jr. 2007. Identification of Zygotic and Nucellar Seedlings from Citrus Rootstock Candidates using RAPD. *Acta Horticulturae*, 738:255-260.
13. C Chen, Q Zheng, **Jaya R Soneji**, S Huang, YA Choi, M Nageswara Rao & FG Gmitter Jr. 2007. Development of New GFP Vectors for Citrus *Agrobacterium*-mediated Transformation. *Acta Horticulturae*, 738:207-211.

#### Invited Book Chapters:

14. L Sahijram, **Jaya R Soneji** & KT Bollamma. 2003. Somaclonal Variation in Micropropagated Banana—An Analysis. In: *Comprehensive Micropropagation of Horticultural Crops*. R Chandra & M Mishra (eds.), International Book Distributing Co., Lucknow, India, pp. 221-236.
15. FG Gmitter Jr., C Chen, M Nageswara Rao & **Jaya R Soneji**. 2007. Chapter 14: Citrus fruits. In: *Genome Mapping & Molecular Breeding in plants, Vol. 4: Fruits & Nuts*, C Kole (ed.), Springer, Heidelberg, Berlin, New York, Tokyo pp. 265-279.
16. **Jaya R. Soneji** & M Nageswara Rao. 2007, Pineapple genetic improvement and biotechnology, pp xx, In: *Crop improvement and Biotechnology*, Anupama M and Thangadurai D (eds), Regency publications, India (In press).
17. FG Gmitter Jr., **Jaya R Soneji**, M Nageswara Rao & S Huang. 2007. Citrus. In: *The Encyclopedia of Fruits & Nuts*, J Janick (ed.), CAB International. (In press)
18. H P Singh, HKN Vasanthaiah, M Nageswara Rao, **Jaya R. Soneji**, Singh B & Lohithaswa, HC, 2007, Molecular Mapping and Quality Breeding, pp xx, In: *Principles & Practices of Plant Genomics, Volume 2. Molecular Breeding*, Kole C and Abbott, AG (eds), Science Publishers, Inc; Enfield, New Hampshire, Edenbridge Ltd, Channel Islands, British Isles (In press).
19. J Grosser, FG Gmitter Jr., V Orbovic, G Moore, J Graham, **Jaya R Soneji**, J Gonzales-Ramos, TE Mirkov & M Kayim. 2007. Genetic transformation of Grapefruit. In: *A Compendium of transgenic crops, Vol. 6: Tropical & subtropical fruits & nuts*, C Kole & TC Hall (eds.), Blackwell Publishing, Malden, MA (in press).
20. FG Gmitter Jr., **Jaya R Soneji** & M Nageswara Rao. 2007. Citrus Breeding, In: *Breeding Plantation Tree Crops*, Science Publishers, Enfield, New Hampshire, USA (Accepted).

#### Popular Articles:

21. L Sahijram, **Jaya R Soneji** & Y Sreevalli. 2005. Hybrid embryo rescue in seedless grape breeding – the technique & its usefulness. ‘*Drakshavatta*’ Souvenir, MRDSS, Pune, India.

22. **Jaya R Soneji** & M Nageswara Rao. 2007, Kindle the light of education in rural children. (Accepted; Samatva Newsletter)

#### Scientific Conference Presentations:

23. **Jaya R Soneji**, PS Rao & M Mhatre. 2001. Somaclonal variation in micropropagated dormant axillary buds of pineapple (*Ananas comosus* L., Merr.). In: *National Symposium on "Plant Biotechnology & Molecular Biology"*, 24<sup>th</sup> Annual Meeting of Plant Tissue Culture Association (India), Oct.12-14, New Delhi, India, pp.40.
24. **Jaya R Soneji**, PS Rao & M Mhatre. 2001. Germination from synthetic seeds of pineapple (*Ananas comosus* L., Merr.). In: *National Symposium on "Plant Biotechnology & Molecular Biology"*, 24<sup>th</sup> Annual Meeting of Plant Tissue Culture Association (India), Oct.12-14, New Delhi, India, pp.41.
25. **Jaya R Soneji**, PS Rao & M Mhatre. 2001. Analysis of 'spined' and 'spineless' variant regenerants of pineapple (*Ananas comosus* L., Merr.). In: *National Symposium on "Plant Biotechnology & Molecular Biology"*, 24<sup>th</sup> Annual Meeting of Plant Tissue Culture Association (India), Oct.12-14, New Delhi, India, pp.42.
26. L Sahijram, **Jaya R Soneji** & KT Bollamma. 2002. Addressing somaclonal variation in micropropagated banana. In: *Global Conference on Banana & Plantain*, Oct.28-31, Bangalore, India, pp.69.
27. **Jaya R Soneji**, C Chen, M Nageswara Rao, S Huang, YA Choi & FG Gmitter Jr. *Agrobacterium*-mediated transformation of citrus. 2005. In: *Posters & Pastries-A Research Symposium*, Sep.16, CREC, Lake Alfred, FL, USA. P4.
28. M Nageswara Rao, **Jaya R Soneji**, C Chen, YA Choi, S Huang & FG Gmitter Jr. 2005. Identification of zygotic and nucellar seedlings from citrus rootstock candidates using molecular markers. In: *Posters & Pastries- A Research Symposium*, Sep.16, CREC, Lake Alfred, FL, USA. P2.
29. **Jaya R Soneji**, C Chen, M Nageswara Rao, S Huang, YA Choi & FG Gmitter Jr. 2005. *Agrobacterium*-mediated Transformation of Citrus Using Two Binary Vectors. In: *ISHS International Symposium on Biotechnology of Temperate Fruit Crops & Tropical Species*, Oct.10-14, Hilton Daytona Beach, Daytona Beach, FL, USA. P91.
30. M Nageswara Rao, **Jaya R Soneji**, C Chen, YA Choi, S Huang & FG Gmitter Jr. 2005. Identification of Zygotic and Nucellar Seedlings from Citrus Rootstock Candidates using RAPD. In: *ISHS International Symposium on Biotechnology of Temperate Fruit Crops & Tropical Species*, Oct.10-14, Hilton Daytona Beach, Daytona Beach, FL, USA. P82
31. C Chen, Q Zheng, **Jaya R Soneji**, S Huang, YA Choi, M Nageswara Rao & FG Gmitter Jr. 2005. Development of New GFP Vectors for Citrus *Agrobacterium*-mediated Transformation. In: *ISHS International Symposium on Biotechnology of Temperate Fruit Crops & Tropical Species*, Oct.10-14, Hilton Daytona Beach, Daytona Beach, FL, USA. P14
32. YA Choi, C Chen, S Huang, M Nageswara Rao, **Jaya R Soneji** & FG Gmitter Jr. 2005. Identification of AFLP Markers Associated with Citrus Canker Resistance within Citrus. In: *ISHS International Symposium on Biotechnology of Temperate Fruit Crops & Tropical Species*, Oct.10-14, Hilton Daytona Beach, Daytona Beach, FL, USA. P16.
33. L Sahijram, N Sharma, Y Sreevalli & **Jaya R Soneji**. 2005. Using morphological marker to overcome ambiguity of graft-take in citrus shoot tip grafting (STG) *in vitro*. In: *International Symposium on Food Biotechnology*, Oct.14-15, Thrissur, Kerala, India.
34. KP Raghavendra, L Sahijram, KV Ravishankar, **Jaya R Soneji**, & Y Sreevalli 2006. Embryo rescue in development of seedless grape hybrids and molecular confirmation of hybrids using ISSR markers, In: *International Biotechnology approaches for malnutrition & human health*, Jan.9-11, Bangalore, Karnataka, India.
35. **Jaya R Soneji**, C Chen, M Nageswara Rao, S Huang, YA Choi, & FG Gmitter Jr. 2006. Introduction of two binary vectors in citrus via *Agrobacterium*-mediated transformation, In: *Plant & Animal Genomes XIV Conference*, Jan. 14-18, San Diego, California, USA.

36. M Nageswara Rao, **Jaya R Soneji**, C Chen, YA Choi, S Huang & FG Gmitter Jr. 2006. Comparison of RAPD and SSR markers to identify true nucellar seedlings in citrus. In: *Plant & Animal Genomes XIV Conference*, Jan.14-18, San Diego, California, USA.
37. C Chen, YA Choi, AD Burrage, **Jaya R Soneji**, M Nageswara Rao, S Huang & FG Gmitter Jr. 2006. Aligning Citrus UniGenes with *Arabidopsis* and Rice Chromosome Sequences, In: *Plant & Animal Genomes XIV Conference*, Jan.14-18, San Diego, California, USA.
38. YA Choi, C Chen, S Huang, M Nageswara Rao, **Jaya R Soneji** & FG Gmitter Jr. 2006. Identification of Quantitative trait linkage (QTL) for resistance Citrus Canker using AFLP / BSA markers. In: *Plant & Animal Genomes XIV Conference*, Jan.14-18, San Diego, California, USA.
39. L Sahijram, MR Dinesh, **Jaya R Soneji**, KT Bollamma, YTN Reddy, Y Sreevalli & A Naren. 2006. *Ex vitro* shoot-tip grafting for rescuing hybrid vitroplants of mango (*Mangifera indica* L.) developed through embryo culture. In: *8<sup>th</sup> International mango Symposium*, Feb. 5-10, Sun City, South Africa. Oral presentation.
40. **Jaya R Soneji**, M Nageswara Rao, C Chen & FG Gmitter Jr. 2007. Regeneration from transverse thin cell layers of mature stem segments of citrus. In: *Plant & Animal Genomes XV Conference*, Jan.13-17, San Diego, California, USA.
41. M Nageswara Rao, **Jaya R Soneji**, C Chen & FG Gmitter Jr. 2007. Comparative gene expression in sexual and apomictic ovaries of citrus. In: *Plant & Animal Genomes XV Conference*, Jan.13-17, San Diego, California, USA.
42. C Chen, YA Choi, **Jaya R Soneji**, S Huang, M Nageswara Rao, & FG Gmitter Jr. 2007. Optimization of multiplex PCR using microsatellite primers with a universal adaptor. In: *Plant & Animal Genomes XV Conference*, Jan.13-17, San Diego, California, USA.
43. **Jaya R. Soneji**, M Nageswara Rao, C Chen & FG Gmitter Jr. Jan 12-16, 2008, Rescue and development of immature citrus hybrid embryos derived from 2n x 4n crosses. In: *Plant and Animal Genomes XVI Conference*, San Diego, California, USA (submitted).
44. M Nageswara Rao, **Jaya R. Soneji**, Z Deng, JG Norcini & FG Gmitter Jr., Jan 12-16, 2008, Cross-species amplification of Asteraceae microsatellite markers in *Coreopsis*. In: *Plant and Animal Genomes XVI Conference*, San Diego, California, USA (submitted).

#### 4. RESEARCH INTERESTS

Plant genetic engineering; Plant cell, tissue & organ culture; Plant molecular biology; Plant breeding; Marker-assisted selection; Genomics

#### 5. SCHOLARSHIPS / FELLOWSHIPS / AWARDS / PROFESSIONAL RECOGNITIONS

1. Our work on citrus hybrid embryo rescue for developing seedless varieties was **broadcasted by FOX-news** as 'No More Seeds in Iced Tea' on 10/16/2007 ([http://www.myfoxtampabay.com/myfox/MyFox/pages/sidebar\\_video.jsp?contentId=4656037&version=1&locale=EN-US](http://www.myfoxtampabay.com/myfox/MyFox/pages/sidebar_video.jsp?contentId=4656037&version=1&locale=EN-US))
2. Selected as "**Bioclues young-scientist**" April 2007 (BIOCLUES: Clues for innovation).
3. My Post-Doctoral research work in the local news paper @ **TC Palm**, Florida, USA, Sunday, June 18 (2006) "*Genetics may hold key to defeating citrus plague*"
4. "*Young Scientist from Tumkur gets International acclaim*" **Indian Express**, National English daily news paper, India, August 4 2006.
5. Awarded the **Post-Doctoral Research Associate** fellowship (2004-to present), CREC, FL, USA
6. Awarded the **Research Associateship** (RA, 2002-2004) by the Department of Biotechnology (DBT).
7. Awarded the **Senior Research Fellowship** (SRF, 1999 -2002) by the Department of Atomic Energy (DAE).
8. Awarded the **Junior Research Fellowship** (JRF, 1997-1999) by DAE.
9. **2<sup>nd</sup>** Rank in college at the **M.Sc** examinations.

10. Awarded **Merit Scholarship** (1994-1996) by Mumbai University.
11. **2<sup>nd</sup>** rank in college at the **B.Sc** examinations.

## 6. MEMBERSHIPS

1. Horticultural Society of India: 2005-2006
2. International Society of Horticultural Sciences: 2006 to present
3. Genome India International: 2006 to present (In *Committee*, 2007-Present)
4. BIOCLUES: Clues for innovation: 2007 to present
5. Bioinformatics.org: 2007 to present
6. International Citrus Genome Consortium: 2007 to present

### Membership in professional Web Forums:

7. The Science Advisory Board: 2007 to present
8. BioTechniques® Molecular Biology Forums: a science-based bulletin board for techniques, tips, and questions concerning molecular biology, cell biology, microscopy, and bioinformatics: 2007 to present

### Community out-reach activity membership:

9. Samatva Trust: Promoting education in rural India (*Lifetime membership from 2007 onwards*).
10. Biodiversity Conservation and Research Trust: To protect and preserve biological ecosystems; 2007 to present.

## 7. INVITED RESEARCH ARTICLES REVIEWED FOR INTERNATIONAL SCIENTIFIC JOURNALS

1. Plant Cell Reports, USA.
2. Botanical Studies, China.
3. Scientific articles reviewed on request by authors for correspondence to: **Nature**, Weed Science, FSHS.

## 8. STUDENTS TRAINED / MENTORED

- Number of Summer Research Fellows trained in various tissue culture and molecular biology techniques: 5
- Number of Post-Graduate students mentored for successful completion of their research projects: 4

## 9. RESEARCH EXPERIENCE

- As a **Post-Doctoral Research Associate**, I am working on (a) Genetic engineering of Citrus for resistance to Citrus tristeza virus, (b) Controlled crossing & triploid hybrid embryo rescue to produce seedless citrus varieties, (c) Production of graft-union chimeras, (d) Regeneration from transverse thin cell layers of mature stem segments of citrus, & (e) Differential gene expression analysis of apomictic varieties in citrus.
- As a **Research Associate**, I worked on (a) *In vitro* strategies for the disease-free clonal propagation of Citrus (b) Biotechnological investigations for the propagation & improvement of mango, (c) *In ovulo* embryo culture in grape, (d) Transverse thin cell layer (t-TCL) culture in banana, & (e) Shoot tip culture for virus-free propagation of caladium.
- As a **Lecturer**, I taught Plant Physiology & Genetics.
- As a PhD candidate, I worked on (a) Tissue culture studies in pineapple & molecular characterization of its variants, (b) Transformation of pineapple, (c) Induction of multiple shoots in shoot tips & axillary buds; & regeneration from young cotyledons & rachis explants of neem, (d) Induction of mutations by exposing the seeds as well as etiolated

seedlings to gamma rays & somatic embryogenesis in seedling explants of eggplant (e) Induction of multiple shoots in axillary buds of grape cvs. & (f) Induction of multiple shoots using tuber axillary buds in potato cvs. followed by induction of microtubers in *in vitro* grown multiple shoots.