



UNIVERSITÀ DEGLI STUDI
DI MILANO

Expertise & Skills (ES)

The CINECA «Find an expert» solution based on VIVO

Core of our Research Portal : IRIS

- Institutional Research Information System (IRIS) is based on Dspace and initially developed by Cilea consortium (then included in CINECA consortium) in 2007 to manage publications and research outputs
- IRIS is an extended and modular solution to progressively manage all research and related data, not only publications:
 - complete scientific curriculum of the researcher
 - research projects and activities
 - public engagements activities
 - scientific departments, research groups and center, laboratories, scientific equipment,...
- Aims: internal / external evaluation, monitoring and statistics, single point of collection of research data for different uses

The need: public interface for all the data managed in IRIS

- Dspace has a public interface only for research outputs (publications)
- The need was the implementation of a public portal that:
 - aggregates and shows ALL the data managed in IRIS
 - allows to navigate and search transversely ALL type of data: **people, units** (e.g.: departments), **projects and activities, expertise, outputs** (publications and patents)
 - has a primary focus on the researcher:
 - “Find an expert” functionality
 - **Researcher profile**, that can be linked from other sites



The screenshot displays a researcher profile for Maria Pia Abbraccio. On the left, there is a portrait photo and a 'CONTACTS' section with an email address (mariapia.abbraccio@unimi.it) and a link to the University Address Book. The main content area on the right includes the name 'ABBRACCHIO MARIA PIA', her position as 'PROFESSORE ORDINARIO', her department 'Dipartimento di Scienze Farmacologiche e Biomolecolari', her competition sector '05/01 - FARMACOLOGIA, FARMACOLOGIA CLINICA E FARMACODINAMIA', and her academic field 'Settore BIO/14 - Farmacologia'. Below this is a navigation bar with tabs for 'Research Areas', 'Research', 'Publications', 'Patents', 'Other Activities', 'Cv', and 'Identifiers'. The 'Fields (11)' section lists various research areas and projects, including 'ATECO' (Research and development in biotechnology, Research and development in natural and engineering sciences, Professional, scientific and technical activities, and Social assistance) and 'ERC field (2016)' (Life Sciences, Signal transduction, Neurological disorders, and Molecular and cellular neuroscience).

The start of the project - Competence Repertoire (RC)

- The project for implementation of a Competence Repertoire (RC) starts in 2009 based on requirements of Vice-Rector and TTO.
- They needed a tool for researching skills in the University to satisfy requests from external stakeholders (journalists, companies, policy makers).
- The first Competence Repertoire for UNIMI was developed on a platform integrated with IRIS and released in 2010 after various stages of experimentation with stakeholders and revision cycles.
- It was not opened outside the University network.

Technology review: reasons for Vivo adoption

- Choice of the consortium for the public showcase of IRIS data:
 - based on a flexible data structure (RDF);
 - mapped on standard ontologies (as well as extensible for further needs);
 - open-source formats for display and interoperability of output data (Linked open-data)
- Extension of the data shown in the researcher's profile:
 - ALL curricular information and activities entered in IRIS are acquired and shown
- More flexible and integrable tool:
 - network of university research portals?

From Vivo to UNIMI Expertise & Skills

Technical activities

- Joint analysis between our University and Cineca for :
 - mapping between IRIS data schema and VIVO ontologies
 - reorganization of information displayed in VIVO interface (for each type of data we have defined a specific layout of page and redefined some navigation logic)
 - labels of each fields (for Italian and English interface)
 - search criteria and presentation of results
- Test on various intermediate prototypes

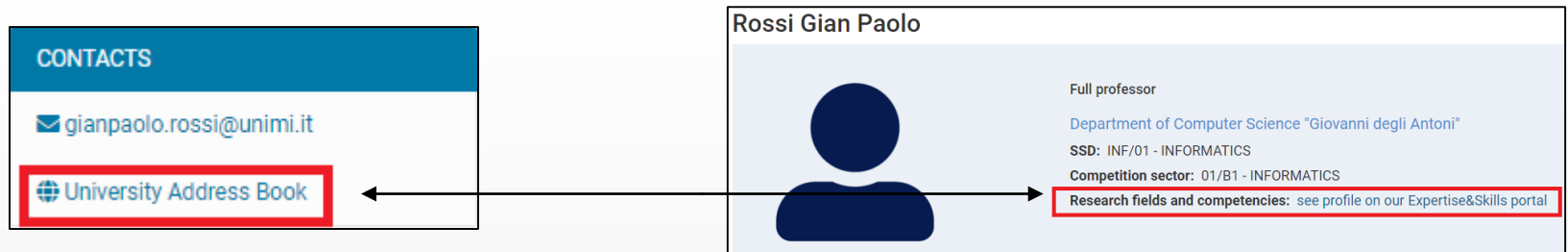
a sample file for data mapping

IRIS LABEL	FIELD IN DATABASE (ODS SOURCE)	TARGET ENTITY	TARGET ENTITY TYPE	TARGET PROPERTY	LABEL UI IRIS-ES
Descrizione o denominazione del premio	ODS_L1_RM_PERSON_CV_PRIZE_DESC.CV_PRIZE_DESCRIPTION	Prize	<http://vivoweb.org/ontology/core#Award>	rdfs:label	Description
Ente o istituzione che attribuisce il premio	ODS_L1_RM_PERSON_CV_PRIZE_DESC.AWARDER	PrizeAwarder	foaf:Organization	rdfs:label	Conferred by
Anno del premio	ODS_L1_RM_PERSON_CV_PRIZE.PRIZE_YEAR	PrizeAwardReceiptDate	<http://vivoweb.org/ontology/core#DateTimeValue>	rdfs:label	Year Awarded
Motivazione del premio	ODS_L1_RM_PERSON_CV_PRIZE.PRIZE_MOTIVATION	PrizeAwardReceipt	<http://vivoweb.org/ontology/core#AwardReceipt>	rdfs:label	Awards And Honors
	NVL(SUBSTR(ODS_L1_RM_PERSON_CV_FELLOWS.FELLOWSHIP_TYPE_DESC, INSTR(ODS_L1_RM_PERSON_CV_FELLOWS.FELLOWSHIP_TYPE_DESC, '-')+1,LENGTH(ODS_L1_RM_PERSON_C				Tipo

From Vivo to UNIMI Expertise & Skills

Final steps of project

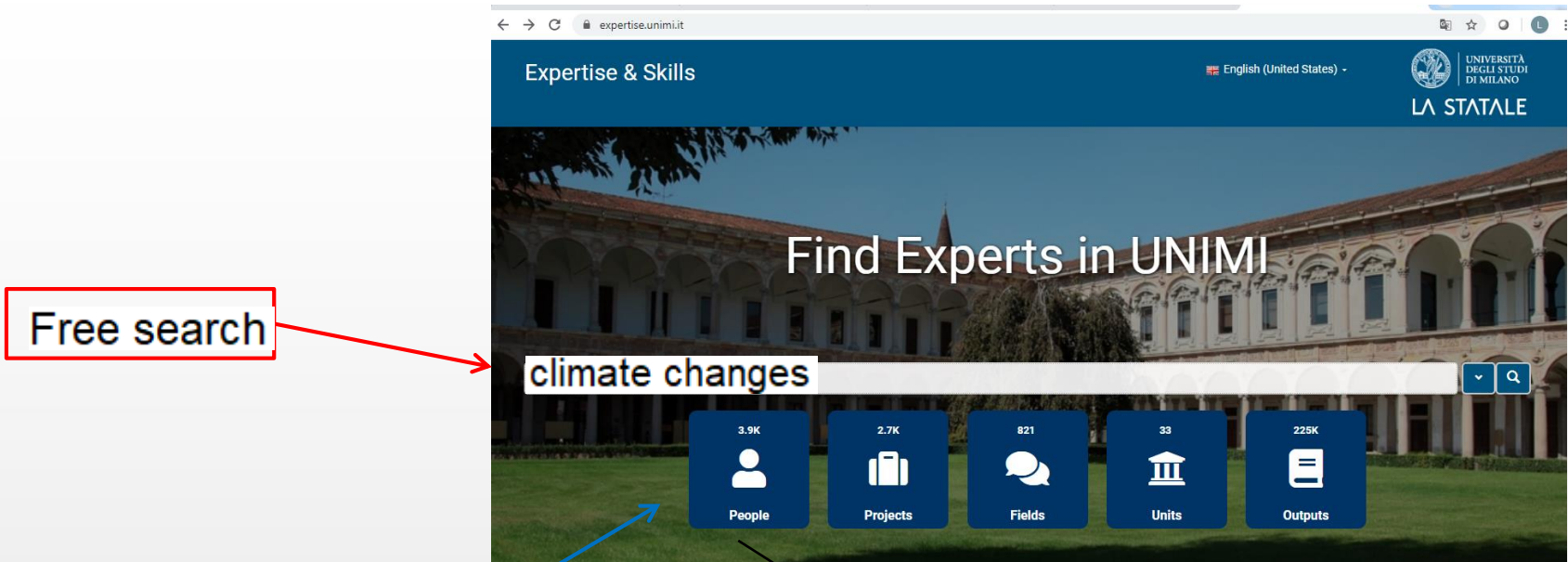
- Integration with the university portal (graphics elements and link to the university address book)



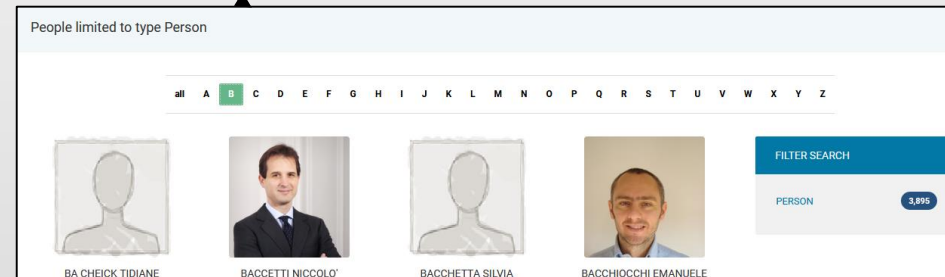
- Online user guide, privacy and legal notices, accessibility check
- Guide Help Accessibility Privacy e cookie Legal notices
- Approved for production and open to the public at the end of December 2019
 - Mail communication to internal list, press release

Expertise & Skills - Home Page

Different points of access to research skills and data



Lists of people / researchers
Lists of activities / projects
Lists of research areas
Lists of departments
Lists of results / research products



Expertise & Skills - Free search rules

- The free search is performed on the entity's "title" and on its significant properties (descriptive metadata like abstracts or keywords).
- The text entered by the user (e.g. climate change) is analyzed and the terms searched subsequently 1. as exact phrase, 2. with Boolean operator "AND", 3. with Boolean operator "OR" (progressive "relaxation").
- To the results identified in the three steps will be given progressively decreasing importance (ranking). The other criteria used for "score" are: recurrence of searched terms and applied weight on some type of data.
- If the text is inserted between double quotes it is considered as a single phrase.
- The search engine extends the match also to terms that are derived from that root (stemming of terms). For example: to singular and plural terms, male and female, or other derivations.

Expertise & Skills - Free search results

The search is carried out in the descriptive cards of the various entities

The screenshot shows a search results page for the query 'climate change'. The page lists several entities, each with a descriptive card. A red box highlights the search results header. A blue box highlights the name 'DIOLAIUTI GUGLIELMINA ADELE' with an annotation: 'By clicking on the **name**, I access the complete profile'. A blue arrow points from this name to a detailed profile card on the right. The profile card shows 27 items found and lists various academic articles and concepts related to climate change. A table on the right side of the page shows the number of matches for different entity types: PEOPLE (87) and PROJECTS (26).

Search results for 'climate change'

BOSELLO FRANCESCO
Person
Docenti
Dipartimento di Scienze e Politiche Ambientali
... Climate change, sea level rise, and coastal disasters. A review of modeling practices. Climate policy and the optimal balance between mitigation, adaptation ...
matches

MAUGERI MAURIZIO
Person
Docenti
Dipartimento di Scienze e Politiche Ambientali
... and distribution in Italy over the last 120 years. Atmospheric circulation and precipitation in Italy for the last 50 years. The variability an climate ...
matches

DIOLAIUTI GUGLIELMINA ADELE
Person
Docenti
Dipartimento di Scienze e Politiche Ambientali
... Park (Pakistan) in 2001–2010 : The "Karakoram Anomaly" in the spotlight. Glacier shrinkage driven by climate change during half a ce
matches

ERBA ELISABETTA
Person
Docenti
Dipartimento di Scienze della Terra Ardito Desio
... Pleistocene: implications for climate change. Onset and demise of Cretaceous oceanic anoxic events : The coupling of surface and bc in two pelagic ...
matches

DISPLAY ONLY

PEOPLE 87

PROJECTS 26

27 items found, all items are displayed.

DIOLAIUTI GUGLIELMINA ADELE
Person
... Park (Pakistan) in 2001–2010 : The "Karakoram Anomaly" in the spotlight. Glacier shrinkage driven by climate change during half a century (1954–2007 ...

PE10_3 - Climatology and climate change
Concept
... PE10_3 - Climatology and climate change ...

PE10_3 - Climatology and climate change
Concept
... PE10_3 - Climatology and climate change ...

Changing glaciers in a changing climate: how vanishing geomorphosites have been driving deep changes in mountain landscapes and environments
Academic Article
... Changing glaciers in a changing climate: how vanishing geomorphosites have been driving deep changes in mountain landscapes and environments ...

Accelerating climate change impacts on Alpine glacier forefield ecosystems in the European Alps
Academic Article
... Accelerating climate change impacts on Alpine glacier forefield ecosystems in the European Alps ...

Assessing water resources under climate change in high-altitude catchments : a methodology and an application in the Italian Alps
Academic Article
... Assessing water resources under climate change in high-altitude catchments : a methodology and an application in the Italian Alps ...

Climate change effects on landscape and environment in glacierized Alpine areas: retreating glaciers and enlarging forelands in the Bernina group (Italy) in the period 1954–2007
Academic Article
... Climate change effects on landscape and environment in glacierized Alpine areas: retreating glaciers and enlarging forelands in the Bernina group (Italy) ...

Matches: allows a quick check of the total number and detail of the matches with the contents of the researcher's profile.

Expertise & Skills - researcher page



DIOLAIUTI GUGLIELMINA ADELE

Positions: PROFESSORE ASSOCIATO

Academic Department: Dipartimento di Scienze e Politiche Ambientali

Competition sector

04/A3 - GEOLOGIA APPLICATA, GEOGRAFIA FISICA E GEOMORFOLOGIA

Academic field

Settore GEO/04 - Geografia Fisica e Geomorfologia

Research Areas

Research

Publications

Scientific Awards And Assignments

Other Activities

Cv

Identifiers

CONTACTS

✉ guglielmina.diolaiuti@unimi.it

📍 [University Address Book](#)

Fields (7)

ATECO

- 74.90.92 - Attività riguardanti le previsioni meteorologiche

ERC field (2016)

- PE10_13 - Physical geography
- PE10_14 - Earth observations from space/remote sensing
- PE10_18 - Cryosphere, dynamics of snow and ice cover, sea ice, permafrosts and ice sheets
- PE10_2 - Meteorology, atmospheric physics and dynamics
- PE10_3 - Climatology and climate change

ISI - Crui

- Studi Ambientali, Geografia e Sviluppo

Keywords (6)

CLIMATE CHANGE IMPACTS

DEBRIS COVERED GLACIERS

GLACIER MICRO-METEOROLOGY

GLACIER SHRINKAGE

ICE AND SNOW MELT

MOUNTAIN GLACIERS

Research Overview

Alpine glaciology, glacier micro-meteorology, alpine climatology (2014 -)

- Areas and lines of research
- Research projects
- Publications and patents
- Awards and scientific responsibilities
- Other activities and Public Engagement
- Cv (PDF and textual)

Expertise & Skills : expertise classification

[Home](#) [People](#) [Projects](#) [Expertise & Skills](#) [Units](#) [Outputs](#) [English \(United States\)](#)

Expertise & Skills limited to type ERC field (2016)

LS - LIFE SCIENCES

ConceptScheme

Research Area 13 Associated Individuals

LS1 - Molecular and Structural Biology and Biochemistry: Molecular synthesis, modification and interaction, biochemistry, biophysics, structural biology, metabolism, signal transduction

Concept

Research Area 3 Associated Individuals

LS1_1 - Molecular interactions

Concept

Research Area 38 Associated Individuals

LS1_2 - General biochemistry and metabolism

Concept

Research Area 35 Associated Individuals

LS1_3 - DNA synthesis, modification, repair, recombination and degradation

Concept

Research Area 8 Associated Individuals

FILTER SEARCH

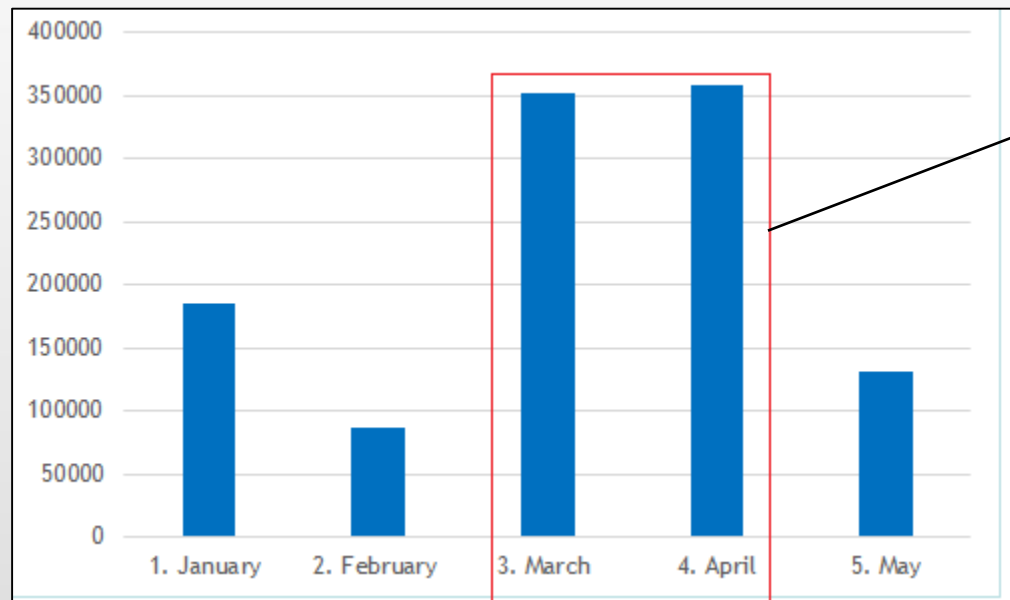
ERC FIELD (2016)	312
ATECO	399
ISI - CRUI	111

FILTER ERC FIELD (2016) BY ROOT ERC

PE - PHYSICAL SCIENCES AND ENGINEERING	142
LF LIFE SCIENCES	103
SH - SOCIAL SCIENCES AND HUMANITIES	67

Expertise & Skills : some numbers

- Counting of managed entities:
 - 33 departments
 - 3.900 people
 - 2.700 research projects
 - 891 concepts
 - 225.000 publications
- Number of separate accesses from January to May 2020:



increase of searches
on issues related to
covid-19?

Expertise & Skills : main goals achieved

- Presentation:
 - A showcase of the skills and expertise of our researchers, where all researcher data managed in our IRIS are publicly navigable and searchable
 - The possibility for the single researcher to manage which data can be public and which has not to be visible on line (for example: confidentiality agreements, or personal data in the CV).
- Search:
 - diversified weighting by type of outputs/publications
 - contextual and extensible linking between all the type of data

Expertise & Skills : future goals

- SDG integration for manual tagging of skills, in addition to ERC and local classification schemes
- Extension of the contents of researcher page to the educational offer:
 - VIVO entities have been introduced to represent: Course (e.g. degree course), Teaching (single), Professions (from Istat codes).
 - students as new stakeholders of the portal
- Integration of the departmental sheet with graphic informative summary data for all types of data
- Collaboration networks/ coauthors outside the University
- Export of search results in a usable format (e.g.: csv)
- Export of usage statistics (and search strings, if possible) by the university admin
- Fingerprinting and automatic derivation of tags?
- Semantic search vs syntactic search?

Thanks!

Loredana Rollandi (loredana.rollandi@unimi.it)
IT administrator and analyst

Università degli Studi di Milano