

Elsevier Research Intelligence

# 學術研究表現：從國際合著談起

Elsevier 研究管理解決方案經理  
何蕙菩(Rita)  
[r.ho@elsevier.com](mailto:r.ho@elsevier.com)

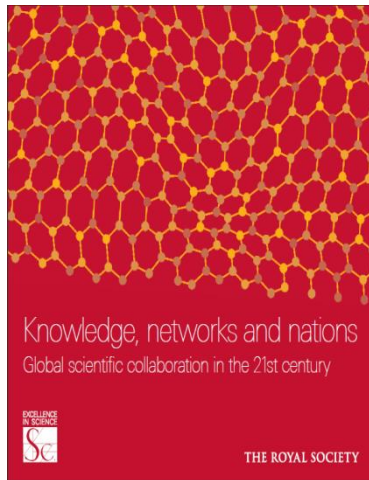
## 內容大綱

- 國際合作的現象:報告分析
- 專家網絡，啟動合作
- 從研究管理角度定位合著對象
- 評估合著產出



# Elsevier協助國家及大學進行研究評估及管理分析

英國皇家學會  
全球科研合作報告  
2011



英國科學研究國際表現報告  
BIS report 2011, 2013



美國29所研究大學聯盟  
2012

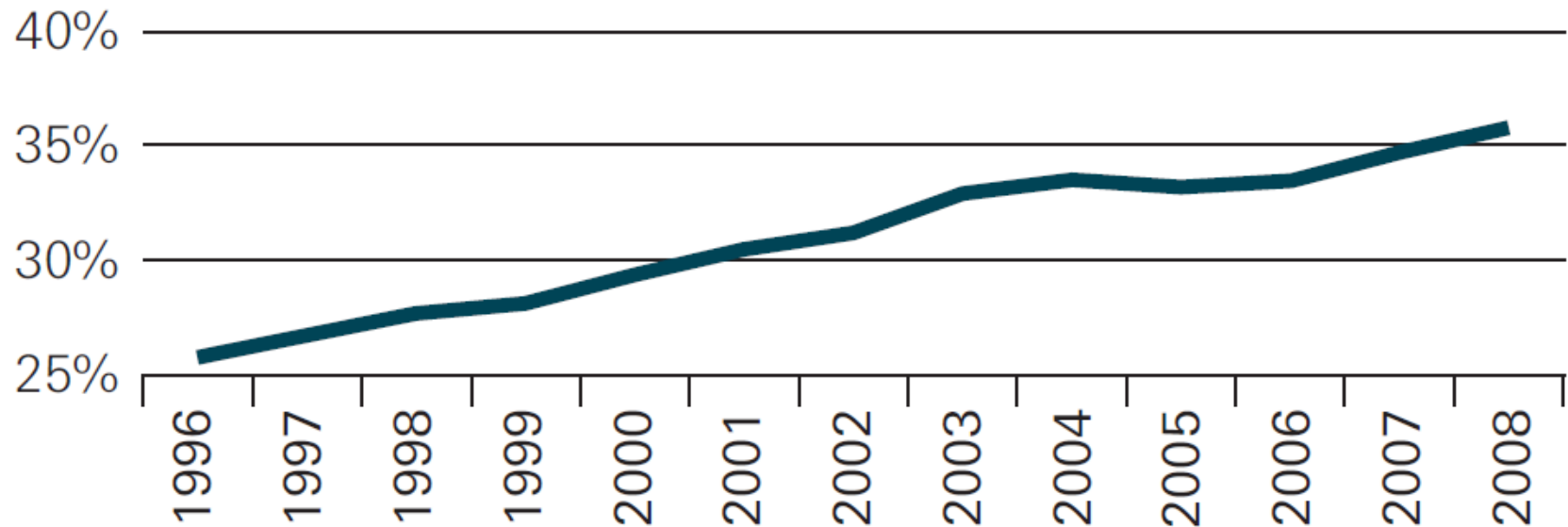


雪球指標 2012

## Snowball Metrics

與研究型大學(劍橋、牛津、萊登大學等)共同開發指標，協助大學進行研究管理策略規劃，如領域權重引用影響係數(FWCI) 產學合作、國際合作指標等

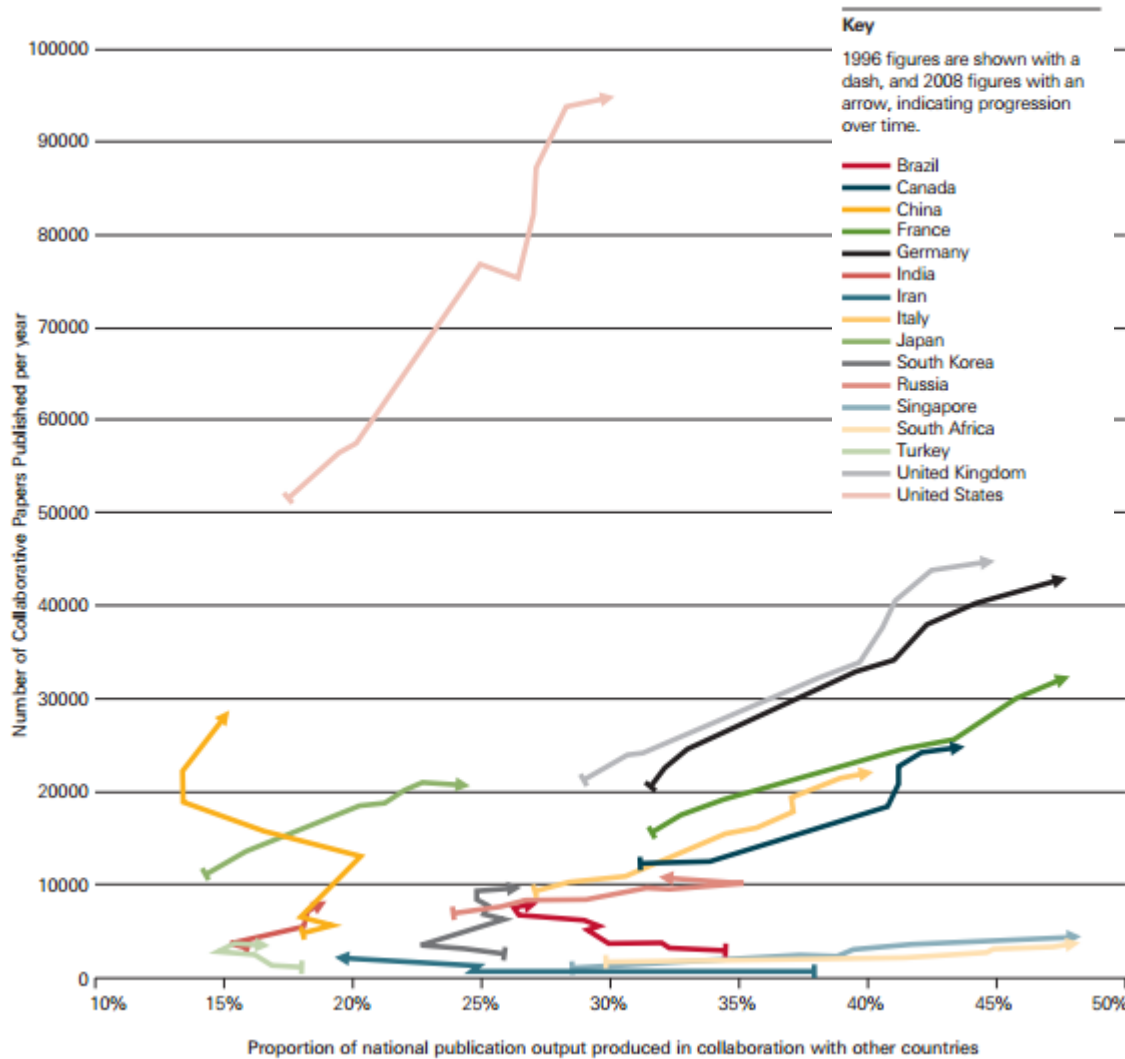
## 全球科研國際合作逐年增加



**Proportion of the world's papers produced with more than one international author**

# 英國皇家學會: 國際科研合作趨勢圖1996-2008

每年合著的  
文章數



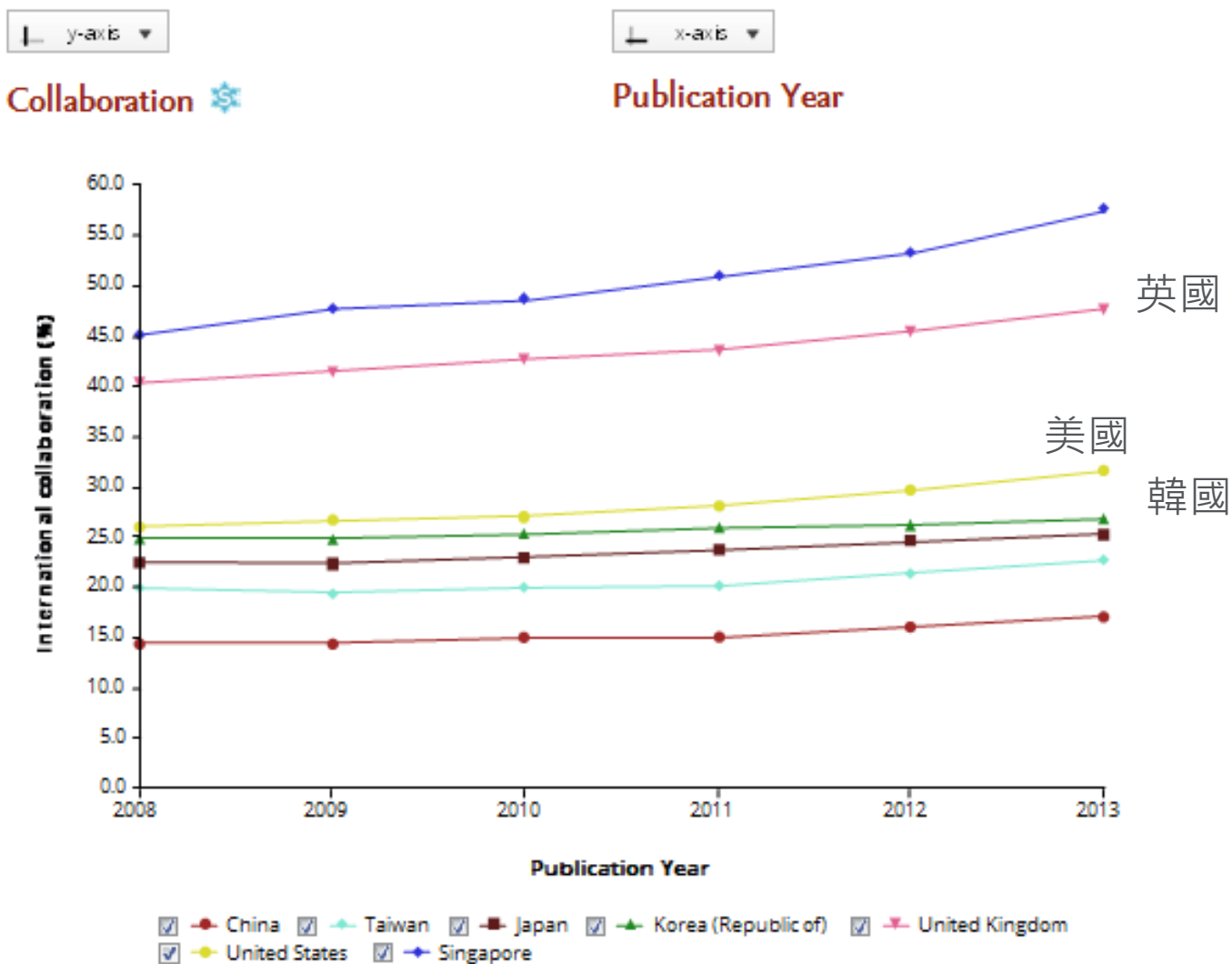
國際合作所佔的比例

在美英日德等已開發國家在過去十年中，跨國合作的比例也逐年提高

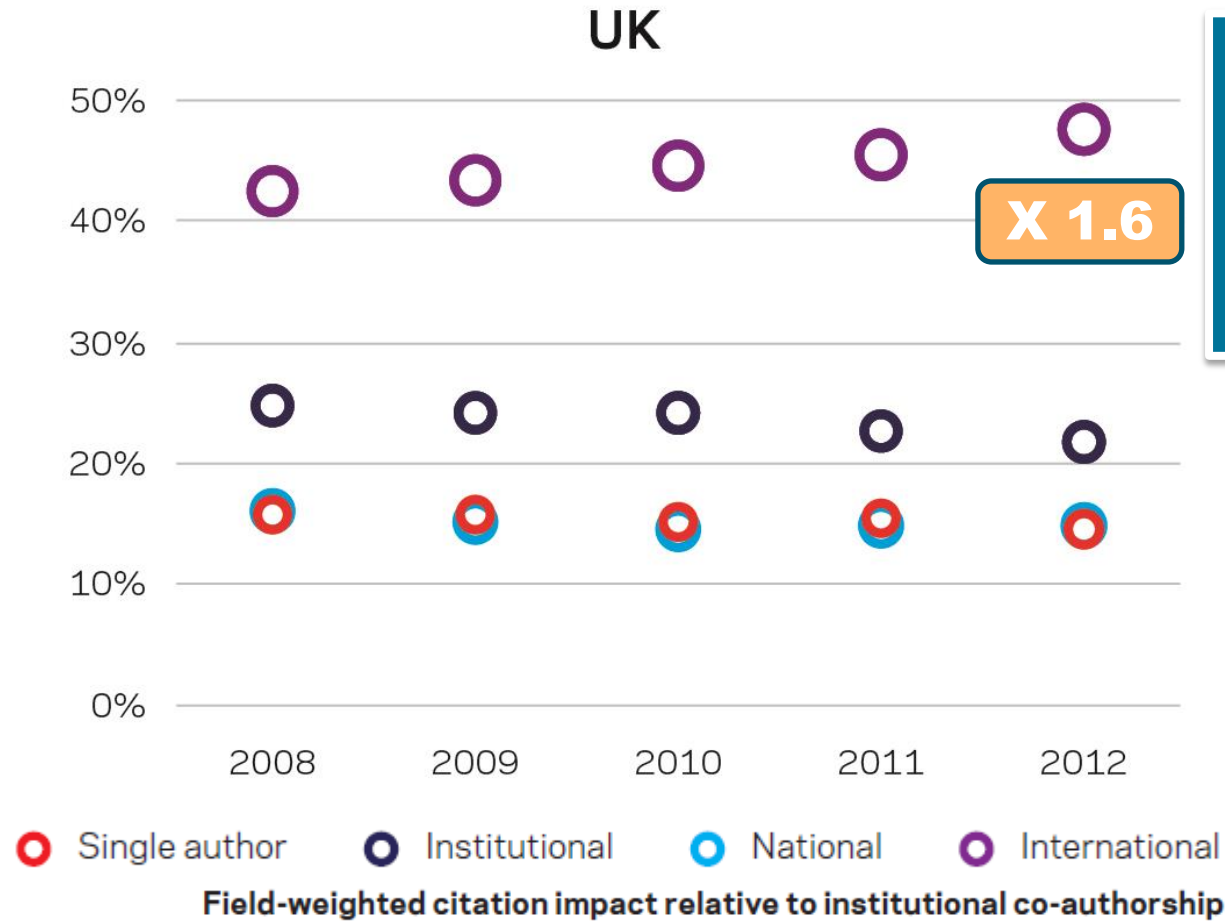
中巴印等新進國家則是跨國合作增加不明顯，甚至有停滯現象

這樣的差距，反映了該國家的研究強度、研究資源的取得程度、及研究社群的規模

# 近五年(2008-2013)各國國際合作比較



# 英國研究者具高度的國際合作，且引用影響力較高



幾乎達50%的文章為國際合著，且引用影響力較系所機構合著高1.6倍



<u>Country</u>	<u>Single author</u>	<u>Institutional</u>	<u>National</u>	<u>International</u>
UK	84%	100%	120%	161%

Figure 5.1 — Share of articles for the UK by co-authorship type, 2008-2012. Bubble size is proportional to field-weighted citation impact.  
 Table 5.1 — Field-weighted citation impact of single-authored, nationally- and internationally- co-authored articles relative to institutional co-authorship for the UK and comparators, 2012.

## 許多全球性的議題透過國際合作來找適合的夥伴

*“The number one reason is always to find the best partners to work with, and international collaboration gives us access to a wider set than is available in the UK alone. There are a number of global challenges – sustainability for example, poverty, energy, security – where the issues go more widely than in UK-specific programmes, so your natural peers will be international.”*

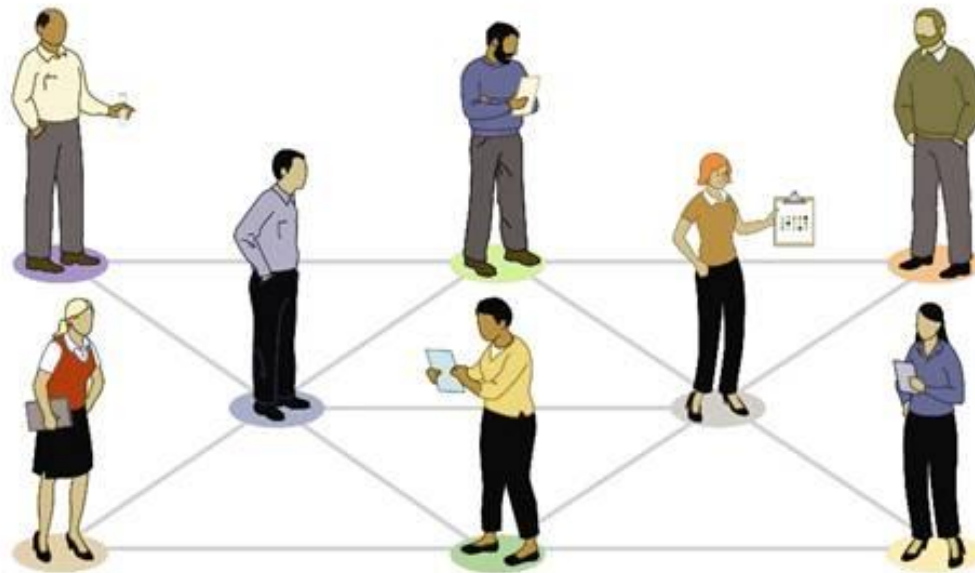
Professor Luke Georghiou, Vice-President for Research and Innovation at the University of Manchester and Professor of Science and Technology Policy and Management in the Manchester Institute of Innovation Research at Manchester Business School



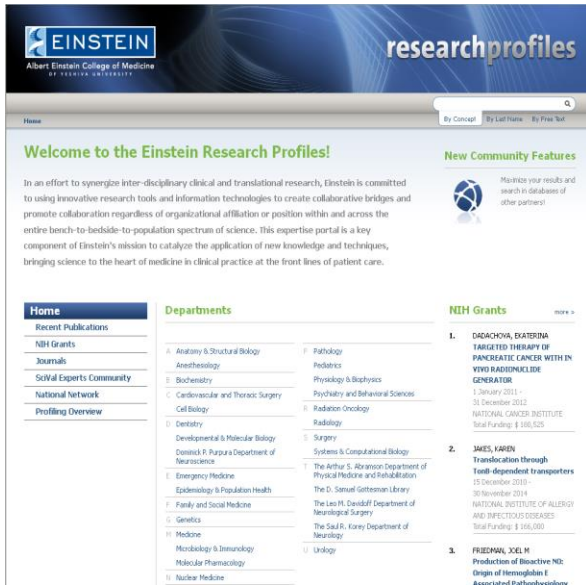
# 學術網絡的重要性

# SciVal Experts 確認專家及啟動合作

- 機構典藏”國際化”
- 建置專家庫
- 將研究者串連(內部及外部)



# Albert Einstein 醫學院: Expert網站增加合作交流及能見度



<http://www.einstein.yu.edu/rczone/>

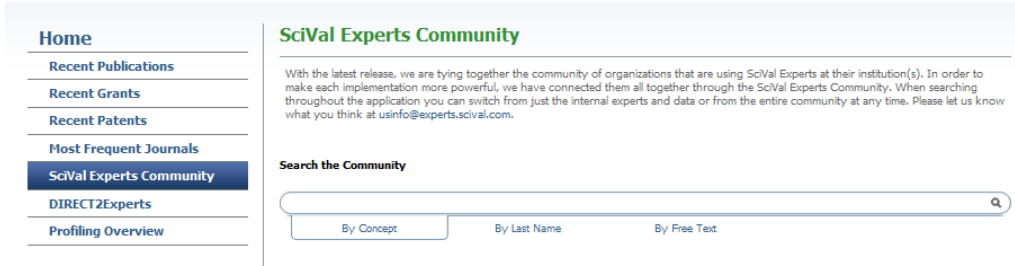
圖書館採用SciVal Experts做為科研文獻資料服務的一部分

大約80%的流量來自於搜尋引擎，比自行建置的網站要高出許多



大約40%的點擊是來自於美國以外的地方，也同樣超出自行建置的網站

跟同類院校可以非常簡便地串連網絡，以便進行更深入的合作與交流



全球超過10萬研究人員的串連網絡，並在快速增長中

# 密西根大學的專家人才庫



可透過研究概念、文章片段進行檢索

E.g. blood pressure

By Concept By Last Name By Free Text

Home

## 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.

## Training Resources



## Office of Research

### 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

### College of Engineering

- A Aerospace Engineering

### 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

## Recent Grants

more >

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  
4/1/2014 - 8/30/2014

# 運用語意檢索比對適合的學者

## Find the Expert

將文章的一段文字放入檢索

### Purpose

The Centers of Excellence in Genomic Science (CEGS) program establishes academic Centers in the United States for advanced genome research, using the P50 Specialized Center mechanism. Each CEGS grant supports a multi-investigator, interdisciplinary team to develop innovative genomic approaches to address a particular biological problem. A CEGS project will address a critical issue in genomic science, proposing a solution that would be a very substantial advance. To achieve such advances, the research conducted at these Centers will entail substantial risk, balanced by outstanding scientific and management plans and very high potential payoff. A CEGS will focus on the development of novel technological or computational methods for the production or analysis of comprehensive data sets, or on a particular genome-scale biological problem, or on other ways to develop and use genomic approaches for understanding biological systems. An extraordinary level of synergy, integration, and potential for advancement of genomics, is expected from each CEGS project; this mechanism will be used only for projects that could not be achieved by using other, more standard grants mechanisms. Exploiting its outstanding scientific plan and team, each CEGS will nurture genomic science at its institution by facilitating the interaction of investigators from different disciplines, and by providing training of new investigators, will expand the pool of professional genomics scientists and engineers. Applicants to the CEGS program are required to submit a parallel application to the "Initiative to Maximize Research Education in Genomics (R25)"

By Concept By Last Name **By Full Text**

### Select Vocabulary for Analysis

Depending on the selected vocabulary your search will bring up the appropriate results.

- Arts and Humanities
- Business and Economics
- Engineering
- Geosciences
- Medicine and Life Sciences
- Social Sciences

Find

## 50 Experts found

	Publications	Grants
Howard L Mcleod UNC, Eshelman School of Pharmacy, Pharma...	391	43
Todd Robert Klaenhammer NCSU, College of Agriculture & Life Sci...	202	201
James P Evans UNC, School of Medicine, Genetics	56	31
Matthew Breen NCSU, College of Veterinary Medicine, Mo...	104	39
Ralph A Dean NCSU, College of Agriculture & Life Sci...		
Gary Churchill UNC, School of Medicine, Genetics		
Charles M Perou UNC, School of Medicine, Genetics		
Ron Ross Sederoff NCSU, College of Natural Resources, Biot...		
David F Ransohoff UNC, School of Medicine, Medicine	163	42
David N Hayes UNC, School of Medicine, Medicine	36	133

SciVal Experts  
運用Fingerprint技術  
確保找到的結果是  
相關的

## Experts based on...

Publications

### Fingerprint

Rating weight: Low Mid High Required

Genomics	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	remove
Science	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	remove
Financing, Organized	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	remove
Research	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	remove
Research Personnel	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	remove
Weights and Measures	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	remove
Genetics	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	remove
Technology	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	remove
Classification	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	remove
Human Genome Project	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	remove
Genome, Human	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	remove
Nature	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	remove
Economics	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	remove

# 教授Lawrence的專屬頁面

## Lawrence C An

Medical School, Internal Medicine - General Medicine

### Home

#### Expert Overview

#### Fingerprint

#### Publications

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#### Patents

#### Similar Experts

#### Journals

#### Fingerprint Trends

#### Institutional Network

#### Coauthor Network

#### Research Network

#### Curriculum Vitae

Lawrence C An

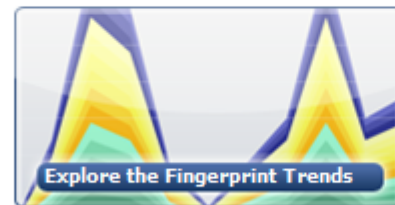
#### Organizations

### Fingerprint

more >

- Smoking Cessation
- Tobacco
- Tobacco Use Disorder
- Internet
- Young Adult
- Male
- Female
- Counseling
- smoking
- nicotine

### Fingerprint Trends



### Research Network

### Publications

more >

1. Justin Gatwood; Rajesh Balkrishnan; Steven R. Erickson; Lawrence C. An; John D. Piette; Karen B. Farris  
**Addressing medication nonadherence by mobile phone: Development and delivery of tailored messages**  
 Research in Social and Administrative Pharmacy, 2014.
2. Jeffrey T. Kullgren; Geoffrey C. Williams; Lawrence C. An  
**Patient-centered financial incentives for health: Can employers get change for their dollars?**  
 Healthcare, 2013;1(3-4):82-85.
3. Lawrence C. An; Michele R. S. Demers; Matthias A. Kirch; Shannon Considine-Dunn; Vijay Nair; Kohinoor Dasgupta; Naveen Narisetty; Ken Resnicow; Jasjit Ahluwalia  
**A randomized trial of an avatar-hosted multiple behavior change**

列出相同研究領域之研究人員

### Similar Experts

more >

	Publications
James D Geiger	84
Shobha V Malviya	110
Paul I Reynolds	40
Edward F Domino	423
Kirk J Brower	111

### Journals

more >

	Publications
Nicotine and Tobacco...	7
American Journal of Pr...	5
Journal of Medical Inte...	4
Preventive Medicine	3
Tobacco Control	2



# 教授Lawrence的學術合作網絡

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**Research Network**

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Lawrence C An

Organizations

Medical School

Internal Medicine - General Medicine

Current Appointments:

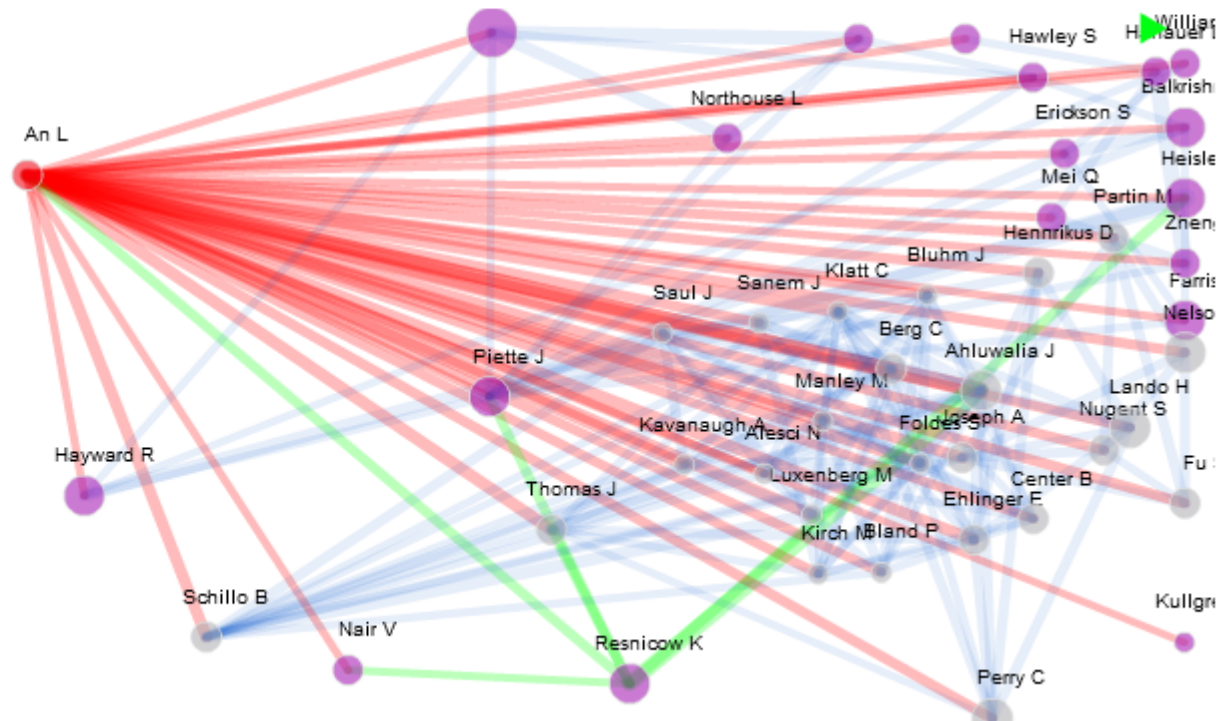
Associate Professor, Internal Medicine - General Medicine

**Research Network** showing 44 out of 185 Profiled & Non-Profiled Coauthors

Year range 1985 to 2014 Show Profiled & Non-Profiled Coauthors

thicker: more publications  
 larger: more publications  
 Profiled collaborator  
 Non-Profiled collaborator  
 Profiled researcher

The visualization below creates a map of the connections between this researcher and their collaborators. The circles represent individual researchers and the lines connecting them represent papers that they have published together. The size of each indicates the number of publications; a larger line = more collaborations; a larger circle = more publications. The visualization continues to move because it is a force-directed algorithm, constantly reshaping the visualization to find the best view. You may pause the movement by clicking anywhere in the box. This visualization ins based on Scopus publications.



呈現內部及外部合作





## 主要原因: 收錄範圍廣、作者辨識佳

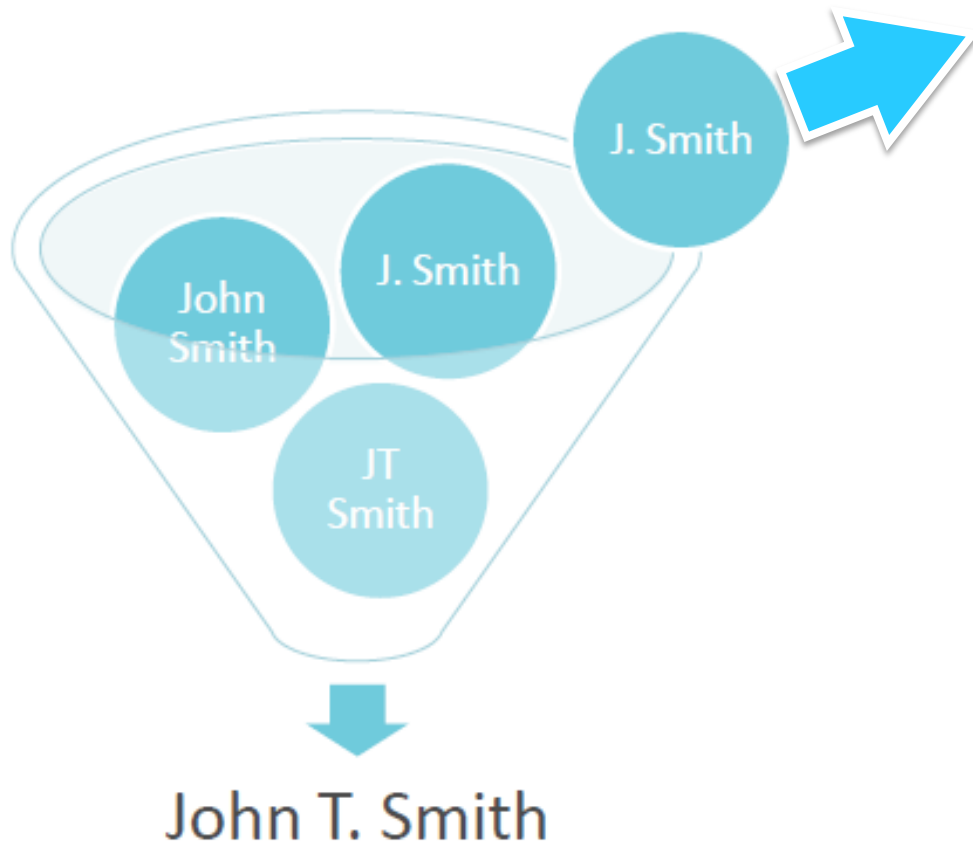
- Scopus 是全球最大的索摘引文資料庫，來自5000個出版社(經同儕審核)，具獨立的内容審查與諮詢委員會(CSAB)，尤重亞洲地區的收錄
- Scopus資料權威性: 許多國際組織採用Scopus資料作為研究評估工具
- 文章同步更新，省去人工更新及維護成本
- 能整合其他的出版品及引用資料，當地文獻、專利、研究計畫等
- 作者辨識功能(求準率&求全率高達95%以上)
- 人工建置作業，力求作者、系所資料正確



科学技術政策研究所  
National Institute of Science and Technology Policy



## 作者辨識功能



- 自動演算法: 將作者姓名、單位、email、期刊、主題等資料歸類
- 手動修正: Elsevier團隊
- 整合 **ORCID**
- 精準率及求全率達95%以上

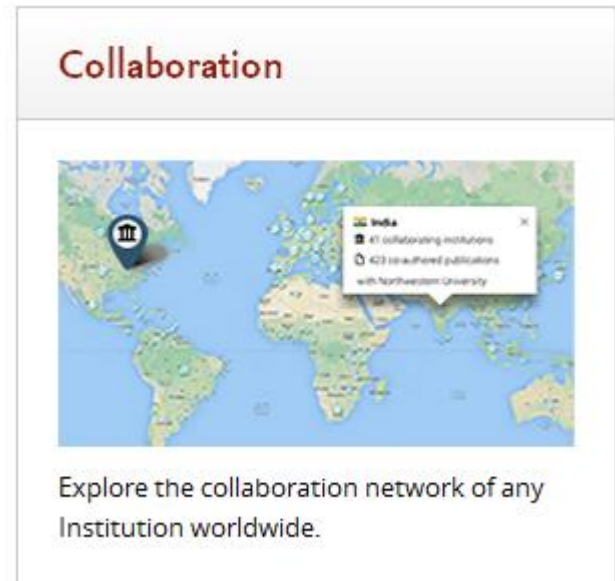
了解機構競爭優勢，確認合作對象

# SciVal解決方案

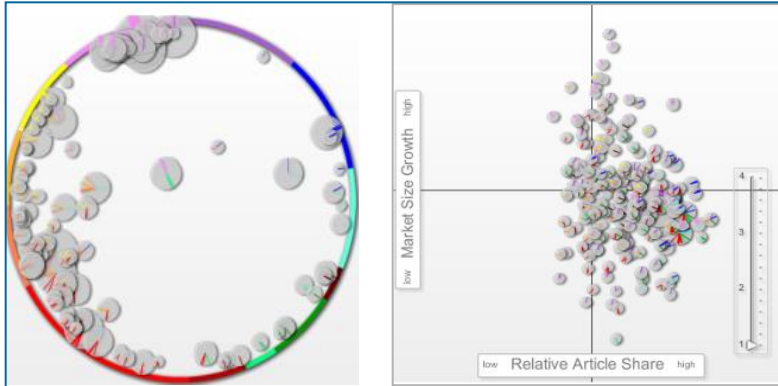
了解本身研究強項  
與其他機構比較

確認目前及未來可能合作對象

衡量合著的影響力



# 透過視覺化及BCG矩陣分析，了解機構研究競爭優勢



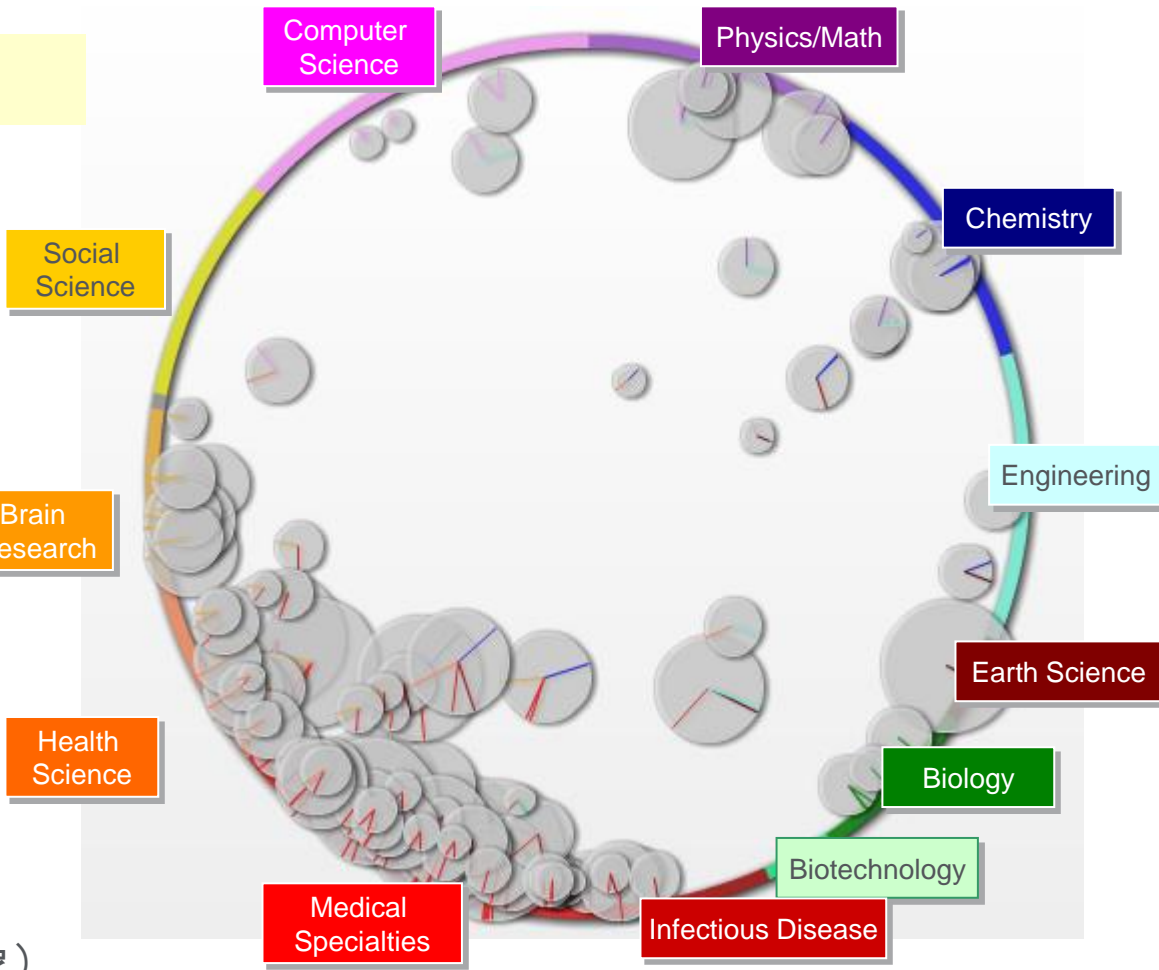
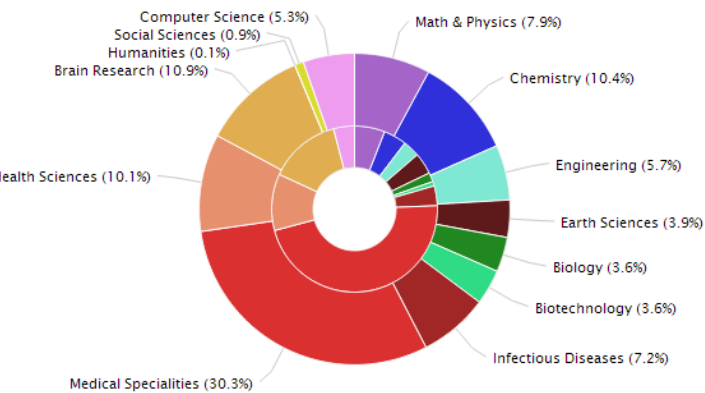
- 依文章共被引方式分類，打破學科限制，跨領域的研究主題可被定義出來
- 確認該機構之競爭優勢領域及潛在競爭優勢領域
- 提供機構或國家研究投入的方向
- 根據特定的領域尋找潛在合作對象
- 確認重要學者，做為招募對象

收錄全球220個國家，4600家研究機構的科學研究成果  
使用對象包括學術機關、政府決策單位、經費管理者等

# 日本某大學的實際案例

確認110個優勢領域

## • Subject Area Overview



(2007年～2011年の論文が対象)

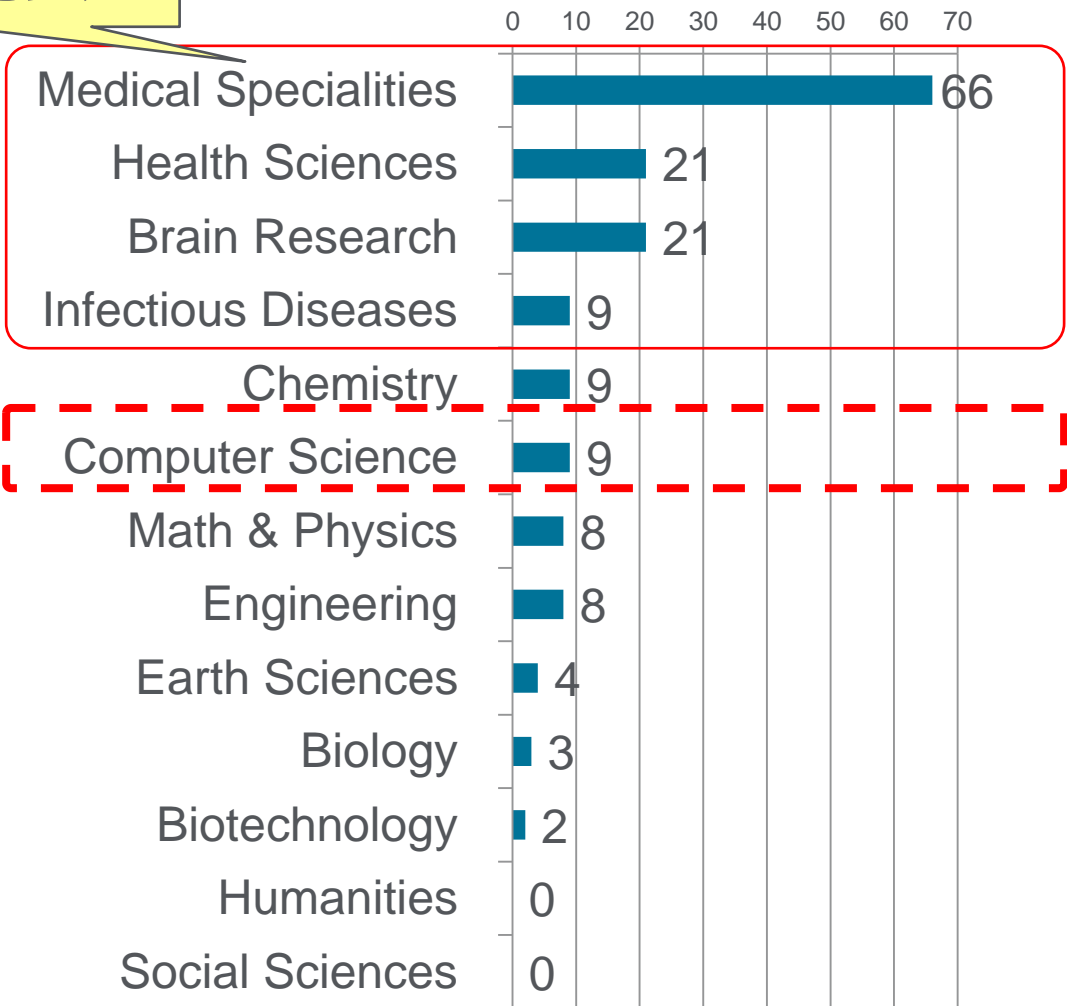
# 子領域分析

子領域達500多個

医学特強

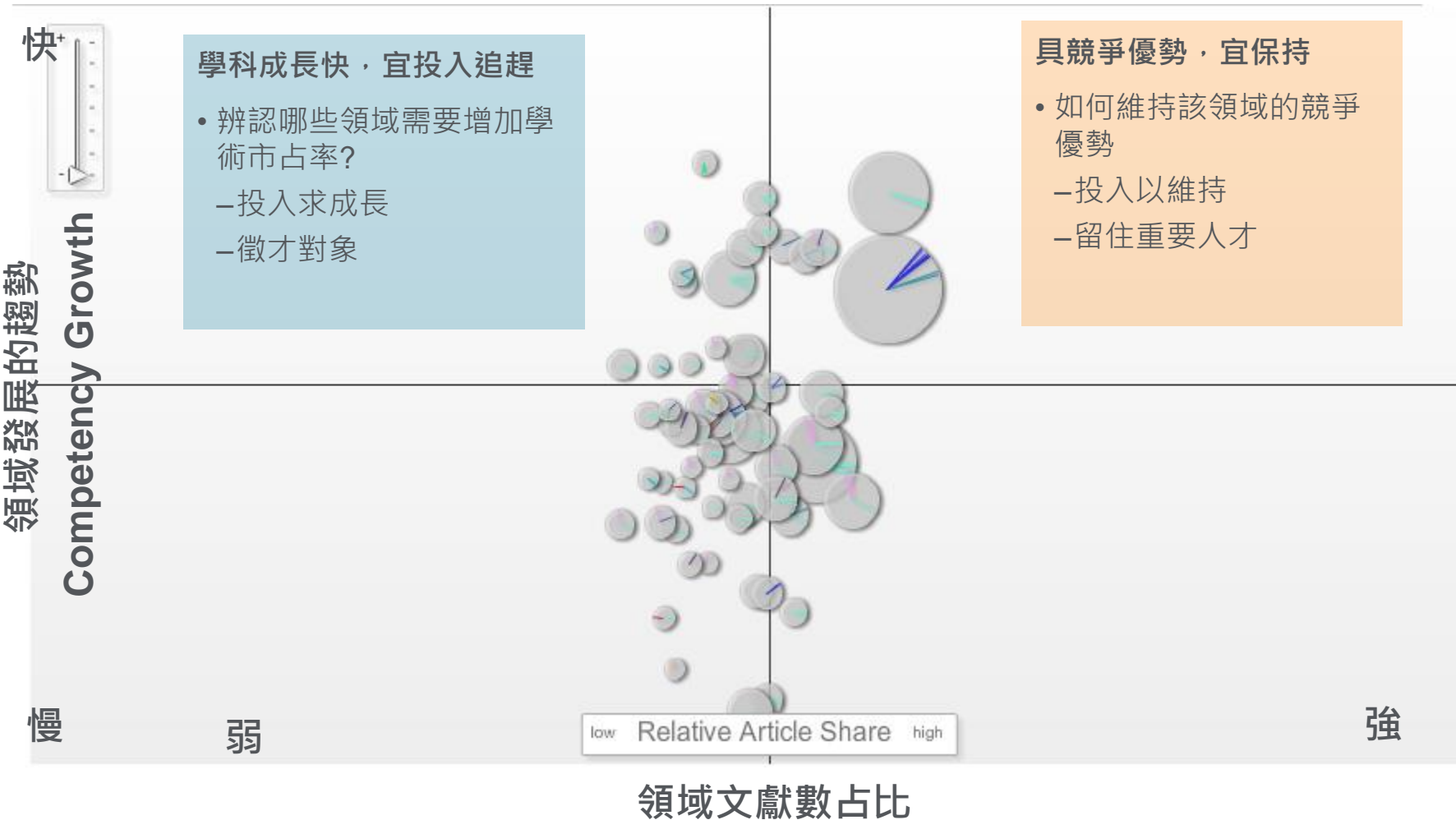
強み領域の個数

- Computer Science (2)
- General Computer Science (0)
- Computer Science (miscellaneous) (0)
- Artificial Intelligence (0)
- Computational Theory and Mathematics (0)
- Computer Graphics and Computer-Aided Design (0)
- Computer Networks and Communications (0)
- Computer Science Applications (2)
- Computer Vision and Pattern Recognition (0)
- Hardware and Architecture (0)
- Human-Computer Interaction (0)
- Information Systems (0)
- Signal Processing (0)
- Software (0)





# 制定領域發展策略





# 選定投入領域，尋找適合機構

## Competency EC #95

Algorithms; Mathematical morphology; Image processing

圖像分析

Summary

Trends

Disciplines

**Institutions**

Authors

Compare

Methodology

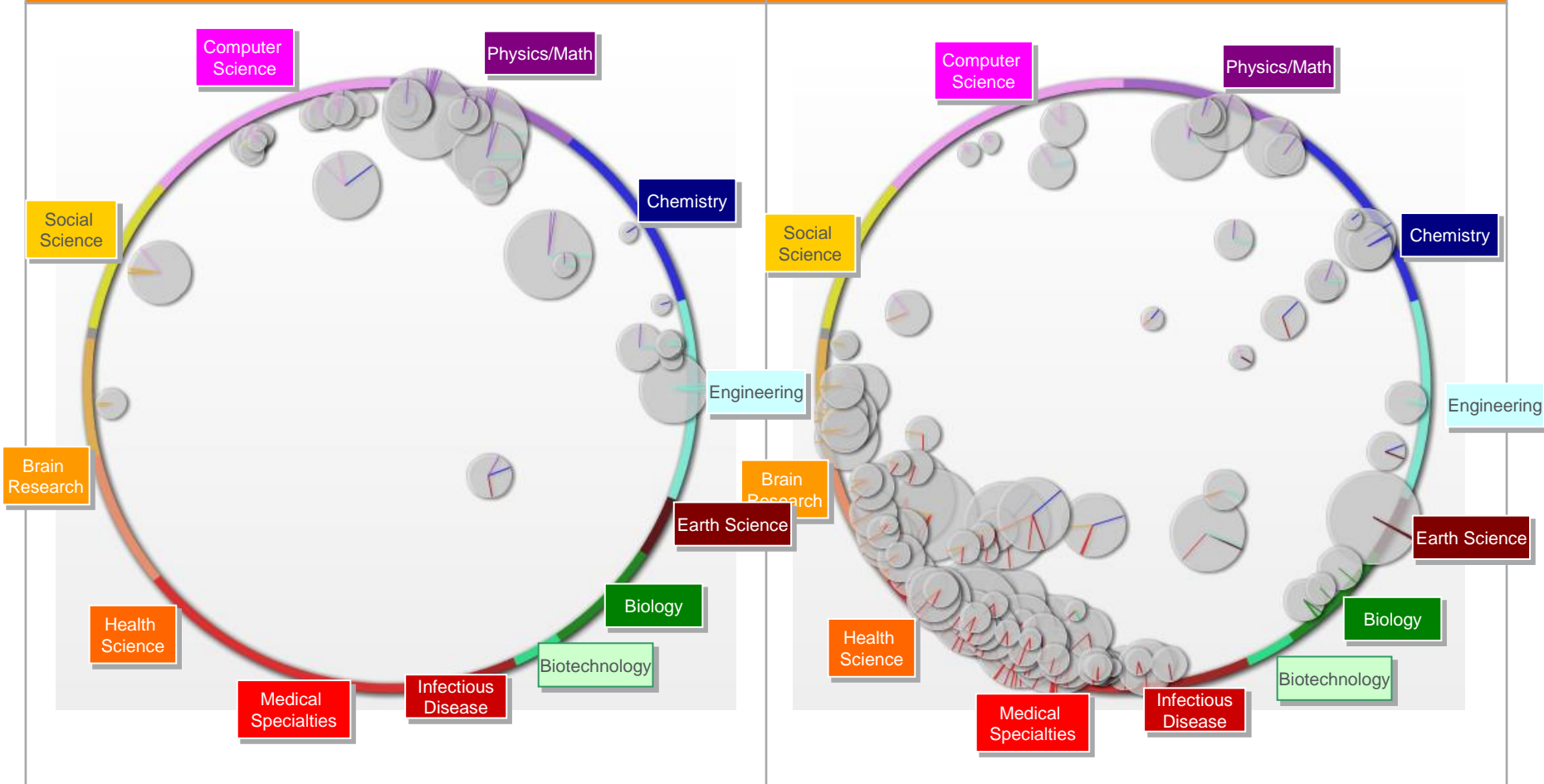
[View a different set of institutions](#) ▼

Institution	Articles published in this field	Fraction of articles
1. <a href="#">Northeastern University China</a>	5	
2. <a href="#">Shanghai Jiaotong University</a>	6	
3. <a href="#">Hitachi</a>	3	
4. <a href="#">Southeast University</a>	2	
5. <a href="#">Hebei Polytechnic University</a>	2	
6. <a href="#">Huazhong University of Science and Technology</a>	3	
7. <a href="#">Kanazawa Institute of Technology</a>	2	
8. <a href="#">Kanazawa University</a>	2	
9. <a href="#">Kinki University</a>	2	
10. <a href="#">University of Toyama</a>	2	

# 機構競争優勢比對

## 日立 (強み数33)

## 日本某大学 (強み数110)




# 日本某大學與日立共同合著


Japan

## Hitachi

Researchers at Hitachi published **3 articles** in this field.

2 of those 3 articles were co-authored with researchers at  University.

## Contribution to other competencies

Hitachi appears in 5 other competencies of  University:

Title	Authors	Year	Journal
Recognition of grouping patterns in trademarks based on the gestalt psychology <a href="#">View abstract</a>   <a href="#">View in Scopus</a>	Iguchi, H. et al.	2007	IEEJ Transactions on Electronics, Information and Systems
Recognition of grouping patterns in trademarks based on the gestalt psychology <a href="#">View abstract</a>   <a href="#">View in Scopus</a>	Iguchi, H. et al.	2009	Electronics and Communications in Japan

Competency

Keywords

Articles published in this field

Fractionalized article count

Scopus

EC #95

Algorithms; Mathematical morphology; Image processing

3

2.0

[Electronics and Communications in Japan](#)  
Volume 92, Issue 10, October 2009, Pages 49-60

**Recognition of grouping patterns in trademarks based on the gestalt psychology**

Iguchi, H.<sup>a</sup>, Abe, K.<sup>b</sup>, Misawa, T.<sup>c</sup>, Kimura, H.<sup>d</sup>, Daido, Y.<sup>e</sup> 

<sup>a</sup> Hitachi Ltd., Japan  
<sup>b</sup> Kinki University, Japan  
<sup>c</sup> University of Toyama, Japan  
<sup>d</sup>  University, Japan  
<sup>e</sup> Kanazawa Institute of Technology, Japan

# 透過SciVal Experts的學者檔案尋找相似領域的專家



**HARUHIKO KIMURA**  
木村 春彦

**Hitachi, Ltd.**

Institute of Science and Engineering

Faculty of Electrical and Computer Engineering

Title  
Professor

H-Index: 4

## Profile more >

- Chemical sensors
- Sensors
- Bioelectric potentials
- Set theory
- Inference engines
- Image retrieval
- Ultrasonic sensors
- Problem solving
- Artificial intelligence
- Computational complexity

## Institutional Network

<input type="checkbox"/> Kanazawa Institute of Technology	17
<input type="checkbox"/> University of Toyama	17
<input type="checkbox"/> Kanazawa Seiryō University	10
<input type="checkbox"/> Ishikawa National College of Technology	7
<input type="checkbox"/> Industrial Research Institute of Ishikawa	5
<input type="checkbox"/> Kinki University	5
<input type="checkbox"/> Fukuoka Institute of Technology	5
<input type="checkbox"/> Nippon Telegraph & Telephone	3
<input type="checkbox"/> Kogakuin University	2
<input type="checkbox"/> National University Corporation University of Fukui	2
<input type="checkbox"/> Hitachi, Ltd.	2

## Coauthor Network more >

### Internal Coauthors Shared Pub.

<input type="checkbox"/> HIDETAKA NANBO	13	.....
<input type="checkbox"/> MUNEHIRO NAKAMURA	4	.....

### External Coauthors Shared Pub.

<input type="checkbox"/> Takashi Oyabu	19
<input type="checkbox"/> Sadaki Hirose	13
<input type="checkbox"/> Takehiko Abe	10
<input type="checkbox"/> Makoto Koshino	8
<input type="checkbox"/> Takuya Tajima	7
<input type="checkbox"/> Shinichi Shibata	7

## Similar Experts more >

	Publications
<input type="checkbox"/> HIDETAKA NANBO	14
<input type="checkbox"/> MUNEHIRO NAKAMURA	8
<input type="checkbox"/> KENJI NAKAYAMA	127
<input type="checkbox"/> KOETSU YAMAZAKI	146
<input type="checkbox"/> SATOSHI KITAYAMA	47

## Journals more >

	Publications
<input type="checkbox"/> IEEJ Transactions on ...	10
<input type="checkbox"/> Systems and Computers...	10
<input type="checkbox"/> Sensors and Materials	8
<input type="checkbox"/> IEEJ Transactions on ...	7
<input type="checkbox"/> Transactions of the J...	7

# 評估合作產出

# 國際合著成果與其他學校相比

y-axis

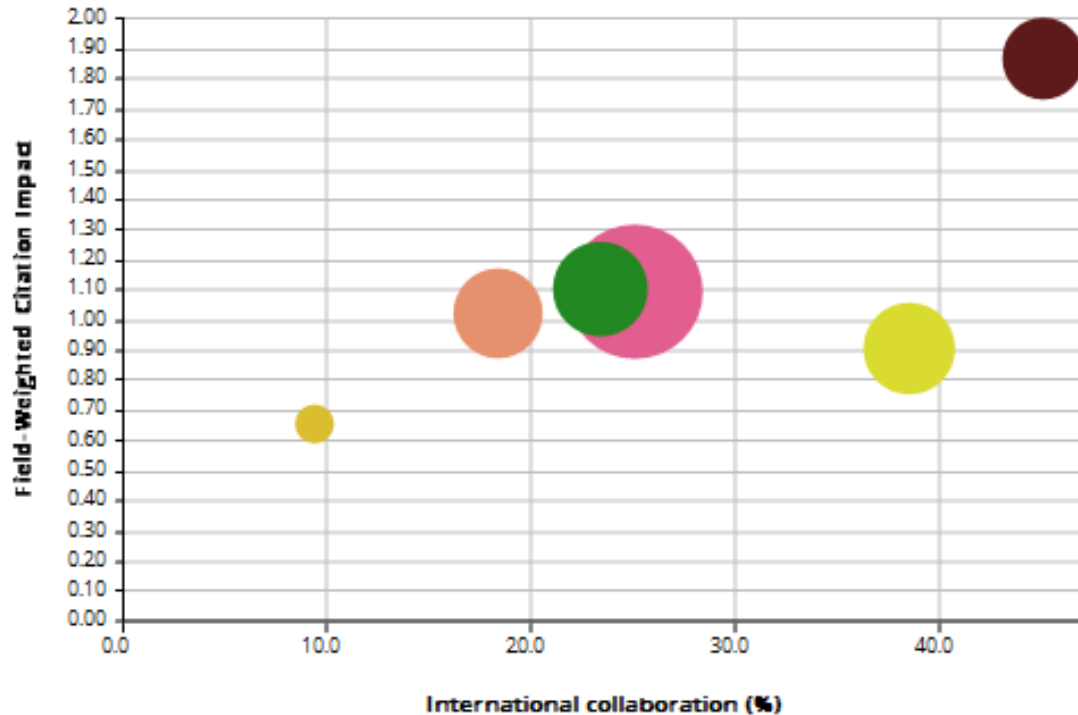
x-axis

Bubblesize

Field-Weighted Citation Impact

Collaboration

Scholarly Output



- University of Science and Technology of China
- Kanazawa University
- Lancaster University
- Kanazawa Institute of Technology
- Waseda University
- University of Malaya

Source: Scopus data up to 19 Mar 2014

1996 to >2014

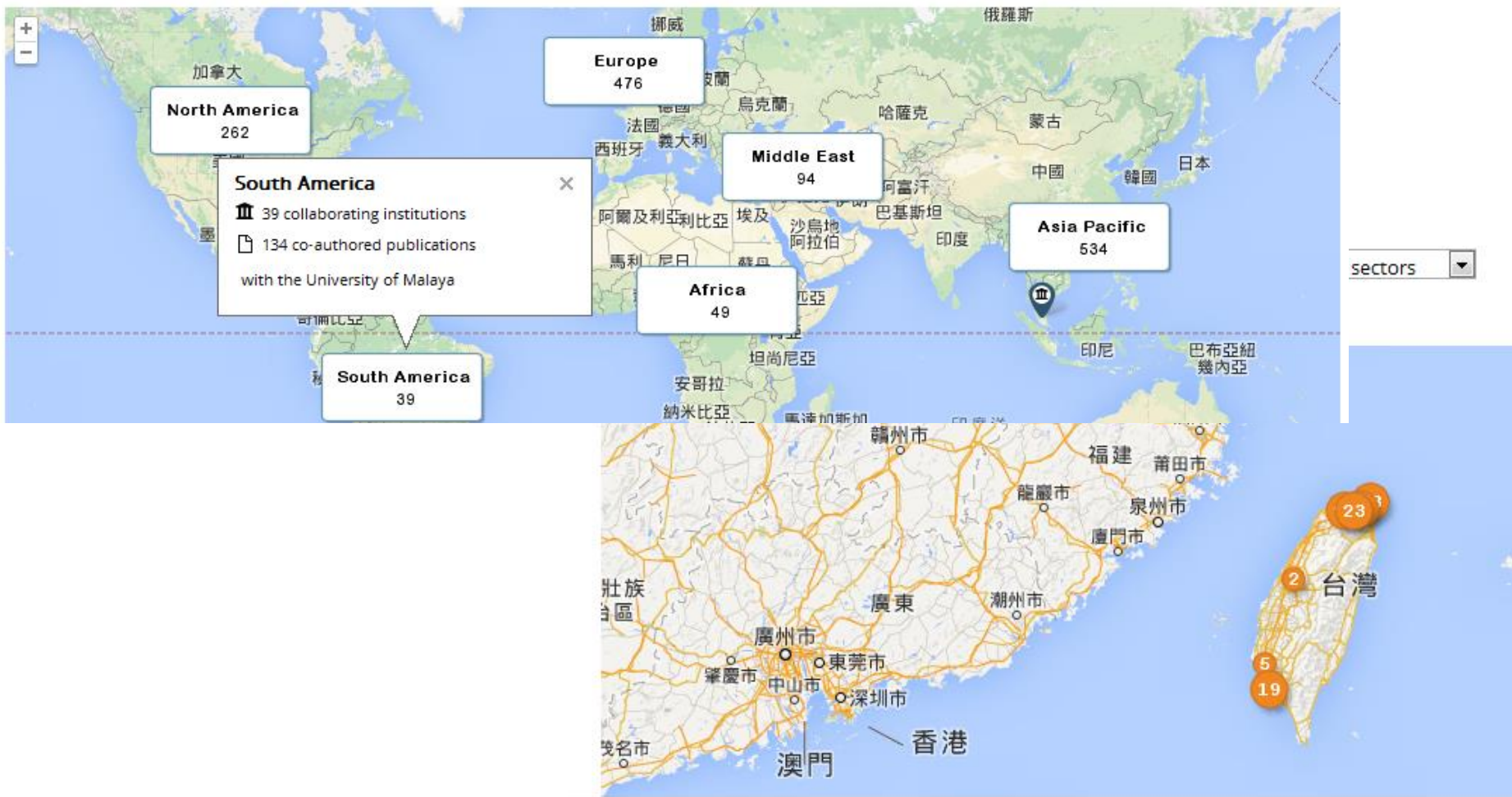
no filter selected

# Collaboration status w/ other institutions 合作現況

## Institutions collaborating with the University of Malaya

Worldwide All sectors

1,454 collaborating Institutions 5,391 co-authored publications





# 合作現況探討

## Collaboration with the University of Toronto

Year range: 2011 to 2013

Export Shortcuts

**Overview**

Current co-authors

Potential co-authors

### University of Malaya

**46** ▲ co-authors with the University of Toronto

#### Total output of this Institution

Citations **23,914**

Citations per Publication **2.4**

Field-Weighted Citation Impact **1.05**

Publications **10,006** ▲

Authors **7,061** ▲

### Co-authored publications

**44** ▲

[View list of publications](#)

Citations **412**

Citations per Publication **9.4**

Field-Weighted Citation Impact **4.32**

### University of Toronto

**44** ▲ co-authors with the University of Malaya

#### Total output of this Institution

Citations **236,168**

Citations per Publication **5.6**

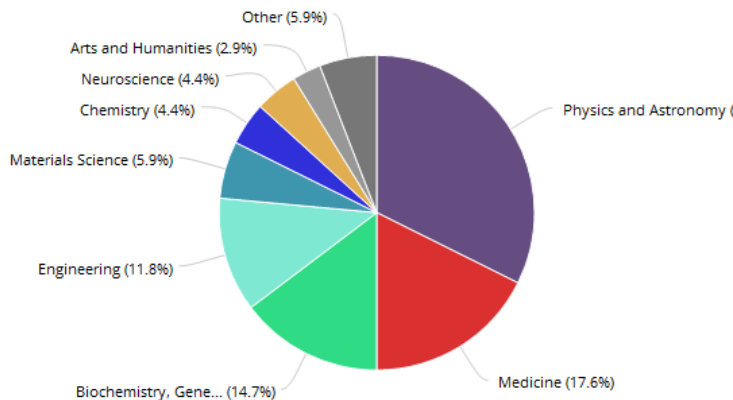
Field-Weighted Citation Impact **1.94**

Publications **41,882** ▲

Authors **30,227** ▲

### Co-authored publications by Journal Category

Pie chart Bar chart



### Publications co-authored by the University of Malaya and the University of Toronto

Year range: 2011 to 2013

▼ Authors		44 publications				
▼ Institutions		Title	Authors	Year	Journal	Citations
<input checked="" type="checkbox"/> All authors						
<input type="checkbox"/> Antonov, A.	19					
<input type="checkbox"/> Bhadra, S.	19					
<input type="checkbox"/> Dementiev, R.K.	19					
<input type="checkbox"/> Gladkov, D.	19					
<input type="checkbox"/> Gwenlan, C.	19					
▼ Institutions						
<input checked="" type="checkbox"/> All institutions						
<input type="checkbox"/> University of Malaya	44					
<input type="checkbox"/> University of Toronto	44					
<input type="checkbox"/> McGill University	29					
<input type="checkbox"/> The Ohio State University	27					
<input type="checkbox"/> Imperial College London	24					
▼ Countries						
▼ Journals						
		The movement disorder society evidence-based medicine review update: Treatments for the motor symptoms of Parkinson's disease	Fox, S.H. et al.	2011	Movement Disorders	88
		Large-scale genotyping identifies 41 new loci associated with breast cancer risk	Michailidou, K. et al.	2013	Nature Genetics	66
		Multiple independent variants at the TERT locus are associated with telomere length and risks of breast and ovarian cancer	Bojesen, S.E. et al.	2013	Nature Genetics	35
		GWAS meta-analysis and replication identifies three new susceptibility loci for ovarian cancer	Pharoah, P.D.P. et al.	2013	Nature Genetics	28
		Common alleles at 6q25.1 and 1p11.2 are associated with breast	Antoniou, A.C. et al.	2011	Human Molecular	28



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