



# 打造世界級學府、展現學術實力之 世界大學排名座談會

## Building World-Class Universities: Strategies for Institutional Capacity Building

# Research intelligence solutions SciVal and Pure

Rita Ho

Research Management Solution Manager, Elsevier Taiwan

台灣愛思唯爾 研究管理解決方案經理 何蕙菩

[r.ho@elsevier.com](mailto:r.ho@elsevier.com)

Empowering Knowledge

# How Elsevier support your university research

Elsevier Research Intelligence

Promotion of  
academic research  
加強學術研究



- Understand **research capabilities** of your university comparing peers
- Achieving **outstanding research** of the world's highest level in specific areas
- Retain & hire **best-in-class researchers**

Increase of  
international  
collaboration  
增加國際合作



- Identify **collaborators** and evaluate academic results
- **Promote** your university research for researchers and departments

Efficiency of  
university research  
management  
有效研究管理



- **Aggregate** your organization's research information from numerous sources
- Understand research status for **departments and researchers**

SciVal

學術競爭力

Pure

學校專家人才庫

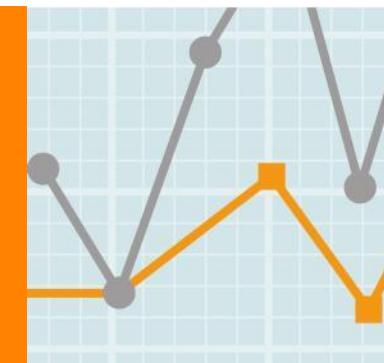
Scopus

The largest abstract and citation database of peer-reviewed research literature from around the world.



**Scopus**

The broadest source of global  
scientific research: SCOPUS



Empowering Knowledge

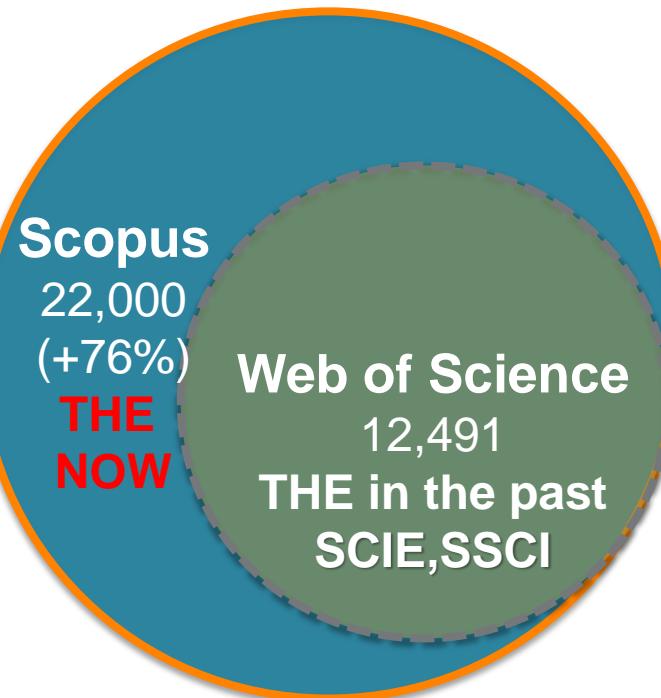
# What's the difference THE changed data source?

## Scopus

~22K titles

>5,000 publishers

Updated daily



## WEB OF SCIENCE™

~12K titles

3,300 publishers

Updated weekly

### Scopus

7,410 (+78%)

WoS  
4,188

### Scopus

6,740 (+97%)

WoS  
3,415

### Scopus

4,436 (+50%)

WoS  
2,954

### Scopus

7,684 (+90%)

WoS  
4,016

Physical Sciences

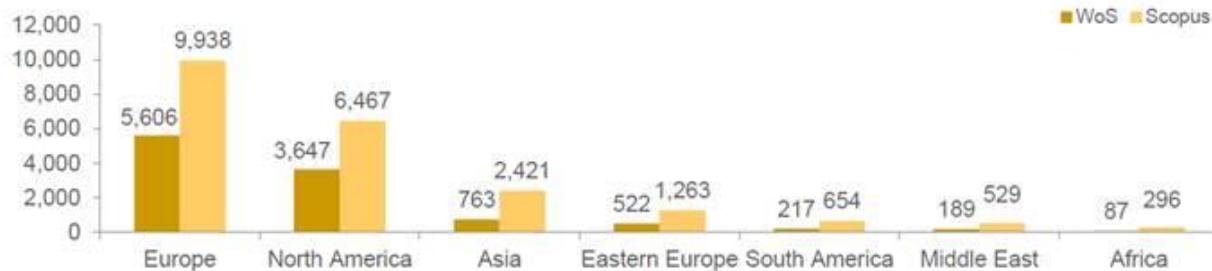
Health Sciences

Life Sciences

Social Sciences

# Added value of Scopus' broad coverage: more accurate view of the Global research landscape

## Scopus vs. WoS article indexing



Regions	% more articles Indexed by Scopus vs. WoS
Europe	77%
North America	77%
Asia	217%
Eastern Europe	142%
South America	201%
Middle East	180%
Africa	240%
Total	96%

Significantly high indexing  
of research articles in  
emerging research hubs

- 美國地區以外的資料，「非英語系」國家高品質研究文獻
- 涵蓋範圍廣，較具全球代表性；紀錄各校學術產出的研究質量脈絡
- 來自5000個出版社; 105個國家地區，40種當地語言文獻

# Broad coverage does not mean poor standards

同儕審查機制，獨立的內容審查與諮詢委員會



- Titles are selected by the independent Content Selection & Advisory Board (CSAB)
- The CSAB is chosen for their expertise in specific subject areas; many have (journal) Editor experience

**Focus on quality through content selection by the independent CSAB, because:**

- Provide accurate and relevant search results for users
- No dilution of search results by irrelevant or low quality content
- Support that Scopus is recognized as authoritative
- Support confidence that Scopus “reflects the truth”

# What content does Scopus include?

Times Higher Education partners with Elsevier  
Scopus data and SciVal analytics to be used for the 2015 Times Higher Education World University Rankings



**Physical Sciences**  
7,410

**Health Sciences**  
6,740

**Social Sciences**  
7,684

**Life Sciences**  
4,436

## JOURNALS 同儕審查期刊

**20,874** peer-reviewed journals  
**367** trade journals

- Full metadata, abstracts and cited references (references for post-1996 only)
- >2,800 fully Open Access titles
- Going back to 1823
- Funding data from acknowledgements

## CONFERENCES 會議論文

**77K** events  
**6.4M** records (12%)  
Conf. expansion:  
**1,000** conferences  
**6,000** conf. events  
**400k** conf. papers  
**5M** citations

Mainly Engineering and Physical Sciences

## BOOKS叢書

**421** book series  
- **28K** Volumes  
- 925K items

**50,114** books  
- 462K items

**Books expansion:**  
**75K** books by 2015  
- Focus on Social Sciences and A&H

## PATENTS 專利

**24M** patents from 5 major patent offices

WO  
USPTO  
EPO  
JPO  
IPO(UK)

科技部已將Scopus加入計畫學術著作資料(C302)的資料庫  
研究人員可採用Scopus數據作為其發表文章引用之依據

# 學術研究完整性，協助學者了解其研究領域發展現況 Scopus

TITLE-ABS-KEY (ebola virus) | 編輯 | 儲存 | 設定通知 | 設定饋送

3,035 個文獻搜尋結果 | 查看次要文獻 | 查看 262 個專利搜尋結果 | 分析搜尋結果

排序對象：日期 施引

在搜尋結果內搜尋... | CSV匯出 | 查看引文概覽 | 查看「施引文獻」 | 更多...

精簡 | 限制範圍 | 排除

分析搜尋結果

1 Emerging infectious disease of wildlife - Threats to biodiversity and human health Daszak, P., Cunningham, A.A., Hyatt, A.D. 2000 Science

View at Publisher

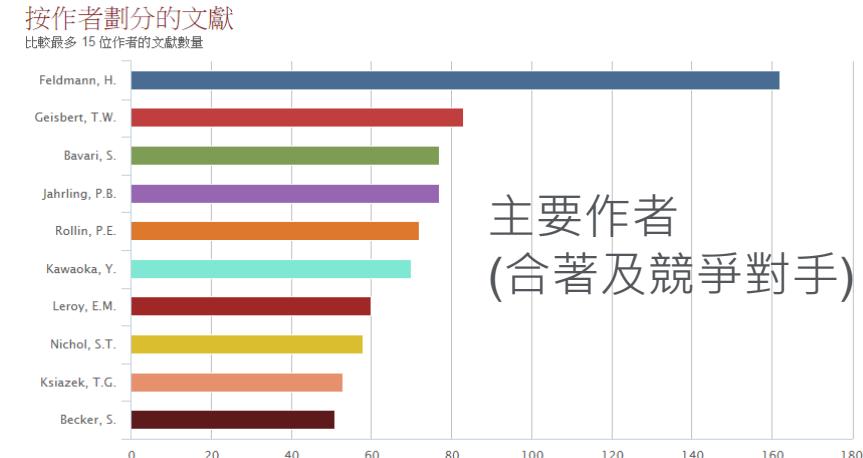
2008 Nature

009 Nature Reviews Drug Discovery

TITLE-ABS-KEY (ebola virus) | 返回您的搜尋結果

3035 文獻搜尋結果 選擇要分析的日期範圍：1977 到 2015 | 分析

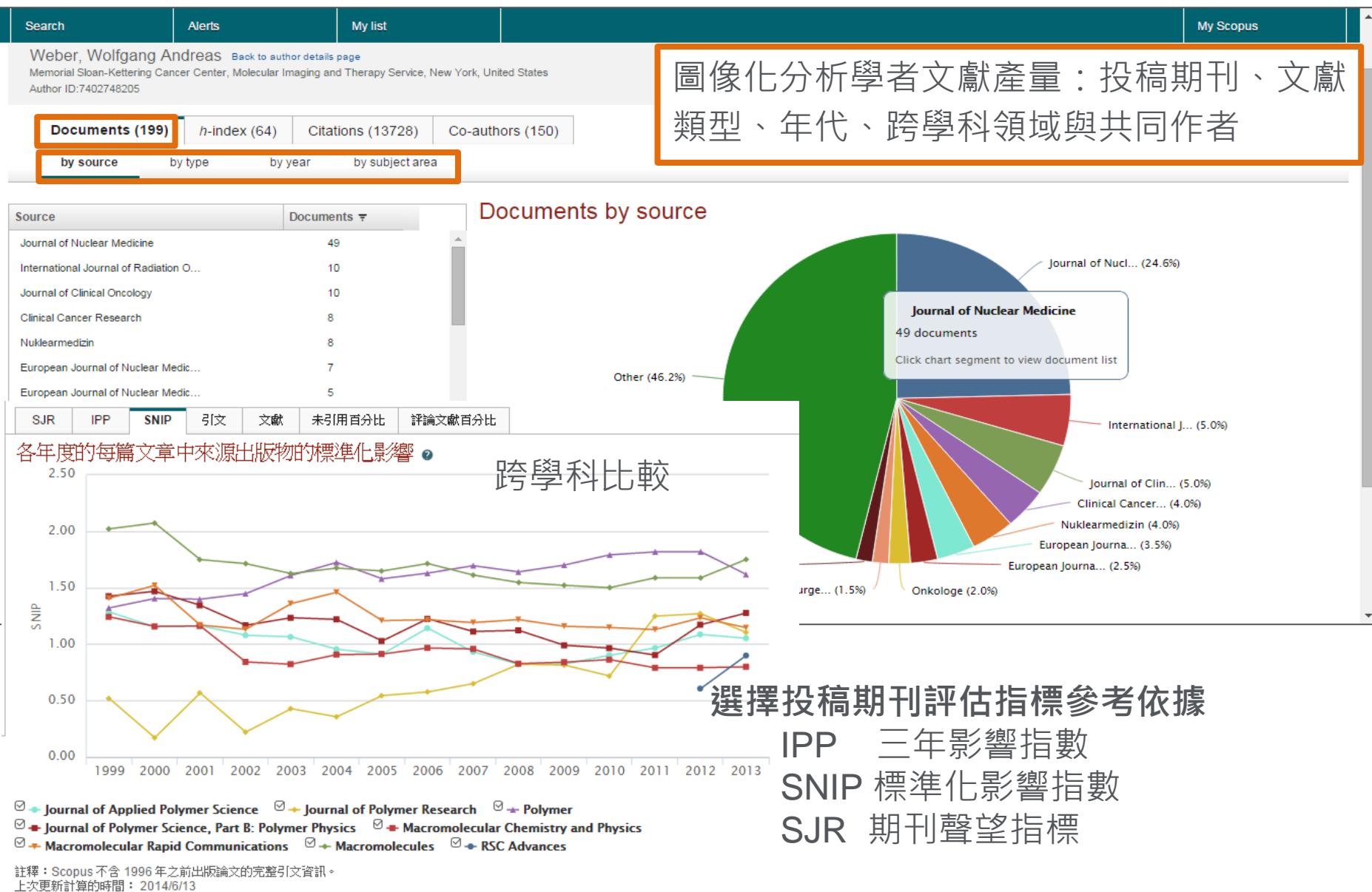
年份	來源出版物	作者	機構	國家	文獻類型	學科類別
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- 多元資料類型(期刊、會議論文、專書)
- 追蹤新的技術應用及研究發現(專利引用、學術文章引用)
- 了解研究領域發展現況

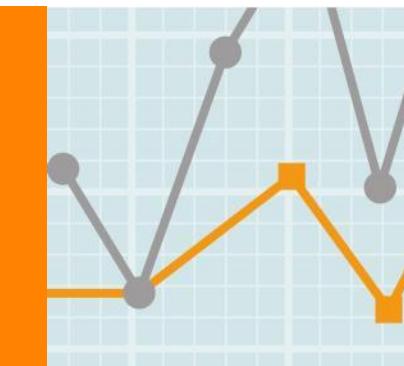
# 作者主要投稿期刊及其影響力

**Scopus**



# SciVal

Research performance  
visualization tool: SciVal



# 學校研究競爭力檢視 Science eValuation

**SciVal**

以Scopus為資料來源，提供全球4600個機構的學術表現，分析學校研究產出於世界的表現，並比較其他學校的差異

## Welcome to SciVal



Overview



Benchmarking



Collaboration



Trends NEW



Visualize research performance

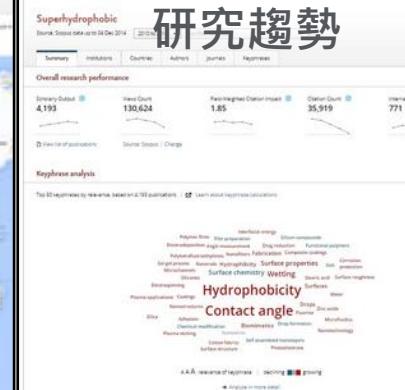


Benchmark your progress



Develop collaborative partnerships

Analyze research trends with usage and citation data



# How SciVal help you measure/manage your RESEARCH performance?

- Research volume: **Productivity metrics** (學術生產力指標)
  - Scholarly output (論文數) → **SCOPUS coverage**
- Research influence: **Citation Impact metrics** (引用影響力指標)
  - Field-Weighted Citation Impact, FWCI (領域權重引用影響力)  
→ **NORMALIZED CITATION IMPACT FWCI=1** 世界平均水準
  - Publications in Top Percentiles (高被引文章) → **TOP PAPERS**
  - Publications in Top Journal Percentiles (頂尖期刊) → **TOP JOURNALS**
  - H-index, FWCI → (高質量學者) → **TOP AUTHORS**
- Research reputation: **Collaboration metrics** (共同合作指標)
  - International collaboration (國際合作) → **GOOD COLLABORATORS**
  - Academic-Corporate Collaboration (產學合作)

# 機構學術表現一覽

SciVal

**SciVal**

- Home
- Overview**
- Benchmarking
- Collaboration
- My SciVal

**Northwestern University**

United States | Scopus affiliation ID: 60001590... Show all

Source: Scopus data up to 19 Mar 2014 | 2009 to 2013 | no filter selected

**Overall research performance**

Publications	Authors	Citations	Field-Weighted Citation Impact
35,859 ▲	20,929 ▲	349,762	1.96

[View list of publications](#)

**Performance by Research Area**

Research Area	Publications	Citations	Authors	Most published authors
Heart failure and rehabilitation - 7 April 2014	605	6,620	521 ▲	Rymer, W.Z., Perreault, E.J., Bilimoria, K.Y.
Graphene - 7 April 2014	57 ▲	3,633	93 ▲	Huang, J., Cote, L.J., Kim, J.

**Performance by Journal Category**

[Pie chart](#) [Bar chart](#) [Table](#)

27個主學科領域、334個子學科領域

## Outputs in Top Percentiles

高被引文章

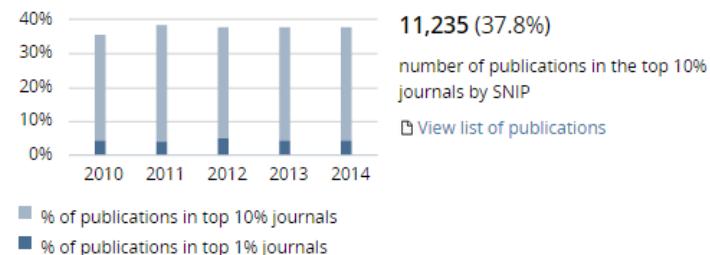
Share of publications at Northwestern University that are among the most cited publications worldwide



## Publications in Top Journal Percentiles

發表頂尖期刊

Share of publications at Northwestern University that are in the top journals by SNIP



## Collaboration

國際合作

Metric	Publications	Citations	Citations per Publication	Field-Weighted Citation Impact
International collaboration	29.2%	9,638	148,679	15.4
Only national collaboration	35.8%	11,805	115,145	9.8
Only institutional collaboration	24.7%	8,153	74,574	9.1
Single authorship (no collaboration)	10.4%	3,423	11,419	3.3

# View the top authors and see their performance

Harvard University

United States | More details on this Institution

Source: Scopus data up to 16 Mar 2015  
2010 to 2014

SciVal

[Summary](#) [Publications](#) [Citations](#) [Authors](#) [Collaboration](#) [Competencies](#)

Authors

Export ▾

Top 100 authors, by number of publications at Harvard University over the period 2010 to 2014.

Note that some authors may no longer be affiliated with Harvard University.

Name	Publications	Most recent publication	Field-We	<i>h</i> -index
1. Willett, Walter Churchill	352	2014	5.26	192
2. Manson, Joann E E	204	2014	4.79	161
3. Stampfer, Meir J.				
4. Whitesides, George M.				
5. Kessler, Ronald C.				
6. Ridker, Paul M.				
7. Giovannucci, Edward L.				
8. Hunter, David John				
9. Hu, Frank				

Willett, Walter Churchill

Scopus author ID: 36042830300

[View in Scopus](#)

作者研究檔案

Publications

1,385

Citations

131,979

Citations per Publication

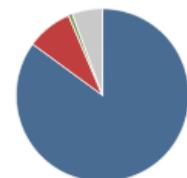
95.3

*h*-index

192

[View list of publications](#)

Publications by Institution



- Harvard University
- Unknown institution
- Boston University
- Other (5.6%)

Willett, Walter Churchill

Brigham and Women's Hospital, Department of Medicine, Boston,  
United States

作者 ID: 36042830300

Scopus

文献: 1775

引文: 總共 202104 次引用, 來自 112106 篇文献

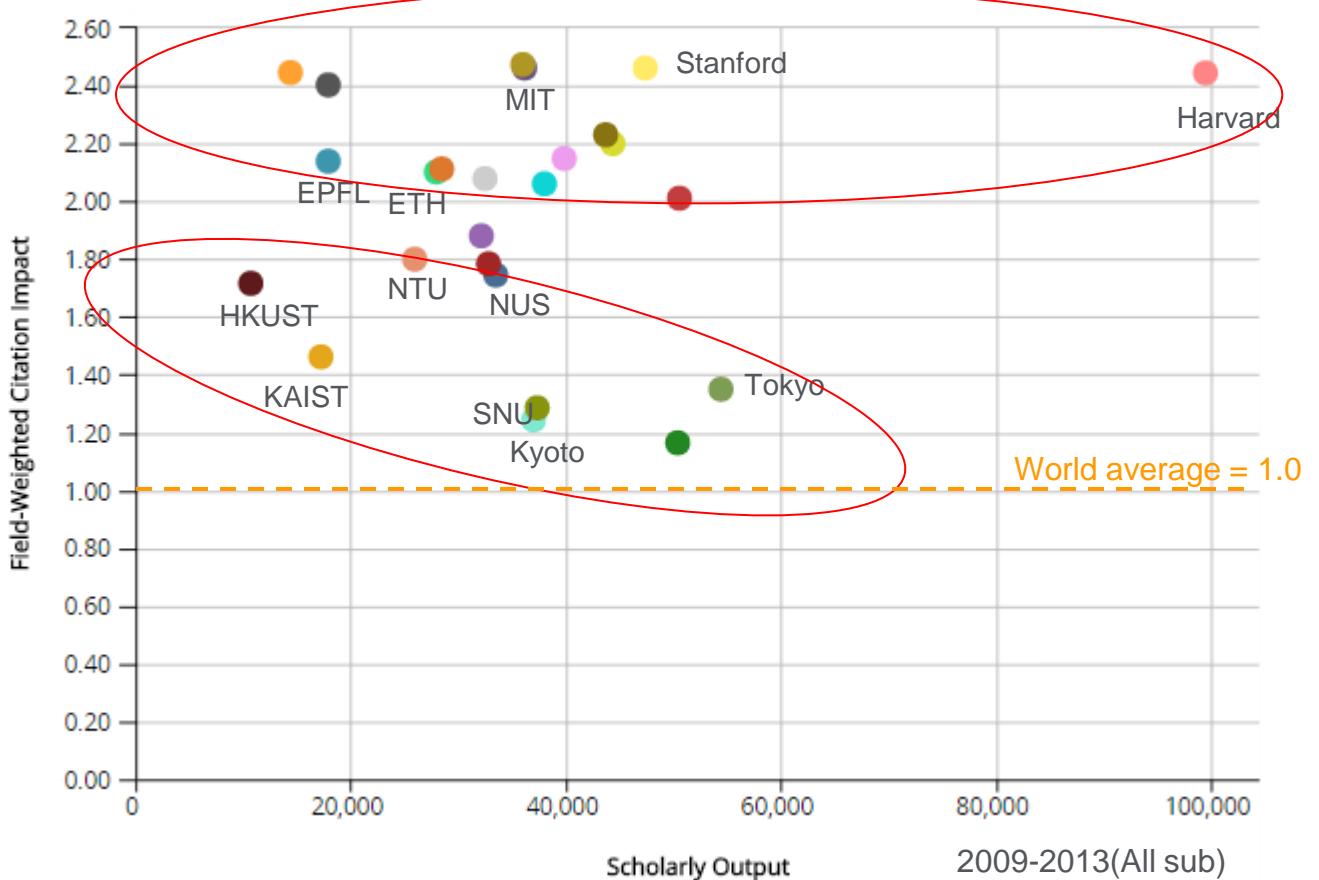
*h*-index: 233

分析作者的產出

合著作者: 150 (最多可以顯示 150 名合著作者)

學科類別: Medicine, Biochemistry, Genetics and Molecular Biology [查看更多](#)查看 *h*-graph

# 了解自己與其他學校的位置 Benchmark your progress



Very top univs in US or EU show high FWCI, around 2.0 or higher. Top Asian univs are among 1.2 – 1.8.

## Benchmarking

Source: Scopus data up to 16 Mar 2015 no filter selected  
2009 to 2013

Chart Table

y-axis

Field-Weighted Citation Impact

x-axis

Scholarly Output

Bubble size

View a third metric

## Institutions and Groups

- California Institute of Technology
- Cornell University
- ETH Zurich
- Ecole Polytechnique Federale de Lausanne (EPFL)
- Harvard University
- Hong Kong University of Science and Technology
- Imperial College London
- Korea Advanced Institute of Science and Technology
- Kyoto University
- Massachusetts Institute of Technology
- Nanyang Technological University
- National University of Singapore
- Northwestern University
- Princeton University
- Seoul National University
- Stanford University
- Tsinghua University
- University of California at Berkeley
- University of California at Los Angeles
- University of Cambridge
- University of Melbourne
- University of Michigan
- University of Oxford
- University of Sydney
- University of Tokyo

# Keio University and International Collaboration

## Keio University

1,092 ▲ co-authors with the University of Tokyo

### Total output of this Institution

Publications	13,535
Authors	9,863
Citations	63,945
Citations per Publication	4.7
Field-Weighted Citation Impact	1.06

## Keio University

176 ▲ co-authors with Harvard University

### Total output of this Institution

Publications	13,535
Authors	9,863
Citations	63,945
Citations per Publication	4.7
Field-Weighted Citation Impact	1.06

## Keio University

110 ▲ co-authors with the University of Toronto

### Total output of this Institution

Publications	13,535
Authors	9,863
Citations	63,945
Citations per Publication	4.7
Field-Weighted Citation Impact	1.06

1,022 ▲

co-authored publications

[View list of publications](#)

## University of Tokyo

1,342 ▲ co-authors with Keio University

### Total output of this Institution

Publications	54,568
Authors	33,827
Citations	344,112
Citations per Publication	6.3
Field-Weighted Citation Impact	1.33

**Keio-UTokyo**  
1.5 times  
citation impact

117 ▲

co-authored publications

[View list of publications](#)

## Harvard University

268 ▲ co-authors with Keio University

### Total output of this Institution

Publications	112,779
Authors	65,057
Citations	1,403,943
Citations per Publication	12.4
Field-Weighted Citation Impact	2.41

**Keio-Harvard**  
4.3 times  
citation impact

95 ▲

co-authored publications

[View list of publications](#)

## University of Toronto

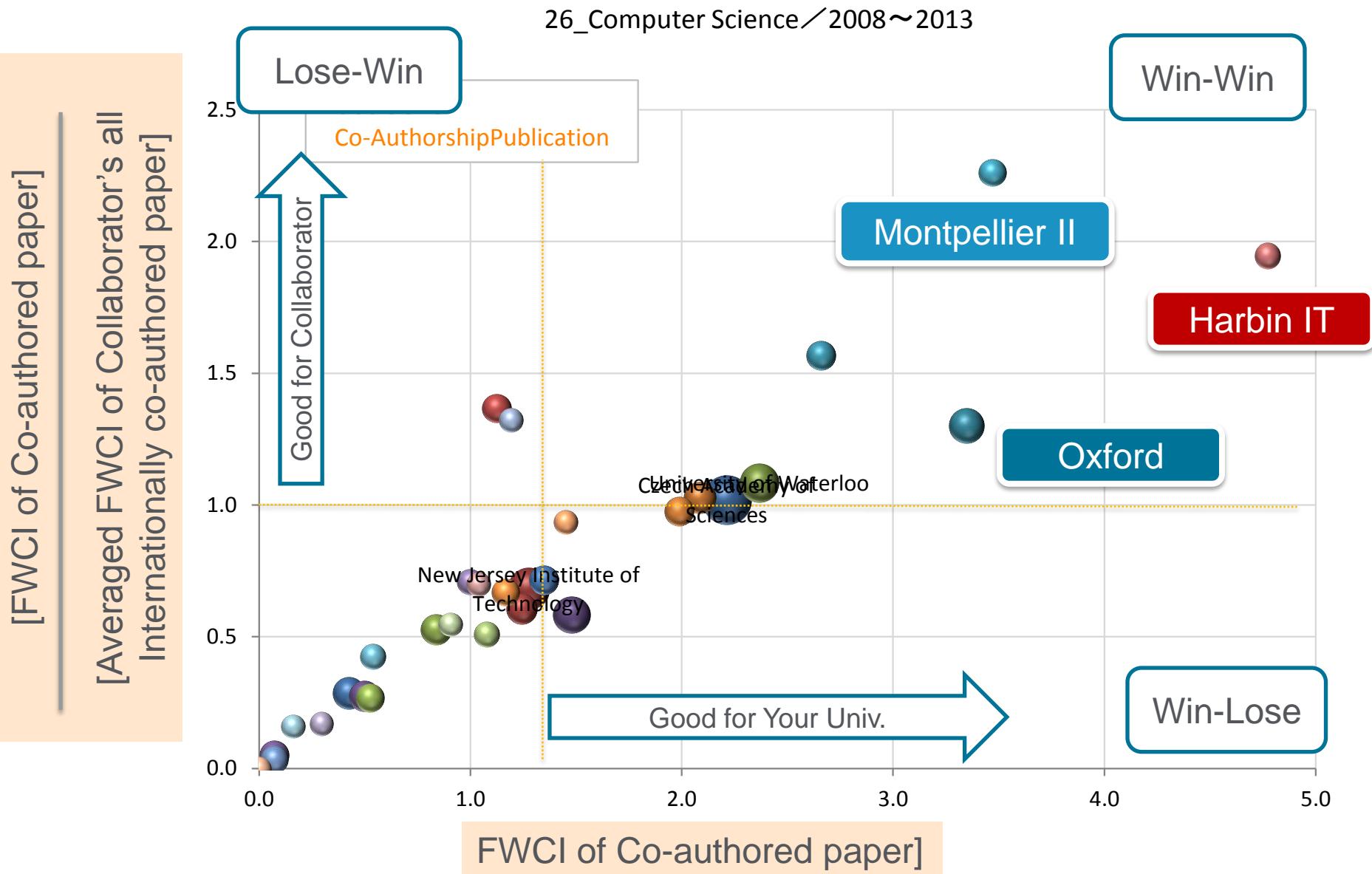
95 ▲ co-authors with Keio University

### Total output of this Institution

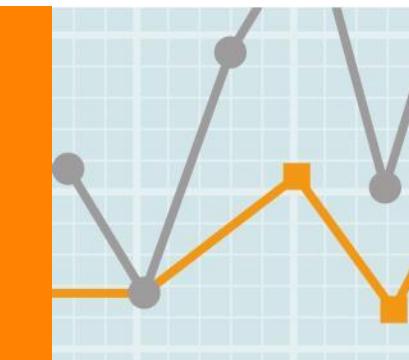
Publications	65,746
Authors	38,973
Citations	558,728
Citations per Publication	8.5
Field-Weighted Citation Impact	1.92

**Keio-Toronto**  
2.3 times  
citation impact

# 策略性選擇國際合作夥伴



# Promoting your research: Pure Expert system



# Pure Expert 學校專家人才庫

- Demonstrate your researchers' accomplishments to the global research community

提高國際能見度，展示學者研究成果

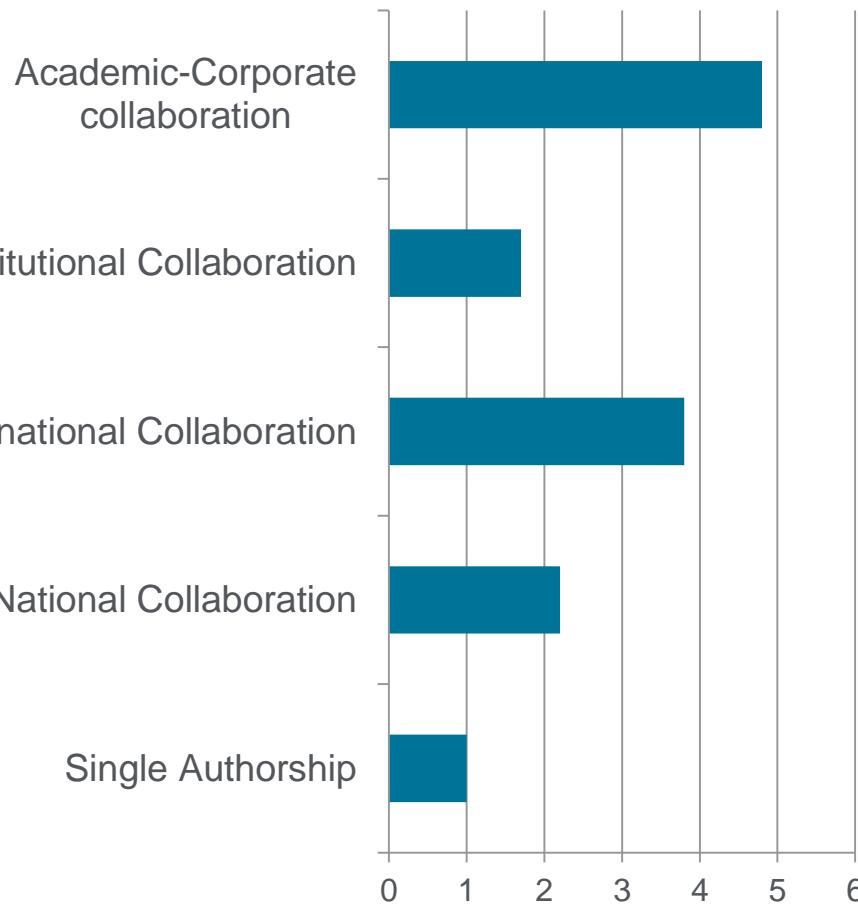
- Identify subject experts and stimulate collaboration within your institution or across organizations

將校內主題領域專家進行比對，促進彼此合作(內部及外部)

- Centrally manage content from multiple databases and people

整合學校內部資料，整理老師研究著作，減少老師維護資料及行政管理的負擔

## Enable Collaboration



# Pure opens your expertise to the world

## Increasing “contact surface”

**REACH NC**  
research, engagement, and capabilities hub of north carolina

Research, Engagement and Capabilities Hub of North Carolina

HOME ABOUT PARTNERS TUTORIALS CONTACTS PROFILES

REACH NC is a Web portal that enables users to find experts and assets within North Carolina higher education and research institutions. [Read More](#)

CLICK TO VIEW REACH NC PROFILES

**REACH NEWS FEED**

- Statewide transitional care program cuts hospital readmissions for Medicaid patients [READ STORY](#)
- Battery Design Gets Boost from Aligned Carbon Nanotubes [READ STORY](#)
- Battery Design Gets Boost from Aligned Carbon Nanotubes [READ STORY](#)

**UPCOMING EVENTS**

Wed <b>14</b> Aug	4th annual VIVO Conference
Sun <b>8</b> Sep	2013 ASE/IEEE International Conference on Big Data

[VIEW ALL EVENTS](#)

**ABOUT REACH NC**

REACH NC began in 2009 to help North Carolina tap into the state's academic and research expertise. As a public-private partnership between the University of North Carolina at Chapel Hill and the Research Foundation of the University of North Carolina system, REACH NC is also the home for faculty, students, engineers, artists and others who want to connect with the state's academic and research expertise.

[LEARN MORE](#)

## REACH North Carolina

<http://reachnc.org/>

- **Example from United States:** REACH NC is an external Web portal to find thousands of experts and assets within North Carolina higher education and research institutions.
- The Pure Expert system aggregates **publishing, patents, and funding** information & create expert profiles for internal or external use

**MICHIGAN EXPERTS**  
UNIVERSITY OF MICHIGAN

E.g. blood pressure

By Concept By Last Name By Free Text

**Welcome!**

Michigan Experts is a searchable database of research expertise across disciplines from several schools/colleges or institutes at the University of Michigan. It has been developed to foster intramural and extramural collaborations, and interdisciplinary research to expand knowledge. While this tool is not comprehensive of all faculty members, nor exhaustive of individual productivity or expertise, it offers a rich representation of research talent and knowledge within the preeminent research enterprise at the University of Michigan. We invite you to search the database by concept, individual name, or "free text" excerpt (such as an abstract or RFA) to discover researchers, understand research expertise, and visualize connections among researchers.

**Home**

[Recent Publications](#)

[Recent Grants](#)

[Recent Patents](#)

[Most Frequent Journals](#)

[SciVal Experts Community](#)

[DIRECT2Experts](#)

[Profiling Overview](#)

**Organizations**

**Centers**

C Cancer Center

I Institute for Healthcare Policy and Innovation

S Samuel and Jean Frankel Cardiovascular Center

**School of Dentistry**

A Academic Affairs

B Biologic and Materials Science

C Cariology, Restorative Sciences and Endodontics

Community Dentistry

D Dean's Office and Faculty Affairs

Dental Hygiene

**College of Engineering**

A Aerospace Engineering

The Research Triangle Park is conducted across the country.

**Training Resources**

**Office of Research**

**Recent Grants**

1. Dinesh Khanna  
[ACT12339: Double-blind, randomized, 8-week placebo-controlled, and 16-week open label extension Study investigating the Safety, Pharmacokinetics and Pharmacodynamics of SAR100842 Given Orally to Patients with Diffuse Cutaneous Systemic Sclerosis](#)

# Pure Experts Portal

- Showcase and increase discoverability of researchers
- Automatically create profile for each researchers
- His expertise is analyzed by semantic technology (Finger Print)
- Easy to understand his research network(other researchers, other institutions)
- Find and match Funding opportunities
- 學者研究成果展示
- 根據研究主題比對類似專家
- 檢視共同合作對象
- 提供國際資金贊助機會

**Waseda University School of Advanced Science and Engineering**

**research profiles**

E.g. blood pressure

By Concept By Last Name By Free Text

Home > Department of Advanced Science and Engineering > Yasuhiro HAYASHI

**Yasuhiro HAYASHI**  Graduate School of Advanced Science and Engineering, Department of Electrical Engineering and Bioscience

**研究主題**

**Fingerprint** more >

- Voltage control
- Electric power distribution
- Distributed power generation
- Gas generators
- Wind power
- Tabu search
- Electric generators
- Voltage regulators
- Switches
- Computer simulation

**Publications** more >

1. Junya Matsuki; Hisao Taoka; Yasuhiro Hayashi; Shigeru Iwamoto; Akihiro Daikoku **Improvement of three-phase unbalance due to connection of dispersed generator by damper windings of synchronous generator** Electrical Engineering in Japan (English translation of Denki Gakkai Ronbunshi). 2014; 186(1):43-50.

2. Takeru Inoue; Keiji Takano; Takayuki Watanabe; Jun Kawahara; Ryo Yoshinaka; Akihiro Kishimoto; Koji Tsuda; Shin-Ichi Minato; Yasuhiro Hayashi **Distribution loss minimization with guaranteed error bound** IEEE Transactions on Smart Grid. 2014; 5(1):102-111.

3. Shoji Kawasaki; Kazu Shimoda; Motohiro Tanaka; Hisao Taoka; Junya Matsuki; Yasuhiro Hayashi **Restraint method of voltage total harmonic distortion in distribution network by power conditioner systems using measured data from IT switches** Electrical Engineering in Japan (English translation of Denki Gakkai Ronbunshi). 2013; 182(3):19-29.

**Similar Experts** more >

Shinichi IWAMOTO	132
Shinji WAKAO	129
Atsushi ISHIYAMA	166
Kenko UCHIDA	122
Atsuo TAKANISHI	410

**Journals** more >

IEE Transactions on ...	38
Electrical Engineering i...	18
IEEE PES Innovative S...	4
IEEE Transactions on ...	3
PECon 2012 - 2012 IE...	3

**Fingerprint Trends**

 Explore the Fingerprint Trends

**Research Network**

 Explore the Expert Network

**Institutional Network** more >

**Non-Profiled Organizations** Shared Pub.

National University Co...	54
Tokyo Electric Power	22
Ibaraki University	14
Mitsubishi Electric Cor...	7
Gifu National College o...	6
University of Tokyo	5

**Coauthor Network** more >

**Profiled Coauthors** Shared Pub.

Shinji WAKAO	5
Shinichi IWAMOTO	3
Noboru MURATA	2

**Non-Profiled Coauthors** Shared Pub.

Junya Matsuki	53
Shoji Kawasaki	16
Koichi Nara	12

**相同研究領域之研究人員**

# Identify expertise within and across institutions



Share your institution's data with others

- Search across the Experts Community and DIRECT2Experts which includes 160+ global institutions, containing more than **160,000 researcher profiles**.

Pure Experts Portal

Home Experts Research outputs Research units Projects Activities Journals

Refine and narrow down result by adding related concepts

Engineering & Materials Science

- Phosphors
- Sapphire
- Nanorods
- Quantum efficiency
- Luminescence
- Semiconductor quantum wells
- Toll collection
- Substrates
- Wet etching
- Electroluminescence
- Silicon oxides
- Oxides
- Metals

Selected concepts

Engineering & Materials Science

Light emitting diodes

Concept: Light emitting diodes  
Weight: 100%  
Domain: Engineering & Materials Science  
Semantic group: Electrical Engineering

Internal experts ? Experts community ? DIRECT2Experts ?

11 experts found with research output relating to all selected concepts

Research Output range No Limit

Rank	Name	Department	Citations
1	亞儒 李	光電科技研究所	38 out of 63
2	淑芬 胡	物理學系	14 out of 122
3	敏鴻 李	光電科技研究所	7 out of 115
4	陳謙 許	電機工程學系	3 out of 78

Waseda University School of Advanced Science and Engineering

THE UNIVERSITY OF IOWA

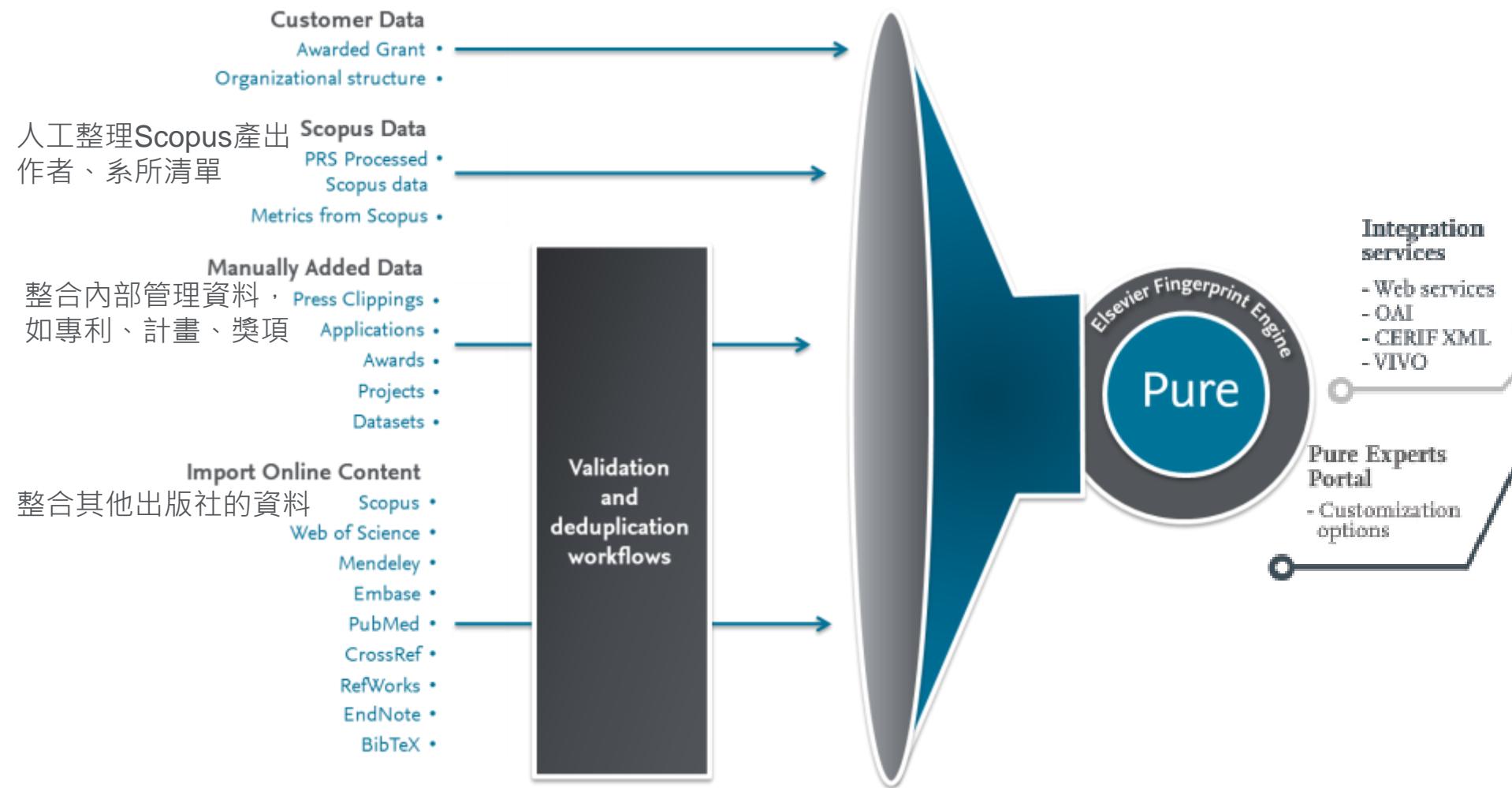
UF UNIVERSITY of FLORIDA HARVARD STANFORD Cornell University

MD Anderson Cancer Center

# Pure能整合多種資料來源，包含內部及外部



## A comprehensive research information management system



# Analyze – View progress at-a-glance of key milestones through Pure's powerful dashboards



Access controls ensure users can only view and report on the content relevant to them

Choose a content type

**EDITORIAL**

- Activities
- Applications / Funding
- Impacts
- Press clippings
- Projects
- Funded Projects
- Non-funded Projects
- Research output
- Student theses

**REF2014**

- REF1a/c (Staff REF2014)
- REF1b (ISC REF2014)
- REF2 (Outputs REF2014)
- REF3a (Impact template)
- REF3b (Impact case study)
- REF5 (Environment template)
- Units of assessment

**MASTER DATA**

- Equipment/facilities
- Events
- External organisations

**Matrix (analysis)**

Organisation	2005	2006	2007	2008	2009	2010
Faculty Of Science	386	350	339	817	784	125
Faculty Of Engineering	311	376	331	663	712	231
Professional Services	69	73	63	39	49	12
Faculty Of Law, Arts And Social Sciences	134	119	100	202	216	164
Faculty Of	78	70	104	188	274	69

**Combined content**

Articles	Chapter in book			
	Count	Count	Count	Total awards
Aerospace Engineering	807	259	38	28,126,12
Pharmacology	82	3	0	n/a
Mathematics	93	10	0	n/a
Bioscience	5	0	0	n/a
Institute Of Photonics	395	50	90	21,003,25
Pure Chemistry	1624	56	509	42,114,68
Pharmaceutical Sciences	53	1	0	n/a
Chemical Engineering	388	27	110	6,552,31
Information Sciences	374	121	80	5,226,2

**Table (analysis)**

Organisation	Author's gender	Research output year	Count
Faculty Of Science	Female	2008	291
		2009	265
Faculty Of Engineering	Male	2008	702
		2009	647
Faculty Of Engineering	Female	2008	165
		2009	192
		2010	70

**Chart (analysis)**

**Table**

Title	Type	pages	Publication date	Visibility
RAG Test	Article	n/a	1/01/10	Publicly
An experimental and finite element study of the low-cycle fatigue failure of a galvanised steel lighting column	Paper	n/a	1/01/09	Publicly
Temperature gradient effects on moisture transport in porous building materials	Article	11	1/01/09	Publicly
An optimal gains matrix for time-delay feedback control	Paper	n/a	1/01/09	Publicly

**Listing**

**1.1. 2009**

An experimental and finite element study of the low-cycle fatigue failure of a galvanised steel lighting column  
Authors: L. Taylor, I. McRae; J. 2009  
Research output: Contribution to conference type - Paper

Temperature gradient effects on moisture transport in porous building materials  
Baker, P., Galbraith, G., McLean, R. 2009 In: Building Services Engineering Research and Technology, 30, 1, p. 37-48, 11 p.  
Research output: Contribution to journal - Article

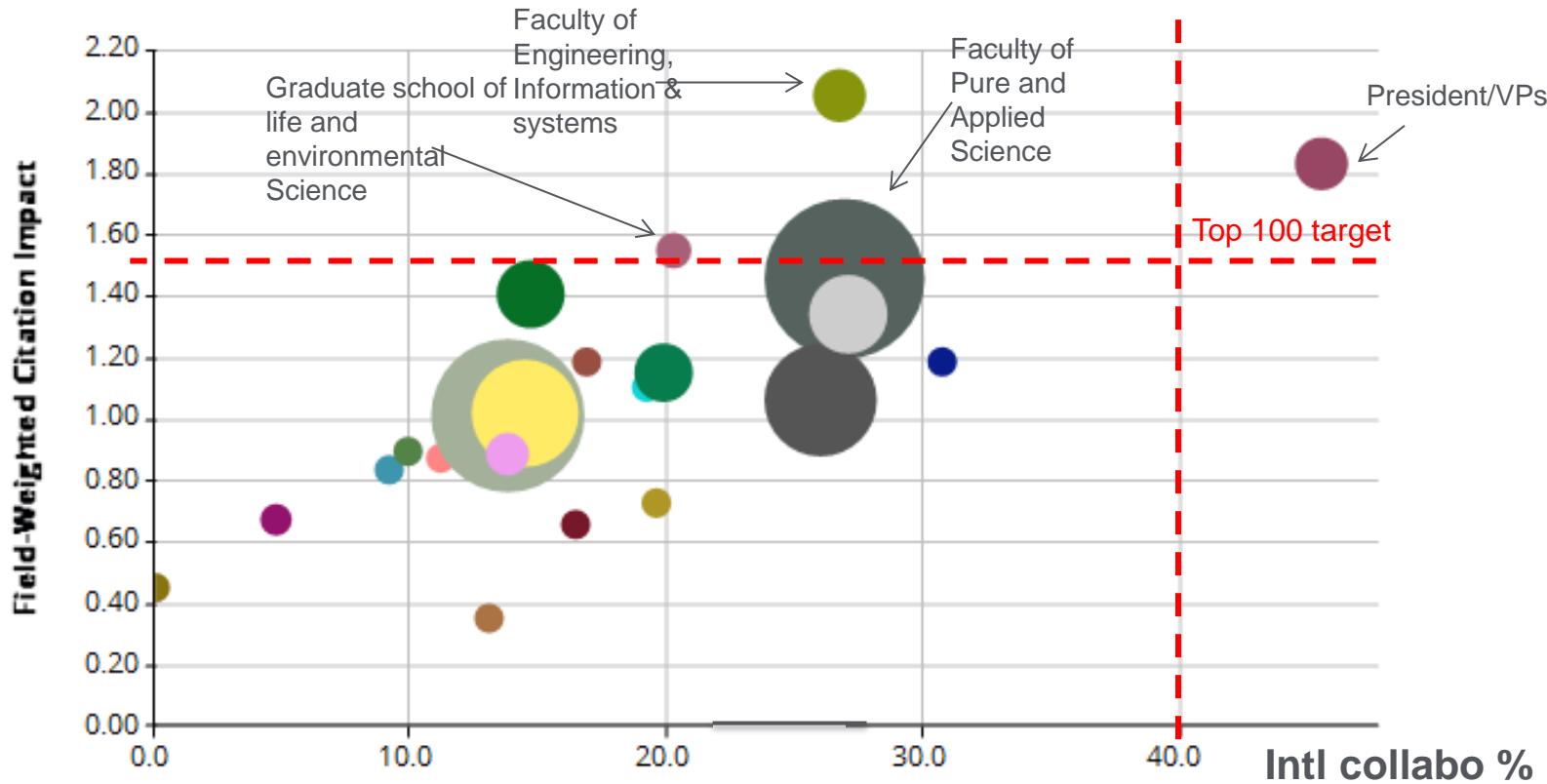
An optimal gains matrix for time-delay feedback control  
McQueen, J., Moaveni, S., Beams, D., & La Bodin, G. (ed.) 2010 In: Journal to be assigned.  
Research output: Contribution to conference type - Paper

**1.2. 2010**

RAG Test  
McQueen, J., Moaveni, S., Beams, D., & La Bodin, G. (ed.) 2010 In: Journal to be assigned.  
Research output: Contribution to journal - Article

**Raw data spreadsheet**

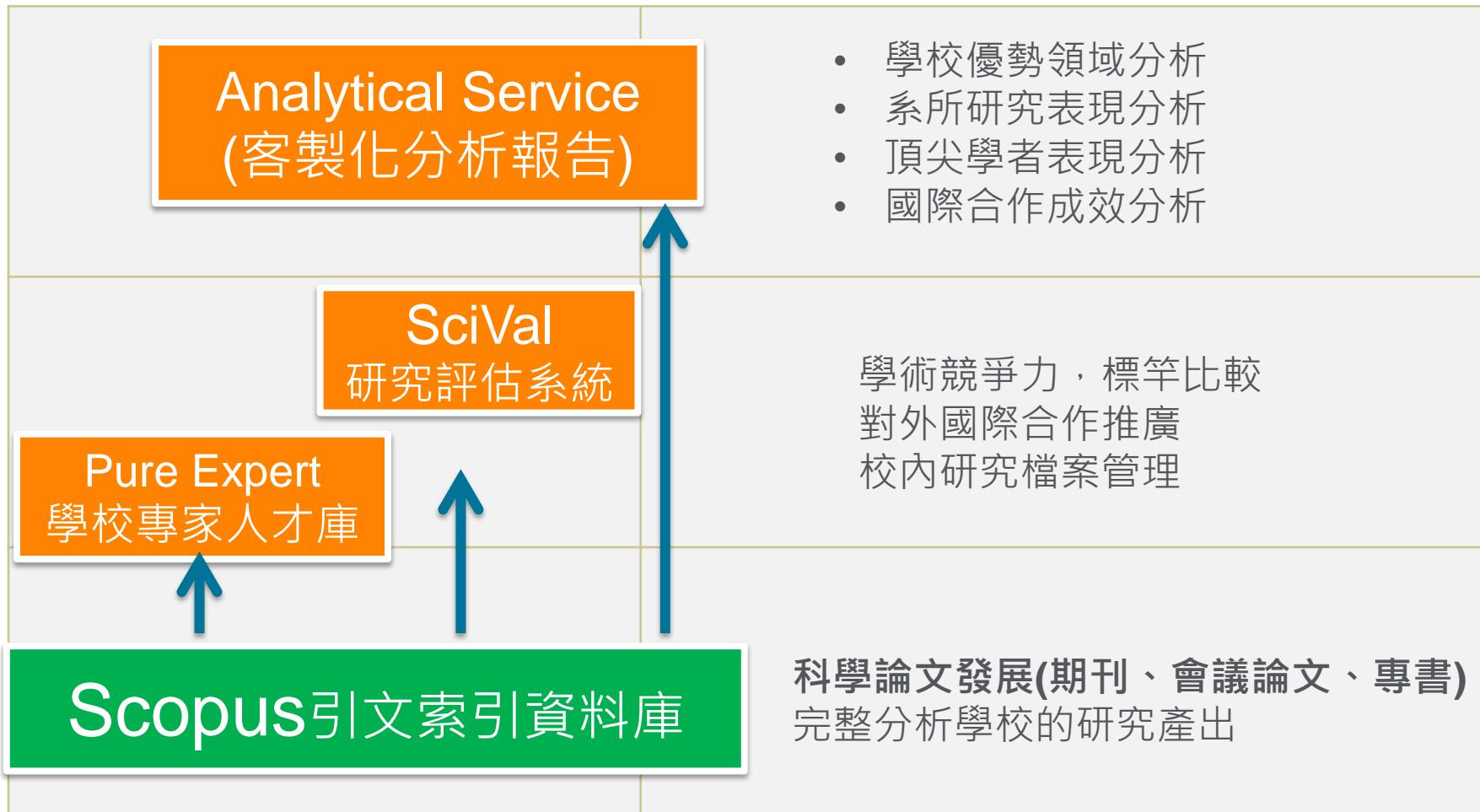
# Comparison of each profiled dept in a univ



By profiling all researchers and dept info, each depts can be compared with same measurement.

# Product lineup of Elsevier Research Intelligence:

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# Thank you

