



Treework Seminar 21

Transformational Nature

Unlocking the secrets of natural form, plant intelligence and the ageing process

Tuesday 17 May 2016

Jodrell Laboratory Lecture Theatre, Royal Botanic Gardens Kew, London

This inspirational seminar will deliver the vision, knowledge and wisdom of four great thinkers. Their brilliance lies in combining fastidious research with artistic sensibility: communicating from the frontiers of their disciplines.

Respectively, these scientists are challenging old paradigms. Collectively, by breaking the boundaries between science and art, they offer a powerful insight into natural processes that could change the way we understand, preserve and manage trees.

Bookings at www.treeworks-seminars.co.uk

£180 (+VAT)

Price includes delegates' book, packed lunch and refreshments.

Tony Kirkham, Head of Arboretum at Kew, will give a guided walk of the arboretum for both delegates and speakers during the lunch break.

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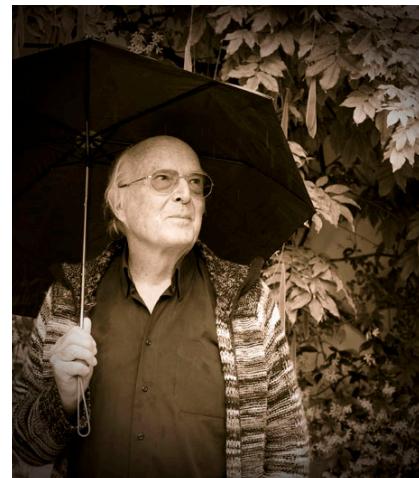


Francis Hallé – Botanist and Plant Morphologist Emeritus Professor of Botany, University of Montpellier

Morphology is rooted in our senses and perception of nature. It provides a basis for classifying the natural world, distinguishing organisms and understanding the relationships between form and function.

From Classical architecture and Renaissance design to the Fibonacci sequence and the Golden Mean, the mathematics of growth has influenced human thought and progress. The progression from da Vinci to Goethe to Hallé has delivered modern plant morphology, yet for many working with the natural world, this knowledge and its applications remain largely inaccessible. Perhaps this is unsurprising given the hard boundaries that conventionally divide art and science.

Francis Hallé has spent a lifetime studying plant shape, change and growth to achieve understanding of the evolution of trees within ecosystems. His work offers a vision and methodology for the analysis and classification of tree architecture, which provides keys to understanding natural laws of growth, development and function. Professor Hallé has written widely on his subject. In the presentation of his ideas, he adopts a particularly visual approach, borrowing from both art and science.



Stefano Mancuso – Plant Neurobiologist

Professor of Biological Sciences and Director of the International Laboratory of Plant Neurobiology, University of Florence

Stefano Mancuso is a founder of the study of plant neurobiology, which explores signalling and communication at all levels of biological organisation, from genetics to molecules, cells and ecological communities.

His concept of plant sentience challenges the assumption that plants do not communicate and that they are subordinate to the animal kingdom. The study of 'plant memory' and the capacity to form and alter habits suggests a level of biological organisation that opens fascinating new possibilities for scientific discourse.

His vision, timely in the age of neural networks, considers how plants function as communities and can alter their behaviour based on shared information.



Monica Gagliano - Plant Cognitive Ecologist

Research Associate Professor & Research Fellow of the Australian Research Council Centre of Evolutionary Biology, University of Western Australia

Monica has extended the concept of cognition (including perception, learning processes, memory and consciousness) to plants. By demonstrating experimentally that learning is not the exclusive province of animals, she has re-ignited the discourse on plant subjectivity and ethical and legal standing.

A unique scientist, she has founded the brand-new research field of plant bioacoustics, for the first time experimentally demonstrating that plants emit their own 'voices' and, moreover, detect and respond to the sounds of their environments.

Inspired by encounters with Nature and with indigenous elders, she is not only transforming our perception of plants but also of our very nature. Her science is based on a progressive, inclusive paradigm of natural history – one that is as comfortable engaging with physics and ecology as with the humanities, with linguistics, law, anthropology, philosophy, the arts and spirituality. By re-kindling a sense of wonder for the remarkable world we call home, she is helping to create a fresh imaginative ecology of mind that can inspire the potential for innovative solutions to human relations with the world we inhabit.



Howard Thomas – Plant Gerontologist

Emeritus Professor of Biology, Aberystwyth University

A lifelong student of plant ageing, senescence and gerontology, Howard Thomas has engaged in structured scientific study of plant ageing. Ageing is dynamic, transitional and can be reversible. It operates through unitary and colonial expressions of the individual.

He raises fundamental questions – what is the role of ageing and senescence in plant and ecosystem survival strategies as co-evolved developmental responses? How do these processes interact at the molecular and organisational levels? Given that ageing is stressful for living organisms, he offers deep insights into evolved strategies that modulate energy and contribute to exceptional long life in trees.



Thomas applies his scientific vocation to exploring the evolutionary function of ageing. By conveying an understanding of underlying natural processes through precise scientific language and applying metaphor and philosophy, he contributes to the enjoyment of both science and the arts.