

An update on DSpace-CRIS, the state-of-the-art tool for Research&Information management

SOLUTION STATES OF THE PROPERTY OF THE PROPERT

18th International Open Repositories Conference (OR2023) Stellenbosch University

# We are here with many presentations!

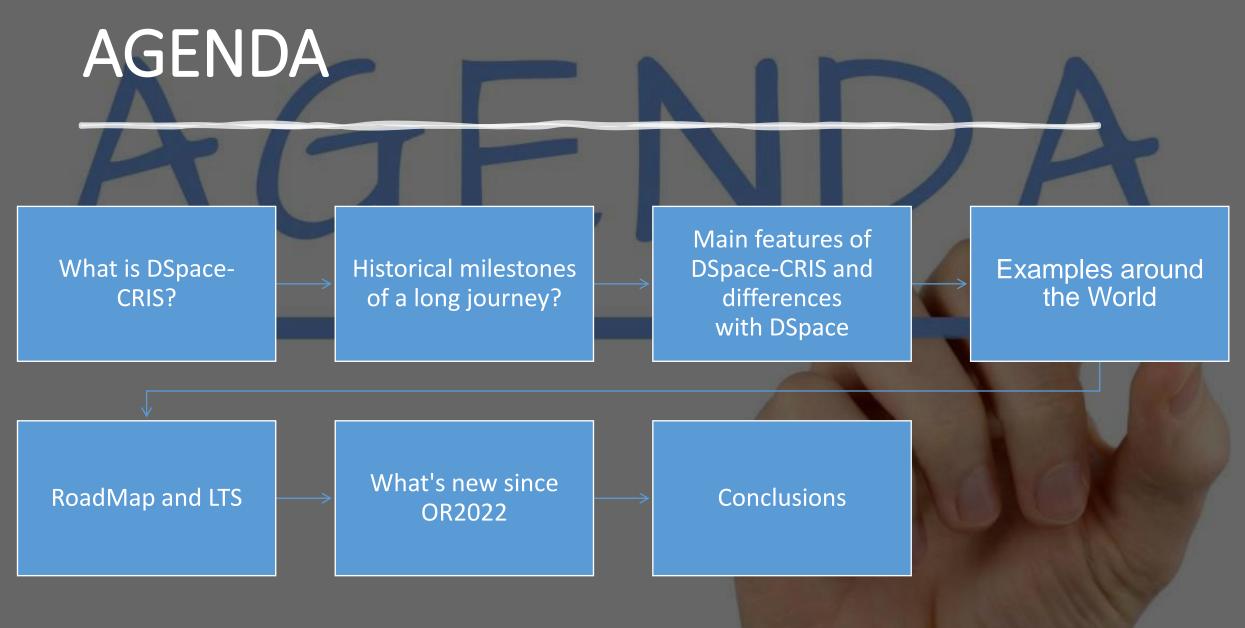
Implementing the COAR Notify Protocol in DSpace 7 11.00-12.30 AM (1st), 06.14.23 Somerset 2

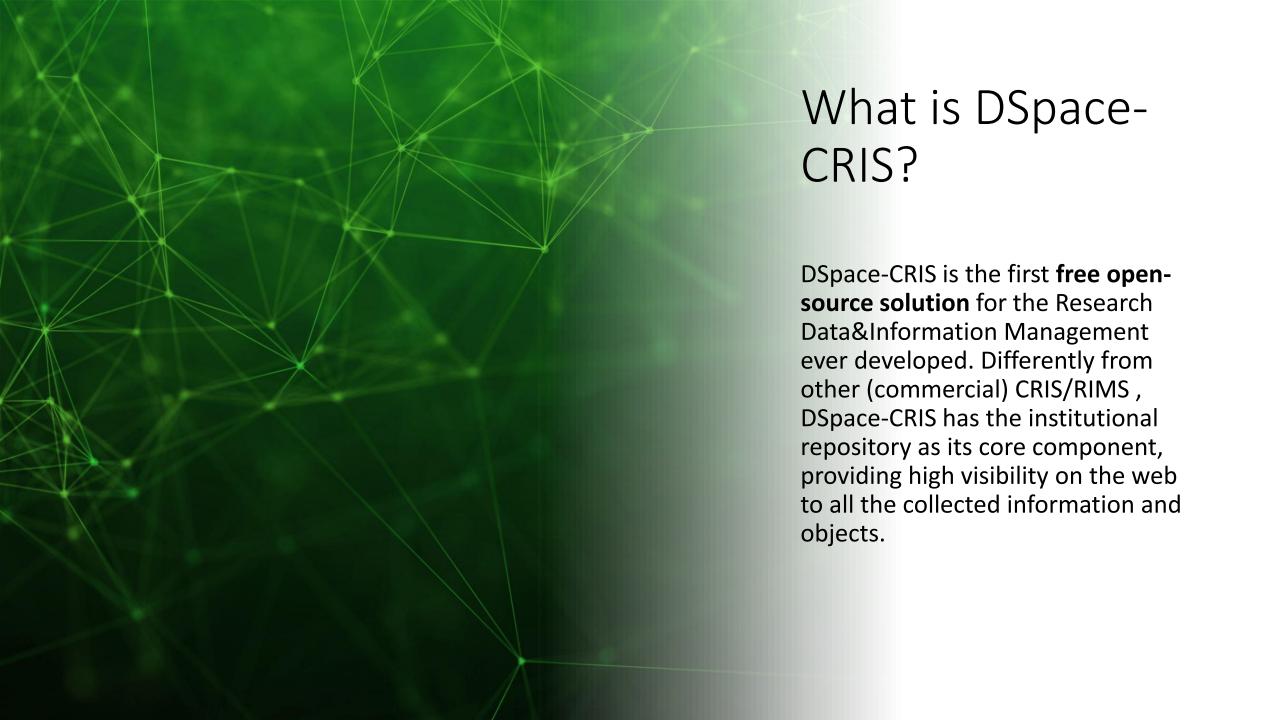
Modeling Digital Cultural Landscapes with DSpace 3.30-5.00 PM (3rd), 06.14.23 Somerset 2

Adopting the DSpace 7 platform: challenges, gaps, problematics, and solution formulas from real migration experiences

9.00-10.30AM (3rd), 06.15.23 Somerset 2







# What is its specialty?

- DSpace-CRIS broadens DSpace functionality and expands its data model while remaining aligned with its code base
- Fully embraces Configurable Entities enabled out-of-the-box with a richer data model based on the OpenAIRE information space and CERIF
- Enables real CRIS / RIMS processes and use cases, beyond simple data storage
- It is optimized for usage of entities and production ready



# After 74 years of production, Kodak stopped selling 35mm color film in 2009.



# IN RESPONSE OF THAT, PIONEERS IN THE DSPACE COMMUNITY

## STARTED TO THINK

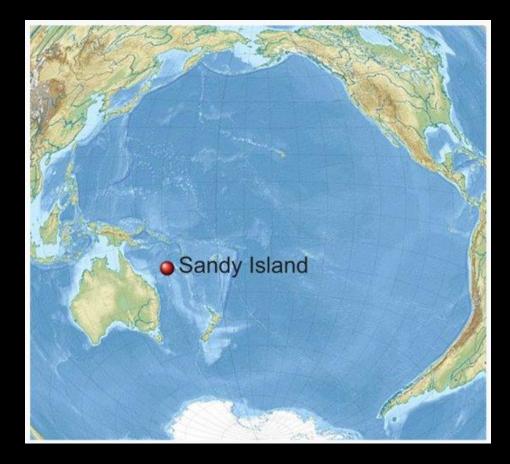
## **HOW TO MOVE DSPACE TO THE NEXT LEVEL**



Sandy Island, New Caledonia was a non-existent island that was mapped from 1774 ...until it's 'un'discovered in 2012.

The World struggled for this loss... how could we ever fill the gap?

# ...DSPACE-CRIS WAS RELEASED AS AN OPENSOURCE PROJECT

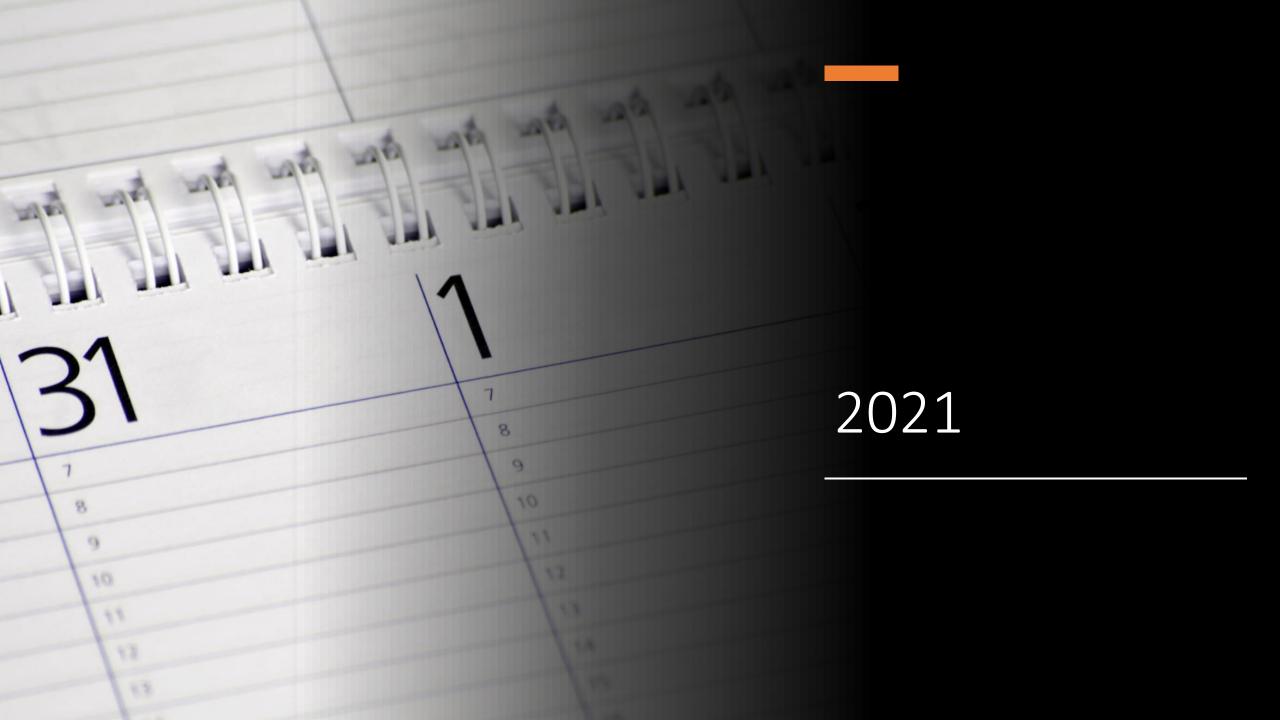




The number 2147483647 is the biggest possible number in 32-bit computing. In December 2014, "Gangnam Style" exceeded the 32-bit integer limit for view count, necessitating YouTube to upgrade the variable to a 64-bit integer.

WE WERE SAFE...
THE DSPACE-CRIS
USER BASE WAS
GROWN AND SPREAD
THE WORLD,
BUT QUITE FAR FROM THIS LIMIT





A big step for humankind: on February 18, 2021, NASA's Perseverance rover successfully landed on Mars to scout for signs of ancient life. Among other things, the rover confirmed the existence of ancient Mars lake and river delta.

# DSPACE-CRIS 7 IS RELEASED





# 4 reasons to adopt DSpace-CRIS

1

The first and only open source Research Information System with a large users base, derived from the most adopted Repository platform in the World 2

The repository is at the core of the platform, not just a side website or portal

3

Cheaper to implement, configure and maintain.

A single system that can satisfy the needs of different officers

4

As simple as possible, as complete as needed

# Which are the main differences compared to DSpace Repository?

## Readiness

It provides out-ofbox a functional Research Information System. Management

Organization: System Name	Category	Certified Service Provider	Can Use with Public API	Collect Authenticated IDs	Read from Records	Add Affiliations	Add works	Add Funding	Add Peer Review	Add Biographical Data
4Science: DSpace-CRIS	CRIS/RIM	CERTIFIED Service Provider	<b>②</b>	<b>②</b>	<b>②</b>	<b>②</b>	<b>⊘</b>	<b>⊘</b>	×	<b>②</b>
4Science:DSpace	CRIS/RIM	CERTIFIED Service Provider	<b>②</b>	•	<b>②</b>	×	<b>②</b>	<b>②</b>	×	<b>②</b>

# Superior ORCID integration

The ORCID integration originally developed in DSpace-CRIS has been contributed to DSpace 7.3 but DSpace-CRIS still offers additional features that were not possible to support in a plain DSpace

I'm in charge preparation

I lead the tea

technologies with a partic

communities

perspective

Bollini, Andre

4Science i

https://www.l

https://github.

andrea.bollini

0000-0003-0

55484808800

✓ Show more

Role

Master post en

Graduate Studies - Mathematics, Physics

Subscribe



## Bollini.

Andrea

Preferred name Main Affiliation Web Site

Email ORCID Scopus Author ID

Affiliation

Publications Projects Metrics Other

**English Biography** I'm responsib ologies and te infrastructure

Role Head of Oper Head of Oper СТО

Education

I'm responsible for all the technological aspects of the company proposal, from the final solutions to tools, methodologies and technologies adopted for the production and support activities. Among my responsibilities, I define the infrastructure that best fits the project requirements. We provide support on premis on the customer data center and worldwide cloud providers. Our hosted solutions are powered by Amazon Web Services, our experience in

Publications Projects Metrics Other

Sapienza Università di Roma

Employments, educations and qualifications are only managed by DSpace-CRIS (hierarchical metadata)

### **English Biography**

**Affiliation** 

Education

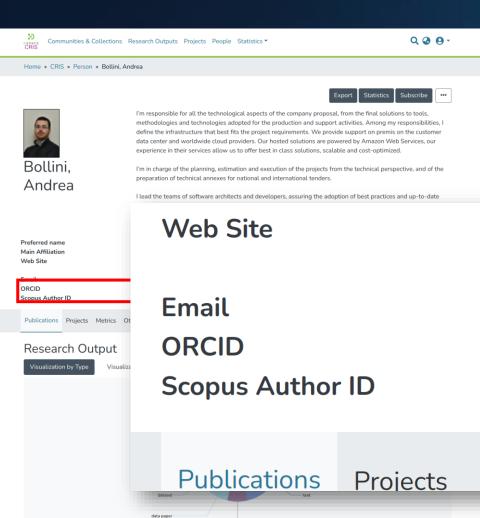
I'm responsible for all the technological aspects of the company proposal, from the final solutions to tools, methodologies and technologies adopted for the production and support activities. Among my responsibilities, I define the infrastructure that best fits the project requirements. We provide support on premis on the customer data cere

### Show more

1998

Role	Organisation	Start	End
Head of Open Source & Open Standards Strategy	CINECA	2012	2016
Head of Open Source & Open Standards Strategy	CINECA	2012	2016
СТО	4Science	2016	

Role	Organisation	Start	End
Master post experience 2nd level	Università degli Studi di Milano Bicocca	2007	2008
Graduate Studies - Mathematics, Physics	Sapienza Università di Roma	1998	2003



Proper display of the ORCID logo in the researcher profiles and authored publications for ORCID Authenticated profiles

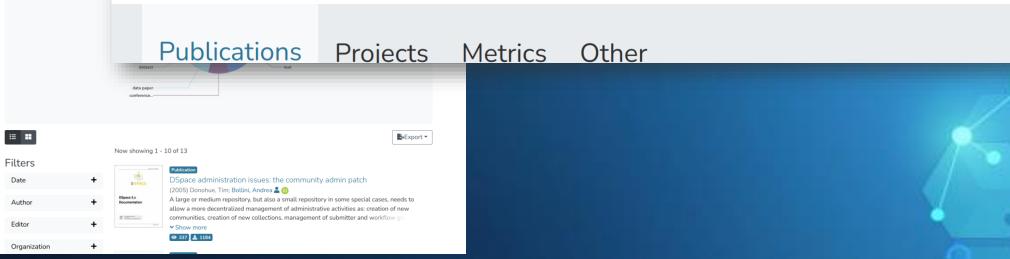
https://www.linkedin.com/in/andreabollini/

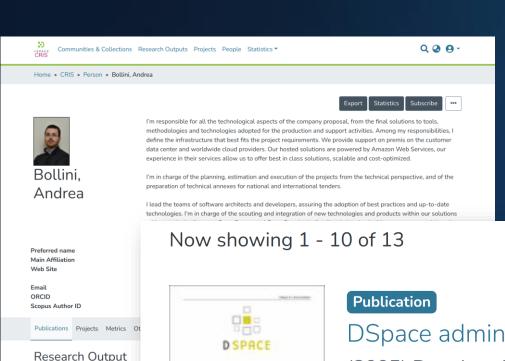
https://github.com/abollini

andrea.bollini@4science.it

0000-0003-0864-8867 (D

55484808800





Proper display of the ORCID logo in the researcher profiles and authored publications for ORCID Authenticated profiles



DSpace administration issues: the community admin patch

(2005) Donohue, Tim; Bollini, Andrea 🚨 🝺

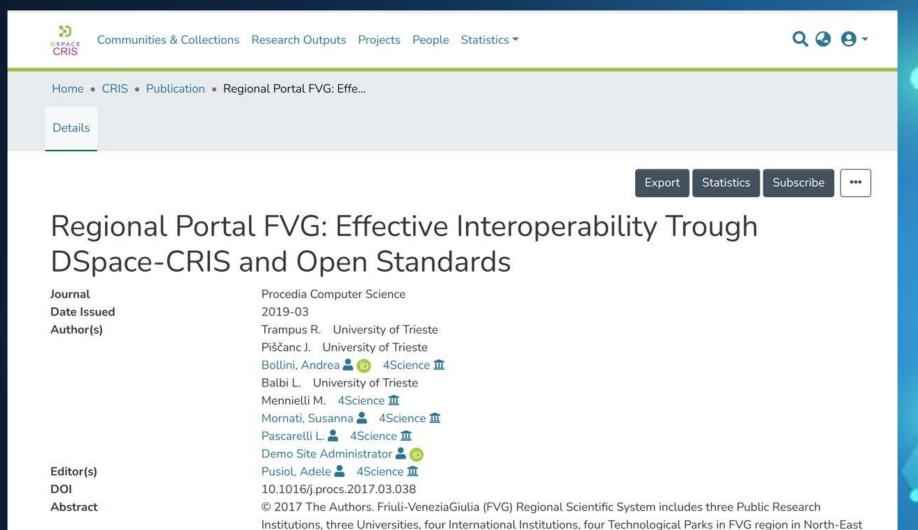
A large or medium repository, but also a small repository in some special cases, needs to allow a more decentralized management of administrative activities as: creation of new communities, creation of new collections, management of submitter and workflow groups.

 ➤ Show more



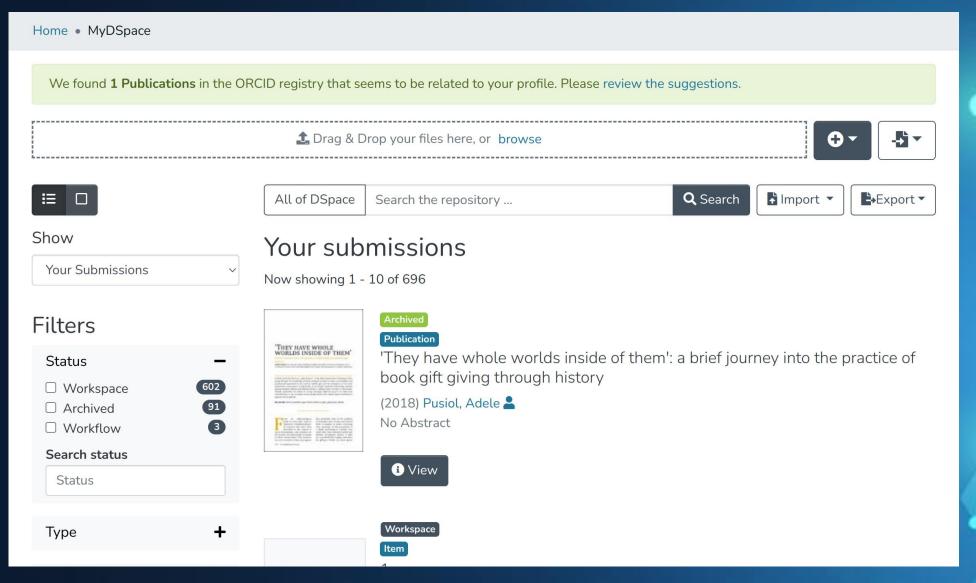


Proper display of the ORCID logo in the researcher profiles and authored publications for ORCID Authenticated profiles



Italy. In 2014 the three Universities started to cooperate for a common research output inside a project name

# Automatic suggestion of publications from the ORCID profile missing in the repository (planned to be contributed in DSpace 8)



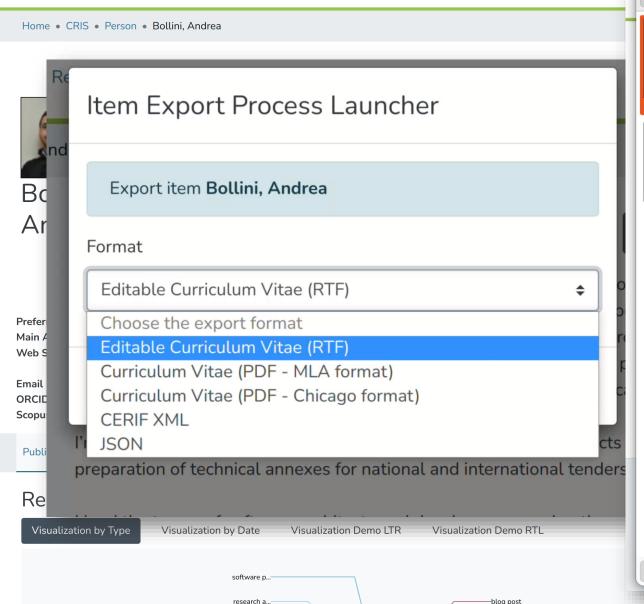
## Services for researchers



Curriculum Vitae export according a configurable PDF / RTF template (powered by Apache XLS:FO)



Citation Syle Language (CSL) Support for bibliographic data so to include the publications list in the CV or export them according to research community practice (Chicago, MLA, Tubirian, etc.)





person (24).pdf













Country: IT Email: andrea.bollini@4science.it

ORCID: 0000-0003-0864-8867 Scopus Author IDs: 55484808800

I'm responsible for all the technological aspects of the company proposal, from the final solutions to tools, methodologies and technologies adopted for the production and support activities. Among my responsibilities, I define the infrastructure that best fits the project requirements. We provide support on premis on the customer data center and worldwide cloud providers. Our hosted solutions are powered by Amazon Web Services, our experience in their services allow us to offer best in class solutions, scalable and cost-optimized. I'm in charge of the planning, estimation and execution of the projects from the technical perspective, and of the preparation of technical annexes for national and international tenders. I lead the teams of software architects and developers, assuring the adoption of best practices and up-to-date technologies. I'm in charge of the scouting and integration of new technologies and products within our solutions with a particular focus on Open Source and Open Standards. I'm directly involved with open-source and domain communities to assure that our solutions remain aligned with the international trends both from the technical perspective and for the functional requirements.

#### **Affiliations**

Head of Open Source & Open Standards Strategy at CINECA from 2012 to 2016 Head of Open Source & Open Standards Strategy at CINECA from 2012 to 2016 CTO at 4Science from 2016

Test at Università Cattolica Del Sacro Cuore from 2008

#### Education

Master post experience 2nd level at Università degli Studi di Milano Bicocca from 2007 to 2008 Graduate Studies - Mathematics, Physics at Sapienza Università di Roma from 1998 to 2003

#### **Publications**

Smith, Jane and Bollini, Andrea (2021). Factories, Movies, and Sport Science Bollini, Andrea and Ninfo, Daniele (2008-04-01), DSpace Hibernate-Prototype

Bollini, Andrea (2011). Test US Army 2023

Bollini, Andrea (2021-06-02). DSpace-CRIS 7.0

Bollini, Andrea (2022-08-18). SynsiCRIS technical presentation

Lombardi, Corrado and John Doe and Bollini, Andrea and Cortese, Claudio (2022). Lorem ipsum dolor

Bollini, Andrea (2016). New functionalities of the euroCRIS' DSpace-CRIS Repository

Cortese, Claudio and Bollini, Andrea (2023-03-16), Test demo one

Cortese, Claudio and Bollini, Andrea (2018). Extending DSpace to fulfil the requirements of Digital Libraries for Cultural Heritage

Cortese, Claudio and Bollini, Andrea (2023-03-07). Test demo san raffaele uno

Donohue, Tim and Bollini, Andrea (2005). DSpace administration issues: the community admin patch

Mornati, Susanna and Mennielli, Michele and Bollini, Andrea (2014-07-02). DSpace-CRIS@HKU: Achieving Visibility with a CERIF Compliant Open Source System

Trampus R. and Piščanc J. and Bollini, Andrea and Balbi L. and Mennielli M. and Mornati, Susanna and Pascarelli L. and Demo Site Administrator (2019-03), Regional Portal FVG: Effective Interoperability Trough DSpace-CRIS and Open Standards

# Services for researchers



Management of highlights: presents the most important publications, projects, awards, community services, etc. according to the ranking decided by the researcher themselves



Bollini, Andrea

Preferred name Main Affiliation Web Site

Email ORCID Scopus Author ID

I'm responsible for all the technological aspects of the com methodologies and technologies adopted for the productio define the infrastructure that best fits the project requireme data center and worldwide cloud providers. Our hosted solaspects of the company proposa experience in their services allow us to offer best in class s I'm in charge of the planning, estimation and execution of t preparation of technical annexes for national and international project requirements. We provi I lead the teams of software architects and developers, ass ers. Our hosted solutions are por technologies. I'm in charge of the scouting and integration of with a particular focus on Open Source and Open Standard communities to assure that our solutions remain aligned w perspective and for the functional requirements. Bollini, Andrea 4Science 111 https://www.linkedin.com/in/andreabollini/ https://github.com/abollini andrea.bollini@4science.it 0000-0003-0864-8867 (i)

Subscribe **Statistics Export** Options d for the production and support Edit all the details Audit Administer Manage Research Outputs and execution of the projects from Manage Projects onal and international tenders. Create new version nd developers, assuring the ador Show all metadata (technical view) ig and integration of new techno and Open Standards. I'm directly involved with open-source and domain

remain aligned with the international trends both from the technical

### Research Output

Publications Projects Metrics Other

Visualization by Type

Visualization by Date

Visualization Demo LTR

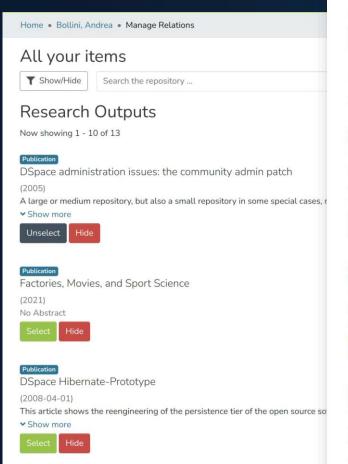
Visualization Demo RTI

software p...

research a.

55484808800

-blog post



Home • Bollini, Andrea • Manage Relations

### All your items



Search the repository ...



### Research Outputs

Now showing 1 - 10 of 13

#### Publication

DSpace administration issues: the community admin patch

#### (2005)

A large or medium repository, but also a small repository in some special cases, needs to allo

✓ Show more



#### Publication

Factories, Movies, and Sport Science

#### (2021)

No Abstract



DSpace Hibernate-Prototype

(2008-04-01)

This article shows the reengineering of the persistence tier of the open source software DSpa

Show more



## Selected items

### Publication

Regional Portal FVG: Effective Interoperability Trough DSpace-CRIS and Open Standards

(2019-03)

- © 2017 The Authors, Friuli-Venezia Giulia
- ✓ Show more

#### Publication

DSpace-CRIS@HKU: Achieving Visibility with a CERIF Compliant Open Source System

(2014-07-02)

Abstract The CRIS now at the University

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### Publication

DSpace administration issues: the community admin patch

(2005)

A large or medium repository, but also a s

✓ Show more



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900



Andrea

Preferred name

Scopus Author ID

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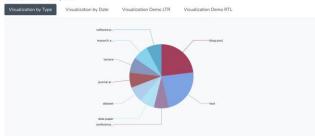
Rollini Andrea 4Science fit

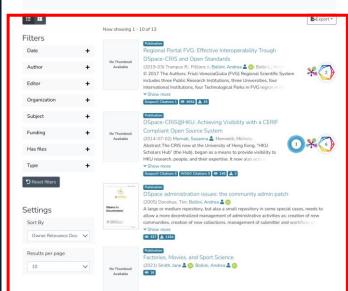
Main Affiliation Web Site https://www.linkedin.com/in/andreabollini/ https://github.com/abollini

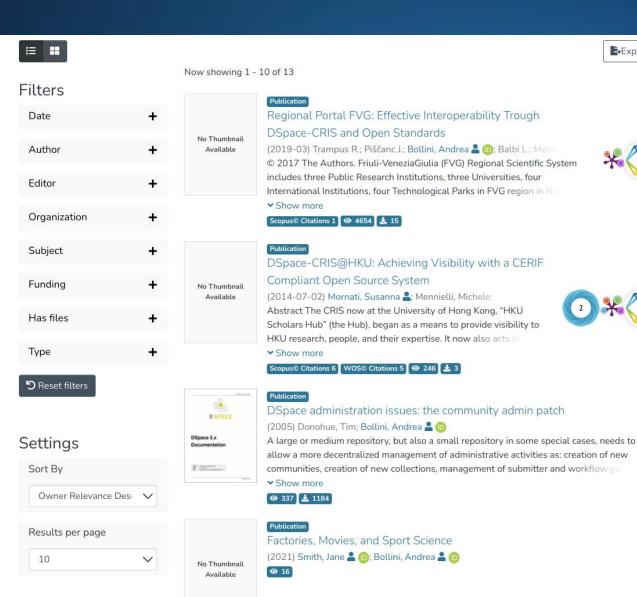
andrea.bollini@4science.it 0000-0003-0864-8867 55484808800

Publications Projects Metrics Other

#### Research Output







Export -

# Services for researchers



Friendly and secure self-management of the profile data

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## Bollini, Andrea

Preferred name Main Affiliation Web Site

Email
ORCID
Scopus Author ID

I'm responsible for all the technologi methodologies and technologies add define the infrastructure that best fit: data center and worldwide cloud preasperience in their services allow us

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Bollini, Andrea 4Science 🏛

https://www.linkedin.com/in/andreabo https://github.com/abollini

andrea.bollini@4science.it 0000-0003-0864-8867 (D

55484808800

and execution of the projects fro and and international tenders.

d for the production and support

nd developers, assuring the adop

Options

Export

Edit all the details

**Statistics** 

Audit

Administer

Manage Research Outputs

Manage Projects

Create new version

Show all metadata (technical view)

Subscribe

and Open Standards. I'm directly involved with open-source and domain remain aligned with the international trends both from the technical

## Research Output

Publications Projects Metrics Other

Visualization by Type

Visualization by Date

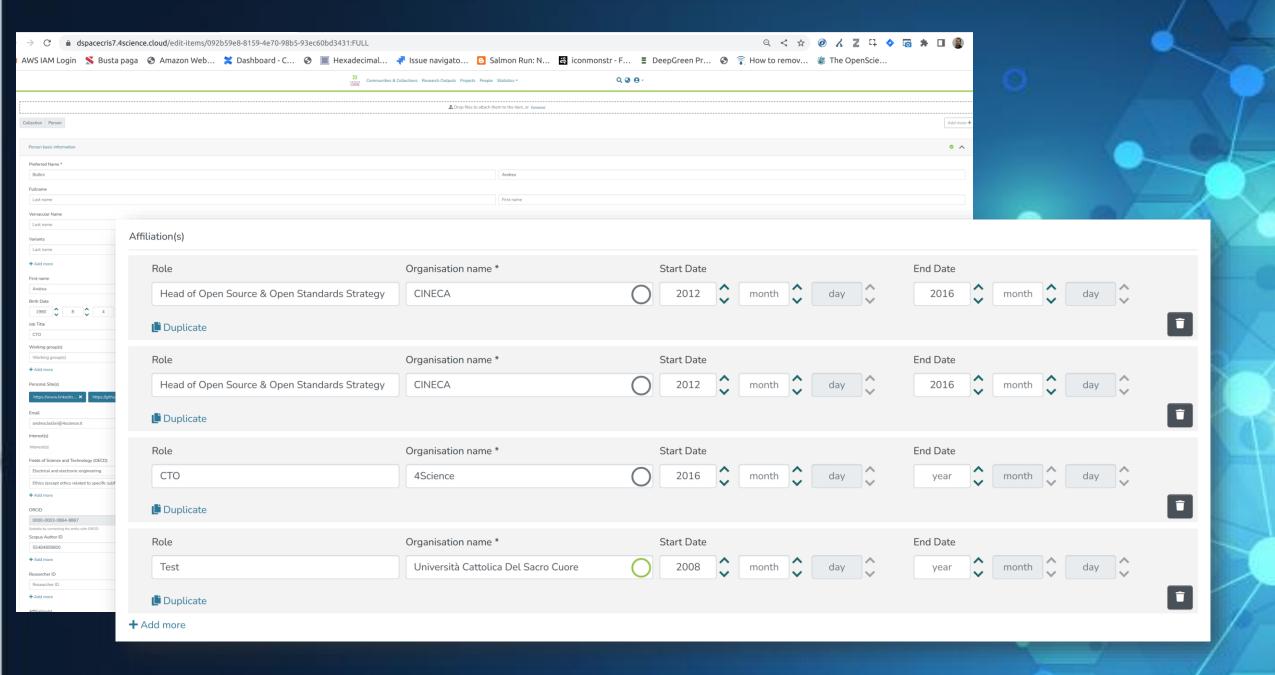
Visualization Demo LTR

Visualization Demo RTL

software p...

research a.

—blog post



## Features for administrators



Provides a configurable UI that will follow the customization of the data model without forcing change to Angular code for any small change (additional metadata, new relations, different order o placing of the information, etc.)



Each item will use a configuration based on a grid system identified according to the entity type and a metadata that would further classify the item, such as the dc.type, to provide a different layout for a Journal Article over a Thesis, a Book, etc.



Allows easy configuration of the Home page via reusable and extensible components (sorted list "top viewed", "top cited", etc., infographic, html fragments, facets) to be placed within a grid system



Allows to define secondary section home page to provide tailored repository entry point and foster specific repository contents such as research materials, educational materials, heritage contents, etc.





## Bollini, Andrea



Knows Language

Preferred name Main Affiliation Web Site

Email ORCID Scopus Author ID

Publications Projects Secured Tab Metrics ORCID **English Biography** I'm responsible for all methodologies and ted define the infrastructur Affiliation Role Head of Open Source Head of Open Source CTO Test Education Role Master post experience Graduate Studies - Ma IT Country

en

Communities & Collections Research Outputs Projects People

Home • CRIS • OrgUnit • 4Science

### **LEADING TAB**

4SCIENCE

Details

Projects

People

**Publications** 

Researchers publications

Researchers projects

Organisation Name 4Science
Director Valenti, Cesare
Parent Organisation ITWay

Founding Date 2015

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Description

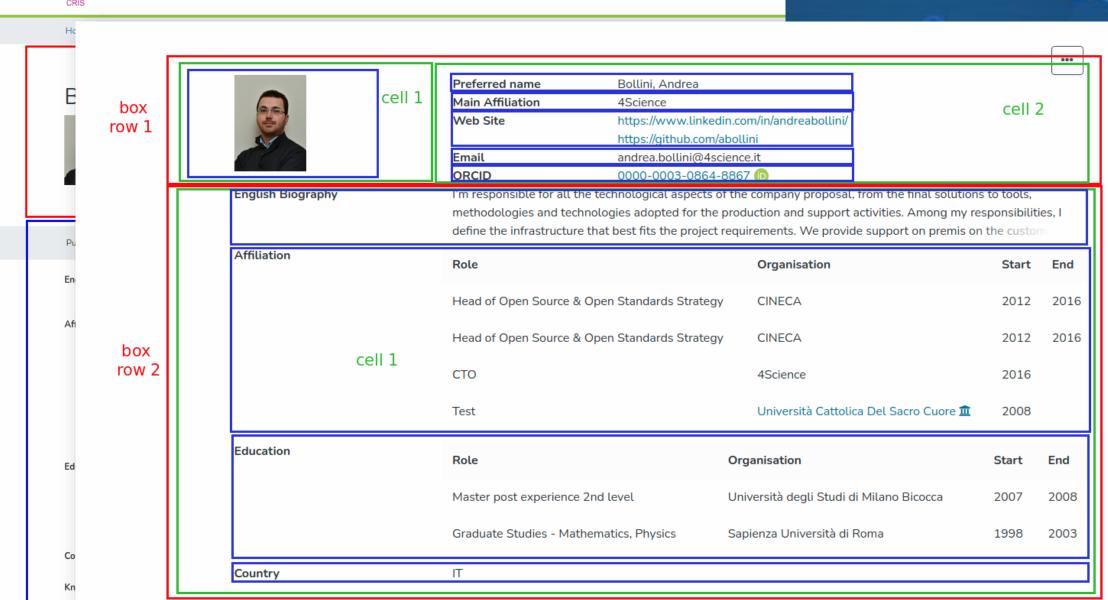
Country IT

City Milan

Description 4Science was established

4Science was established in 2015 to support universities, research and cultural institutes all around the world in managing and realizing digital projects. We guarantee full compliance with methodological and scien

**VERTICAL LAYOUT** 







## DSpace-CRIS 7

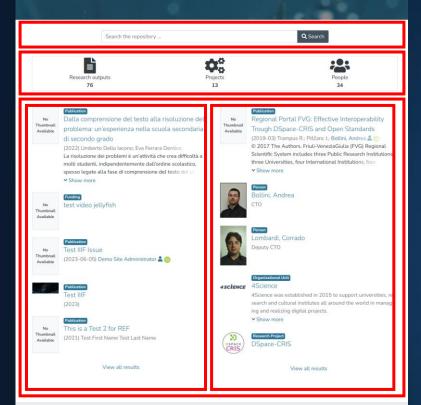
DSpace-CRIS is the first free and open-source extension of DSpace for Research Data and Information Management ever developed.

DSpace-CRIS has the institutional repository as its core component, providing high visibility online of the collected information and objects. DSpace-CRIS broadens DSpace functionality and expands its data model while remaining aligned with its code base.

DSpace-CRIS adopts and ensures compliance with international standards and practices to facilitate interoperability, data transfer and sharing. Key features:

- Full ORCID v3 integration (push/pull information)
- · Integration with dozen external data sources, including commercial ones, to retrieve bibliographic and bibliometric data
- Support of decembers of management and support
- Aligned to the latest OpenAIRE Guidelines for Literature Repositories, Data Archives and CRIS Manag
- Data quality tools ensure that your information is always complete and accurate

Join the international community of leading institutions using DSpace-CRIS.



#### GET INVOLVED!

#### O Source Code

■ Documentation
♣ Slack Channel

#### MAKE IT YOUR OWN

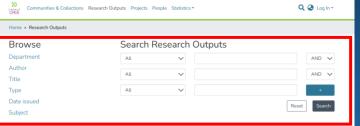
DSpace-CRIS can be extensively configured to meet your needs. Decide which information need to be collected and available with finegrained security. Start updating the theme to match your Institution's web identity.

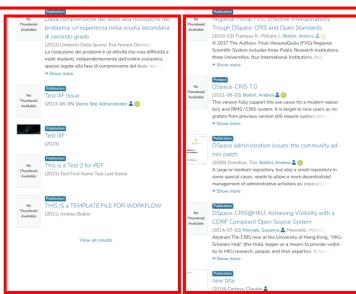
#### NEED PROFESSIONAL HELP?

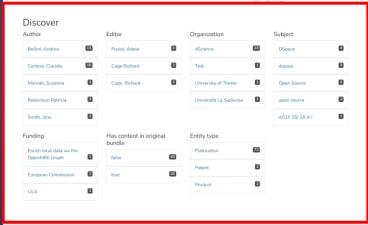
The original creators of DSpace-CRIS at 4Science can take your project to the next level, get in touch!

This demo is provided freely by 4Science at its own expense and shows some enhancements that may not be available by default in the community code.

Built with DSpace-CRIS software - Extension maintained and optimized by 4 SCIENCE







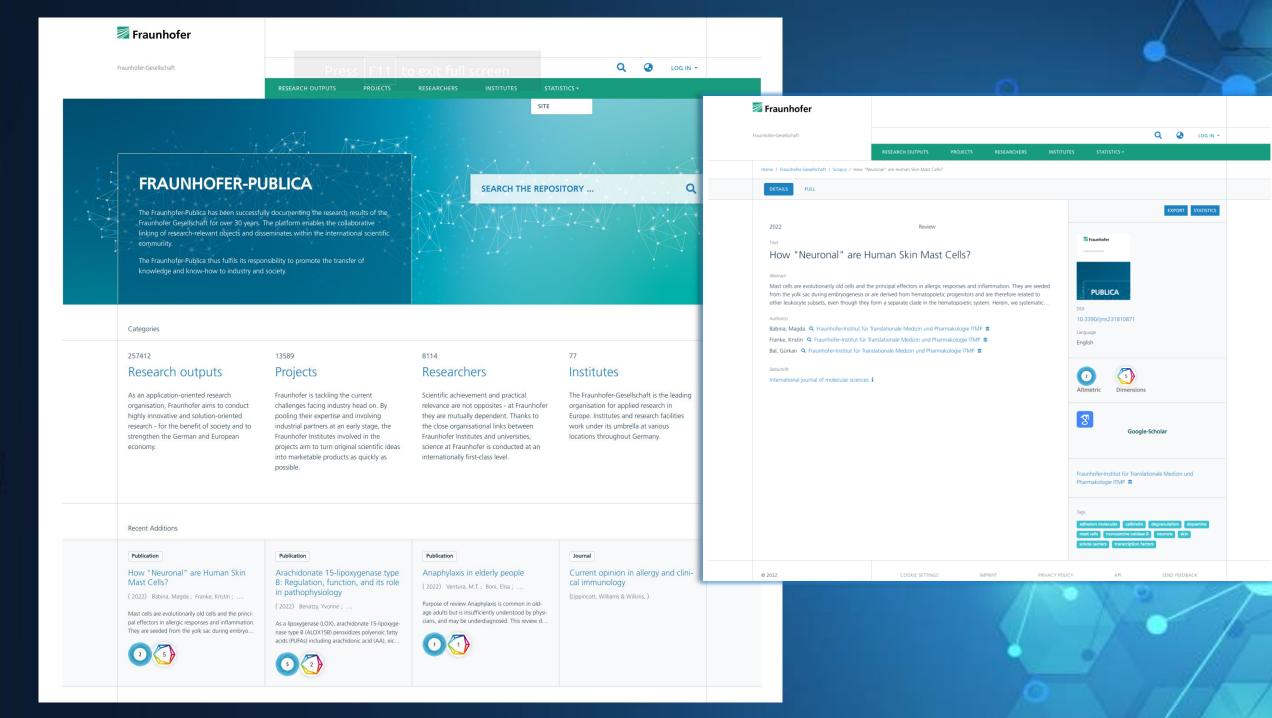
### MAKE IT YOUR OWN

GET INVOLVED!

C Source Code

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The original creators of DSpace-CRIS at

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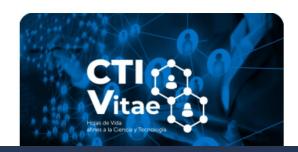






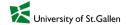


What type of user are you?









Research Outputs Projects People Statistics •



Q 🕗 Log In 🕶

Home • HSG CRIS • HSG Publications • The price of policy risk - E...



### The price of policy risk - Empirical insights from choice experiments with European photovoltaic project developers

Energy Economics Journal 0140-9883 ISSN ISSN-Digital 1873-6181 journal article Type Date Issued 2012-07-04 Author(s) Wüstenhagen, Rolf 🚨

Luethi, Sonja

DOI 10.1016/j.eneco.2011.08.007

Abstract Managing the transition to a renewable energy future is an important policy priority in many countries. Solar photo-

voltaic (PV) technology is expected to make an essential contribution, but due to relatively high cost, its growth to date has been largely driven by public policy, notably feed-in tariffs. Feed-in tariffs have been implement

DISTRES - Promotion and consolidation of all Research and Technology Development activities for Renewable

Energy Distributed Generation Technologies in the Mediterranean region i

Language English

Adaptive conjoint analysis Keywords

Choice experiment Feed-in tariff

Policy design

**HSG Classification** contribution to scientific community

Refereed Yes Elsevier B.V. Publisher Publisher place Amsterdam Volume 34 Number 1001 Start page End page 1011

11 Pages

URL https://www.alexandria.unisg.ch/handle/20.500.14171/91340

Subject(s)

Project(s)

Division(s) IWOE - Institute for

Eprints ID File(s) A28\_Luethi\_Wuestenhagen\_EneEcon\_2012.pdf (553.32 KB)

Scopus© citations 105 May 24, 2023

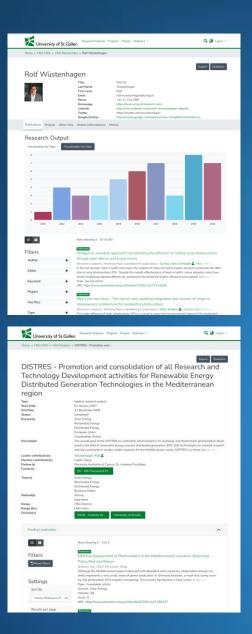
















## The new LTS model that will be active in September

"The latest version is actively maintained by 4Science and community members as volunteer work. Support for past versions will be based on availability of resources and funding from the community. Security fixes will be brought to the current version and to the Latest LTS version. If the current version is a LTS the security fix will be done also on the previous LTS version"



Mutuated from the versioning model of successful open source projects such as Ubuntu.



This allows stability (Ubuntu 22.04 LTS) and innovation via non-LTS versions (Ubuntu 22.10 - 23.04 ...)



- Multi-language support: visualization of metadata values according to the UI language with fallback to the default language and available values in other languages. Multi-language support is also available in the search and browse for metadata coming from vocabularies and value pairs (dropdown)
- Manage bitstreams via the XLS BulkImport: support to edit bitstream metadata, attach, delete new files pointing to local folder configured in the server or remote location (via public ftp, sftp, http, https)
- Configurable CRIS Icons. Icons of entities are displayed in different styles according to configuration
- Scopus and Wos import scripts can be limited to a configurable amount of items

•

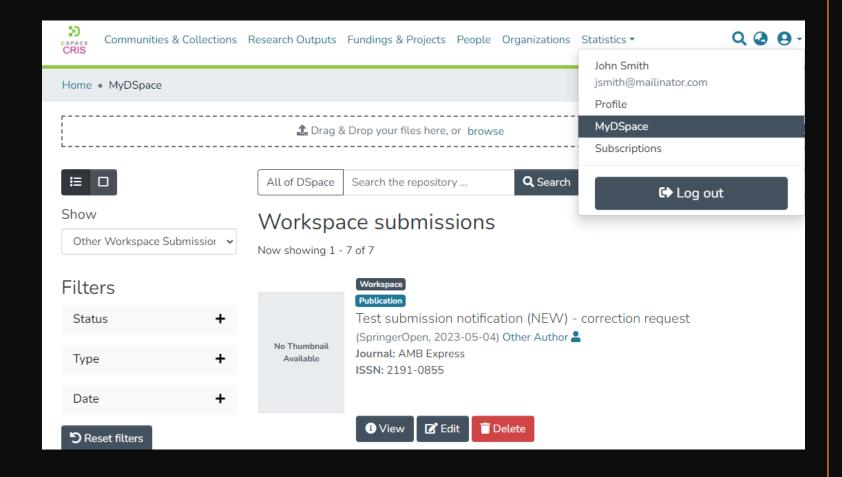


Machine Token: it is now possible to generate a long lived JWT token that is independent from the session login, so that it can be used in external system to query the DSpace API without giving away your credentials. The new feature is accessible from the profile (user account) page. The machine token can be revoked by the user.

Personal access token	
You don't have personal access token. Generate a personal access token for quick access to the DSpace-CRIS API.	



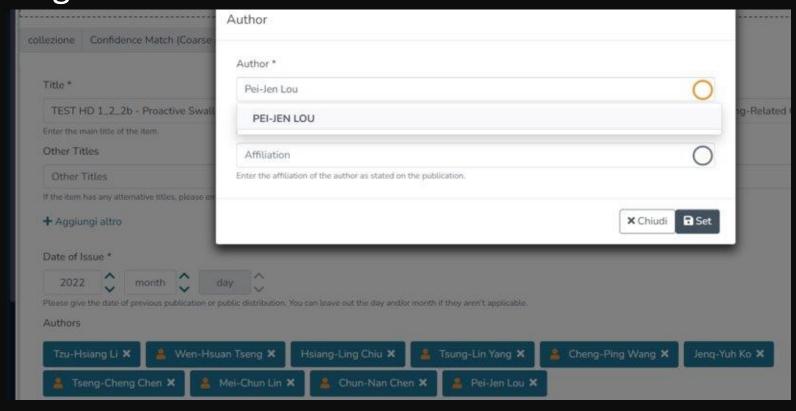
Shared workspace feature: all coauthors can work on the same workspace item





Automatic guessing of linked entities

during import





## Configurable item brief view

```
searchResult:
      additionalMetadataFields:
        - entityType: person
          metadataConfiguration:
            - name: person.email
              rendering: link.email
              label: search.results-metadata.label.person.email # As i18n label
            - name: oairecerif.identifier.url
              rendering: link
              label: Web Site
                                                                  # As text
11

    entityType: fallback # used for other entity types

12
          metadataConfiguration:
13
            - name: dc.title
              rendering: text
              # label can be omitted
```

### Publication

A visual analytics system to support tax evasion discovery

(2018) Walter Didimo; Luca Giamminonni; Giuseppe Lio

Show more

Journal: test journal

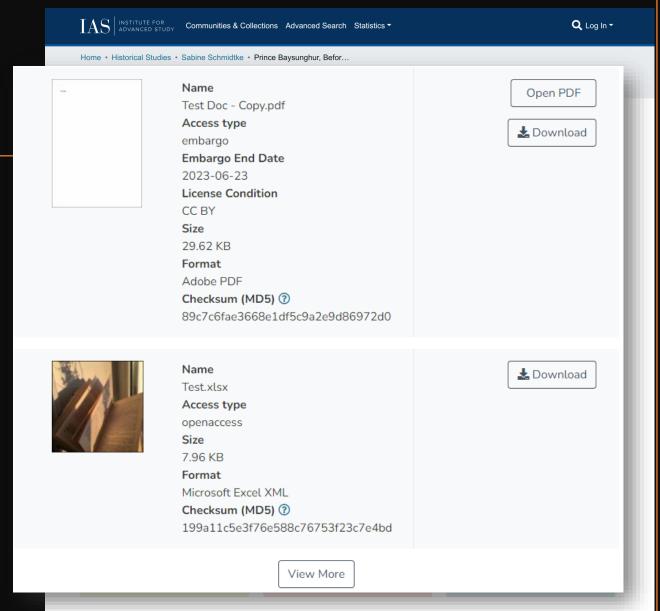
ISSN: 123456

DOI: 10.1016/j.dss.2018.03.008

New fresh rendering for attachments that allow a more clean visualization of the bitstream metadata and attributes.

It is possible to hide a bitstream from item details page







Take-aways and Q&A

Contact us at: <a href="mailto:info@4Science.com">info@4Science.com</a>
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