



# 연구성과 분석을 위한 새로운 접근

– SciVal Suite를 중심으로 –

2011. 11. 02

SciVal Product Sales Manager

장현주 차장



# AGENDA

## Global Insight in Research landscape

- Competition & Collaboration
- Research assessment

## Research performance analysis - Methodology

- Scopus
- Data Source

## SciVal Suite

- Spotlight
- Strata
- Experts

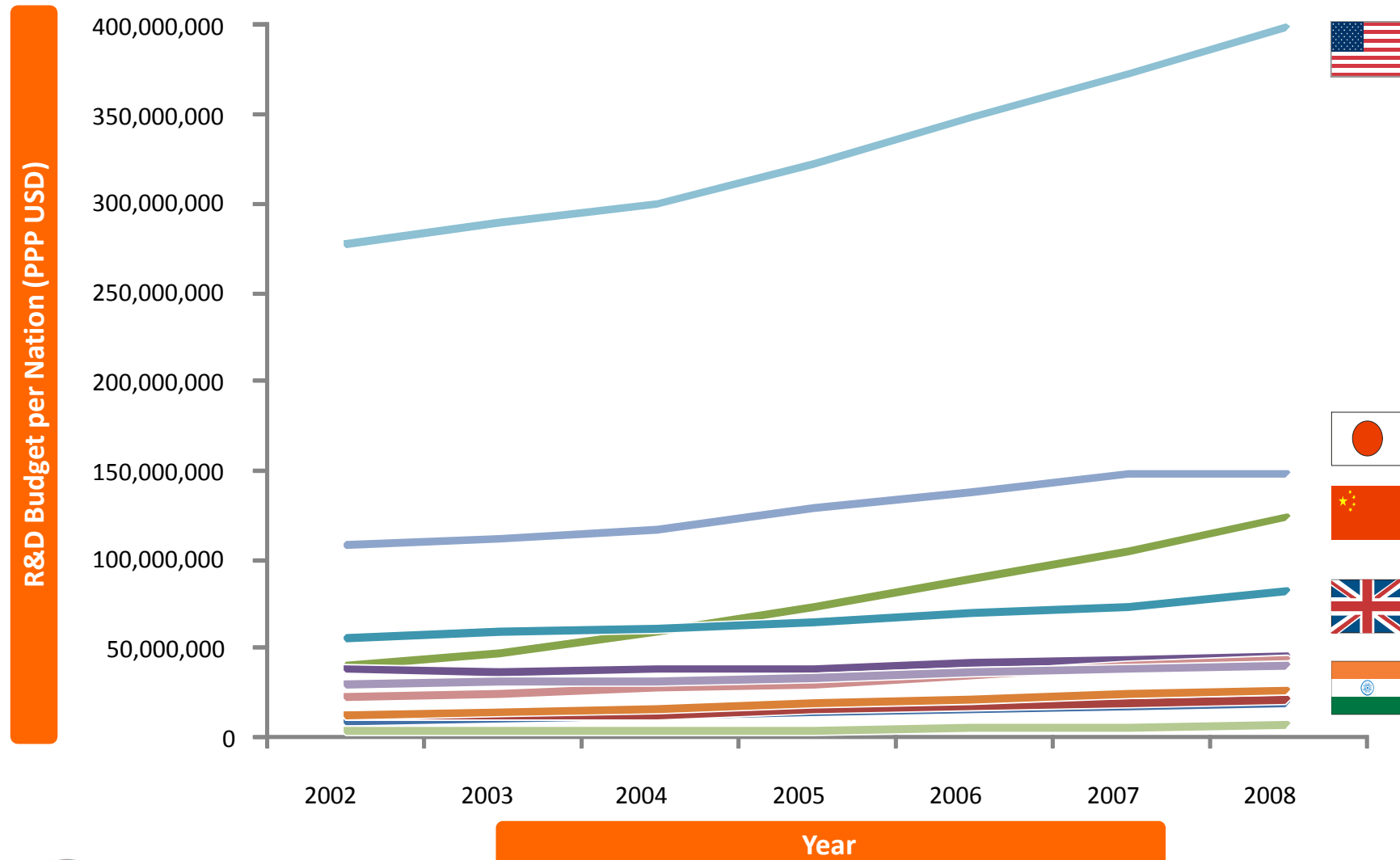


# Global Insight in Research Landscape



# Competition ...

## Investment in R&D at a National Level

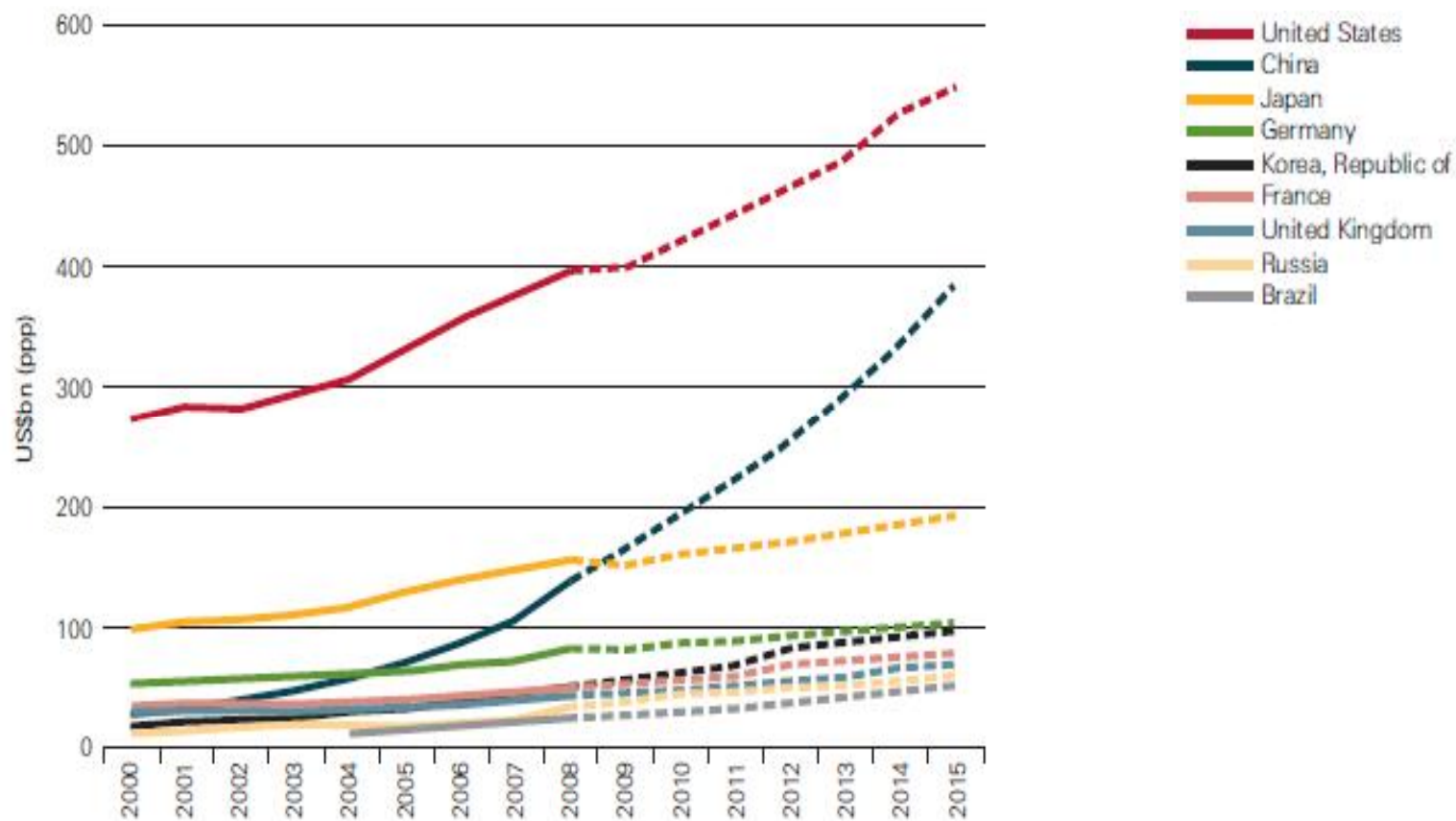


Note: China is total of "China", "China, Hong Kong Special Administrative Region" and "China, Macao Special Administrative Region". Data for the following years/nations are estimated data; 2008 India, 2003/2005/2007 Australia.

Source: UNESCO, Institute of Statistics

# Competition...

## Increase in Global Competition

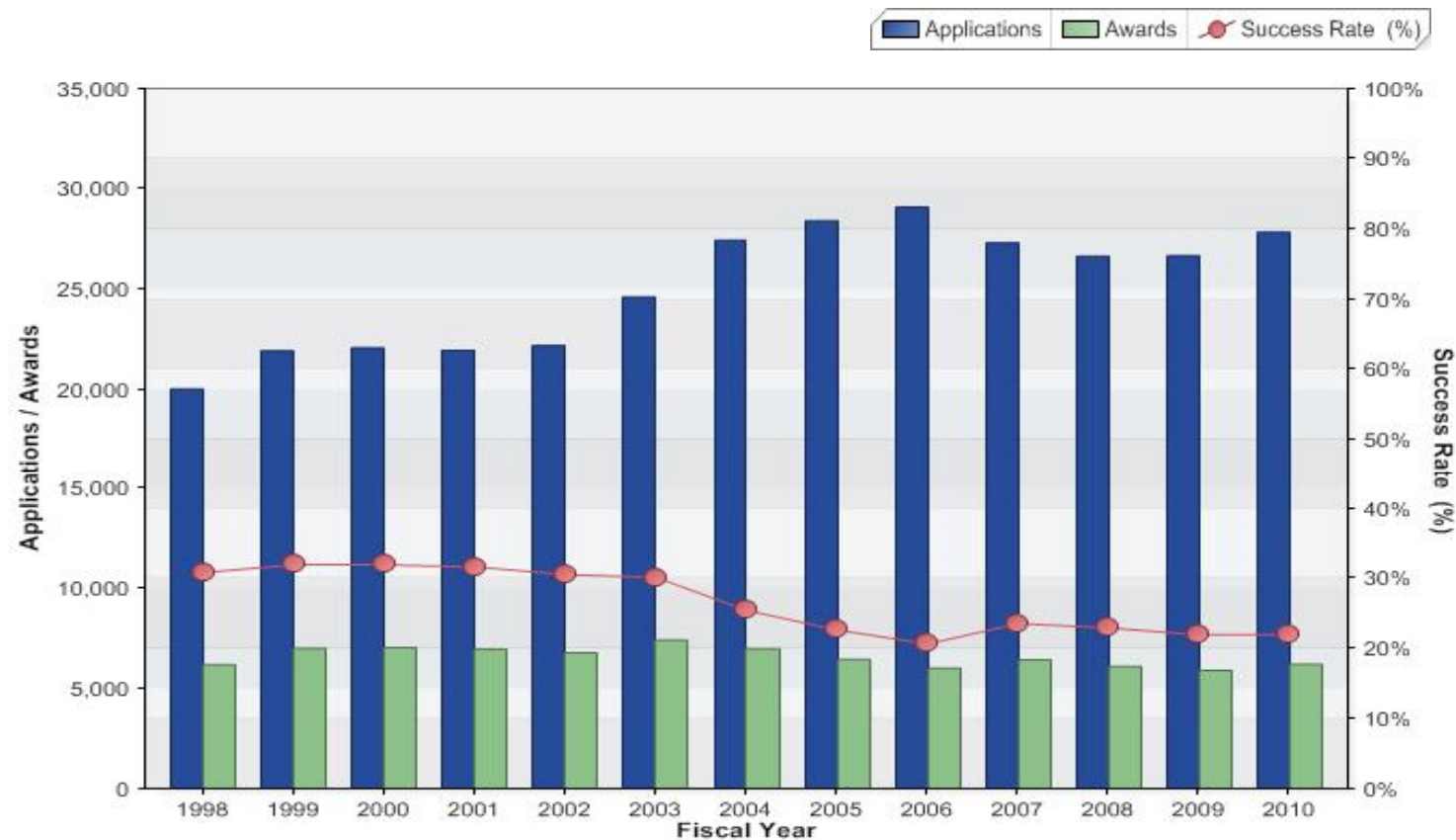


Source: Knowledge, Networks and Nations: Global scientific collaboration in the 21st century, The Royal Society, 2011



# Competition ...

## Increased Competition for Limited Resources



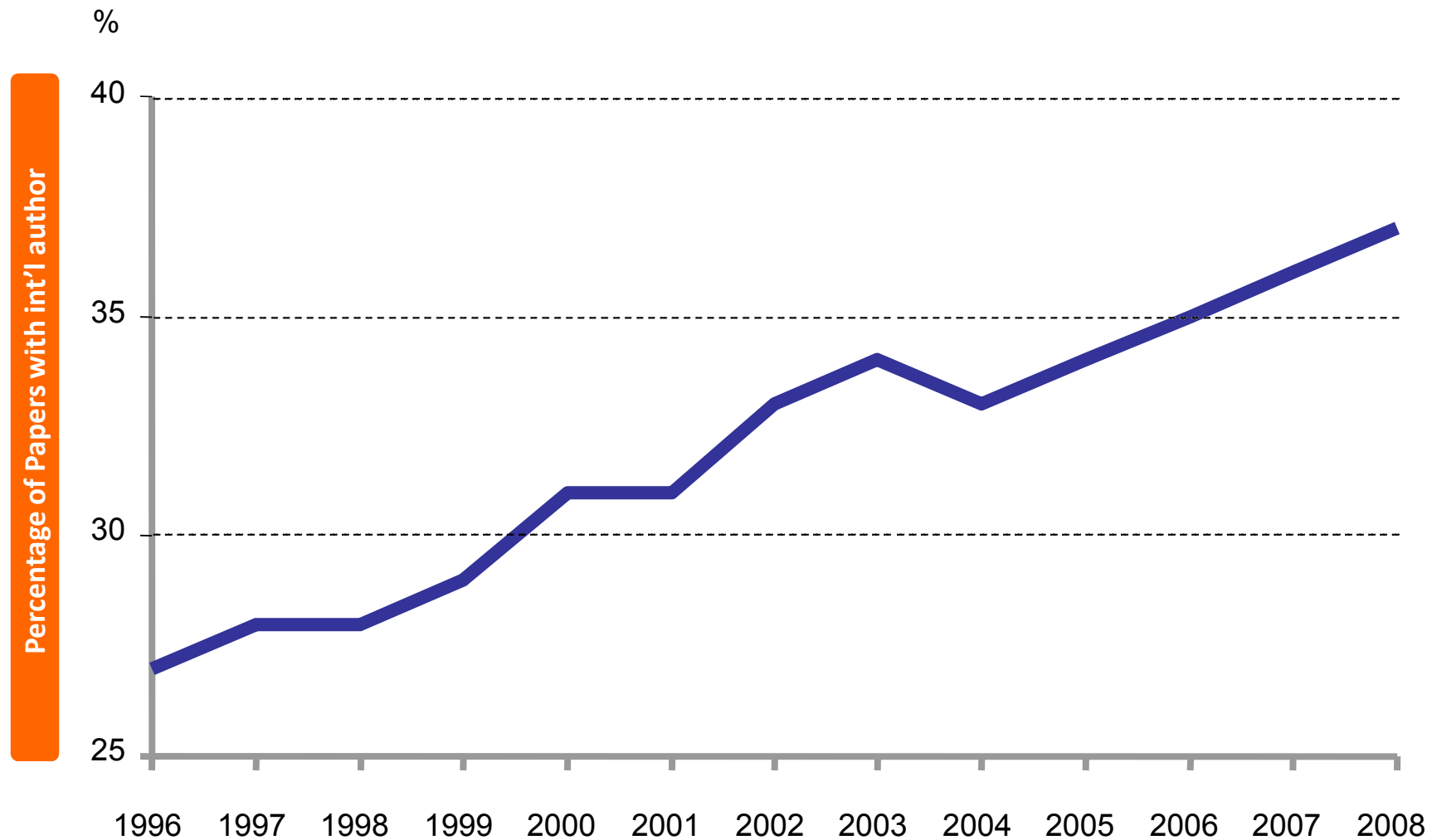
**Increase in applications, but lower awards and success rate**



Source: NIH IMPAC, Success Rate File, April 15, 2011

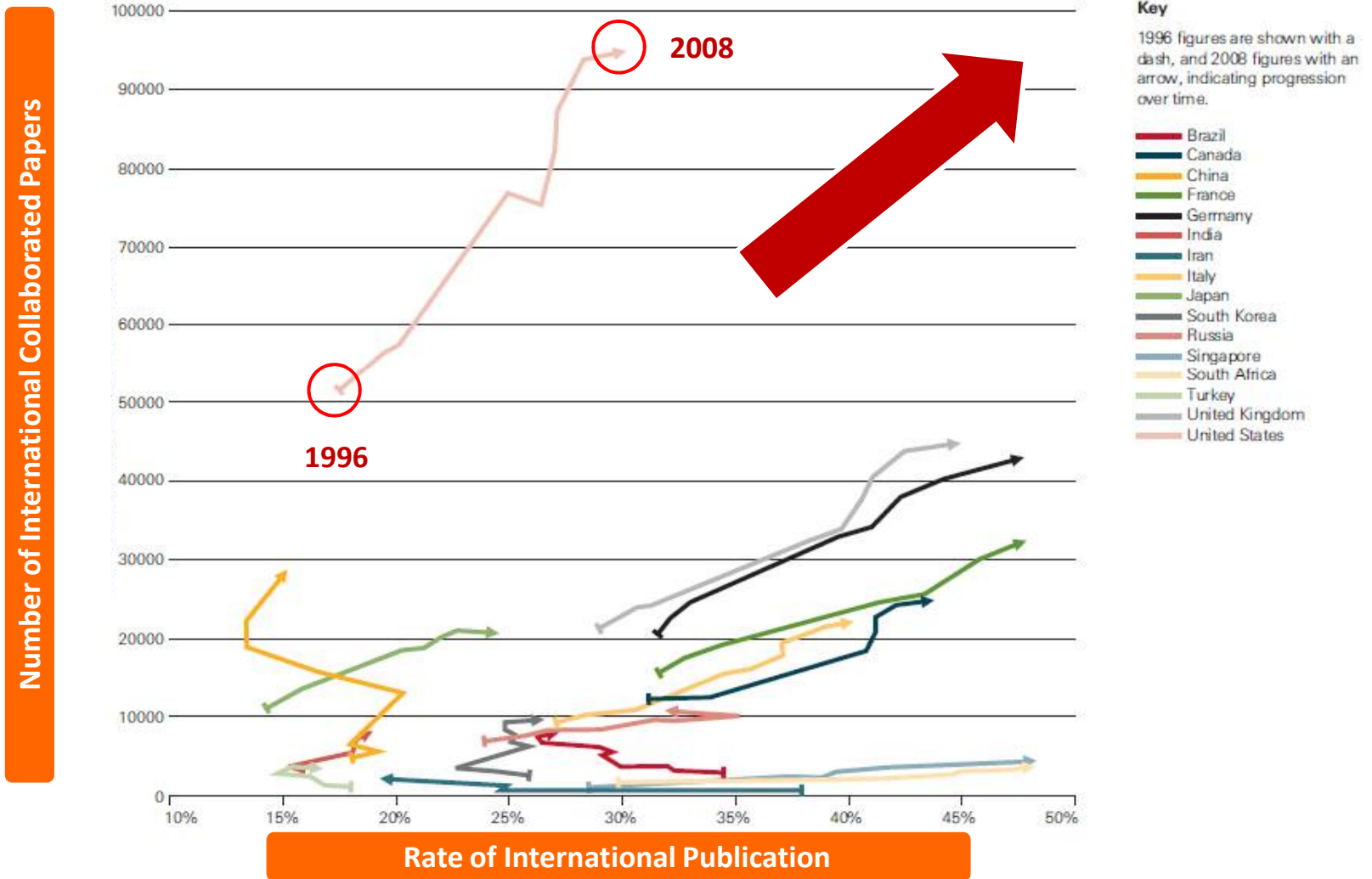


## Collaboration: Proportion of the world's papers produced with more than one international author



# Collaboration:

## Global trend of increasing collaboration in research activities

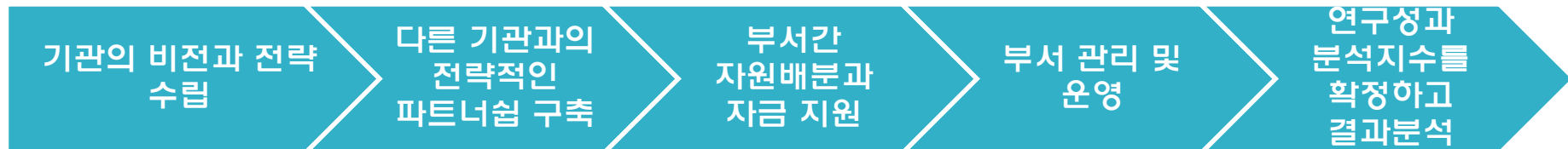


# 다면적인 연구분석 / 평가

평가단위	목적	연구성과 평가기준	계량서지학 지수	그외 평가 기준
개인	자원 할당	연구 생산성	논문	Peer review
연구그룹	연구성과 향상	질, 학술적인 영향력	저널 인용 지수	특허, 라이선스, 그외 자료
연구부서	내부부서간의 참여 확대	혁신 및 사회적인 영향력	실질적인 피인용도	컨퍼런스 초대
기관	국제적인 협력에 대한 동기부여	지속성 및 규모	국제적인 공저자 쉽	외부 연구 수입
연구분야	승진, 채용	연구 인프라	인용명성	박사 수료율



# 연구분석에 관한 어려움과 과제



## 업무/연구활동

- 연구전망을 조사하고 차별화를 위한 기회 발굴

- 선택/집중 분야의 리더십을 강화하기 위한 명확한 비전과 전략을 개발

- 기관의 장점과 약점을 분석

- 경쟁(유사) 기관의 관련 장점과 약점 분석

- 잠재적인 파트너를 확인하고 우선순위 결정

- 파트너십을 위한 강력한 근거 개발

- 내부 자원과 외부 기관에서의 자금 지원

- 인력과 정책에 관한 부서의 자금 요청 검토 및 우선순위 결정

- 대규모의 자본 투자 결정

- 재능있는 우수한 연구자, 관리자를 확보 및 채용

- 명확한 타겟과 타임라인을 갖춘 목표 확립

- 예산과 방침에 적합한 중요 주도권 확립

- 기관에 영향을 미칠 수 있는 잠재적인 외부 개발 요인 모니터

- 발전과 변화를 촉진할 수 있는 기회 발굴

- 중요 성과 분석 방법 확립

- 개인 연구자, 직원의 성과 분석 및 평가

- 기관내부적으로 부서간의 성과 벤치마킹

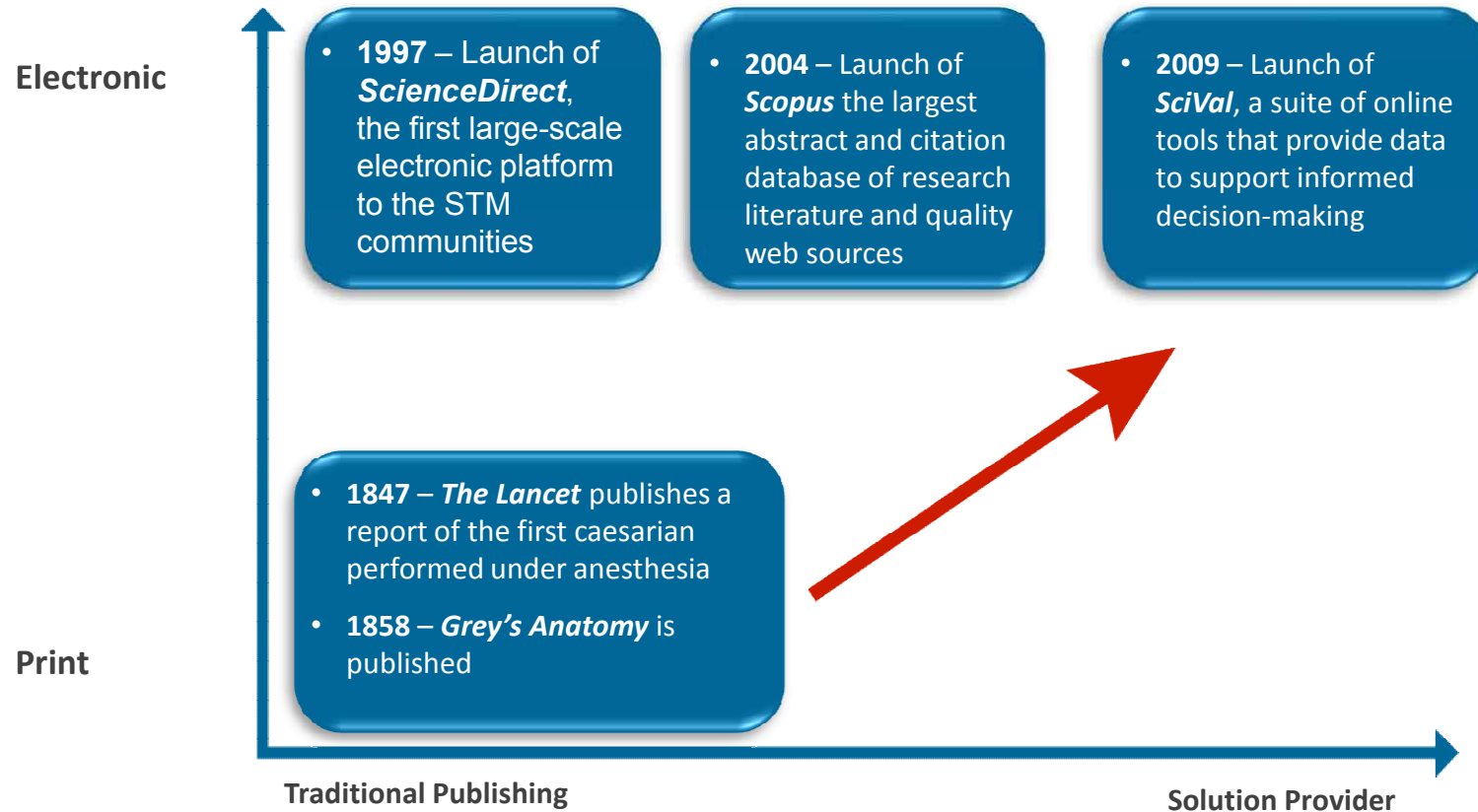
- 경쟁 기관과 성과를 비교하여 벤치마킹



연구 성과를 평가하고 전략적인 방향, 연구자 유치 및 유지, 잠재적인 협력자에 대한 의사결정을 지원하는 솔루션 필요



# Research performance analysis - Methodology



Elsevier: 과학, 의학 관련 연구자들의 연구 생산성과 의사결정을 향상시키기 위한  
“전자 솔루션” 개발 선구자



전세계 주요 연구기관에서  
연구 성과 분석 시 Scopus 활용

- 초록 및 인용 데이터베이스로 과학, 기술, 의학, 사회과학 분야의 Peer-reviewed 저널 수록
- 세계 주요 5,000여 출판사의 19,000 여종의 저널의 초록, 인용정보 제공
  - 18,000 Peer-reviewed 저널
  - 440만 건의 Conference paper
  - 400 Trade Publication
  - 300 Book Series
- Journal Matrix
  - SNIP(The Source-Normalized Impact per Paper): 연구 주제분야에 따라 각 인용패턴을 분석하여 타 주제분야의 저널 비교
  - SJR (SCImago Journal Rank): 저널의 명성에 따라 citation value가 부여된 지수

# Research Outputs(2006-2010) - Countries

## <Publication Overview: 2006–2010 Scopus 등재 논문 기준 >

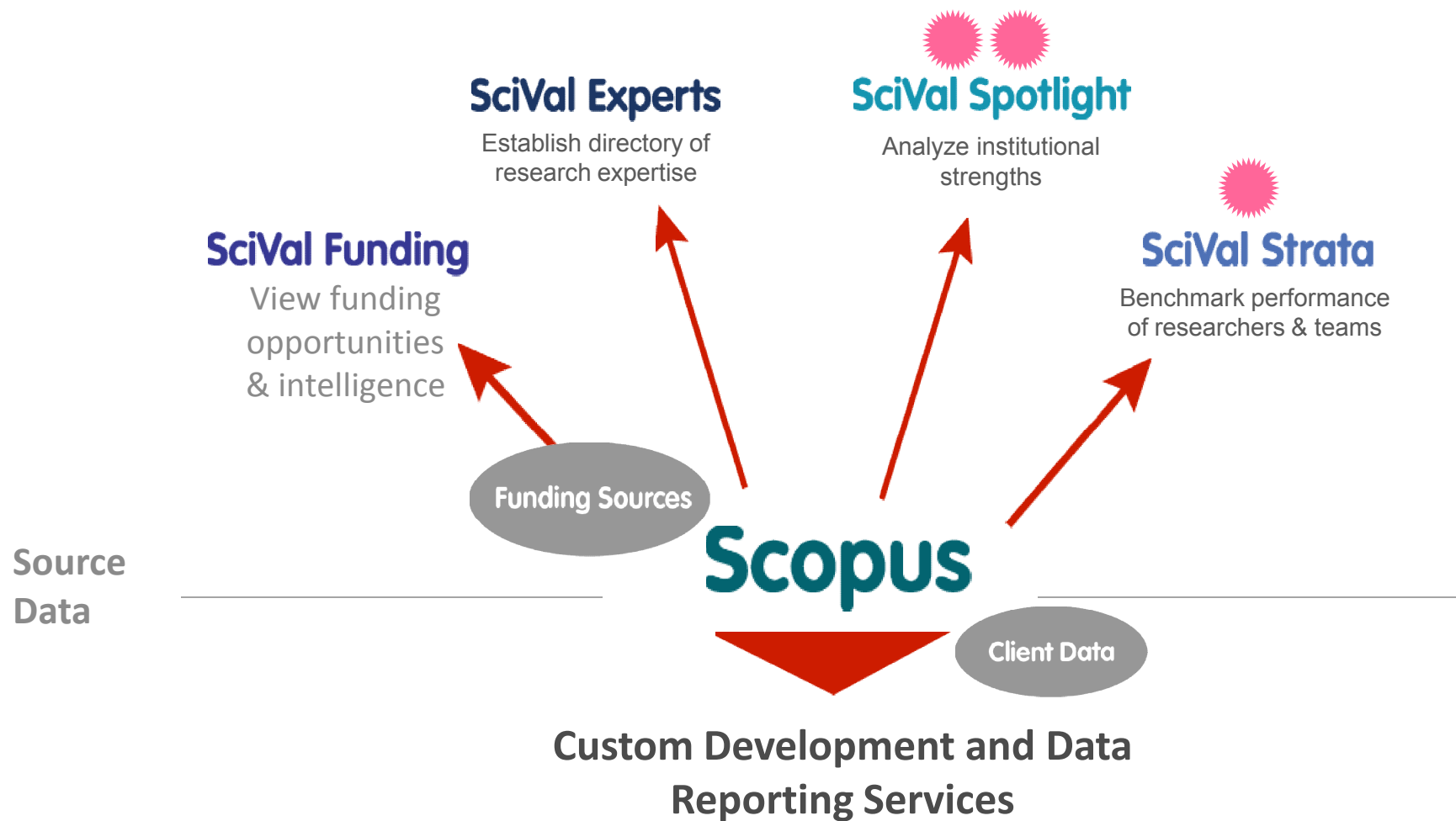
Country	Articles ▼	Growth	Articles by sector			Citation count	CPA	SotA
			Academic	Government	Industry			
United States	2,406,043	0.46% ▲	78.07%	13.42%	8.52%	12,405,311	5.16	0.29
China	1,253,794	14.28% ▲	85.56%	12.55%	1.89%	1,842,112	1.47	1.05
United Kingdom	639,502	1.72% ▲	85.70%	7.65%	6.65%	3,246,385	5.08	0.29
Germany	579,831	2.55% ▲	71.55%	20.09%	8.37%	2,785,969	4.80	0.75
Japan	578,603	-1.40% ▼	75.87%	16.24%	7.90%	1,855,516	3.21	0.02
France	428,554	3.06% ▲	57.15%	29.06%	13.80%	1,870,510	4.36	0.25
Canada	359,142	3.00% ▲	85.62%	8.51%	5.87%	1,707,169	4.75	0.00
Italy	338,088	3.35% ▲	75.12%	17.86%	7.02%	1,460,628	4.32	0.44
Spain	282,498	5.81% ▲	69.88%	17.11%	13.01%	1,072,876	3.80	0.31
India	272,686	11.33% ▲	72.37%	24.72%	2.91%	531,413	1.95	-2.65
Australia	246,123	5.87% ▲	80.74%	8.70%	10.56%	1,067,605	4.34	0.04
<b>Korea (Republic of)</b>	<b>238,411</b>	<b>5.82% ▲</b>	<b>76.43%</b>	<b>18.53%</b>	<b>5.04%</b>	<b>618,531</b>	<b>2.59</b>	<b>0.27</b>
Netherlands	192,364	4.69% ▲	81.30%	11.02%	7.68%	1,123,786	5.84	0.79
Brazil	190,706	9.30% ▲	89.77%	9.03%	1.20%	412,346	2.16	-0.96
Russian Federation	168,550	1.36% ▲	35.56%	64.44%	0.00%	262,977	1.56	-3.53
Taiwan	161,880	7.11% ▲	83.79%	9.52%	6.69%	408,809	2.53	-0.12
Switzerland	138,161	3.55% ▲	82.31%	10.81%	6.88%	883,359	6.39	1.06
Turkey	128,843	7.14% ▲	94.76%	1.33%	3.91%	252,842	1.96	-1.43

# Research Outputs(2006-2010) – Korea Institutions

## <Publication Overview: 2006–2010 Scopus 등재 논문 기준 >

Institution	Articles ▼	Growth	Collaboration			Citation count	CPA	SotA	Top 5 rate
			Overall	National	International				
Seoul National University	32,000	3.82% ▲	67.02%	53.17%	24.99%	119,271	3.73	-0.01	74
Yonsei University	19,333	6.22% ▲	62.92%	49.26%	23.40%	66,296	3.43	0.22	50
Korea University	16,405	6.04% ▲	70.76%	57.37%	25.16%	52,059	3.17	0.40	44
Sungkyunkwan University	14,671	5.70% ▲	64.62%	54.12%	22.47%	48,757	3.32	0.42	33
Korea Advanced Institute of Sc...	13,729	6.60% ▲	58.63%	44.83%	21.03%	41,254	3.00	0.72	40
Hanyang University	12,415	2.09% ▲	63.10%	50.83%	21.22%	32,480	2.62	0.21	35
Pusan National University	9,023	4.77% ▲	64.85%	50.85%	23.15%	24,007	2.66	-0.51	19
Kyungpook National University	8,708	4.19% ▲	67.98%	54.00%	27.53%	25,882	2.97	-0.23	16
Pohang University of Science a...	8,161	1.66% ▲	62.26%	43.69%	28.41%	34,163	4.19	0.20	15
Kyung Hee University	8,096	17.02% ▲	66.20%	52.48%	23.09%	19,714	2.44	0.00	22
Chonnam National University	7,222	5.91% ▲	65.51%	54.46%	24.18%	20,793	2.88	-0.50	11
Inha University	7,202	-0.30% ▼	52.40%	40.31%	18.22%	18,791	2.61	0.25	15
Chungnam National University	7,139	4.05% ▲	75.19%	64.60%	21.54%	18,367	2.57	-0.24	14
University of Ulsan	6,801	10.09% ▲	58.94%	49.27%	16.70%	25,859	3.80	0.09	8
Chonbuk National University	6,125	5.19% ▲	66.75%	47.93%	28.24%	17,679	2.89	-0.12	12
Electronics and Telecommunicat...	6,027	-10.70% ▼	64.49%	57.91%	12.37%	8,926	1.48	2.75	27
Konkuk University	5,929	7.49% ▲	70.82%	59.90%	20.89%	15,210	2.57	-0.15	14
Samsung	5,704	-3.13% ▼	73.19%	58.02%	22.55%	10,975	1.92	1.94	19

# SciVal suite - Products

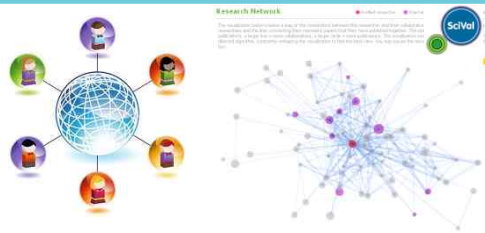


# SciVal Suite

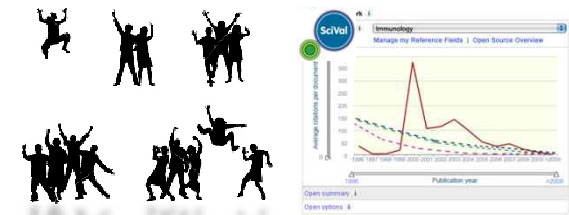
## Spotlight: Strategise for research excellence



## Experts: Encourage Collaborations



## Strata: Benchmark Faculty and Groups



# SPOTLIGHT

Spotlight – Scopus에 수록된 논문을 대상으로 Co-citation analysis (동시인용분석)을 통해 기관의 연구 역량(강점분야)을 분석하고, 주제분야별 역량 분포 및 세계적인 경쟁우위 현황을 이해할 수 있도록 도와주는 연구분석 솔루션

## ■우리기관의 연구 역량(강점분야) 분석

- ✓해당 연구 역량에 대한 주제별 분포, 강점 요인(논문 수, 피인용)
- ✓아티클 점유율 (주제분야)
- ✓다학제간의 연구 성과 분석

## ■우리기관의 우수 연구자 및 협력 현황 분석

- ✓연구 역량의 우수 연구자 및 연구기관 분석
- ✓연구자, 기관간의 협력 현황 분석

# Spotlight - Competencies Map

## Subject areas

- ☐ Math & Physics (50)
- ☐ Chemistry (43)
- ☐ Engineering (52)
- ☐ Earth Sciences (1)
- ☐ Biology (43)

COMPUTER SCIENCE

MATH & PHYSICS

CHEMISTRY

## Distinctive Competency #5

Main Keywords: nitric oxide, cancer cells, reactive oxygen

Competency	Authors in this country	Keywords	Disciplines	Articles published	
				worldwide	country
DC #5	Kim D.H.; Ahn J.H.; Cho J.Y.	nitric oxide; cancer cells; reactive oxygen	Phytochemistry; Food Chemistry; Clinical Cancer Research	24,773 ▲	3,186 ▲

The table below lists some additional metrics for this competency, including fractionalized article counts

	Market Size (Global)	Article Share (Korea (Republic of))		RAS	RRS	SotA
	7,829.6	1,576.6	20.1%	1.10	1.45	1.18
Growth	6.48% 	48.15 	1.49% 			

## Korea (Republic of) articles

Fractionalized articles	1,576.6	(0.7% of 238411 articles)
Total articles	3,186	<a href="#">View list of articles</a>
Rank past 5 years	1	
Rank past 2 years	1	
Citation count	5,522.4	

## Top authors from Korea (Republic of)

Name	Fractionalized articles
Kim D.H.	57
Ahn J.H.	25.5
Cho J.Y.	24.2
Cho J.Y.	20.3
Bae E.A.	19.7



버블 = 기관의 고유역량



# Spotlight - Competencies Matrix

## <Competencies Matrix>

- 기관의 연구역량을 Matrix로 분석
- 각 역량의 현재 위치를 분석하고 어느 주제를 선택 및 집중 개발 및 투자해야 하는지에 대한 의사 결정 시 활용

### Subject areas

- Math & Physics
- Chemistry
- Engineering
- Earth Sciences
- Biology
- Biotechnology
- Infectious Diseases
- Medical Specialities
- Health Sciences
- Brain Research
- Humanities
- Social Sciences
- Computer Science
- Other

### Question Subject?

논문 점유율을 높일 수 있는 방법?

### Star Subject

현재의 성장을, 점유율 유지하기 위한 방법?  
- 우수연구자 유지



# Spotlight – Top authors

## Distinctive Competency # 5

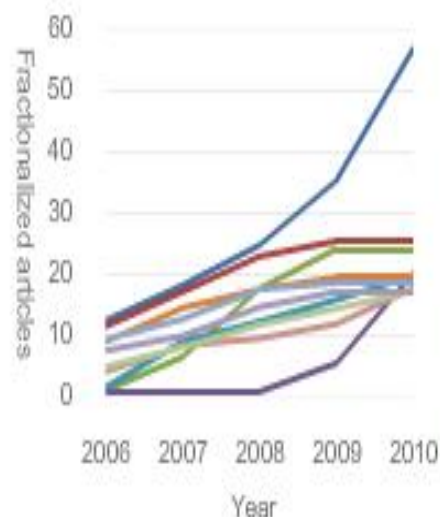
Main Keywords: nitric oxide, cancer cells, reactive oxygen

View top authors:

- ☒ All authors
- ☐ Korea (Republic of) authors
- ☐ Authors from other countries
- ☐ Collaborating authors

## All authors

The table below lists the top 10 authors contributing articles to this competency.

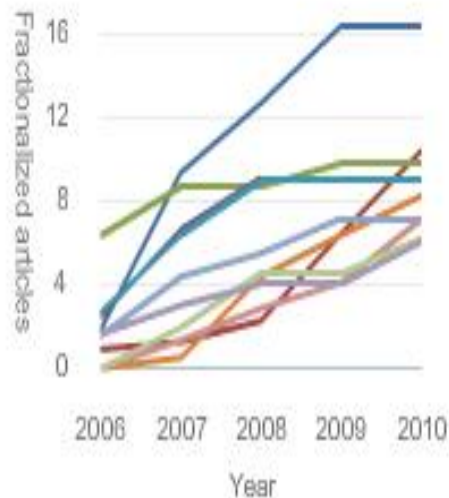


Name	Institution / Country		Fractionalized articles	Total articles	SotA	Citation count
1. Kim D.H.	Ewha Womans University	KOR	57.0	85	1.60	192.4
2. Ahn J.H.	Konkuk University	KOR	25.5	28	2.98	119.0
3. Cho J.Y.	Kangwon National Univ...	KOR	24.2	33	2.18	154.0
4. Cho J.Y.	Kangwon National Univ...	KOR	20.3	22	3.83	35.7
5. Matsuda H.	Kyoto Pharmaceutical U...	JPN	19.9	47	2.23	180.9
6. Bae E.A.	Kyung Hee University	KOR	19.7	24	0.57	116.2
7. Lim Y.S.	Konkuk University	KOR	18.7	23	2.44	107.5
8. Kim S.H.	Yonsei University	KOR	17.8	36	2.77	151.2
9. Hahn E.	Chungbuk National Uni...	KOR	17.4	30	0.12	81.4
10. Kim B.G.	Konkuk University	KOR	17.2	19	3.22	109.8

# Spotlight – Top authors

View top authors:

- ☐ All authors
- ☐ Korea (Republic of) authors
- ☐ Authors from other countries
- ☒ Collaborating authors



## Collaborating authors

The table below lists the top 10 contributing authors who are not from the Korea (Republic of), but have co-authored at least one article in this competency with someone from the Korea (Republic of).

Name	Institution / Country			Fractionalized articles	Total articles	SotA	Citation count
1. Yoshikawa M.	Kyoto Pharmaceutical U...	JPN		16.4	42	2.74	179.8
2. Ho C.T.	Rutgers University	USA		10.4	24	2.22	40.2
3. Kim S.Y.	Harvard University	USA		9.8	13	-0.26	86.5
4. Kang K.S.	University of Toyama	JPN		9.1	12	1.22	81.3
5. Yokozawa T.	University of Toyama	JPN		9.0	13	1.29	96.1
6. An R.B.	Yanbian University	CHN		8.3	12	0.59	9.0
7. Wang Z.t.	Shanghai University of...	CHN		7.2	14	-1.84	20.7
8. Hirai S.	Kyoto University	JPN		7.2	10	3.01	21.3
9. Murthy H.N.	Karnatak University	IND		6.2	8	1.64	14.9
10. Vuksan V.	University of Toronto	CAN		6.1	7	2.28	44.8

# Spotlight – Top Institutions

## Distinctive Competency # 5

Main Keywords: nitric oxide, cancer cells, reactive oxygen

Region **Global**

[How to read this page »](#)

General

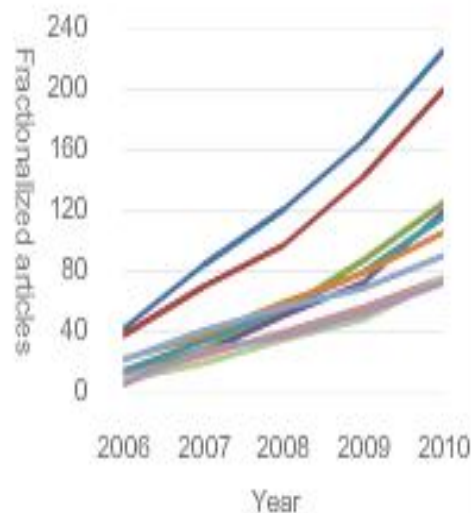
Rank Lists

Graphs

View top institutions:

☐ All institutions

☒ Korea (Republic of) institutions



## Korea (Republic of) institutions

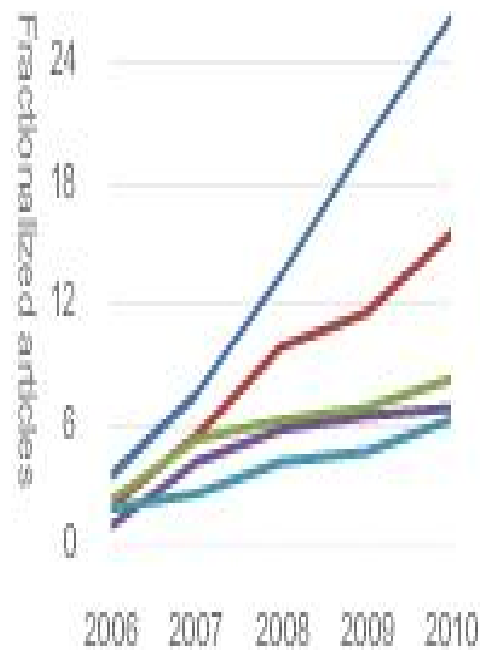
Institution (Country)			Fractionalized articles	Total articles	RRS	SotA	Citation count
1.	Seoul National University	KOR	225.5	454	1.25	1.67	1,162.6
2.	Kyung Hee University	KOR	200.1	375	0.80	1.08	805.4
3.	Kangwon National University	KOR	125.2	199	0.44	1.36	477.1
4.	Chungnam National University	KOR	119.9	212	0.32	1.24	289.0
5.	Chungbuk National University	KOR	116.4	219	0.61	0.99	351.9
6.	Konkuk University	KOR	106.0	177	0.33	2.16	371.2
7.	Korea Research Institute of Bios...	KOR	90.8	161	0.68	1.28	529.0
8.	Kyungpook National University	KOR	75.9	167	0.20	1.21	326.5
9.	Wonkwang University	KOR	75.2	142	0.32	1.16	210.8
10.	Korea Food Research Institute	KOR	72.8	127	0.14	0.46	156.7



# Spotlight – Top Institutions

View top institutions:

- ☐ All institutions
- ☒ Only collaborating institutions



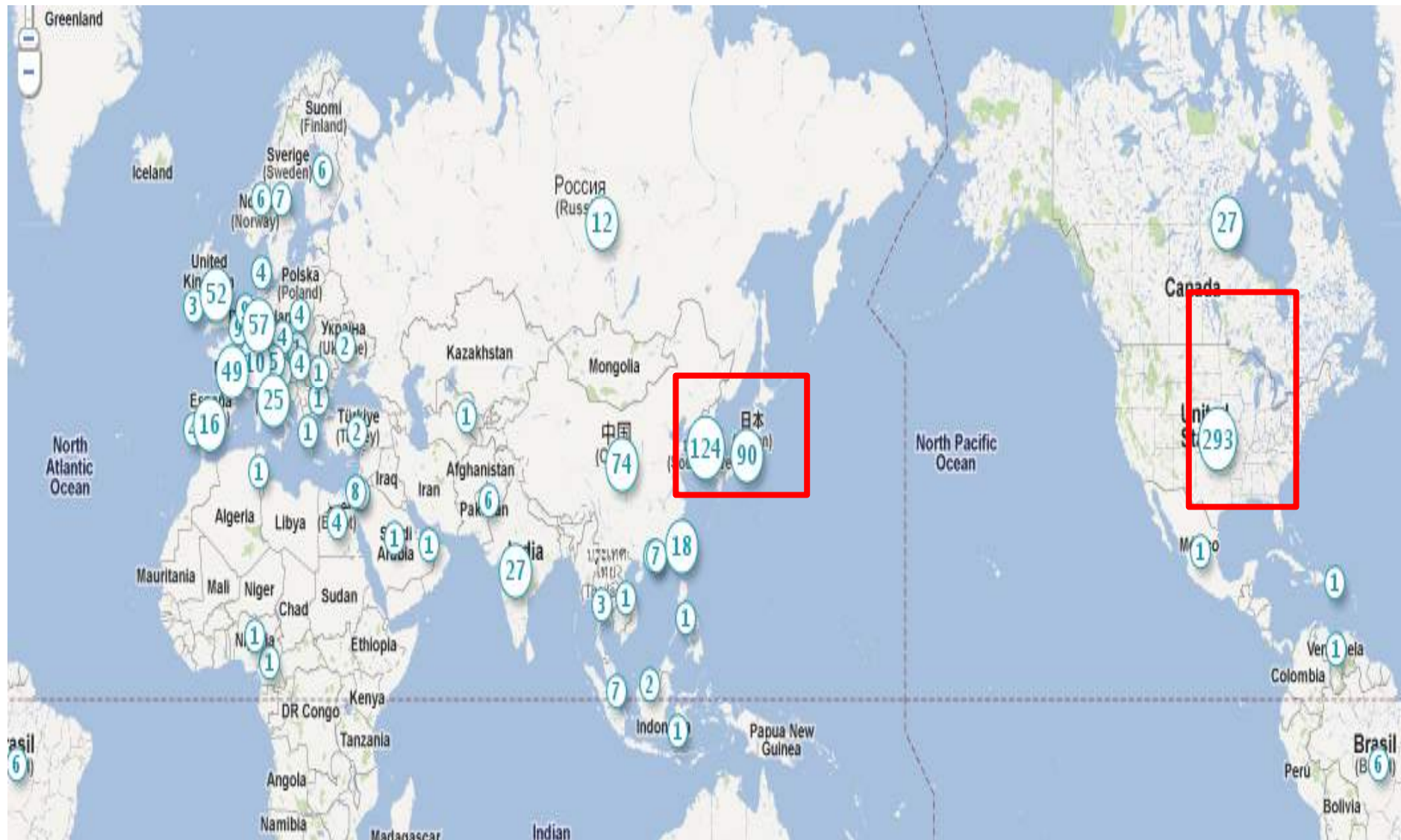
## Only Collaborating institutions

Institution	Fractionalized articles	Total articles	RRS	SotA	Citation count
1. Korea Institute of Science and T...	26.3	37	0.03	0.42	26.8
2. Carnegie Mellon University	15.5	30	0.00	0.68	29.9
3. Pohang University of Science and...	8.3	20	0.00	-1.97	36.5
4. Korea University of Technology a...	6.9	10	0.03	-0.42	24.8
5. Northwestern University	6.3	15	0.00	-3.64	13.8

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# Spotlight – Collaboration



# Spotlight – Collaboration

Institution	Co-authored articles ▼	Co-authored articles in competencies	
1. 🇰🇷 Electronics and Telecommunications Research Institute	595	155	<div><div></div></div>
2. 🇰🇷 Seoul National University	437	68	<div><div></div></div>
3. 🇰🇷 Samsung	407	134	<div><div></div></div>
4. 🇰🇷 Sungkyunkwan University	336	68	<div><div></div></div>
5. 🇰🇷 Korea University	308	57	<div><div></div></div>
6. 🇰🇷 Chungnam National University	297	53	<div><div></div></div>
7. 🇰🇷 Yonsei University	283	41	<div><div></div></div>
8. 🇰🇷 Hanyang University	250	56	<div><div></div></div>
9. 🇰🇷 Korea Institute of Science and Technology	223	73	<div><div></div></div>
10. 🇰🇷 Korea Research Institute of Standards and Science	208	51	<div><div></div></div>
11. 🇰🇷 Samsung Advanced Institute of Technology	190	60	<div><div></div></div>
12. 🇰🇷 Korea Atomic Energy Research Institute	187	29	<div><div></div></div>
13. 🇰🇷 Pohang University of Science and Technology	187	46	<div><div></div></div>
14. 🇰🇷 Korea Research Institute of Bioscience and Biotechnology	178	39	<div><div></div></div>



# SciVal Experts

Enhanced Visibility and Collaboration for Research Expertise

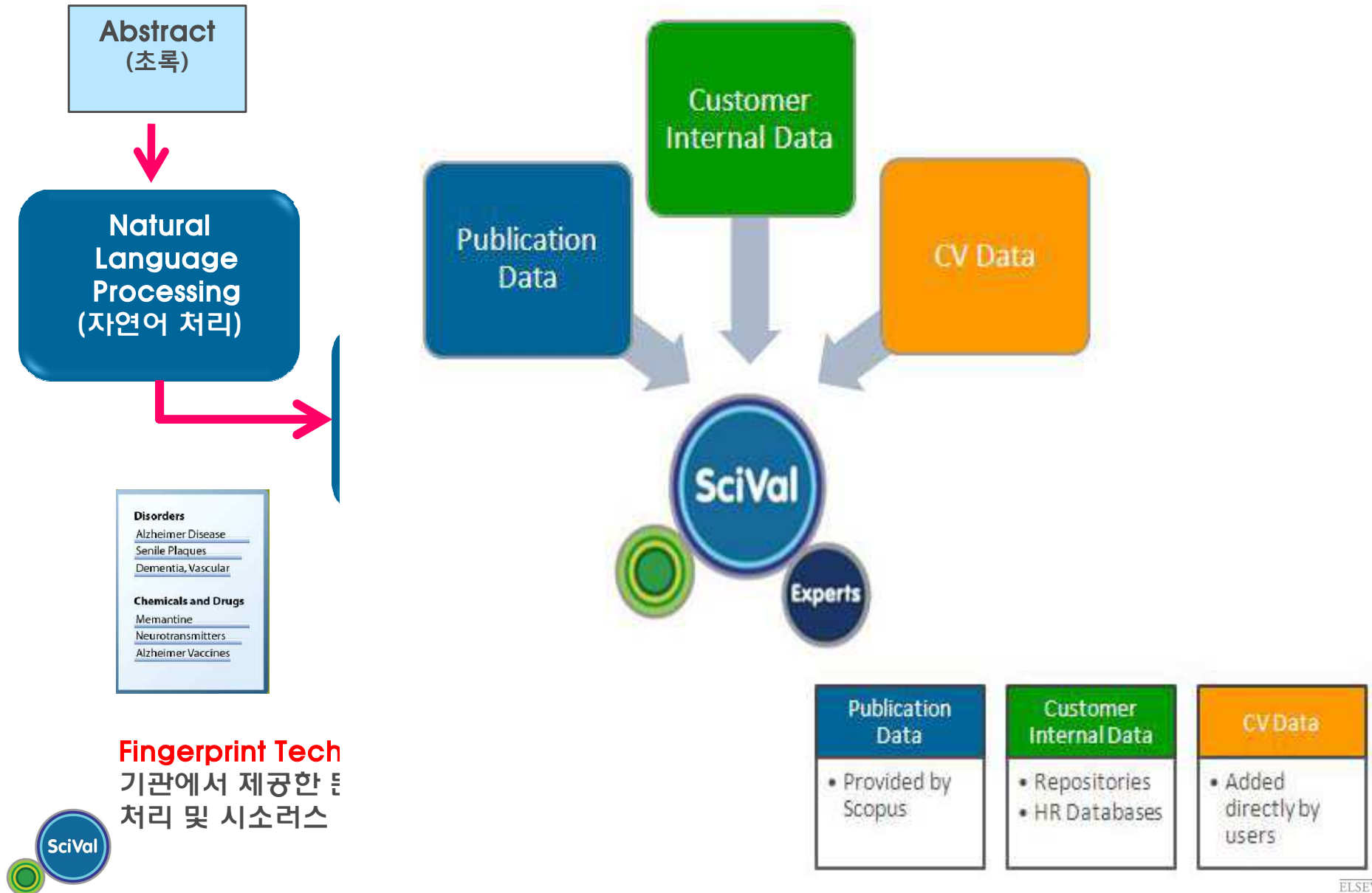
- 각 학과 및 연구자 그룹별의 연구자 정보 제공

- ✓ 잠재적인 공동 연구자 확인 및 새로운 연구 협력관계 구축 지원
- ✓ 연구자 본인의 아티클, 연구 주제 / 경향, 공동연구 현황, 피인용도 분석
- ✓ 다른 연구자들의 아티클 및 지원금 분석

- 연구지원 및 관리를 위한 정보 제공

- ✓ 우리 기관내의 우수연구자, 주요 전문가를 검색할 수 있으며, 관련분야 전문가들의 출판물에 대한 접근
- ✓ 연구자, 연구팀, 기관간의 네트워크 및 협력현황을 분석한 후 향후 기관의 연구 전략 수립에 활용

# How do we get from an abstract to an author profile?



# Experts - Identify expertise and enable collaboration

THE UNIVERSITY OF TEXAS  
**MD Anderson**  
**Cancer Center**  
CENTER FOR GLOBAL ONCOLOGY

**researchprofiles**

Home

By Concept By Last Name By Full Text

**Home**  
Recent Publications  
Recent Grants  
Most Frequent Journals  
Profiling Overview

**Departments**

A Anesthesiology and Perioperative Medicine  
Anesthesiology and Perioperative Medicine - Research

B Behavioral Science  
Biochemistry and Molecular Biology  
Bioinformatics and Computational Biology  
Biostatistics  
Breast Medical Oncology

C Cancer Biology  
Cancer Center Support Grant (CCSG) Programs  
Carcinogenesis  
Cardiology  
Cardiology - Research  
Clinical Cancer Prevention  
Clinical Cancer Prevention - Research  
Critical Care  
Critical Care - Research

D Dermatology  
Dermatology - Research  
Diagnostic Radiology

E Emergency Medicine  
Endocrine Neoplasia and Hormonal Disorders  
Endocrine Neoplasia and Hormonal

Infectious Diseases, Infection Control and Employee Health - Research  
Investigational Cancer Therapeutics

L Laboratory Medicine  
Laboratory Medicine - Research  
Leukemia  
Leukemia - Research  
Lymphoma/Myeloma  
Lymphoma/Myeloma - Research

M Melanoma Medical Oncology  
Melanoma Medical Oncology - Research  
Molecular and Cellular Oncology  
Molecular Pathology

N Neuro-Oncology  
Neuro-Oncology - Research  
Neurosurgery  
Neurosurgery - Research  
Nuclear Medicine  
Nursing

P Pain Medicine  
Palliative Care and Rehabilitation Medicine  
Pathology  
Pathology - Research  
Pediatrics - Research  
Pediatrics Patient Care

**Recent Grants** more >  
No Grants published in the last 12 months.

**Recent Publications** more >

1. Burton L. Eisenberg; Jonathan C. Trent  
2011  
**Adjuvant and neoadjuvant imatinib therapy: Current role in the management of gastrointestinal stromal tumors**  
International Journal of Cancer 2011;129(11):2533-2542.

2. Cavit Agca; Milad C. Elhadj; William H. Klein; Judith M. Venuti  
2011  
**Neurosensory and neuromuscular organization in tube feet of the sea urchin Strongylocentrotus purpuratus**  
Journal of Comparative Neurology 2011;519(17):3566-3579.

**Most Frequent Journals** more >

	Publications
Cancer Research	2187
Cancer	2170

ELSEVIER

# Experts – Expert Overview

## Keith E Gubbins

North Carolina State University, College of Engineering, Chemical and Biomolecular Engineering

- Home
- Expert Overview**
- Profile
- Publications
- Grants
- Courses
- Patents
- Similar Experts
- Journals
- Trends
- Institutional Network
- Coauthor Network
- Research Network

**Keith E Gubbins**

North Carolina State University

College of Engineering

Chemical and Biomolecular Engineering

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### Profile

more >


- Monte Carlo methods
- Computer simulation
- Adsorption
- Porous materials
- Molecular dynamics
- Adsorption isotherms
- Mathematical models
- Carbon
- Phase equilibria
- Pore size

### Trends



Explore the Research Trends

### Research Network



Explore the Expert Network

### Publications

more >

1. Jeremy C. Palmer; Joshua D. Moore; Thomas J. Roussel; John K. Brennan; Keith E. Gubbins  
**Adsorptive behavior of CO<sub>2</sub>, CH<sub>4</sub> and their mixtures in carbon nanospace: A molecular simulation study**  
Physical Chemistry Chemical Physics 2011;13(9):3985-3996.
2. Benoit Coasne; Christiane Alba-Simionesco; Fabrice Audonnet; Gilberte Dosseh; Keith E. Gubbins  
**Adsorption, structure and dynamics of benzene in ordered and disordered porous carbons**  
Physical Chemistry Chemical Physics 2011;13(9):3748-3757.
3. Jeremy C. Palmer; Joshua D. Moore; John K. Brennan; Keith E. Gubbins  
**Adsorption and diffusion of argon in disordered nanoporous carbons**  
Adsorption 2011;17(1):189-199.

### Similar Experts

more >

	Publications
Carol K. Hall	187
Benjamin M Tsui	319
Joseph M. DeSimone	355
Jan Genzer	150
Robin Pierce Gardn...	181

### Journals

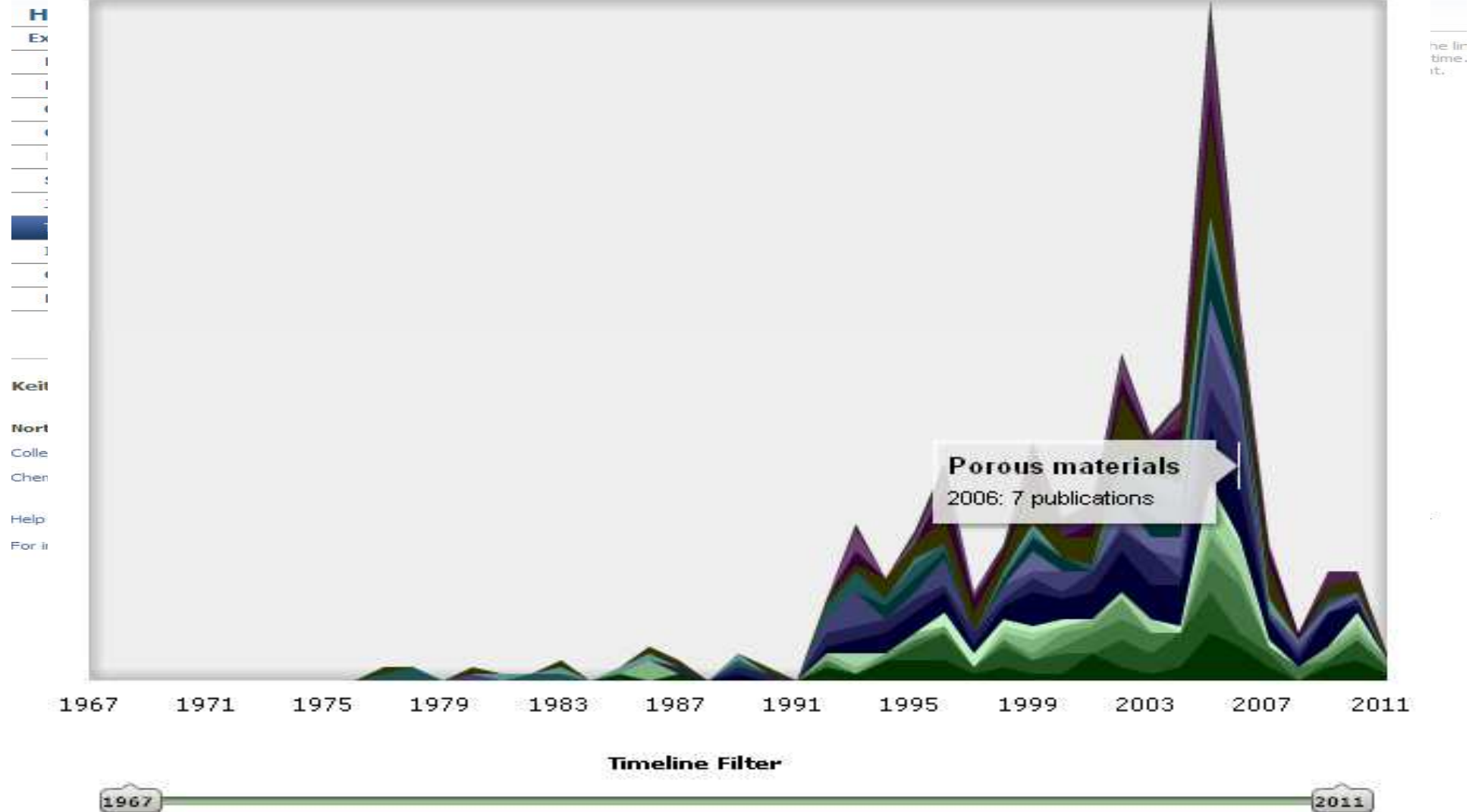
more >

	Publications
Journal of Chemical P...	31
Langmuir	29
The Journal of Chemic...	27
Fluid Phase Equilibri...	22
Journal of Physical C...	20

# Experts – Researcher profile

**Keith E Gubbins**

North Carolina State University, College of Engineering, Chemical and Biomolecular Engineering



# Experts – Similar Experts

## Keith E Gubbins

Keith E Gu

North Carolina State University, College of Engineering, Chemical and Biomolecular Engineering

North Carolina State U

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Institutional Net	Coauthor Network
Coauthor Netwo	Research Network
Research Networ	

Keith E Gubbins

North Carolina State University

College of Engineering

Chemical and Biomolecular Engineering

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For information on this expert contact

## Coauthor Network

This view shows the authors with whom this researcher has collaborated, listed with the most frequent collaborators. The first section shows internal coauthors, while the second list shows external coauthors, including individuals at other universities or institutions. By clicking the [+] next to each researcher, collaborative publications appear. Clicking the names of the experts jumps to their profile.

### 4 Internal Coauthors

Shared Pub.

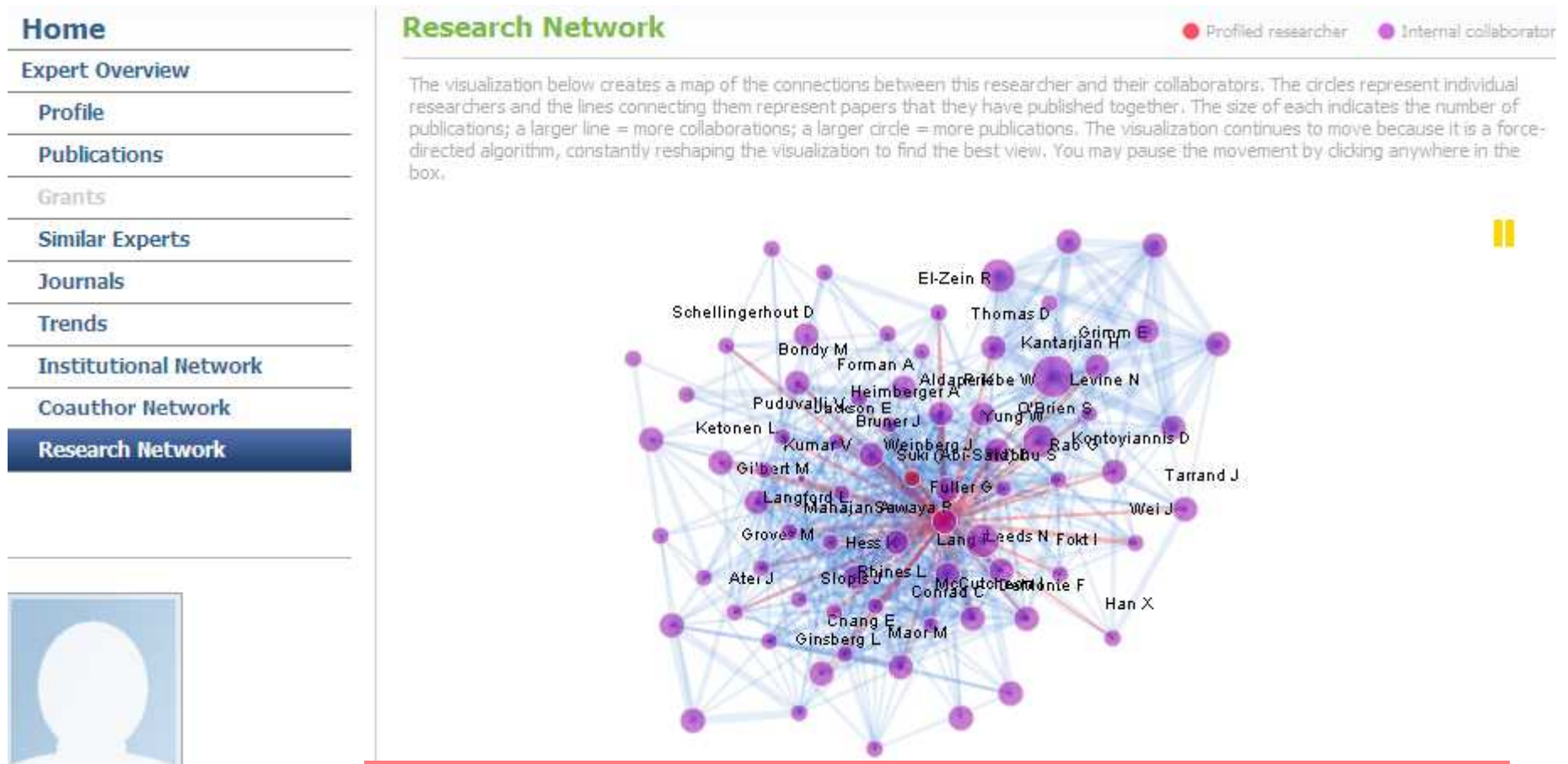
 Carol K. Hall	5
NCSU, College of Engineering, Chemical and Biomolecular Engineering	
 Marco Buongiorno-Nardelli	4
NCSU, College of Physical and Mathematical Sciences, Physics	
 Stefan Franzen	1
NCSU, College of Physical and Mathematical Sciences, Chemistry	
 Richard J Spontak	1
NCSU, College of Engineering, Chemical and Biomolecular Engineering	

### 320 External Coauthors

Shared Pub.

 Malgorzata Sliwinska-Bartkowiak	34
 Benoit Coasne	20
 C. G. Gray	20
 Roland J.-M. Pellenq	16
 Paulette Clancy	10
 Erich A. Müller	10
 G. Dudziak	10
 M. W. Maddox	10
 Liudmila A. Pozhar	9
 S. M. Thompson	9

# Experts – Research Network



## <Research Network>

- 연구자와 협력하고(공동연구)있는 연구자간의 네트워크 분석(중심부, 주변부)
- 협력이 이뤄지지 않는 연구자 확인
- 기존의 네트워크를 통한 앞으로의 협력방향 고려 및 기회 창출

# Case study: MD Anderson Cancer Center Building a global network to fight cancer



- The University of Texas MD Anderson Cancer Center Case Study: Experts
- MD Anderson Cancer Center의 Mission인 “Making Cancer History” 을 성취하기 위해 MD Anderson Cancer Center와 이의 전 세계 23개 협력기관 연구자간의 네트워크 구축 필요
- 전세계적인 연구자 네트워크 구축
- 이 기관의 연구자들과 관리자들이 해당 연구자들의 연구현황 및 활동을 이해하고 기관들, 연구자들간의 협력기회를 쉽게 찾을 수 있도록 독려

[Download the case study](#)



# SciVal Strata

Measure and compare performance of researchers & teams

## ■ 벤치마킹(Benchmark)

- ✓ 특정 연구자 및 연구 그룹에 대해 전체, 대륙, 국가, 특정 연구자(그룹)과의 피인용 분석을 통한 우수성 분석
- ✓ 대주제, 세부주제, 특정 저널을 기준으로 비교 및 분석 가능





## ■ 영향력 평가(Influence)

- ✓ 연구자 및 연구 그룹 논문의 양적, 질적 수준 평가 및 분석
- ✓ 연도별 논문 발표 건수, 피인용 건수 분석

## ■ 협력현황 분석(Collaboration)

- ✓ 연구자 및 연구그룹 논문의 전세계, 대륙별 피인용 현황 분석
- ✓ 저자간의 협력 현황 분석

# Strata – Benchmark

Year ▼	Average citations per document			
				
2011	2.500	0.194	0.174	0.215
2010	6.875	1.728	1.587	1.798
2009	11.286	4.607	4.226	4.732
2008	12.417	7.173	6.775	7.545
2007	40.267	9.692	8.986	9.864
2006	38.182	12.734	11.026	12.245
2005	64.167	15.589	12.958	14.627
2004	101.286	17.149	15.042	16.360

 Amine, Khalil  
 Aurbach, Doron\_Unist\_Israel

17 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 20

# Strata – Strategic recruitment



Main Keywords: humanoid robot, humanoid robots, biped robot

View top authors:

All authors

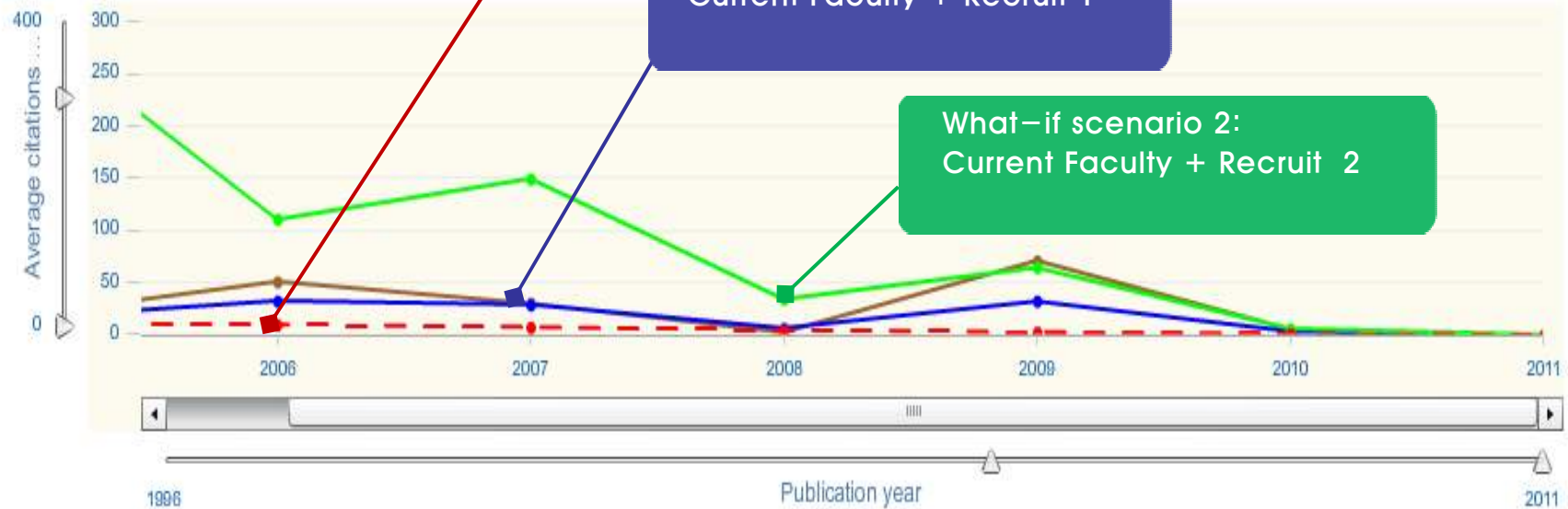
## Citation Benchmark *i*

Options

Chart view

Reference Field *i* Physics and Astronomy

Manage my Reference Fields | Open



# Strata – Influence

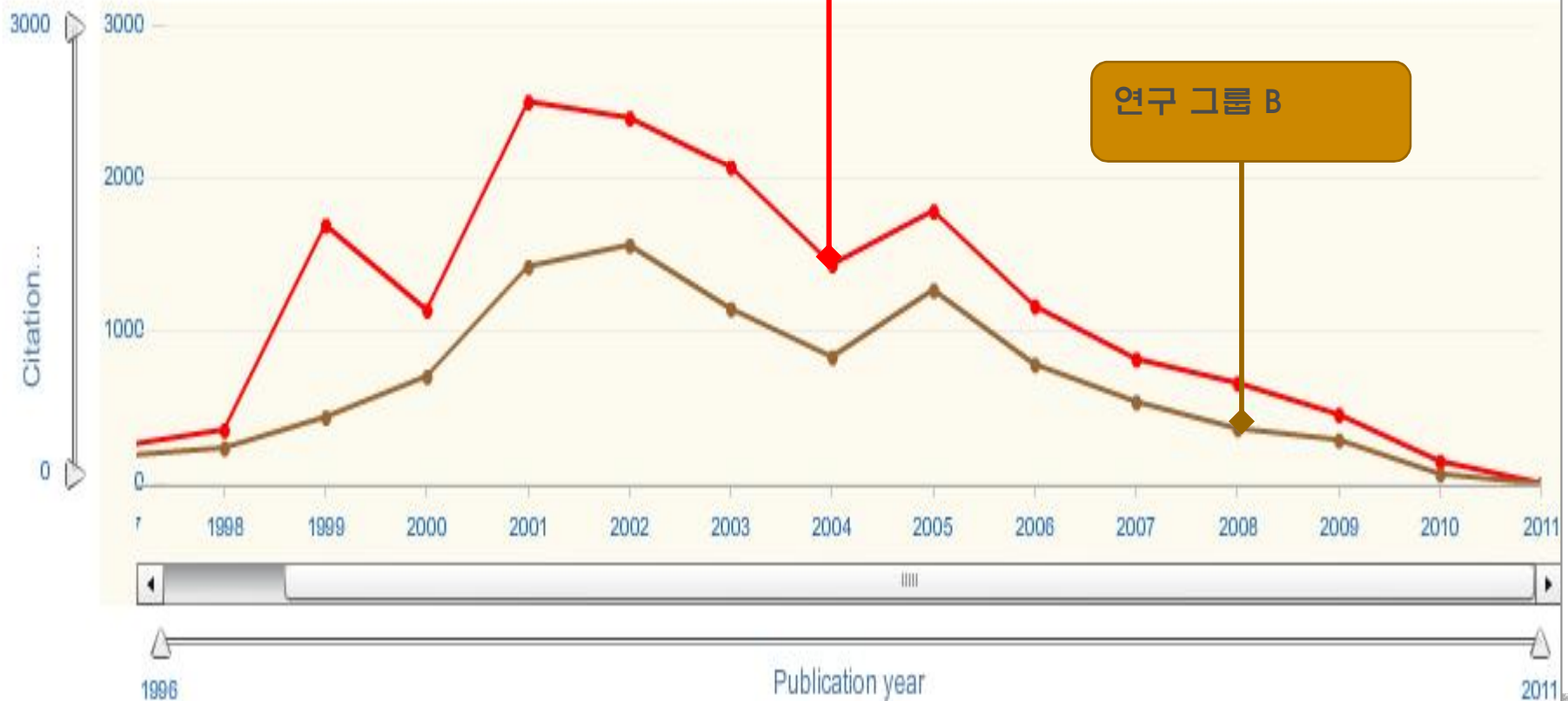
< Citation Received >

Citations Received 

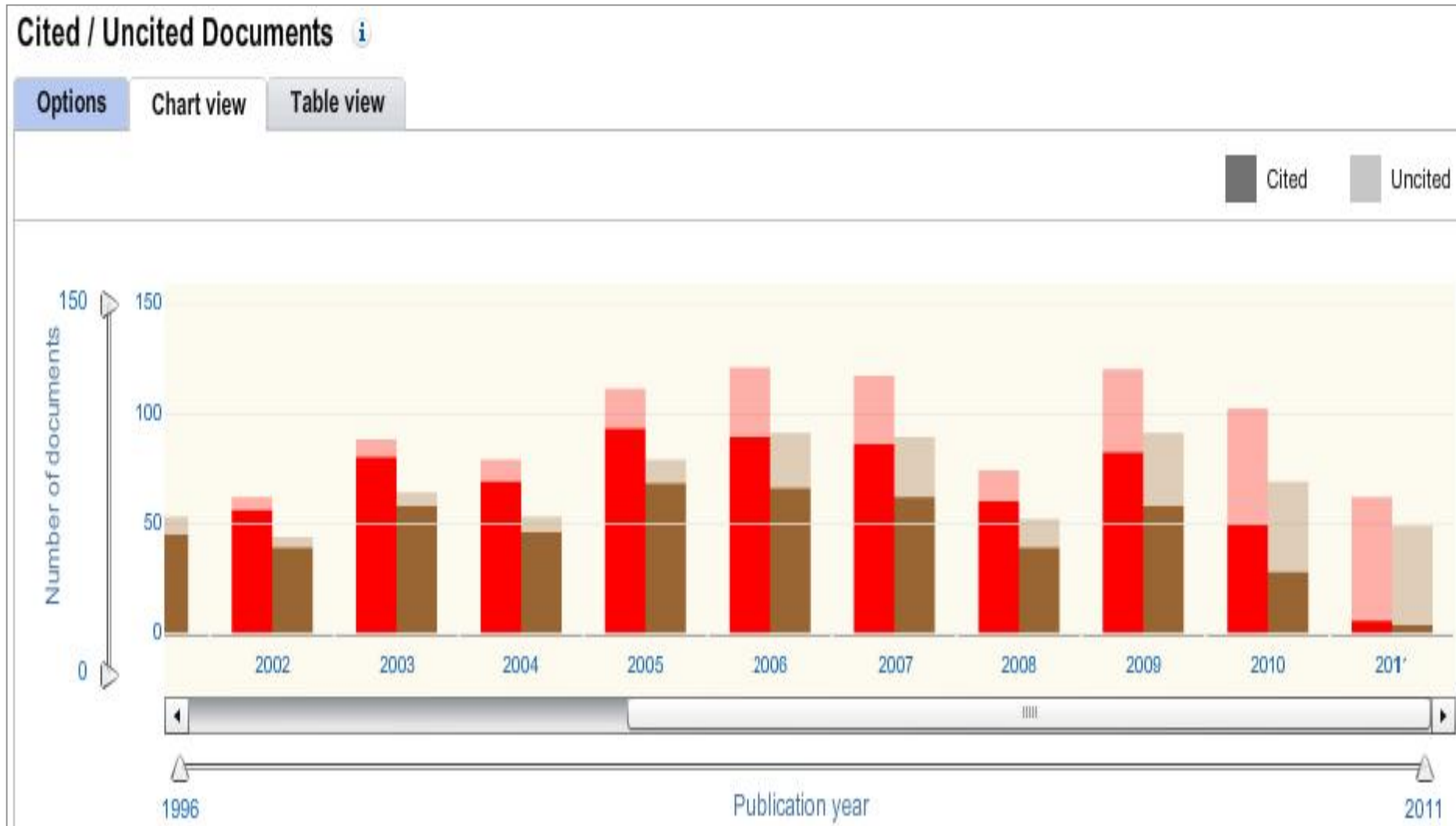
Options

Chart view

Table view



# Strata – Influence



# Strata – Collaboration

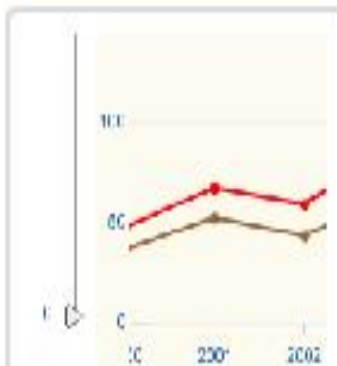
## Geographical Collaboration Network - Cumulative View

Options

Chart view

Table view

Views



Only documents with country information are represented in this analysis

☒ World

☐ Region

APAC

EUR

NAM

MEA



North America



Korea\_EE\_+1

Document output = 34

[View documents in Scopus](#)



Korea\_EE

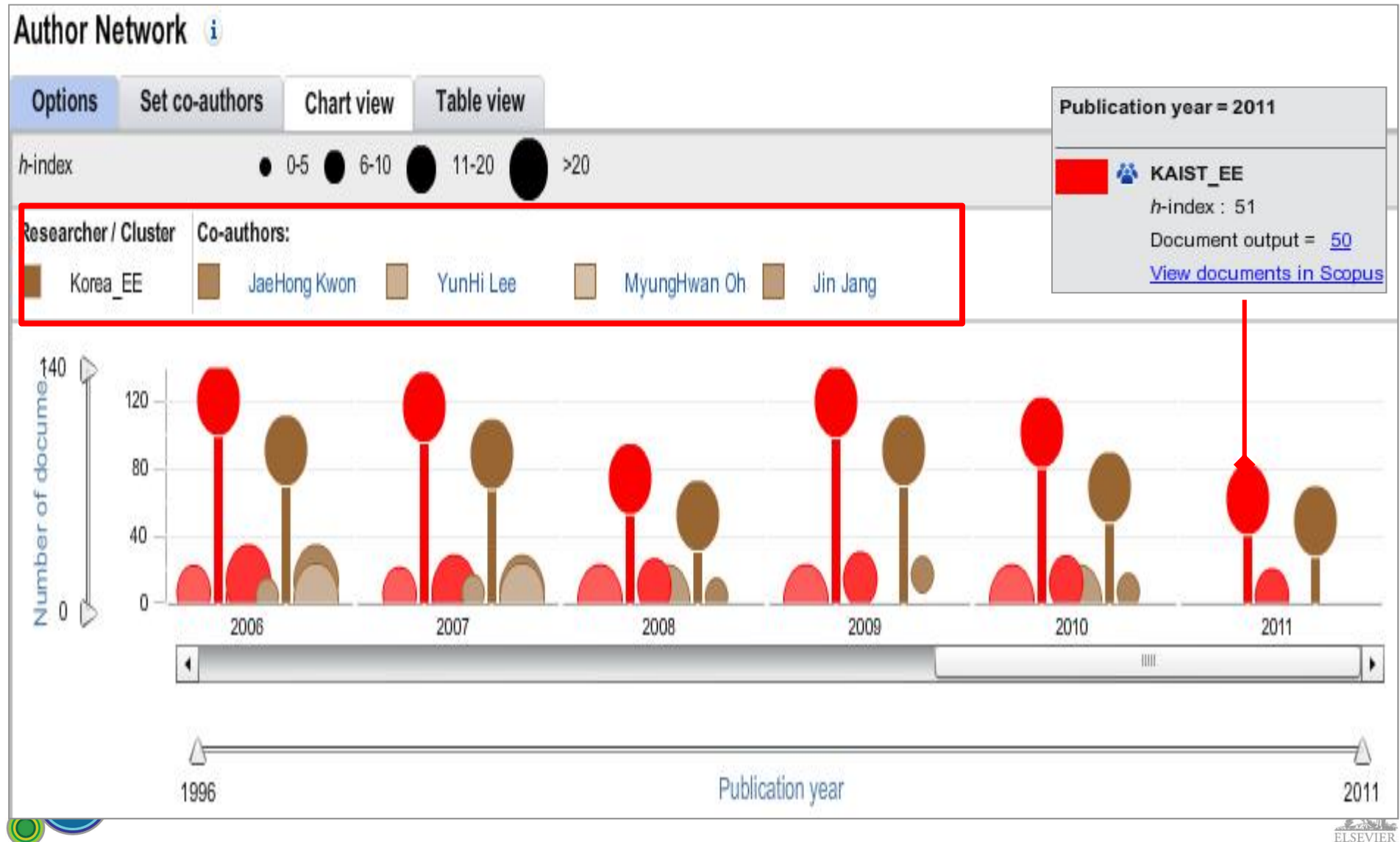
Document output = 30

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11



# Strata – Collaboration



# SciVal Suite의 효과

기관의 연구성과 상세 분석을 통해  
연구전략 개발 및 성공적인 연구 지원

## Acquire research funding

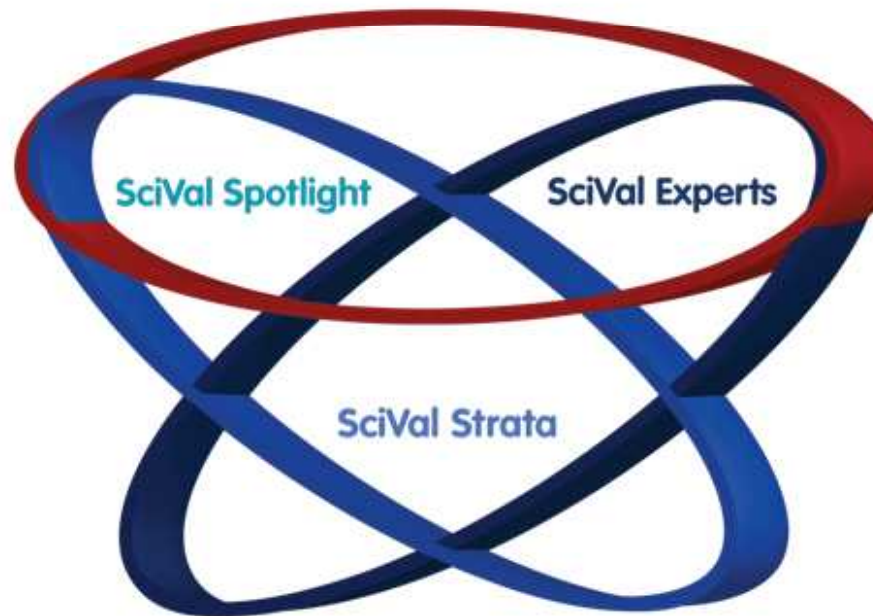
- 연구 기금확보를 위한 최고의 연구팀 구성
- 공동 연구자 탐색

## Identify and build on research strengths

- 우수 연구분야 확인
- 채용 혹은 공동연구를 위한 우수 연구자 확인
- 채용 혹은 공동연구 경우의 효과 예상

## Grow national and/or global prestige

- 효과적인 연구를 위한 기관 내 혹은 다른 기관과의 협업
- 논문별, 저자별, 기관별 평가를 통한 연구성과 향상 및 연구전략 수립





감사합니다.

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