Demystifying Scopus APIs

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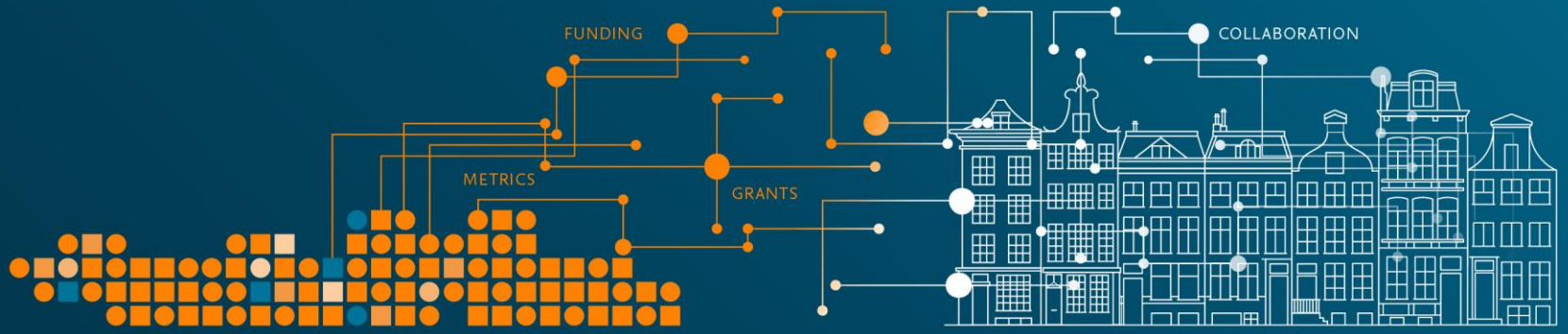


What You Will Learn Today about Scopus APIs

- Simplistically, how do Scopus APIs work & why do they matter?
- What is the procedure to start using Scopus and other Elsevier APIs?
- How are Scopus APIs most commonly used by Academic, Government and Corporate customers?
- What are some examples of current users of the Scopus APIs?

Why are Scopus APIs Important?

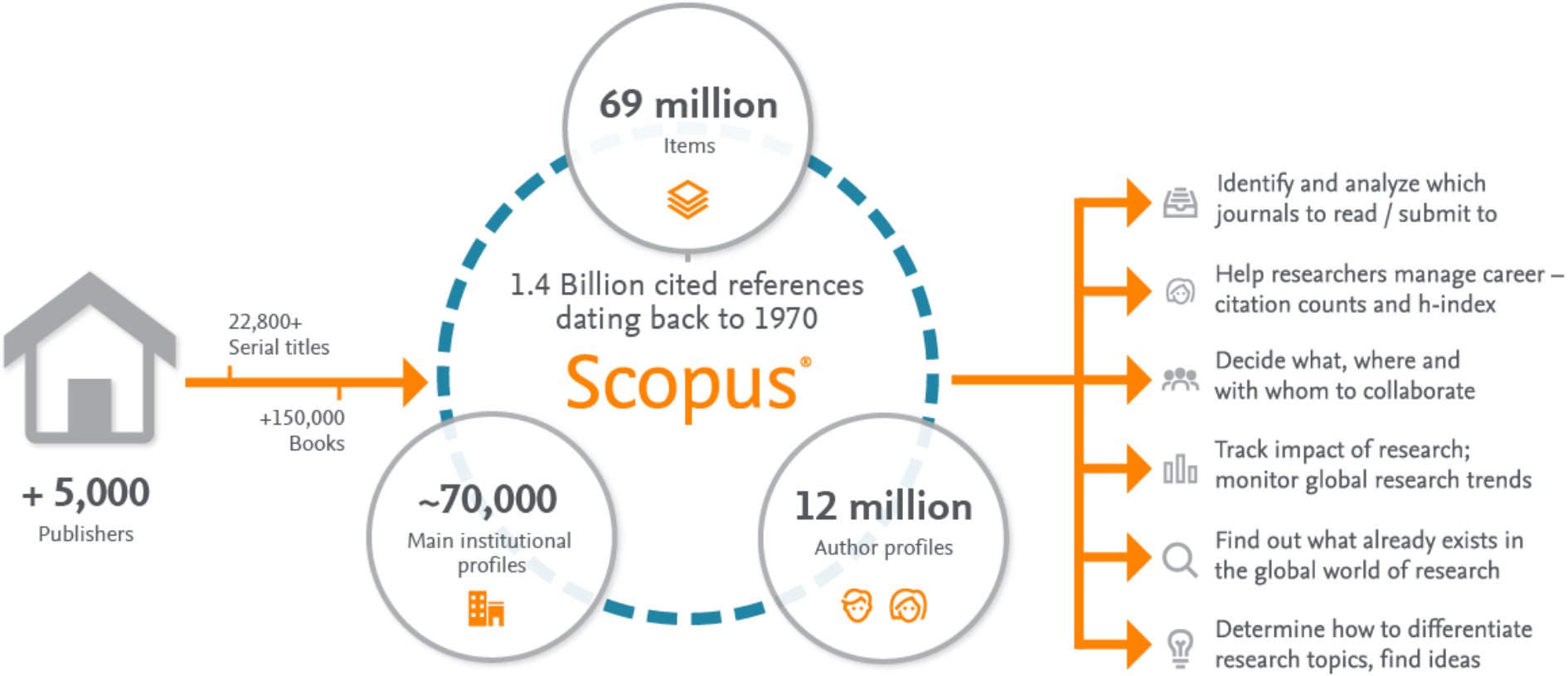
- **Scopus captures articles** being published in **virtually all scholarly journals of any significance in the world**; and its **profiling of authors and institutions** makes it easy to find new articles by those authors at those institutions.
- The **Scopus UI (user interface)** offers many features allowing **librarians**, **researchers, developers and & business intelligence groups** to manually find publications originating from their institution.
- Aside from that user interface, Scopus also **has Application Programming Interfaces (APIs)** that offer the same features, but with results in a **machine-readable format that enables *software*, rather than *humans on the UI (User Interface)*, to find articles, authors and institutions in Scopus**.
- This allows developers to write programs that **automatically extract data** from Scopus, and add that data to their systems & applications.

Elsevier Developers

What Elsevier products have APIs?

Scopus
Engineering Village
SciVal
ScienceDirect
Embase

What is Scopus Data?



“Data Delivery” Methods: How can users get Scopus Data?

Scopus.com

What?
World’s largest abstract and citation database of peer-reviewed literature
How?
Users access content from 5000 publishers directly with discovery & analytical tools
Why?
No other tool can tell you who is doing science and where better than Scopus

Scopus & SciVal APIs

What?
Way for a client’s system to ask Scopus for data in real-time
How?
API is like piping- without it, the customer could not connect to our data reservoir
Why?
Customer chooses for integration with programs and applications

Custom Data

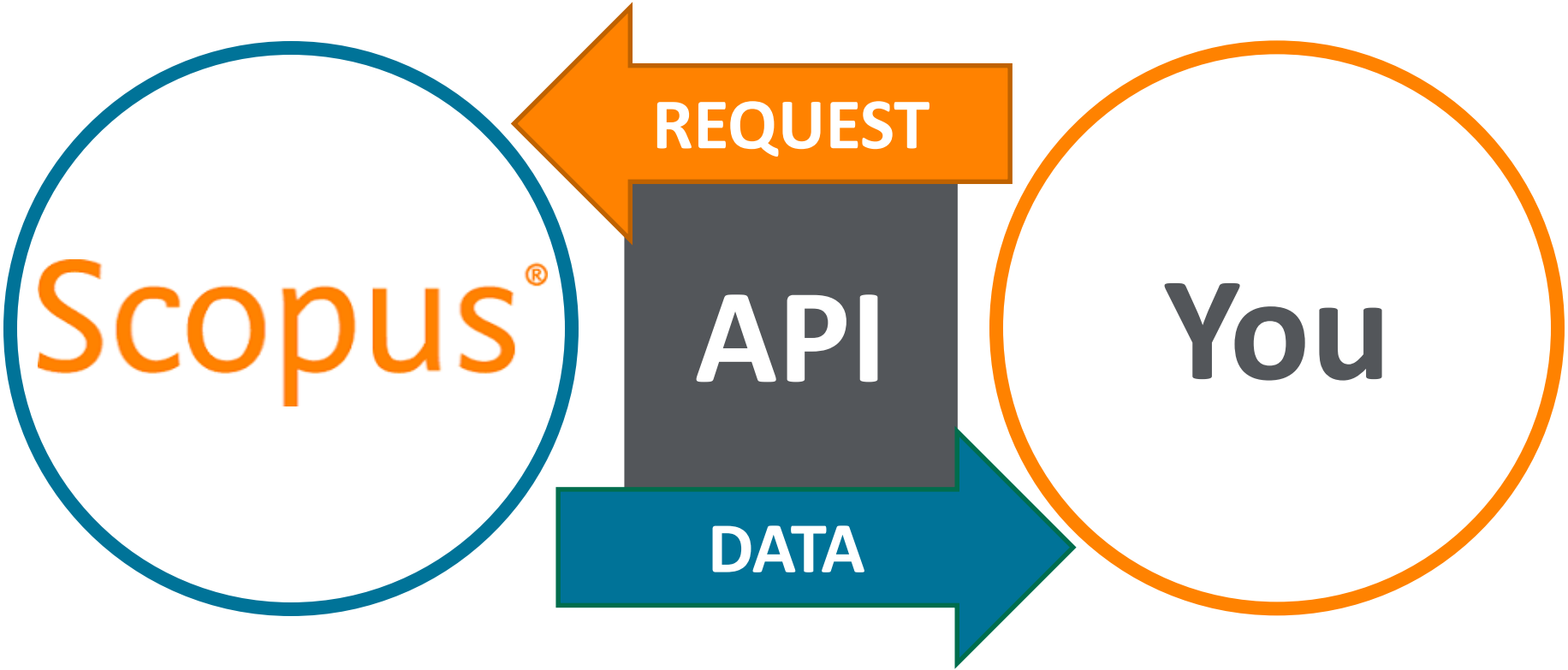
What?
Bulk delivery of data in (relatively) static form
How?
Customer defines how much data they need and then deliver it on a thumb drive
Why?
Custom Data is a great fit if the customer has a specific data need and wants control over the way its analyzed

How do you generate an API call?

- Calling a REST API is just like going to a web address with your browser, except:
  - You don't use a browser to go to the address manually – instead, you write a computer program that goes to the address automatically as part of a script
  - The address usually contains some variables that specify what exactly you want to get
  - What you get from the API is not an HTML document that is shown to a user in a browser, but XML (or another format) that is processed by the computer program
  - APIs usually don't use un/pw for access, but an APIKey and/or access tokens

So, first: get an API key from http://dev.elsevier.com

- Once you've registered your website or application for access, you will be issues an APIKey that has access rights to a number of Elsevier APIs
- Read the documentation to understand the APIs' capabilities
- Write your application/program to make API requests using the correct parameters and your APIKey, and to parse the response from the APIs into your web site or application


Scopus®
REQUEST
API
DATA
You

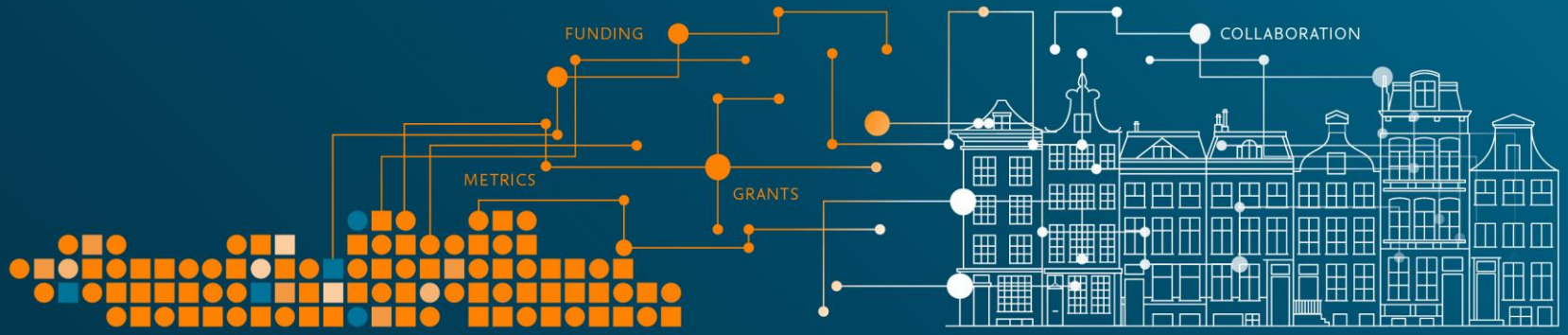
It’s Plural! Scopus has many APIs

Scopus offers multiple APIs, which retrieve different data

- Scopus Search API
- Abstract Citation Count API
- Citation Overview API
- Abstract Retrieval API
- Affiliation Search API
- Affiliation Retrieval API
- Author Search API
- Author Retrieval API
- Subject Classifications API
- Serial Title API
- Author Feedback API

Get API Access by using Elsevier Developers site

http://dev.elsevier.com



How do you get access to Scopus APIs?

1. Look at use cases
2. Get API Key
3. Start coding

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Academic Research | Cited by in Scopus | IR/CRIS/VIVO | Journal Metrics | Federated Search | Commercial Use

Each has a detailed policy

Academic Research

Elsevier allows access to the Scopus APIs in support of academic research for researchers affiliated with a Scopus subscribing institution.

Detailed policy: show/hide

Definition: The end product is a scholarly published work that utilizes publications in Scopus for a research effort. The researcher wants to publish a scholarly work regarding Scopus data relationships.

Examples:

- Analysis of abstract cited-by counts across a specific, singular academic discipline.
- Relationship between authors' geographic locations and their academic affiliations.

What are the most popular use cases?

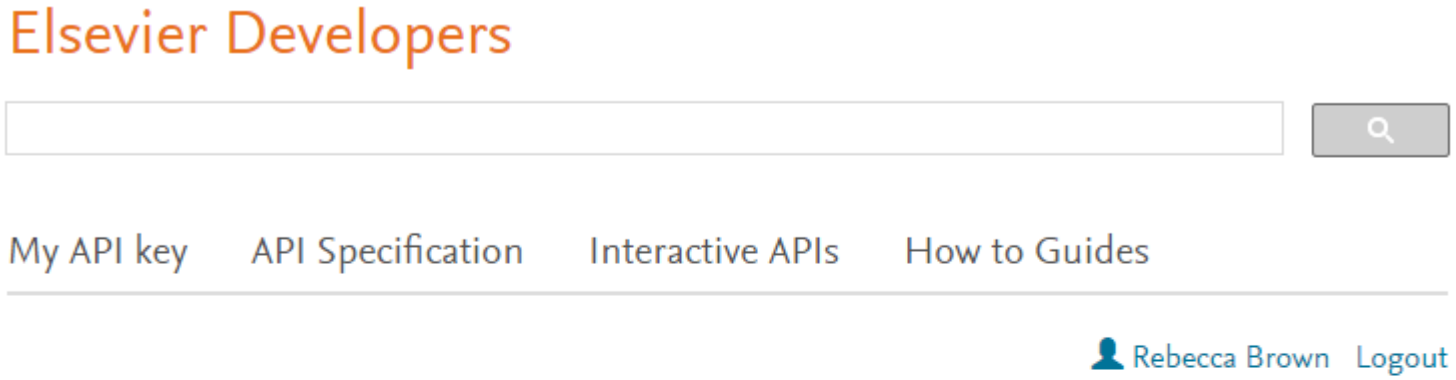
1. Federated Search
2. Cited By in Scopus
3. IR/CRIS/VIVO

Register for an API Key

1. Look at use cases
2. Get API Key
3. Start coding

Tip:

- **If you are a registered user of most Elsevier products, like Scopus, ScienceDirect, Engineering Village, Embase or more, use that UN/PW**
- **Otherwise, register once and use this username**



Run a test API call using our interactive documentation

1. Look at use cases
2. Get API Key
3. Start coding

1

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My API key API Specification Interactive APIs How to Guides

Interactive APIs

The easiest way to get familiar with our APIs is through the interactive swagger examples. You don't need to obtain your own API key for that, just select the API of interest and hit "Try it out!" button. The interactive API will teach you how to construct a request, and you will see the expected response on the spot.

Note: The example API key used in interactive APIs is meant for demonstration purposes only; please obtain and use your own API key with your application. If you'd like to use your own API key with Interactive APIs, you can do so by pasting it into the "apiKey" field. (In case you wonder: by default, APIkeys issued by us are configured for cross-origin resource sharing from https://dev.elsevier.com using W3C CORS.)

By product:

Scopus Interactive APIs >

ScienceDirect Interactive APIs >

Engineering Village Interactive APIs >

2

API key API Specification Interactive APIs How to Guides

Elsevier Scopus APIs - interactive documentation

Detailed interface documentation is located here.

Affiliation_Search : Affiliation Search API Show/Hide | List Operations | Expand Operations

Author_Search : Author Search API Show/Hide | List Operations | Expand Operations

Scopus_Search : Scopus Search API Show/Hide | List Operations | Expand Operations

Abstract_Retrieval : Abstract Retrieval API Show/Hide | List Operations | Expand Operations

Affiliation_Retrieval : Affiliation Retrieval API Show/Hide | List Operations | Expand Operations

Author_Retrieval : Author Retrieval API Show/Hide | List Operations | Expand Operations

Abstract_Citation_Count : Abstract Citation count API Show/Hide | List Operations | Expand Operations

Citations_Overview : Citations Overview API Show/Hide | List Operations | Expand Operations

Serial_Title : Serial Title API Show/Hide | List Operations | Expand Operations

3

authlast(Einstein) and authfirst(Albert) and affil(P — Search query string — query — string

7f59af901d2d86f78a1fd60c1bf9426a — Your API key — query — string

httpAccept — Requested content type, overrides HTTP header value — query — string

Try it out! Hide Response

Curl

```
curl -X GET --header 'Accept: application/json' 'https://api.elsevier.com/content/search/author?
```

Request URL

```
https://api.elsevier.com/content/search/author?query=authlast(Einstein)%20and%20authfirst(Albert
```

Response Body


```
{
  "search-results": {
    "opensearch:totalResults": "1",
    "opensearch:startIndex": "0",
    "opensearch:itemsPerPage": "1",
    "opensearch:Query": {
      "@role": "request",
      "@searchTerms": "authlast(Einstein) and authfirst(Albert) and affil(Princeton)",
      "@startPage": "0"
    },
    "link": [
      {
        "@_fa": "true",
        "@href": "https://api.elsevier.com/content/search/author?start=0&count=25&query=au
thlast%28Einstein%29+and+authfirst%28Albert%29+and+affil%28Princeton%29&apiKey=7f59af901d2
d86f78a1fd60c1bf9426a",
        "@ref": "self",
        "@type": "application/json"
```


https://dev.elsevier.com/scopus.html

What are the most common uses of Scopus APIs?

Scopus Use cases	API	More information
Showing publications from Scopus on your website	Scopus Search API	Detailed policy Implementation guide
Showing Scopus cited-by counts on your website	Scopus Search API / Abstract Citation Count API	Detailed policy Implementation guide
Federated search	Scopus Search API	Detailed policy Implementation guide
Populating IRs with basic document metadata from Scopus	Scopus Search API / Abstract Retrieval API / Citation Count API	Detailed policy Implementation guide
Populating current research information systems with basic document metadata and citation overviews from Scopus	Scopus Search API/ Abstract Retrieval API / Citation Count API/ Citation Overview API	Detailed policy Implementation guide
Populating publication histories of VIVO profiles	Scopus Search API / Abstract Retrieval API / Citation Count API	Detailed policy Implementation guide
Showing SNIP/SJR/IPP on journal homepage	Serial Title API	Detailed policy Implementation guide
Academic Research	Scopus Search API/ Abstract Retrieval API / Citation Count API/ Citation Overview API	Detailed Policy
Limited Use for Commercial Applications	Scopus Search API	Please contact us

Overview of (Access) levels

	Non Subscriber	Scopus.com Subscriber	Case by Case Subscriber
Types	RESTful APIs	Cited-by and Scopus Query API	All APIs	Some text-mining and deeper integration with partner tools
Limits	API Rate Limits	20 records per call	200 records per call	
Limits	Display Scopus Citation Counts or Records	Yes, Citation and Query API	Yes, more results returned	
Use-cases	IR and CRIS Systems	No	Yes, Full integration with IR and CRIS systems	
Use-cases	Federated Search Integration	No	Yes, Federated Search via Query API and Citation Count	Deeper Integration with preferred Partners
Use-cases	Data Rights for Research (Text-mining, etc)	No	Access for Academic Research Commercial use on case by case basis	

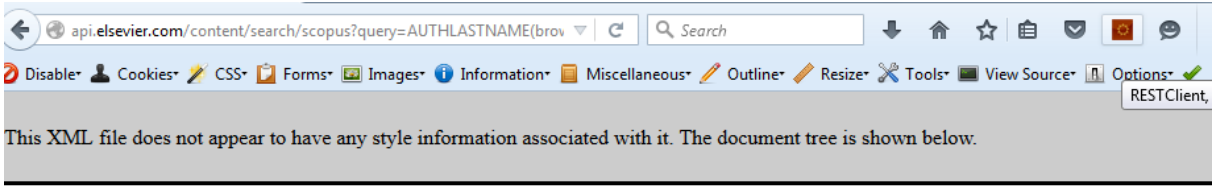
Example of an API Request

- I am looking to retrieve records from Scopus authored by anyone with the last name Brown written in Chemistry journals.

- I sign up for my developer key at http://dev.elsevier.com/myapikey.html
- I register a new project and read the documentation to learn how to structure the request

- https://api.elsevier.com/content/search/scopus?query=AUTHLASTNAME%28brown%29%20AND%20SUBJAREA%28CHEM%29&apikey=6ab3c2a01c29f0e36b00c8fa1d013f83

What does the output of an API Call look like?




```
- <search-results>
    <opensearch:totalResults>14446</opensearch:totalResults>
    <opensearch:startIndex>0</opensearch:startIndex>
    <opensearch:itemsPerPage>25</opensearch:itemsPerPage>
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      <link ref="scopus-citedby" href="http://www.scopus.com/inward/citedby.url?partnerID=HzOxMe3b&scp=84943279757&
      origin=inward"/>
```

Summarize: Scopus APIs power advanced integration & visibility

Scopus provides a variety of **APIs** (Application Programming Interfaces) to power integration of Scopus into outside sites. They make excellent tools to help you **showcase your publications**, **build search widgets for library pages**, or **mash up Scopus citation data with data from other APIs.**

- They are free to use for non-commercial purposes, as long as you honor our policies for content use through our APIs.
- You don't need to have a full subscription to Scopus to use our APIs, but if you have one, you'll be able to get more data from the APIs.
- If you work for, or on behalf of, an institution with a Scopus subscription you can request direct access to our APIs. For that, please register API key first and then contact us

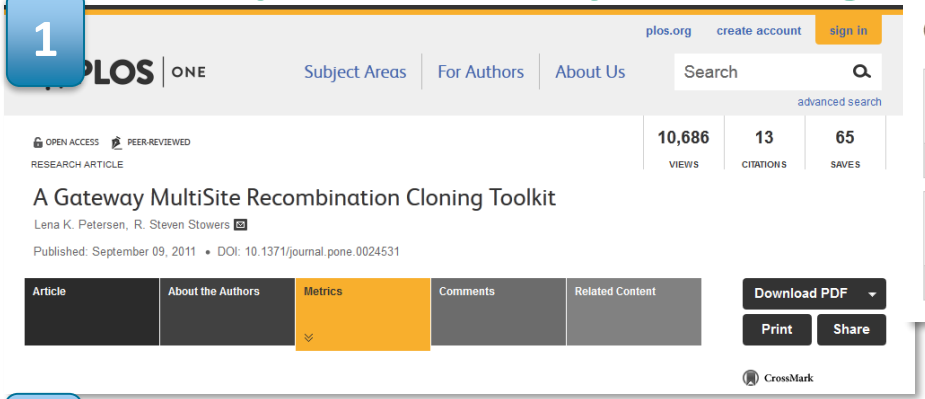
What are some common uses of Scopus APIs?

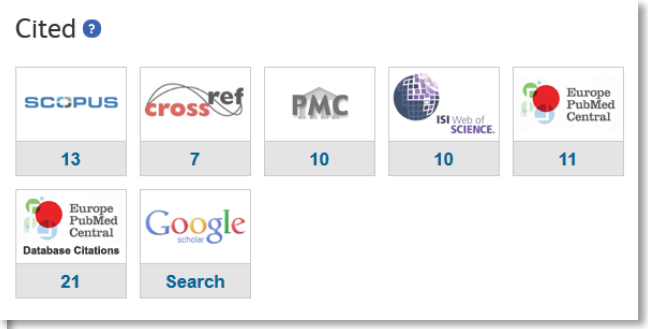
Cited-by retrieval
Retrieve the cited-by count for documents to incorporate into your website
Federated Search
Integrate search results from Scopus and ScienceDirect into your Federated Search application
See Examples:

- Scopus Citation Counts: http://eprints.hud.ac.uk/6352/
- Federated Search: Company Intranet, Sharepoint, & more.

A few quick Cited-By API Integration Examples

1





2

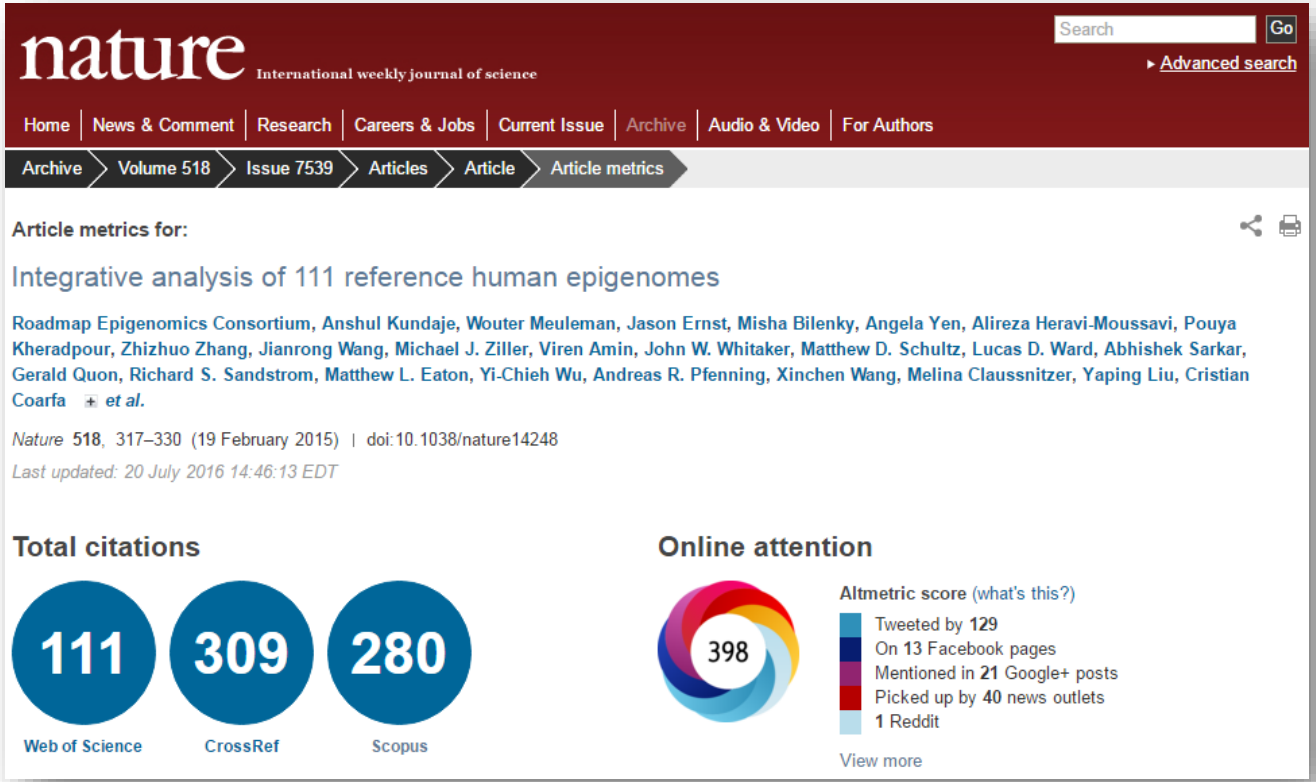
Links

- PLOS One: http://www.plosone.org/
- HKU Scholars Portal: http://hub.hku.hk/

Example of the Scopus API being used on a web page

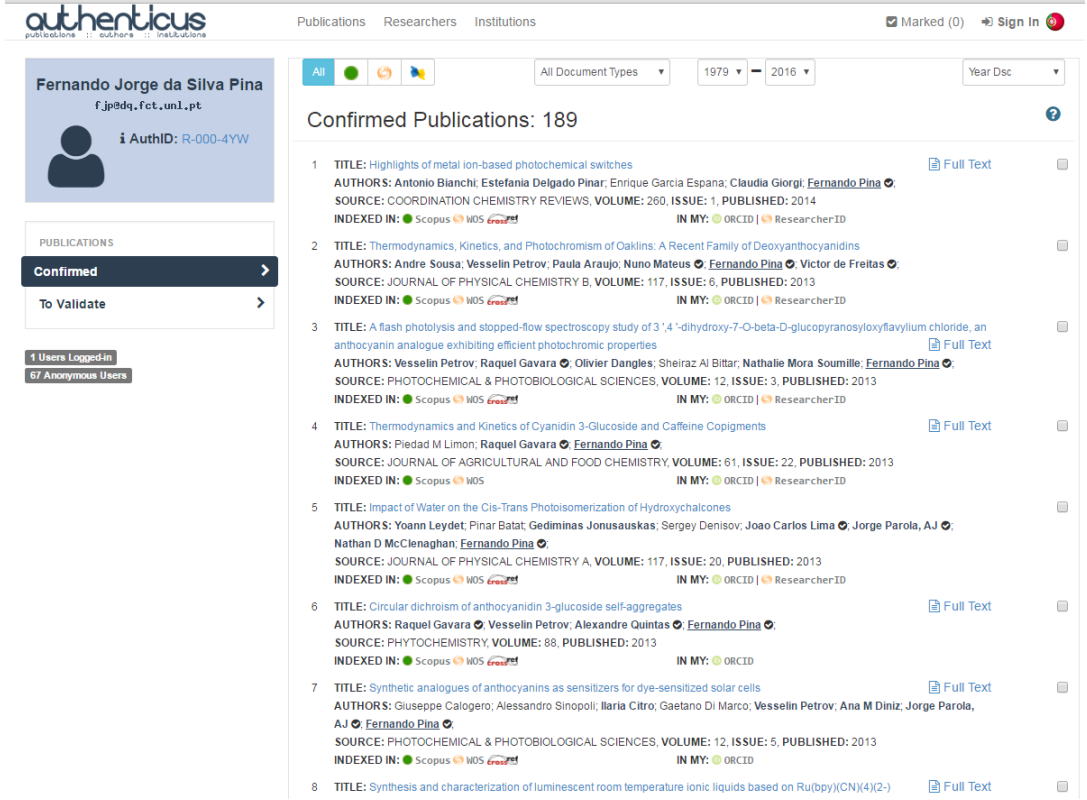
https://library2.lincoln.ac.nz/dashboard/

Example of the Scopus API being used on a web page



http://www.nature.com/nature/journal/v518/n7539/nature14248/metrics

Scopus APIs used in an Institutional Repository



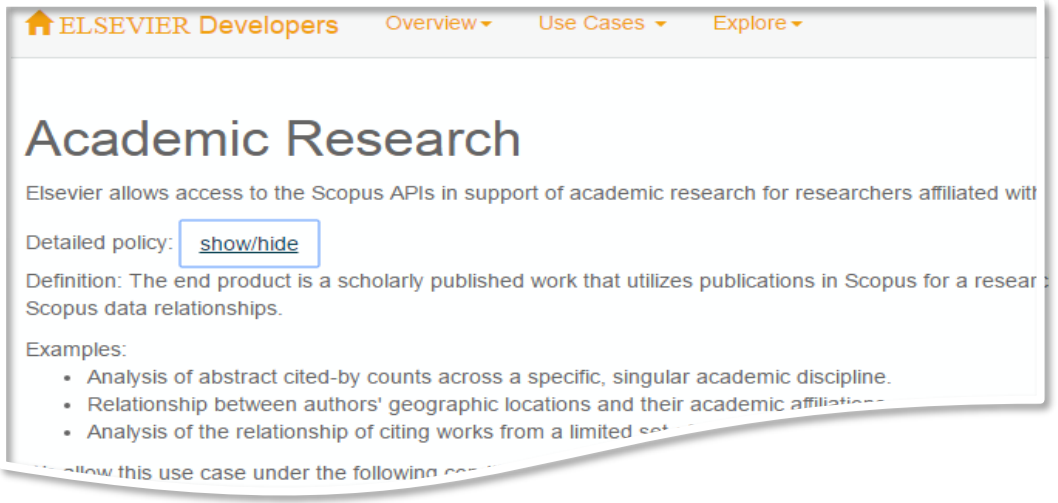
https://www.authenticus.pt/

Scopus API for Academic Research

Definition: The end product is a scholarly published work that utilizes publications in Scopus for a research effort.

Examples:

- Analysis of abstract cited-by counts across a specific, singular academic discipline.
- Relationship between authors' geographic locations and their academic affiliations.
- Analysis of the relationship of citing works from a limited set of publications.



Scopus API for Academic Research

Full details: dev.elsevier.com/academic_research_scopus.html

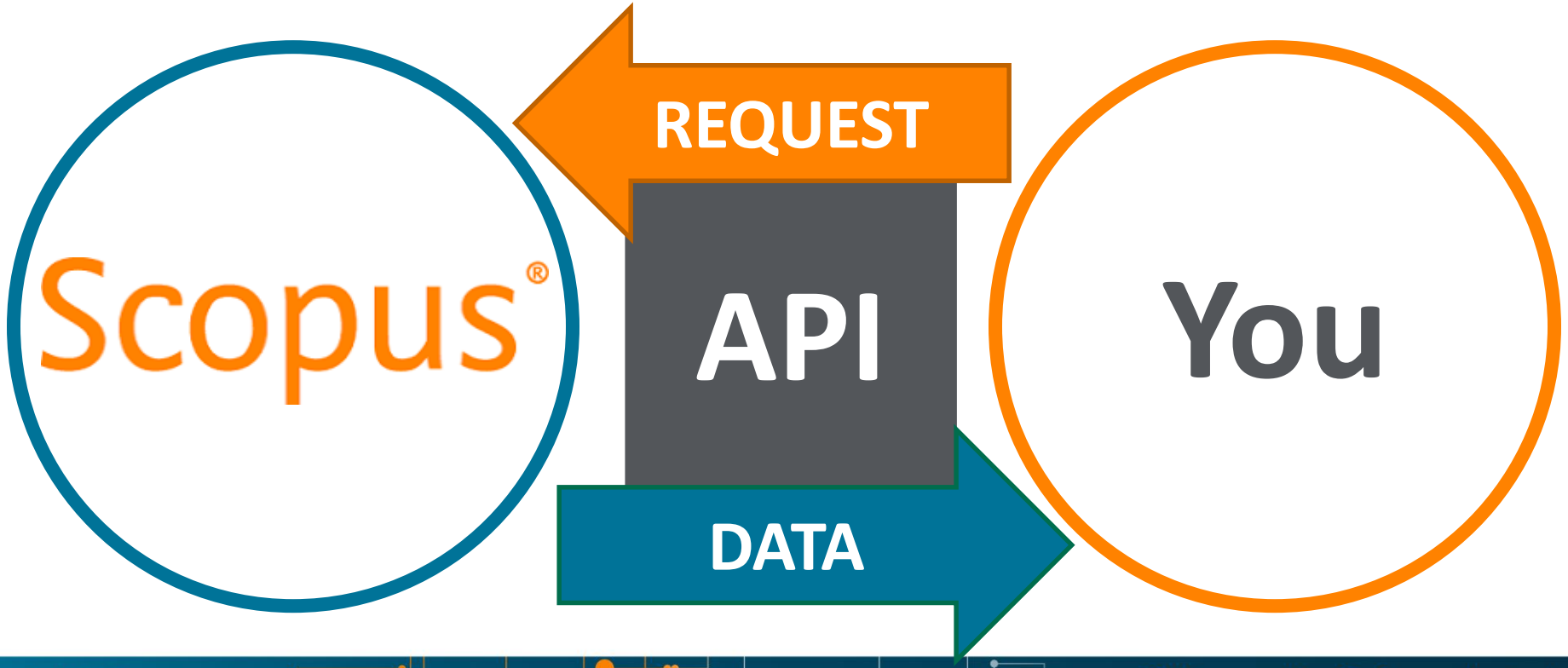
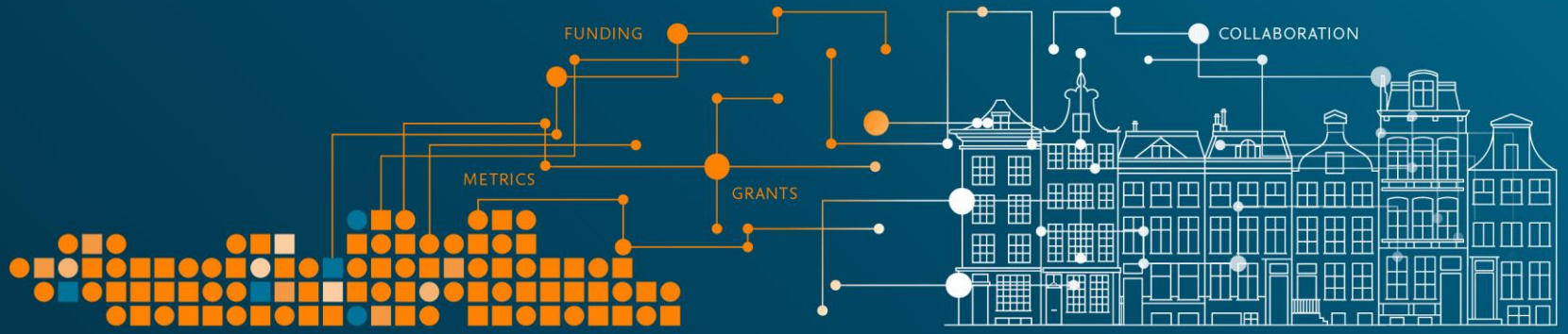
We ask researchers abide by the following conditions:

- Research is for academic purposes only & limited in scope to a specific discipline
- Retention of original research dataset is limited to archival purposes and reproduction of the research results.
- Scopus is identified as the data source.

IF YOU WANT TO USE SCOPUS DATA VIA API FOR ACADEMIC RESEARCH, PLEASE

1. VISIT DEV.ELSEVIER.COM
2. REVIEW ACADEMIC USE CASE DOCUMENTATION
3. REGISTER FOR AN API KEY AND
4. CONTACT US WITH ANY ACCESS OR USE QUESTIONS

Don’t forget, APIs are just a way for computer applications and programs to talk to each other.



Thank you!