



## GOBLET – ELIXIR Training Strategy



### 1. Preamble

This document outlines a recommendation for a collaborative training strategy to support complementary activities between GOBLET and ELIXIR.

### 2. Description of the partners GOBLET and ELIXIR

**ELIXIR**, a pan-European research infrastructure for biomolecular data, aims to support life-science research across Europe, and its translation into medicine, agriculture, bio-industries and society, through the collection, quality control and archiving of biological data. It plans to achieve its goals partly via a coordinated training strategy (including train-the-trainer, train-the-researcher and train-the-developer programmes, provision of e-learning modules, *etc.*), aiming to equip researchers to better exploit ELIXIR's core data resources, tools, services and standards. Part of this strategy involves development of a Training e-Support System (TeSS). TeSS will automatically harvest training information from ELIXIR Nodes (and other content providers), and will offer ELIXIR-wide and Node-specific views of training events, resources, *etc.*, for the benefit of ELIXIR communities.

#### **ELIXIR-specific activities**

- Developing an ELIXIR-focused training registry – *i.e.*, an aggregating platform to inform users of training news, opportunities and resources across its Nodes (based on iAnn, a mechanism successfully deployed within GOBLET);
- Building and coordinating a European network of bioinformatics and infrastructure trainers;
- Developing and delivering training specifically to empower researchers, developers and trainers to use ELIXIR tools, data resources and services;
- Exploring use of the Moodle learning management system to deliver e-learning modules and materials.

**GOBLET**'s core mission is to provide a global, sustainable support and networking infrastructure for bioinformatics trainers and trainees (Attwood *et al.*, 2015). This includes a training portal (Corpas *et al.*, 2015), allowing trainers to share materials, tools and techniques, guidelines and best-practice documents, and resources to help train trainers and teachers. In addition, GOBLET is i) fostering the international community of bioinformatics/computational biology trainers through networking events (esp. in collaboration with ISCB, through joint workshops and tutorials at ISMB/ECCB, and joint development of the Community of Special Interest (COSI) in Computational Biology Education), ii) facilitating bioinformatics capacity development across the globe, particularly through its train-the-trainer and train-the-teacher initiatives, and iii) developing best-practice standards and guidelines for bioinformatics training (Via *et al.*, 2013). Through the experience and expertise of its network (encompassing 30 national and international organisations in Europe, Africa, Asia, Australasia, and North and South America), GOBLET is emerging as *the* professional body for bioinformatics training, exploring the recognition of trainers/courses using [open badges](#) or similar, and accreditation/endorsement/branding of high-quality courses and materials.

### **GOBLET-specific activities**

- Developing a training platform, including a repository of training materials, a registry of trainers and course organisers, and a portal to inform users of training news, events and resources across continents;
- Building and coordinating an active, expert global network of bioinformatics trainers and course organisers, reaching organisations across continents, including those in developing countries;
- Exploring recognition mechanisms for trainers/courses/materials using open badges or similar;
- Running training events alongside its AGM and as part of the ISMB/ECCB conferences;
- Co-Chairing the ISCB Computational Biology Education COSI.

### **3. The added value of a harmonised GOBLET and ELIXIR training strategy**

There are clearly, and inevitably, areas of overlap and complementarity between the training goals of GOBLET and ELIXIR – each wants to up-skill researchers (from life-scientists to technologists, from postgraduate students to PIs) in areas relating to data analysis and interpretation, data stewardship, standards compliance, software and data carpentry, *etc.* Some overlaps and areas of complementarity are outlined below:

- ELIXIR's training platform, TeSS, necessarily has a European focus; GOBLET's Training Portal is, by definition, global in scope – their respective registry and repository functionalities and the scope of their target audiences are thus clearly complementary. ELIXIR and GOBLET should continue to work together to build mutually supportive resources, and to promote their synergistic activities through their European and global networks:
  - *e.g.*, aside from the distinct registry and repository functions of the TeSS and GOBLET portals, a particular differentiator of the TeSS is its inclusion of training 'workflows'. This concept is currently being piloted with a structural bioinformatics test-case; in future, ELIXIR and GOBLET could work together to flesh out commonly-used workflows for other areas of bioinformatics.
- ELIXIR's training agenda is steered by its Training Coordination Group (TrCG), many of whose members also represent their host institutions in GOBLET;
- ELIXIR and GOBLET each include train-the-trainer and train-the-researcher initiatives. ELIXIR and GOBLET should work in partnership to ensure that these programmes inform each other and work together to share best practices:
  - *e.g.*, a joint ELIXIR-GOBLET train-the-trainer/researcher event could be organised (winter 2015 or Jan/Feb 2016), hosted in NL. Such an event could focus on training themes related to ELIXIR priorities, and could deliver training materials for deposition in the GOBLET repository and surfacing through the TeSS (for future re-use in TtT/TtR programmes).
- GOBLET has been actively exploring/discussing trainer/material/course accreditation mechanisms over several years; ELIXIR's metrics task-force is conducting exploratory work in this area too. Accreditation is a challenging subject and has been tackled by much larger, more mature organisations in the past, on many different levels. The scale of the undertaking is enormous; ELIXIR and GOBLET would therefore achieve mutual benefit by working together both to articulate realistic and meaningful approaches, and to ensure the development of common standards:

- e.g., a joint ELIXIR-GOBLET workshop could be organised aiming to compile agreed lists of requisites, or minimum requirements, for “ELIXIR-branded” and “GOBLET-branded” training courses (including the venue, audience, instructors, topic(s), learning objectives, materials, etc.), and against which such courses could carry the relevant ELIXIR/GOBLET tag/brand. This would give courses greater visibility, it would make them and their materials more discoverable, and ultimately, it could feed into ongoing discussions on training quality.
- ELIXIR and GOBLET share an overarching vision to plug bioinformatics training gaps – they also share a number of the people who are most passionate about delivering the training courses and resources necessary to achieve this. ELIXIR’s TrCG and GOBLET should continue to work together, to share information and to promote the true value and importance of ‘professionalising’ bioinformatics training:
  - e.g., a joint ELIXIR-GOBLET workshop could be organised with a view to sharing knowledge both of training needs and of training capability across ELIXIR Nodes and beyond. Such an event could help to create a map of existing training expertise and resources, and identify both training materials and courses available, and training gaps. Such an event could also provide a springboard for developing knowledge-exchange visits between ELIXIR Nodes, from which new areas for collaboration across the training community could be identified<sup>1</sup>.

To date, GOBLET and ELIXIR have worked together informally through joint participation in workshops and meetings (e.g., like those held at [TGAC](#) and alongside [ISMB2013](#) in Berlin); and several ELIXIR Training Coordinators already work with GOBLET ‘seamlessly’, as many are GOBLET members, and some Chair GOBLET Committees. In creating GOBLET, part of the vision was to try to harmonise world-wide bioinformatics training activities, “*to share, not duplicate, effort; to share, not duplicate, cost; to work together in a mutually respectful way towards common solutions and a sustainable future.*” It clearly makes sense for ELIXIR and GOBLET to work towards that vision together: to jointly organise events of common interest; to share materials, tools and techniques; to jointly develop resources to help train trainers and researchers; to collaborate on the development of best-practice guidelines and common standards for training; to jointly prepare white papers; to share sponsorship opportunities; and so on.

Bringing the ELIXIR and GOBLET training communities together will add new perspectives and bring new audiences (e.g., GOBLET can help to connect ELIXIR with a range of international organisations, allowing outreach to communities beyond ELIXIR’s member countries). Importantly, it will help to clarify their respective roles, and make it clearer how to work towards common goals. To bring such added value to the work of GOBLET and ELIXIR it will be vital to build a robust bridge between them, as illustrated in Figure 1.

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<sup>1</sup> GOBLET has been working with the ISCB to develop an NFS proposal to support a *Training and Applied Knowledge Exchange (TAKE)* programme. Closer collaboration between GOBLET and ELIXIR could help to promote future cross-fertilisation with the TAKE initiative, should the programme be funded.

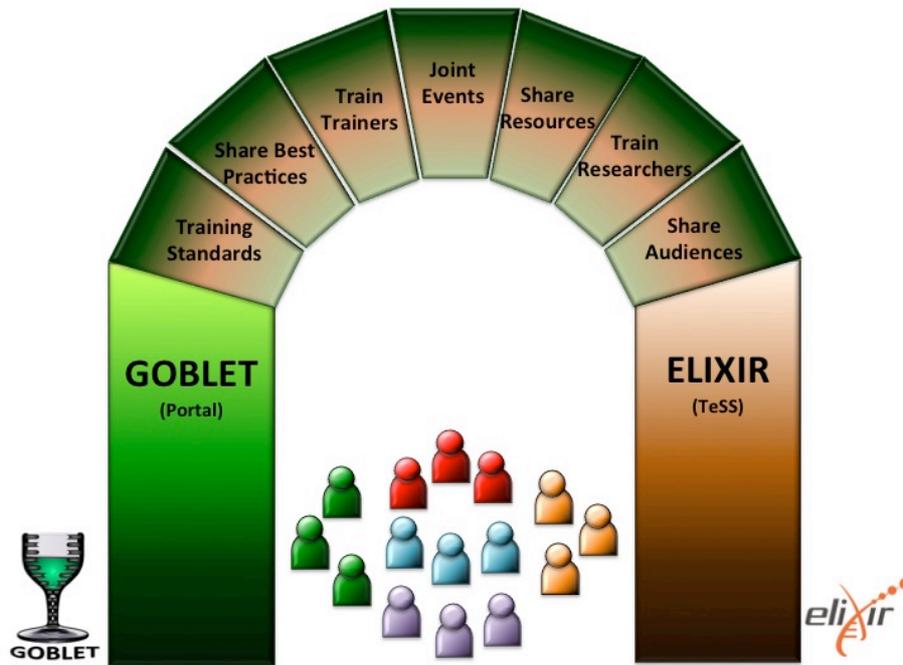


Figure 1. Proposed scheme for building a collaborative training strategy between ELIXIR and GOBLET, activities supported by GOBLET's Training Portal, on the one hand, and ELIXIR's TeSS, on the other.

GOBLET and ELIXIR bring a number of complementary strengths to the table. We seek to formalise and to build on these strengths as a prelude to formal membership in GOBLET, which we anticipate will have clear advantages to both organisations (to be outlined in a separate document).

### References

- Attwood TK *et al.* and the GOBLET Consortium. (2015) GOBLET: the Global Organisation for Bioinformatics Learning, Education and Training. *PLoS Comp. Biol.*, in press.
- Corpas M *et al.* (2015) The GOBLET training portal: a global repository of bioinformatics training materials, courses and trainers. *Bioinformatics*, **31**(1), 140-142. doi:10.1093/bioinformatics/btu601. Epub 2014 Sep 4.
- Via A *et al.* (2013) Best practices in bioinformatics training for life scientists. *Briefings in Bioinformatics*, **14**(5), 528-37. doi:10.1093/bib/bbt043. Epub 2013 Jun 25.