

CZECHGLOBE OPEN DISPUTATION

INVITATION

THE IDENTIFICATION OF NOVEL GENE FUNCTIONS THROUGH GENETICS AND
GENOMICS APPROACHES

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of Global Change Research Centre AS CR, v. v. i.; Brno, Bělidla 986/4a

Dr. Eric van der Graaff is one of the leading experts in the field of developmental biology genetics, genomics, phenomics, plant tissue culture, stress physiology, stem cell biology, applied research. He works in Institute of Plant Sciences, Department of physiology, University of Graz.

Abstract

The functional characterisation for all genes (>30.000) encoded by plant genomes is one of the major challenges in plant research and required to ensure sufficient crop productivity for feeding the growing world population. Crop productivity could be increased by either improved growth characteristics or by diminishing yield reductions under stress conditions. Because of functional/genetic redundancy, classical loss-of-function analysis is mostly not possible for determining gene function. Such redundancy in gene function could be circumvented by activator tagging studies or second site EMS mutagenesis. Alternatively, information regarding its expression can reveal much insight into the function of a gene. Several forward genetic screens as well as expression profiling studies will be presented, which were employed by me for the identification of novel gene functions, the thorough description of developmental processes or responses towards stress conditions.



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