GOBLET, TeSS, BD2K…

‘e-learning’

an ELIXIR-GOBLLET workshop

T.K.Attwood
GOBLET: www.mygoblet.org

• Biggest recurring question
  • What’s the difference between GOBLET & TeSS?
  • Answer...?
# GOBLET: Training Portal

GoBlet is a Global Organization for Bioinformatics, Learning, Education & Training. This page shows the training portal section of the website, which includes a list of trainers and their topics. The portal provides a platform for members to share materials, advertise their events, or contribute to the site to provide details as a trainer or organizer using an online form.

### Trainers and Organisers

We encourage members who wish to share materials, to advertise their events or otherwise contribute to this site to kindly provide their details as a trainer or organizer using our online form.

Displaying 1 - 30 of 85
Filter by registration date of trainers

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<thead>
<tr>
<th>trainers and organisers</th>
<th>Topic</th>
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<tbody>
<tr>
<td>Emily Angiolini</td>
<td>bioinformatics, protein sequence analysis, linking data and literature</td>
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<td>Teresa K Attwood</td>
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<td>Dr Gary Bader</td>
<td>biological networks, Pathway analysis</td>
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<td>Ms Cecilia Banag</td>
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<td>Sarah Blackford</td>
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<tr>
<td>Dr Marie-Claude Blatter</td>
<td>introduction to bioinformatics, Biological databases, protein sequence analysis, Protein sequence databases</td>
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<td>Joanne Blayney</td>
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<tr>
<td>Erik Bongcam-Rudloff</td>
<td>bioinformatics</td>
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### Training Portal

- Trainers and organizers
  - By membership
  - Map
- Training materials
  - Course pages
  - FAQ
  - Video Tutorials

### Legend

- Individual member
- Student member
- Bronze member
- Silver member
- Gold member
- Platinum member

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T.K. Attwood
GOBLET: training portal

Publications

2015 - DOI: 10.1371/journal.pcbi.1004281

GOBLET: the Global Organisation for Bioinformatics Learning, Education and Training.
2015- DOI: 10.1371/journal.pcbi.1004143

A quick guide for building a successful bioinformatics community.
2015 - DOI: 10.1371/journal.pcbi.1003972

The GOBLET training portal: a global repository of bioinformatics training materials, courses and trainers.
2015 - DOI: 10.1371/bioinformatics.tba460

A quick guide to genomics and bioinformatics training for clinical and public audiences.
2014 - DOI: 10.1371/bioinformatics.tba10
Brazas MJ, Lewitter F, Schneider MN, van Gelder CW, Palagi PM.

Best practices in bioinformatics training for life scientists.
2013 - DOI: 10.1371/bioinformatics.tba53

Ann: an event sharing platform for the life sciences.
2013 - DOI: 10.1371/bioinformatics.tba60

Navigating the changing learning landscape: perspective from bioinformatics.ca.
2013 - DOI: 10.1371/bioinformatics.tba15
Brazas MD, Ouellette BF.

2013 - DOI: 10.1371/bioinformatics.tba6

Application Note

The GOBLET Training Portal: A Global Repository of Bioinformatics Training Materials, Courses and Trainers

Manuel Corpas1*, Rafael C. Jimenez2†, Erik Bongcam-Rudloff3, Aidan Budd4, Michelle D. Brazas5, Pedro L. Fernandes6, Bruno Gaeta7, Celia van Gelder8, Eija Korpelainen9, Fran Lewitter10, Annette McGrath11, Daniel MacLean12, Patricia M. Palagi13, Kristian Rother14, Jan Taylor15, Allegra Via16, Mick Watson17, Maria Victoria Schneider1, Teresa K. Attwood18

1The Genome Analysis Centre, Norwich, UK, 2ELIXIR, Wellcome Trust Genome Campus, Hinxton, UK, 3The Swedish University for Agricultural Sciences, Uppsala, Sweden, 4European Molecular Biology Laboratory, Heidelberg, Germany, 5Ontario Institute for Cancer Research, Toronto, Canada, 6Instituto Gulbenkian de Ciência, Oeiras, Portugal, 7The University of New South Wales, Sydney, Australia, 8Netherlands Bioinformatics Centre and Department of Bioinformatics, Radboud Medical Center, Nijmegen, The Netherlands, 9CSC - IT Center for Science Ltd., Espoo, Finland, 10Whitehead Institute for Biomedical Research, MIT, Cambridge, Mass. US, 11CSIRO, Bioinformatics Core, Canberra, 12The Sainsbury Laboratory, Norwich Research Park, Norwich, UK, 13SIB Swiss Institute of Bioinformatics, 1 Rue Michel Servet, Genève, Switzerland, 14Academia, Illstrasse 12, 12161 Berlin, Germany, 15The Newgen Centre, 29 Graffon Street, Manchester, UK, 16Department of Physics, Sapienza University, Rome, Italy, 17The Roslin Institute, Edinburgh, UK, 18The University of Manchester, Manchester, UK

Associate Editor: Dr. Jonathan Wren
TeSS: tess.oerc.ox.ac.uk

• TeSS is a portal/platform for disseminating, discovering & packaging training resources
  • primarily, by aggregating information from ELIXIR Nodes
    • also from various 3rd-party ‘content‘ providers
Why is TeSS needed?

A coordinating portal, giving an at-a-glance view across the ELIXIR training landscape...
TeSS: who is involved

- Project initiated as part of ELIXIR-UK
  - next phase to continue as part of EU project EXCELERATE
- Specific partners involved are:

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<td>ELIXIR-UK</td>
<td>UoManchester</td>
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<td>ELIXIR-PT</td>
<td>IGC</td>
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<td>ELIXIR-NL</td>
<td>DTL/NBIC</td>
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**TeSS: what it does**

- Some similar features to GOBLET’s portal
  - but important differences...

- **Aggregates**
  - TeSS aggregates training resources
    - via mostly automatic means
    - minimal manual intervention

- **Links**
  - TeSS links to training resources from providers
    - it doesn’t store materials
    - it isn’t a repository

- **Combines**
  - TeSS combines training resources in bespoke ways
    - primarily via packages & workflows
TeSS: how it works
TeSS: training portal
TeSS & GOBLET: training portals

- GOBLET is a repository of training resources, TeSS an aggregator of training information (metadata)
  - they are closely coupled, complementary & work synergistically
ELIXIR & GOBLET: joint training strategy

- Published on ELIXIR & GOBLET websites, April 2015, to
  - collaborate in the development of their training portals
  - collaborate on train-the-trainer & train-the-researcher activities
  - jointly explore training 'accreditation' mechanisms
  - share best practices, standards & expertise

- aiming to professionalise bioinformatics training
ELIXIR-GOBLLET: e-learning workshop, Slovenia

- First joint workshop held in Ljubljana, September 2015
  - to define an e-learning lingua franca
  - to write a white paper
EMBER: www.ember.man.ac.uk

- EMBER was an EU project, funded May 2001 to April 2003
  - European Multimedia Bioinformatics Educational Resource
- Aimed to develop a suite of teaching materials for UG & early PG studies
  - a self-contained, Web-based practical + CD-ROM & a text-book!
    - introduction to bioinformatics – protein sequence/structure analysis
EMBER: who was involved

- Members of the EMBER Consortium were:

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<th>Role</th>
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<tr>
<td>UK</td>
<td>UoManchester</td>
<td>- principal content provider</td>
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<td>CH</td>
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<td>NL</td>
<td>UoNijmegen</td>
<td>- principal technical developer</td>
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EMBER: the VLE

A Practical Guide to Bioinformatics

Browse the glossary by clicking a letter from the alphabet above or enter your search term in the box below.

Search:

What: Glossary term

Search
Lastest Courses

16. GWAS (Plink)

The goal of this module will be to introduce you to run a GWAS on a dataset for an SLE-related disease in dogs by using PLINK, to visualize the results with a Manhattan plot, to look at stratification structure.

14. Comparative genomics

The aim of this Module is for you to become familiar with the basic functions of ACT by using a series of worked examples. Some of these examples will touch on exercises that were used in previous.

13. Genome annotation

The aims of this module is to introduce how generate an initial set of gene models (merging RATT and Augustus), how map RNA-Seq data to a reference and viewing RNA-Seq mapping in Artemis. We
BD2K goals

• Improve data **discoverability, accessibility & citability**

• Develop the **methods, software & tools** needed to analyse biomedical Big Data

• Support a **data ecosystem**

• **Enhance training** necessary for biomedical Big Data science
BD2K Funded programs

- BD2K Centres (12)
- Enhancing Training (22)
  - Resource Development (9)
  - Institutional Training (3)
  - Scientist Training & Career Development (9)
  - Enabling Educational Experiences (1)
BD2K Training Coordination Centre (TCC)

$1.4 million/year for 3 years

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Narrow the gap between 

availability of biomedical big data

ability of biomedical scientists to effectively utilise such data
BD2K – ERUDITE/BDU

• Educational resource discovery index
  - a training portal
• Facilitate discovery, access & citation educational resources
• Building on BD2K-funded activities & educational materials
• Update/ingestion
  - both active (curation, crowd-sourcing) & passive (programmatic)
• Based on metadata standards
• Personalisation
  - predictive, adaptive learning

Many synergies
Fin mot

- GOBLET & TeSS are training portals
  - unlike EMBER, they do not constitute e-learning
- Fully-fledged e-learning resources
  - are expensive to create & hard to do well
  - require the right team, with the right (combination of) skills
    - subject-specific, pedagogical, design, technical
- With this in mind, we should take care to use the term ‘e-learning’ consistently
  - & think very carefully what we want GOBLET to do under this label
    - & how we want that to fit with what ELIXIR & BD2K want to do...
Thanks for your dogged attention!
Royal Society: educational resource for schools
A taste of bioinformatics

You will need version 5.0 or above of the Flash plugin to view this interactive tool. If you do not already have the plugin, you can download it from the Macromedia website.

Unravelling the cause of disease

Bioinformatics can extract vital information from genome data for the benefit of medical research. A classic example is a disease called sickle cell anaemia.

This is an inheritable condition in which there is a defect in a protein found in red blood cells called haemoglobin. This protein is used to transport oxygen around the body.

In the "try it" section you will have the opportunity to identify a fragment of DNA that codes for the synthesis of this protein.
Sickle cell anaemia and blood flow

This subtle difference in the amino acid sequence causes a major problem. The substituted amino acid, valine, creates a hydrophobic patch on the surface of the haemoglobin molecule, causing the molecules to stick together. This distorts the shape of the red blood cells and they clump together.

Normal red blood cells can bend and flex easily as they pass through blood vessels but because of their shape, sickled red blood cells can’t squeeze through small blood vessels. This can lead to these small blood vessels getting blocked which then stops the oxygen from getting through to where it is needed. This in turn can lead to severe pain and damage to organs.

Although the genetic cause of sickle cell disease has been known for half a century, we have not been able to use this knowledge to develop suitable drugs. However with the recent accumulation of genomic information and advances in genetic research, perhaps a future therapy is in sight.

Terri Attwood, ELIXIR-UK, University of Manchester T.K.Attwood