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# **A systems biology community web-portal**

The European Systems Biology Community  
website  
[community.isbe.eu](http://community.isbe.eu)

## **Work package 5 Community Building and Synergies**

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Dissemination level: PU = Public, RE = Restricted to a group specified by the Consortium (including Commission services), PP = Restricted to other programme participants (including Commission Services), CO= Confidential, only for members of the Consortium (including the Commission Services)

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## Table of Contents

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<b>Introduction</b> .....	<b>4</b>
The evolving landscape of European systems biology .....	4
<b>Homepage</b> .....	<b>5</b>
<b>Map of institutions</b> .....	<b>6</b>
<b>Search by keywords</b> .....	<b>7</b>
<b>Profiles</b> .....	<b>8</b>
<b>Network visualization</b> .....	<b>9</b>
<b>News and events</b> .....	<b>10</b>
<b>Conclusion and outlook</b> .....	<b>11</b>

## Introduction

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### The evolving landscape of European systems biology

In order to create an infrastructure that is most beneficial to the European life science community, ISBE aims to obtain a more defined understanding of the landscape of SB in Europe: who is involved in SB projects, what the main research foci are, what technologies are needed, and how the life science community can further benefit from systems approaches.

To help in defining the European landscape of systems biology, ISBE promotes the creation of a [community website](http://community.isbe.eu)<sup>1</sup>. The mission of this website is to bring together the community of European scientists using systems biology approaches in their research. Specific objectives are to:

- Identify and define the European SB community
- Facilitate interaction and networking between community members
- Offer information of interest to the community members
- Create a communication platform for the community

The website has been launched as a beta-version in August 30, 2013, coinciding with the International Conference in Systems Biology 2013 (ICSB2013, Copenhagen). In November 2013, a new release of the website upgrades several functionalities of the system. By December 2013, it has received >3000 visits, and >70 researchers have signed-up as community members.

The European Systems Biology Community website is developed and maintained by the Centre for Genomic Regulation (CRG). The main features of the webportal are shown as screenshots in the following sections.

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<sup>1</sup> <http://community.isbe.eu>

## Homepage

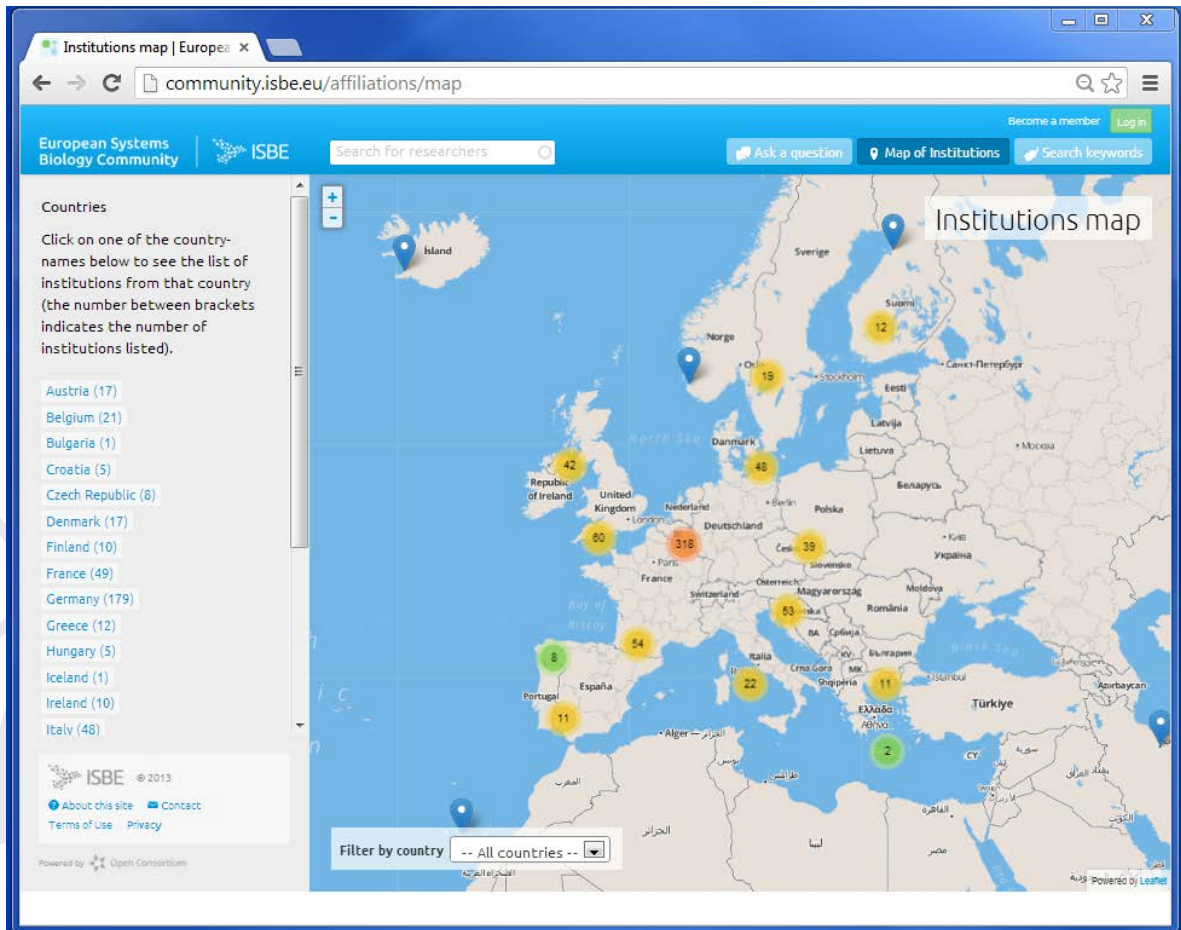


The Homepage welcomes the site visitors with the search-for-researchers tool in a preponderant position, which is the gate to the researchers' profiles and network visualization.

The menu bar includes tabs for the questions&answers tool, the map of institutions, and the search by keywords.

There is also featured content and highlights on latest news and events.

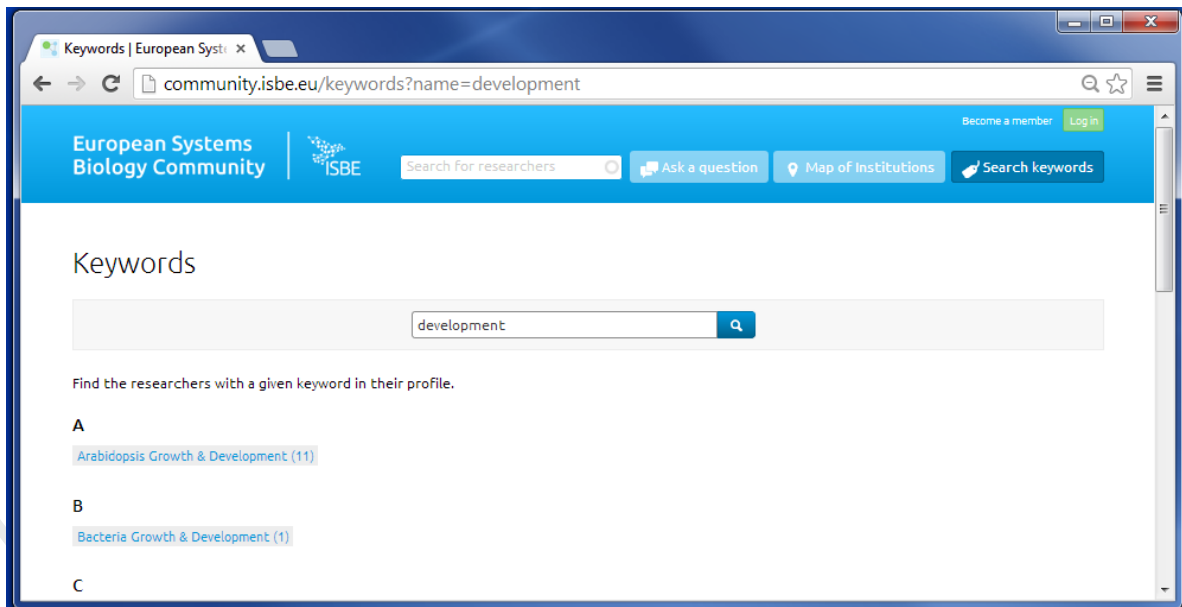
## Map of institutions



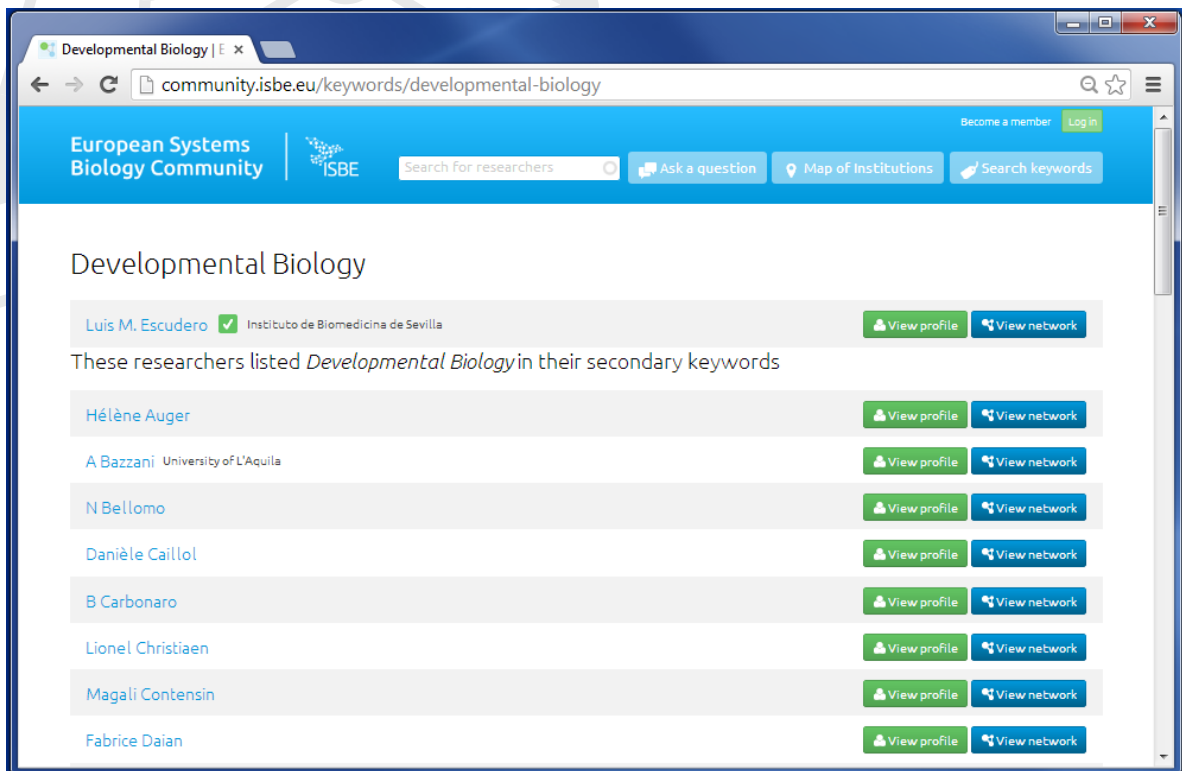
Map of institutions is focused in Europe and represents the institutions performing SB research, clustered by proximity. One can navigate the map and focus in smaller areas.

A list of European countries is also provided, linking to a page with the list of institutions from that particular country. Another option is to filter the map by country: when selecting one country, only the institutions from that country are represented in the map.

## Search by keywords



The screenshot shows the ISBE website interface. The browser address bar displays 'community.isbe.eu/keywords?name=development'. The page header includes the 'European Systems Biology Community' logo and navigation links: 'Search for researchers', 'Ask a question', 'Map of Institutions', and 'Search keywords'. A search bar contains the text 'development'. Below the search bar, the text reads 'Find the researchers with a given keyword in their profile.' The results are categorized by letters A, B, and C. Under 'A', there is a link for 'Arabidopsis Growth & Development (11)'. Under 'B', there is a link for 'Bacteria Growth & Development (1)'. Under 'C', there are no visible results.

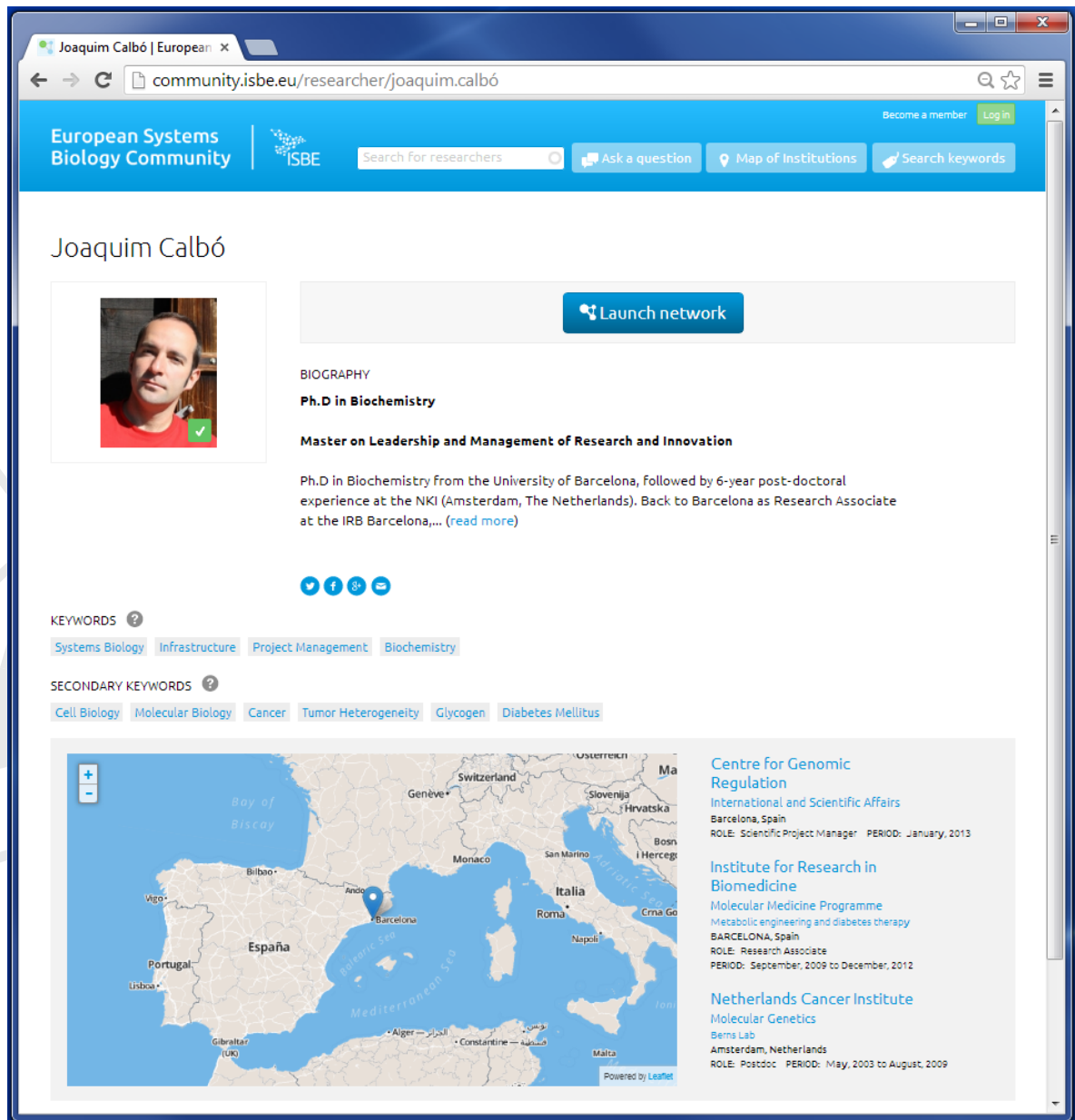


The screenshot shows the ISBE website interface for the keyword 'Developmental Biology'. The browser address bar displays 'community.isbe.eu/keywords/developmental-biology'. The page header is identical to the previous screenshot. The main heading is 'Developmental Biology'. The first result is for 'Luis M. Escudero', who is a registered member (indicated by a green checkmark) and affiliated with 'Instituto de Biomedicina de Sevilla'. To the right of his name are two buttons: 'View profile' and 'View network'. Below this, the text reads 'These researchers listed *Developmental Biology* in their secondary keywords'. A list of researchers follows, each with their name and two buttons: 'View profile' and 'View network'. The researchers listed are: Hélène Auger, A Bazzani (University of L'Aquila), N Bellomo, Danièle Caillol, B Carbonaro, Lionel Christiaen, Magali Contensin, and Fabrice Daian.

The search by keyword tool facilitates the search of researchers that added a particular keyword to their profiles. In the list of results, registered members are promoted to the first positions in the list.



## Profiles

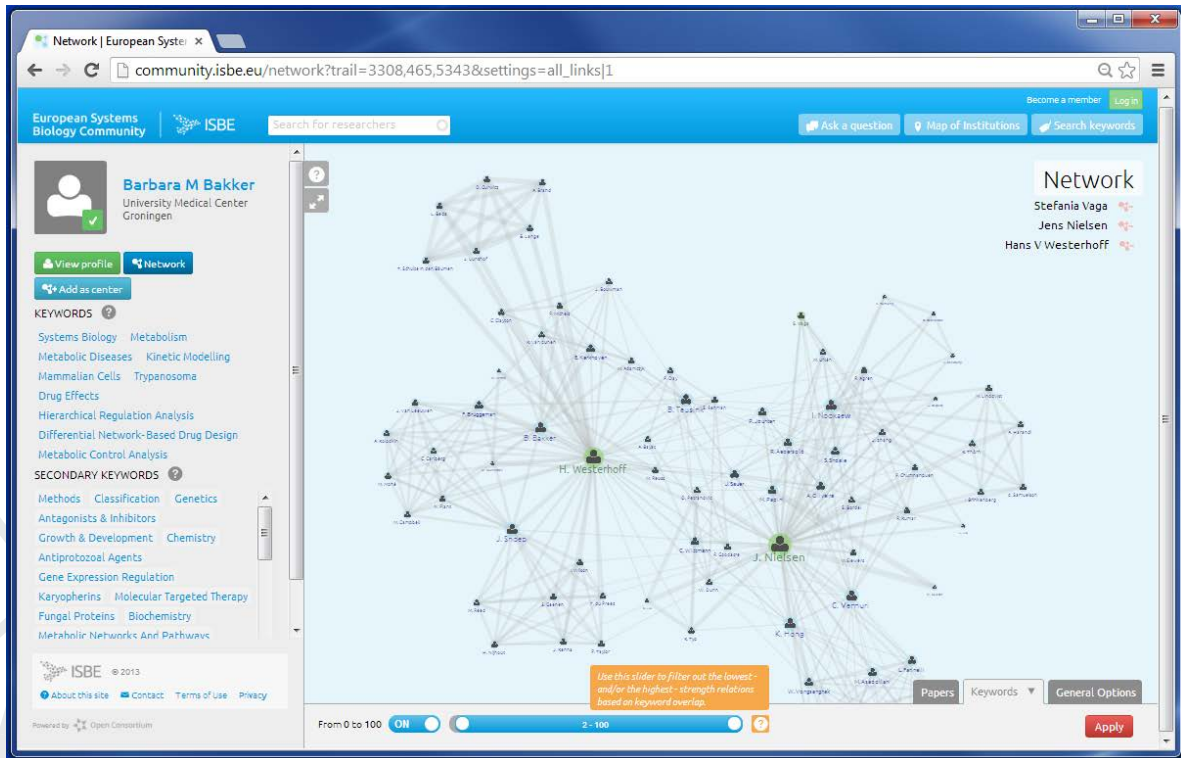


The screenshot shows a web browser window displaying the profile of Joaquim Calbó on the ISBE website. The browser address bar shows 'community.isbe.eu/researcher/joaquim.calbó'. The page header includes the ISBE logo and navigation options like 'Search for researchers', 'Ask a question', 'Map of Institutions', and 'Search keywords'. The profile section features a photo of Joaquim Calbó, a 'Launch network' button, and a 'BIOGRAPHY' section. The biography states he has a Ph.D in Biochemistry and a Master on Leadership and Management of Research and Innovation. It also mentions his Ph.D from the University of Barcelona and post-doctoral experience at the NKI in Amsterdam. Below the biography are social media icons for Twitter, Facebook, LinkedIn, and Email. The 'KEYWORDS' section lists 'Systems Biology', 'Infrastructure', 'Project Management', and 'Biochemistry'. The 'SECONDARY KEYWORDS' section lists 'Cell Biology', 'Molecular Biology', 'Cancer', 'Tumor Heterogeneity', 'Glycogen', and 'Diabetes Mellitus'. A map of Europe highlights Barcelona, Spain. To the right of the map, three affiliations are listed: 'Centre for Genomic Regulation' (Barcelona, Spain, 2013), 'Institute for Research in Biomedicine' (Barcelona, Spain, 2009-2012), and 'Netherlands Cancer Institute' (Amsterdam, Netherlands, 2003-2009).

In order to populate the community website with data, automatic profiles were generated using metadata obtained from the public domain of the Pubmed database. Community members can edit their profile page and correct or complete the information shown there. In this page, one can find the picture, a short biography, selected keywords, the current and old affiliations for each community member and the options to launch the network visualization or to contact the researcher.

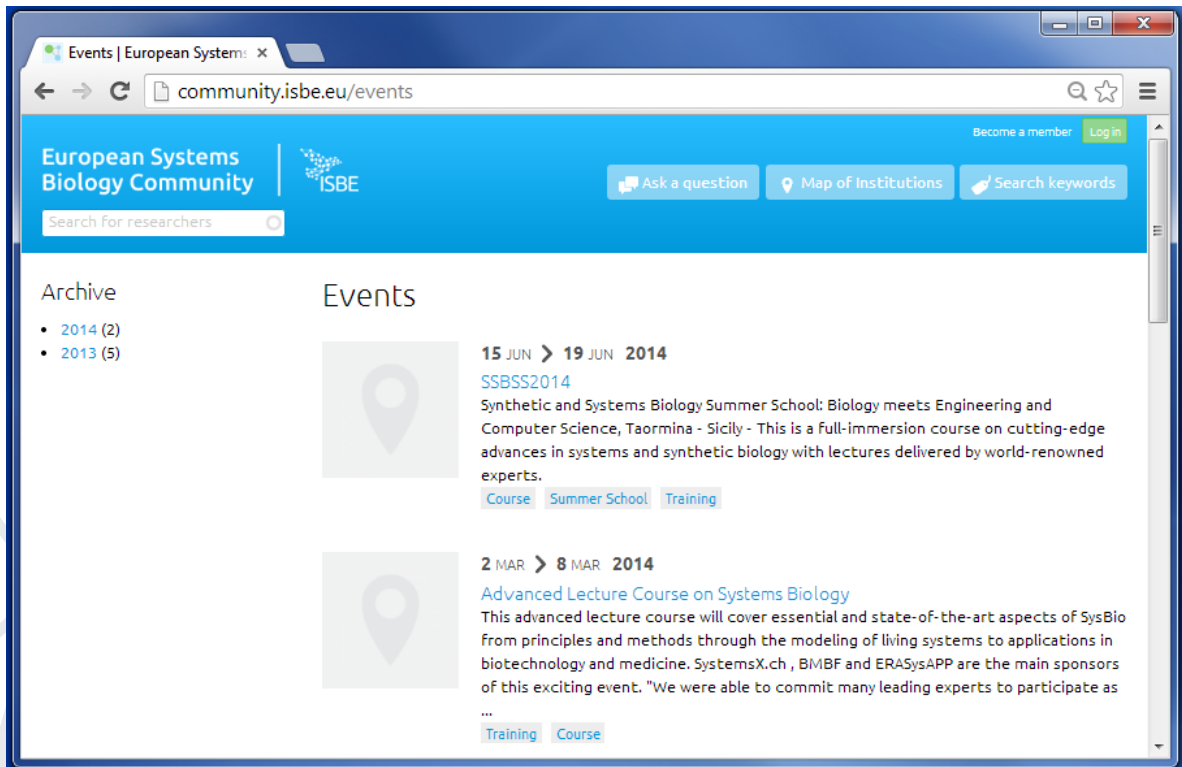


## Network visualization



An interactive network visualization tool allows the visitors to explore and navigate the links between researchers in the field of SB, based on shared keywords and/or shared authorship in publications. The network is focused in one or more researchers, and the display settings can be modified to obtain meaningful representations. Each researcher is represented by a node in the network, and her/his profile can be pre-viewed by just clicking on the node.

## News and events



Events | European Systems Biology Community

community.isbe.eu/events

European Systems Biology Community | ISBE

Search for researchers

Ask a question | Map of Institutions | Search keywords

Become a member | Log in

Archive

- 2014 (2)
- 2013 (5)

Events

15 JUN > 19 JUN 2014

**SSBSS2014**

Synthetic and Systems Biology Summer School: Biology meets Engineering and Computer Science, Taormina - Sicily - This is a full-immersion course on cutting-edge advances in systems and synthetic biology with lectures delivered by world-renowned experts.

Course Summer School Training

2 MAR > 8 MAR 2014

**Advanced Lecture Course on Systems Biology**

This advanced lecture course will cover essential and state-of-the-art aspects of SysBio from principles and methods through the modeling of living systems to applications in biotechnology and medicine. SystemsX.ch, BMBF and ERASysAPP are the main sponsors of this exciting event. "We were able to commit many leading experts to participate as ...

Training Course

These sections aim to provide useful information to the European systems biology community. Community members can contribute content for these sections by using a link on the page (content to be moderated by web manager). In the near future, additional content to be posted in these or similar sections (training activities, SB resources) shall be obtained from content contributors from other ISBE work packages, or by establishing collaboration with other SB-related initiatives (i.e. ERASysAPP, CASyM).

## Conclusion and outlook

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ISBE has created the European Systems Biology Community website as a platform where the SB community can meet, exchange information, network, and grow. The community website aims to play a crucial role in community building, thus facilitating the interaction of the ISBE with its potential users.

In order to fully accomplish its objectives, the community website must further develop and offer a more comprehensive set of information relevant to the SB community. For this reason the future steps for the management of this tool are:

- Advertise and inform about the community website in order to attract new registrations (i.e. through the SB-specialized journals).
- Encourage registered members to contribute information (mainly news, events, training opportunities).
- Add new sections and functionalities, in collaboration with other ISBE work-packages (i.e. dedicated section on training activities, SB resources, SB/related industry...).
- Stimulate discussion through the website questions&answers forum.

The final goal of the ISBE-promoted community website is to build a complete network of scientists and other stakeholders involved in the field of systems biology.