

## GUEST EDITORIAL

### WHY IUFRO REALLY MATTERS TO TROPICAL FORESTRY RESEARCH

**MJ Wingfield**

*University of Pretoria, 0001 Pretoria, South Africa. Mike.Wingfield@up.ac.za*

I took on the presidency of the International Union of Forestry Research Organisations (IUFRO), in October 2014, having the honor to follow in the footsteps of some great leaders in forestry research. In my acceptance speech, I committed to promoting a number of key goals. These included firstly the promotion of forestry research globally, and consistent with the strategic goals of IUFRO, to emphasise the science–policy interface that is so important to world prosperity. There are two other areas of importance about which I am passionate and that underpin my key goals. As an educator, I am committed to promoting education in forestry and am actively seeking the means to ensure that forestry education is effectively advanced. As an African and a scientist from the developing world, I recognise a great need to promote forestry research in regions of the world where forests are threatened and where resources are limited. Tropical and subtropical regions make up a large component of this domain.

IUFRO is *the* global network for forestry research. It is a remarkable organisation; one of the oldest and largest research unions in the world representing some 15,000 forestry researchers in over 120 countries and 650 member organisations. I am often asked what makes IUFRO different from the various other organisations that focus on forests and forestry. The answer is easy to provide. IUFRO is the only organisation globally that is entirely focused on research; promoting research on virtually all aspects of forestry and connecting forestry researchers globally. As a non-profit and entirely non-aligned organisation, IUFRO is able to reach out to its extensive network of researchers to assemble knowledge of importance to an extensive community of stakeholders to provide unbiased and high-quality knowledge on key issues. In this regard, IUFRO provides knowledge without advocating and seeks only

to ensure that decision-making at all levels is evidence-based and reliable. In this way, forestry stakeholders and researchers globally gain deeply from the services of IUFRO and this includes those in countries and institutions in tropical regions of the world.

Forestry is an incredibly broad subject and it is understood very differently by different groups of people; this also includes researchers. In some parts, forestry is seen as the conservation or management of natural forest ecosystems aimed at the provision of multiple goods and services. These ecosystems are hugely valuable in terms of, for example, renewable energy, food security and water regulation. Others think of forestry more specifically in terms of products that come from forests such as fibre for producing packaging and paper products. We must also not forget the social dimension of forestry and the fact that forests are deeply about people that rely on trees in a multiplicity of ways. All of these aspects of forests and forestry depend on our understanding of factors that affect them. In this regard, research is key to the future of forests and forestry and all of us that depend, often in ways minimally understood, on them.

There are many pressing issues pertaining to forests and forestry that affect human well being and these equally affect tropical forests. These need attention and they would benefit from new knowledge. In an effort to focus on issues affecting forests and forestry, IUFRO, as a partner in the Collaborative Partnership on Forests (CPF) established by the United Nations, initiates Global Forest Expert Panels (GFEP) to focus on these issues. As an example, IUFRO recently released an impressive report on Forests, Trees and Landscapes for Food Security and Nutrition (IUFRO World Series Vol. 33, <http://www.iufro.org/science/gfep/forests-and-food-security-panel/report/>) that has already provided substantial value to stakeholders. We are currently

in the final stages of producing a GFEP report on illegal logging and trade, an issue that is crucially important in many parts of the world including many areas of tropical forests. These and other similar initiatives are important especially in our efforts to inform policy makers and governments of the facts and thus to promote improvements in the future.

A key to the sustainability of the world's forests surely lies in education. This must encompass not only formal education in forestry but also the education of children and the public at large as to the importance of forests in their lives. Formal education in forestry is also crucially important and this is an area where IUFRO already plays a solid role. Amongst our various initiatives, IUFRO partners with the International Forestry Students' Association (IFSA) on various projects to promote and improve forestry education. Following these lines, we initiated a joint IFSA–IUFRO Task Force to focus on forestry education. IUFRO Task Forces represent one of IUFRO's powerful instruments to address pressing issues facing forestry and I have already seen very positive outcomes from the Task Force on Forest Education. I believe strongly that these will positively influence forestry education in the future and this will also be in tropical areas of the world.

Let me diverge somewhat from the theme of this editorial and share a few thoughts regarding my own field of research; that pertaining to the global tree health and especially where this is affected by insect pests and pathogens (hereafter referred to as pests). Damage caused by these organisms is growing globally and in some areas the outcomes are disastrous. No areas of forests are excluded and these also include many tropical areas of the world. The driving force behind these pest invasions is anthropogenic. Humans and our products are moving globally in increasing numbers and we are likewise accidentally moving great numbers of pests. When these organisms reach new areas where trees susceptible to infection/infestation occur, the impacts can be huge. For native trees in forest ecosystems, the consequences are usually permanent where species can effectively be removed from the landscape. Sadly, there are many examples such as Dutch elm disease (*Ophiostoma ulmi* and *Ophiostoma novo-ulmi*) and

more recently, sudden oak death (*Phytophthora ramorum*), and these are growing in number. Likewise pests are being introduced into planted forest environments including urban forests, orchards and commercial tree farms. Losses here can be substantial. Commercial operations can be devastated as has recently been seen with the impact of the canker wilt pathogen *Ceratocystis manginecans* on the tropical plantation tree *Acacia mangium* in Asia. But such damage can be equally important in urban areas where trees contribute to quality of life and in orchards where trees are planted for fruit and food crops. It is clear that global invasions of pests and pathogens are on the rise. Dealing with them will require a global effort and in this regard IUFRO is also a valuable resource. For further background, see Wingfield et al. (2015). The recent establishment of the IUFRO Task Force on Forests and Biological Invasions will play a key role.

At the start of this editorial, I made reference to the importance of promoting forestry in all its many manifestations, especially in less well-developed areas of the world. This is not a simple goal to achieve and it faces many barriers that must be breached. Yet IUFRO is set to make a difference by holding key meetings in developing world countries, facilitating forestry training through our very effective Special Programme for Development of Capacities (IUFRO–SPDC) and via activities of our Research Units and Task Forces. IUFRO already has many diverse activities in tropical and subtropical parts of the world where forestry is important and our intention is to grow these projects and programmes. I hope that these few words have convinced you that IUFRO is crucially important to the future of forests and forestry and no less to these great resources in tropical environments. Whether you are student, research manager, leader or forestry stakeholder, I encourage you to become involved in the activities of IUFRO. These will bring you many opportunities and here I speak not only for those that I have watched benefitting from IUFRO but from my own 30-year experience working in this remarkable organisation.

## Reference

- WINGFIELD MJ, BROCKERHOFF EG, WINGFIELD BD, SLIPPERS B. 2015. Planted forest health: the need for a global strategy. *Science* 349: 832–836.

**Michael (Mike) Wingfield**, Director of the Forestry and Agricultural Biotechnology Institute (FABI), based at the University of Pretoria, South Africa has conducted research on tree pests and pathogens especially concerning their global movement for more than thirty years. He has published widely on the topic of tree health in more than 800 research papers, seven books and in numerous prestigious invited

presentations globally. He serves/ has served in many prestigious positions, has honorary doctorates from the University of British Columbia, Canada and North Carolina State University and received the highest scientific award (Kwame Nkrumah Scientific Award) of the African Union in 2013. He is currently serving a 5-year term as the President of IUFRO, based in Vienna.