

# Hands-on workshop on Harnessing Genomic tools for crop improvement

**Objective:** The main objective of this workshop is to provide exposure to the participants about the enormous potential and application of genomic tools in crop improvement. During this training, the participants will be provided with theory and hands-on practical sessions on several basic and advanced tools required for crop improvement.

Date	Background theory	Hands-on session
	10am -12pm	1.30pm – 4pm
23-01-2023	Inaugural session Potentiality of genomic tools for crop improvement <b>Prof.Robert Henry, Australia</b>	DNA isolation- CTAB and high-throughput methods, Quality, and Quantity assessment-Nanodrop spectrophotometer
24-01-2023	Molecular markers: PCR and sequence-based <b>Dr. Y. Amaravathi, ANGRAU</b>	Preparation of PCR reaction, handling PCR machine and multiplexing
25-01-2023	QTL mapping- QTL-seq <b>Dr.CN Neeraja, IIRR</b>	Agarose and Polyacrylamide gel electrophoresis, marker scoring. Development of DNA fingerprints, QR codes, and seed purity analysis
27-01-2023	Genotyping methods <b>Dr.K. Arjun, Thermo Fisher Scientific</b>  DNA fingerprinting, QR codes, and Seed/hybrid purity analysis - <b>Dr. Y. Amaravathi, ANGRAU</b>	QTL mapping software-MAPMAKER, QTL Cartographer, and QTL IciMapping
28-01-2023	Molecular genetic diversity analysis <b>Dr.VLN Reddy, ANGRAU</b>	Phylogeny software-DARWIN and MEGA
30-01-2023	Genome-wide association mapping <b>Dr. Mahendar Thudi, RPCAU</b>	STRUCTURE and TASSEL/GAPIT Software
31-01-2023	Marker-assisted breeding <b>Prof.Senthil Natesan, TNAU</b>	Graphical genotyping software (GGT) and Mapchart
01-02-2023	Allele mining and Haplotype-based breeding <b>Dr. M. Seshu Madhav, CTRI</b>	SNP detection, Haplotype analysis, DnaSP, PIC estimation GenCalc
02-02-2023	Transcriptomic analysis <b>Dr.Eswarayya Ramireddy, IISER</b>	RNA isolation, cDNA synthesis and qRT-PCR analysis <b>Dr. B.P.Girish, DST INSPIRE FACULTY</b>
03-02-2023	Bioinformatics tools for crop improvement <b>Dr. Sujan Mamidi, USA</b> Application of Genomic tools in Seed Industry <b>Dr. M. Elangovan, ADVANTA</b>	Database and Literature search, BLAST, Primer designing using Primer 3 , Sequence alignment-CLUSTAL X
04-02-2023	Writing a research grant proposal and Funding opportunities. <b>Dr. TNKV. Prasad, ANGRAU</b>  How to write a research article? <b>Dr.VLN Reddy, ANGRAU</b>	Evaluation of participants and Participant's feedback Valedictory function and Certificate distribution

### Course Director:

**Dr.V.L.N. Reddy**, Associate Professor and Head  
Dept. of Molecular Biology and Biotechnology  
S. V. Agricultural College, ANGRAU  
Tirupati -517502, AP, India  
Mail: [mbb.svagcpt@angrau.ac.in](mailto:mbb.svagcpt@angrau.ac.in);  
Phone:9440507965

### Course Coordinator:

**Dr. Y. Amaravathi** , Assistant Professor  
Dept. of Molecular Biology and Biotechnology  
S. V. Agricultural College, ANGRAU  
Tirupati -517502, AP, India  
Mail: [y.amaravathi@angrau.ac.in](mailto:y.amaravathi@angrau.ac.in);  
Phone: 6302328414

## The list of participants registered for the hands-on workshop

S.N o.	Name	Address	Position	Phone no.	Mail ID
1	R G Vyshnavi	Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur, MP	PhD Student	9502887472	gnanavaishnavi@gmail.com
2	Karishma Behera	Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur, MP	PhD Student	7978104974	karishma82530behera@gmail.com
3	Pusala Sindhu	Sam Higginbottom University of Agriculture, Technology and Sciences, Allahabad	M.Sc Student	9619297365	sindhupusala66@gmail.com
4	V Kalpana	Pushpanjali Agri Input Technologies	Technical Assistant	9666439907	vaddepallikalpana14@gmail.com
5	Dr. B. Reddyamini	S. V. Agricultural College, Tirupati	Teaching Associate, GPBR	6305984419	reddyamini56@gmail.com
6	Veerendra Jaldhani	ICAR - Indian Institute of Rice Research	Senior Research Fellow	9052056872	veerendra.j1373@gmail.com
7	Dr. Yadla Suneetha	RARS, ANGRAU, Maruteru	Senior Scientist (Plant Breeding)	9396749370	y.suneetha@angrau.ac.in
8	K. Sravan Simha Reddy	Yogi vemana University, Kadapa	PhD Student	7569434948	kondasravansimhareddy123@gmail.com
9	T. Karimulla	Sam Higginbottom University of Agriculture, Technology and Sciences, Allahabad	M.Sc Student	8328472942	karimulla1906@gmail.com
10	Dr V. Chandra Sekhar	RARS, ANGRAU, Anakapalli	Senior Scientist (Plant Pathology)	8331840171	v.chandrasekhar@angrau.ac.in
11	Navadutt kumar	Advnataseeds Pvt Ltd, Hyderabad	Research Associate	9501908817	duth951@gmail.com
12	PK Anish Kumar	Advnataseeds Pvt Ltd, Hyderabad	Research Scientist	9909973245	anish.kumar@advantaseeds.com
13	K. Madhu Kumar	ARS, ANGRAU, Ragolu	Scientist (Plant Breeding)	9618186286	madhuagrigo1998@gmail.com
14	D.Bharathi	RARS, ANGRAU, Tirupati	Senior Scientist (GPBR)	9701317333	d.bharathi@angrau.ac.in
15	Dr M Raveendra Reddy	RARS, ANGRAU, Tirupati	Senior Scientist (Microbiology)	9959254969	raveendra56@gmail.com

16	Dr. A. R. Nirmal Kumar	S V Agricultural College, Tirupati - ANGRAU	Assistant Professor (Crop Physiology)	9494745088	ar.nirmalkumar@angrau.ac.in
17	Sridevi Vattikonda	Dept. of Agriculture, AP	Agricultural Officer	8985430190	sridevi_agrico@yahoo.com
18	PV Hema Latha	Dept. of Agriculture, AP	Assistant Director of Agriculture	8331056904	pvhatha@gmail.com
19	M. Aruna	Dept. of Agriculture, AP	Agriculture Officer	8331056934	arunamsst@gmail.com
20	Nagaraju Gangisetty	Dept. of Agriculture, AP	Agriculture Officer, FCO Lab Bapatla.	7032560275	nagagangi08@gmail.com
21	M.V.N.Madhavi	Dept. of Agriculture, AP	Agriculture Officer	9493266885	mannuvamadhavi@gmail.com
22	N. Sravan Kumar	Brane enterprises, Hyderabad	Subject Matter Expert	9505305376	sravan.nukapangu@nslhub.com
23	Dr. K. Venkata Karunakar	NSL Hub, Hyderabad	Subject Matter Expert	8897539449	venkata.kolla@nslhub.com
24	R.Aruna	CFST, ANGRAU, Pulivendula	Assistant Professor (Biochemistry)	630336269	r.aruna@angrau.ac.in
25	Ch. Rani	RARS, ANGRAU, Guntur	Scientist (Plant Breeding)	9394671273	ranichapara@angrau.ac.in
26	Chaithanya BH	RARS, ANGRAU, Nandyal	Scientist (Plant Pathology)	8143214443	bh.chaitanya@angrau.ac.in
27	M. Sreevalli Devi	S V Agricultural College, Tirupati - ANGRAU	Assistant Profssor (Plant Breeding)	9494366023	m.sreevallidevi@angrau.ac.in
28	P. Shanthi	S V Agricultural College, Tirupati - ANGRAU	Associate Professor (Plant Breeding)	9848506414	p.shanthi@angrau.ac.in
29	D. Manoj Kumar	Agricultural College Bapatla	Ph.D. Research Scholar	7396591591	manojkumarduppala@gmail.com
30	T. Sri Vishnu Swamy	Completed BSc	B.Sc Student	7013570872	srivishnu5068@gmail.com
31	Shaik Sameera	ARS, ANGRAU, Nellore	Scientist (Plant Breeding)	8099807936	s.sameera@angrau.ac.in