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Next CLIB-Panel 2011:

27 January

„R&D for yeast-based
production“

RWI.4, Düsseldorf

New CLIB-Advisory Board

On 25 November 2010, our new advisory board met for the first time to get to know CLIB²⁰²¹ and to give advice on the strategic development of the cluster.

After three years a new advisory board was elected, as stipulated in our statutes. After Dr. Kircher presented the cluster CLIB²⁰²¹ and Dr. Schwabe introduced the CLIB-Graduate Cluster, the advisory board showed itself impressed with the developments achieved so far. The experts gave advice on the next strategic steps, especially to ensure constancy in the cluster network and to initiate new research projects.

The advisory board of CLIB²⁰²¹ comprises eight external experts. They have been drawn from industry, SME, investors and academia, equal to our membership-structure:

- **Mr. Rainer Christine**
co-founder and former CEO of Amaxa AG
- **Prof. Dr. Wolfgang Liebl**
Head, Department of Microbiology, TU München
- **Dr. Christian Patermann**
former Program Director for Biotechnology, Agriculture & Food Research at the Research Directorate-General of the European Commission
- **Dr. Eckhard Renken**
CEO, Biomol GmbH, Hamburg
- **Dr. Thomas Schäfer**
Senior Director, Novozymes A/S, Bagsvaerd, Denmark
- **Dr. Jürgen Schumacher**
CEO, SCT Spinal Cord Therapeutics GmbH
- **Dr. Jan van der Eijk**
former Group CTO at Royal Dutch Shell plc
- **Prof. Dr. Luuk A.M. van der Wielen**
Head, Department of Biotechnology, TU Delft, Delft, The Netherlands

Following the meeting the annual advisory-board dinner took place. This year's dinner at the Industrie-Club Düsseldorf was sponsored by three of our member-SMEs: evocatal, instrAction and Protagen. After a panel discussion about technology transfer moderated by Prof. Riesner, the participants had the chance to establish new contacts.

Our heartfelt thanks to the members of our former (and first) advisory board for their valuable input: Mr. Larry E. Drumm, Dr. Christian Patermann, Dr. Eckhard Renken, Prof. Dr. Detlev Riesner, Prof. Dr. Wim Soetaert, Prof. Dr. Christian Wandrey, Dr. Guenter Wich and Dr. Marcel Wubbolts.

New Colleague at CLIB office

Crew change at the CLIB-office: Mrs. Sabine Dues leaves us and BIO.NRW, to move to the Research Centre Juelich / PtJ. As of December 1st Mrs. Xiao Chen, whom we would like to give a warm welcome to, strengthens our team. Here is her brief introduction.

With great joy, I joined CLIB²⁰²¹ on 01 December 2010 as a scientific officer. I will be responsible for the organization of the CLIB conference in April 2011 and other industrial biotechnology events. China is my homeland and I received my Bachelor of Environment & Resource Management from Zhejiang University.

In 2003, I moved to Germany to pursue a Master in Environmental Ecology at TU Munich, focusing on environmental analysis. Continuing in the analytical field but moving to biotechnology, the developing of an immunoassay for quorum sensing molecules was my PhD topic at the Helmholtz Centre Munich. As a part of CLIB, I am looking forward to working with you to encourage the development of industrial biotechnology.



CLIB-Graduate Cluster invites CLIB-members to its annual retreat

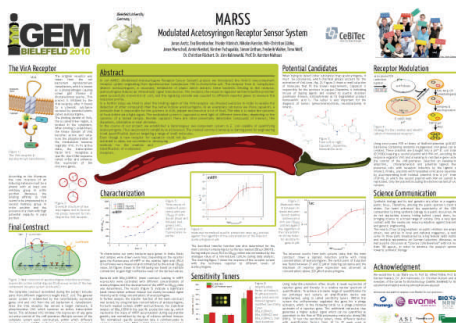


The second annual retreat of the CLIB-Graduate Cluster Industrial Biotechnology will take place on 07-08 April, 2011 in Bonn. Members of CLIB²⁰²¹ are invited to attend this internal event and will be able to meet directly with the CLIB-GC fellows,

some of whom will already be in the third year of their doctoral studies. All students will present posters; about 17 of them will give oral presentations.

Please contact office@graduatecluster.net for more information or see the [preliminary programme](#).

iGEM Team from Bielefeld wins gold medal



The MARSS-Team from Bielefeld University was the first team from North Rhine-Westphalia to have joined the iGEM competition (see also CLIB-Insight 5/2010). The 11 successful students returned with a gold medal.

More than 120 teams from all over the world had come to Cambridge, USA in November to present their projects at the iGEM jamboree. This competition in synthetic biology sees the teams take an engineering approach to biological questions, where biobricks are combined to create bacteria with novel characteristics.

The MARSS-Team aimed to engineer *E. coli* into a biosensor for capsaicin, the molecule which gives chillies their spiciness. Their [poster](#) shows an overview of their progress, for which they received one of 64 gold medals awarded in this year's iGEM competition.

The students were supported by several sponsors, amongst them Evonik and BIO.NRW.

Review: Biotrends Conference 2010

This year's Biotrends conference was organized by Prof. Oliver Kayser, Prof. Andreas Schmid and Dr. Frank Eiden in Dortmund. The focus was on new trends in green chemistry.

About 60 participants followed the sessions on

- the potential of natural products in pharma biotechnology
- metabolic engineering and pathway design
- the cell as a factory

The main emphasis was on plants or plant enzymes for use in biotechnology.

Two different strategies emerged. On the one hand, the optimization of lines by classical breeding or metabolic engineering in the native plant. This has the advantage that plants are easy and cheap to grow and in certain cases can circumvent the need for costly downstream processing. Plants expressing antigens for example can be added to cattle feed to confer immunity against certain diseases. An altogether different strategy is to transfer complex biosynthetic pathways into more tractable micro-organisms, whose fermentation and processing is already standard procedure. Examples from both areas of research were presented by scientists and representatives from the industry.



01. - 02. December 2010 - Harenberg City-Center - Dortmund - Germany

**New Biotrends
in green chemistry**
Exploring the potential of synthetic biology
for natural product discovery and production

INVITED SPEAKERS / KEYNOTES
Barak O'Connor, MIT, USA
Understanding and Engineering Natural Synthesis
Herbert Waldschmidt, TU Darmstadt, Germany
Metabolic Engineering of Pathways for Renewable Production of Secondary Natural Products -
Path Accumulation and a Vision for the Future
Hilke Roscher, VTC, Heppenheim, Pfalz
The Power of Natural Products in Process Biotechnology
Stefan Mertens, BASF AG, Italy
Heterologous Production of Flavonoids

Review: Alberta BioEconomy



Only one year after kick-off Dave Bressler, Director of *Alberta's Biorefinery and Conversion Network (BCN)* brought together a remarkable audience from academia, industry and politics for its 1st retreat from 09.-11.11.10 in Lake Louise (Alberta, Canada).

Doug Horner, Alberta's Deputy Premier, opened the retreat and specifically welcomed CLIB. Trevor Kloeck (Alberta Materials Development Center) presented Alberta's 8 m tonnes annual surplus in cereals (wheat),

oil crops (canola), flax, hemp and sugar beet. These crops are grown on 96 m ha out of 200 m ha of total agricultural area (as comparison: Germany's total agricultural area is 12 m ha).

Amit Kumar (University of Alberta) added that annually 20-23 m³ wood are harvested from 38.3 m ha woodland in Alberta, which are currently used for pulp, panel boards and lumber. About 25 % of the harvest is left at the roadside and might be used as a carbon source for power generation and materials production. Kumar focused on the pre-processing necessary to use wood efficiently. Whereas the infrastructure before petrochemical refining consumes only about 5 % of the total energy, pre-processing of wood costs 25 - 45 %.

Fred West (U Alberta) presented Alberta's 3rd largest business sector: the chemical industry (9.2 bio CAD; 2009). This industry is strong in petrochemical bulk chemicals and West discussed the potential of "drop-in" ready to use chemicals from biomass.

Drayton Valley's BioMile is one of Alberta's most developed options to realize biomass based pilot- and demonstration plants. The site is progressing with a fiber-mat-production starting early 2011 and Otoka's syngas 2 stage strategy (starting with power generation and moving to conversion to chemicals).

Close to the BioMile, a treefarm operated by Weyerhaeuser has been visited. This company is one of the leading US timberland and wood products companies. In Alberta it grows aspen, which produce at a natural growth rate of 140 m³/ha over a 70 year rotation. Weyerhaeuser's breeding program targets at a yield of 240 m³/ha in 30 years. They are quite interested in CLIB, as biotransformation might open a higher value outlet for their waste lignocellulose.

Join the interest group „Industrial Platform“ of the planned EU-project BIORECOVERY

Dr. Tassoni at the University of Bologna, Italy, is currently coordinating a grant proposal under the FP7 Program, aimed at recovering valuable compounds from municipal and industrial biowastes (Preliminary title: *Biotechnology for waste upgrading: new integrated and sustainable methods for the recovery of valuable compounds from the organic fraction of municipal and industrial biowastes*).



Food,
Agriculture and Fisheries,
and Biotechnology
Knowledge-Based Bio-Economy (KBBE)

Even without participating directly in the project, stakeholders can sign up to join the industrial platform. Members of the platform do not receive funding and have no obligations, but receive all the relevant information first-hand. They can also make recommendations to the consortium and exploit the results of the project. Since BIORECOVERY aims to use biowaste to extract valuable compounds, membership in the platform would be interesting for entities producing large amounts of biowaste (food industry, municipalities etc) as well as those industries seeking to utilize this waste as feedstock. Interested companies, SMEs and institutions are invited to send an Lol, stating their interest in becoming a member of the industrial platform.

Please contact Tatjana Schwabe (schwabe@clib2021.de) for more details, contact addresses and an exemplary Lol. Deadline for submission of Lol is **22 December 2010**.

BIOCHEM: EU-project offers free support for SMEs to improve innovation



BIOCHEM provides a business support toolbox, which during the project phase will be tested on up to 250 selected SMEs. The aim is to help SMEs to be more innovative and to enter the market for bio-based products.

The project offers an assessment of current business activities and an analysis of opportunities for new products as well as a long-term development plan.

The aim is to improve the innovation at chemistry and biotechnology SMEs, especially in the areas of bio-products like bio-plastics, bio-lubricants, surfactants, enzymes and pharmaceuticals.

This offer is free, interested SMEs should contact either Tatjana Schwabe at the CLIB²⁰²¹-office (schwabe@clib2021.de) or go directly to the BIOCHEM website at <http://www.europe-innova.eu/biochem>. The second [newsletter](#) has just been published.

ABIC 2011: Moving towards a BioEconomy



The next *Agricultural Biotechnology International Conference* (ABIC) will take place in Johannesburg, South Africa, from 06-09 September 2011. The focus will be on agricultural biotechnology for economic development and the move towards a bioeconomy.

Travel bursaries are available for young researchers (post-graduate or post-doc) from developing and emerging nations, even if they are currently working in developed countries. Deadline for [applications](#) is **15 Feb 2011**.

For further information please go to <http://www.abic2011.co.za>

Dates & Events

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|----------------|--|
| 27.01.2011 | CLIB-Panel „R&D for yeast-based production“, Düsseldorf |
| 15.-16.02.2011 | BIO-raffiniert , Oberhausen |
| 15.-16.03.2011 | 4. Biowerkstoff-Kongress 2011 , Köln |
| 05.-06.04.2011 | 2 nd CLIB-International Conference, Düsseldorf |
| 07.-08.04.2011 | CLIB-Graduate Cluster: Internal Retreat , Bonn (CLIB ²⁰²¹ -members welcome) |

CLIB²⁰²¹ Insight is an exclusive service from CLIB²⁰²¹ - Cluster Industrielle Biotechnologie e.V. for its members and partners. Your suggestions, questions and remarks are always welcome at info@clib2021.de