

## **Dr. Anand Krishna Yadav**

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Dr. Yadav has been engaged in biotechnology research on specialty plants including medicinal (Scutellaria, Bacopa, Centella, and Datura), nutraceuticals (peach, papaya, guava, phalsa), and biofuel (Paulownia) plant species. Research concentration of our team here at the Fort Valley State University is primarily in biotechnology (in vitro culture, genetic transformation and molecular biology) while our collaborators assist us in phytochemical analysis / characterization and laboratory evaluation of bioactive compounds from these specialty plant species. Our primary funding sources for the educational and research endeavors have been the following extramural grants in addition to the University Research Station funding

### **A USDA Teaching Grants:**

- 1 A Educating the Educators: With Further Advances in Agricultural Biotechnology Education Enrichment for the K-12 School Teachers @ funded by the USDA 15 Sept 2005 - 14 Sept 2008.
- 2 A Educating the Educators: > The Future is Now= through Agricultural Biotechnology Education Enrichment for the K12 School Teachers @ funded by the USDA 1 Sept 2003 - 31 August 2006.
- 3 A Southern Ag-Biotechnology Consortium for Underserved Communities @ funded by the USDA 1 Sept 2000 - 31 August 2004, A consortium of the 11 HBLGU in 10 southeastern states of the USA.
- 4 A Biotechnology at the Fort Valley State University: Glimpse at the Experiential Learning @ funded by the USDA 1 Sept 1998 - 31 August 2001.

### **B USDA Research Grants:**

- 1 A Application of Plant Regeneration and Agrobacterium-Mediated Genetic Transformation to Enhance Cold Hardiness in Guava @ funded by the USDA 1 Sept 2004 - 31 August 2008.

- 2 A Harnessing Agri-Biotechnology to Establish Scutellaria as a Medicinal Crop @ funded by the USDA from 15 Sept 2002 - 30 Sept 2007.
- 3 A Application of Genetic Engineering to Enhance Cold Hardiness in Guava @ funded at by the USDA, from 15 Sept 2000 - 14 September 2005.
- 4 A Developing Biotechnology Approaches to Improve Peach Tree Longevity @ funded by the USDA 1 September 1999 - 31 August 2004.
- 5 A Developing Biotechnology to Enhance Cold Hardiness in Papaya @ funded by the USDA 1 Sept 1998 - 31 August 2003.
- 6 A Developing Biotechnological Procedures for Papaya Micropropagation @ funded by the USDA 1 September 1993 - 31 August 1998.

#### **FVSU Agricultural Research Station Projects (Evans-Allen):**

- ✚ A Developing Biotechnology for Peach Tree Survival and Orchard Longevity, @ FVSU Agricultural Research Station Project for 5 years, 1 January 2005 - 31 December 2009.
- ✚ A Agronomy, Biotechnology, and Clinical Investigations on the Medicinal Plants in Georgia, @ FVSU Agricultural Research Station Project for 5 years, 1 January 2001 - 31 December 2006.

#### **Recent Publications:**

- ✚ Joshee, N., D. Harris, A. Yadav, and A.K. Yadav. 2007. Influence of Explant Selection and Culture Conditions on Organogenesis and Germplasm Conservation in *Bacopa Monnieri* (L.) Wettst. *Acta Hort. (ISHS)* 756:119-128.
- ✚ Tascan, A., J. W. Adelberg, N. Joshee, A. K. Yadav, and M. Tascan. 2007. Liquid Culture System For *Scutellaria* Species. *Acta Hort. (ISHS)* 756:163-170.
- ✚ Yadav, N. Joshee, A.K. Yadav. 2007. Regeneration Of Multiple Shoots From Immature Seeds And Mass Multiplication Of *Datura* ( *Datura Metel* L.). *Acta Hort. (ISHS)* 756:199-210.

- # Biswas, B.K., Joshee, N., Yadav, A. and Yadav, A.K. 2007. Development and Application of Biotechnology in Guava: A Nutraceutical Fruit. *Acta Hort. (ISHS)* 744:267-276.
  
- # Dhekney, S.A., Litz, R.E., Moraga, D. and Yadav, A.K. 2007. Is It Possible to Induce Cold Tolerance in Papaya Through Genetic Transformation? *Acta Hort. (ISHS)* 738:159-164.
  
- # Joshee, N., S R Mentreddy, and A K Yadav. 2007. Mycorrhizal fungi, and growth and development of micropropagated *Scutellaria integrifolia* plants. *Industrial Crops and Products* 25:169-177.
  
- # Dhekney, S. A., R. E. Litz, D. A. Moraga Amador, and A. K. Yadav. 2007. Potential for Introducing Cold Tolerance into Papaya by Transformation with C-Repeat Binding Factor (CBF) Genes. *In Vitro Cellular and Developmental Biology - Plant* 43:195-202.
  
- # Joshee, N., B K Biswas and A K Yadav. 2007. Somatic Embryogenesis and Plant Development in *Centella asiatica* L., A Highly Prized Medicinal Plant of Tropics. *HortScience* 42(3):633-637.
  
- # Parajuli, P., N Joshee, A M Rimando, and A K Yadav. 2007. Anti-Cancer Mechanisms of *Scutellaria* Extracts and Isolated Active Ingredients. *International Symposium on Medicinal and Nutraceutical Plants, Macon, Georgia, USA, March 19-23 , Program and Abstracts Book*:86.
  
- # Joshee, N., A M Rimando, P. Parajuli, and A K Yadav. 2006. *Scutellaria* Ethnobotany and Mutliple Uses. *HortScience* 41(4):962.
  
- # Parajuli, P., N. Joshee, A M Rimando, and A K Yadav. 2006. In Vitro Assay Development for Screening Anti-Cancer and Immunomodulatory Activities of Medicinal Plant Extracts. *HortScience* 41(4):964.