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Education

1976-1982 Studies of biology at the TH Darmstadt; Diploma
(with 3 month research fellowship at the University of East Anglia Norwich,
England)
1982-1985 Ph.D. (Dr. rer. nat.), TH Darmstadt (with Prof. Dr. Friedrich K. Zimmermann)

Research experience

1985-1986 Research assistant at the TH Darmstadt (in the Department of Genetics; with
Prof. F.K. Zimmermann)
1986-1988 Postdoctoral fellow at the University of Alberta (Edmonton/Canada) with Prof.
Dr. R.C. von Borstel
1988-1993 Research assistant at the Institute of Microbiology at the Heinrich-Heine-
University Düsseldorf (laboratory of Prof. C.P. Hollenberg)
1993 Habilitation in Microbiology at the Heinrich-Heine-University of Düsseldorf
1993-2000 Privatdozent at the Institute of Microbiology at the Heinrich-Heine-University
Düsseldorf (laboratory of Prof. C.P. Hollenberg)
1996-1997 Substituting Professorship (C3) for Molecular Yeast Physiology at the Institute
of Microbiology at the Heinrich-Heine-Universität Düsseldorf
2000-2002 Professorship (C3) for Fermentation Technology at the University of
Hohenheim
since 2003 Professorship (C4) for Genetics at the University of Osnabrück

Fellowships and Awards

1986-1988 Research Fellowship of the Alberta Heritage Foundation for Medical Research

External funding within the last 5 years

- 2016-2020 DFG research grant HE 1880/6-1 (first period) on "Characterization and physiological role of the yeast Dck1/Lmo1/Rho5 complex " (1 PhD position and funding for 3 years)
- 2020-2024 Grant from the "Forschungsring des deutschen Weinbaus (FDW)" on "Natural selection of sulfite-resistant strains of the wine yeast *Hanseniaspora uvarum* (*Kloeckera apiculata*) with reduced production of acetic acid" (1 PhD position for 3 years)

Research interests

Mechanisms and components of signal transduction ensuring yeast cell integrity. Investigation of regulatory networks, especially in relation to oxidative stress and cytokinesis. Basic and applied research in yeast genetics and physiology, including central carbohydrate metabolism in several non-*Saccharomyces* yeasts.

List of 10 publications

- Musielak, M., Sterk, C., Meyer, C., Paululat, A., **Heinisch, J.J.** (2021) The small GTPase KIRho5 responds to oxidative stress and affects cytokinesis. *J. Cell Sci.* in press (accepted August 19, 2021). doi: 10.1242/jcs.258301
- Schmitz, H.P., Jendretzki, A., Sterk, C., **Heinisch, J.J.** (2018) The small yeast GTPase Rho5 and its dimeric GEF Dck1/Lmo1 respond to glucose starvation. *Int. J. Mol. Sci.* 19, 2186. doi: 10.3390/ijms19082186.
- Langenberg, A.K., Bink, F.J., Wolff, L., Walter, S., von Wallbrunn, C., Grossmann, M., **Heinisch, J.J.** *, Schmitz, H.P. (2017) Glycolytic functions are conserved in the genome of the wine yeast *Hanseniaspora uvarum*, and pyruvate kinase limits its capacity for alcoholic fermentation. *Appl. Environm. Microbiol.* 83, e01580-17. doi: 10.1128/AEM.01580-17.
- Kock, C., Arlt, H., Ungermann, C., **Heinisch, J.J.** (2016) Yeast cell wall integrity sensors form specific plasma membrane microdomains important for signalling. *Cell. Microbiol.* 18, 1251-1267. doi: 10.1111/cmi.12635.
- Schmitz, H.P., Jendretzki, A., Jendretzki, J., Wiechert, J., and **Heinisch, J.J.** (2015) Identification of the Dck1/Lmo1 complex as a regulator of the small GTPase Rho5 in *Saccharomyces cerevisiae*. *Mol. Microbiol.* 96: 306-324.
- Rippert, D., Heppeler, N., Albermann, S., Schmitz, H.P., and **Heinisch, J.J.** (2014) Regulation of cytokinesis in the milk yeast *Kluyveromyces lactis*. *Biochim. Biophys. Acta - Mol. Cell Res.* 1843: 2685-2697.
- Heinisch, J.J.**, Dupres, V., and Dufrene, Y.F. (2010): Measuring the mechanical behaviour of yeast membrane sensors using atomic force microscopy. *Nature Protocols* 5: 670-677.
- Dupres, V., Alsteens, D., Wilk, S., Hansen, B., **Heinisch, J.J.** *, and Dufrênes, Y.F. (2009): The yeast Wsc1 cell surface sensor behaves like a nanospring *in vivo*. *Nature Chem. Biol.* 5: 857-862.
- Gueldener, U., **Heinisch, J.**, Koehler, G. Voss, D. and Hegemann, J.H. (2002) A second generation of loxP marker cassettes for cre-mediated multiple gene knock-outs in budding yeast. *Nucl. Acids Res.* 30 (6): e23.
- Raben, N., Exelbert, R., Spiegel, R., Sherman, J.B., Plotz, P. and **Heinisch, J.** (1995): Functional expression of human mutant phosphofructokinase (PFK-M) in yeast - Genetic Defects in French Canadian and Swiss patients with PFK deficiency. *Amer. J. Hum. Genet.* 56: 131-141.

(* co-corresponding author)