

CeBiTec – Quarterly

Spring 2016

In this Issue

- Biotechnology in our life – an international project in the student's lab *teutolab*-biotechnology
- The CLIB GC Faculty Bielefeld associates five new industry supported PhD scholarships
- Green Lights for a German Membership of ELIXIR
- The 11th CeBiTec Symposium focusses on the Role of Microbes Involved in Human Health and Disease
- de.NBI Mini Symposium on Microbial Community Analysis
- 6th International CeBiTec Research Conference – Advances in Industrial Biotechnology: New Techniques, Substrates and Products for Bioprocesses
- iGEM-Team Bielefeld-CeBiTec of 2015 at the Mittelstandsforum in the Bielefeld Town Hall
- Miscellaneous
- Upcoming Events

Biotechnology in our life – an international project in the student's lab *teutolab*-biotechnology

The student's lab *teutolab*-biotechnology recently started an EU-funded project called "Biotechnology in our life" which strives for a compound structure between schools in Europe with science, companies, universities and politics. The student's lab coordinates an exchange of knowledge and experiences regarding the relevance of biotechnology in everyday life for students from six different countries: Germany, the Netherlands, England, Spain, Italy and Estonia.



Erasmus+

International students aged between 15 and 18 participate in the project and work in four international teams with four different focusses (white biotechnology, red biotechnology, green biotechnology and bioethics). They primarily work virtually exchanging intermediate results on a special internet platform. In addition the students meet at three project meetings during which they can discuss their work and exchange their experiences. The project meetings include experiments, excursions, lessons, presentation of results and international teamwork. At the third meeting an exhibition, where the students will present their findings to the public and jump into discussions, will take place.

The project aims at learning and experiencing the relevance of biotechnology in daily-life and to explore the potential of this research field for the future. The international focus of this project provides the opportunity to compare the nations' different experiences as well as bioethics perspectives.

In January 2016 the *teutolab*-biotechnology welcomed all participants of the project (24 students and 12 teachers) at the CeBiTec for a successful project start. In March 2016 three representatives of Bielefeld University participated the meeting in Verona, Italy. The next meeting in Bielefeld will be in October 2016.

The student's lab is fortunate to coordinate this project for three academic years, as it is an Erasmus+ project funded for 36 month with a maximum grant of 260,000 € by the *Pädagogischer Austauschdienst* (public organisation working

on behalf of the Federal States to promote international exchange and cooperation in the school sector) of the Standing Conference of the Ministers of Education and Cultural Affairs in Bonn.



The CLIB GC Faculty Bielefeld associates five new industry supported PhD scholarships

The CLIB Graduate cluster (CLIB GC) at Bielefeld is proud to inform that five industry supported scholarships for three years could be raised and associated to the state-funded CLIB GC. The call was open in October 2015 in national and international portals and in December 2015 all five positions were offered to excellent candidates who partly started in January respectively February 2016. The industry partners are Bayer AG and Junbunzlauer Austria AG. Both companies supported already two scholarships each from 2013 for three years. The three new PhD students Lena Schaffert, Julian Droste and Kateryna Stanchak will focus on the improvement and regulation of a special secondary metabolite of the Gram positive bacteria *Actinoplanes*, whereas the projects of Anna Korszanska and Julia Voss will deal with genetic engineering and elucidation of the transcriptional regulation in *Xanthomonas campestris* pv. *campestris*. The new members joined already the internal spring retreat of the CLIB GC Bielefeld held in January 2016 at the CeBiTec (picture). Presumably up to six additional PhD students, financed by different projects will join the CLIB Graduate Cluster as associated members within this spring.



The CLIB GC itself was granted in 2009 as a joined initiative of Bielefeld University, Heinrich-Heine-Universität Düsseldorf/Forschungszentrum Jülich and Technische Universität Dortmund. After an initial funding from 2009 to 2012 and a successful evaluation, the CLIB GC was granted for further funding until the end of 2016. During these two periods, altogether 120 PhD students could be supported by scholarships.

Green Lights for a German Membership of ELIXIR



The German Network for Bioinformatics Infrastructure (de.NBI), located at the CeBiTec, is run by the de.NBI coordinator Prof. Dr. Alfred Pühler and the head of the Administration Office Prof. Dr. Andreas Tauch. The de.NBI network, a Federal Ministry of Education and Research (BMBF) project started in March 2015, consists of eight service centres distributed all over Germany. The network was installed to solve the big data problem in life sciences. This should be achieved by helping experimental research groups in analysing big data sets and by organizing training courses dealing with the use of existing bioinformatics tools. Another aspect of de.NBI is the cooperation with ELIXIR, a European bioinformatics infrastructure. During the first year of de.NBI the coordinator was heavily engaged in finding a suitable way how de.NBI and ELIXIR can cooperate. At the beginning of the current year the BMBF finally decided that Germany should become a full member of ELIXIR. The first round of negotiations with ELIXIR took place in March at the BMBF in Berlin with the result that the ELIXIR Consortium Agreement is ready to be signed by both partners, the BMBF and ELIXIR. As a follow-up the de.NBI network is now identifying de.NBI services which should be offered within the ELIXIR network in Europe. Collaboration with ELIXIR is considered to have highest priority since the big data problem can only be solved on an international level.

www.denbi.de



The 11th CeBiTec Symposium focusses on the Role of Microbes Involved in Human Health and Disease

The CeBiTec continues its series of annually held symposia which goes into its eleventh year. The 11th CeBiTec Symposium entitled “Microbial Genomics and Metagenomics in Human Health and Disease” will be held at the Center for Interdisciplinary Research of Bielefeld University from July 4 to 6, 2016. The conference highlights the impact of the genomics revolution on medical microbiology. In particular, the genomics of selected bacterial pathogens are presented as well as host-pathogen interactions assessed by transcriptomics approaches. Another focus of the program is the epidemiology and surveillance of pathogenic microorganisms, including antibiotic resistant pathogens. In addition, the role of novel sequencing techniques as a tool in human medicine will be addressed.

The last day of the symposium is devoted to research topics performed in the framework of the de.NBI initiative (German Network for Bioinformatics Infrastructure). The mini symposium entitled “Bioinformatics for Metagenome Analysis” focusses on bioinformatics tools for analysing metagenome sequences as well as the role of human microbiomes in health and disease.

The conference program consists of plenary lectures, short oral presentations and poster presentations. In addition, a distinguished lecture held by Prof. Dr. Jörg Hacker, president of the Leopoldina, the German National Academy of Sciences, focusses on “Antibiotics and Antibiotics Resistance: Scientific and Social Implications” and as such, addresses a topic of utmost medical importance. The lecture will be held on July 4, 2016 and is open to the interested public.

www.cebitec.uni-bielefeld.de/index.php/events/conferences/459-2016-04-07-11th-cebitec-symposium

de.NBI Mini Symposium on Microbial Community Analysis

The German Network for Bioinformatics Infrastructure (de.NBI) is organizing a de.NBI mini symposium entitled “Bioinformatics for Metagenome Analysis” which will take place July 6, 2016 at the Center for Interdisciplinary Research (ZiF) of Bielefeld University. This mini symposium represents the last day of the 11th CeBiTec-Symposium “Microbial Genomics

and Metagenomics in Human Health and Disease". The mini symposium consists of two sessions. The first session chaired by Dr. Alexander Sczyrba (CeBiTec) will concentrate on "Bioinformatics Tools for Analyzing Metagenome Sequences". The second session dedicated to "Human Microbiomes in Health and Disease" is chaired by Prof. Dr. Peer Bork, EMBL, Heidelberg. P. Bork also agreed to present the distinguished lecture "My Gut Microbes and Me: A Long-Term yet Fragile Relationship". This distinguished lecture taking place on July 5, 2016, 5:30 p.m. may also be attended by guests not registered at the symposium. The de.NBI network hopes that the mini symposium is attractive for scientists, in particular from Bielefeld, but also from other German or European regions.

www.cebitec.uni-bielefeld.de/index.php/events/conferences/459-2016-04-07-11th-cebitec-symposium

6th International CeBiTec Research Conference – Advances in Industrial Biotechnology: New Techniques, Substrates and Products for Bioprocesses

The 6th International CeBiTec Research Conference, which will take place at the Center for Interdisciplinary Research (ZiF), Bielefeld University, from September 26 to 28, 2016, continues the annual conference series in Advances in Industrial Biotechnology. This year's conference is dedicated to the impact of New Technologies, Substrates and Products on Industrial biotechnology. The major topics to be addressed are New Technologies, Terpenoids Products, C1 carbon sources and the use of Microbial Communities.

www.cebitec.uni-bielefeld.de/index.php/events/conferences/460-2016-09-26-6th-int-bielefeld-cebitec-research-conference

iGEM-Team Bielefeld-CeBiTec of 2015 at the *Mittelstandsforum* in the Bielefeld Town Hall

The 13th *Bielefelder Mittelstandsforum* (communication platform for small and medium-sized enterprises) was held on Wednesday, March 16, 2016, in the town hall of Bielefeld with 500 guests from local enterprises, politics and educational institutions. In total 13 personalities, including entrepreneurs as well as representatives from SMEs and large companies shared their visions regarding chances and challenges for business development in Bielefeld city and the region. In his introductory talk, the mayor of Bielefeld, Pit Clausen, emphasized his appreciation for the innovative potential and the loyalty of Bielefeld's enterprises of any size. In addition, he expressed his view on this conference as a symbolic gathering of people with novel ideas and successful businesses that contribute to the welfare of Bielefeld.

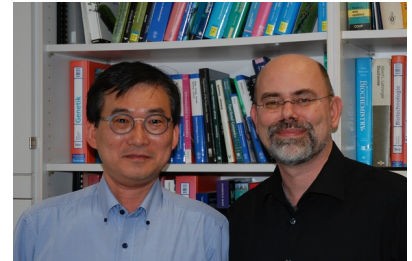
After the introductory talk, a series of dialogues on the topics "Novel Ideas", "Shaping the Future through Investment" and "Managing Change and Digital Thinking" were organized on the podium. Among the first group, Janina Lüders from the iGEM-Team Bielefeld-CeBiTec of 2015 took an active part in the discussion and commented on the successful project that won several prizes at the last iGEM competition in Boston, USA. The event was organized by the WEGE, Bielefeld's business devel-



opment organization and representatives of almost all relevant enterprises from Bielefeld and from the region were among the guests. Therefore, members of the team 2015 and of the newly formed team 2016 set up a booth that allowed to have a look at the biosensor system for heavy metals and date-rape drugs that the team of 2015 created. In addition, the teams took their chances of convincing existing sponsors to continue their support for the new team and possibly also found new sponsors for their planned project.

Miscellaneous

From March 2016 Prof. Dr. Jin-Ho Lee from the Department of Food Science and Biotechnology, Kyungshung University, Busan, South Korea, will stay for his sabbatical year in the group of Prof. Dr. Volker F. Wendisch. Prof. Jin-Ho Lee is an expert on corynebacteria combining long-standing and in-depth experience in academic and industrial research at CJ Cheiljedang, R&D Center for Bioproducts. The current research interests of Prof. Lee center around metabolic engineering of *Corynebacterium glutamicum*. During his sabbatical year at the Department of Biology and the CeBiTec, Prof. Lee plans to perform various omics-guided approaches to systems metabolic engineering to develop strains for fine chemical production. Prof. Wendisch and Prof. Lee are looking forward to their collaboration.



Upcoming Events

- July 04–06, 2016 | Center for interdisciplinary Research (ZiF), Bielefeld University 11th CeBiTec Symposium – Microbial Genomics and Metabolomics in Human Health and Disease
- July 11–15, 2016 | CeBiTec building
5th CeBiTec Students Academy – Synthetic Biology/Biotechnology
- August 29–30, 2016 | Evangelische Akademie Loccum
3rd CeBiTec Retreat
- September 25–28, 2016 | Center for interdisciplinary Research (ZiF), Bielefeld University 6th International CeBiTec Research Conference – Advances in Industrial Biotechnology
- November 21, 2016 | Center for interdisciplinary Research (ZiF), Bielefeld University
CeBiTec Distinguished Lecture – Prof. Dr. Birger Lindberg Møller (University of Copenhagen, Denmark)
- further events are announced on the CeBiTec web page