

SCIENCE MEETS LIFE

Increase the findability of your resources Bioschemas



February 28th, 2020

Alexander Botzki

Google Search

hands on introduction to Python



All Images Videos Shopping Maps More Settings Tools

About 21.800.000 results (0,56 seconds)

Videos



A hands-on introduction to Python for beginning programmers

Next Day Video
YouTube - Mar 31, 2014



A hands-on introduction to Python for beginning programmers

HackersOnBoard
YouTube - Jun 6, 2013



Jessica McKellar: A hands-on introduction to Python for ...

PyCon 2014
YouTube - Apr 11, 2014

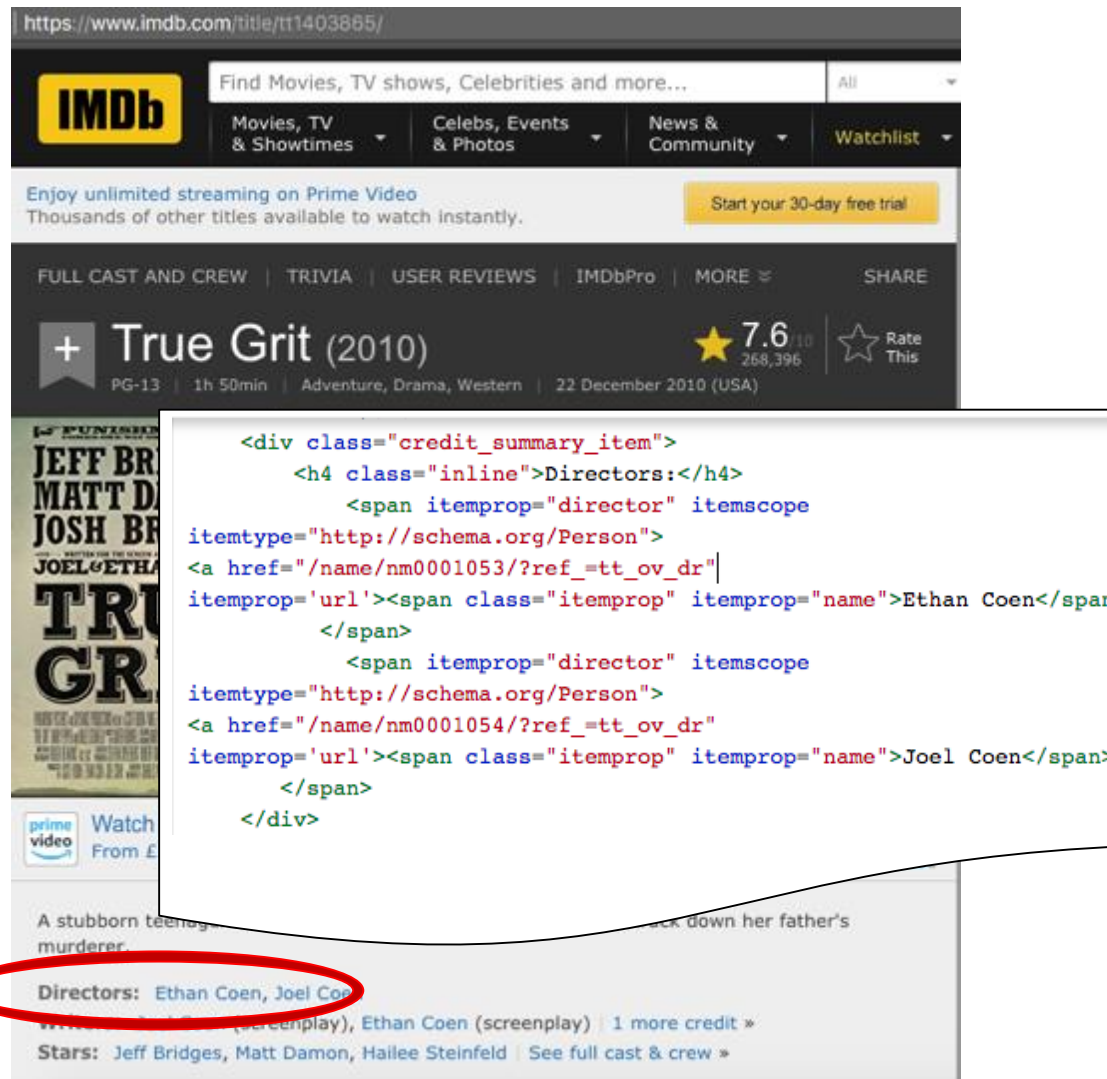
See results about

[Gentle hands-on introduction to Python programming \(Event\)](#)

Date: Thursday, January 9, 2020

Location: Park Inn by Radisson Leuven, Leuven

Schema.org: Semantic Markup for the Web



https://www.imdb.com/title/tt1403865/

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FULL CAST AND CREW | TRIVIA | USER REVIEWS | IMDbPro | MORE ≡ | SHARE

True Grit (2010) ★ 7.6 ¹⁰
268,396 Rate This

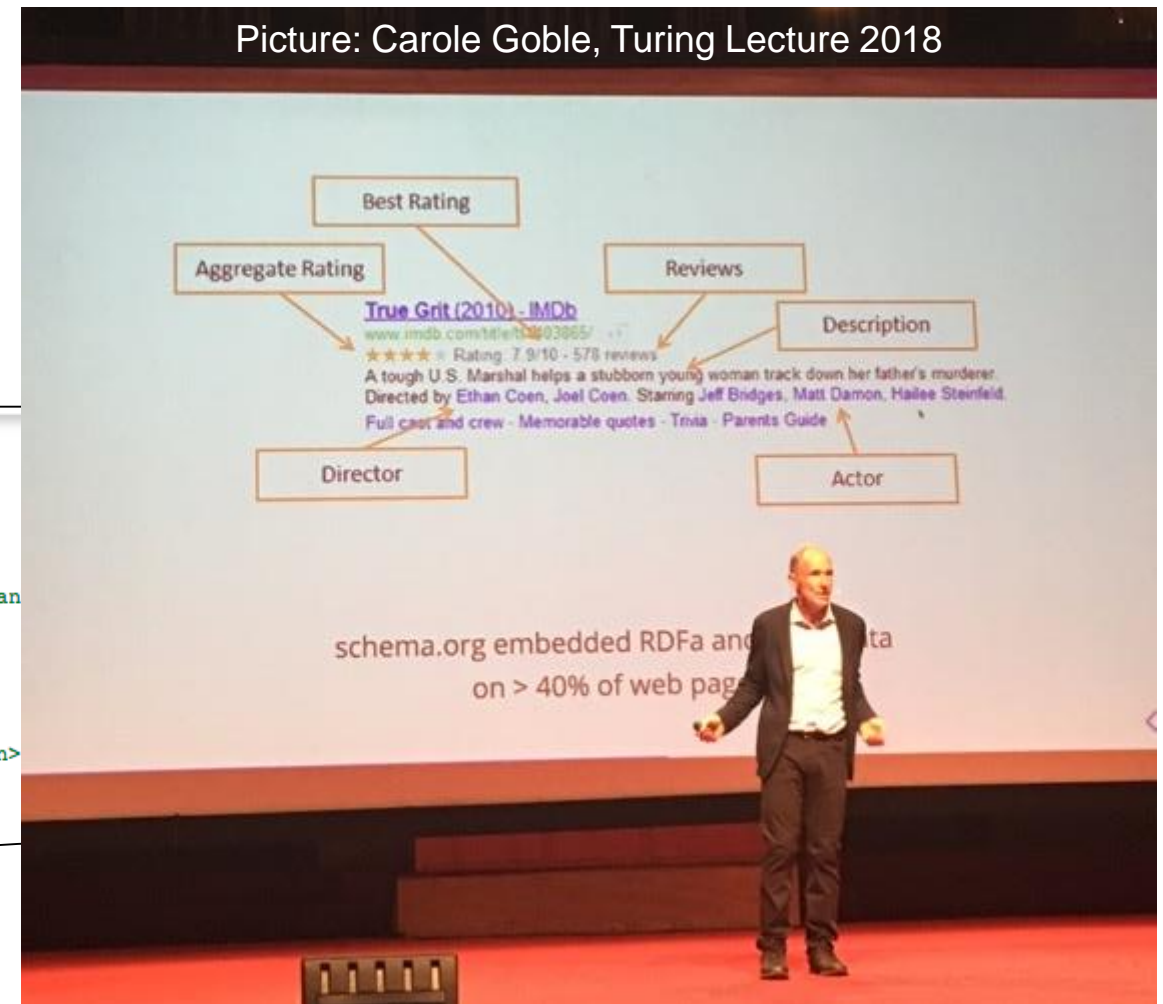
PG-13 | 1h 50min | Adventure, Drama, Western | 22 December 2010 (USA)

```
<div class="credit_summary_item">
  <h4 class="inline">Directors:</h4>
  <span itemprop="director" itemscope
itemtype="http://schema.org/Person">
<a href="/name/nm0001053/?ref_=tt_ov_dr"|
itemprop='url'><span class="itemprop" itemprop="name">Ethan Coen</span>
</span>
  <span itemprop="director" itemscope
itemtype="http://schema.org/Person">
<a href="/name/nm0001054/?ref_=tt_ov_dr"
itemprop='url'><span class="itemprop" itemprop="name">Joel Coen</span>
</span>
</div>
```

Directors: Ethan Coen, Joel Coen

Stars: Jeff Bridges, Matt Damon, Hailee Steinfeld | See full cast & crew »

Picture: Carole Goble, Turing Lecture 2018



```
graph TD
  BestRating[Best Rating] --> TrueGrit[True Grit (2010) - IMDb]
  AggregateRating[Aggregate Rating] --> TrueGrit
  Reviews[Reviews] --> TrueGrit
  Description[Description] --> TrueGrit
  Director[Director] --> TrueGrit
  Actor[Actor] --> TrueGrit
```

True Grit (2010) - IMDb
www.imdb.com/title/tt1403865/

★ ★ ★ ★ Rating: 7.9/10 - 578 reviews

A tough U.S. Marshal helps a stubborn young woman track down her father's murderer. Directed by Ethan Coen, Joel Coen. Starring Jeff Bridges, Matt Damon, Hailee Steinfeld. Full cast and crew - Memorable quotes - Trivia - Parents Guide

schema.org embedded RDFa and other data on > 40% of web pages



Bioschemas

What?

- Exploiting schema.org to make Life Sciences resources more discoverable
 - Search engines will index and understand markup

How?

- Extending schema.org vocabulary for life sciences
 - 7 release candidate types
- Provide guidelines on how to markup resources



Home Join Meetings Specifications Software About

Property	Expected Type	Description	CD	Controlled Vocabulary
Marginality: Minimum.				
description	Text	Schema: A description of the item. Bioschemas: A short summary describing a dataset.	ONE	
identifier	PropertyValue Text	Schema: The identifier property represents any kind of identifier for any kind	MANY	
keywords				
name				
url				
Marginality: Recor				
citation				

```
1 {
2   "@context": "http://schema.org",
3   "@type": "Dataset",
4   "@id": "http://www.uniprot.org/uniparc",
5   "name": "UniProt Archive (UniParc)",
6   "description": "The UniProt Archive (UniParc) is a compr
7   "url": "http://www.uniprot.org/uniparc",
8   "identifier": "UniParc",
9   "keywords": "protein, protein sequence, archive",
10  "includedInDataCatalog": "http://www.uniprot.org",
11  "creator": {
12    "@type": "Organization",
13    "name": "UniProt Consortium"
14  },
15  "version": "2017-09",
16  "license": "Creative Commons Attribution-NoDerivs",
17  "distribution": [
18    {
```

Bioschemas:
A citation for a publication that describes the dataset



A_{ccessible}



I_{nteroperable}



R_{eusable}



★ Indexable by search engines

★ Community defined enriched metadata

★ Retrievable

★ HTTP

★ JSON-LD/RDFa

★ Link to controlled vocabularies

★ Links to other resources





★ License

★ Provenance

Current Bioschemas Profiles

Profile	Version	Group	Live Deploys	Status notes
DataCatalog	0.2 (Jun 2019)	Data Repos	20	0.2 fixes minor issues
Dataset	0.3 (Jun 2019)	Datasets	23	0.3 fixes minor issues
Event	0.1 (July 2018)	Events	7	Used by TeSS: undergoing revision due to addition of CourseInstance
Sample	0.2 (Nov 2018)	Samples	1	
Taxon	0.3 (Nov 2018)	Biodiversity	0	
Tool	0.1 (Mar 2018)	Tools	5	0.3-DRAFT based on bio.tools profile, needs review
TrainingMaterial	0.2 (July 2018)	Training	0	Used by TeSS: 0.5-DRAFT incorporating changes from Course

Examples

Property	Expected Type	Description	CD	Controlled Vocabulary	Example
Marginality: Minimum.					
<u>identifier</u>	<u>PropertyValue</u> <u>Text</u> <u>URL</u>	Schema: The identifier property represents any kind of identifier for any kind of Thing, such as ISBNs, GTIN codes, UUIDs etc. Schema.org provides dedicated properties for representing many of these, either as textual strings or as URL (URI) links. See <u>background notes</u> for more details.	ONE		
<u>name</u>	<u>Text</u>	Schema: The name of the item.	ONE		
Marginality: Recommended.					
<u>associatedDisease</u>	<u>MedicalCondition</u> <u>PropertyValue</u> <u>URL</u>	Schema: Disease associated to this BioChemEntity. Such disease can be a MedicalCondition or a URL. If you want to add an evidence supporting the association, please use PropertyValue. Bioschemas: Disease associated to this protein, if any.	MANY		
<u>description</u>	<u>Text</u>	Schema: A description of the item.	ONE		

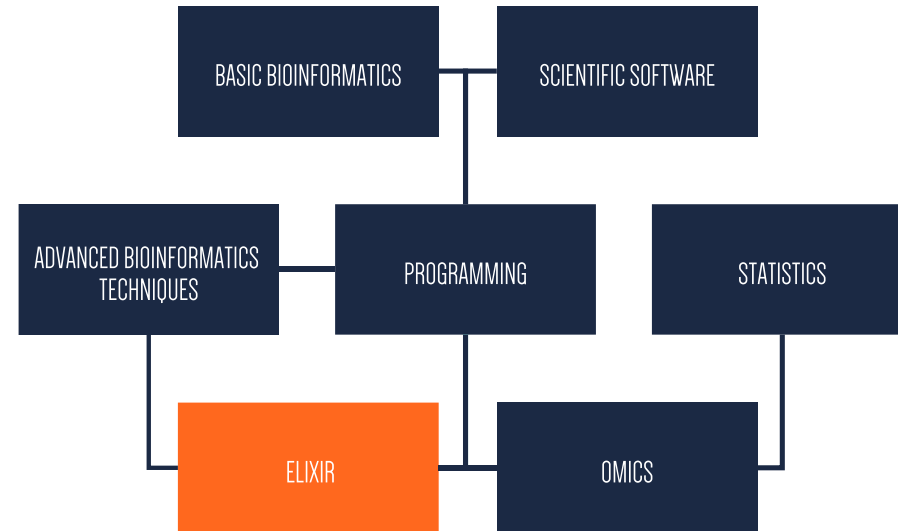


Exploiting Bioschemas Markup

Find training through Search Engines is not always easy

- Small labs, departments and organizations do not typically have as much traffic as larger institutions so are ranked lower in search results
- Harder to find advanced or niche topics. Training about common topics and introductory courses are more visible as they're more popular
- Search engines are not optimal for finding training

VIB & ELIXIR Belgium in TeSS



tess.elixir-europe.org/

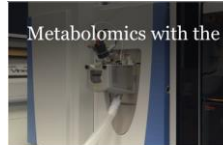


TeSS: Specialised Search



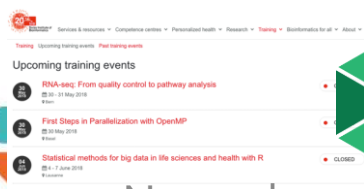
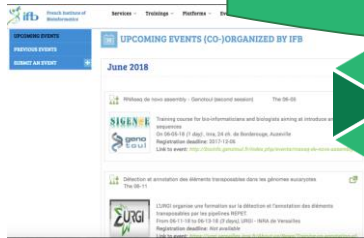
DMOS18 Data Management and Open Science

Course Description
In an age of increasingly complex and data-intensive, collaborative scientific practices, openness, transparency, and a growing societal emphasis on accountability, a new paradigm has arisen: Open Science. In this first day-long course, we will introduce to you the three organizing principles that underpin this paradigm:
Open Access scholarly publishing
Open Science software development
Open Data integration and sharing
For this, we will be introducing a set of technologies and ways of using them. The reasoning behind using them for the above purposes is a highly practical one. The open science that we will be using are not merely applicable to other fields. You do not need to have any particular and normally reported from a journal or publication outlet and beyond. In, you should not be afraid. We will then show the participants the good practices in data management and work on practical exercises that influence replicability and reproducibility. At the end we will discuss publication strategies.
You can see the detailed program through the link below.
Registration:
Registration until June 7th, following the instructions in the link below.
Registration URL:
Contact: For any questions regarding this course, please contact OTS (bottom below)
Start date:
End date:



Register Now for 19-21 November 2018

Overview
This 3-day course introduces you to using the Q Exactive mass spectrometer. The course is led by experts in the field of metabolomics and includes workshops to provide a detailed overview of the metabolomics pipeline.



Bioschemas Event:

- contact
- description
- endDate
- eventType
- hostInstitution
- location
- name
- startDate
- ...



29 November 2018

<http://bioschemas.org>



Organizer	
VIB Bioinformatics Core	24
de.NBI	18
University of Cambridge	17
Melbourne Bioinformatics	6
Peers Alley Media	5
Australian BioCommons	4

Country	
United Kingdom	87
Switzerland	38
Belgium	20
Australia	18
United States of America	16
Germany	15
France	14
Netherlands	10

VIBes in Biosciences 2020
11 - 13 March 2020
Leuven, Belgium

Basic statistics in R, part II
19 - 27 March 2020
Zwijnaarde, Belgium

Gentle hands-on introduction to Python programming
30 - 31 March 2020
Leuven, Belgium

Basic statistics in R, Leuven
28 May - 18 June 2020
Zwijnaarde, Belgium

FlowSOM for handling cytometry data
8 June 2020
Zwijnaarde, Belgium

Introduction to Git & GitHub
19 June 2020
Ghent, Belgium

Genome Engineering and Synthetic Biology (4th edition)
10 - 11 September 2020
Gent, Belgium

Basic statistics theory, Leuven
13 March 2020
Leuven, Belgium

Basic statistics in R, Leuven
26 March - 10 April 2020
Zwijnaarde, Belgium

Basic statistics theory, Leuven
15 May 2020
Leuven, Belgium

Mass spectrometry data processing
2 - 3 June 2020
Gent, Belgium

Using MOFA for integration of omics data
9 June 2020
Gent, Belgium

A tour of machine learning: classification
31 August - 1 September 2020
Gent, Belgium

Basic statistics theory
17 March 2020
Leuven, Belgium

Translational Immunology
26 - 27 March 2020
Gent, Belgium

Basic statistics in R - Ghent
21 - 28 April 2020
Ghent, Belgium

Introduction to the analysis of NGS data
25 May 2020
Leuven, Belgium

Analyzing flow cytometry data using FlowJo
9 June 2020
Ghent, Belgium

Gentle hands-on introduction to Python programming
22 - 26 June 2020
Leuven, Belgium

Analyzing qPCR data with qbase+
14 September 2020

Adding Bioschemas to a Resource

- Identify metadata fields
- Map metadata to Bioschema properties
- Generate JSON-LD
- Embed generation into web server

The screenshot shows a web browser window with the URL `https://usegalaxy-eu.github.io/event/2018-11-22-Galaxy-workshop-February2019/`. The page content includes:

- Galaxy HTS data** (training): From 2019-02-25 to 2019-03-01. Galaxy beginner workshop on H...
- Venue**: Institute for Biology II/III, Schaezlestr.1, 79104, Freiburg im Breisgau, Baden-Württemberg, Germany.
- Important notes**:
 1. If you are registered but c notice.
 2. Please register to our Eur MPI Freiburg, please not
 3. You can bring your own n
 4. The workshop is free of c
- Program:** Every day the workshop will run Preliminary schedule. Topics ma

Overlaid on the page is a handwritten diagram titled "Galaxy Project (Bio) schema.org" mapping metadata fields to schema properties:

- `title` → `name`
- `date` → `start date`
- `end date` → `end date`
- `duration days` → `duration`
- `location` → `location`
- `image` → `image`
- `location` → `location`
- `location_url` → `location`
- `external url` → `url`
- `contact` → `contact`

Below the diagram is a JSON-LD code snippet with highlighted parts:

```

{
  "@context": "http://schema.org",
  "@type": "CreativeWork",
  "name": "{{material.title}}",
  {
    {X if material.zenodo_link or material.workflows X}
    "mentions": [
      {X if material.zenodo_link and material.zenodo_link != '' X}
      {
        "@type": "Thing",
        "url": "{{material.zenodo_link}}",
        "name": "Training data for {{material.title}} tutorial"
      }
      {X if material.workflows X}
      {
        "@type": "Thing",
        "url": "{{ site.github_repository }}/tree/master/topics/{{
        "name": "Workflow for {{material.title}} tutorial"
      }
    ]
  }
}
    
```

Image: Niall Beard, University of Freiburg

Validate markup with Google tool



```
1 <!DOCTYPE html>
2 <html lang="en" dir="ltr" prefix="content: http://purl.org/rss/1.0/modules/content/ dc: http://purl.org/dc/terms/ foaf: http://purl.org/dc/terms/ foaf: http://purl.org/dc/terms/ foaf: http://purl.org/dc/terms/">
3   <head>
4     <meta charset="utf-8" />
5     <meta name="title" content="Research Data Management & Data Stewardship: much more than a FAIRytale" />
6     <meta name="twitter:card" content="summary_large_image" />
7     <link rel="canonical" href="https://training.vib.be/research-data-management-data-stewardship-much-more-fairytale" />
8     <meta name="twitter:title" content="Research Data Management & Data Stewardship: much more than a FAIRytale #VIBCourses" />
9     <meta name="twitter:description" content="Visit our site to view the available courses." />
10    <meta name="description" content="The location of this event has changed to the Park Inn by Radisson Brussels Midi hotel! Please find the location below. This community event is kindly provided to you by the ELIXIR Belgium team and aims to gather all relevant players in the field of Research Data Management & Data Stewardship: much more than a FAIRytale. During the morning session you will get insights in all different topics of the DMP life cycle with several speakers elaborating on the topics mentioned here below. In the afternoon there will be a practical use-case session for a smaller group where we will dive into some tools and workflows that follow the FAIR principles and are currently used. During the whole day there will be possibilities to network. Full program details & speakers can be found below!" />
11    <meta name="abstract" content="" />
12    <link rel="image_src" href="bioinformatics_wit-purple-no-border.jpg" />
13    <meta name="twitter:creator" content="https://twitter.com/VIBLifeSciences" />
14    <meta name="twitter:url" content="/research-data-management-data-stewardship-much-more-fairytale" />
15    <meta name="twitter:image" content="https://training.vib.be/bioinformatics_wit-purple-no-border.jpg" />
16    <meta name="Generator" content="Drupal 8 (https://www.drupal.org)" />
17    <meta name="MobileOptimized" content="width" />
18    <meta name="HandheldFriendly" content="true" />
19    <meta name="viewport" content="width=device-width, initial-scale=1.0" />
20    <script type="application/ld+json">{
21      "@context": "https://schema.org",
22      "@graph": [
23        {
24          "@type": "Event",
25          "url": "/research-data-management-data-stewardship-much-more-fairytale",
26          "name": "Research Data Management & Data Stewardship: much more than a FAIRytale",
27          "description": "The location of this event has changed to the Park Inn by Radisson Brussels Midi hotel! Please find the location below. This community event is kindly provided to you by the ELIXIR Belgium team and aims to gather all relevant players in the field of Research Data Management & Data Stewardship: much more than a FAIRytale. During the morning session you will get insights in all different topics of the DMP life cycle with several speakers elaborating on the topics mentioned here below. In the afternoon there will be a practical use-case session for a smaller group where we will dive into some tools and workflows that follow the FAIR principles and are currently used. During the whole day there will be possibilities to network. Full program details & speakers can be found below!",
28          "image": {
29            "@type": "ImageObject",
30            "url": "/media/80"
31          },
32          "doorTime": "13:00",
33          "startDate": "2019-12-12",
34          "@id": "/research-data-management-data-stewardship-much-more-fairytale",
35          "endDate": "2019-12-12",
36        }
37      ]
38    }
```

Event

All (1)

Event

PREVIEW

2 ERRORS

2 WARNINGS

ID: https://training.vib.be/research-data-management-data-stewardship-much-more-fairytale

@type	Event
@id	https://training.vib.be/research-data-management-data-stewardship-much-more-fairytale
url	https://training.vib.be/research-data-management-data-stewardship-much-more-fairytale
name	Research Data Management & Data Stewardship: much more than a FAIRytale
description	The location of this event has changed to the Park Inn by Radisson Brussels Midi hotel! Please find the location below. This community event is kindly provided to you by the ELIXIR Belgium team and aims to gather all relevant players in the field of Research Data Management & Data Stewardship: much more than a FAIRytale. During the morning session you will get insights in all different topics of the DMP life cycle with several speakers elaborating on the topics mentioned here below. In the afternoon there will be a practical use-case session for a smaller group where we will dive into some tools and workflows that follow the FAIR principles and are currently used. During the whole day there will be possibilities to network. Full program details & speakers can be found below!
doorTime	13:00
startDate	2019-12-12

From Google Dataset search to OmicsDI.org

Google Dataset Search

🔍 N-terminal acetylation in yeast

▼ Updated Date

▼ Download Format

▼ Usage Rights

Free

64 results found



Metabolic regulation of N-terminal acetylation in yeast
www.omicsdi.org



PLOS Overview of N-terminal acetylation of yeast and huma...
figshare.com
Updated Dec 2, 2015

Metabolic regulation of N-terminal acetylation in yeast

[Explore at www.omicsdi.org](http://www.omicsdi.org)

Authors

Petra Van Damme

Available download formats from providers

xml

Variables measured

Proteomics

From Google Dataset search to gbif.org


Google Dataset Search

waterbirds

Updated date Download format Usage rights Free

100+ results found

G Watervogels - Wintering waterbirds in Flanders, Belgium
www.gbif.org
Updated Jul 1, 2019

 Temporal and spatial variation of waterbirds at Sayula Lago...
www.gbif.org
search.datacite.org
Updated Nov 30, 2018

P Observations of waterbirds under duress from military...
doi.pangaea.de
figshare.com
Published Mar 19, 2018

Watervogels - Wintering waterbirds in Flanders, Belgium

[Explore at www.gbif.org](http://www.gbif.org)

Unique identifier
<https://doi.org/10.15468/lj0udq>

Data set published Nov 27, 2014
Data set updated Jul 1, 2019

Data set provided by
Research Institute for Nature and Forest
GBIF

Authors
Koen Devos; Peter Desmet; Filiep T'Jollyn; Dimitri Brosens

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Thanks to



Alasdair J.G. Gray
Bioschemas Leadership Team Chair
Heriot-Watt University/Elixir-UK



Niall Beard

Bioschemas Community

30
Profiles

80

Sites

[http://bioschemas.org/
liveDeploys](http://bioschemas.org/liveDeploys)

17
Types

20M+
Pages

<http://bioschemas.org/liveDeploys>

300+
People

