GATERSLEBEN LECTURE

IPK LEIBNIZ-INSTITUT

Speaker: **Prof. Dr. Timothy (Tim) George**
James Hutton Institute, Dundee, UK

Title: ***Back to the future: Using ancient barley landraces for a sustainable future***

Time: **Tuesday, March 3, 2026, 2 pm**
https://ipk-gatersleben-de.zoom-x.de/j/64783767811?pwd=hndGuIynz0tMsTZ3oKnPjTsgHfQDL8.1
ID: 647 8376 7811
Kenncode: 184928

Place: **IPK Lecture Hall and via Zoom,**
Correnssstr. 3, 06466 Seeland OT Gatersleben

Abstract:
Future crops need to be sustainable in the face of climate change. Modern barley varieties have been bred for high productivity and quality; however, they have suffered considerable genetic erosion, losing crucial genetic diversity. This renders modern cultivars vulnerable to climate change and stressful environments. I will highlight the potential to tailor crops to a specific environment by utilising diversity inherent in an adapted landrace population. Tapping into natural biodiversity, while incorporating information about local environmental and climatic conditions, allows targeting of key traits and genotypes, enabling crop production in marginal soils. An example of this is Bere which is an ancient barley that was once widely grown in northern Britain, where its ability to grow on poor soils and under challenging climatic conditions made it a valuable staple. By the end of the 20th century, Bere had largely been replaced by higher-yielding modern varieties and only survived in cultivation on a few Scottish islands. recent revival of Bere, driven by its use in high-value food and drink products and multidisciplinary research into its genetics, valuable sustainability traits and potential for developing resilient barley varieties is an exemplar of our approach. I will conclude by outlining future directions for the utilisation of genetic resources maintained in landrace collections to support sustainable agriculture through germplasm development via the use of genomics technologies and big data.

Biography:
Tim is a rhizosphere scientist at the James Hutton Institute and the Director of the International Barley Hub. He got his BSc from the University of Newcastle-upon-Tyne in 1996 and PhD in Soil Science from the University of Reading in 2000 and currently holds Honorary Professorships at the University of Aberdeen and the University of Nottingham. He has specific expertise in understanding how the external environment mitigates plant physiological and genetic responses to a lack of resources in the rhizosphere. Tim has published >150 papers and currently coordinates an EU Horizon Europe to develop root phenotyping and genetic improvement for crops resilient to environmental change. In addition, he is actively involved in promoting plant and soil science as Current President of the International Society of Root Research, Marschner Editor for Plant and Soil, Vice President of EPSO and Chair of the EPSO Plant Science Seminar series.

Prof. Dr. Nils Stein (organizer and host)