

de.NBI Quarterly Newsletter

EDITORIAL

Dear de.NBI members, dear de.NBI followers,

The new edition of the de.NBI Quarterly Newsletter provides you the essentials on the latest development and the future activities of de.NBI and ELIXIR Germany. In recent months, the cooperation of de.NBI/ELIXIR Germany with the European life-sciences infrastructure for biological information ELIXIR has made tremendous progress. The biological databases BRENDA and SILVA, operated by members of the BioData Node of de.NBI, have joined the list of ELIXIR Core Data Resources. The ELIXIR Core Data Resources serve as a mark of the highest quality in biological data provision and stewardship. Moreover, the ELIXIR All hands Meeting took place in Berlin, June 4-7, 2018, bringing together members of all ELIXIR nodes from across Europe. This meeting was successful in its goals of reviewing ELIXIR achievements and discussing plans for future activities. The next de.NBI-ELIXIR event is the 'ELIXIR Innovation and SME Forum on Data Driven Innovation in Industrial Biotechnology' in Frankfurt, October 15-16, 2018. It is open to both large and small companies and aims to inform about de.NBI and ELIXIR resources and to create a space to network for industry and academia. Please register via the ELIXIR website!

This newsletter also addresses the 1st de.NBI Retreat held in Freiburg and the 3rd de.NBI SAB Meeting in Berlin as well as the 1st de.NBI Cloud User Meeting in Bielefeld as upcoming major events. The newsletter is completed by short articles about public relation activities, the de.NBI Twitter channel and future training activities of the de.NBI consortium. A list at the end of this newsletter shows the training courses and workshops planned for the coming months.

The de.NBI Administration Office hopes you enjoy reading this new edition of the de.NBI Quarterly Newsletter and that we touch upon some interesting topics for you.




Andreas Tauch
(Head of de.NBI Administration Office)

Further information at: <http://www.denbi.de/>

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de.NBI DATABASES NAMED ELIXIR CORE DATA RESOURCES

BRENDA and **SILVA**, two biological databases operated by de.NBI/ELIXIR Germany, have joined the list of ELIXIR Core Data Resources critically important for life science research.



BRENDA is the main collection of enzyme functional data available to the scientific community (www.brenda-enzymes.org). The data collection is being developed into a metabolic network infor-



mation system with links to enzyme expression and regulation information. It is important to be mentioned that the data on enzyme function are extracted from literature and critically evaluated by qualified scientists. BRENDA is maintained and developed at the Institute of Biochemistry and Bioinformatics at the Technical University of Braunschweig, Germany.



SILVA is a comprehensive on-line resource for quality checked and aligned ribosomal RNA (rRNA) sequence data (www.arb-silva.de). It provides comprehensive and regularly updated datasets of aligned small and large subunit rRNA sequences for all three domains of life. The SILVA databases are developed and maintained by the Microbial Genomics and Bioinformatics Research Group at the MPI for Marine Microbiology in Bremen, Germany.

ELIXIR Core Data Resources are a set of European data resources of fundamental importance to the wider life-science community and the long-term preservation of biological data. Identification and selection of the ELIXIR Core Data Resources involves a careful evaluation of the multiple facets of the data resources. The details of the selection criteria are described in the F1000R ELIXIR track article 'Identifying ELIXIR Core Data Resources' (www.ncbi.nlm.nih.gov/pubmed/27803796). The initial list of ELIXIR Core Data Resource was defined in July of 2017 and will be reviewed regularly.

Further information at: <https://www.elixir-europe.org/news/brenda-and-silva-elixir-core-data>

ELIXIR ALL HANDS MEETING 2018

On 4-7 June, 2018, the fourth ELIXIR All Hands meeting was held in Berlin, Germany, and hosted over 300 members of ELIXIR community from across the 21 ELIXIR Nodes. 25 members of the de.NBI network attended the meeting and contributed to the organization of the conference and to the scientific program. The Head of ELIXIR Germany, Alfred Pühler, welcomed all guests on behalf of the German node during the opening lecture and presented an overview on the services offered by the de.NBI network.



Within the scientific program, Björn Grüning (RNA Bioinformatics Center, Freiburg) played a contribution with two flash talks entitled "usegalaxy.eu - A Galaxy Server for Europe" and "Development of Architecture for Software Containers - Practical Computer Reproducibility for Everyone". In addition to talks, B. Grüning also chaired two workshops on Galaxy and Biocontainers. During the poster session, members of the de.NBI Administration Office presented two posters on de.NBI training efforts and the de.NBI cloud.

In his keynote lecture entitled "My Gut Microbes and Me: Bioinformatics as Key for Discovery" Peer Bork (EMBL, Heidelberg) acknowledged the benefits of de.NBI bioinformatics services to his research.

Members of the administration office participated in the organization of the Spree dinner cruise overlooking Berlin's main sights.

At the end of the meeting, Johannes Mohr (BMBF) delivered the farewell address and thanked the participants from all ELIXIR nodes for their valuable input to the successful meeting.



Impressions of the ELIXIR AHM 2018 (Photos: ELIXIR and D. Wibberg)

Further information, photos and slides at: <https://www.elixir-europe.org/events/elixir-all-hands-2018>

1ST de.NBI RETREAT: FUTURE DEVELOPMENT OF THE NETWORK

On 12 July 2018, the de.NBI network organized its first retreat at a hotel location in Freiburg. The coordinators of Service Centers and chairpersons of Special Interest Groups as well as all principal investigators have been invited. Altogether, more than 40 participants discussed two topics, namely 'Benefits and Visions of the de.NBI network' and 'A concept for the sustainable continuation of the de.NBI network'.

The first part of the retreat covered the topic 'Benefits and visions of the de.NBI network' by flash talks presented by representatives of Service Centers and Special Interest Groups. This topic has originally been proposed by the de.NBI Scientific Advisory Board to summarize the importance of the de.NBI achievements for de.NBI users and their communities. In addition, the goals of de.NBI for the next 5, 10, or 20 years were also discussed at the retreat.

In the second part of the retreat, the topic 'Sustainable continuation of the de.NBI network' was on the agenda. The de.NBI coordinator presented a concept paper to integrate a centralized part of de.NBI into the Leibniz Association and to engage the BMBF in supporting the Service Centers, forming the decentralized part of de.NBI. For the integration of the centralized part into the Leibniz Association, de.NBI started a collaboration with the ZB MED – Information Centre for Life Sciences in Cologne.



A. Tauch moderating the 1st de.NBI Retreat in Freiburg

In order to provide information on ZB MED, the current director, D. Rebholz-Schuhmann, presented the research focus of the institute. The integration of de.NBI into the Leibniz Association was commented by two Leibniz directors who participated in the retreat by video connection. Their comments indicated that joining the Leibniz Association is a good development for de.NBI on its way to sustainability.

According to the remarks of the participants, the first de.NBI retreat was a suitable format since the future development of the de.NBI network could be discussed in a relaxed atmosphere without time constriction.

THE de.NBI SCIENTIFIC ADVISORY BOARD AND PLENARY MEETING, 29-30 NOVEMBER 2018

The Scientific Advisory Board (SAB) Meeting 2018 will take place on 29 November 2018 at the Seminaris CampusHotel in Berlin. The SAB Meeting will be composed of oral presentations by selected de.NBI project leaders followed by a poster session where all Service Centers and individual projects will present their recent achievements. The oral presentation will focus on 'Benefits and Visions of the de.NBI network'. The detailed program is not yet fixed. It will be developed together with Janet Thornton, chair of the de.NBI SAB.

The de.NBI Plenary Meeting 2018 is scheduled for 30 November 2018. The goal of the plenary meeting is to inform all de.NBI members on important developments of the network. One topic of the meeting will focus on the recommendations provided

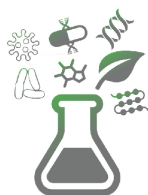


The Scientific Advisory Board of the de.NBI at the meeting in June 2017 (from left to right): I. Gut (Barcelona, ES), A. McHardy (Braunschweig, DE), R. Schneider (Belvaux, LX), R. Appel (Lausanne, CH), I. Hofacker (Vienna, AT), J. Thornton, Chair (Hinxton, UK).

by the reviewer panel during the midterm review. Service center coordinators will report on activities initiated to meet the reviewers' recommendations. A further topic of the plenary meeting will highlight the collaboration with ELIXIR. Selected members of ELIXIR-DE will report on ongoing activities. An important goal of this item of the agenda will be the discussion of further steps to improve the collaboration with ELIXIR.

With this announcement of the de.NBI SAB and plenary meeting 2018, all de.NBI members are invited to participate. This meeting provides the opportunity to be involved in the discussion of important developments within the de.NBI consortium. Details on registration will be communicated via de.NBI mailing lists by the end of the months.

ELIXIR INNOVATION AND SME FORUM IN GERMANY



ELIXIR INNOVATION AND SME FORUM

Data Driven Innovation in Industrial Biotechnology

15-16 October 2018 | Frankfurt, Germany

DECHEMA, Theodor-Heuss-Allee 25 D

The ELIXIR Innovation and SME Forum Data Driven Innovation in Industrial Biotechnology (15 - 16 October 2018, Frankfurt, Germany) informs about ELIXIR and de.NBI resources and creates a space to network for industry and academia. This ELIXIR event is open to both, large and small companies and is aimed in particular at companies active in industrial biotechnology, software companies working with data and

tools in life sciences and all research institutes active in the field of data science in all life science domains. In this lunch-to-lunch event, attendees will be immersed in a world of data-driven innovation, illustrated through talks. With a mix of high-level keynote speakers and interactive sessions, this event will allow you to discuss and interact with other companies and ELIXIR partners. A specific session with flash talks will give new companies the chance to introduce their work to a broad audience.

The event program is organized by ELIXIR Europe in cooperation with de.NBI/ELIXIR Germany, DECHEMA and BIO Deutschland and is open to all companies in Germany and beyond. The participation is free. The following sessions are included in the program:

- Big Data Challenges and Opportunities
- Data driven Biotechnology in Germany and Europe
- Services offered by de.NBI and ELIXIR
- Flash Talks from companies

Further information on program and registration at: <https://www.elixir-europe.org/events/sme-event-frankfurt>

1ST de.NBI CLOUD USER MEETING

The de.NBI Cloud offers compute power for life science research in Germany. Active for about a year now, many projects of all sizes and with a variety of use cases are using the vast capacity of the de.NBI Cloud. Due to the diversity of approaches that arise in this exciting and rapidly evolving cloud computing technology niche, this meetup should help to exchange ideas and approaches in the growing de.NBI Cloud community.

The de.NBI Cloud User Meeting is your chance of meeting users, developers and administrators using the de.NBI Cloud. In a 3-day event (29.-31.10.2018) at Bielefeld University you can learn about life science projects hosted in the de.NBI Cloud. Talks and workshops will be given about current de.NBI Cloud projects and state of the art cloud computing technologies like Spark, Docker and Kubernetes.

Read more about the event and the registration at: <https://cloud.denbi.de/1st-de-nbi-cloud-user-meeting>

de.NBI @ CONFERENCES

The network has been introduced at various occasions in the past three months of 2018.

EUROPEAN CONFERENCE ON DATA ANALYSIS

From the 4-6 July 2018 the European Conference on Data Analysis took place in Paderborn, Germany. The venue was the Heinz Nixdorf MuseumsForum, the world's largest computer museum. During three days data scientists listened to talks about topics like Textual Data Analysis, Machine Learning for Dynamic Systems but also Bioinformatics and Biostatistics. Peter Belmann, the de.NBI Cloud Governance, gave an oral presentation on the de.NBI Cloud as an opportunity for life scientists to get free computational resources for academic research in Germany. The presentation also emphasized that the de.NBI Cloud offers, among other things, specialized hardware like High Memory Nodes and Graphics Processing Units (GPUs) for the application of machine learning based analysis.



Multidisciplinary Facets of
Data Science

Further information at: <http://groups.uni-paderborn.de/eim-i-fg-huellermeier/ecda2018/>

DATA SCIENCE DAY IN BIELEFELD









The Bielefeld Center for Data Science ([BiCDaS](#)) hosted its first Data Science Day on 23 May 2018 to present the topic 'Data Science' at Bielefeld University. True to the motto 'data first', the Data Science Day was an interdisciplinary event, and researchers and scholars from numerous faculties and central institutions, e.g. the university library, were available for questions and discussions. The event also introduced the new master degree program 'Data Science' at Bielefeld University that will start in autumn 2018. Scientific topics, which have been addressed during the Data Science Day, were astronomy, bioinformatics, biotechnology, digital humanities, electronics, mathematics, physics, psychology, machine learning, high-performance computing, research data management, data science education, data presentation (data visualization) and many more. The de.NBI Administration Office presented the network's activities, the de.NBI cloud and ELIXIR Germany at the booth in the central hall of Bielefeld University.

Further information at: http://www.uni-bielefeld.de/datascience/data_science_day.html

de.NBI WORKSHOPS AT CONFERENCES IN SUMMER 2018

de.NBI partners will be busy in teaching a variety of workshops at conferences in the next months:

-  17th International Symposium on Microbial Ecology, Leipzig, Germany, ISME 17, 12-17 August 2018
 - Microbiome Analysis with QIIME 2
-  17th European Conference on Computational Biology, ECCB 2018, Athens, Greece, 8-12 September 2018
 - From an application to a fully integrated workflow – Comprehensive software engineering with SeqAn
 - Computational Mass Spectrometry with OpenMS
-  63. GMDS-Jahrestagung 2018, Deutsche Gesellschaft für Medizinische Informatik, Biometrie und Epidemiologie GMDS e.V., Osnabrück, 2-6 September 2018
 - RNA-Seq data analysis with Galaxy for clinical applications
-  German Conference on Bioinformatics 2018, Vienna, Austria, 25-28 September 2018,
 - Label-free quantification with OpenMS
 - SeqAn3 – a modern C++ library for efficient sequence analysis
 - Cloud Computing Tutorial
-  19. International Conference on Systems Biology, ICSB 2018, Lyon, France, 28 October-1 November 2018
 - COMBINE & de.NBI Tutorial: Modelling and Simulation Tools in Systems Biology
 - Advanced modeling with COPASI
-  4th international Lipidomics Forum 2018, Dortmund, 11-13 November 2018
 - Omics data analysis with R for Beginners
 - Hands-On Workshop on Lipidomics Software & Pipelines

Links to the tutorials and workshops are provided at: <http://www.denbi.de/training-courses>

SECOND DAIS LEARNATHON 2018 AT CSBD

June didn't only bring an early summer, but also the second edition of the de.NBI 'Learnathon' of DAIS (Dresden Analysis-of-Images Suite) to the CSBD (Center for Systems Biology Dresden). From 4-8 June 2018, the hands-on course introduced 25 participants to the ecosystem around Fiji, ImageJ2 and KNIME – open-source software applications to advance bioimage analysis for scientific projects. Particularly, the attendees learned about the core libraries and concepts behind these analysis tools, and which software engineering infrastructure is commonly used.

Guided by experienced leaders in the community the participants from Germany, the Czech Republic, India and Canada were able to program own plug-ins and scripts during



various workshops and sessions. The course also aimed at integrating newcomers into the existing community and showing its potential for collaboration and synergetic exchange. A warm summer night out in the 'Neustadt' - Dresden's famous nightlife quarter - added to this aspect of the agenda.

"We were stunned by the skills and in-depth questions the participants raised during the course. It was a fantastic week and we can't wait to see the follow-up work in the individual project implementations now", concluded Deborah Schmidt, one of the organizers from Florian Jug's group.

The DAIS Learnathon series was successfully launched in 2017, and is repeated in annual intervals. We are already looking forward to next year's event!

FOLLOW US ON TWITTER



#denbi is successfully active via @twitter since October 2016. The de.NBI profile name is @denbioffice and features more than 700 followers and about 2,000 tweets now. We used the channel in the last few years to announce and document training courses, to announce #denbi events, and for all news related to #denbi, e.g. @ELIXIREurope news and news tweeted by #denbi partners or tools like @HITStudies or @OpenMSTeam. If you are interested in latest #denbi news, follow us on @twitter and use our tags #denbi @denbioffice.

Further information at: <https://twitter.com/denbioffice?lang=de>

UPCOMING EVENTS







The calendar lists the de.NBI training courses in the second semester 2018. All offers are accessible via the de.NBI web page (<http://www.denbi.de/training>). A number of training events are in the pipeline but not yet scheduled. Please consult the de.NBI training program for the actual dates.

Major de.NBI events – Save the Dates

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ELIXIR Innovation and SME Forum “Data-driven Innovation in Industrial Biotechnology”, 15 – 16 October 2018, in Frankfurt shall provide companies with the opportunity to learn more about the emerging ELIXIR and de.NBI services and forge strong links with the German ELIXIR Node representatives running these services. The event is jointly organized by ELIXIR, de.NBI, DECHEMA and BioDeutschland. The event's scientific program will include keynote talks, meet-the-expert sessions and technical seminars about ELIXIR and de.NBI resources and projects. [General information and registration at: https://www.elixir-europe.org/events/sme-event-frankfurt](https://www.elixir-europe.org/events/sme-event-frankfurt).
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de.NBI SAB Meeting and Plenary Meeting 2018, 29-30 November 2018 in Berlin. The venue is the Seminaris Campus Hotel Berlin. This meeting is the obligatory annual gathering of the de.NBI consortium. Registration will open by the end of August.

Overview of upcoming de.NBI events



Date	Event	City	Organizer
 15 Aug 2018	Microbiome Analysis with QIIME 2 – ISME17	Leipzig	BioData
 17 Aug 2018	GTN collaboration fest on metagenomics (online)	Online	RBC
 03-07 Sep 2018	de.NBI Summer School 2018 „Riding the Data Life Cycle	Braunschweig	BioData, GCBN, de.NBI-Sysbio
 04 Sep 2018	RNA-Seq data analysis with Galaxy for clinical applications – GMDS 2018	Osnabrück	RBC/de.STAIR
 08 Sep 2018	Computational Mass Spectrometry with OpenMS – From Algorithms to Integrated Workflows – ECCB 2018	Athen	CIBI
 09 Sep 2018	From an application to a fully integrated workflow – Comprehensive software engineering with SeqAn – ECCB 2018	Athen	CIBI

Date	Event	City	Organizer
 17-21 Sep 2018	6th Galaxy HTS data analysis workshop	Freiburg	RBC
 19-21 Sep 2018	de.NBI – CeBiTec Nanopore Best Practice Workshop 2018	Bielefeld	BiGi, GCBN
 19-21 Sep 2018	SeqAn User Meeting 2018	Berlin	CIBI
 19-21 Sep 2018	OpenMS User Meeting 2018	Berlin	CIBI
 19-21 Sep 2018	KNIME User Meeting 2018	Berlin	CIBI
 19-21 Sep 2018	DAIS User Meeting 2018	Berlin	CIBI
 19-21 Sep 2018	MASH User Meeting 2018	Berlin	CIBI
 24-28 Sep 2018	Deep Learning Bootcamp 2018	Dresden	CIBI/DAIS
 25 Sep 2018	Label-free quantification with OpenMS – GCB 2018	Vienna	CIBI
 25 Sep 2018	SeqAn3 – a modern C++ library for efficient sequence analysis - GCB 2018	Vienna	CIBI
 25 Sep 2018	Getting Started with the de.NBI-Cloud- GCB 2018	Vienna	BiGi
 08-10 Oct 2018	Workflow management systems in the cloud	Gießen	BiGi
 16 Oct 2018	Tool-Training for Proteomics	Bochum	BioInfra.Prot
 16-18 Oct 2018	Software Carpentry Course	Heidelberg	ELIXIR, HD-HuB
 23 Oct 2018	16. CCU-Meeting	Tübingen	CAU, CIBI
 27 Oct 2018	COMBINE & de.NBI Tutorial: Modelling and Simulation Tools in Systems Biology – ICSB 2018	Lyon	de.NBI-SysBio
 27 Oct 2018	Advanced modeling with COPASI – ICSB 2018	Lyon	de.NBI-SysBio
 29-31 Oct 2018	1st de.NBI Cloud User Meeting	Bielefeld	SIG 6, CAU
 11 Nov 2018	Omics data analysis with R for Beginners – Lipidomicsforum 2018	Dortmund	BioInfra.Prot/LIFS
 11 Nov 2018	Hands-On Workshop on Lipidomics Software & Pipelines – Lipidomicsforum 2018	Dortmund	BioInfra.Prot/LIFS
 13 Nov 2018	Polyomics data integration and analysis	Bielefeld	BiGi
 19 Nov 2018	Differential analysis of quantitative proteomics data using R	Bochum	BioInfra.Prot
 19-20 Nov 2018	European Galaxy Days 2018	Freiburg	RBC, ELIXIR
 29-30 Nov 2018	de.NBI SAB meeting incl. Workshop and Plenary Meeting	Berlin	CAU

Further information at: <http://www.denbi.de/training>

IMPRESSUM

RESPONSIBLE FOR CONTENTS

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