



Live session at the IUFRO World Day (Webinar)

# Population Genetics and Genomics Research for Conservation, Climate Adaptation, Sustainable Management and Breeding of Tropical Trees

*Division 2 - Population, Ecological and Conservation Genetics -  
Unit 2.04.01*

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29 September 2021, 03:30 - 05:00 UTC

📍 Coimbatore, India (on the IUFRO World Day Map)

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You will find us at the host city on the [Interactive Map](#)

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## ABSTRACT

Tropical and subtropical forests are characterized by high species richness with hundreds of species occupying the same ecological niche. These forests are subjected to extensive genetic erosion due to anthropogenic pressures, change in land-use patterns, illegal and unscientific harvesting, habitat loss and lack of regeneration, rendering them vulnerable to biotic and abiotic pressures. Climate change is expected to increase instability of these ecosystems in future. However, the evolutionary and ecological drivers which shape tropical tree communities are still elusive as studies are restricted to a few species in neotropics.

Hence, cataloging the genetic diversity and population structure at a fine-scale and combining this information derived from marker studies with ecological and socio-economic status of the region will provide the most suitable strategy for conservation, breeding, management, and utilization of these genetic resources. This session on "Population Genetics and Genomics Research for Conservation, Climate Adaptation, Sustainable Management and Breeding of Tropical Trees" will address these critical issues through oral presentations and group discussions and identify priority areas of research in tropical trees and devise strategies for effective conservation, restoration and breeding of key species.

#### *KEYWORDS*

- Genomics
- Genetic Resources
- Climate Change
- Sustainable Forest Management
- Adaptation

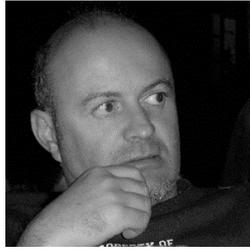
#### *SPEAKERS*



Prof. Dr. Wickneswari Ratnam FASc, Malaysia

Wickneswari Ratnam is an Honorary Professor at Universiti Kebangsaan Malaysia (UKM), with 35 years of experience in plant genetics and biotechnology. She served as Deputy Dean of University, Industry and Community Partnerships at the Faculty of Science and Technology, UKM as well as Chair of Institutional Biosafety Committee at UKM.

She is a fellow of the Academy of Sciences Malaysia, Chief Editor of Malaysia Applied Biology and an Associate Editor of Tree Genetics and Genomes. She is the Managing Director of Nomatech Sdn. Bhd., a start-up company on agricultural innovations which has commercialised three new rice varieties.



Dr. F.A. (Phil) Aravanopoulos, Greece

Dr. F.A. (Phil) Aravanopoulos, is Professor of Forest Genetics at the Aristotle University of Thessaloniki and a Full Member of the Hellenic Agricultural Academy holding the Chair of Forest Science. His background couples Forest -Environmental Science & Tree Genetics, & has studied in Greece, Canada & Sweden. He has served as Chairman of the Scientific Council - National Agricultural Foundation of Greece & as Chair - Hellenic Scientific Society for Plant Genetics & Breeding and is a Deputy Coordinator of IUFRO Unit 2.04.01.

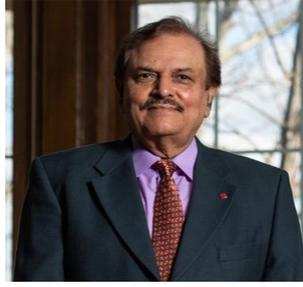
He has published over 200 full research papers and edited the book «Genetics and Genomics of Forest Trees», <https://www.mdpi.com/books/pdfview/book/869>. Recently, a short EUFORGEN documentary featured his research: <https://www.youtube.com/watch?v=YomBJ05wpck>



Dr. H.S. Ginwal, India

Dr. H. S. Ginwal is a senior scientist at Forest Research Institute Dehradun, India. He possesses post graduate and Ph.D. degree in 'Forestry'. Dr. Ginwal did his Post Doctorate from the University of New Hampshire, Durham USA in the year 1998. He has 29 years research experience as Scientist in forestry research and education and presently holding the position of Dean (Academics) at FRI Dehradun.

Dr. Ginwal is specialized in population and conservation genetics using DNA based markers and also has expertise in genetic improvement of short rotation agroforestry tree species. He has published more than 115 research papers in reputed national and international journals, and has produced 12 Ph.D's.



Prof. Dr. Om P. Rajora, Canada

Dr. Om Rajora is a professor of forest genetics and genomics at the University of New Brunswick, Canada, where he held the prestigious Senior Canada Research Chair. He has over 40 years of research experience in plant/forest genetics, genomics and biotechnology. His research has been transformative. Dr. Rajora has served on many national and international science boards and committees.

He is the recipient of many national and international awards, honors and distinctions. Dr. Rajora developed the pioneering and renowned Population Genomics book series and has published five high profile books. He has served on Editorial Boards of several international journals and held several honorary positions.



Dr. R. Yasodha, India

Dr. R. Yasodha, Scientist G, Institute of Forest Genetics and Tree Breeding, Coimbatore, India has specialised in several aspects of forest biotechnology since 1990. Her research interests include:

- Tissue culture and clonal production
- Application of DNA markers in tree improvement
- Genomics based solutions for conservation and tree breeding

She has made significant contributions in tissue culture, molecular genetics and breeding of eucalypts using DNA markers. She is credited with teak genome sequencing and development of transcriptome. Her work identifying teak conservation hot-spots and delineation of genealogical zones is notable. She has recently completed an assignment for a book on Teak Genome, which includes chapters from world-renowned teak researchers comprehending the recent developments in teak research.



Dr. Modhumita Dasgupta, India

Dr. Modhumita Dasgupta is working as a research scientist at Institute of Forest Genetics and Tree Breeding, Coimbatore, India and has 23 years of experience in different areas of tree biotechnology. Her research interest includes population genomics, molecular tree - pathogen interaction, marker assisted selection and generation of genomic resources for tropical trees.

She is presently functioning as Deputy Coordinator of IUFRO Unit 2.04.01 and member of International Climate-Resilient Crop Genomics Consortium (ICRCGC). She has published more than 50 papers in peer reviewed journals and is member of several research advisory groups.



Shri Arun Singh Rawat, India

Shri Arun Singh Rawat is the Director General of Indian Council of Forestry Research and Education (ICFRE), an Autonomous Council under the Ministry of Environment, Forests & Climate Change, Government of India.

He belongs to the 1986 Batch of Indian Forest Service from Jharkhand cadre and has held several positions of prominence including Director, Forest Research Institute, Dehradun, India, Deputy Director General (Administration), ICFRE, Dehradun, India and Additional Principal Chief Conservator of Forests and Field Director, Palamau Tiger Reserve, Jharkhand, India.



Dr. Suma Arun Dev, India

Currently, Dr. Suma Arun Dev works as a Senior Scientist in the Division of Forest Genetics and Biotechnology at Kerala Forest Research Institute, Peechi, Kerala, India. Her field of research interests include population genomics and landscape genetics, conservation of forest genetic resources for adaptive traits, productivity improvement using genome wide markers, molecular phylogeny and evolution, conservation genetics of RET species as well as DNA barcoding for timber forensics and authentication of wood/no-wood forest produce. She has published more than 50 research papers in reputed journals.

#### *Social Media*

Indian Council of Forestry Research and Education, Dehradun, India

Twitter handle: @lcfreIndia

Institute of Forest Genetics and Tree Breeding, Coimbatore, India

YouTube channel (<https://www.youtube.com/c/IFGTBCoimbatore>)

Facebook ID: <https://www.facebook.com/ifgtbenvisrp/> (IfgtbEnvis)

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