

## Curriculum-Vitae

### Dr. A. Chandra Sekhar

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### AREAS OF INTEREST

My areas of interest includes

- Molecular Markers and Mapping
- Rice Functional Genomics
- Millet Genomics
- Functional Genomics of Drought Tolerance and Root Development in cereals
- Molecular Stress Biology

To dissect drought tolerance in Rice and other Millets from the research experience earned from past and to contribute little to the vast area of cereal genomics for drought tolerance.

### EDUCATIONAL QUALIFICATIONS

**June, 2007 – present: Assistant Professor**, Department of Biotechnology, Yogi Vemana University, Kadapa.

**November 2006 – June, 2007: Research Associate** (University of Hyderabad, Kadapa)

**June 2006 – November 2006: Visiting Scientist** (with Prof. Roberto Tuberosa, Department of Scienze e Tecnologie Agroambientali, University of Bologna, Bologna, Italy)

**September 2005 – June 2006: Research Associate** (with Prof. Arjula R. Reddy, Department of Plant Sciences, School of Life Sciences, University of Hyderabad, Hyderabad. Worked in Generation Challenge Programme a collaboration project with ICRISAT, Hyderabad and ICGEB, New Delhi.)

## **Ph.D., Plant Sciences**

Supervisor: Prof. Arjula R. Reddy

Department of Plant Sciences, School of Life Sciences, University of Hyderabad, Hyderabad.

Topic: "**Molecular mapping using SSRs and EST-PCR based markers, and identification of quantitative trait loci (QTLs) for drought tolerance in a Doubled Haploid Line population of rice (*Oryza sativa* L.)**"

## **Master of Science (Plant Sciences)**

[1997-1999] Grade: First class. (66.5 %)

University of Hyderabad, Hyderabad, India.

## **Bachelor of Science (Botany Zoology and Chemistry)**

[1994-97] Grade: First Division (73.8%)

S.S.B.N Degree College, Sri Krishna Devaraya University, Anantapur.

## **RESEARCH EXPERIENCE**

- Worked as **visiting scientist** to the lab of Prof. Roberto Tuberosa, Biotechnology applied to Plant Breeding, Department of Agro environmental Sciences and Technology, University of Bologna, Bologna, Italy as visiting scientist under **Institute of Advanced Study (IAS) - Senior Visiting Fellowship (Early Stage Research Fellowship)** at the Institute of Advanced Studies of the University of Bologna). Mainly worked on two topics, (1) to analyse the genetic variability for plasticity of root architecture present in rice in response to ABA and (2) to identify candidate genes at QTL regions for roots in rice and to deploy EcoTILLING to investigate haplotype variation of different rice accessions at such candidate genes.
- Worked as a **Post doctoral research fellow (Research Associate)** with Prof. Arjula R. Reddy in a International collaboration project with ICRISAT and ICGEB under Generation Challenge Program (GCP) in Pearl millet EST generation project entitled "Stress response enriched ESTs for targeted species" (April, 2005 – June, 2006). My work involved in - "**total RNA isolation from terminal drought stressed (Leaf and Panicle) pearl millet, differential cDNA libraries construction, generation of ESTs from differential cDNA libraries, sequencing of clones etc.**, and their use for identification and development of candidate gene based SSRs, EST-PCR markers and SNP markers linked to QTL(s) for drought tolerance, facilitating marker-assisted selection for drought tolerance in pearl millet." Succeeded in generation of about 1200 ESTs from pearl millet differential cDNA libraries, out of which 243 ESTs has been submitted in the GenBank.
- Ph.D., Degree "**Molecular mapping using SSRs and EST-PCR based markers, and identification of quantitative trait loci (QTLs) for drought tolerance in a Doubled Haploid Line population of rice (*Oryza sativa* L.)**" under the guidance of Prof. Arjula R.

Reddy, Plant Molecular Biology and Molecular Genetics Laboratory, Department of Plant Sciences, University of Hyderabad, Hyderabad. During my doctoral research, I have mainly involved in map saturation of a DHL mapping population with SSRs and EST-PCR markers and QTL identification for drought tolerance (morphological, phenological and yield traits under field drought stress) in rice, conversion of ESTs in to PCR-based markers and studied their use in diversity analysis and molecular mapping of rice.

- Attended workshop “**Plant Gene Expression**” at International Centre for Genetic Engineering and Biotechnology, New Delhi, India from Nov 19<sup>th</sup> – Dec 2<sup>nd</sup>, 2001. Undergone training in differential cDNA libraries construction and screening.
- One month training "**Molecular mapping of Wheat quality related QTLs**" under guidance of Dr. P. K Ranjekar and Dr. Vidya S. Gupta, Plant Molecular Biology Laboratory, National Chemical Laboratory, Pune from July 17<sup>th</sup> - August 18<sup>th</sup>, 2000.
- Two months project "**Screening Heat Tolerant Varieties in Ground nut**" in ICRISAT, under guidance of Dr. R.C. Nageshwara Rao, Senior Scientist, GREP, ICRISAT, Patancheru, Hyderabad, India from May 7<sup>th</sup> - July 7<sup>th</sup>, 1998.

### **ADMINISTRATIVE POSITIONS**

- I am very proud to say that I have worked as Founder Head, Department of Biotechnology, Yogi Vemana University and Establish a full pledge Department from noting to fairly well equipped with all required Instrumentation, Glassware and Chemicals for conducting all sort of experiments (Letter from the Registrar dated 23<sup>rd</sup> October, 2007)
- MEMBER, Board of Studies as subject expert for PG Biotechnology in SSBN National College (autonomous), Anantapur
- COORDINATOR, Department of Biotechnology, November, 2011 to August, 2014

### **PUBLICATIONS including Bulk GenBank Submissions**

(under communication / preparation / published)

1. **Chandra Sekhar A.**, Arjula R. Reddy., Maria. C. Sanguineti., Silvio Salvi and Roberto Tuberosa, “Genetic variability analysis of rice lines for plasticity of root architecture present in response to ABA” (under preparation)
2. **Chandra Sekhar, A.**, V. B. Reddy and Arjula R. Reddy.,*et.al.*, “Development of EST-PCR markers, and diversity analysis using SSRs and EST-PCR markers across rice lines” (under preparation)
3. **Chandra Sekhar A.**, N. P. Saxena., H. E., Shashidhar and Arjula R. Reddy. “Map saturation of a doubled haploid rice (*Oryza sativa* L.) population and identification of QTLs for morphological, phenological and yield related traits under field drought stress condition” (under preparation)

4. Banavath, J. N., Konduru, S., Pandit, V., Guduru, K. K., Ramesh, P., Podha S., Sekhar, A. C., and Puli, C. O. R.. (2014). Genotypic Differences in Some Physiological and Biochemical Parameters Symptomatic for Nickel (Ni) Induced Stress in Groundnut (*Arachis hypogaea L.*). 224-234. **Print ISSN:** 0973-8916 ; **Online ISSN:** 2230-7303
5. Konduru, S., Puli, C. O. R., Banavath, J. N., Pandit, V., Guduru, K. K and Sekhar, A. C. (2014). An improved and optimized method of high quality RNA isolation from recalcitrant plant. International Journal of Pharma and Bio Sciences 5 (3): B 658 – 665. (ISSN 0975-6299)
6. Reddi, K. V.N. R., Rajesh, S. S., Narendra, K., Jangala, S., Reddy, P. C. O., Satya, A. K., Sivaramana, T., and **Sekhar, A. C.** (2014). In vitro anti-venom potential of various *Jatropha* extracts on neutralizing cytotoxic effect induced by phospholipase A2 of crude venom from Indian cobra (*Naja naja*). Bangladesh J Pharmacol 9: 22-28 ISSN: 1991-007X (Print); 1991-0088 (Online)
7. Setti, A., Sankati, H. S., Devi, T. A., **Sekhar, A. C**, Rao, J. V, and Pawar, S. C (2013). Structural Insights into the Extra Cellular Segment of Integrin 5 and Molecular interaction studies. Journal of Receptors and Signal Transduction 33(5):319-324. ISSN: 1079-9893 (print), 1532-4281 (electronic)
8. Velpula, K. K., Rehman, A. A., Chigurupati, S., Sanam, R., Inampudi, K. K., and **Akila, C. S (2012)**. Computational Analysis of Human and Mouse CREB3L4 Protein. Bioinformatics 8(12): 574-577. (ISSN: 0973-8894)
9. Submitted 245 pearl millet ESTs from terminal drought stressed pearl millet differential cDNA libraries to GenBank from EB410835-EB411151 in NCBI dbest database. Hash,C.T., Reddy Lachagari,V.B., Markandeya,G., Reddy,S.P., Rizwi ,S.M.H., Jayashree,B., **Sekhar, A. C.**, Prasad,L.S., Reddy,M.K. and Reddy,A.R (2006). Identification of differentially expressed genes in pearl millet (*Pennisetum glaucum*) under drought stress. [www.ncbi.nlm.nih.gov/dbest](http://www.ncbi.nlm.nih.gov/dbest).
10. Submitted 3087 rice ESTs from drought stressed indica variety to GenBank from CB964418 to CB967504 in NCBI dbest database. Markandeya, G., Ravindra Babu, P., Venkat Reddy, B., Nagabhushana, I., **Chandra Sekhar, A.**, Bennetzen, J. L., Ramakrishna, W. and Reddy, A. R. (2003). ESTs from a normalized cDNA library of drought stressed rice seedlings (*Oryza sativa L.cv Nagina 22*). [www.ncbi.nlm.nih.gov/dbest](http://www.ncbi.nlm.nih.gov/dbest).
11. Submitted one full-length rice cDNA of CRT/DRE-binding protein gene to GenBank accession no. AY502052. Ravindra Babu, P., Markandeya, G., **Chandra Sekhar, A.** and Reddy, A. R. (2003). Isolation and characterization of a CRT/DRE-binding protein gene. [www.ncbi.nlm.nih.gov](http://www.ncbi.nlm.nih.gov).
12. Submitted 1151 rice ESTs from drought stressed indica variety to GenBank from BU672765 to BU673915 in NCBI dbest database. Reddy, A. R., Markandeya, G., Ramakrishna, W., Nagabhushana, I., Ravindra Babu, P., Madana Mohan Reddy, A., **Chandra Sekhar, A.** and Bennetzen, J. L. (2002). Novel EST enrichment with normalized cDNA libraries from drought stressed rice (*Oryza sativa L.cv Nagina 22*) [www.ncbi.nlm.nih.gov/dbest](http://www.ncbi.nlm.nih.gov/dbest).
13. Submitted one full-length rice cDNA of DRE-binding protein 1B gene to GenBank accession no. AY166833. Ravindra Babu, P., Markandeya, G., Ramakrishna, W., Nagabhushana, I., **Chandra Sekhar, A.**, Madana Mohan Reddy, A., Bennetzen, J. L. and

- Reddy, A. R. (2002). Isolation and characterization of mRNA of a DRE-binding protein 1B (DREB 1B) of indica rice. [www.ncbi.nlm.nih.gov](http://www.ncbi.nlm.nih.gov).
14. Submitted 1577 rice ESTs from drought stressed indica variety to GenBank from BI305180 to BI306756 in NCBI dbest database. Reddy, A. R., Ramakrishna, W., **Chandra Sekhar, A.**, Nagabhushan, I., Ravindrababu, P. and Bennetzen, J. L. (2001). Novel EST enrichment with normalized cDNA libraries from drought stressed rice (*Oryza sativa* L.cv Nagina 22) [www.ncbi.nlm.nih.gov/dbest](http://www.ncbi.nlm.nih.gov/dbest).
  15. Arjula R. Reddy., W. Ramakrishna., **A. Chandra Sekhar**, Nagabhushan Ithal., P. Ravindra Babu., M. F. Bonaldo., M.B. Soares., and Jeffrey L. Bennetzen (2002). Novel genes are enriched in normalized cDNA libraries from drought-stressed seedlings of rice (*Oryza sativa* L.subsp. indica cv. Nagina 22). *Genome* 45: 204-211.
  16. P. Ravindra Babu, **A. Chandra Sekhar**, Nagabhushan. Ithal, G. Markandeya and Reddy. A. R. (2002). Annotation and BAC/PAC localization of norredundant ESTs from drought-stressed seedlings of an indica rice. *Journal of Genetics* 81: 25-44. (ISSN: 0022-1333(printversion) ISSN: 0973-7731(electronic version)
  17. H.S. Talwar, **A. Chandra Sekhar** and R.C. Nageswara Rao., (2002). Genotypic variability in membrane thermostability in groundnut. *Indian J. Plant Physiol.*, 7(2): 97-102. (ISSN No. 0019-5502 )

### **BOOK CHAPTERS**

1. Banavath. J. N., Pandit, V., Konduru, S., Guduru, K. K., Podha, S., **Sekhar, A. C.**, and Reddy, P. C. O (2014). Genetic Engineering of Groundnut (*Arachis hypogaea* L.) for Abiotic Stress Tolerance: Challenges and Prospects. (Book Chapter Submitted; Abstract submitted to Springer Publications)
2. Sravani Konduru, S., Puli, PCOR., Akila, C. S., Pandit, V., Guduru, K. K., Banavath, J. N (2014). Remediation of Uranium Contaminated Soils: Conventional and Emerging Technologies. Pullaiah. T. (Ed.), Biotechnological Approaches for Sustainable Development (2014) P. P- 211-251. Regency Publications, New Delhi
3. **Sekhar. A. C.**, Reddy, P. C. O., Krishnaveni, T., Ramesh, P. and Reddi. K. V. N. R. (2014). Molecular Markers: An Array of Technological Advancements and Their Applications in Crop Improvement. Pullaiah. T. (Ed.), Biotechnological Approaches for Sustainable Development (2014) P. P- 21-54. Regency Publications, New Delhi
4. Thiruveedhi, K., Puli, C. O. R., **Akila, C. S.**, Thammineni, C., Konduru, S., Banavath, J. N., and Pandit, V., (2013). "Real-time PCR: A reliable method for gene expression studies in plants". T. Pullaiah (Ed.), Abiotic Stress and Biotechnology (2013) P. P. 235 – 283. Regency Publications, New Delhi (ISBN: 978-81-89233)
5. Puli, C. O. R., Konduru, S., Banavath, J. N., Pandit, V., Thiruveedhi, K., and **Akila, C. S.**, (2013). "Subtractive Hybridization: A Powerful Method to isolate differentially Expressed Genes". T. Pullaiah (Ed.), Abiotic Stress and Biotechnology (2013). P. P.285 – 309. Regency Publications, New Delhi (ISBN: 978-81-89233)

## **FULL LENGTH CONFERENCE PROCEEDINGS**

1. Reddy, C. V. C. M., Reddy, P. V. R. M., Sekhar, A. C., and Reddy, M. V. S (2014). Comparison of Chlorophyll content, leaf relative water content and mineral elements in foxtail millet (*Setaria italica* L. Breaux) under drought stress. Full Length Conference Proceedings, Edited by Dr. S. P. Singh. National Conference on “Emerging Problems and Recent Advances in Applied Sciences: Basic to Molecular Approaches” organized by Society for Scientific Development in Agriculture and Technology, Meerut, UP in Ch. Charan Singh University, Meerut-250 004 (U.P., INDIA) Pages 68-71.
2. Reddy, M. V. S., Reddy, C. V. C. M., Reddy, P. V. R. M., Sekhar, A. C., and Padmalatha, Y (2014). Improvement of Drought Tolerance in Crop Plants. Full Length Conference Proceedings, Edited by Dr. S. P. Singh. National Conference on “Emerging Problems and Recent Advances in Applied Sciences: Basic to Molecular Approaches” organized by Society for Scientific Development in Agriculture and Technology, Meerut, UP in Ch. Charan Singh University, Meerut-250 004 (U.P., INDIA) Pages 95-98.

## **POSTERS PRESENTED**

1. Sekhar, A.C., Palakurthi Ramesh, K. V. N. Rathnakar Reddi, P. Chandra Obul Reddy, V. B. Reddy Lachagari, Gurulakshmi Kola, P. Vara Kumar, B. Jayanna Naik, C. V. C. M. Reddy and Arjula R. Reddy (2015). NGS Assisted Genome Wide Discovery of Polymorphisms Among Landraces of Foxtail Millet (*Setaria italica*.L.) Plant, Animal Genome Conference XXIII, San Diego, CA, USA
2. Ramesh P., Ratnakar Reddi K. V. N., Brahmaiah M., Reddy, CKM., Krishnaveni T., Reddy, P. C. O and **Sekhar A. C.** (2013). In Search of Novel Alleles for Abiotic Stress Tolerance in *Setaria italica* L. : Molecular Genetic, Physiological and Biochemical Characterization. International Conference on Biotechnology in Human Welfare, 7th-9th February, 2013, Kakatiya University, Warangal.
3. **Chandra Sekhar**, T. Krishnaveni, P. Chandra Obul Reddy, K. Sravani, K. Amrutha Varshini, M. Lakshmi Devi, M. Vasundhara, K. Veera Chandraiah, B. Venkataramana, C. Kiran Kumar Reddy (2009). Genetic Variability of Stress Responsive Enzyme(s) Activity in *Setaria italica* L. Exposed to Various Abiotic Stress. International Seminar on Plant Biotechnology and Genomics -2009, 6-7<sup>th</sup> February, 2009 in Yogi Vemana University, Kadapa.
4. **Chandra Sekhar. A**, V.B. Reddy Lachagari, Arjula R. Reddy (2004). **Allelic variation at coding and non coding regions of selected candidate genes for drought tolerance in rice cultivars**, 9th National Rice Biotechnology Network meeting, April 15-17, 2004 NASC, New Delhi.
5. P. Ravindra Babu, W. Ramakrishna, G. Markandeya, **A. Chandra Sekhar**, N. Ithal, J.L. Bennetzen, and A. R. Reddy (2002). Putative functions, BAC clone identification, and expression analysis of ESTs generated from cDNA libraries of drought-stressed seedlings of indica rice (*Oryza sativa* L.). International rice congress, September 16-20, 2004, Beijing, China.

6. A. R. Reddy, W. Ramakrishna, **A. Chandra Sekhar**, Nagabushana Ithal, P. Ravindra Babu and Jeffrey :. Bennetzen (2001). A functional genomic approach to improve drought tolerance in rice: EST analysis using normalized cDNA libraries. Plant and Animal Genome IX. January 13-17, 2004, San Diego, USA.

## **ABSTRACTS**

1. Palakurthi Ramesh, K. V. N. Rathnakar Reddi, P. Vara Kumar, CVCM Reddy, P. Chandra Obul Reddy, and A. Chandra Sekhar (2014). Molecular Genetic and Biochemical Characterization of Land Races of Foxtail Millet (*Setaria italica* L.) Collected from Rayalaseema Region. Presented in a two day National Seminar on “Plant Biotechnology for a Better Future” 27-28 June, 2014. Organized by Govt. College (UG & PG), Anantapur, A. P., India.
2. Konduru, S., Puli, C. O. R., Akila, C. S., Pandit, V., Guduru, K. K., and Banavath, J. N. (2014). Isolation and characterization of Endophytic Bacteria from Uranium Tolerant Plant Species. Presented in a two day National Seminar on “Plant Biotechnology for a Better Future” 27-28 June, 2014. Organized by Govt. College (UG & PG), Anantapur, A. P., India.
3. K. V. N. Rathnakar Reddi, Palakurthi Ramesh, Meesala Bramhaiah, L. Sivaram Prasad, P. Chandra Obul reddy, A. Krishnasatya, and A. Chandra Sekhar (2014). Genotypic and Phenotypic Characterization of diverse lines *Jatropha curcas* L. using RAPD and ISSR Markers Naional Conference on ”Recent Trends in Biotechnology-2014” during 25<sup>th</sup> – 26<sup>th</sup> February, 2014 Yogi Vemana University, Kadapa
4. Sravani Konduru, Chandra Obul Reddy Puli, Chandra Sekhar Akila, Varakumar Pandit Krishnakumar Guduru, and Jayanna Naik Banavath (2014). Remediation of Uranium Contaminated Soils: Conventional and Emerging Technologies. Naional Conference on ”Recent Trends in Biotechnology-2014” during 25<sup>th</sup> – 26<sup>th</sup> February, 2014 Yogi Vemana University, Kadapa
5. Jayanna Naik B, Sravani K, Vara Kumar P, Krishna Kumar G, Chandra Sekhar A and Chandra Obul Reddy P (2014). Stress Inducible Expression of *Arabidopsis Homeodomain Glabrous11* in Transgenic Groundnut (*Arachis hypogaea* L.) Confers Drought, Saline and Heavy Metal Tolerance by Increasing Superoxide Scavenging Naional Conference on “YVU Plant Biology-2014” during 25<sup>th</sup> – 25<sup>th</sup> February, 2014 Yogi Vemana University, Kadapa
6. Vara Kumar P, Sravani K, Jayanna Naik B, Krishna Kumar G, Kiran Kumar Reddy. C, Manohar Reddy B4, Chandra Sekhar A, Chandra Obul Reddy P (2014). Differential Antioxidative Responses in Groundnut Genotypes Bear No Relationship to Their Superior Yield Under Drought Stress Naional Conference on “YVU Plant Biology-2014” during 25<sup>th</sup> – 25<sup>th</sup> February, 2014 Yogi Vemana University, Kadapa
7. Palakurthi Ramesh, K. V. N. Rathnakar Reddi, P. Vara Kumar, CVCM Reddy, P. Chandra Obul reddy, and A. Chandra Sekhar (2014). Genetic and Phenological studies in Landraces of Foxtail Millet (*Setaria italica* L.) for Biomass and Yield Attributing Traits.

- Naional Conference on “YVU Plant Biology-2014” during 25<sup>th</sup> – 25<sup>th</sup> February, 2014 Yogi Vemana University, Kadapa
8. Chandra Sekhar, A., P. Chandra Obul Reddy and Arjula R. Reddy (2014). *Insilco* Based Candidate Gene Hunt at Root QTL's Regions of Rice (*Oryza sativa* L.) for enhanced drought tolerance: A Functional Genomics Approach. Naional Conference on "Recent Trends in Biotechnology and Bioinformatics" during 12<sup>th</sup> – 13<sup>th</sup> February, 2014 Yogi Vemana University, Kadapa
  9. Jayanna Naik, B., Sravani, K., Vara Kumar, P., Krishna Kumar, G., Chandra Sekhar, A., and Chandra Obul Reddy, P (2014). Development of transgenic groundnut (*Arachis hypogaea* L.) for drought tolerance. Naional Conference on "Recent Trends in Biotechnology and Bioinformatics" during 12<sup>th</sup> – 13<sup>th</sup> February, 2014 Yogi Vemana University, Kadapa
  10. Reddi, K. V. N. R., Ramesh, P., Prasad, L. S., Reddy, CVCM., Chandra Obul Reddy, PCO., Krishnasatya A., and Sekhar, A. C. (2014). Genotypic and Phenotypic Characterization of Diverse Lines of *Jatropha curcas* L. Across World using RAPD and ISSR Markers. “International Conference on Biodiversity, Bioresources and Biotechnology” during 30<sup>th</sup> to 31<sup>st</sup> January, 2014 organized by
  11. Reddy C.V.C.M., Muniratnam P., Reddy P.V.R.M., Madhusudhan P., Sarma A.S.R., Sekhar A. C., and Padmalatha Y. (2013). GGE biplot analysis to evaluate genotype, environment and their interactions in foxtail millet multi-location data. National Seminar on ‘Recent Advances of Varietal Improvement in Small Millets’ on 12<sup>th</sup> September 2013. as part of Madurai Symposium, a biennial event of DHAN Foundation, at Madurai, Tamil Nadu.
  12. Ramesh P., Ratnakar Reddi K. V. N., Brahmaiah M., Reddy, CKM., Krishnaveni T., Reddy, P. C. O and Sekhar A. C. (2013). In Search of Novel Alleles for Abiotic Stress Tolerance in *Setaria italica* L. : Molecular Genetic, Physiological and Biochemical Characterization. International Conference on Biotechnology in Human Welfare, 7th-9th February, 2013, Kakatiya University, Warangal.
  13. Reddi K. V. N.R., Reddy, L. V. B., T. Krishnaveni T., P. Chandra Obul Reddy P. C. O and Sekhar A. C (2013). In Search of Novel Alleles for TSV Resistance in Sunflower: A Molecular Marker Approach. International Conference on Biotechnology in Human Welfare, 7th-9th February, 2013, Kakatiya University, Warangal
  14. Jayanna Naik B, Varakumar P, Sravani K, Krishna Kumar G, Chakradhar T, Chandra Sekhar A, Chandra Obul Reddy P. Development of groundnut (*Arachis hypogaea* L.) transgenic plants for enhanced drought tolerance. International Conference on Biotechnology in Human Welfare, 7th-9th February, 2013, Kakatiya University, Warangal.
  15. Varakumar P, Sravani K, Jayanna Naik B, Krishna Kumar G, Kiran Kumar Reddy C, Chandrasekhar A, Chandra Obul Reddy P. Screening of groundnut (*Arachis hypogaea* L.) genotypes for terminal drought tolerance. International Conference on Biotechnology in Human Welfare, 7th-9th February, 2013, Kakatiya University, Warangal.
  16. Jayanna Naik B, Varakumar P, Sravani K, Krishna Kumar G, Krishnaveni T, Chakradhar T, Sudhakar P, Chandra Sekhar A, Chandra Obul Reddy P. Ectopic



- overexpression of *AtHDG11* in groundnut resulted in enhanced tolerance to drought. AP Science Congress, Nov 14-16, 2012, Acharya Nagarjuna University, Guntur.
17. Varakumar P, Sravani K, Jayanna Naik B, Krishna Kumar G, Kiran Kumar Reddy C, Chandra Sekhar A, Chandra Obul Reddy P. Genotypic differences in some physiological and biochemical parameters symptomatic for drought tolerance in groundnut (*Arachis hypogaea* L.). VI International Conference on Legume Genetics and Genomics, 2-7 October, 2012 ICRISAT, Hyderabad.
  18. Sravani.K, Venkatakrishna Reddy.P, Jayanna Naik, Varakumar.P, Chandra Sekhar. A and Chandra Obul Reddy.P. Molecular cloning and characterization of the genes associated with uranium accumulation from natural hyper accumulator plant species. World Conference on Biotechnology, 4<sup>th</sup>-6<sup>th</sup> May, 2012, Hyderabad.
  19. K.Sravani, P.V.Krishna Reddy, B.Jayanna Naik, P.Varakumar, T.Krishnaveni, A.Chandra Sekhar and P.Chandra Obul Reddy. Phytoremediation of Uranium: A Biotechnological Approach. National Conference on Emerging Trends in Advanced Biology (ETAB), on 25th and 26th March, 2011, Adi Kavi Nannaya University, Rajamandri.
  20. P. V. Krishna Reddy, K. Sravani, B. Jayanna Naik, S. Radhika, P. Vara Kumar, T.Krishnaveni, A.Chandra Sekhar and P. Chandra Obul Reddy. Development of sunflower (*Helianthus annuus* L.) transgenics carrying HD-START and DREB1F transcription factors for improved abiotic stress tolerance. National Seminar on Trends in Plant Sciences, on 25th and 26th March, 2011 at Sri Krishnadevaraya University, Anantapur.
  21. K. V. N. Ratnakar Reddi<sup>1</sup>, K. Amrutha Varshini<sup>1</sup>, M. Lakshmi Devi<sup>1</sup>, M. Vasundhara<sup>1</sup>, K. Veera Chandraiah<sup>1</sup>, B. Venkataramana<sup>1</sup>, C. Kiran Kumar Reddy<sup>3</sup>, T. Krishnaveni<sup>1</sup>, P. Chandra Obul Reddy<sup>2</sup> and **A. Chandra Sekhar<sup>1\*</sup>** (2011). “**Land Races as an Alternative Source for Superior Alleles in *Setaria italica* L. for Abiotic Stress tolerance: A Functional Genomics Approach**” National Seminar on Trends in Plant Sciences- 2011, 25<sup>th</sup> – 26<sup>th</sup> March, 2011 in Sri KrishnaDevaraya University, Anantapur.
  22. **Chandra Sekhar**, T. Krishnaveni, P. Chandra Obul Reddy, K. Sravani, K. Amrutha Varshini, M. Lakshmi Devi, M. Vasundhara, K. Veera Chandraiah, B. Venkataramana, C. Kiran Kumar Reddy (2009). Genetic Variability of Stress Responsive Enzyme(s) Activity in *Setaria italica* L. Exposed to Various Abiotic Stress. International Seminar on Plant Biotechnology and Genomics -2009, 6-7<sup>th</sup> February, 2009 in Yogi Vemana University, Kadapa.
  23. **A. Chandra Sekhar**, L.V.B. Reddy and Arjula R. Reddy (2009). Functional Genomics of Rice: Sequence Variation in Coding and Non-coding Regions of Elite Cultivars and Molecular Mapping in a Doubled Haploid Population. International Seminar on Plant Biotechnology and Genomics -2009, 6-7<sup>th</sup> February, 2009 in Yogi Vemana University, Kadapa.
  24. Lekkala S. Prasad., **A. Chandra Sekhar**., N. Seetharama., and Arjula R. Reddy (2009). ESTs as Functional Markers for Drought Tolerance across Cereals: A step Towards Functional Marker Development. International Seminar on Plant Biotechnology and Genomics -2009, 6-7<sup>th</sup> February, 2009 in Yogi Vemana University, Kadapa..
  25. Arjula.R.Reddy, **A. Chandra Sekhar**, P.R.Babu, G.Markandeya, Sivarama Prasad, L.Vijaya Bhasker Reddy, N.Seetharama, N.P.Saxena, A.Madana Mohan Reddy, Kiran

kumar, N.Ithal, B.Chandra Shekhar, **Development of functional markers for drought tolerance in rice: Identification and validation of candidate genes and SNPs**, Resilient Crops for Water Limited Environments Workshop, May 24- 28, 2004, Mexico, (CYMMYT).

26. Arjula.R.Reddy, **A. Chandra Sekhar**, P.R.Babu, G.Markandeya, Sivarama Prasad, L.Vijaya Bhasker Reddy, N.Seetharama, N.P.Saxena, A.Madana Mohan Reddy, Kiran kumar, N.Ithal, B.Chandra Shekhar. , **Functional genomics of drought stress response in rice :Identification of candidate genes and SNPs.**, 9<sup>th</sup> National Rice Biotechnology Network Meeting, April 15-17,2004 NASC, New Delhi.
27. **A. Chandra Sekhar**, L.Vijaya Bhasker Reddy, Arjula R.Reddy, **Genetic diversity in selective coding and non-coding regions in elite rice cultivars**, 9<sup>th</sup> National Rice Biotechnology Network Meeting. April 15-17, 2004, NASC, New Delhi.
28. Arjula R. Reddy, N.Ithal, P. R. Babu, G. Markandeya, **A. Chandra Sekhar**, Sivarama Prasad, N.Seetharama, N.P. Saxena, Venkat Reddy, A.M.M.Reddy, Kiran Kumar , Vijaya Bhasker Reddy, and B. Chandra Shekhar. **Functional genomics of drought stress response in rice: gene discovery, marker development and mapping, and SNP identification at candidate gene loci.** Third workshop on drought tolerance in rice, National Network Program, 22<sup>nd</sup> – 25<sup>th</sup>, July 2003.

### **JOURNAL EDITORIAL BOARD MEMBER(s)**

1) Editorial Board Member for the Austin Journal of Biotechnology and Bioengineering  
<http://austinpublishinggroup.com/biotechnology-bioengineering/editorialboard.php>

### **TEACHING / TEACHING / GUIDING / ORGANISING EXPERIENCE**

- Guiding two numbers of Ph.D., Students for their Doctorate in the advanced fields of Plant Molecular Genetics and Functional Genomics
- Involved in teaching of M. Sc., Biotechnology, in Yogi Vemana University, Kadapa in Genetics, Molecular Biology, Genetic Engineering and Functional Genomics.
- Also teaching of Laboratory practicals for M. Sc., Plant Sciences students in Molecular Genetics, Molecular Biology, Tissue Culture and Plant Biotechnology at University of Hyderabad, Hyderabad.

### **SYMPOSIA ATTENDED**

1. National Seminar “Plant Biotechnology for a Better Future” 27<sup>th</sup> to 28<sup>th</sup> June, 2014 a two day UGC sponsored Seminar organized by Dept. of Botany, Govt. Degree College, Anantapur.
2. International Conference on Biodiversity, Bioresources and Biotechnology” 30<sup>th</sup> -31<sup>st</sup> January, 2014 organized by Association for the Advancement of Biodiversity Science, in Mysore
3. International Conference on “Biotechnology in Human Welfare” during 7<sup>th</sup> February – 9<sup>th</sup> February, 2013 in Kakatiya University, Warangal – 506009.
4. VI International Conference on Legume Genetics and Genomics (VI ICLGG)” from 2<sup>nd</sup> to 7<sup>th</sup> October, 2012 organized by ICRISAT

5. National Conference on “**Recent Trend in “Omics”** during 21<sup>st</sup> to 22<sup>nd</sup> March, 2012 in Yogi Vemana University, Kadapa, Andhra Pradesh.
6. International Conference “World Congress on Biotechnology-2012” during 4<sup>th</sup> – 6<sup>th</sup> May, 2012 organized by Bright International Conferences and Events in Leonia International Centre for Exhibitions and Conventions, Hyderabad, India
7. National Seminar on Trends in Plant Sciences- 2011, 25<sup>th</sup> – 26<sup>th</sup>, 2011 in Sri Krishna Devaraya University, Anantapur.
8. International Seminar on Plant Biotechnology and Genomics -2009, 6-7<sup>th</sup> February, 2009 in Yogi Vemana University, Kadapa.
9. National Seminar on “Challenges in Life Sciences in Recent Era” 29<sup>th</sup> February, 2008 organized by Life Sciences Sri Sai Baba National Degree College, Anantapur.
10. International Seminar on Medicinal
11. 9<sup>th</sup> National Rice Biotechnology Network Meeting, April 15-17, 2004 NASC, New Delhi.
12. Third workshop on drought tolerance in rice, National Network Program, 22<sup>nd</sup> – 25<sup>th</sup>, July 2003, GKVK Campus, University of Agricultural Sciences, Bangalore.
13. Participated Practical course “Plant Gene Expression” conducted by ICGEB, 19<sup>th</sup> Nov – 02<sup>nd</sup> Dec, 2001.
14. Seminar on Biological Control and Plant Growth Promoting Rhizobacteria (PGPR) for Sustainable Agriculture, April 3-4, 2000, Department of Plant Sciences, University of Hyderabad, Hyderabad.
15. Attended International Symposium, Life Science in Next Millennium, Dec 11-14, 1999, University of Hyderabad (ICRISAT), Hyderabad.
16. Attended National Symposium on Plant Physiology and Bio-chemistry - Jan 28-31, held at University of Hyderabad in 1998

### **SYMPOSIA ORGANIZED (as one of active member / main organizer)**

#### **International Seminars**

1. International Seminar on Plant Biotechnology and Genomics -2009, 6-7<sup>th</sup> February, 2009 in Yogi Vemana University, Kadapa jointly organized by Department of Biotechnology, Biochemistry, Botany and Microbiology (one of the active members)

#### **National Seminars / Workshops**

1. **Recent Trends in Biotechnology – 2015** conducted by Department of Biotechnology, Yogi Vemana University, 12<sup>th</sup> March, 2015 (**Convener**)
2. **Recent Trends in Biotechnology – 2014** conducted by Department of Biotechnology, Yogi Vemana University, 25<sup>th</sup> – 26<sup>th</sup> February, 2014 (**Organizing Secretary**)
3. **Recent Trends in “Omics”** conducted jointly by Department of Biotechnology, Department of Genetics & Genomics and Department of Biotechnology & Bioinformatics held at Yogi Vemana University **21<sup>st</sup> - 22<sup>nd</sup> March 2012**, Kadapa, Andhra Pradesh. (one of the **active members and Treasurer**)
4. Onsite workshop on “**Advances in Computational Genomics**” in collaboration with UGC-Networking Resource Centre in Biological Sciences, Madurai Kamaraj University,

Madurai during 13<sup>th</sup> – 20<sup>th</sup> February, 2012 along with Department of Botany, Yogi Vemana University (**LOCAL ORGANIZER**)

5. One day public debate on “**Pros and Cons of Biotechnology**” jointly organized by Department of Biotechnology and Department of Botany, Yogi Vemana University, on 31<sup>st</sup> January, 2011 (one of the Organizing Secretaries)

## **INVITED LECTURE IN SEMINARS / COLLEGES**

- 1) Invited speaker in “Recent Trends in Biotechnology and Bioinformatics” sponsored by UGC, organized by Department of Biotechnology and Bioinformatics, Yogi Vemana University, 12<sup>th</sup> – 13<sup>th</sup> February, 2014.
- 2) Invited speaker in "Second Refresher Course on Biotechnology", sponsored by Agri Biotech Foundation, Hyderabad and presented on "Application of Molecular Markers for Crop Improvement" on 16-05-2012.
- 3) Presented data in National Seminar on Trends in Plant Sciences- 2011, 25<sup>th</sup> – 26<sup>th</sup>, 2011 in Sri KrishnaDevaraya University, Anantapur. “**Land Races as an Alternative Source for Superior Alleles in *Setaria italica* L. for Abiotic Stress tolerance: A Functional Genomics Approach**” K. V. N. Ratnakar Reddi<sup>1</sup>, K. Amrutha Varshini<sup>1</sup>, M. Lakshmi Devi<sup>1</sup>, M. Vasundhara<sup>1</sup>, K. Veera Chandraiah<sup>1</sup>, B. Venkataramana<sup>1</sup>, C. Kiran Kumar Reddy<sup>3</sup>, T. Krishnaveni<sup>1</sup>, P. Chandra Obul Reddy<sup>2</sup> and **A. Chandra Sekhar**<sup>1\*</sup>

## **ACTIVITIES CONCERNED DURING RESEARCH**

- Well versed with Recombinant DNA techniques (DNA and RNA isolation, cDNA preparation, vector construction and expression analysis)
- Well versed with Molecular Mapping techniques (RAPD, RFLP, ISSR, STMS and AFLP)
- EST-PCR marker development
- Well versed with differential cDNA libraries and subtracted cDNA libraries construction
- Sequencing and sequence analysis
- Crossing of different rice genotypes and developing of population for study of drought stress tolerance
- Well versed with phenotyping of different genotypes, Membrane thermostability measurement

## **SCHOLARSHIPS AND FELLOWSHIPS**

1. Recipient of prestigious **Institute of Advanced Studies – Senior Visiting Fellowship** (Early Stage Research Fellowship at the Institute of Advanced Studies of the University of Bologna) for the year 2006 sponsored by IAS, University of Bologna, Italy for five months. July 2006 – November 2006.

2. Recipient of **Research Associate Fellowship** under Generation Challenge Program (GCP) project to Prof. Arjula R. Reddy, University of Hyderabad for the period of 14 months. April 2005 – June 2006.
3. Recipient of **Senior Research Fellowship** from University Grants Commission, Govt. of India, During PhD program. February, 2002- January, 2005
4. Recipient of **Junior Research Fellowship** from University Grants Commission, Govt. of India, During PhD program. February, 2001- January, 2002
5. Recipient of **Research Assistantship** under Rockefeller Foundation Rice Biotechnology Project to Prof. Arjula R. Reddy, University of Hyderabad. During Novovember, 2000 – Jananuary, 2001
6. Recipient of **Merit Fellowship**, for two years sponsored by University of Hyderabad, Hyderabad. During M.Sc. 1997-1999

### **AWARDS RECEIVED**

- Early Stage Research Fellowship at the Institute of Advanced Studies of the University of Bologna for the year 2006.
- Excellent performance certificate from Dr. R. C. Nageshwar Rao, Senior Scientist, GREP, ICRISAT (Now Principal Agronomist, JB Peterson Research Station, QDPI, Kingaroy, QLD, Australia)
- Qualified joint CSIR – UGC (CSIR - Fellowship) examination conducted by CSIR in December 2000.
- Qualified joint CSIR – UGC (UGC - Fellowship) examination conducted by CSIR in June 2000.
- Qualified GATE - 2000 with 71.14 percentile.
- Qualified NET (Lecturer-ship only) examination conducted by CSIR in December 1999.

### **PERSONAL DETAILS**

Father's Name	:	A. Venkataramudu
Date of Birth	:	10 <sup>th</sup> May 1976
Nationality	:	Indian
Religion	:	Hindu
Marital Status	:	Married
Spouse Name	:	A. Lalitha
Address for Communication	:	Assistant Professor, Department of Biotechnology, Yogi Vemana University, Vemanapuram,

Kadapa – 516 003.  
(Andhra Pradesh, India.)  
E-mail: [chandrasedkhar9@yahoo.com](mailto:chandrasedkhar9@yahoo.com)  
Phone: 0091 -9849080331; 0091-8562-225426  
Fax: 0091-8562-225419.

Permanent Address : D.No - 16/35,  
Rajaji Street,  
Old Town,  
Anantapur - 515 001.  
(Andhra Pradesh, India.)  
Phone: 0091-8554-249392.

Languages : Mother tongue : Telugu  
(Read and write) Working knowledge : English, Hindi

Thank you,

**Place:** Kadapa

**Date:**

**(A. Chandra Sekhar)**