GOBLET, TeSS & EMBER

Defining an e-learning lingua franca:

an ELIXIR-GOBBLET workshop

Terri Attwood, ELIXIR-UK, University of Manchester
GOBLET: www.mygoblet.org

• GOBLET is a Foundation, registered in 2012 in NL
  • Global Organisation for Bioinformatics Learning, Education & Training

• Its members are international/national societies & networks, plus individuals
  • subscription-based
GOBLET: who we are

- >40 members
  - ~30 societies & networks, institutes, organisations, research groups, SMEs
  - plus individuals
    - incl. students...
- Many are also members of ELIXIR

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GOBLET: training portal
# GOBLET: training portal

## Course pages

This site aims to provide a centralised repository of open-source course pages to help bioinformatics trainers to prepare, manage and disseminate their course information and contents. Here, trainers can also share with and get help from other trainers, and readily share ideas and best practices.

Displaying 1 - 18 of 18

Filter by creation date of courses

<table>
<thead>
<tr>
<th>Title and updated date</th>
<th>Rating</th>
<th>Topic</th>
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<tr>
<td>EMBO Practical Course: Computational analysis of protein-protein interactions: from sequences to networks</td>
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<td>protein-protein interaction networks, multiple sequence alignment, Network Visualization, bioinformatics</td>
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<td>evolutionary biology, bioinformatics, biochemistry</td>
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<td>Introduction to NGS Bioinformatics</td>
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<td>NGS bioinformatics, Galaxy</td>
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<tr>
<td>RNA-seq data analysis workshop</td>
<td>Average 4(1 vote)</td>
<td>RNA-seq</td>
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<tr>
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<td>ChIP-seq, DNase-seq</td>
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<td>RNA-seq, Data Mining, Automatic Functional Annotation, BlastSSO</td>
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<tr>
<td>Systems Medicine and its applications: SystemX.ch and SIB Joint Summer School</td>
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<td>bioinformatics, Clinical Bioinformatics, Medicine, Systems Biology</td>
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</table>
GOBLET: a repository

Bioinformatics Advance Access published September 4, 2014

Application Note

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

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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
- Primary motivation, to provide an at-a-glance view of the ELIXIR training landscape
  - some similar features to GOBLET, but important differences
TeSS: who is involved

- Partners involved in EXCELERATE WP subtask 11.1.2 (TeSS Training Portal) are:

<table>
<thead>
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<th>Node</th>
<th>Partner</th>
<th>PM</th>
<th>Workshop (€k)</th>
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Total per WP: 47.05 0

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TeSS: what it does

Aggregates

- TeSS aggregates training resources
- Aggregation is mostly automatic
  - minimal manual intervention

Links

- TeSS links to training resources from providers
  - with attribution
- TeSS is not a repository
  - it does not store materials

Combines

- TeSS combines training resources in bespoke ways
  - primarily via packages & workflows

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TeSS: how it works

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TeSS: training portal

Welcome to TeSS: ELIXIR’s Training Portal

ELIXIR’s TeSS (Training eSupport System) is a portal for disseminating, discovering and packaging training resources, aggregating information from ELIXIR nodes and 3rd-party providers. The platform also acts as a ‘department store’, where its ‘departments’ (ELIXIR nodes) promote their latest training news and events, and contribute to its catalogue of training materials. The catalogue may be navigated via training ‘workflows’ or relevant materials collected into bespoke training ‘packages’.

ELIXIR Nodes
TeSS aims to provide an at-a-glance view of ELIXIR’s training landscape, while also offering individual ‘shop windows’, giving customisable views of the hottest training news, events, activity highlights, etc. from nodes.

FAQ
Check out our FAQ to find out more about TeSS.

Events
Discover the latest training events and news from ELIXIR nodes and 3rd-party providers.

Materials
Browse the catalogue of materials offered by ELIXIR nodes and 3rd-party providers.

Packages
Create training packages by grouping resources that address your particular research topic.

Workflows
Visualise ‘workflows’ to identify resources specific to your research and training needs.

Content providers
Browse content providers and follow links to their associated training materials.
TeSS & GOBLET: training portals

- GOBLET is a repository of training resources, TeSS an aggregator of training information
  - they are closely coupled, complementary & work synergistically
EMBER: www.ember.man.ac.uk

The European Multimedia Bioinformatics Educational Resource (EMBER) is a European Commission funded educational project that aims to develop a suite of multimedia bioinformatics educational tools.

EMBER will provide teaching materials for undergraduate and early postgraduate studies: it will comprise a self-contained, interactive web-tutorial, the equivalent stand-alone course on CD-ROM, and an accompanying introductory textbook.

Prototype now online
Publications & Reports

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EMBER: who was involved

- Members of the EMBER Consortium were:

<table>
<thead>
<tr>
<th>Country</th>
<th>Partner</th>
<th>Role</th>
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<td>UK</td>
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</tbody>
</table>

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EMBER: the VLE

A Practical Guide to Bioinformatics

Chapter 1. Sequence translation and identification

The aim of this part of the tutorial is to choose an unknown fragment of DNA, translate it and choose the correct reading frame. The quickest way to determine whether a reading frame encodes a protein is to search a protein sequence database with each translated fragment.
EMBER: the CD-ROM

European Multimedia Bioinformatics Educational Resource - A Practical Guide to Bioinformatics

Author(s): T.K. Attwood
Version: 1.0

Platform(s): Win CD only
Available: Windows CD newly available, Mac CD not planned

ISBN: 90-75000-72-3

This CD-ROM is part of the European Multimedia Bioinformatics Educational Resource (EMBER), which comprises Web- and CD-ROM-based introductory bioinformatics tutorials. The tutorials include exercises in protein sequence analysis (similarity searching, sequence alignment, phylogeny, and so on), protein structure analysis (homology modelling, threading, etc.) and case studies (e.g., sickle cell anaemia, inositol phosphatases). EMBER was funded by the European Union - the consortium, led by the University of Manchester, included the Swiss Institute of Bioinformatics, the University of Western Cape, the European Bioinformatics Institute, the Instituto Gulbenkian de Ciencia, the University of Bruxelles and the ETI BioInformatics. This user-friendly interactive tutorial includes a large body of up-to-date information on bioinformatics, in line with most curricula in European universities. It is a unique resource for teachers and students alike.

Minimum system requirements

ETI BioInformatics

About ETI Products & Services Portfolio Online Tools Support
Web applications Linnaeus II CD-ROM catalogue 3D imaging GIS DTP
EMBER: the text-book (not)

MIND THE GAP
Bioinformatics challenges at the interface of biology and computer science

Teresa K. Attwood, Stephen R. Pettifer and David Thorne
The University of Manchester

A JOHN WILEY & SONS, INC., PUBLICATION
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.

Tutorial

In this section you will learn about bioinformatics, a relatively new science that uses information technology to analyse biological data. You will have an opportunity to access some software which was used to annotate the human genome. This software is used, everyday, by scientists from all around the world.

Try it

In this activity you will see how scientists can use computer software to extract information for the benefit of medical research. In this example, you will learn about a disease called sickle cell anaemia. You have two different tasks to carry out.
What is bioinformatics?

Bioinformatics is a relatively new science that has emerged only recently as a result of two major technological revolutions

- the ability to rapidly sequence large DNA molecules
- the development of the World Wide Web

At the click of a mouse button, biological information can now be stored, shared and analysed from all corners of the globe.

Bioinformatics is predicted to be the source of unparalleled advances in the development of breakthrough therapies for cancer, AIDS, Alzheimer’s and other killer diseases.
Fin mot

- The GOBLET & TeSS are training portals
  - they do not constitute not e-learning
- EMBER provides a Virtual Learning Environment
  - it does fall under the umbrella of e-learning
    - so does the Royal Society resource for schools
- 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
Thanks for your dogged attention!