中央研究院
ACADEMIA SINICA

# 學術職涯好幫手

## Useful Tool for Your Research Careers

### – InCites Benchmarking & Analytics

Joint Library of Humanities and Social Sciences, Academia Sinica
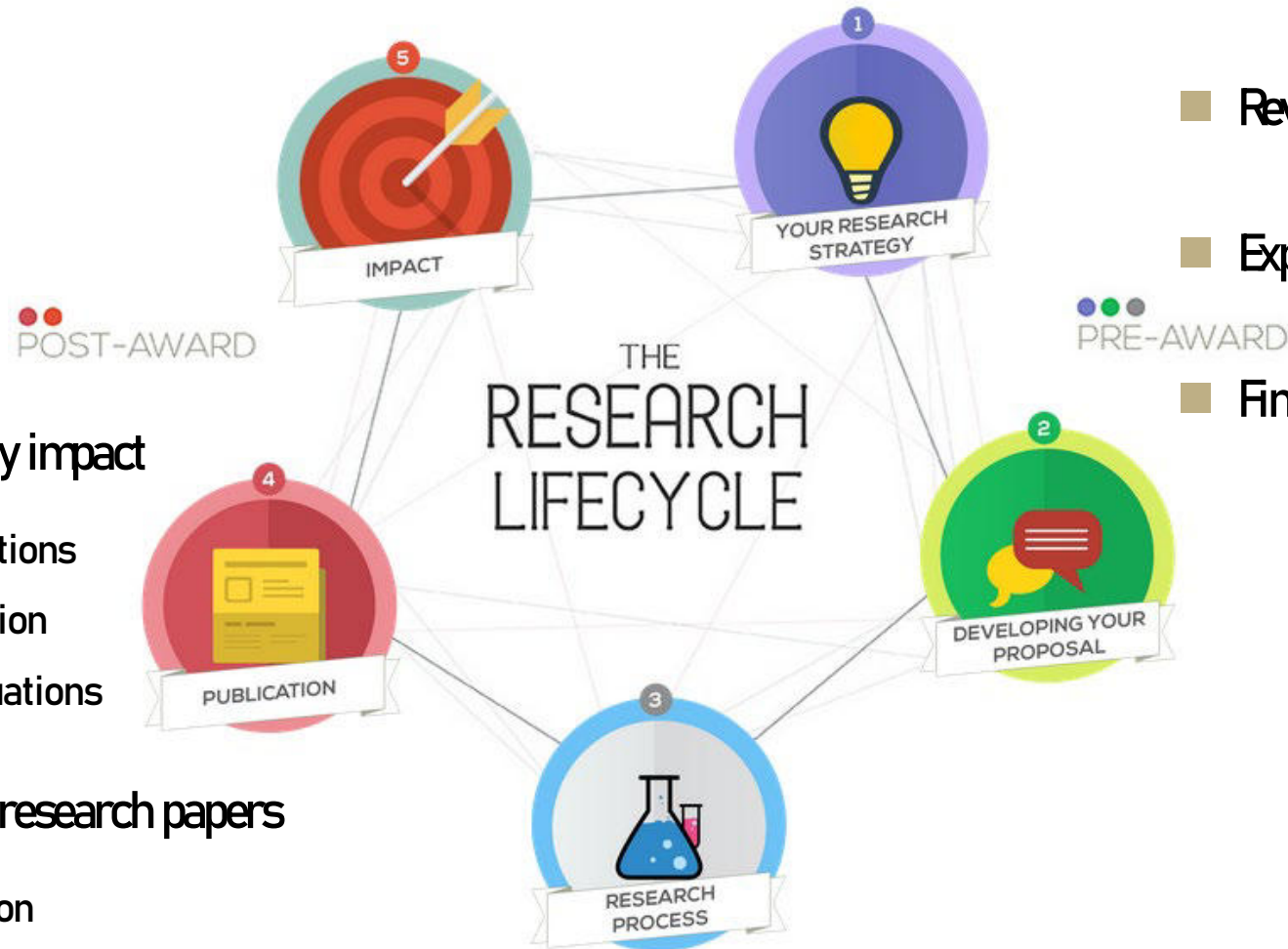
Chiu-Hsun Lin (林秋薰)

2024.11.21

TAIWAN

# Applications in the Research Lifecycle

- Collect literatures on topics

- Review the current status of research

- Explore future development directions

- Find out potential collaborations / funds

POST-AWARD

PRE-AWARD

THE RESEARCH LIFECYCLE

IMPACT

YOUR RESEARCH STRATEGY

PUBLICATION

DEVELOPING YOUR PROPOSAL

RESEARCH PROCESS

- Support for scholarly impact
  - Project applications
  - Faculty promotion
  - Research evaluations

- Assist in publishing research papers
  - Journal selection
  - Author keyword strategy

# 01

## Collect & Explore

# 02

## Journal Selection

# 03

## Research Performance

# 01

Collect
& Explore

- Collect literatures by multi-approach

- Review the current status of research

- Explore future development directions

# Web of Science

- Register an account within the IP domain and by Email Address of Academia Sinica.
- Set up VPN Service when outside Academia Sinica.
- Use the same login account and password as Web of Science, Journal Citation Report, EndNote, InCites, etc.
- Default Scope and Editions in Web of Science (WoS).

# Collect literatures from WoS – Basic Search (1)

## Search Tips 1:

- Choose specific terms that are closely related to your research topic, including terms you might use when discussing your topic with a colleague such as jargon, synonyms, and abbreviations.

- Use Boolean operators (AND, OR, NOT) to limit, broaden, or eliminate terms from your search.

- Use quotation marks (" ") around words to search for an exact phrase.

- Use truncation and wildcards to broaden your search.

  - Add an asterisk (*) to replace multiple characters in a word (eg. biol* returns biology, biologist)

  - Add a question mark (?) to replace a single character (e.g. disrupt?rs for disrupters and disruptors)

  - Add a dollar sign ($) to replace one or zero characters (eg. odo$r for odor and odour)

# Collect literatures from WoS – Basic Search (1)

## Search Tips 2:

synonyms、related term、broad term、narrow term

① Title + Abstract + Keywords

② Cited References + Citation + Related Records
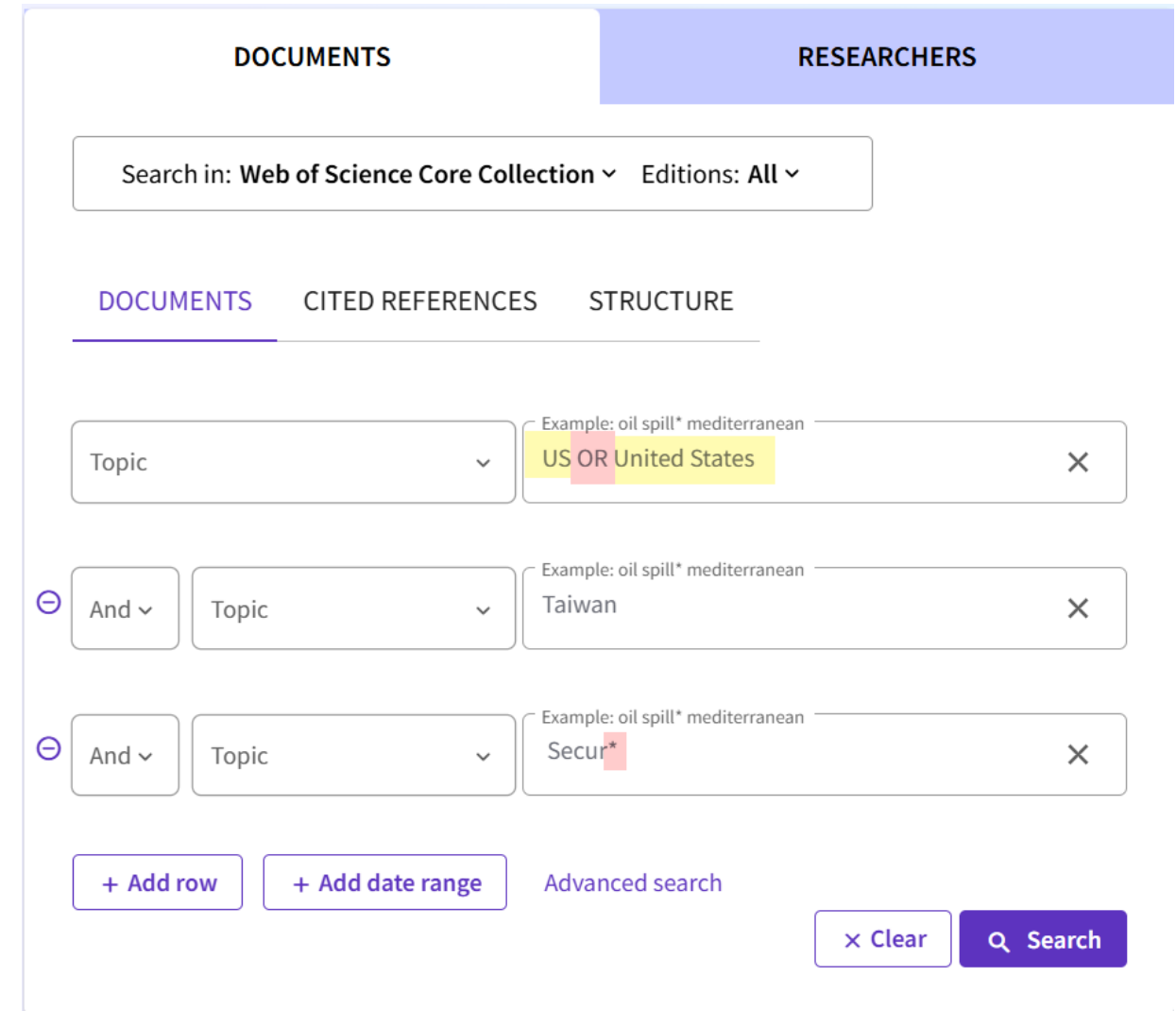
# Collect literatures from WoS – Basic Search (2)

Christina Lai, "US-Taiwan Relations and the Future of the Liberal International Order," The US Army War College Quarterly: Parameters 54 (1), 51-69, 2024. (peer-reviewed)



Practice! Broaden this search

# Collect literatures from WoS – Advanced Search

- **Web of Science: Advanced Search:**

  https://libguides.mssm.edu/webofscience/advancedsearch.

- **Demo for building query and combining sets:**

  Christina Lai, "US-Taiwan Relations and the Future of the Liberal International Order," The US Army War College Quarterly: Parameters 54 (1), 51-69, 2024.

- Searching for publications of institutes:

  **(AD=(Acad Sinica SAME Inst Linguist)) OR**

  **(AD=(Acad Sinica SAME Inst Iurisprudentiae)) OR**

  **(AD=(Acad Sinica SAME Inst Polit Sci)) OR**

  **(AD=(Inst Sociol SAME Acad Sinica))**



Please add your institution name and address of Academia Sinica when submitting the manuscript, if possible.

# Review the research in WoS – Analyze Results

# Review the status of research in WoS – Citation Reports
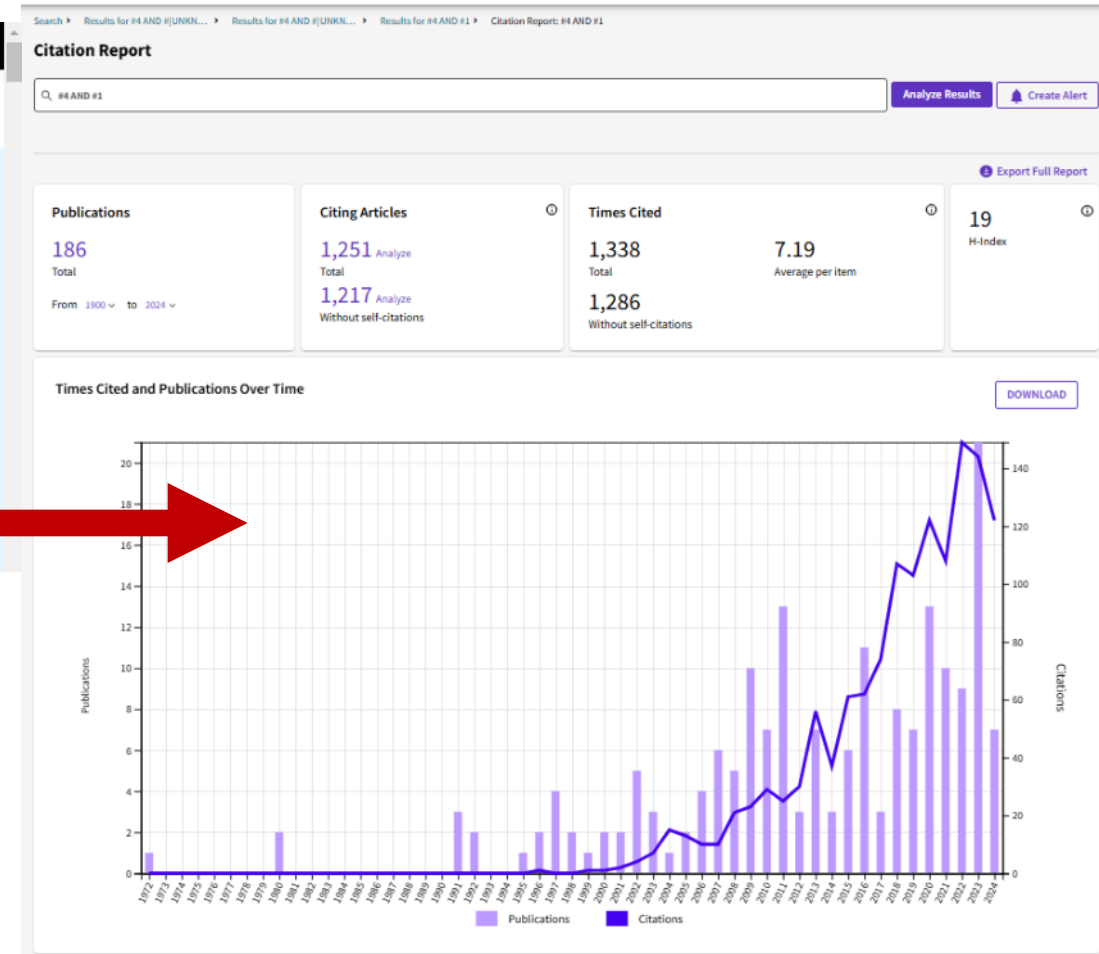
# InCites Benchmarking & Analytics (InCites)
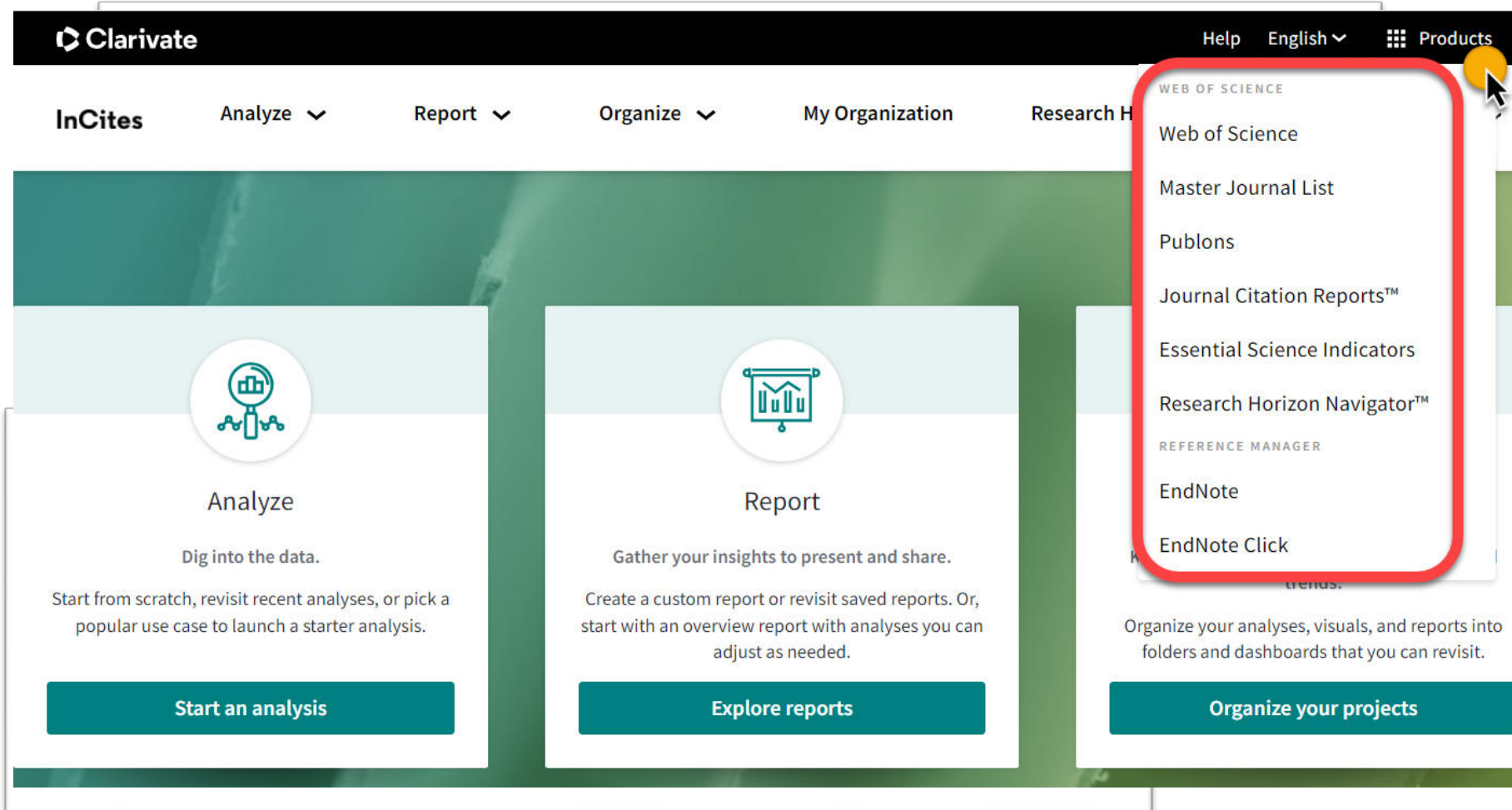


- Purchased by [Academic Affairs and Instrument Service](#)
- InCites Source Data：selected Web of Science Core Collection data
- Year： 1980 – present
- Updated Frequency ： Monthly

# InCites – Landing page

# Additional information: Research Area Schemas

## Web of Science Categories    vs.    InCites Citation Topics

**Web of Science Categories**

- Journal-level classification.
- Every journal is assigned to at least 1 to 6 subject categories.
- All items in a journal will be assigned the same categories of the journal it is published in.
- Approximately 250 subject areas in science, social sciences, and arts & humanities.

**InCites Citation Topics**

- Document-level classification.
- Documents are only assigned to a single topic.
- Each month, new documents are added to existing topics. A full clustering update is carried out yearly.
- three-level hierarchical classification system：Macro (10 topics)、Meso (326 topics)、Micro (2449 topics)
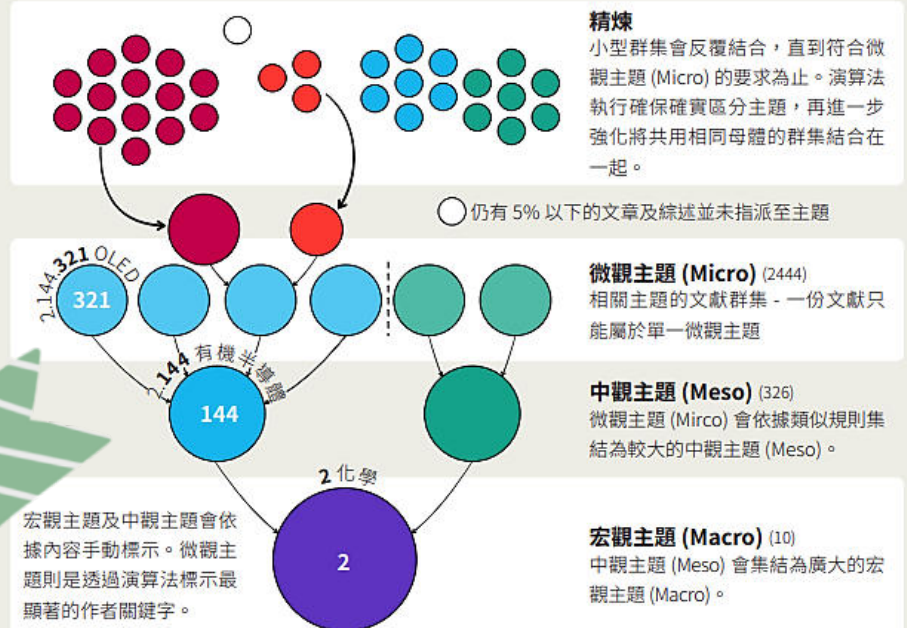
InCites Citation Topics

In Chinese：InCites Citation Topics 介紹

In English: InCites Benchmarking & Analytics_Using InCites_Research Area Schemas

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Citation Topic 是指依據文獻引文關係所集結而成的文獻群集。群集演算法是由萊頓大學 (Leiden) 科學技術中心 (CWTS) 開發，並在科睿唯安 (Clarivate) ISI 團隊的管理下實作。其中可產生三個層級的命名主題，使用者可在任何分析之中選擇自己所需的詳細程度。

主題涵蓋 Web of Science 核心合輯自 1980 年以來的所有文獻類型。新文獻會每月新增至現有主題（依據其引用參考資料），完整 Citation Topic 主題分類更新則是每年一次。這並不會影響現有主題，但可能會建立新的主題，並將部分文獻重新指派至不同的微觀主題，以確保 Citation Topic 反映基礎文獻的各種變化。

**群集**
文獻會依據其受引用及參考文獻的關係集結為群集（包括 1980 年之前文獻的引用）。演算法也納入各項規則，確保將高比例的文獻集結為群集。

**精煉**
小型群集會反覆結合，直到符合微觀主題 (Micro) 的要求為止。演算法執行確保確實區分主題，再進一步強化將共用相同母體的群集結合在一起。

○ 仍有 5% 以下的文章及綜述並未指派至主題

**微觀主題 (Micro)** (2444)
相關主題的文獻群集 - 一份文獻只能屬於單一微觀主題

**中觀主題 (Meso)** (326)
微觀主題 (Mirco) 會依據類似規則集結為較大的中觀主題 (Meso)。

**宏觀主題 (Macro)** (10)
中觀主題 (Meso) 會集結為廣大的宏觀主題 (Macro)。

宏觀主題及中觀主題會依據內容手動標示。微觀主題則是透過演算法標示最顯著的作者關鍵字。

2,144,321 OLED    321
144 有機半導體
2 化學

**更新**
新文獻每月會依據其引用參考資料新增至現有主題，完整的 Citation Topic 更新則是一年一次。

# Additional information: Category Normalized Citation Impact (CNCI)

CNCI of a document is calculated by dividing an actual citation count by an expected citation rate for documents with the same document type, year of publication, and subject area. When a document is assigned to more than one subject area, the harmonic average is used. The CNCI of a set of documents is the average of the CNCI values for all of the documents in the set.

Category Normalized Citation Impact (CNCI) in detail

In Chinese：InCites 常用指標手冊

In English ：Indicators Handbook

For a single paper assigned to multiple subjects, the CNCI can be represented as the average of the ratios for of actual to expected citations for each subject area:

$$CNCI = \frac{\sum \frac{c}{e_{f(n)td}}}{n} = \frac{\frac{c}{e_{f(1)td}} + \frac{c}{e_{f(2)td}} \ldots + \frac{c}{e_{f(n)td}}}{n}$$

For a group of papers, the CNCI value is the average of the values for each of the papers:

$$CNCI_i = \frac{\sum_i CNCI_{each\ paper}}{p_i}$$

| Equation Key | |
|---|---|
| e | Expected citation rate or baseline |
| c | Times cited |
| p | Number of papers |
| f | The field or subject area |
| t | Year |
| d | Document Type |
| n | The number of subjects to which a paper is assigned |
| i | Entity being evaluated (institution, country/region, person, etc.) |

# Review the status of research in InCites (1)

Analyze by **Research Area**

→ **Meso = Political Science**

- **Filters**
  - — Publication Date
  - — Document Type
  - — Research Area
- **Indicators**
  - — CNCI
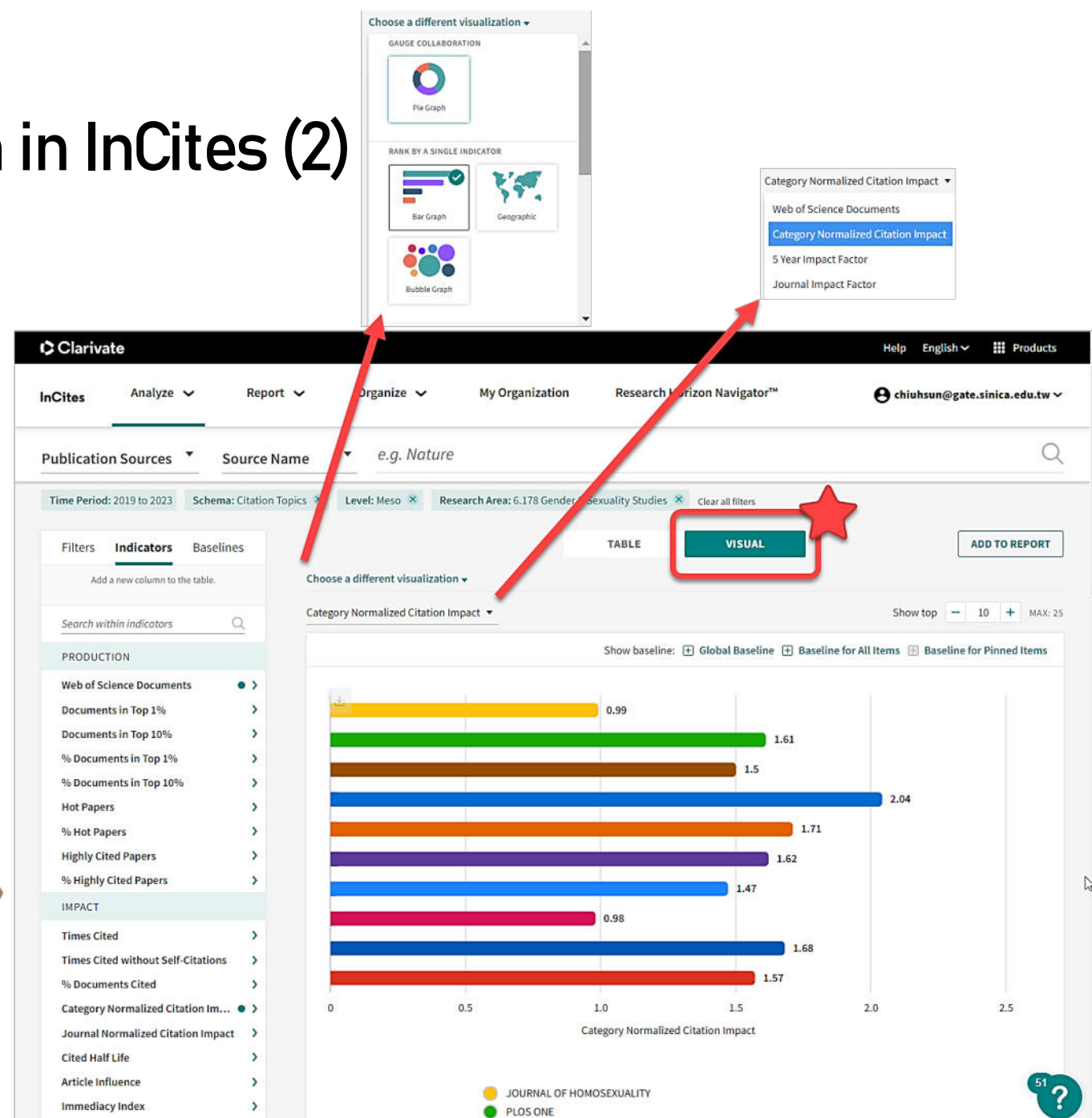  - — JIF Quartile **only for publication date 1997–**
  - — International Collaborations

# Review the status of research in InCites (2)



## Practice!

1. Choose any research area you are interested

2. Publication Date: 2019-2023

3. Document Type: Article、Review

4. Choose any indicators you are interested

5. Visualization data according to your selected Indicators

# InCites – Research Horizon Navigator

- New Module in InCites launched on June, 2024

- Select last five years of articles, reviews, and conference proceedings documents in the Web of Science Core Collection.

- Updated monthly.

- Co-Citation Analysis to cluster core papers and co-citing papers.

A **core paper** is a highly cited paper ranking in the top 1% by citations received in the same field, year of publication, and document type and published within the past 5 year.

A **co-citing paper** is a paper that cites two or more of the core papers. The average publication year for co-citing papers must be 2.5 years or less.
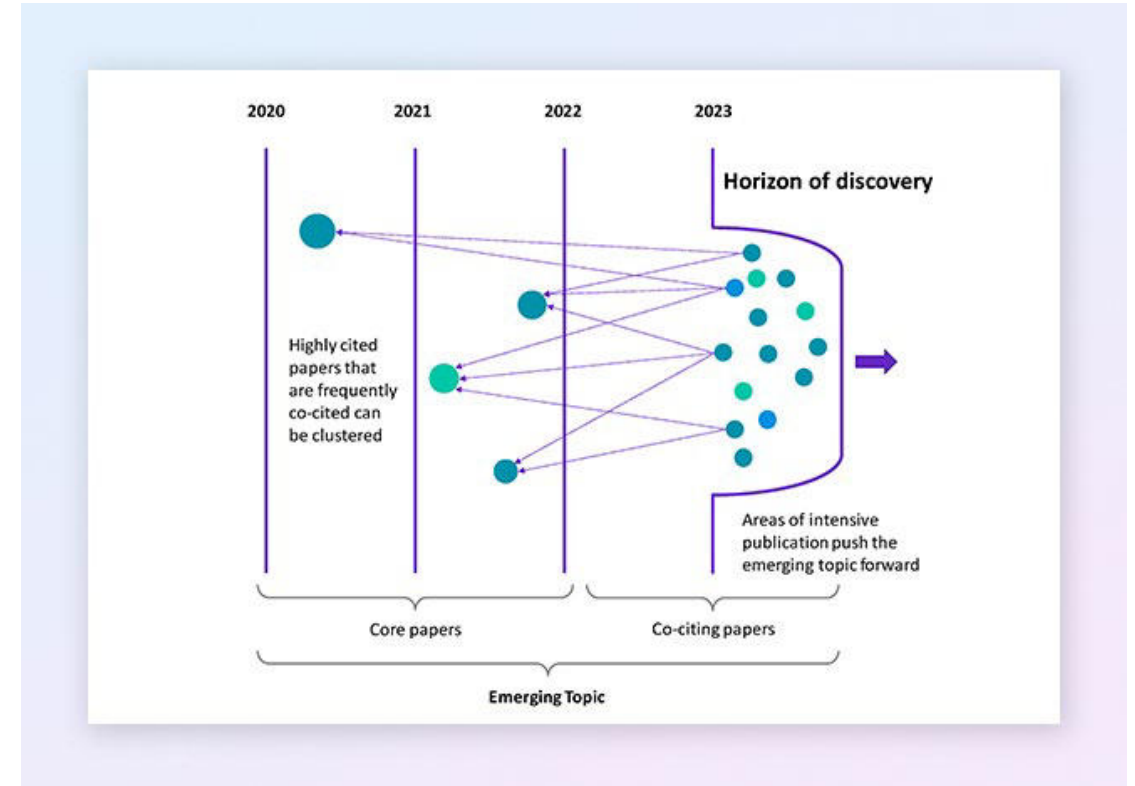


**Emerging Topic**
Rapid publishing and citation activity around a set of papers indicates that the research community is coalescing around the Emerging Topic, pushing it forward.

# Explore future development directions – Research Horizon Navigator

Primary Category: Political Science

Emerging Topic: US-China Strategic Competition: Technology, Economy, and Sovereignty

# Explore future development directions – Research Horizon Navigator

Primary Category: Political Science

Emerging Topic: US–China Strategic Competition: Technology, Economy, and Sovereignty

# 02

## Journal Selection

# Journal Selection by InCites Dataset



1. Analyze by: **Publication Sources**

2. Dataset: InCites Dataset

3. Filters:

   — Publication Date: 2019-2023

   — Document Type: Article、Review

   — Research Area: Citation Topics for Meso level = international relations

   — JIF Quartile: Q1 & Q2

4. Indicators:

   — WoS Documents

   — CNCI

   — % Documents in Top %

   — % International Collaborations

5. Sort by

# Journal Selection by search results you queried from WoS

1. **Search from WoS**

   Query: (((TI=(US OR United States) AND TI=(China OR Mainland OR Chinese)) AND TS=(Taiwan)))
   OR (((TI=(US OR United States) AND TI=(Taiwan)) AND TS=(China OR Mainland OR Chinese)))

2. **Export to InCites**

# Journal Selection by search results you queried from WoS



3. Analyze by: **Publication Sources**

4. Dataset: Dataset created by yourself

5. Filters:
   — Publication Date: 2019-2023
   — Document Type: Article、Review
   — Research Area: Citation Topics for Meso level = international relations
   — JIF Quartile: Q1 & Q2

6. Indicators:
   — WoS Documents
   — CNCI
   — % Documents in Top %
   — % International Collaborations

7. Sort by

# Journal Selection by search results you queried from WoS



58 publication sources (72 documents)  Find in table ▾  Sorted by Web of Science Documents ▾  ⊞ Add indicator  ⬇ Download

| ☐ Publication Source Name ⋯ | Web of Science Documents ⬍ ⋯ | Category Normalized Citation Impact ⋯ | % Documents in Top 10% ⋯ | % International Collaborations ⋯ | % All Open Access Documents ⋯ | JIF Quartile ⋯ |
|---|---|---|---|---|---|---|
| ☐ BULLETIN OF THE ATOMIC SCIENTISTS | 4 | 1.87 | 25% | 0% | 25% | Q2 |
| ☐ JOURNAL OF CHINESE POLITICAL SCIENCE | 3 | 0.84 | 0% | 0% | 66.67% | Q1 |
| ☐ CHINA REVIEW-AN INTERDISCIPLINARY JOURNAL ON GREATER CHINA | 3 | 0.24 | 0% | 0% | 0% | Q1 |
| ☐ PACIFIC REVIEW | 3 | 0.49 | 0% | 0% | 0% | Q1 |
| ☐ INTERNATIONAL JOURNAL OF TAIWAN STUDIES | 2 | 0.13 | 0% | 0% | 0% | Q2 |
| ☐ ASIAN SURVEY | 2 | 0.38 | 0% | 0% | 0% | Q1 |
| ☐ KOREAN JOURNAL OF DEFENSE ANALYSIS | 2 | 0.25 | 0% | 0% | 0% | Q4 |
| ☐ JOURNAL OF ASIAN AND AFRICAN STUDIES | 2 | 0.29 | 0% | 0% | 0% | Q2 |
| ☐ JOURNAL OF CONTEMPORARY CHINA | 2 | 0.24 | 0% | 0% | 0% | Q1 |
| ☐ RELIGIONS | 1 | 0 | 0% | 0% | 100% | n/a |
| ☐ KOREA OBSERVER | 1 | 0 | 0% | 0% | 0% | Q3 |
| ☐ ASIAN EDUCATION AND DEVELOPMENT STUDIES | 1 | 0.21 | 0% | 0% | 0% | Q1 |
| ☐ JOURNAL OF ENVIRONMENTAL MANAGEMENT | 1 | 3.8 | 100% | 0% | 0% | Q1 |

3. Analyze by: **Publication Sources**

4. Dataset: Dataset created by yourself

5. Filters:
   — Publication Date: 2019-2023
   — Document Type: Article、Review
   — Research Area: Citation Topics for Meso level = international relations
   — JIF Quartile: Q1 & Q2

6. Indicators:
   — WoS Documents
   — CNCI
   — % Documents in Top %
   — % International Collaborations
   — JIF Quartile

# Journal Selection by trend data



There is a new filter option available inside the Publication Sources filter, available in all the explorers, that allows to filter the analysis according the items inside a collection.
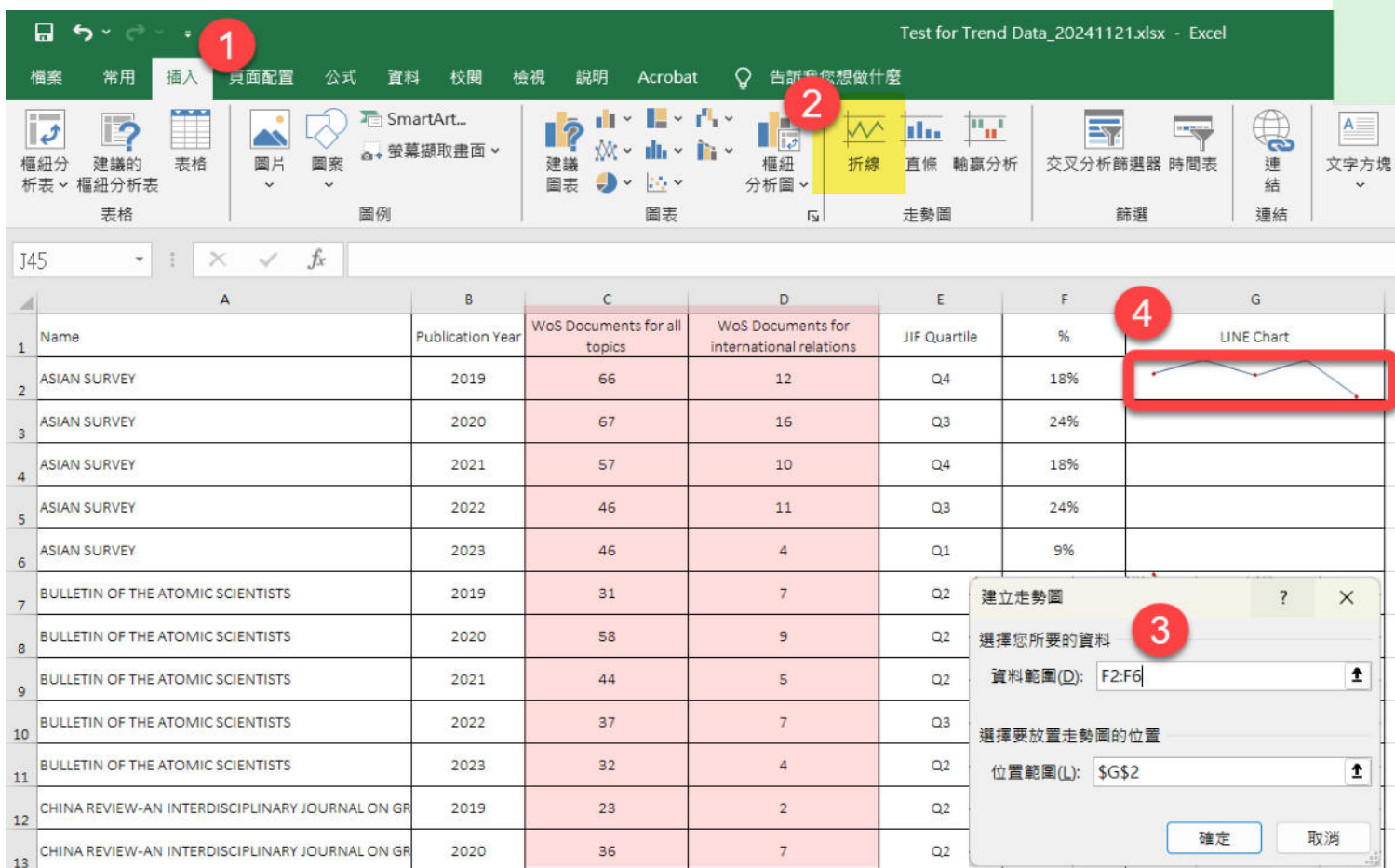
# Journal Selection by trend data



Download csv: Trend Data (exporting year- by - year data for up to 251 records)

# Journal Selection by trend data

# 03

## Research Performance

- Quantitative Indicators

- Interdisciplinary

- SDGs

# Quantitative Indicators

- WoS Documents
- CNCI
- JIF or JIF Quartile
- % International Collaboration
- % Open Access

— Visual storytelling betters than words.

— Quantitative data is not everything, but more convincing.

## Quick glance for scholarly outputs in 1980-2020
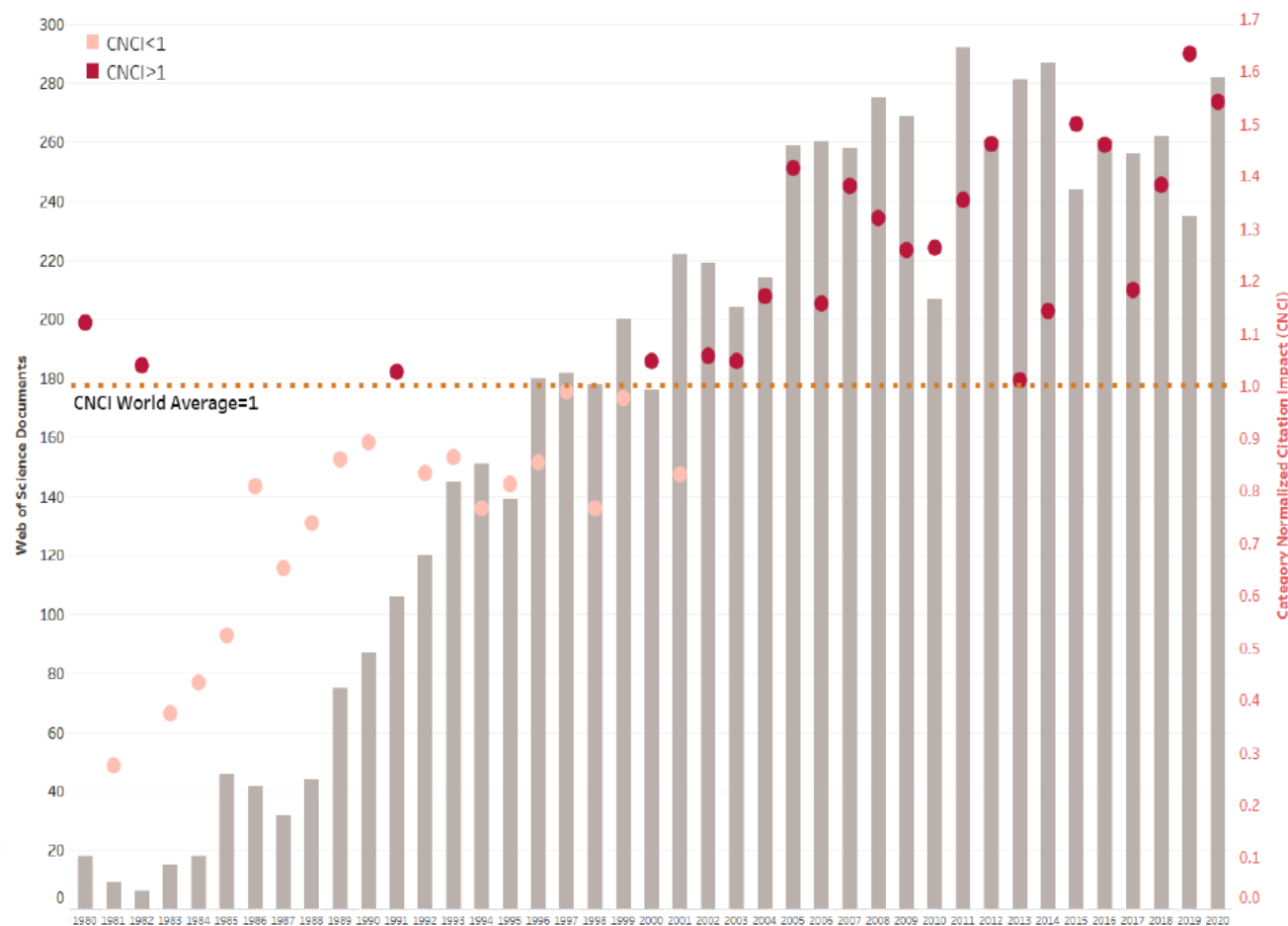
# Interdisciplinary – Research Area of Papers

- Interdisciplinary of Research Topics
- Potential Development
- Cross-domain Collaboration



**Citation Topics 主題分類**

InCites 資料庫提供 Citation Topic 主題分類，其以文章中的引用與被引的研究主題、Author Keywords 等資訊，以 AI 自動演算方式將文章進行主題分類，每篇文章給定一個主題分類，共分三層級：Macro(10 個)、Meso (326 個)、Micro (2444 個)。

研究主題文獻集 1,457 篇最多篇數歸類於 Citation Topics Meso 層級的 Soil Science，依次為 Forestry、Oceanography, Meteorology & Atmospheric Sciences。右圖 4 進一步提供更細分之 Micro 層級的 Citation Topics 及論文篇數供參。

# Interdisciplinary – Research Area of Citing References

■ Collect Citing Articles from <u>WoS</u> → Export to InCites for Analysis.



Some citing articles are not included in WoS collection that AS are authenticated to use.

# Interdisciplinary – Research Area of Citing References

- Potential Development

- Research Impacts



Topics papers

6 Topics

Citing References papers

47 Topics

Academic Impact
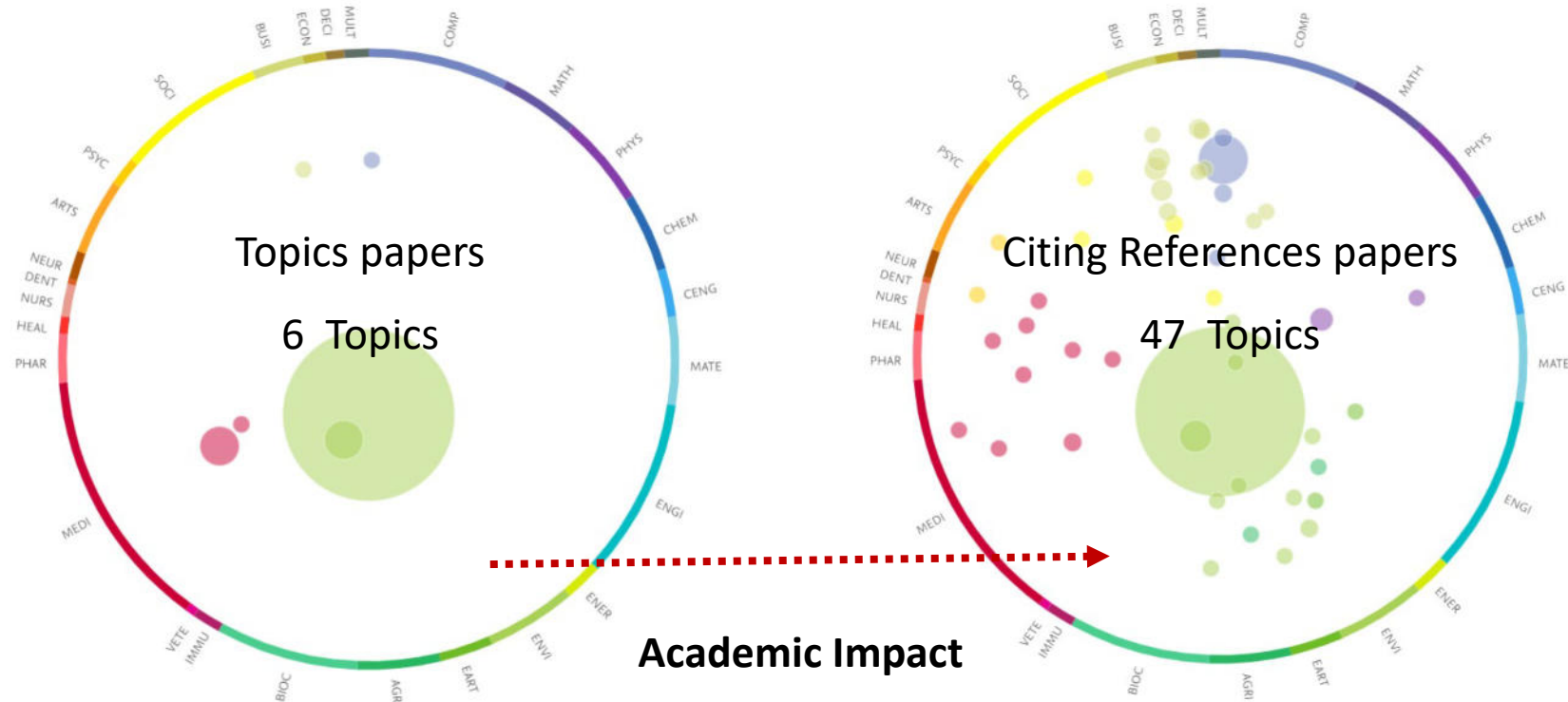
# Sustainable Development Goals (SDGs)

- Assessing the impact of research and its practical value can be achieved by SDGs.

- Once research contributes to achieving SDGs, publishing output related to them is equally important as they allow to disseminate findings, such as complex development challenges, generated renewed commitments to address them, and practical means for effective implementation to balance economic, social, and environmental dimensions, to the community.

- Even authors find that SDG-related research and publications have a potential to influence the reputation and publicity of universities/institutions and thus have far-reaching impact on society.

Armitage C.S., Lorenz M., Mikki S. (2020). Mapping scholarly publications related to the Sustainable Development Goals: Do independent bibliometric approaches get the same results? Quantitative Science Studies, 1(3), 1092–1108.

United Nations. (2015). Transforming our world: The 2030 Agenda for Sustainable Development. Retrieved December 2, 2019, from https://sustainabledevelopment.un.org/post2015/transformingourworld

# Sustainable Development Goals (SDGs)

## 1. Collect DOI of papers from WoS → Export "excel"

Note: InCites can also analyze SDGs, but Scival's steps are simpler.

# Sustainable Development Goals (SDGs)

## 2. Import DOI into SciVal.

# Sustainable Development Goals (SDGs)

## 3. Collect SDGs from SciVal

# Sustainable Development Goals (SDGs)

## 4. SDGs Statistics

# Insight for your research！

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