

de.NBI Quarterly Newsletter

EDITION AUGUST 2017

1) EDITORIAL

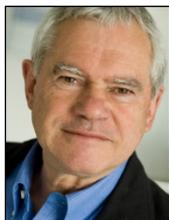
One important event for the de.NBI network in 2017 is the so-called **Midterm Review** which will take place 18/19 September in Berlin. During the last months, the de.NBI network intensively prepared the **Midterm Report** composed of contributions from the coordinator and also from the chairs of Special Interest Groups, Service Centers, and individual projects. To demonstrate the activities of the de.NBI network, additionally a **Supplement Volume** was produced containing de.NBI documents and publications. Further material prepared for the Midterm Review concerns the **de.NBI Handbook** compiling basic information on the network, and a **Special Issue** of the Journal of Biotechnology composed of review articles describing bioinformatics tools offered by de.NBI.

Due to the date of the Midterm Review in September this year, the **Scientific Advisory Board (SAB) meeting** took place in June 2017. The SAB commented the draft version of the Midterm Report and provided a letter of support for the reviewer panel of the de.NBI network.

Another activity of the network is the establishment of the **de.NBI cloud**. Just a year ago, the network received financial support from the BMBF to set up a **cloud compute component**. This year, the BMBF announced further financial support, which will be used to invest in a **storage component** of the de.NBI cloud.

The Quarterly Newsletter Edition August 2017 also looks ahead and informs on the **2nd International de.NBI Symposium** which will take place 23 – 25 October 2017 at Bielefeld University. Attached to the symposium is the annual **Plenary Meeting** of the network. A further topic of the newsletter is the growing group of **associated de.NBI partners**. Following the Christian-Albrechts-Universität zu Kiel, the Friedrich-Schiller-Universität Jena was accepted by the Central Coordination Unit as an associated de.NBI partner during the June meeting at Bielefeld University.

The de.NBI coordinator hopes that this de.NBI newsletter is of interest for members of the network and also for subscribers. Please send comments if you would like to see additional topics addressed.




A. Pühler (de.NBI Coordinator)

CONTENT:

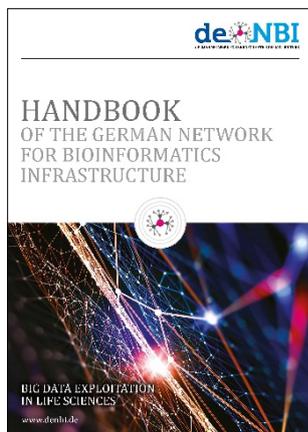
1) Editorial	1
2) Midterm evaluation of the de.NBI network	2
3) de.NBI handbook	2
4) A Special Issue presenting the scientific background of de.NBI tools	2
5) Meeting of the Scientific Advisory Board with de.NBI representatives	3
6) A storage component for the de.NBI cloud	3
7) The 2 nd International de.NBI Symposium in October 2017	3
8) Christoph Steinbeck, new associated member of de.NBI	4
9) Launch of the Dresden Analysis-of-Images Suite (DAIS)	4
10) de.NBI Cloud Summer School in Giessen	5
11) Upcoming events	5

2) MIDTERM EVALUATION OF THE de.NBI NETWORK

Since the start of the de.NBI network two and a half years have passed and the network looks forward to the so-called Midterm Review which will take place at 18 and 19 September 2017 in Berlin. For the Midterm Review the de.NBI network was asked to prepare the **Midterm Report** with contributions from the coordinator as well as the chairs of the Special Interest Groups and the Service Centers. In addition, each project leader got the chance to present the project progress. Besides the Midterm Report, the de.NBI network compiled further documents, e.g., a **supplement volume** to the Midterm Report, a **handbook** with general information on the network, and a **Special Issue** of the Journal of Biotechnology describing de.NBI tools.

The Midterm Review is planned in a way that there will be **flash talks** by the coordinator, the moderators of the Special Interest Groups and the Service Centers. In addition, the progress of the de.NBI projects will be presented in a poster session. The **oral and poster sessions** are scheduled for the first day of the meeting whereas the second day of the meeting is reserved for the reviewer panel which will decide on the further funding of the de.NBI network. Depending on the evaluation of the reviewer panel, the individual de.NBI projects are then asked to submit a detailed application for the establishment phase II of the de.NBI network for the time period from the beginning of March 2018 until the end of February 2020.

3) de.NBI HANDBOOK IN PRESS



The de.NBI network will soon publish its handbook 'Big Data Exploitation in Life Sciences'. The 64-page brochure is currently in its final review stage and publication is scheduled for the beginning of September 2017. It comprises chapters on the network with explanations on the structure and organization of de.NBI. Short presentations from all de.NBI partners will form the main body of work, resulting in a single document that encompasses all the scientific topics of the 40 de.NBI partners. For the first time the network presents itself in this complete overview. It is also a recognition of all the work that has been put into this project by so many enthusiastic people over the past two and a half years.

4) A SPECIAL ISSUE PRESENTING THE SCIENTIFIC BACKGROUND OF de.NBI TOOLS

Already last year, the de.NBI members agreed to publish a Special Issue of the Journal of Biotechnology which should focus on the scientific background of de.NBI tools. The Special Issue is entitled '**Bioinformatics Solutions for Big Data Analysis in Life Sciences presented by the German Network for Bioinformatics Infrastructure**'. All service centers contributed to the special issue with 2 to 5 manuscripts each, mainly prepared as review articles. In the meantime, 27 manuscripts were submitted and most of them were already accepted for publication. It is of interest to mention that all these articles will be published in the 'open access' mode. By the way, it is planned to present the special issue to the reviewers of the de.NBI midterm evaluation.



5) MEETING OF THE SCIENTIFIC ADVISORY BOARD WITH de.NBI REPRESENTATIVES

The 2017 **meeting of the de.NBI Scientific Advisory Board (SAB)** took place on 27 June 2017 at the Steigenberger Hotel in Berlin. As can be seen from the accompanying picture, all six members of the SAB found their way to Berlin and took part in the meeting. In contrast to the two previous SAB meetings, only the coordinator, the chairs of the Special Interest Groups and of the Service Centers took part and presented the achievements of the network in so-called flash talks. The main goal of the meeting was to prepare the Midterm Review of the network which is planned for the end of September 2017. The SAB members received beforehand a draft version of the de.NBI Midterm Report. The meeting was used for intensive discussions between SAB members and de.NBI representatives. An outcome of the meeting was that based on SAB recommendations the Midterm Report was slightly modified. The SAB



also promised to write a **letter of support for the Midterm Reviewer panel**. In the meantime, such a letter of support was supplied by J. Thornton, the chair person of the Scientific Advisory Board. In this letter, de.NBI is characterized as a dynamic and distributed infrastructure. The SAB committee also stated that de.NBI is on the way to become one of the largest national bioinformatics infrastructures in Europe. The next SAB meeting is envisaged for the second half of the next year.

6) A STORAGE COMPONENT FOR THE de.NBI CLOUD

Just a year ago, in the de.NBI Quarterly Newsletter Edition August 2016, it was reported that the de.NBI network will be equipped with a de.NBI cloud. Five universities, namely Bielefeld, Freiburg, Gießen, Heidelberg and Tübingen received funds to buy the necessary **compute equipment**. Now, one year later, the plan to establish a de.NBI cloud is on an excellent way. The cloud looks forward to carry out the first users'-oriented jobs. At the end of July 2017, it was a surprise when the BMBF announced that the de.NBI cloud can receive further financial support of 6 Mio EURO to add a **storage component** to the de.NBI cloud. The special interest group handling the de.NBI cloud as well as the Central Coordination Unit of the network immediately took up this offer and distributed the fund in an optimized manner to the five universities engaged in establishing the de.NBI cloud. These universities are now busy to write their formal applications to start the process of procuring the storage components since the fund should be spent until the end of the current year.

7) THE 2nd INTERNATIONAL de.NBI SYMPOSIUM, 23-25 OCTOBER 2017

The **2nd International de.NBI Symposium „The Future Development of Bioinformatics in Germany and Europe”** will take place at the Center for Interdisciplinary Studies (ZIF), Bielefeld University, from 23 until 25 October 2017. The symposium will focus on the **collaboration between the de.NBI and ELIXIR networks**. A number of renowned speakers could be won to contribute to the program. In the opening session Niklas Blomberg, director of ELIXIR, will present the goals of ELIXIR and its interaction with the de.NBI network. A special highlight of the symposium will be the **Distinguished Symposium Lecture** of Barend Mons from Leiden University, Netherlands. He is the head of the High Level Expert Group for the European Open Science Cloud (EOSC) and his talk will focus on the development of the EOSC project. A **poster session** and a **session for young scientists** complete the program.

Sessions focus on

- **Proteome and Metabolome Bioinformatics**
- **Cloud Computing**
- **Microbial Bioinformatics**
- **Plant Bioinformatics**
- **Human Bioinformatics**
- **Data Resources and Data Management**
- **RNA Bioinformatics and Galaxy**



Further information and registration is available at <https://www.denbi.de/symposium2017> .

Registration deadline: **15 September 2017**

Abstract submission deadline: **23 September 2017**

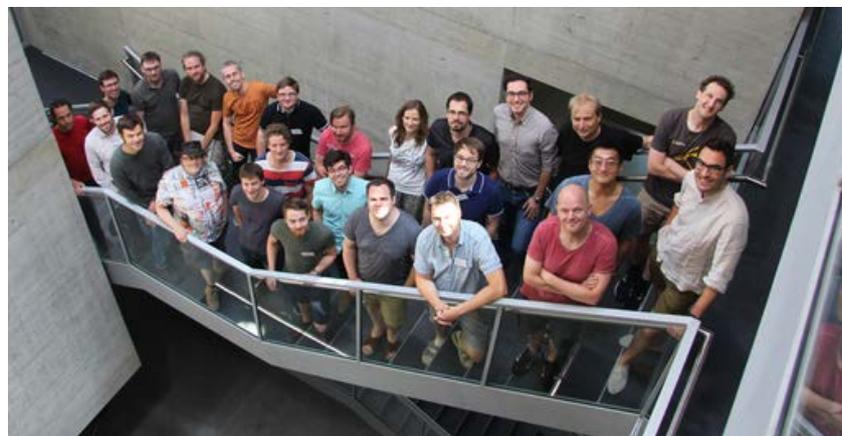
On the last day of the symposium, the **de.NBI Plenary Meeting 2017** will be held in the afternoon of 25 October. The main purpose of this plenary meeting is the discussion the decisions of the reviewer panel for the last two years of the de.NBI. Just as a reminder, the de.NBI plenary meetings are official meetings, where all de.NBI members are expected to participate.

8) CHRISTOPH STEINBECK, NEW ASSOCIATED MEMBER OF de.NBI

In the course of the 11th meeting of the central coordination unit the application for an associate membership in de.NBI by **Christoph Steinbeck** was officially adopted by the CCU members. Christoph Steinbeck is professor for analytical chemistry, cheminformatics and chemometrics at the Institute for Inorganic and Analytical Chemistry of the Friedrich-Schiller-University in Jena (Germany). In agreement with the leadership at the European Bioinformatics Institute (EBI) in Hinxton, Cambridge, UK he will co-develop, with the EBI, the **MetaboLights** database from Jena as a de.NBI activity and strengthen the de.NBI expertise in metabolomics in collaboration with the groups in Halle (Steffen Neumann) and Bielefeld (Jens Stoye) interested in this technology. Christoph Steinbeck will also contribute to the de.NBI portfolio of training courses by offering courses for computational metabolomics and on metabolomics data management and deposition.

9) LEARNATHON OF THE DRESDEN ANALYSIS-OF-IMAGES SUITE (DAIS)

June 2017 saw the first ever de.NBI “**Learnathon**” of **CIBI DAIS** (Dresden Analysis-of-Images Suite) at the Center for Systems Biology Dresden. This hands-on course was introducing the software ecosystem around Fiji, ImageJ2, and KNIME to 25 participants from June 18th to June 24th. Specifically, the course was focused on core libraries and concepts behind those analysis tools, taught the best-practices



for how to use and apply those libraries, and also had an emphasis on how the existing community collaborates and communicates despite being distributed all over the globe. The Learnathon week was also a fantastic opportunity to work on a number of real-world projects that directly add to existing and future solutions that are available to the general public.

10) de.NBI CLOUD SUMMER SCHOOL IN GIESSEN

The Bielefeld-Gießen (BiGi) Service Center organized the first **de.NBI Summer School on Cloud Computing for Bioinformatics**. The BiGi Service Center is specialized in microbial bioinformatics and is well known for its software platforms for the analysis of microbial data, e.g. GenDB, EDGAR. Furthermore, the de.NBI cloud partners in Bochum (BioInfra.Prot), Freiburg (RBC), Heidelberg (HD-HuB) and Tübingen (CIBI) were involved in organizing this workshop.

During the training course, 24 participants were instructed in the usage of **OpenStack based Cloud Computing** environments and gained understanding of the possibilities and limitations of Cloud Computing resources for bioinformatics software development and data analysis. The course covered different interesting lectures and hands-on sessions by de.NBI speakers and renowned European experts in the field, e.g. Christophe Blanchet (French Institute of Bioinformatics), Francois Jeanmougin (Hewlett Packard) and Tommi Nyrönen (Head of ELIXIR Finland).

de.NBI will follow up its successful summer school training program with the late summer school “Computational genomics and RNA biology” 25 – 29 September in Berlin.



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 39 courses are in the pipeline for the rest of 2017.

MAJOR de.NBI EVENTS - SAVE THE DATES

- **de.NBI Midterm Review (18-19 September 2017), Berlin.** In accordance with the funding regulations, the consortium will be evaluated in September 2017. All PIs are asked to present a poster on 18 September 2017. Service center coordinators and SIG chairs will also give oral presentations. This meeting has already been announced in the de.NBI QNL May 2017.
- **de.NBI Summer School “Computational Genomics and RNA Biology” (25-29 September 2017), Berlin.** The summer hosted at the Max-Delbrück Center for Molecular Medicine school combines theoretical introductions and practical exercises in NGS and Galaxy tools for NGS, statistics for RNAseq, ChIP and ChIPseq, and RNA structure. See <http://www.denbi.de/22-training-cat/training-courses/278-de-nbi-summer-school-computational-genomics-and-rna-biology>
- **2nd International de.NBI Symposium “The Future Development of Bioinformatics in Germany and Europe” 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 conference will take place at the Center for Interdisciplinary Research (ZiF) at Bielefeld University.



OVERVIEW OF UPCOMING de.NBI EVENTS

	Date	Event	City	Organizer
➤	06 Aug 2017	COMBINE Tutorial - Modelling and Simulation Tools in Systems Biology - ICSB	Blacksburg	de.NBI-SysBio
➤	07 Aug 2017	COPASI Tutorial - ICSB 2017	Blacksburg	de.NBI-SysBio
➤	07-11 Aug 2017	KNIME Cluster Hackathon	Konstanz	CIBI
➤	21-25 Aug 2017	Deep Learning with Keras	Dresden	CIBI
➤	12-13 Sep 2017	Stoichiometric and kinetic modeling of biochemical networks using CellNetAnalyzer and COPASI	Heidelberg	de.NBI-SysBio
➤	18 Sep 2017	Computational Mass Spectrometry - GCB 2017	Tübingen	CIBI
➤	18-22 Sep 2017	4th Galaxy high-throughput sequencing (HTS) data analysis workshop	Freiburg	RBC
➤	20-29 Sep 2017	de.NBI, DAIS & KNIME Hackathon	Konstanz	CIBI
➤	25-29 Sep 2017	de.NBI Summer School - Computational genomics and RNA biology	Berlin	RBC
➤	25-27 Sep 2017	PLANT 2030 Summer School - Basic Bioinformatics training for Biologists	Gatersleben	GCBN
➤	25-27 Sep 2017	SeqAn User Meeting 2017	Halle	CIBI
➤	25-27 Sep 2017	OpenMS User Meeting 2017	Halle	CIBI
➤	04-06 Oct 2017	A primer for RNA-Seq processing, interpreting and visualization	Freiburg	RBC
➤	17 Oct 10.2017	12. CCU Meeting	Heidelberg	CAU, HD-HuB
➤	18-20 Oct 2017	Software Carpentry Workshop	Heidelberg	HD-HuB
➤	23-25 Oct 2017	2nd International de.NBI Symposium „The Future of Development of Bioinformatics in Germany and Europe“	Bielefeld	CAU, all SC
➤	06-10 Nov 2017	From Primer to Paper: Training in Microbial Biodiversity Analysis	Bremen	BioData
➤	12 Nov 2017	Computational lipidomics: identification and quantification of lipids	Borstel	BioInfra.Prot
➤	13 Nov 2017	Differential analysis of quantitative proteomics data using R	Bochum	BioInfra.Prot
➤	15-16 Nov 2017	de.NBI - GFBio & Friends Data Management Workshop	Bremen	BioData + CIBI + de.NBI-SysBio

IMPRESSUM:

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