Sustainable wood modification technologies with industrial applicability

Description

The 2026 Marcus Wallenberg Prize is awarded to Prof. Holger Militz for his groundbreaking contributions to research on, and industrialization of wood modification technologies. Prof. Militzâ??s work has directly enabled the commercialization of several sustainable wood protection technologies.

Prof. Holger Militz has significantly advanced the fundamental understanding of how chemical modification processes improve wood properties across multiple hierarchical scales. His research has revealed mechanisms leading to improvements in dimensional stability and resistance to biological degradation. Prof. Militzâ??s groundbreaking work has paved the way towards commercialization of several sustainable wood protection technologies.

His scientific work has been instrumental in bringing wood acetylation to an industrial scale, resulting in wood products with exceptional durability and dimensional stability while preserving recyclability and nonâ??toxicity.

Prof. Militzâ??s work has had a key role in scaling up of the acetylation process under the brand name *Accoya.* Acetylation process is recognized for enhancing the durability and dimensional stability of wood products. Wood treatment with a water-soluble resin is another example of Holger Militzâ??s innovative approach to the successful advancement and implementation of a wood modification technology, which was later commercialized under the brand name *Belmadur*. Holger Militz played an essential role in the further development of thermal treatments of wood, resulting in the implementation of the Plato process, a technology commercialized in the Netherlands (brand name *Platowood*). These industrial successes have expanded the use of modified wood in construction and other sectors, extending product life cycles and strengthening woodâ??s role as a longâ??term carbon storage material.

By applying advanced characterization methods to practical application properties of modified wood, including fire resistance, bonding ability, durability, mechanical behavior, dimensional stability, and surface properties, Holger Militz has broadened the use of wood for various applications, including durable facades, outdoor furniture, and load-bearing structures exposed to weathering.

â??Prof. Militz has innovatively addressed intrinsic challenges with wood as construction material by combining high level scientific research into industrial process development. As a result, the applicability of wood in different sustainable outdoor applications can be expanded.â?• says Prof. Johanna Buchert, chair-person of the Marcus Wallenberg Prize Selection Committee.

For the scientific motivation and elaboration of the 2026 Marcus Wallenberg Prize, please read the enclosed full motivation document.

The Marcus Wallenberg Prize 2026 will be presented by HM the King of Sweden at a ceremony in Stockholm in October this year.

Key facts about the laureate

Holger Militz is Professor at the University of GÃ¶ttingen, Germany, and Head of the Department of Wood Biology and Wood Products.

In the 1980s, he studied wood science and technology at the University of Hamburg, Germany, followed by a PhD work at the University of Wageningen in the Netherlands, which focused on enhancing the impregnation of spruce wood through pretreatments with enzymes and chemicals.

From 1987 to 2000, he first served as the head of wood research at TNO Timber Research in Delft and later as the founder and director of SHR Timber Research in Wageningen.

His main research interests in wood technology include wood modification, wood decay, wood protection, and wood drying. He has published more than 400 journal articles, conference proceedings, and book chapters, as well as more than 30 patents.

He is an elected fellow and distinguished member of the International Academy of Wood Science (IAWS), and received various honours and awards, including the Schweighofer Prize in 2007.

Prof. Holger Militz has been an active editorial board member of the international wood journals, Holzforschung, Wood Research, and Holztechnologie, and serves as the chair of the Scientific Committee of ECWM â?? Wood Modification in Europe.

Official Press Release, and the Full Prize motivation:

MWP 2026 Press release announcement â?? English

MWP 2026 Press release announcement â?? German

Award â?? Full motivation

Photos for downloading

Holger Militz (vertical)

Holger Militz (horizontal)

Announcement photo 1

Announcement photo 2