

German Biobank Alliance (GBA): E-learning modules for technical personnel to enhance biospecimen quality



Introduction

The quality of biospecimens in biobanks depends tremendously on the expertise of the technical personnel responsible for their processing, storage, and release. However, there are limited education and training opportunities for this professional category. Therefore, the German Biobank Alliance (GBA) and the German Biobank Node (GBN) have developed an educational programme for technical personnel in biobanks. E-learning modules, corresponding to the already introduced practical on-site trainings and thus to the GBA ring trials, are the latest addition to this programme. They support the technicians in the application of their knowledge and are thus part of the quality assurance measures within GBA.

Expansion of the educational programme for technical personnel

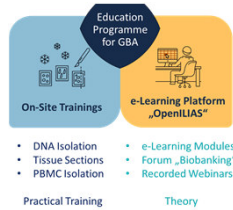


Figure 1: Education programme for technicians.

In addition to the practical on-site trainings offered since 2018, GBA aimed to establish an e-learning platform to address the theoretical education of technicians as well. In 2021, GBA launched the technician-centred platform "OpenLIAS", hosted by the University of Göttingen. OpenLIAS will not only feature several e-learning modules but also offers the online forum "Biobanking" and recordings of GBA webinars.

E-learning module "DNA Isolation"

In accordance with previously established learning objectives*, GBA developed the first self-study e-learning module "DNA Isolation" for the OpenLIAS platform. The target group are technicians from GBA member biobanks that aim to increase their knowledge on DNA isolation in preparation for an on-site training or GBA ring trial.

The course content is conveyed through texts, created graphics, and embedded videos. Each chapter and the whole course is followed by a set of test questions to control for the learning success.

The module is organised in five chapters:

1. What is DNA?
2. Applications of DNA
3. Quality & quantity of DNA
4. DNA isolation
5. Storage of DNA

The first run of this e-learning course will start in January 2022. A successful completion of this module is required to participate in the following on-site training on DNA isolation.



Figure 2: Screenshots from the e-learning module „DNA Isolation“.

Test run of the learning module "DNA Isolation" with selected technicians

For a first evaluation of the e-learning module "DNA Isolation", twelve technicians were asked to take the course and share their feedback:

Results

- Four of the five chapters were well received
- Feedback for chapter 2 „Applications of DNA“ was mixed, as some found the description of the DNA analysis methods too difficult and complex

Resulting Improvements

- Addition of a glossary
- Embedding of further videos explaining the presented molecular biological methods

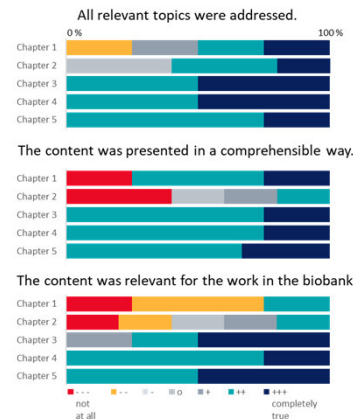


Figure 3: Excerpt from the results of the test run evaluation.

Forum "Biobanking"

In addition, the OpenLIAS platform hosts the online forum „Biobanking“, where members share and discuss experiences in all fields of biobanking. This forum is open to employees of all biobanks, not only GBA members.



Scan this QR code for instructions how to register for the forum „Biobanking“!

Conclusion & Outlook

The implementation of OpenLIAS as educational and networking platform for technicians is a valuable addition to the GBA education programme. It will contribute to consistently high and comparable quality of biospecimens across GBA biobanks.

To be launched in 2022/23

- Module 2 - "Preparation of Tissue Slides"
- Module 3 - "PBMC Isolation"

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References

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