Institute of Forest Biotechnology
Science • Dialogue • Stewardship

Wout Boerjan (VIB-UGent, Belgium) is Named Forest Biotechnologist of the Year

RALEIGH, N.C., Jan. 14, 2010 – Professor Wout Boerjan of the Department of Plant Systems Biology VIB-Ghent University (Ghent, Belgium) has been named 2010 Forest Biotechnologist of the Year by the Institute of Forest Biotechnology (IFB). Boerjan was selected by his peers within the Forest Biotechnology P artnership, an international group of forestry and biotechnology professionals. Boerjan is the second scientist to win this award. It is given to the forest biotechnologist who best exemplifies responsible uses of forest biotechnology and actively promotes science, dialogue, and stewardship through their work.

George Weyerhaeuser, Jr., Chairman of the IFB said, "There were a number of candidates that the Forest Biotechnology Partners nominated. All are world-class researchers that I know we will see more of in coming years. It will be exciting to work with Wout Boerjan to help guide the IFB in 2010."

Dr. Boerjan was given this award because of his exemplary work in multiple aspects of forest biotechnology. "He performs outstanding science, has an extremely strong international reputation, and has continued to be engaged in transgenic biotechnology applications and outreach, even in the extremely challenging environment in Europe", commented Steven Strauss, last year's awardee.

Boerjan is among the top forest biotechnology scientists in the world. His main accomplishment in 2009 was the establishment of a field trial with lignin modified biotech poplar trees in Belgium. The trees were designed, based on years of basic research, to develop less lignin, making them more easily processed into liquid biofuels for energy production. The wood from these trees yields 50% more glucose upon saccharification, the chemical process of breaking down complex carbohydrates into forms more easily converted to products like ethanol or butanol.

Getting approval to field trial biotech trees in Europe is extremely daunting. Persistence and a strong focus on biosafety are mandatory for testing any biotech product in Europe, but that is rarely enough to guarantee a field trial of biotech trees will receive approval. The Council of State, the highest court in Belgium, supported the strong environmental, social, and economic benefits that may be possible from the responsible use of such trees for energy production.

After a year of intense stakeholder and media interaction in Belgium and Europe to explain the benefits and safety of the work, the VIB team received permission for the field trial. This is the first biotech field trial in Belgium since 2002, and one of a handful of biotech tree field trials anywhere in Europe.

Adam Costanza, President of the IFB said, "The work that Wout Boerjan is doing in lignin biosynthesis, in Europe, could change the future of biofuels. His scientific contributions in this area are widely known in forest biotechnology, but it is the dialogue and stewardship aspects of his efforts that stand out for me. Clearly, it is his extraordinary level of commitment to honest, stakeholder interaction that got him a field trial permit in Belgium."

Dr. Boerjan has been leading his forest biotechnology research group since 1993 in areas ranging from basic gene science to genomics to QTL mapping to phylogenetics to systems biology in *Populus* (Poplar). He and his team combine research in poplar with basic plant science in *Arabidopsis,* a fast-growing model plant, and then rapidly connecting that to biotechnology applications in forest trees.

His main research focus continues to be lignin biosynthesis for more efficient biofuel production. His team is widely known for its pioneering work in modifying lignin amount and composition and for their metabolic profiling and structural analysis of lignin molecules in wood. These breakthroughs should give researchers the ability to induce the biosynthesis pathways in trees to make new lignin polymers with different properties. In turn, this will increase the efficiency of converting wood into renewable products that society depends on, such as biofuels. He has also researched forest health issues ranging from dormancy to resistance against leaf rust. Leaf rust is a widespread pathogen attacking poplars throughout Europe.

Boerjan was also recognized for his outstanding contributions to facilitating dialogue among scientists, the public, and decision makers. He has taken a leading and courageous role in supporting the science, dialogue, and stewardship of forest biotechnology starting in the mid 1990s when biotech products first started getting significant attention by a wide range of European stakeholders.

"We have to keep in mind that wood consumption increases by 20% per decade, and that deforestation of primary forests, currently at a rate of 12 million hectares per year, should be halted to preserve biodiversity. The simple conclusion is that we will need to improve tree productivity and quality, so we can protect the remaining forests and associated biodiversity for future generations", Wout Boerjan said.

The Forest Biotechnology Partnership will name another Forest Biotechnologist of the Year in 2011. The recipient can be any practitioner in the field regardless of their research affiliations. More information is available at the Institute of Forest Biotechnology's website: www.forestbiotech.org