PRO SCIENTIA PRIZE

Jaana Bäck

THE NEW Pro Scientia Prize, awarded for the first time in 2017, is intended as a form of recognition for a person or instance exercising notable influence through spoken or written words or some other activity on behalf of the status of science within society at large. It was thus decided that it should go to a scientist who has worked unsparingly to promote scientific research and increase its influence, even though this work may not necessarily be widely known. This is an important consideration, for there are many talented and productive researchers working beyond the reach of the spotlights of popular science whose efforts have a far greater impact that one would realize from the publicity they may achieve. It is important that credit should also be given in public to these people.

The prize was therefore awarded to Professor Jaana Bäck of the University of Helsinki, who has specialized in the interactions between forests and the atmosphere, with the aim of determining how boreal forest ecosystems affect climate change and how environmental factors are reflected in their functioning, particularly in substance and energy fluxes and the physiological processes that regulate these.

"The main issue at the moment is to fill out the network of monitoring stations so that we can gather a sufficiently high-quality body of measurements as a basis for climate change research. Finland has one of the longest time series of such measurements to be found anywhere in the world, as we now have continuous sets of data on forest-atmosphere interaction stretching over the last 20 years. It is time these measures were harmonized with data from other parts of the world," Professor Bäck explains.

One particularly good example of her valuable work is the EASAC report on 'Multi-functionality and Sustainability in the European Union's Forests', the result of a project extending over many years in which she was the principal researcher and the leader of a multidisciplinary team comprising dozens of experts from a total of 14 countries. This was, in fact, the first time

Professor Jaana Bäck has worked unsparingly to promote scientific research

that a Finnish scientist has been leader of a project culminating in an EASAC report.

"When they set about planning the forest report all eyes turned towards Finland, as our forest expertise is internationally recognised as being of a high standard. In the end, we found an exceptionally large number of people who could contribute, although admittedly it was quite a challenge to reconcile their differing viewpoints," she recalls.

This report on multi-functionality and sustainability in Europe's forests has been unique in the social impact that it has had. It has been widely cited in discussions concerning forests both in Finland and abroad, and the results presented in it have been listened to even in the bodies responsible for placing proposals before the European Commission. Jaana Bäck herself has skilfully, knowledgeably and patiently introduced audiences in many places to the findings of the report, even though this socially highly controversial topic has aroused feelings of many kinds and heated discussions.

"At the moment I am finding myself spending a lot of time on teaching. After all, a professor's work is not only to do research. It is a fine thing to work with the brains and clear perception of young people. It is that that carries the world forward."

"For me personally, science is a great source of inspiration. I can't imagine myself doing any other kind of work. Science never gives you the ultimate truth; it always reveals new things that have to be studied, so that it can correct itself, as it were. That's just what makes it so exciting," Jaana confesses.

Professor Bäck has published 87 papers in peer-reviewed scientific journals and 30 chapters in textbooks and other collected works. She has also been a reviewer for 15 journals, an examiner for numerous theses and dissertations and an expert advisor for grant applications in Finland and Scandinavia. Her research group is working within the Academy of Finland's Centres of Excellence programme for the period 2014–2019.