

BioTech 2008 & 4th Swiss-Czech Symposium

**Biopharmaceuticals:
why use yeasts?**

22–23 May 2008

**Institute of Biotechnology
Zurich University of Applied Sciences ZHAW
Campus Grüental, Wädenswil, Switzerland**

**www.biotech2008.ch
www.swiss-czech.net**

Supported by:

- Academy of Sciences of the Czech Republic
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The further potential of recombinant yeasts, in particular *Pichia pastoris*, *Hansenula polymorpha*, *Yarrowia lipolytica*, *Arxula adenivorans* and *Schizosaccharomyces pombe* in the production of biopharmaceuticals will be evaluated in comparison to other expression systems (*Aspergillus*, *Chrysosporium*, *Penicillium*, *Saccharomyces*, *Talaromyces*, etc.).

Finally, from the applications in focus (i.e. therapeutic proteins, enzymes for the synthesis/modification of pharmaceuticals, drug target proteins, and proteins for diagnostics), particular products appropriate for manufacture using yeasts will be identified.

The sessions and panel discussions will address the following topics:

- Molecular biology tools for pathway engineering and custom-designed glycosylation
- Combined *in vivo* and *in vitro* approaches (i.e. interactions of strain design, process control and chemical post-treatment)
- Further opportunities for advanced yeast expression systems

Moreover, the opinions of the audience will be continually sought and summarised, and recommendations relating to the future of microbial (industrial) biotechnology in research and manufacturing published in a post-conference position paper.

Scientific Committee

| | |
|--------------------|--|
| Karin Kovar | ZHAW, Institute of Biotechnology, Wädenswil CH |
| Karel Melzoch | Institute of Chemical Technology, Prague CZ |
| Tobias Merseburger | ZHAW, Institute of Biotechnology, Wädenswil CH |
| Hans-Peter Meyer | Lonza Ltd, Vesp CH |

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| | |
|---------------------|---|
| Domenico Alexakis | Swiss Biotech Association, Zurich CH |
| Daniel Gyax | Biotechnet Switzerland, Basel CH |
| Jan Káš | Czech Biotechnology Society, Prague CZ |
| Karin Kovar | ZHAW, Institute of Biotechnology, Wädenswil CH |
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| Adrian Stettler | Economic Development Canton of Zurich CH |
| Radka Strnadová | ZHAW, Institute of Biotechnology, Wädenswil CH |

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Registration Fees

| | | before 31 March 2008* | after 31 March 2008 |
|--------------------|----------|--------------------------|------------------------|
| 22 and 23 May 2008 | (2 days) | CHF 250.– | CHF 300.– |
| 22 or 23 May 2008 | (1 day) | CHF 150.– | CHF 200.– |

* The early registration fee applies to all students (international student ID number to be given). Students presenting a poster may apply to radka.strnadova@zhaw.ch for free admission to the conference (meals, conference proceedings and accommodation not included).

Exhibition & Sponsoring

Companies from the biotechnological and related industries are invited to present their latest advances at the exhibition. Details of and conditions for company presentations (i.e. stands, printed and online advertisements) are listed on www.biotech2008.ch/registration

Registration & Submission

**www.biotech2008.ch/registration
www.biotech2008.ch/submission**

NB Unlike previous years, registration and submission of papers are only possible online.

29 February 2008 Submission deadline

- abstracts
- short biographies
- print-ready versions of advertisements
- exhibitors' descriptions (optional)

31 March 2008 Early registration deadline

18 April 2008 Notification of acceptance

02 May 2008 Registration (and payment) deadline

Pre-Conference Events

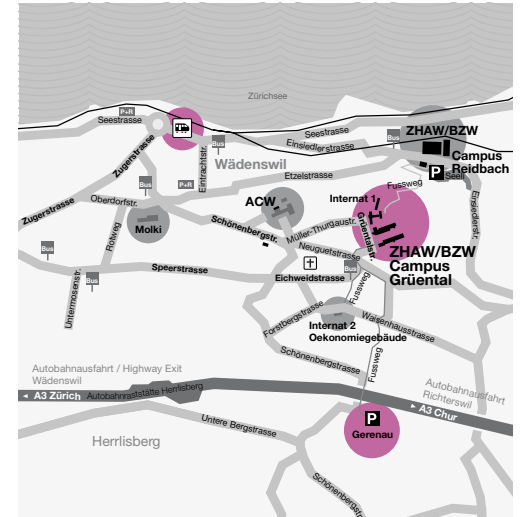
On **21 May 2008** the following pre-conference events will take place:

- a special workshop given for the AIBy network (Advances in Industrial Biotechnology of Yeasts)
- an industry get-together including presentations/discussions and dinner.

These events are by invitation or by request to radka.strnadova@zhaw.ch

Contact

Irène Tinguely (for participants), Tel. +41 58 934 59 80
Marianne Ernst (for exhibitors and sponsors), Tel. +41 58 934 57 50
Postal addresses are given on www.biotech2008.ch/contact



www.sbb.ch (Swiss Railways)
www.zvw.ch (local buses & trains)

from Zurich main station ('Hauptbahnhof') to Wädenswil

– trains four times an hour (S2, S8, IR), journey time 20–30 minutes

from Zurich airport to Wädenswil

– direct trains twice an hour (S2), journey time 35 minutes

from Wädenswil railway station to ZHAW Campus Grüental

- by bus 123 or 124 (bus stop 'Hochschule'), 5-minute journey
- on foot 20 minutes
- by taxi from Wädenswil railway station (approx. 10 CHF one way)
Wädi Taxi, Tel. +41 44 780 52 52
City Taxi, Tel. +41 44 780 77 77
- by private transport, leaving the A3 motorway (Zurich–Chur) at the Wädenswil exit (parking in Gerenu recommended due to only limited parking space on the Campus Grüental)

Accommodation

Hotels in and around Wädenswil are listed on www.biotech2008.ch/venue

Thursday 22 May 2008

Morning

High-Level Protein Expression

08:30–09:00 Registration (Campus Grüental)

Chairperson: Anton Glieder
Co-chairperson: Verena Looser

09:00–09:30 Opening session

09:30–10:00 **A comparative view on yeast expression hosts *S. cerevisiae* and *P. pastoris***

Christine Lang, TU Berlin D

10:00–10:10 Discussion

10:10–10:40 Coffee break & poster session and exhibition

10:40–11:10 **Fungal cell factories: production and screening of antibody (-fragments)**

Peter J. Punt, TNO, AJ Zeist NL

11:10–11:20 Discussion

11:20–11:50 **Intracellular expression of heterologous gene encoding bacterial penicillin acylase in *Pichia pastoris***

Pavel Kyslik, Institute of Microbiology ASCR, Prague CZ

11:50–12:00 Discussion

12:00–12:40 **Genomics comes to the recombinant protein production yeast *Pichia pastoris***

James M. Cregg, Keck Graduate Institute of Applied Life Sciences, Claremont USA

12:40–12:50 Discussion

12:50–14:00 Lunch & poster session and exhibition

Thursday 22 May 2008

Afternoon

Process Engineering vs. Strain Design

Chairperson: Leona Paulová
Co-chairperson: Christian Meier

14:00–14:30 **Alternative cultivation strategies with *Pichia pastoris* for the production of therapeutic recombinant proteins**

Carmen Jungo, Lonza Ltd, Visp CH

14:30–14:40 Discussion

14:40–15:10 **Production of cytochrome P450-metabolites using recombinant fission yeast *Schizosaccharomyces pombe***

Matthias Bureik, PomBioTech GmbH, Saarbrücken D

15:10–15:20 Discussion

15:20–15:50 Coffee break & poster session and exhibition

15:50–16:20 **Methanol free protein expression by *Pichia pastoris* using methanol inducible promoter variants**

Claudia Ruth, Institute of Molecular Biotechnology, TU Graz A

16:20–16:30 Discussion

16:30–17:00 **Strain design and its impact on process development in *H. polymorpha* and other yeasts**

Gerd Gellissen, PharmedArtis GmbH, Aachen D

17:00–17:10 Discussion

17:10–17:40 **Poster awards**

17:40–19:00 Aperitif & poster session and exhibition

19:00– Gala dinner (Campus Reidbach)

open end

Addresses by:
Václav Páces, President of ASCR
H.E. Boris Lazar, Czech Ambassador to Switzerland
Ernst Stocker, Mayor of Wädenswil

Friday 23 May 2008

Morning

Postranslational Modifications

08:30–09:00 Registration (Campus Grüental)

Chairperson: Nico Callewaert
Co-chairperson: Sandra Núñez

09:00–09:30 **N-linked protein glycosylation in yeast**

Markus Aebi, Swiss Federal Institute of Technology (ETH), Zurich CH

09:30–09:40 Discussion

09:40–10:10 **Secretory system engineered yeast expression systems: taking the prototypes further**

Nico Callewaert, Flanders Institute for Biotechnology vzw, Ghent B

10:10–10:20 Discussion

10:20–10:50 Coffee break & poster session and exhibition

10:50–11:20 ***Yarrowia lipolytica*: a versatile expression system for the production of biopharmaceuticals**

Adriana Botes, Oxryane UK Ltd, Manchester UK

11:20–11:30 Discussion

11:30–12:00 **Modified substrates in enzymatic glycosylations: a simple route to complex saccharides**

Pavla Bojarová, Institute of Microbiology ASCR, Prague CZ

12:00–12:10 Discussion

12:10–12:50 **Panel discussion**

12:50–14:00 Lunch & poster session and exhibition

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Friday 23 May 2008

Afternoon

Further Opportunities

Chairperson: Hans-Peter Meyer
Co-chairperson: Radka Strnadová

14:00–14:30 **Physiological characterisation and strain engineering of *Pichia pastoris* by transcriptomics and proteomics**

Brigitte Gasser, BOKU-University of Natural Resources and Applied Life Sciences, Vienna A

14:30–14:40 Discussion

14:40–15:10 ***Pichia pastoris*: a powerful expression system to support drug discovery projects in pharmaceutical industry**

Ralf Thoma, F. Hoffmann-La Roche AG, Basel CH

15:10–15:20 Discussion

15:20–15:50 Coffee break & poster session and exhibition

15:50–16:20 **Enzymatic synthesis of glycoconjugates**

Oreste Ghisalba, Novartis Pharma AG, Basel CH

16:20–16:30 Discussion

16:30–17:00 **Co-expression of homologous and heterologous genes as tools for advancement of established and new yeast expression systems**

Michael Piontek, Artes Biotechnology GmbH, Langenfeld D

17:00–17:10 Discussion

17:10–17:40 **Test for carbohydrate specific internalisation of biosimilars**

Jack Rohrer, University of Zurich, CH

17:40–17:50 Discussion

19:00– Alumni get-together
open end