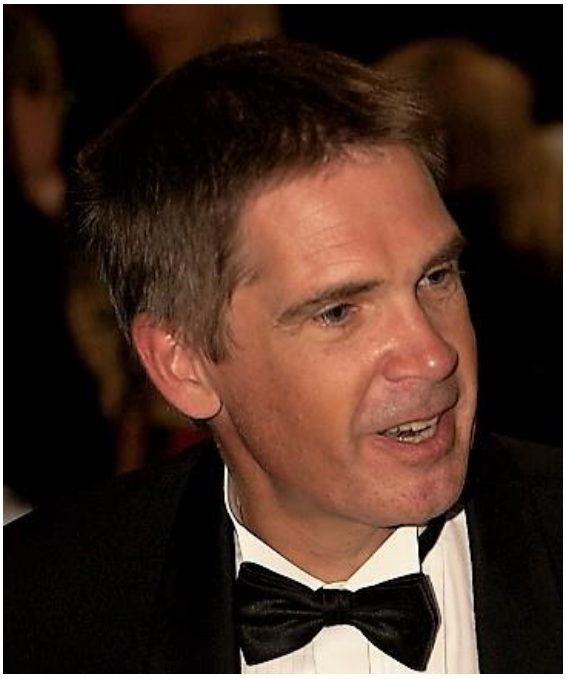

Jack Pronk receives 2018 International Metabolic Engineering Award

Jack Pronk, Professor of Industrial Microbiology at the Delft University of Technology (The Netherlands), has been named the recipient of the 2018 International Metabolic Engineering Award. The award, presented every two years by the International Metabolic Engineering Society (IMES), a community within the American Institute of Chemical Engineers' (AIChE's) Society for Biological Engineering, recognizes an outstanding career contributor to the field of metabolic engineering. Pronk is being honored for his contributions to metabolic and evolutionary engineering of yeasts for the production of biofuels and chemicals. Professor Sang Yup Lee, the chair of the award selection committee said "Pronk is an obvious recipient of the International Metabolic Engineering Award due to his many significant contributions to the metabolic engineering of yeast, several of which have been implemented for industrial production. In particular his contributions to engineering pentose metabolism in yeast, which has enabled second generation bioethanol production, are worth mentioning, but also his many contributions to engineering of yeast for production of a wide range of other chemicals".

The Metabolic Engineering Award and an associated lecture by Pronk will be presented during the IMES-sponsored Metabolic Engineering XII conference, June 24-28, 2018 in Munich, Germany.

Pronk made important contributions to improving and extending the largest-volume process in industrial biotechnology: production of fuel ethanol by the yeast

Saccharomyces cerevisiae. Strategies for enabling anaerobic fermentation of pentose sugars by this yeast, developed by his team at TU Delft, are now used for industrial-scale ethanol production from agricultural residues. He successfully explored strategies for improving ethanol yields by implementation of pathways for co-utilization of acetic acid or CO_2, with the latter strategy involving the first demonstration of the functional expression of 'autotrophic' CO_2-fixing enzymes in yeast. Key contributions outside the ethanol field include his research on metabolic engineering of *S. cerevisiae* for production and export of dicarboxylic acids and for energy-efficient synthesis of the biosynthetic precursor acetyl-coenzyme A.

Pronk holds an MSc in Biology from Leiden University and a PhD in Microbiology from TU Delft where, in 1999, he was appointed full professor. Together with his fellow PI's, he seeks to understand, improve and extend microbial performance in industrial contexts. Pronk (co-)authored over 250 publications and is inventor on 25 patent applications. He loves teaching and, in 2014, was awarded the Delft University Fund's 'Best Professor' award for his contributions as a teacher and supervisor. From 2003-2014, Pronk was Scientific Director of the Kluyver Centre for Genomics of Industrial Fermentation, a Netherlands-based center of excellence with an international industrial platform. In 2015, he was elected Fellow of the American Academy of Microbiology and in 2016 received an ERC Advanced Grant for research on anaerobic metabolism in yeasts and fungi. He serves on several advisory boards, regularly provides advice to biotech industries and is a member of the IMES Managing Board.

The International Metabolic Engineering Society promotes the use of metabolic engineering — the optimization of the genetic and regulatory processes within cells — as an enabling science for bio-based production of advanced materials, pharmaceuticals, food ingredients, chemicals, and fuels. One of its venues for collaboration and information exchange is the biannual Metabolic Engineering Conference, where practitioners share knowledge and discuss current developments made in the field.

Previous recipients of the International Metabolic Engineering Award are: Bernhard Palsson (2016), Vassily Hatzimanikatis (2014), Jay Keasling (2012); Eleftherios Terry Papoutsakis (2010); Sang Yup Lee (2008); James Liao (2006); Jens Nielsen (2004); Gregory Stephanopoulos (2002); and James E. Bailey (2000).