

# de.NBI Quarterly Newsletter

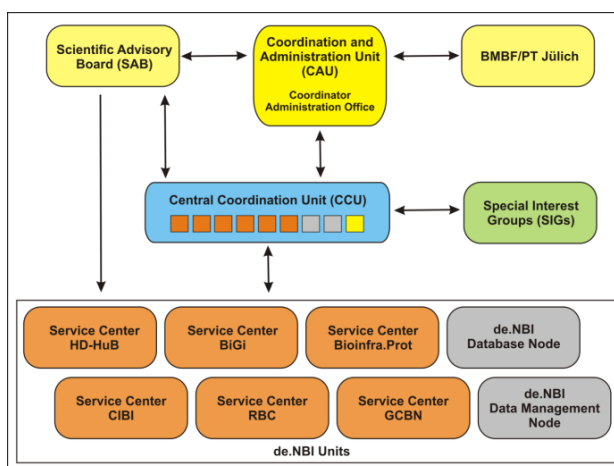
EDITION JULY 2015

## 1) WELCOME TO THE de.NBI QUARTERLY NEWSLETTER (EDITORIAL)

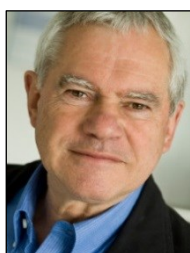
This is to welcome you all to **the first edition of the de.NBI Quarterly Newsletter**, which is intended to be published regularly every three months. The content of this newsletter highlights the actual and future development of de.NBI. The de.NBI initiative, a project of the Federal Ministry of Education and Research (BMBF), was started on 1 March 2015. The de.NBI goals are summarized in its **mission statement**: “*de.NBI provides comprehensive first-class bioinformatics services to users in basic and applied life science research. The de.NBI program coordinates bioinformatics training and education in Germany and the cooperation of the German bioinformatics community with international bioinformatics network structures.*”

The de.NBI initiative consists of 25 partners organized in eight service centers. The organizational chart depicts that a Central Coordination Unit (CCU) headed by the de.NBI coordinator is responsible for all de.NBI decisions. More information on the structure and the goals of de.NBI can be retrieved from the de.NBI website ([www.denbi.de](http://www.denbi.de)).

The first edition of the de.NBI Quarterly Newsletter features the recent developments of de.NBI, like the kick-off meeting or CCU meetings. In addition, future aspects concerning i.e. the Late Summer School in Gießen or the Scientific Advisory Board meeting in Berlin will be addressed. I very much hope that this Quarterly Newsletter provides information which helps to understand the ongoing de.NBI development. Enjoy reading the de.NBI Quarterly Newsletter.



de.NBI organizational chart



Alfred Pühler  
(de.NBI coordinator)

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### IMPRESSUM:

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de.NBI Quarterly Newsletter is an exclusive service of de.NBI – German Network for Bioinformatics Infrastructure for members and partners.  
For questions and remarks please address to [contact@denbi.de](mailto:contact@denbi.de)  
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## 2) EARLY ACTIVITIES OF THE ADMINISTRATION OFFICE

The **de.NBI Administration Office (AO)** is the central support entity for the de.NBI coordinator and the Central Coordination Unit (CCU) providing a range of administrative and management services to the consortium. The staff of the Administration Office is responsible for organizing the regular de.NBI meetings, establishing and maintaining a central de.NBI website, and coordinating schedules regarding bioinformatics training activities of the consortium and periodical reports for the project management. The services of the Administration Office were launched on 1 March 2015 at the Center for Biotechnology (CeBiTec) of Bielefeld University. The office team reached its full manning level already on 1 April 2015 and thus became fully operational in a very short time. For more detailed information, the de.NBI Administration Office is available at [contact@denbi.de](mailto:contact@denbi.de).



Team of the de.NBI Administration Office (AO): Daniel Wibberg (Training coordinator), Andreas Tauch (Head of AO), Florian Sprengel (Service and web coordinator), Tanja Dammann-Kalinowski (Academic staff)

The de.NBI Administration Office supported the official start of the de.NBI project by drawing up a **consortium agreement (Kooperationsvereinbarung)** between all cooperating partner institutions. This consortium agreement, signed by all de.NBI parties, represents a legal business document outlining the basic terms of collaboration within de.NBI, each party's responsibilities, and additional warranties or promises. The consortium agreement is supplemented by a **framework agreement (Rahmenvereinbarung)** by all principle investigators to confirm the acceptance of the unique organization and management structure of the de.NBI program. The Administration Office moreover conceptualized **rules of internal procedure (Geschäftsordnung)** for the Central Coordination Unit. This compilation of rules is the basis for the efficient functioning and for all scientific and administrative operations of the CCU that itself constituted according to these rules during the first meeting on 10 March 2015 in Berlin.

## 3) INAUGURATION OF THE CENTRAL COORDINATION UNIT

The **Central Coordination Unit (CCU)** is the decision making body of de.NBI. The CCU consists of eight delegates nominated by the de.NBI units. One additional seat is reserved for to the de.NBI coordinator. The actual CCU members as well as their service centers are listed below.

The most prominent task of the CCU is to discuss and to decide on strategic goals of de.NBI like establishing training and education concepts, designing guidelines for cooperation with industry and developing concepts for sustainability. In addition, the CCU should take care of initiating the cooperation with existing international bioinformatics networks. Last but not least, the CCU also has the task to control the achievement of project aims of the de.NBI partners and to approve the obligatory periodic reports for the BMBF.

### Members of the Central Coordination Unit

| Name   | de.NBI unit   |
|--|---|
| Roland Eils,<br>Heidelberg University              | Heidelberg Center for Human Bioinformatics (HD-HuB)         |
| Jens Stoye,<br>Bielefeld University                | Bielefeld-Gießen Center for Microbial Bioinformatics (BiGi) |
| Martin Eisenacher,<br>Bochum University            | Bioinformatics for Proteomics (BioInfra.Prot)               |
| Oliver Kohlbacher,<br>Tübingen University          | Center for Integrative Bioinformatics (CIBI)                |
| Rolf Backofen,<br>Freiburg University              | RNA Bioinformatics Center (RBC)                             |
| Uwe Scholz,<br>IPK Gatersleben                     | German Crop BioGreenformatics Network (GCBN)                |
| Frank Oliver Glöckner,<br>Jacobs University Bremen | Database Node   |
| Wolfgang Müller,<br>HITS, Heidelberg               | Data Management Node (NBI-SysBio)                           |
| Alfred Pühler,<br>Bielefeld University             | Coordination and Administration Unit (CAU)                  |



The first CCU meeting took place on 10 March 2015 in Berlin. The meeting was also attended by delegates of the BMBF and the Projektträger Jülich. During this meeting the rules of internal procedure were adopted. The CCU also agreed on the course of action to establish the Scientific Advisory Board and the Special Interest Groups.

Participants of the 1st de.NBI CCU meeting

## 4) ESTABLISHING THE SPECIAL INTEREST GROUPS

**Special Interest Groups (SIGs)** are subcommittees of the Central Coordination Unit focusing on various topics relevant for operational and strategic decisions within de.NBI. They are small discussion groups of experts or representatives from all de.NBI units. SIGs provide recommendations to the CCU and thus contribute to final decisions. In the initial CCU meeting the tasks of five SIGs were discussed and the chair and co-chair persons for each SIG were elected. The following list informs about the different SIGs and their elected chair and co-chairpersons.

The five Special Interest Groups and their chairmen

| SIG   | Title                              | Chairman       | Co-chairperson |
|-------|------------------------------------|----------------|----------------|
| SIG 1 | Web presence                       | J. Stoye       | A. Tauch       |
| SIG 2 | Services and service monitoring    | F. O. Glöckner | U. Scholz      |
| SIG 3 | Training and education             | O. Kohlbacher  | R. Backofen    |
| SIG 4 | Infrastructure and data management | M. Eisenacher  | W. Müller      |
| SIG 5 | de.NBI development                 | A. Pühler      | R. Eils        |

## 5) FORMING THE SCIENTIFIC ADVISORY BOARD

One of the first tasks of the de.NBI coordinator was to appoint the **Scientific Advisory Board (SAB)**, which should be established during the first two months following the official start of de.NBI. The CCU members nominated possible candidates and their substitutes who found the approval of the BMBF. Subsequently, the candidates were invited to become members of the de.NBI SAB. The tasks of the de.NBI SAB were communicated as follows: *“The SAB should advise the Central Coordination Unit of de.NBI and also the coordinator in technical, organizational and strategic matters.”* The invitation letter also outlined that the SAB will meet once a year in a two-day meeting demonstrating the achievements of the de.NBI project in oral presentations and posters. In addition, it was announced that the SAB members will receive beforehand a written statement concerning the development of the de.NBI project. Attached to the invitation the candidates also received a short overview of the de.NBI project which has been posted on the website at:

<http://www.denbi.de/localmedia/documents/denbi-short-overview.pdf>

In the meantime six candidates agreed to become **members of the de.NBI SAB**. Their names and affiliations are listed below. The de.NBI SAB is composed of experts playing a leading role in the European landscape of bioinformatics infrastructure. Obviously, the emerging de.NBI infrastructure network convinced leading European scientists to become consultants. **The first SAB meeting of de.NBI will take place in Berlin on 26-27 November 2015.**

Members of the de.NBI Scientific Advisory Board

| SAB member                 | Affiliation   |
|----------------------------|---|
| Prof. Dr. Ron D. Appel,    | Swiss Institute of Bioinformatics (SIB), Lausanne, Switzerland                  |
| Dr. Ivo Gut                | Centro Nacional de Análisis Genómico (CNAG), Barcelona, Spain                   |
| Prof. Dr. Ivo Hofacker     | Institute for Theoretical Chemistry, University of Vienna, Austria              |
| Prof. Dr. Alice C. McHardy | Helmholtz-Centre for Infection Research, Braunschweig, Germany                  |
| Dr. Reinhard Schneider     | Luxembourg Centre for Systems Biomedicine, University of Luxembourg, Luxembourg |
| Prof. Dame Janet Thornton  | European Bioinformatics Institute (EMBL-EBI), Hinxton, United Kingdom           |

## 6) THE de.NBI KICK-OFF MEETING AT BIELEFELD UNIVERSITY

The official launch of the German Network for Bioinformatics Infrastructure (de.NBI) was included into the 10<sup>th</sup> CeBiTec Symposium held at Bielefeld University from 23-25 March 2015. The last day of the symposium entitled "Bioinformatics for Biotechnology and Biomedicine" highlighted the start of the de.NBI project. In a special session the eight service centers presented their scientific capacities. The subsequent **de.NBI plenary meeting** provided information on de.NBI goals in general and on important steps to be taken immediately. The meeting was attended by 65 de.NBI associates as documented by a group photo taken at the end of the plenary meeting.



Participants in the de.NBI plenary meeting on 25 March 2015

The poster is for the 10th CeBiTec Symposium, held from March 23-25, 2015, at Bielefeld University. It features a central logo for "Bioinformatics for Biotechnology and Biomedicine" which is a circular arrangement of binary code (0s and 1s) forming a ring. The text on the poster includes:  
- Date: March 23-25 2015, Bielefeld/DE  
- Topics: Genomics, Metagenomics, RNA-Seq, Proteomics, Metabolojomics, Modeling, Simulation  
- Distinguished Lectures: R. Apweiler/UK, B. Küster/DE  
- Invited Speakers: Niko Beerenwinkel/CH, Jörg Bernhardt/DE, Sebastian Böcker/DE, Jürgen Cox/DE, Dirk Evers/DE, Konrad Förtner/DE, Jörn Kalinowski/DE, Andriy Luzhetskyy/DE, Alice Motardy/DE, Katharina Nöck/DE, Christopher Quince/UK, Alexander Sczyrba/DE, Andreas Tauch/DE, Bär Voigt/DE  
- de.NBI Speakers: Stefan Albaum/Bielefeld, Michael Diepenbroek/Bremen, Roland Ellis/Heidelberg, Martin Eisenacher/Böchem, Björn Grüning/Freiburg, Oliver Kohlbacher/Tübingen, Ulrike Müller/Heidelberg, Alfred Pühler/Bielefeld, Uwe Scholz/Gatersleben  
- Registration: www.cebitec.uni-bielefeld.de  
- Deadline: March, 17th 2015  
- Organizing committee: Stefan Albaum - Tarja Dammann-Kalinowski - Alexander Goesmann/Gießen  
The poster also includes a photograph of a modern building, likely the Center for Interdisciplinary Research (ZiF) at Bielefeld University.

Poster announcing the 10<sup>th</sup> CeBiTec Symposium including the de.NBI launch

## 7) ANNOUNCING THE de.NBI LATE SUMMER SCHOOL 2015

The first **de.NBI Late Summer School (LSS) in Microbial Bioinformatics** will be organized from 20-26 September 2015 at Gießen University by Alexander Goesmann. With BiGi, RBC and NBI-SysBio three de.NBI service centers jointly contribute to the training event. The LSS will focus on the workflow from genome assembly to genome and transcriptome analysis. As external keynote speakers of the LSS **Gene Myers** (Dresden, DE), **Paul Kersey** (Cambridge, UK), **Jan Gorodkin** (Copenhagen, DK), **Ursula Kummer** (Heidelberg, DE) und **Tatjana Tatusova** (Bethesda, US) could be won. Altogether 20 international applicants, Ph.D. students or postdoctoral fellows will get the chance to participate. In addition, it is possible to bring own data to be analyzed during the course. Applicants should send their documents (motivation letter and CV) to the organizer Alexander Goesmann at Gießen University ([denbilss@computational.bio](mailto:denbilss@computational.bio)) until 4. September 2015. More information on the LSS can be obtained from the flyer below or at: <http://www.uni-giessen.de/fbz/fb08/Inst/bioinformatik/Education/denbilss>




## Flyer announcing the first de.NBI Late Summer School

German Network for Bioinformatics Infrastructure (de.NBI)  
**de.NBI Late Summer School 2015 in Microbial Bioinformatics**



German Network for Bioinformatics Infrastructure (de.NBI)  
**de.NBI Late Summer School 2015 in Microbial Bioinformatics**



**Date:** September 20 – 26, 2015  
**Location:** Justus-Liebig-University, Gießen  
**Website:** denbills.computational.bio

**Keynote Speakers:**

- » Gene Myers (Director Max-Planck Institute for Molecular Cell Biology and Genetics, Dresden)
- » Paul Kersey (Team Leader, Non-vertebrate Genomics, European Bioinformatics Institute, Cambridge)
- » Jan Gorodkin (Director Center for non-coding RNA in Technology and Health, Copenhagen)
- » Ursula Kummer (Director Modeling of biological processes, BioQuant, Heidelberg)
- » Tatiana Tatusova (Genome Group Coordinator, NCBI)

**de.NBI Speakers:**

- » Alexander Goesmann (Justus-Liebig-University, Gießen)
- » Sebastian Jünemann (Bielefeld University)
- » Jochen Blom (Justus-Liebig-University, Gießen)
- » Oliver Rupp (Justus-Liebig-University, Gießen)
- » Rolf Backofen (University of Freiburg)
- » Stefan Albaum (Bielefeld University)
- » Dagmar Waltemath (Rostock University)
- » Wolfgang Müller (Heidelberg Institute for Theoretical Studies)

**Contents:**

The German Network for Bioinformatics Infrastructure (de.NBI) presents the first Late Summer School that will be organized by the Bielefeld-Gießen (BIGI) Center for Microbial Bioinformatics. The BIGI center is specialized in the field of Omics data analysis for microbes and is well-known for its software platforms (e.g. GenDB).

This years de.NBI Late Summer School will focus on the workflow from genome assembly to genome and transcriptome analysis. During the training, participants will gain insights into state-of-the-art bioinformatics tools. Participants of the workshop are asked to bring their own data sets, which will be analyzed in the different sessions. A poster session will be supported by CLC on Monday evening.

**Overview:**

|                       | Monday          | Tuesday           | Wednesday            | Thursday             | Friday                             |
|-----------------------|-----------------|-------------------|----------------------|----------------------|------------------------------------|
| <b>Topic</b>          | Genome Assembly | Genome Annotation | Comparative Genomics | RNAseq Analysis      | Pathway Reconstruction             |
| <b>de.NBI Speaker</b> | S. Jünemann     | A. Goesmann       | J. Blom              | O. Rupp, R. Backofen | S. Albaum, D. Waltemath, W. Müller |
| <b>presented Tool</b> | Spades          | GenDB             | EDGAR                | ReadXplorer          | Seek, Vanted, COPASI               |

**Funding:**  
The de.NBI project is funded by the BMBF, FKZ 031A532 – 031A540



**Learning Targets and Requirements:**

Participants will be instructed in the genomics workflow and gain understanding of the possibilities and limitations of genome sequencing and sequence analysis. The course covers lectures and hands-on sessions by de.NBI and renowned experts in the fields and is aimed at PhD students, postdoctoral fellows or other scientists with a solid background in bioinformatics and molecular biology. Practical analysis will be performed on own data sets if possible.

**Application and Deadlines:**

In total, 20 international participants (advanced PhD students & postdoctoral fellows) will be selected based on short applications. Please provide the following documents:

- CV
- Motivation letter
- Description of own data sets (if available)

Send your application via email to Prof. Dr. Alexander Goesmann (full contact details below). There will be no participation fee. Accommodation will be supplied by the de.NBI consortium. Travel expenses should be paid by the participants.

**Application Deadline: September 4, 2015**



**Contact Details:**  
Prof. Dr. Alexander Goesmann  
Bioinformatics and Systems Biology  
Heinrich-Buff-Ring 58  
Justus-Liebig-University  
D-35392 Gießen  
phone: +49 (0)641 99 35800  
mail: denbills@computational.bio

**Funding:**  
The de.NBI project is funded by the BMBF, FKZ 031A532 – 031A540



## 8) FUTURE EVENTS

The calendar of upcoming events lists quite a number of events scheduled until the end of 2015.

➤ **8th OpenMS User Meeting (16-18 September 2015), Bochum.** This meeting, organized by BioInfra.Prot and CIBI, will present the capabilities of the OpenMS library for LC/MS data management and analyses. In a dedicated tutorial session training and discussion on needs and future directions in mass spectrometry will be provided. This year's meeting will include an optional OpenMS tutorial session on the first day with the general conference starting on Thursday, September 17. Users can bring own data, an OpenMS wish list, ideas for collaboration projects, and can also give a presentation about their projects. This may include suggestions in areas where currently available software solutions were unsatisfactory. For further information consult <http://open-ms.sourceforge.net/um2015/>.

➤ **The Late Summer School (LSS) in Microbial Bioinformatics (20-26 September 2015)** organized by A. Goesmann at Gießen University. Information on this is already presented under topic 7 of this newsletter.

➤ **Fundamentals of Proteome Bioinformatics Revisited (27 September 2015), Dortmund** will be taught by BioInfra.Prot and CIBI at the German Bioinformatics Conference (GCB) 2015. The course provides a review of proteomics workflows and proteomics software. Topics covered are sequence databases, spectra identification and decoy approach, protein inference, protein quantification and workflow systems (OpenMS/KNIME) for data processing. Information is available at <http://gcb2015.cs.tu-dortmund.de/tutorial1.php>.

- **Bioinformatics – Data interpretation for NGS Data in Cancer Research (07-09 October 2015), Heidelberg.** The DKTK School of Oncology and the Heidelberg Center for Human Bioinformatics (HD-HuB) invite researchers working with larger datasets of next-generation sequencing (NGS) data arising from patient tumor samples. The course will teach background knowledge on technologies used for data generation and for data analysis. Commonly used tools for data interpretation will be presented and can be applied in hands-on sessions on provided data sets. The flyer of this training course is available at <http://www.dkfz.de/de/dtk/download/FlyerDKTK-BioinformaticsWorkshop.pdf>.
- **Introduction to Brenda enzyme database and BacDive bacterial diversity metadatabase (13-14 October 2015), Braunschweig** is organized by the Database Node. Participants will learn history, scope and content of the two databases, use of the web interface queries, functionalities and interpretation of results.
- The **4<sup>th</sup> meeting of the Central Coordination Unit** is scheduled for **21 October 2015** at Bochum University. More general information on the CCU is presented under topic 3 of this newsletter.
- **Introduction into targeted and untargeted metagenome analysis (23-25 October 2015), Bielefeld.** This BiGi course will broach the issues of targeted (16S rDNA operon gene amplicons) and untargeted (whole-genome shotgun, WGS) metagenome analysis based on high throughput next-generation sequencing (NGS) data. The first part covers different aspects of general NGS data handling and present different techniques and tools for quality measurement, filtering, and sequence correction. The second part focuses on 16S amplicon data analysis utilizing the popular command line tools QIIME and mothur. In the third part, advantages and disadvantages of whole metagenome sequencing are illustrated.
- The **1st de.NBI Scientific Advisory Board (SAB) meeting (26-27 November 2015)** will take place at the Seminaris Campus Hotel, Berlin. The SAB meeting will also include a de.NBI workshop and a de.NBI plenary meeting. More information on this event will be distributed soon.
- **ARB/Silva and BacDive: Training on microbial phylogeny and diversity analysis (01-04 December 2015), in Bremen** is hosted by the Database Node. The course will provide knowledge of and skills on primary and secondary databases, concepts of marker gene sequence analysis, details of phylogenetic reconstruction, workflows for analysis of rRNA gene amplicon reads from NGS projects.
- **de.NBI Bioimage Analysis Workshop (02-04 December 2015), Heidelberg.** HD-HuB will introduce basic concepts of the KNIME image and data analysis platform. During the course state-of-the-art applications in how to analyze bioimage data will be addressed.



### Overview of upcoming de.NBI events

| Date             | Event   | City         | Organizer                   |
|------------------|---|--------------|-----------------------------|
| ➤ 16.-18.09.2015 | 8th OpenMS User Meeting   | Bochum       | BioInfraProt & CIBI         |
| ➤ 20.-26.09.2015 | de.NBI Late Summer School in Microbial Bioinformatics                               | Gießen       | BiGi, with RBC & NBI-SysBio |
| ➤ 27.09.2015     | Bioinformatics for Proteomics training tutorial                                     | Dortmund     | BioInfraProt & CIBI         |
| ➤ 07.-08.10.2015 | Data Interpretation for Next Generation Sequencing Data in Cancer Research          | Heidelberg   | HD-HuB                      |
| ➤ 13.-14.10.2015 | Introduction to Brenda enzyme database and BacDive bacterial diversity metadatabase | Braunschweig | Database Node               |
| ➤ 21.10.2015     | 4 <sup>th</sup> CCU meeting   | Bochum       | BioInfra.Prot, CAU          |
| ➤ 23.-25.10.2015 | Introduction into targeted and untargeted metagenome analysis                       | Bielefeld    | BiGi                        |
| ➤ 26.-27.11.2015 | 1st SAB meeting including de.NBI workshop and plenary meeting                       | Berlin       | CAU                         |
| ➤ 01.-04.12.2015 | ARB/Silva and BacDive: Training on phylogeny and diversity analysis                 | Bremen       | Database Node               |
| ➤ 02.-04.12.2015 | de.NBI Bioimage Analysis Workshop   | Heidelberg   | HD-HuB                      |