Leibniz Institute of Plant Genetics and Crop Plant Research (IPK)
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Press Release

International award for IPK scientist Nils Stein

Gatersleben, 23.04.2021 **By invitation of the Royal Physiographical and Mendelian Societies in Lund (Sweden), Prof. Dr. Nils Stein from the IPK Leibniz Institute will today take part in a virtual symposium honouring recent breakthroughs in the sequencing of complex genomes. The head of the Genomics of Genetic Resources research group will be honoured for his successful research in the field of cereal genomics. Just recently, an international research team led by the IPK Leibniz Institute succeeded in completely decoding the large and complex genome of rye.**

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“Prof. Dr. Nils Stein will be awarded a medal from the Royal Physiographical Society in Lund for his significant and pioneering contributions to the field of cereal genomics," explains Prof. Mats Hansson, Professor of Plant Molecular Biology at Lund University and representative of the Mendelian Society and the Royal Physiographical Society. In connection to the prize ceremony, Prof. Dr. Nils Stein will give “The Royal Physiographic and Mendelian Societies in Lund Honorary Lecture in Genetics”. Earlier speakers include for example Barbara McClintock, Walter Bodmer, Ed Southern, John Maynard Smith, Janet Rowley, Bruce Ponder, Sydney Brenner, Mike Stratton and Svante Päbo.

"I feel very honoured - after all, awards of this kind can neither be taken for granted nor planned for," says Prof. Dr Nils Stein, head of the Genomics of Genetic Resources research group at the IPK Leibniz Institute and holder of a joint professorship at the University of Göttingen. "This award honours achievements in cereal genome analysis. It is thus less an award on my part than on the part of the many colleagues, including a large number of IPK staff, with whom national and international collaboration has led to the success of cereal genome research and the decoding of the genomes of wheat, barley and rye."

Prof. Dr. Andreas Graner, Managing Director of the IPK Leibniz Institute, is also pleased about the award for his long-standing colleague. "By inviting us to the symposium and awarding us the medal, the Royal Physiographic Society is honouring the groundbreaking work that Nils Stein has done to elucidate the most important cereal genomes. With his results, he has laid the foundations for future innovations to preserve genetic diversity and adapt crops to human needs."

In addition to elementary progress in decoding the pan-genomes for barley and wheat, an international research team led by the IPK Leibniz Institute recently succeeded in completely decoding the large and complex genome of rye. This means that the extensive genetic diversity of barley and wheat`s "little brother" can be systematically discovered and used by breeders in a more targeted approach.

"Rye has caught up with barley and wheat and is in the middle of the genome research era," says Prof. Dr Nils Stein. This means that the IPK Leibniz Institute now has a leading

role in the elucidation of genome sequences for all three cereals, which are of particular importance in Germany and Europe.

The Royal Physiographic Society in Lund was founded on 2 December 1772 as the Physiographic Society. The driving force behind the founding of the Academy was the naturalist Anders Jahan Retzius, then Professor of Natural History at Lund University. On 6 March 1778, King Gustav III confirmed the foundation, giving the Academy its full name.

The Mendelian Society in Lund was founded on 10 December 1910. The Society's main aim has today become the dissemination of knowledge about genetics, its history and social effects to a broader audience, and to support studies on the influence of genetics in non-traditional fields such as human and social sciences.

Original publications: Jayakodi, M. *et al.* (2020) The barley pan-genome reveals the hidden legacy of mutation breeding. *Nature*. DOI: 10.1038/s41586-020-2947-8

Walkowiak, S. *et al.* (2020) Multiple wheat genomes reveal global variation in modern breeding. *Nature*. DOI: 10.1038/s41586-020-2961-x

Rabanus-Wallace et al. (2021), Chromosome-scale genome assembly provides insights into rye biology, evolution, and agronomic potential.
Nature Genetics. DOI: 10.1038/s41588-021-00807-0

Li et al. (2021), Analysis of rye genome sequence sheds new light on its genome expansion and agronomically important genes.
Nature Genetics. DOI: 10.1038/s41588-021-00808-z

Figure (for free use):

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