

de.NBI Quarterly Newsletter

EDITION MARCH 2017

1) EDITORIAL

The Quarterly Newsletter Edition March 2017 contains information on two meetings, the 2nd Scientific Advisory Board Meeting and the de.NBI Plenary Meeting both organized last year in Berlin. These meetings were exceptional since, firstly, more than 120 scientists participated and, secondly, five members of the de.NBI Scientific Advisory Board gathered to evaluate the achievements of the network and to give advice for the further development.

HD-HuB

Bioinformatics Infrastructures in Biomedical Research

- Human genetics and genomics
- Metagenomics
- Systematic phenotyping of human cells
- Epigenetics

BiGI

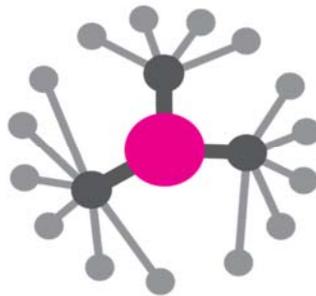
Microbial Research for Biotechnology and Medicine

- High performance computing services
- Repository of reusable workflows
- Comparative genomics and meta-omics
- Post-genomics data integration

BioInfra.Prot

Bioinformatics for Proteomics

- Comprehensive proteomics workflow
- Data publication, analysis & tool services
- Quality standards for targeted proteomics
- Lipidomics



GCBN

Crops and BioGreenFormatics

- Plant genetic resources and traits
- Bridging genotypes to phenotypes
- Plant gene and genome annotation
- Enabling technologies to improve crops

RBC

RNA Bioinformatics

- Analysis of RNA-related data
- Life science data analysis with Galaxy
- Meta-transcriptomics
- Epigenetic research

CIBI

Tools for omics data and imaging

- Open-source libraries (OpenMS SeqAn, FLJI)
- Tools for NGS, mass spec, and imaging
- Workflow engine (KNIME) for automation
- (Multi-)omics data analysis workflows

BioData

Reference Databases, Services and Tools

- Ribosomal RNAs (SILVA)
- Environmental data (PANGAEA)
- Taxon-associated metadata (BacDive)
- Enzymes & Ligands (BRENDA/EnzymeStructures)

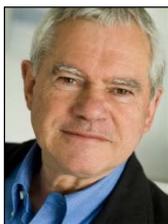
de.NBI-SysBio

Standards-based Systems Biology

- Data and model management tools
- SABIO-RK reaction kinetics data
- Methods and tools for modeling in Systems Biology
- Standards & tools for model search and management

In January, the de.NBI administration unit designed a new de.NBI flyer giving compact information on service and training aspects of the network. The central figure of the flyer as presented on the front page of this newsletter reflects the topics of the individual service centers.

Furthermore, the newsletter deals with series of interesting topics like interactions with ELIXIR, establishment of the de.NBI cloud and organization of two de.NBI summer schools in 2017. It also contains information on events like the Midterm Review and the de.NBI Symposium. Finally, the calendar of upcoming de.NBI events will close the newsletter.




A. Pühler (de.NBI coordinator)

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2) THE de.NBI SCIENTIFIC ADVISORY BOARD MEETING 2016

The de.NBI community and the **Scientific Advisory Board** gathered for the second time on 28-29 November 2016 at the Seminaris CampusHotel, Berlin.

The de.NBI consortium compiled the de.NBI Status Report 2016 describing the development of the network, the service centers and giving insights into the work of the special interest groups. The first day featured oral presentations of the coordinator, the head of the administration office and the chairs of the special interest groups followed by a poster session where all 40 de.NBI projects displayed posters on their project aims and the achievements in 2016. For the first time also the new partner projects which started their work in November 2016 took part.



Group photo of the SAB members together with the de.NBI coordinator and the head of the Administration Office. (from left to right: A. Pühler, I. Gut, J. Thornton, A. McHardy, R. Schneider, I. Hofacker, A. Tauch)

In his introductory talk the coordinator gave special attention to the expansion of the network by 17 individual partner projects, the surprising decision of the BMBF to fund a de.NBI cloud and the process of joining ELIXIR as a German node.

During the morning of the second day, the SAB convened for the preparation of a report. The SAB report again complimented the network on the development of and provided a number of valuable recommendations for the future development of de.NBI. The SAB also announced that it is looking forward to contribute to the upcoming midterm review by participating beforehand in a special CCU-SAB meeting. In the meantime, the date for this meeting has been identified. It will take place 27 June 2017 in Berlin.

3) THE de.NBI PLENARY MEETING

The second day of the SAB meeting in Berlin was used for the **3rd de.NBI Plenary Meeting**. A. Pühler, coordinator, and A. Tauch, head of the administration office, gave insights into de.NBI internal activities and controlling procedures as well as important aspects of the integration of partner projects. Details were fixed in the meeting minutes sent to all attendants. A second part of the plenary meeting was dedicated to oral presentations of the partner projects, where the PIs of the three individual projects MASH, DAIS and EnzymeStructures and the speakers of the five joint projects de.NBI-epi, LIFS, de.STAIR, NBI-ModSym and MetaProtServ introduced their plans for their participation in de.NBI.



The participants of the 3rd de.NBI Plenary Meeting in Berlin

As can be seen from the group photo the de.NBI community has grown significantly. In total 123 scientists from all service centers and the BMBF/PtJ attended the meeting, an increase of 50% compared to 2015.

4) DECISIONS TAKEN AT THE CCU MEETING IN BREMEN

The **9th CCU meeting** organized at the Max Planck Institute for Marine Biology, 17 January 2017 in Bremen, discussed the future of the Special Interest Groups (SIGs). It was decided that in future the CCU can select SIG-chairpersons out of the whole de.NBI consortium. In addition, it was decided to consider gender balance and to install female SIG leaders. A further important decision was also to enlarge the number of SIGs. Two new SIGs were installed, SIG 6 “de.NBI cloud” and SIG 7 “ELIXIR cooperation”. It is expected that both SIGs will help to handle all questions connected with the de.NBI cloud and the ELIXIR cooperation.

5) INTERACTIONS WITH ELIXIR

As a next step after signing the ELIXIR Consortium Agreement on 2 August 2016 the **German Node Application** has officially been submitted by the BMBF to the ELIXIR-Hub on 10 February 2017. This Node Application will now be checked by ELIXIR panels and will form the basis for signing the second document, the so called **Collaboration Agreement**. Although the final document of the de.NBI-ELIXIR Collaboration is not yet signed, there are already numerous contacts between the two organizations dealing with implementation projects and core data resources.

Implementation projects have been developed to facilitate the interaction between different ELIXIR nodes. A first implementation project designated “Mining the proteome” will organize a workshop on 1-2 March 2017 at Tübingen University entitled “The future of proteomics in ELIXIR”. In addition, up to four implementations projects are currently discussed with ELIXIR representatives.

Another field of activity concerns the identification of **ELIXIR core data resources**. For this purpose ELIXIR initiated an application round amongst all existing and future ELIXIR nodes. From Germany two data resources, namely BRENDA and SILVA, submitted applications. Altogether 26 data resources applied, which have been discussed at a Heads of Nodes meeting in early February 2017 in Heathrow, UK. A selection as an ELIXIR core data resource is of importance since selected data resources are considered to receive future financial support from ELIXIR.

6) 1ST DE.NBI CLOUD COORDINATION MEETING

The five de.NBI cloud locations are still in the process of acquiring hardware. Nevertheless, efforts for a unified approach are already running. The Bielefeld-Gießen Resource Center for Microbial Bioinformatics hosted the **first de.NBI cloud coordination meeting** from 22-24 February 2017 in Bielefeld. Staff from the five cloud locations Bielefeld, Gießen, Heidelberg, Tübingen and Freiburg elaborated technical issues like hardware setup (Compute/Storage), network infrastructure, software setup, deployment strategy, update strategy, HA setup, user management. Two experts from the MRC Cloud Infrastructure enriched the work program for Microbial Biology in Birmingham, UK.



Participants of the cloud coordination meeting in Bielefeld

7) NEW DE.NBI FLYER



A new **de.NBI image flyer** has been launched in February 2017. The leaflet entitled “Big Data Exploitation in Life Sciences” briefly highlights the fields of activity within the de.NBI consortium. As pointed out in the Editorial of this newsletter the flyer contains a central figure reflecting the topics of the individual service centers. The flyer is available for download at the de.NBI Homepage at <http://www.denbi.de/> (last line, cover page).

Furthermore, a short table listing de.NBI training courses is provided at the training site to be used as an insert for the flyer at <http://www.denbi.de/training-courses>. This table will be updated quarterly.

8) THE de.NBI MIDTERM REVIEW

The Project Management Jülich (PtJ) has announced the date of the **de.NBI Midterm Review**. The review of the de.NBI consortium will take place **in Berlin on 18-19 September 2017**. Detailed information on the venue and the agenda of this meeting will be announced. On 18 September 2017 all de.NBI partners are asked to present posters of their achievements in the frame of the de.NBI program and in the recently started de.NBI cloud initiative. Also the de.NBI partner projects are asked to present posters, although this funding line is not subject to midterm evaluation. Upon positive evaluation of the de.NBI partners, funding by the BMBF will be extended until 29 February 2020 as already indicated in the approval letter.

In order to support the work of the reviewers the de.NBI network is asked to prepare a midterm report containing contributions by the coordinator and the head of the administration office as well as by the chairpersons of the SIGs, the coordinators of the service centers and the individual projects. The administration office is developing templates for the different contributions.

Besides the midterm report de.NBI is engaged to present a de.NBI brochure containing general information on the different de.NBI groups. In addition, the network is also in the process of preparing a special issue in the Journal of Biotechnology that is scheduled to be published until the midterm review. The special issue will give an overview on the scientific background of the network.

9) de.NBI SUMMER SCHOOL ON CLOUD COMPUTING

Due to the recent development to equip five de.NBI locations with a cloud infrastructure the network decided to offer an extraordinary summer school on cloud computing. The **de.NBI Summer School “Cloud Computing for Bioinformatics”** will take place **25 June – 01 July 2017 in Gießen**. It is a community effort of BiGi, CIBI, RBC, HD-HuB, and BioInfra.Prot hosted by A. Goesmann at Justus-Liebig-University Gießen. A general introduction on cloud resources, servers, storage, network, etc. will found the basis for consecutive lessons on scalable cloud computing frameworks (OpenStack, Hadoop, Spark, etc.), Docker and other container solutions in combination with Galaxy and finally the orchestration of cloud services. The target audience are experienced bioinformaticians who would like to learn how to utilise cloud computing resources and adapt their implemented tools. More information will be provided at the de.NBI-website soon. <http://www.denbi.de/22-training-cat/training-courses/256-cloud1>

10) de.NBI-SUMMER SCHOOL ON GENOMICS AND RNA BIOLOGY

This year's regular **de.NBI Summer School "Computational Genomics and RNA Biology"** is scheduled for **25 - 29 September 2017 at the Max-Delbrück Center for Molecular Medicine, Berlin**. The service center RBC will host the one-week course under the lead management of Altuna Akalin from MDC. Scientists from all RBC locations in Freiburg, Leipzig, and Berlin will engage in lectures and training. The summer school will provide comprehensive insight in computational RNA biology starting with a kick-off symposium amended with international keynote speakers. The following days will address theoretical introductions and practical exercises in NGS and Galaxy tools for NGS, statistics for RNAseq, Methods for identifying sites for RNA and DNA binding proteins (ChIP and ChIPseq), and RNA structure. Practicals will be carried out via a local Galaxy platform (<https://usegalaxy.org/>).

More information will follow at <http://www.denbi.de/22-training-cat/training-courses/278-de-nbi-summer-school-computational-genomics-and-rna-biology>

11) UPCOMING EVENTS

The calendar of upcoming events lists a number of events scheduled for the next months. All offers are accessible via the de.NBI homepage <http://www.denbi.de>. The de.NBI training program is continuously updated on our homepage. Currently more than 40 courses are in the pipeline for 2017.

MAJOR DE.NBI EVENTS - SAVE THE DATES

- **de.NBI Midterm Review (18-19 September 2017), Berlin.** Conform with the funding regulations the consortium will be evaluated in September 2017. All PI will be invited.
- **de.NBI Symposium "de.NBI-ELIXIR collaboration" and de.NBI Plenary Meeting 2017, (23-25 October 2017), Bielefeld.** The symposium will focus on fields in which de.NBI and ELIXIR plan to interact. The Center for Interdisciplinary Research (ZiF) at Bielefeld University is already booked for this meeting.



OVERVIEW OF UPCOMING de.NBI EVENTS

	Date	Event	City	Organizer
➤	13-17 Feb 2017	3rd Galaxy High-Throughput-Sequencing (HTS) data analysis workshop	Freiburg	RBC
➤	04-20 Mar 2017	6th Programming for Evolutionary Biology Course	Leipzig	RBC
➤	05 Mar 2017	Lipidomics: A Workshop about Lipid Function & Analysis	Kiel	BiInfra.Prot
➤	09-10 Mar 2017	1st Freiburg Software Carpentry Course	Freiburg	RBC
➤	17 Mar 2017	Introduction into the Analysis of MS and Sequence Data with KNIME	Berlin	CIBI
➤	30-31 Mar 2017	BRENDA Workshop 2017	Braunschweig	BioData
➤	03-04 Apr 2017	Advanced R Programming	Heidelberg	HD-HuB
➤	03 Apr 2017	Special Aspects of Bioinformatics for Proteomics - Proteomic Forum 2017	Potsdam	CIBI
➤	04 Apr 2017	Introduction to Proteomics Data Analysis - Proteomic Forum 2017	Potsdam	BiInfra.Prot
➤	04-05 Apr 2017	de.NBI - ELIXIR AAI Codefest – Make your services accessible via ELIXIR AAI	Freiburg	RBC / ELIXIR
➤	28 Apr 2017	10. CCU Meeting	Heidelberg	CAU / de.NBISys-Bio
➤	01-03 May 2017	Proteomics and Metabolomics with OpenMS	Boston	CIBI

➤	15 Jun – 01 Jul 2017	de.NBI Summer School - Cloud Computing for Bioinformatics	Gießen	BiGi, CIBI, RBC, HD-HuB, Bio-Infra.Prot
➤	27 Jun 2017	Special CCU meeting with SAB	Berlin	CAU
➤	18 Jul 2017	11. CCU Meeting	Bielefeld	CAU
➤	12-13 Sep 2017	Stoichiometric and kinetic modeling of biochemical networks using CellNetAnalyzer and COPASI	Heidelberg	de.NBI-SysBio
➤	18-20 Sep 2017	Tutorials @ GCB	Tübingen	tbd
➤	25-29 Sep 2017	de.NBI Summer School - Computational genomics and RNA biology	Berlin	RBC

IMPRESSUM:

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For questions and remarks please address to contact@denbi.de

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