Elsevier Research Intelligence

SciVal

Quick Reference Guide

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Empowering Knowledge™

Elsevier's new generation of SciVal offers quick, easy access to the research performance of 5,500 research institutions and 220 countries worldwide. A ready-to-use solution with unparalleled power and flexibility, SciVal enables you to navigate the world of research and devise an optimal plan to drive and analyze your performance.

Data source

SciVal is based on output and usage data from Scopus, the world's largest abstract and citation database for peer-reviewed publications.

The Scopus database covers over 30 million publications from 1996 until the present:
- 21,000 serials from 5,000 publishers. These include:
- 20,000 peer-reviewed journals
- 390 trade publications
- 370 book series
- 5.5 million conference papers

Additionally SciVal includes usage data from ScienceDirect the largest scientific full text database with more than 2,500 journals and 26,000 books.

Metrics

SciVal offers a broad spectrum of industry-accepted and easy-to-interpret metrics including Snowball Metrics ❄ which is a global standard metrics defined and agreed by higher education institutions for institutional strategic decision making through benchmarking.

Metrics in SciVal help the institutions to measure an institution's or a country's productivity, citation impact, collaboration, subject disciplinarity and more.

Build your views on the world's research

Visualize research performance

Access comprehensive research performance summaries of any desired research entities, identify their unique research strengths and multidisciplinary research areas.

- Retrieve at-a-glance, standardized reports instantly
- Access competency maps for all institutions and countries
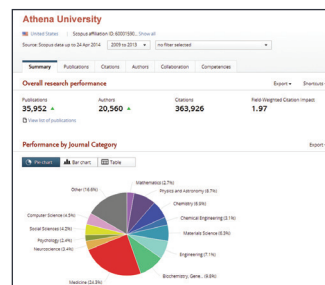
Benchmark your progress

Compare the performance of any institutions, countries, and pre-defined groups, or create your own research areas and monitor progress over time.

- Perform in-depth analyses to meet your specific objectives by selecting any combination of subject areas and metrics from a comprehensive set
- Identify your relative strengths and weaknesses to optimize your strategy

Develop collaborative partnerships

Identify and analyze existing and potential collaboration opportunities based on publication output and citation impact.

- Explore your institution's current and prospective partnerships on Google maps
- Identify your top collaborative institutions and co-authorship by drilling into specific subject areas and self-defined research topics
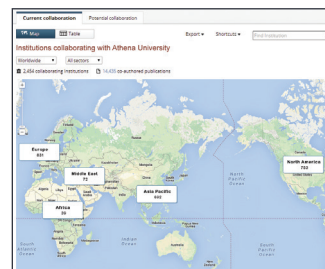
Analyze research trends

Analyze the research trends of any Research Area with citation and usage data, to discover the top performers, rising stars and current developments in the field.

- View the overall performance of a Research Area, then dig deeper into the activity and impact of the institutions, countries, authors and journals involved and adjust your research strategy accordingly
- Usage information complements citation data to give a more complete picture of research performance
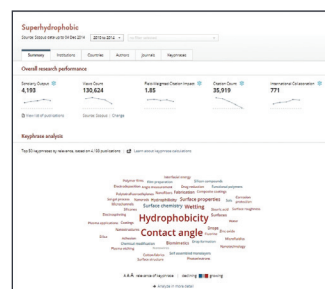
Visualize research performance

Comprehensive summaries of any desired research entities such as institutions, countries, research groups and topics.

1 **Overview tab** provides you with at-a-glance research performance overviews of any selected institutions, countries, research topics and more.

2 **Select entity panel** allows you to select any research entities from:

- Institutions and Groups
- Researchers and Groups
- Countries and Groups
- Research Areas and Groups

Add an institution or a country by typing the name in the search box, and SciVal will provide you with a list of pre-defined institutions, countries and groups to select from.

3 **Select year range** from:

- 3 years
- 3 years + current year
- 3 years + current year + beyond current year
- 5 years
- 5 years + current year
- 5 years + current year + beyond current year

4 **Filter subject area** using 27 top level and 334 lower level subject areas based on Scopus All Subject Journal Classification (ASJC).

5 **Metric themes' tabs** provide comprehensive understanding of the selected research entity based on:

- Summary
- Publications **6**
- Citations **7**
- Authors (for institutions and research areas) **8**
- Collaboration
- Competencies (circle map, matrix map)
- Institutions (for countries)

Benchmark your progress

Assess your relative strengths and weaknesses by making custom selections of research groups, indicators and subject areas to compare and benchmark against.
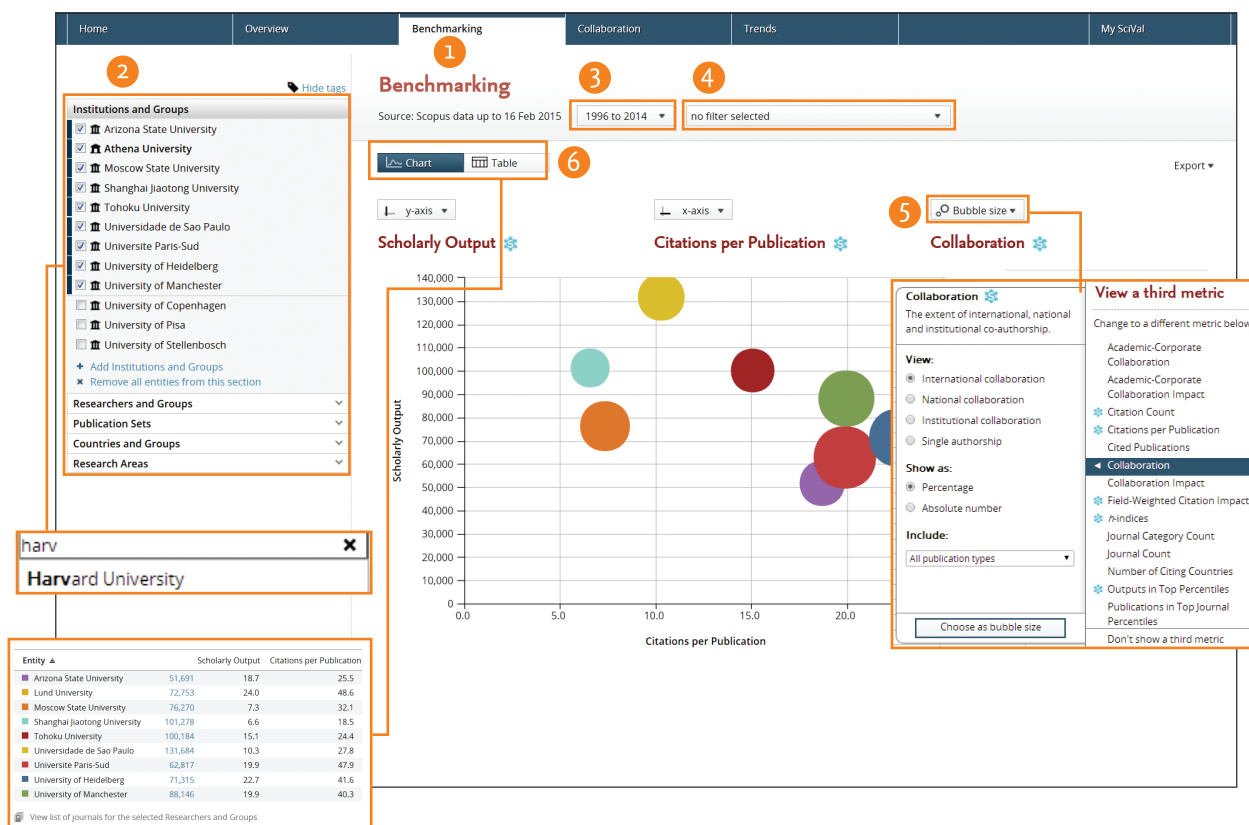
Select a country, region or "world" from *Country and Groups* to benchmark your relative performance, or create research areas using journals and subject classifications to benchmark against a research topic.

1 **Benchmarking tab** provides advanced capabilities to perform in-depth analyses by combining flexible set of entities and metrics.

2 **Using the entity panel**, select any desired combination of research entities you wish to benchmark.

Add institutions or countries by typing in the name, and SciVal will provide you with a list of pre-defined institutions and countries to select from.

Add researchers, publication sets, research areas and groups by creating your own (see pages 8 and onwards).

3 **Select year range** between 1996 and the current year.

4 **Filter subject area** using 27 top level and 334 lower level subject areas based on Scopus ASJC.

5 **Select any combination of metrics** from the pull down list.

6 **Switch view** between chart and table.

Identify and evaluate existing and potential collaboration partners

Get access to a list of institutions that you collaborate or have the potential to collaborate with. Start with a worldwide view of your institution's collaboration landscape, and then zoom in to individual collaborating institutions and researchers anywhere in the world.

1   **Current collaboration tab** helps you to explore existing collaboration opportunities providing ranking of institutes and authors based on output and impact related metrics.

     Potential collaboration tab identifies institutions that you haven't yet co-authored any publications with.

2   **Select map view** to understand an institution's existing collaboration landscape on Google maps.

3   **Click on each region to zoom in** and understand collaboration country wise or state wise.

4   **Select year range** from:
- 3 years
- 3 years + current year
- 3 years + current year + beyond current year
- 5 years
- 5 years + current year
- 5 years + current year + beyond current year

5   **Filter subject area** using 27 top level and 334 lower level subject areas based on Scopus ASJC or your self-defined **Research Areas.**

6 **Select table view** to access list of collaborating institutions.

7 **Search institutions** by name.

8 **Limit collaborating institutions by region, country and segments** using a drop-down box.

9 **Sort collaborating institutions by impact** using:
- Citations
- Citations per Publication
- Field-Weighted Citation Impact

10 **Select institutions** to:
- Assess output and impact of co-authored publications relative to performance of the entire institution
- View the subject area spread of co-authored publications

11 **Identify collaborating authors** from each institution and identify which authors collaborate with each other.

Evaluate your potential collaboration partners

Once you have identified potential institutions and researchers to collaborate with, you can:
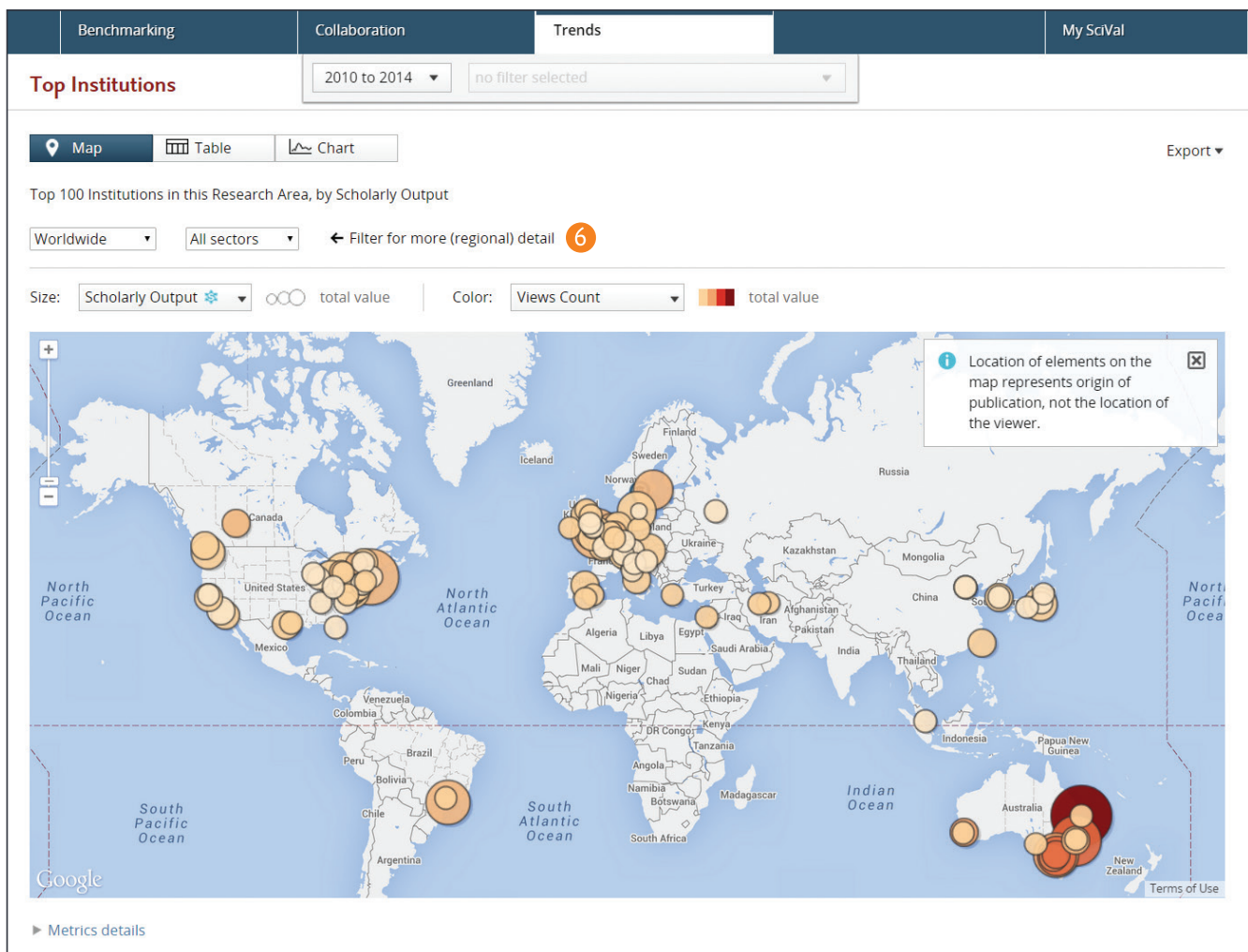
- Glance through overview module to:
  - gain comprehensive overview of selected institutions
  - specify top authors per subject field of your interest
  - explore the institution's research competencies

- Compare candidate institutions using benchmarking module to:
  - assess unique strengths of selected institutions by combining different metrics
  - test scenarios by modeling teams with selected researchers
  - benchmark performance against potential competitors

- Review their collaboration partners using collaboration module to:
  - find out if anyone from your institution have co-author relationship
  - understand the top collaborators per discipline and how beneficial those collaborations are

Analyze Research Trends

Analyze the research trends of any Research Area with citation and usage data, to discover the top performers, rising stars and current developments in the field.
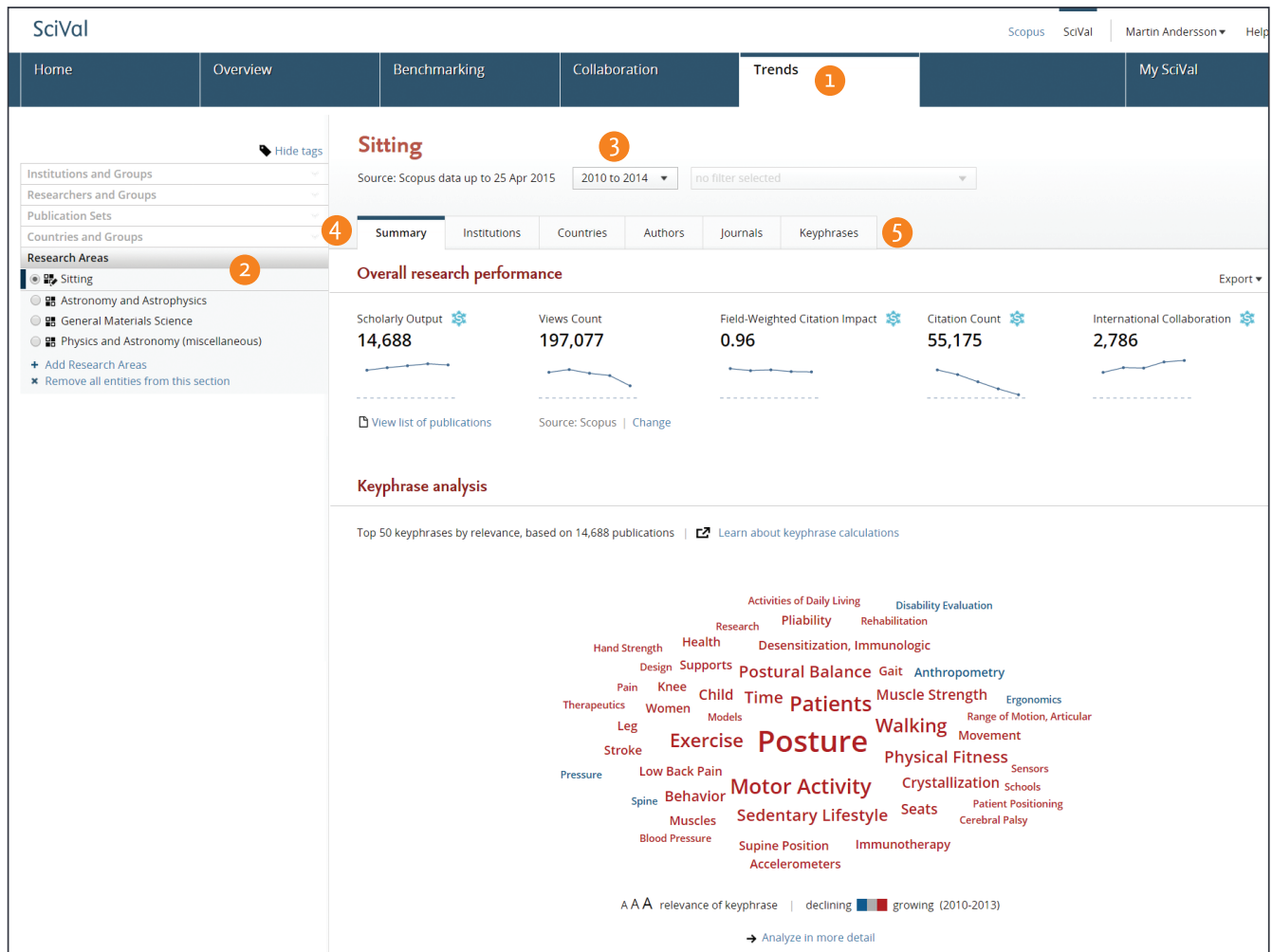
1. **Trends tab** provides the ability to perform advanced topic centric analysis of any Research Area with usage and citation data.

2. **Using the entity selection panel,** select the Research Area you wish to analyse. Either choose one you have defined or select from the 334 pre-defined Research Areas based on the Scopus journal classifications (ASJC).

3. **Select year range** from:
   - 3 years
   - 3 years + current year
   - 3 years + current year + beyond current year
   - 5 years
   - 5 years + current year
   - 5 years + current year + beyond current year

4. **Summary tab** provides an at-a-glance view of your Research Area. Key metrics at the top of the page highlight the overall research performance. The word cloud gives a visual description of the developments within the field.

5. **Entity tabs** provide comprehensive understanding of the selected Research Area based on:

6.
   - Institutions
   - Countries
   - Authors
   - Journals
   - Keyphrases

| Benchmarking | Collaboration | Trends | | My SciVal |

Top Institutions

| 2010 to 2014 ▼ | no filter selected ▼ |

📍 Map | ▦ Table | 〰 Chart | Export ▼

Top 100 Institutions in this Research Area, by Scholarly Output

Worldwide ▼ | All sectors ▼ | ← Filter for more (regional) detail ⑥

Size: Scholarly Output ❄ ▼ | ○○○ total value | Color: Views Count ▼ | ▮▮ total value

ⓘ Location of elements on the map represents origin of publication, not the location of the viewer. ⊠

▸ Metrics details

💡 **How are keyphrases calculated?**

SciVal uses the Elsevier Fingerprint Engine to extract distinctive keyphrases within the Research Area.

The text mining is done through applying a variety of Natural Language Processing techniques to the titles and abstracts of the documents in the Research Area in order to identify important concepts.

Concepts are matched against a set of thesauri spanning all major disciplines. For each document the distinctive keyphrases are selected based on Inverse Document Frequency (IDF), by incorporating a factor that diminishes the weight of words that occur frequently in the document set, and increases the importance of words that occur rarely. The top 50 keyphrases with the highest word weight are then selected to populate the word cloud for your choses Research Area.

Each keyphrase is then given a relevance between 0 and 1 with 1 given to the most frequently occurring keyphrase. Remaining keyphrases are given a value based on their relative frequency. The relevancy value dictates the size of the keyphrase in the word cloud.

Define your own Research Areas

SciVal offers a flexibility to define your own Research Areas, representing a field of research defined by you.

1 **Research Areas** can represent a strategic priority, an emerging area of science, or any other topic of interest using below as the building blocks:

2 **Search terms**
Search for publication sets using keyword(s)

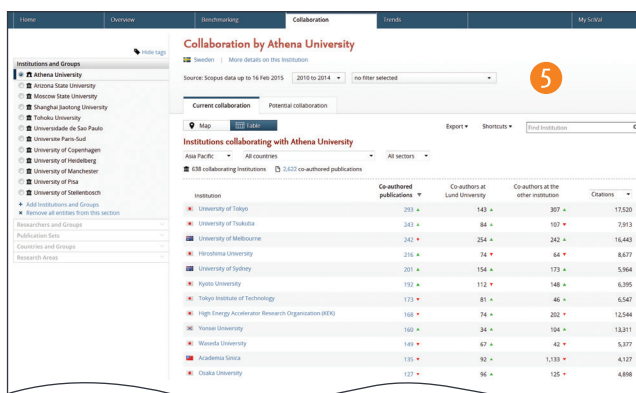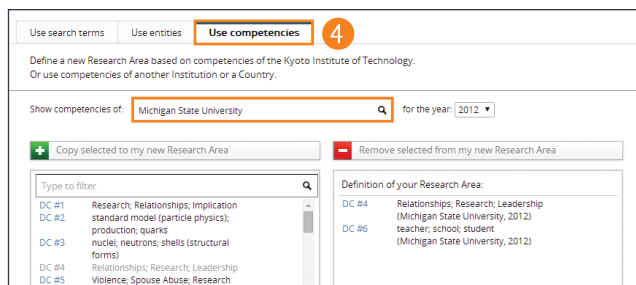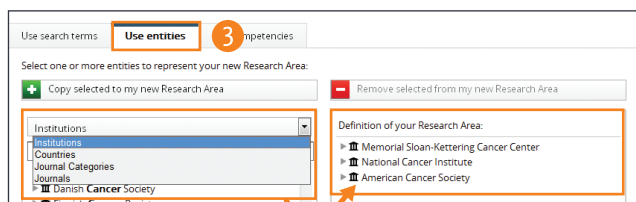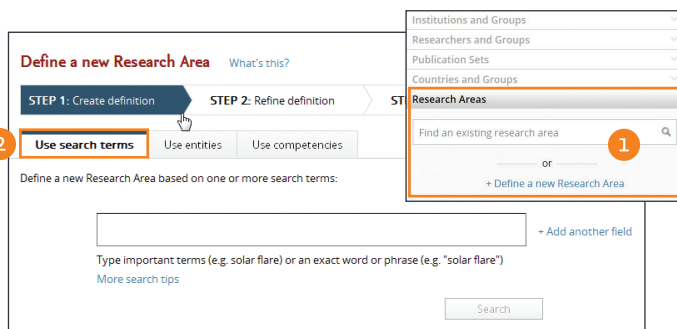**3** **Entities**
Select and combine any of the below
- Institutions (+ groups)
- Countries (+ groups)
- Journal categories
- Journals

4 **Competencies**
Select and combine competencies of any desired institutions or countries

Note: Computation of Research Areas with more than 1500 publications will take between 24-48 hours. You will be notified when the Research Area is available.

5 **Research Areas** will be made available **across the platform to:**
- Assess your institution's performance within the field
- Identify top institutions and keywords
- See the publication and citation trends
- Explore new and potential collaboration partners

Pre-defined entities

SciVal is a ready-to-use solution with access to pre-defined 5,500 institutions, 220 countries and groups.

Several groups of institutions and countries are made available such as EU27, US states, German Bundesländer and more.

Pre-defined Research Areas are available using the 334 subject areas based on Scopus All Subject Journal Classification (ASJC).

Define Researchers and Groups

SciVal allows you to assess "what if" scenarios by modeling your own team and comparing its performance against your peers.

Adding researchers from entity selection panel:
You can define researchers from entity selection panel by combining and refining Scopus pre-defined Author Profiles.

① **Define a new Researcher** by name search.

② **Select the author name variants** of the researcher you are looking for.

③ **Click Next step** and save your researcher or **Review publications** to refine author's publication list before saving. These changes will be reflected to Scopus within two weeks.

[Repeat to define each researcher.]

④ **Define a group of researchers** by selecting and combining your self-defined researchers.
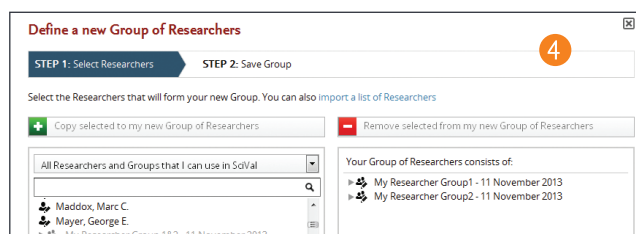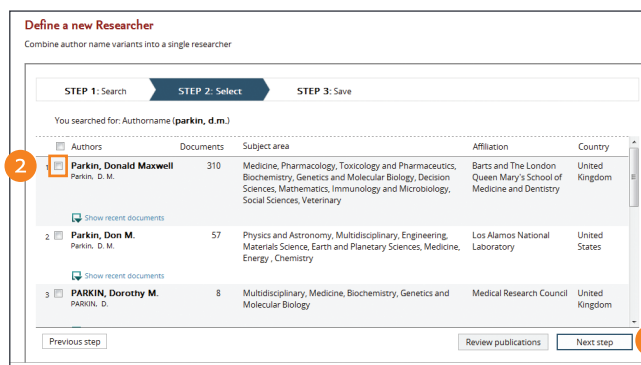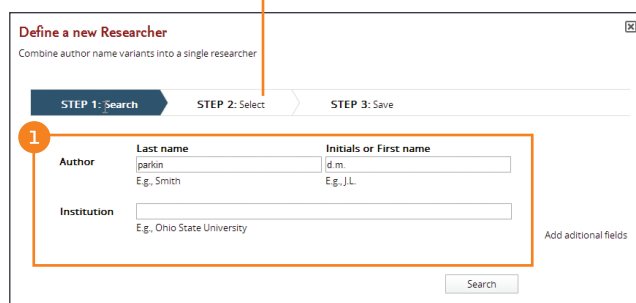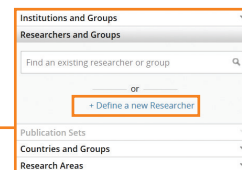
When you combine author name variants, these changes will be reflected in Scopus within 2 weeks. You can also review the list of publications that will be sent to Scopus for further refinement.

Define Researchers and Groups (continued)

Adding researchers from My SciVal:
My SciVal will allow you to view all your researchers
(self-defined or pre-defined by Scopus) where you can
choose, tag and add them to your entity panel.

1 **Select researchers** from the list or by name search.

2 **Click Add to entity selection panel.**

3 Select to **add researchers to your existing list**
or **replace them.**

4 **Clicking View in Benchmarking** will take you
directly to the benchmarking module.

5 **Click Add to panel.**
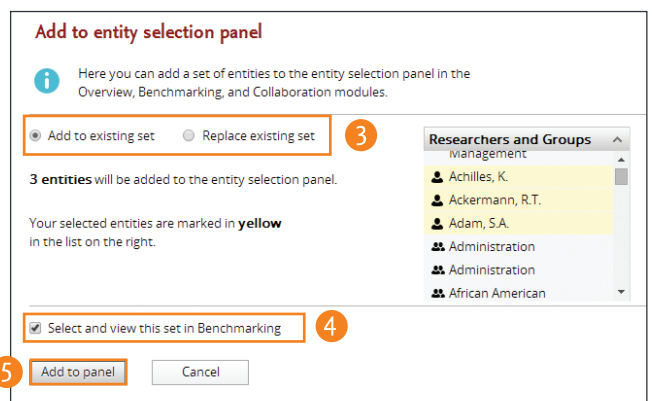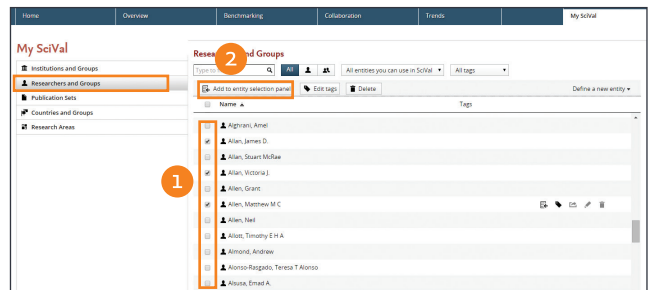
How is my team performing?

Once your research teams are defined, you can
benchmark against institutions, countries, or the
world's average using metrics such as Field Weighted
Citation Impact
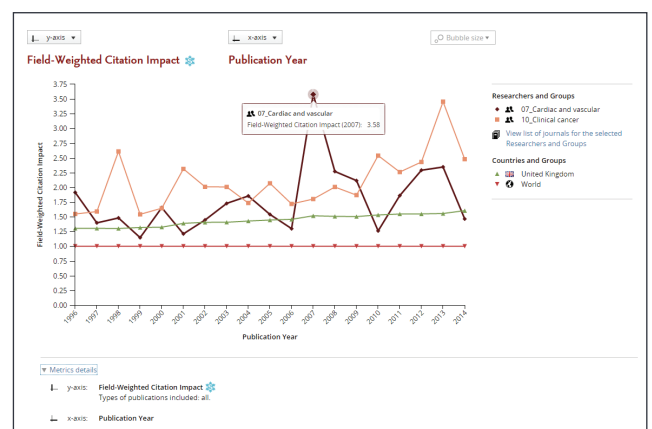
Importing researchers and groups:

You can upload up to 300 Scopus Author-IDs (one AU-ID per researcher) in one action rather than to create each researcher one-by-one.

1 **Click Define a new entity,** then **Import a list of Researchers** (text file).

2 **Click Create a new Group within these x researchers** to save them as a group.

3 **Save and Finish.**

Define Publication Sets and Groups

You can create publication sets which you can use for grant applications, performance assessment and project managements.

**Creating a subset of Researcher's publications:**
You can select publications from your researcher's publication history to create a group.

1 **Click to Define a new Publication Set**

Note: You need to have pre or self-defined researchers added to your select-entity panel to activate this menu.

2 **Select a Researcher** from your list.

3 **Select your desired publications** and save.
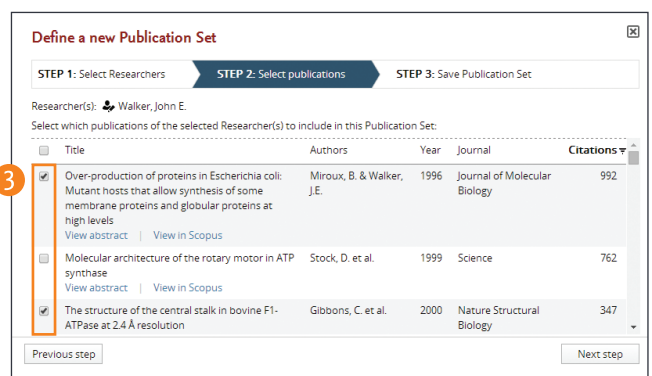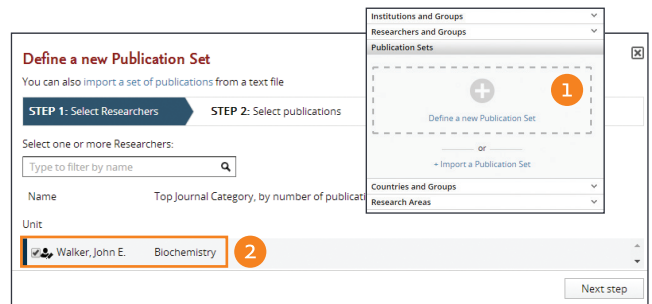

Importing publication lists:
In case you have a set of publications that cannot be retrieved by keyword search, you can now upload them to SciVal.

1 **Go to My SciVal**, select **Publication Sets** from select-entity panel, then click **Define a new entity** and select **Import a Publication Set**.

2 Select ID format and upload text file.

- **Scopus EID**
  Unique identifier assigned to all of Scopus records.

- **PubMed ID**
  Unique identifier assigned to PubMed records.

- **DOI (Digital Object Identifier)**
 Unique identifier assigned to a digital object such as journal articles.

3 **Confirm publications** and save.
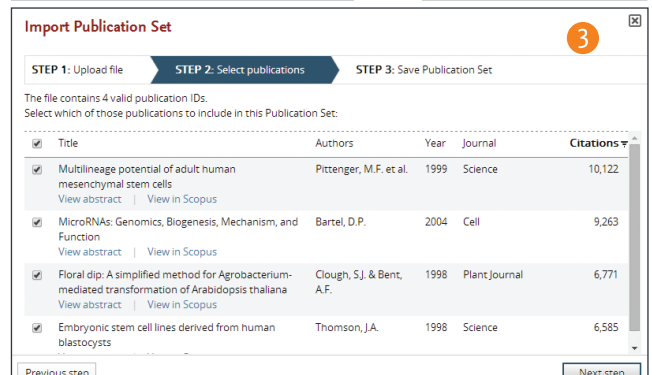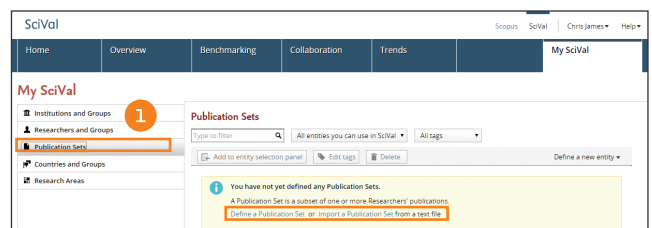
Managing My SciVal

My SciVal can be used to manage large number of researchers and other entity types as well as to easily browse, filter, tag and move entities to the entity-selection panel.

1 **Add tags** by departments and projects to manage researchers and research groups with ease.

2 **Add researchers** to select-entity panel, **import researchers and publication sets** using your own list.

3 **View groups of countries and institutions.**

4 **Edit Research areas by adding more search terms or applying more filters.**
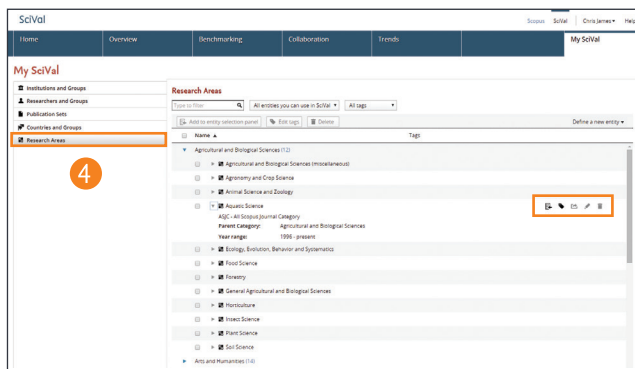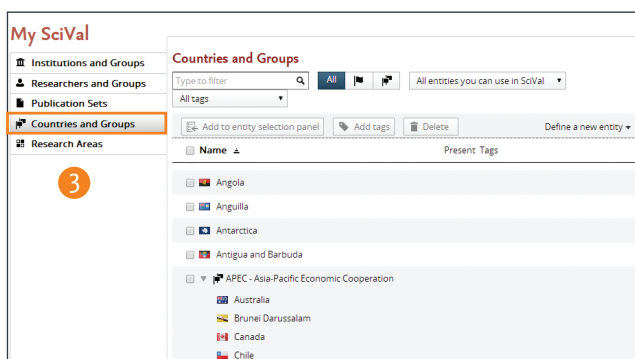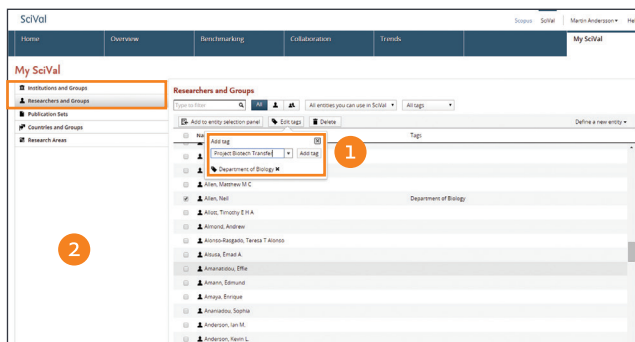
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