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POSTDOCTORAL RESEARCH ASSOCIATE

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Education:

Ph.D, Agriculture College, UAS, GKVK, Bangalore, India, 2005; Subject: Horticulture; Specialization: Molecular Biology; **Thesis Title**: "Molecular Assessment of Internal Breakdown in Mango (*Mangifera indica* L.) cv. Alphonso".

MCA, Indira Gandhi National Open University, New Delhi, India, 2003; Subject: Computer Science; **Project Title**: "Partition Manager".

CIC (Certificate in Computing), Indira Gandhi National Open University, New Delhi, India, 2001; **Subject**: Computer Science

MSc, Agriculture College, UAS, GKVK, Bangalore, India, 1999; Subject: Horticulture; **Thesis Title**: "Fingerprinting and Estimation of Genetic Diversity of Certain Commercial Mango (*Mangifera indica* L.) Varieties Using RAPD Markers".

BSc, Agriculture College, UAS, GKVK, Bangalore, India, 1996; Subject: Agriculture

Professional Experience:

2005- till date, **Postdoctoral Research Fellow** at Center for Viticulture and Small Fruit Research, Florida A&M University, Tallahassee, Florida. Working on Functional Grape Genomics related to Pierce's and Anthracnose disease tolerance (http://www.ngwi.org/index.php?page_id=224), transcriptional profiling of value-added compounds and ripening related genes of muscadine and Florida Hybrid Bunch Grapes.

2004, **Senior Research Fellow** at Department of Horticulture, University of Agricultural Sciences, GKVK, Bangalore, India on project "Estimation of genetic diversity in *Terminalia Chebula* RETZ. utilizing AFLP and Microsatellite", which is one of the important medicinal plant that is of great demand in pharmaceutical industries. Standardized the protocol for isolating DNA in *T. chebula* for AFLP analysis.

2000-2003, **Senior Research Fellow** at Department of Plant Physiology and Biochemistry, Indian Institute of Horticultural Research, Hessarghatta (IIHR), Bangalore, India in project "Biochemical and Molecular basis of internal breakdown in Alphonso Mango: A study on the roles of ethylene, calcium and oxidative stress". Standardized several protocols, techniques and isolated genes specific to spongy tissue.

2000, **Research Scientist** at Avestha Gengraine Technologies Pvt. Ltd., a plant Genome Biology Laboratory, Bangalore, India. Was involved in marker project, which aimed at identifying disease resistance markers in tomato lines. Successfully identified few markers and standardized protocols for AFLP analysis in tomato.

2000, **Research Fellow** at Division of Biotechnology, UAS, GKVK campus, Bangalore, India, Was involved in banana tissue culture, transformation in groundnut and tobacco, somatic embryogenesis and direct regeneration.

Training:

4. University compliance professional development training course: "Hazardous Waste Awareness and Laboratory Safety" at Florida A & M University, Tallahassee, Florida 32307, September 22, 2006.
3. Special Topics Short Course: Theory and Application of Molecular Tools in Microbial Ecology at Environmental Sciences Institute, Florida A & M University, Tallahassee, Florida 32307, May 10 – 19, 2006.
2. Radiation Safety Training, Florida A & M University, Tallahassee, Florida 32307, May 19, 2005.
1. Computer Science: Proficient in basic computer programming, MS-Office, C, C++, Unix, Java and Advance Java languages at NIIT, Bangalore, Karnataka, India, 2003-04.

Awards and Honors:

11. ASPB-MAC award featured in Local News paper – "Tallahassee Democrat" (http://www.tallahassee.com/apps/pbcs.dll/article?AID=2007708190322)
10. ASPB-MAC Recognition Travel Award, to attend American Society for Plant Biologists – "Plant Biology and Botany 2007" Joint Congress Conference, held at Chicago, IL, USA July 6-10, 2007
9. Invited to edit and contribute a chapter "Molecular Mapping and Breeding for Quality" in a book, Science Publishers, USA
8. GII Member Spotlight of the Month, January 2007 (http://genome-india-intl.org/spotpage.htm)
7. Invited to contribute a chapter in a book 'Bio-Techniques for Developing Nations" by Life Science Foundation of India
6. Member, Working Committee of Genome India International, since 2005 (http://genome-india-intl.org/committee.htm)
5. Gold medalist in Ph.D, 2005
4. Invited to contribute a chapter on "Genome Mapping and Molecular Breeding of Mango" in a book, Springer, Germany
3. Qualified, National Eligibility Test (NET) 2004, an all India examination conducted by Agricultural Scientific Research Board (ASRB) New Delhi, India.
2. Council of Scientific & Industrial Research (CSIR – SRF) Fellowship for Ph. D research work.
1. ISPMB Student Travel Grant, to attend Plant and Animal Genome Conference, held at San Diego, CA, USA January 10-14, 2004 (http://www.intl-pag.org/12/12-awardees.html)

Grants Received (as Co-PI):

3. Cloning and Characterization of Differentially Expressed Gene/s In Anthracnose-Tolerant Grape Genotype, 2007-08. Viticulture Advisory Council, Florida grape growers Association.
2. Identification of Differentially Expressed Gene/s in Anthracnose – Tolerant Grape Genotypes, 2006-07. Viticulture Advisory Council, Florida grape growers Association.
1. Identification of Differentially Expressed Gene/s in Anthracnose – Tolerant Grape Genotypes, 2005-06. Viticulture Advisory Council, Florida grape growers Association.

Professional Membership:

8. Bioclues - Organization for Computational Biologists
7. International Society for Molecular Plant-Microbe Interactions (IS-MPMI) (http://www.ismpminet.org/members/new_members.cfm)
6. American Society for Horticultural Sciences (ASHS)
5. American Society of Plant Biologist (ASPB) (http://www.aspb.org//newsletter/janfeb07/05newmbrs.cfm)
4. Southern Association of Agricultural Scientists (SAAS)
3. Southern Section – American Society of Plant Biologist (SS-ASPB)
2. Genome India International (GII), (India http://genome-india-intl.org/mds.htm)

1. Life Science Foundation of India (LSFI), India

Selected Publication:

(i) Invited Book Chapter:

Vasanthaiah, H.K.N. 2007. Molecular Mapping and Quality Breeding. In: Principles & Practices of Plant Genomics Volume 2. Molecular Breeding, Kole C & Abbott, AG (ed), Pub: Science Publishers, Inc; New Hampshire, USA: Plymouth, UK (*In Review*).

Vasanthaiah, H. K. N. 2007. Temperature and Spongy Tissue in Alphonso Mango. In: Bio-Techniques for Developing Nations, by Life Science Foundation of India (*In Review*).

Vasanthaiah, H. K. N. and Basha, S. M. 2007. Resveratrol a Versatile Natural Compound. In: Crop Improvement and Biotechnology, Thangadurai D, Tripathi L & Bennet A(ed), Pub: Bioscience publications, Puliyur, India (*In Press*).

Vasanthaiah, **H. K. N.,** Ravishankar, K. V. and Mukanda, G. K. 2007. Mango. In: Fruits and Nuts, Volume 4, Kole C (ed) Genome Mapping & Molecular Breeding in Plants. Springer –Verlag Berlin Heidelberg, pp 303-323. (http://www.springerlink.com/content/v088kj50468762g3/)

(ii) Journals:

Vasanthaiah, H. K. N. and Basha, S. M. 2007. Isolation of stilbene synthase gene from muscadine (*Vitis rotundifolia*) grape berry. Curr. Sci. *(In Review)*

Vasanthaiah, H. K. N., Katam, R. and Basha, S. M. 2007. Efficient Protocol for Isolation of Functional RNA from Different Grape Tissue Rich in Polyphenols and Polysaccharides for Gene Expression Studies. EJB *(In Review)*

Vasanthaiah, H. K. N., Katam, R. and Basha, S. M. 2007. Biochemical Approach to Identify Differentially Expressed Protein in Anthracnose infected Florida Hybrid Grapes. AJGWR (*In Review*).

Vasanthaiah, H. K. N., Basha, S. M. and Katam, R. 2007. Biochemical and Molecular Approaches to Identify Differentially Expressed Gene/s in Anthracnose-Tolerant Grape Genotype. SAAS. Bulletin 20 (*In Review*).

Katam, R., **Vasanthaiah, H. K. N.** and Basha, S. M. 2007. Water stress induced changes in Leaf protein expression of various peanut genotypes. Peanut *(In Review)*

Katam, R., **Vasanthaiah, H. K. N.** and Basha, S. M. 2007. Identification of Water stress induced proteins in Florida Hybrid Grape (*Manuscript in preparation*).

Katam, R., **Vasanthaiah, H. K. N.** and Basha, S. M. 2007. Proteomic Approach to Screen Peanut Genotypes with Enhanced Nutritional Qualities. *In:* Frontiers in the Convergence of Bioscience and Information Technologies 2007, Korea.

Vasanthaiah, H. K. N., Katam, R. and Basha, S. M. 2007. A New Stilbene Synthase gene from Muscadine (Vitis rotundifolia) Grape Berry. *In:* Frontiers in the Convergence of Bioscience and Information Technologies 2007, Korea.

Vasanthaiah, H. K. N., Ravishankar, K. V. Shivashankara, K. S. Anand, L. Narayanaswamy, P. Mukunda, G. K. and Prasad, T. G. 2006. Cloning and characterization of differentially expressed genes of internal breakdown in mango fruit (*Mangifera indica* L.) cv. Alphonso. Journal of Plant Physiology. 163(6):671-9. (www.sciencedirect.com)

Mukunda, G. K., Kumaraswamy, S. R. and **Kumar, N. V. H.** 2006. Effect of pruning on vegetative growth, flowering and fruiting in regular bearing varieties of mango. Scientific Horticulture, Vol 10, Singh, S. P (ed.), Pub: Scientific publishers, Jodhpur, India. (https://www.vedamsbooks.com/no48162.htm)

Kumar, N.V. H. Narayanaswamy, P. Prasad, D. T. Mukunda, G. K. and Sondur, S. N. 2001.

Estimation of genetic diversity of commercial mango (*Mangifera Indica* L.) cultivars using RAPD markers Journal of Horticultural Science & Biotechnology. 76 (5) 529 – 533.

Narayanaswamy, P. Gowda, A. P. M. and **Kumar, N.V. H.** 1999. Finger Printing in Plants. March of Karnataka pp 16-17.

(iii) Proceedings:

Vasanthaiah, H. K. N., Katam, R. and Basha, S. M. 2007. Water Stress Induced Differential Gene Expression in Peanut. 2006 Proceedings of The American Peanut Research and Education Society, Volume 38, Sholar JR (ed) p 79 (http://www.apres.okstate.edu/Vol%2038%20Proc.pdf).

Katam, R., **Vasanthaiah, H. K. N**. and Basha, S. M. 2007. Differences in Leaf Protein Expression Among Peanut Genotypes in Response to Water Stress. 2006 Proceeding of The American Peanut Research and Education Society, Volume 38, Sholar JR (ed) p 80.

Katam, R, Basha, S.M. and **Vasanthaiah, H. K. N**. 2006. Genetic Variation in Molecular and cellular expression of Peanut genotypes in response to water stress. 2005 Proceeding of The American Peanut Research and Education Society, Volume 37, Sholar JR (ed) p 86 (http://www.apres.okstate.edu/Vol%2037%20Proc.pdf).

(iv) Database Submission:

A) Genes deposited in NCBI Database:

Vasanthaiah, H. K. N. and Sheikh, M. B (2007). Differentially Expressed transcripts upon challenging with bacterium *Xylella fastiodiosa*, which causes Pierce's Disease in Grapes. NCBI GenBank_Accn yet to be assigned for 60 clones.

Vasanthaiah, H. K. N. and Sheikh, M. B (2007). Differentially Expressed transcripts upon challenging with fungus *Elsinoe ampelina*, which causes Anthracnose Disease in Florida Hybrid Bunch Grapes. NCBI GenBank_Accn yet to be assigned for 20 clones.

Vasanthaiah, H. K. N. and Sheikh, M. B (2006). Isolation and characterization of Stilbene synthase genes in Muscadine (*Vitis rotundifolia*) Grape. NCBI GenBank_Accn **EE297448** to **EE297453**. (http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=nucleotide&cmd=search&term=Stilbene%2C+vitis+rotundifolia)

Vasanthaiah, H. K. N., Ravishankar, K. V., Shivashankara, K. S., Anand, L., Narayanaswamy, P., Mukunda, G. and Prasad, T. G (2004). Cloning and characterization of differentially expressed genes of internal breakdown in mango fruit (*Mangifera indica*). GenBank Accn **CB933767** to **CB933776** and **CD001993** to **CD002009** (Spongy tissue), and **CB933777** to **CB933786** (Healthy tissue from spongy tissue affected fruit). (http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?db=nucleotide&cmd=search&term=vasanthaiah)

B) Proteins deposited in UniProtKB database:

Vasanthaiah, H. K. N., Katam, R. and Basha, S. M (2007). Biochemical Approach to Identify Differentially Expressed Protein in Anthracnose infected Florida Hybrid Grapes. UniProtKB Accn. No. **P85085** (Ribulose 1-5 bisphosphate carboxylase), **P85087** (Mitochondrial ATPase beta subunit) and **P85088** (Glutmine Synthetase).

Katam, R, **Vasanthaiah, H. K. N.,** Basha, S. M and McClung, S (2007). Water Stress induced Proteins in Florida Hybrid Bunch Grape cv. Suwannee. UniProtKB Accn. No. **P85111** (Ribulose bisphosphate carboxylase/oxygenase activase) and **P85112** (Phosphoribulokinase).

Katam, R, **Vasanthaiah, H. K. N.,** Basha, S. M and McClung, S (2006). Water Stress induced Proteins in Peanut. UniProtKB Accn. No. **P85086** (Ribulose 1-5 bisphosphate carbosylase in

leaf) and **Q647G9** (Conglutin precursor in seed) (http://ca.expasy.org/uniprot/Q9SQG5).

Professional Presentations:

(i) Oral Presentations:

8. Katam, R. **Vasanthaiah, H. K. N**. Basha, S. M. McClung, S, 2007. Water stress responsive differential expression of leaf polypeptides in **Peanut** 39th Annual Meeting of American Peanut Research and Education Society, held at Birmingham, Alabama, GA, July 11 -14

7. Basha, S. M. and **Vasanthaiah, H. K. N***, 2007. Review of Plant Biotechnology Research Progress. Center for Viticulture and Small Fruit Research – 'Field Day', Florida A & M University, Tallahassee, Florida, May 23.

6. Vasanthaiah, H. K. N*, Katam, R. and Basha, S. M, 2007. Molecular Analysis of Anthracnose in Florida Hybrid Grape. Southern Section – American Society of Plant Biologists (SS-ASPB) Meeting at Dauphin Island Sea Lab, University of South Alabama, Alabama, March 3-5 (http://www.ss-aspb.org/documents/2007MeetingProgram.pdf, http://www.ss-aspb.org/meetings07.html).

5. Katam, R, **Vasanthaiah, H. K. N**. and Basha, S. M, 2007. Identification of water deficit responsive polypeptides in Florida hybrid grapes. Southern Section – American Society of Plant Biologists (SS-ASPB) Meeting at Dauphin Island Sea Lab, University of South Alabama, Mobile, Alabama, March 3-5.

4. Vasanthaiah, H. K. N* and Basha S. M, 2007. Biochemical and Molecular Approach to Identify Differentially Expressed Genes in Anthracnose-Tolerant Grape Genotype. 104th Annual Meeting of The Southern Association of Agricultural Scientists (SAAS), Biochemistry and Biotechnology Division, Mobile, Alabama, Feb 3-6 (http://saasinc.org/Mobile2007/Assoc-Info/2007-Biochem.pdf).

3. Vasanthaiah, H. K. N* and Basha, S. M, 2007. Grape Biotechnology Program. Florida Grape Growers Association (FGGA) Annual meeting and Conference, Ocala, FL, Jan 18-19.

2. Vasanthaiah H. K. N*, Katam, R and Basha, S. M, 2006. Identification of Differentially Expressed Gene/s in Anthracnose-Tolerant Grape Genotype. 14th Biennial ARD Research Symposium, Atlanta, GA, April 1 -5.

1. Katam, R, **Vasanthaiah, H. K. N** and Basha, S. M, 2006. Water Stress Induced Compositional Changes in Peanut Leaf. 14th Biennial ARD Research Symposium, Atlanta, GA, April 1 -5.

(ii) Conference Abstracts:

14. Vasanthaiah, H. K. N*, Katam, R. and Basha, S. M, 2007. Application of Functional Genomics Approach to Analyze Pierce's Disease in Grapes. American Society of Plant Biologists annual meeting "Plant Biology and Botany 2007, Joint Congress", held at Chicago, IL, July 7-11.

13. Katam, R, **Vasantaiah, H. K. N**, Basha, S. M. and Matta, F, 2007. Proteomic and Transcript Analysis of Grapevien Responses to Water Stress. American Society of Plant Biologists annual meeting "Plant Biology and Botany 2007, Joint Congress", held at Chicago, IL, July 7-11.

12. Vasanthaiah H. K. N, Katam, R and Basha S. M, 2007. Functional Genomic Approach to Analyze Pierce's Disease in Grapes. Plant and Animal Genome conference, San Diego, CA, January 13 – 17 (http://www.intl-pag.org/15/abstracts/PAG15_P02b_51.html).

11. Katam, R, **Vasanthaiah, H. K. N**. and Basha, S. M, 2007. Identification Of cDNA Transcripts And Proteins Differentially Expressed In Response To Water Stress In Peanut. Plant and Animal Genome conference, San Diego, CA, January 13 – 17 (http://www.intl-pag.org/15/abstracts/PAG15_P02b_56.html)

10. Vasanthaiah, H. K. N*, Katam, R. and Basha, S. M, 2006. Water Stress Induced Differential Gene Expression In Peanut. 38th Annual Meeting of American Peanut research and Education

Society, Savannah, GA, July 11 -14 (http://168.29.148.65/scripts/pubs/PubDetail.CFM?Publication__ID=2392)

9. Katam, R, **Vasanthaiah, H. K. N.** and Basha, S. M, 2006. Differences in Leaf Protein Expression Among Peanut Genotypes in Response to Water Stress. 38th Annual Meeting of American Peanut research and Education Society, Savannah, GA, July 11 -14 (http://168.29.148.65/scripts/pubs/PubDetail.CFM?Publication__ID=2465).

8. Katam, R, **Vasanthaiah, H. K. N,** Basha, S. M. and Mahzar, H, 2006. Differential response of grape genotypes to water stress, 2006. 14th Biennial ARD Research Symposium, Atlanta, GA, April 1 -5.

7. Katam, R, **Vasanthaiah, H. K. N.** and Basha, S. M, 2006. Differential Expression of mRNA Transcripts and Protein in Leaf Tissue of Peanut Genotypes to Water Stress. Poster presented at Plant and Animal Genome conference, San Diego, CA, January 14 – 18 (http://www.intl-pag.org/14/abstracts/PAG14_P446.html).

6. Katam, R, Basha, S. M. and **Vasanthaiah, H. K. N,** 2005. Genetic Variation in Molecular and cellular expression of Peanut genotypes in response to water stress. 37th Annual Meeting of American Peanut research and Education Society, Portsmouth, Virginia, July 11-15, 2005.

5. Kumar, N. V. H*. Ravishankar, K. V. Shivashankara, K. S. Anand, L. Narayanaswamy, P. Prasad, T. G. and Mukunda, G. K. 2004. Cloning and characterization of differentially expressed genes of internal breakdown in mango (*Mangifera indica* L.) cv. Alphonso. Poster presented at Plant and Animal Genome conference, held at San Diego, CA, USA from January 10 – 14 (http://www.intl-pag.org/12/abstracts/P01_PAG12_36.html).

4. Kumar, N. V. H*. Mukunda, G. K. and Halesh, G. K, 2004. Molecular analysis of mango (*Mangifera indica* L.) hybrids with their parents. Plant and Animal Genome conference, held at San Diego, CA, USA from January 10 – 14.

3. Halesh, G. K. Prasad, T. G. Uday, K. M. Reddy, P. C. Devendra, R. Gowda, P. H. R. Narayanaswamy, P. and **Kumar, N. V. H,** 2004. Agrobacterium mediated gene transfer for basta herbicide resistance in tobacco. Plant and Animal Genome conference, held at San Diego, CA, USA from January 10 – 14.

2. Mukunda, G. K. Kumaraswamy, S. R. and **Kumar, N. V. H,** 2003. Effect of pruning on vegetative and reproductive growth in alternate bearing varieties of mango. National Seminar on Mango, challenges in management of production, postharvest, processing and marketing, held at College of Agriculture, Gujarat Agricultural University, Junagadh, India from June 14 – 15.

1. Kumar, N. V. H*. Narayanaswamy, P. Sondur, S. N. and Prasad, D. T, 2000. Paternity analysis of mango (*Mangifera indica* L.) hybrids through RAPD markers. Poster Presentation at National seminar on Hi-Tech Horticulture, held at Bangalore, Karnataka, India from June 26 -28.

<u>Others</u>:

3. Our work on anticancer activity of muscadine grape seeds - "Grape May Fight Cancer" was broadcasted by WCTV (http://www.wctv6.com/home/headlines/4234201.html) on Sept 26, 2006.

2. Cited in three references

1. Member (Grape Researcher) of International Grape Genomics Database (http://www.vitaceae.org)

<u>Extracurricular Activities</u>:

4. Accepted and exhibited stamp collection, titled "Struggle Against Malaria Continues" at 58th Annual American Topical Association "National Topical Stamp Show (NTSS07) – 2007", held at Irving, Texas from June 15-17, 2007. Secured **Certificate Award** (http://www.americantopicalassn.org/NTSS/ntss2007/NTSS2007_Awards.htm)

3. Invited and Exhibited philatelic materials on Malaria on behalf of Medical Subject Unit, ATA, at Washington 2006, World Philatelic Exhibition, held at Washington, DC from May 27 – June

3, 2006 (This Exhibition is held once in 10 years).

2. Member to several Philately and Numismatics societies around the world and have published few articles in some Indian and US Journals.

1. My Photos on Fall colors “Nature at its Best” was accepted and posted on “Deccan Herald” Newspaper website (http://www.deccanherald.com/deccanherald/dec42006/update.asp).

*** Presenter**