

# Detailed scientific programme

## Sunday, 3 March 2024

3:00 – 5:00 pm	Walking tour of Rotorua (Optional)
5:00 – 6:00 pm	Conference registration
6:00 – 8:00 pm	Welcome drink

## Monday, 4 March 2024

8:00 – 9:00 am	Conference registration opens
9:00 – 10:00 am	Opening messages
10:00 – 10:20 am	Morning tea

### Session 1 – Vegetative Propagation Supporting Forest Health and Adaptation

Moderator: Sandra Correia

10:20 – 11:00 am	JORGE CANHOTO	Biotechnological tools to improve cloning and breeding of strawberry tree ( <i>Arbutus unedo</i> L.)
11:00 – 11:20 am	JEAN-FRANÇOIS TRONTIN	Epigenetic memory of sensed temperatures during somatic embryo maturation in young maritime pine trees
11:20 – 11:40 am	ISABEL ARRILLAGA / ESTER SALES	Varying temperature during maritime pine ( <i>Pinus pinaster</i> ) somatic embryo maturation, alters transcriptome profiles and modifies metabolites before and after further heat-shock treatments
11:40 – 12:00 am	MARIA AMPARO PEREZ OLIVER	Priming embryogenic lines as a tool to induce <i>Fusarium circinatum</i> tolerance in <i>Pinus spp</i>
12:00 – 12:20 pm	CHAE-BIN LEE	Detection of DNA methylation differences in embryogenic callus and non-embryogenic callus of <i>Abies nephrolepis</i> using Methylation Sensitive Amplification Polymorphism sequencing (MSAP-seq)
12:20 – 1:20 pm	Lunch	

Moderator: Pramod Gupta

1:20 – 2:00 pm	GLENN THORLBY	Scion's genetic technologies journey - towards more productive, sustainable and resilient planted forests
2:00 – 2:20 pm	CHARLESON POOVAIAH	CRISPR/Cas9: A powerful tool for Conifer Biotechnology and Breeding
2:20 – 2:40 pm	DONALD JAMES	A novel in vitro priming technique for mass micropropagation of climate-resilient quality planting material ( <i>CR-QPM</i> ) of forest tree species
2:40 – 3:00 pm	Afternoon tea	

Moderator: Tuija Aronen

3:00 – 3:20 pm	DAVID PESSANHA SIQUEIRA	Breeding for Resistance <sup>™</sup> : Vegetative propagation of <i>Lophomyrthus</i> as the first step to achieve tolerance against myrtle rust
3:20 – 3:40 pm	WAN-FENG LI	Inter- and intra-annual transcriptomes reveal age and environment regulation of larch life-cycle progression
3:40 – 4:00 pm	THOUNAOJAM BIDYA CHANU	Conservation of <i>Myrica esculenta</i> – an important wild edible fruit tree of the Indian Himalayas
4:00 – 5:20 pm	Poster session - Introduction	
5:20 – 9:00 pm	Free evening	

**Tuesday, 5 March 2024**

**Session 2 – New Knowledge Supporting Forest Regeneration**

Moderator: Jorge Canhoto

8:20 – 9:00 am	ULRIKA EGERTSDOTTER	Transcriptomics during conifer embryo development- what can we learn from the seeds about somatic embryogenesis
9:00 – 9:40 am	SANDRA CORREIA	Integrated analysis of coding and non-coding transcripts reveals differential regulatory, metabolic, and physiological networks involved in somatic embryogenesis
9:40 – 10:00 am	ZHAO JIAN	Highresolution transcriptomes identify key regulatory genes involved in somatic embryogenesis in <i>Larix principis-rupprechtii</i>
10:00 – 10:20 am	JUNHUI WANG	Transcriptome and metabolism revealed that partial desiccation treatment promotes somatic embryo germination of <i>Picea asperata</i> through cell wall remodelling mediated by PaMYB12 transcription factor
10:20 – 10:40 am	Morning tea	

Moderator: Isabel Arrillaga

10:40 – 11:00 am	TIANQING ZHU	Integrated transcriptome and physiological analysis reveal that the transcription factor PaMYB11 regulate the osmotic-responses induced by cryoprotectants in Norway spruce embryogenic tissue by promoting suberin deposition
11:00 – 11:20 am	LING YANG	Proper doses of brassinolide enhancing somatic embryogenesis of different competence Korean pine cell lines elucidated by physiological and hormonal facts during embryonic callus differentiation
11:20 – 11:40 am	JI WON KIM	ROS generation and RBOH gene expression analysis during callus and root induction of Hybrid Poplar ( <i>Populus alba</i> x <i>Populus glandulosa</i> ) explants
11:40 – 12:00 am	JINFENG ZHANG	Transcriptomic and physiological analysis identifies a gene network module highly associated with brassinosteroid regulation in hybrid sweetgum tissues differing in the capability of somatic embryogenesis
12:00 – 12:20 pm	XIUYUE XU	Effect of Exogenous Plant Growth Regulators and Rejuvenation Measures on the Endogenous Hormone and Enzyme Activity Responses of <i>Acer mono Maxim</i> in Cuttage Rooting
12:20 – 1:20 pm	Lunch	

**Session 3 – Vegetative Propagation Technology Development Supporting Forest Regeneration**

Moderator: Itziar Montalbán

1:20 – 2:00 pm	LLOYD DONALDSON	Advanced light microscopy for imaging in-vitro tissue and plant meristems
2:00 – 2:20 pm	TSUYOSHI E. MARUYAMA	In vitro adventitious-bud multiplication and plant regeneration from adult leaf-explants of Hinoki cypress ( <i>Chamaecyparis obtusa</i> )
2:20 – 2:40 pm	CAROLINE TEYSSIER	Characterisation of hybrid larch somatic embryo maturation by biochemical analyses and by a novel, fast mid-infrared method
2:40 – 3:00 pm	Afternoon tea	

**Tuesday, 5 March 2024 (continued)**

Moderator: Mikko Tikkinen

3:00 – 3:40 pm	HAILONG SHEN	Biological and regulatory Issues related to somatic embryogenesis competence of <i>Pinus koraiensis</i> : current result review and future research outlook.
3:40 – 4:00 pm	XUE CHENG	Effects of Ascorbic Acid on Physiological Characteristics during Somatic Embryogenesis of <i>Fraxinus mandshurica</i>
4:00 – 4:20 pm	MARIANA NEVES	The effect of ethylene on <i>Solanum betaceum</i> Cav. in vitro regeneration: from meristem propagation to somatic embryogenesis
4:20 – 4:40 pm	ILENA ISAK	Melatonin in <i>Pinus radiata</i> plant tissues: development of accurate analysis method and application to initiation and proliferation of embryogenic cell lines
4:40 – 5:00 pm	ROYA REZANAVAZ	3D printing in Plant tissue culture
5:00 – 6:00 pm	Business meeting	
6:00 – 8:00 pm	Free time	
8:00 – 8:20 pm	Depart Novotel on bus	
8:20 – 10:00 pm	Night walk in Redwoods	
10:00 – 10:20 pm	Return by bus to Novotel	

**Wednesday 6 March, 2024****Session 4 – Vegetative Propagation Supporting Sustainable, Productive Forestry**

Moderator: Jean-Francois Trontin

8:20 – 9:00 am	TUIJA ARONEN	Paving the way for commercial SE propagation: Norway spruce in Finland.
9:00 – 9:30 am	ALISON SLADE	21st Century Tissue Culture: Industrialising tissue culture for New Zealand forestry.
9:30 – 10:00 am	JANA KRAJNAKOVA	Tissue culture techniques for the 21st century forests: regeneration of <i>Pinus radiata</i> plants in temporary immersion bioreactors.
10:00 – 10:20 am	CELINE MERCIER	Design of an imaging system compatible with TIM bioreactors and exploration of maturation outcome prediction from multi spectral illumination time-lapse imaging.
10:20 am – 10:40 am	Morning tea	

Moderator: Nieves Vidal

10:40 – 11:10 am	CATHIE REEVES	Tissue culture techniques for the 21st century forests – <i>Ex vitro</i> growth of <i>Pinus radiata</i> plants.
11:10 – 11:50 am	CYRUS AIDUN	Development and application of the next generation SE Fluidics system for radiata pine and potential for data-based machine learning process optimization
11:50 – 12:10 pm	SAM DAVIDSON	Novel applications of machine learning in plant cell tissue culture. Study case: Predicting germination success based on morphological features of mature somatic embryos of <i>Pinus radiata</i> D. Don
12:10 – 12:30 pm	MAGNUS HERTZBERG	Developing a highly automated Somatic Embryogenesis based method for plant production and developing mixes of spruce SE-varietals for deployment
12:30 pm – 1:40 pm	Lunch	

**Wednesday 6 March, 2024 (continued)**

Moderator: Ulrika Egertsdotter

1:40 – 2:00 pm	MIKKO TIKKINEN	Searching for the best — Initiation of Somatic Embryogenesis in Norway Spruce
2:00 – 2:20 pm	ITZIAR MONTALBÁN	<i>Pinus radiata</i> somatic embryogenesis optimization and scaling up to bioreactors
2:20 – 2:40 pm	NIEVES VIDAL	Efficient micropropagation of axillary shoots of adult pedunculate oak trees in temporary immersion bioreactors
2:40 – 3:00 pm	PRAMOD GUPTA	Clonal production of Douglas-fir via somatic embryogenesis.
3:00 – 3:20 pm	MIKKO TIKKINEN	Planting the green gold — Field testing of Norway spruce emblings
3:20 – 3:40 pm	Afternoon tea	
4:00 – 5:20 pm	Free time	
5:20 – 5:40 pm	Depart Novotel Rotorua on bus	
5:40 – 6:00 pm	Transport for Gala dinner	
6:00 – 10:00 pm	Gala dinner	

**Thursday 7 March, 2024**

8:00 – 8:20 am	Depart Novotel Rotorua on bus
8:20 – 5:00 pm	Field trip

**Friday 8 March, 2024**

8:00 – 8:20 am	Depart Novotel Rotorua on bus, Transport to Scion
8:20 – 12:00 am	Visit of Scion and Te Papa Tipu Innovation Park
12:00 – 1:00 pm	Lunch at Te Puia
1:00 – 4:00 pm	Social event at Te Puia