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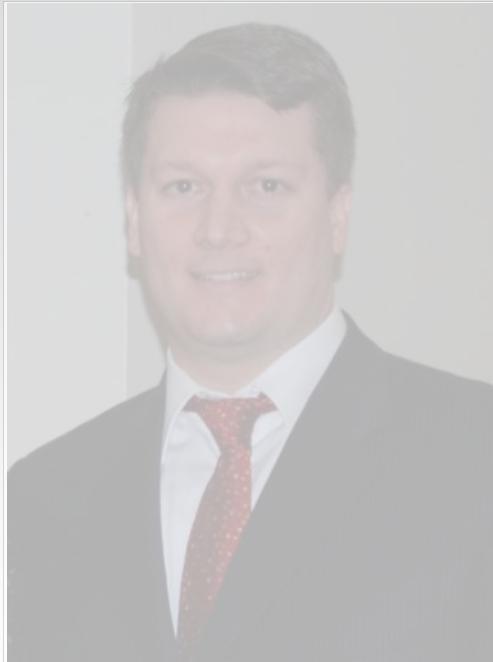
WATER RESOURCES: MAPPING OUT THE RESEARCH LANDSCAPE

**James Tonna, Vice President, Academic and Government
Christiane Barranguet, Executive Publisher Aquatic Sciences
Daniel Calto, Director of Product Management**

**30 June 2010
GUIRR**



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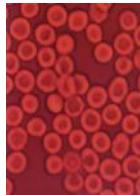
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James Tonna
Vice President, Academic and Government

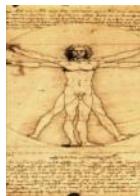
Elsevier has a long heritage of supporting research



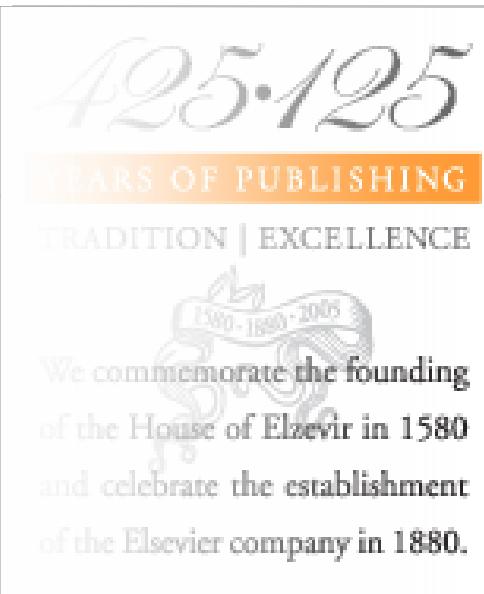
Galileo published his "Discorsi e dimostrazioni matematiche, intorno a due nuove scienze" – His last work – With Elzevir despite being banned by the Inquisition and is recognized as the first important work of modern physics



The publication of the book, edited by Sir Alexander Fleming, about a revolutionary new antibiotic, "Penicillin – Its Practical Application" in 1946



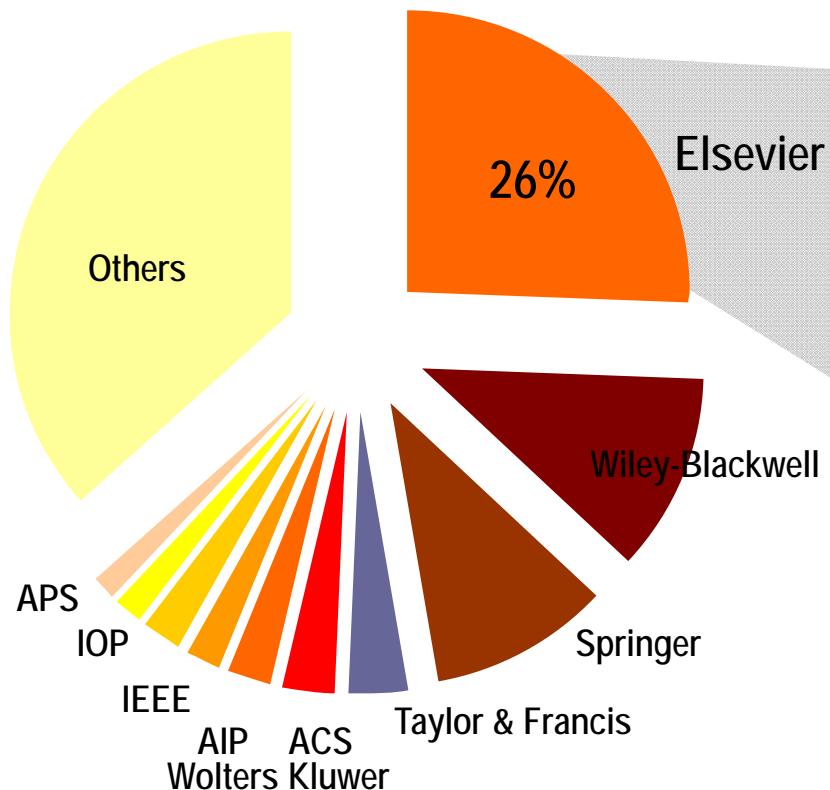
The publication of "Gray's Anatomy" in 1858 was a landmark for the study of the human anatomy and in many ways for the whole of medicine



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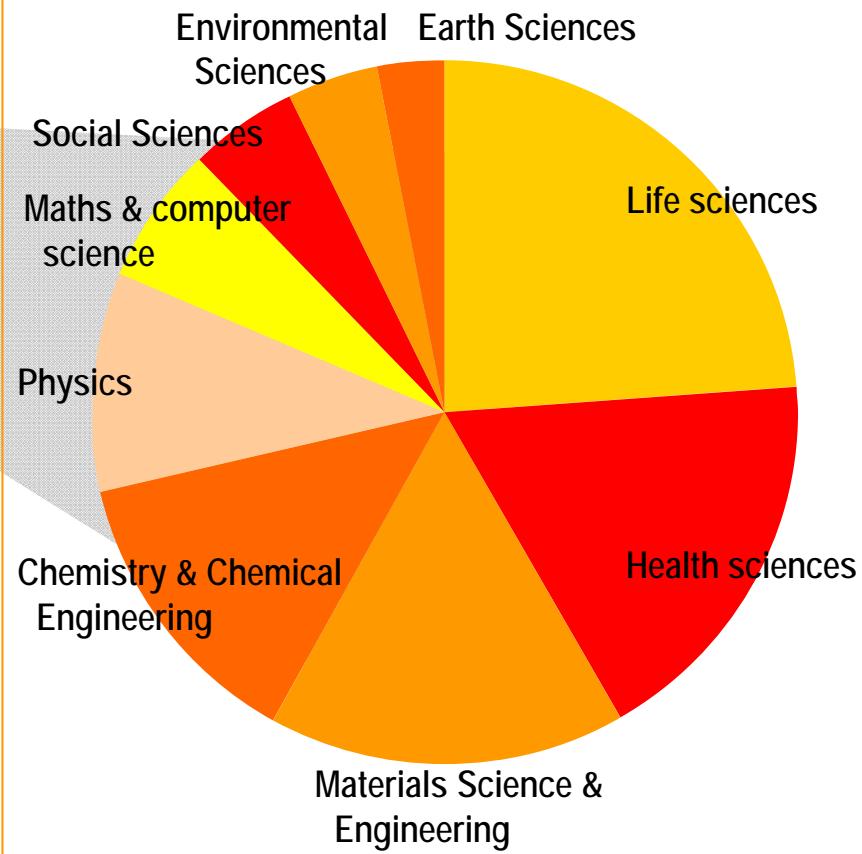
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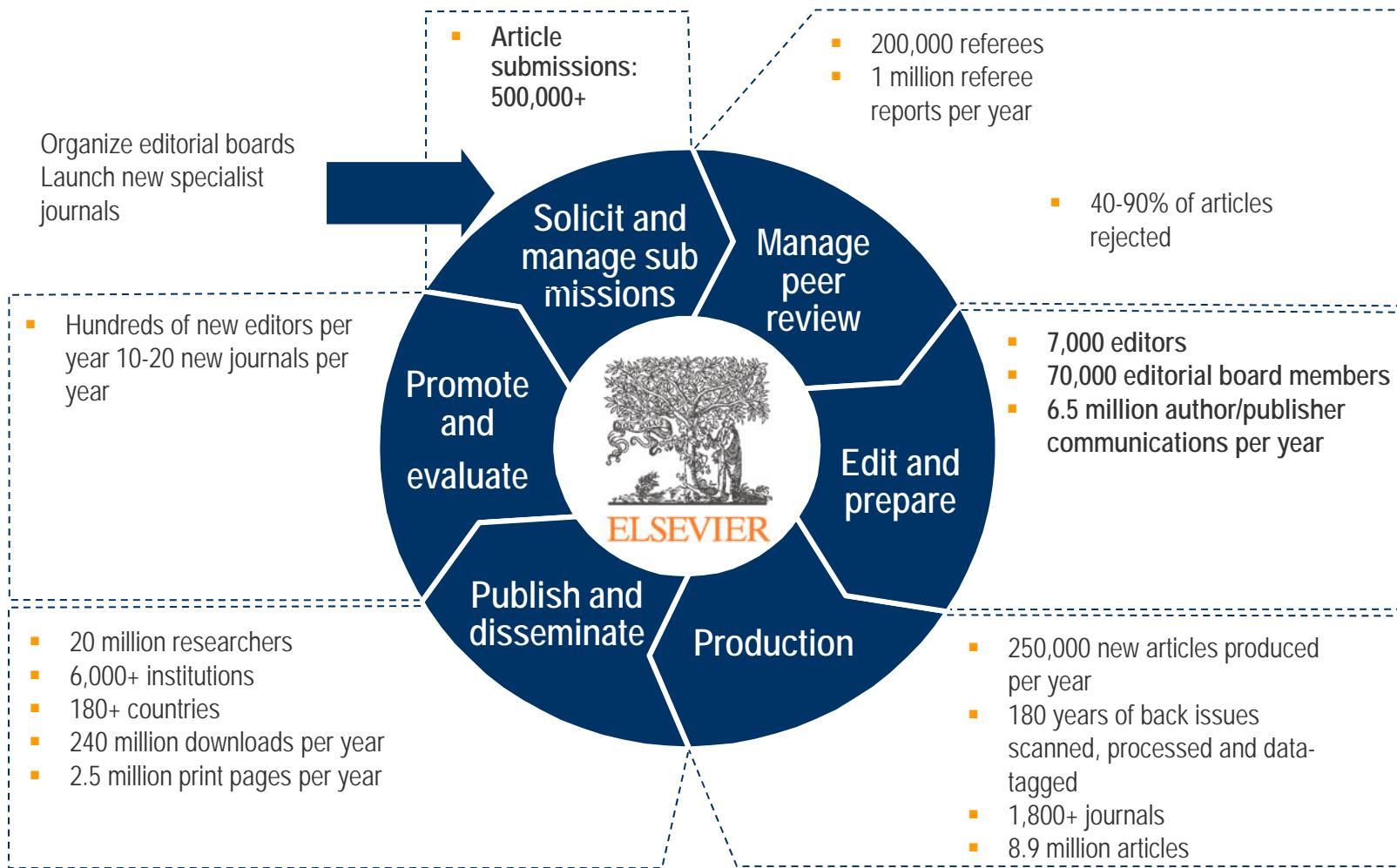
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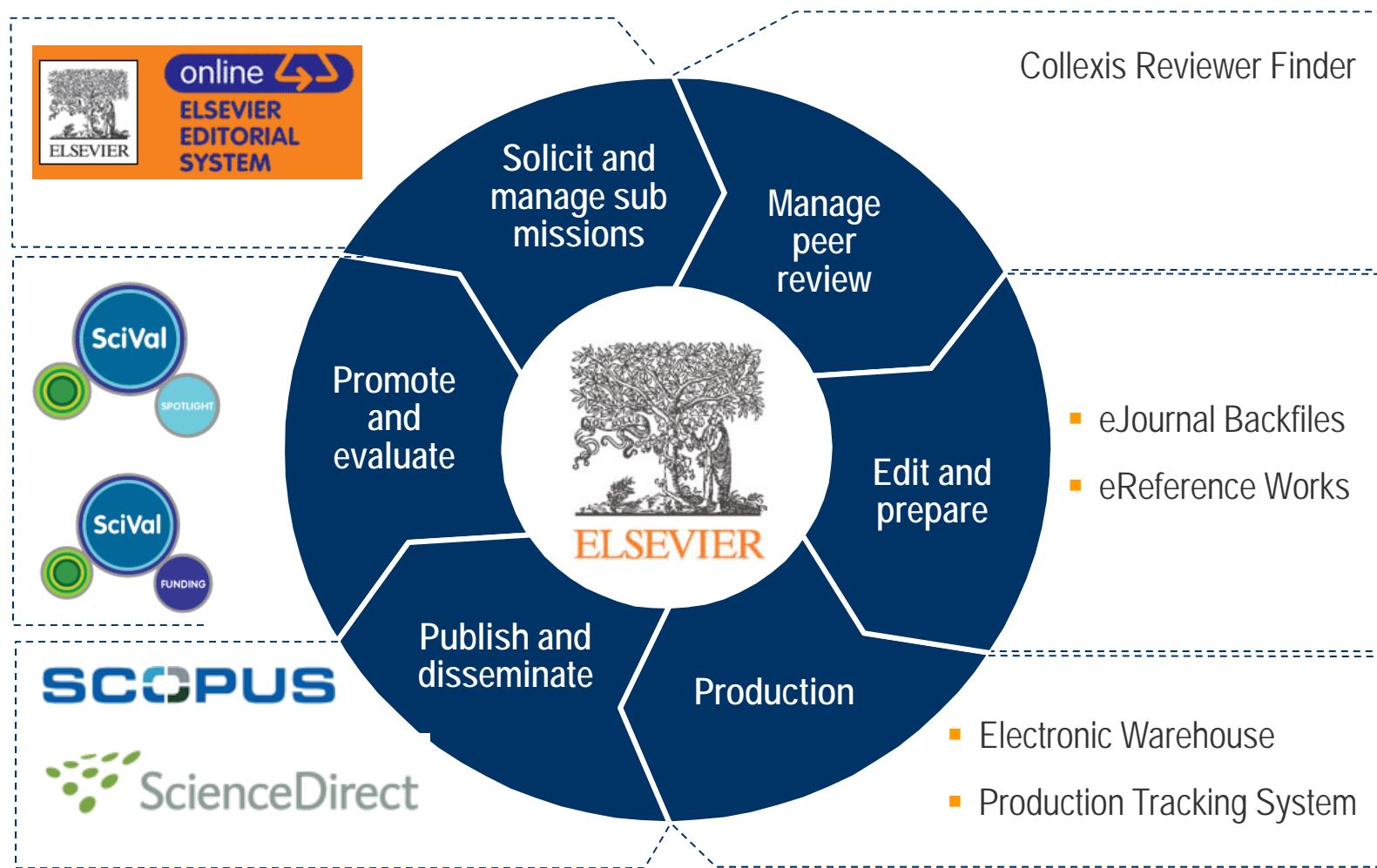


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An Overview of the Water Research and Funding Landscape

Daniel Calto
Director of Business Development
Academic and Government Markets

Governments are actively guiding their national research agendas

Research Program	Sponsor	Description
rae2008 Research Assessment Exercise		<ul style="list-style-type: none">▪ Assess the quality of research in universities and colleges in the UK▪ Enable funding bodies to determine how to allocate grants across research projects
	 Australian Government Australian Research Council	<ul style="list-style-type: none">▪ Detail by institution and by discipline those areas that are internationally competitive▪ Identify emerging areas where there are opportunities for development and further investment
		<ul style="list-style-type: none">▪ Identify thematic domains for future European support▪ Part of EU's strategy to become "the most dynamic competitive knowledge-based economy in the world"

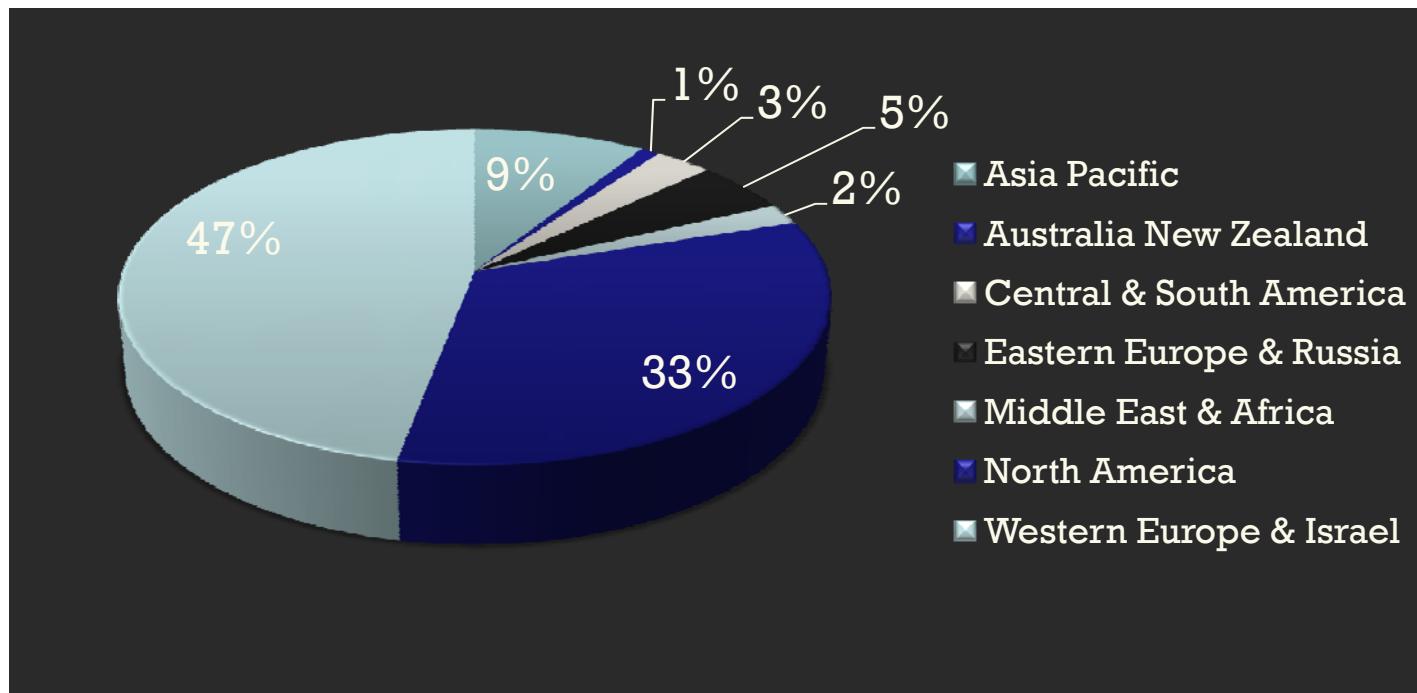
Research Evaluation is increasingly based on quantitative methods

Scopus at a Glance—Comprehensive Global Coverage

Scopus is the largest multidisciplinary abstract and citation database with peer-reviewed research literature, quality web sources, patents and more.

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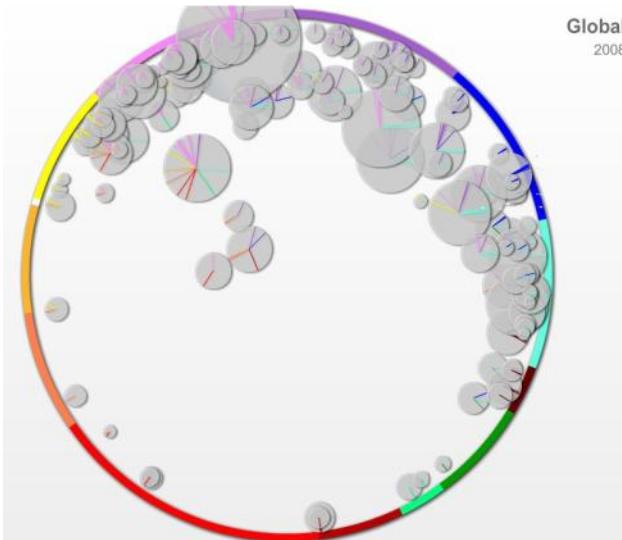
Scopus coverage is global by design: Scopus content originates from outside North America representing various countries Europe, Latin America and the Asia Pacific region.



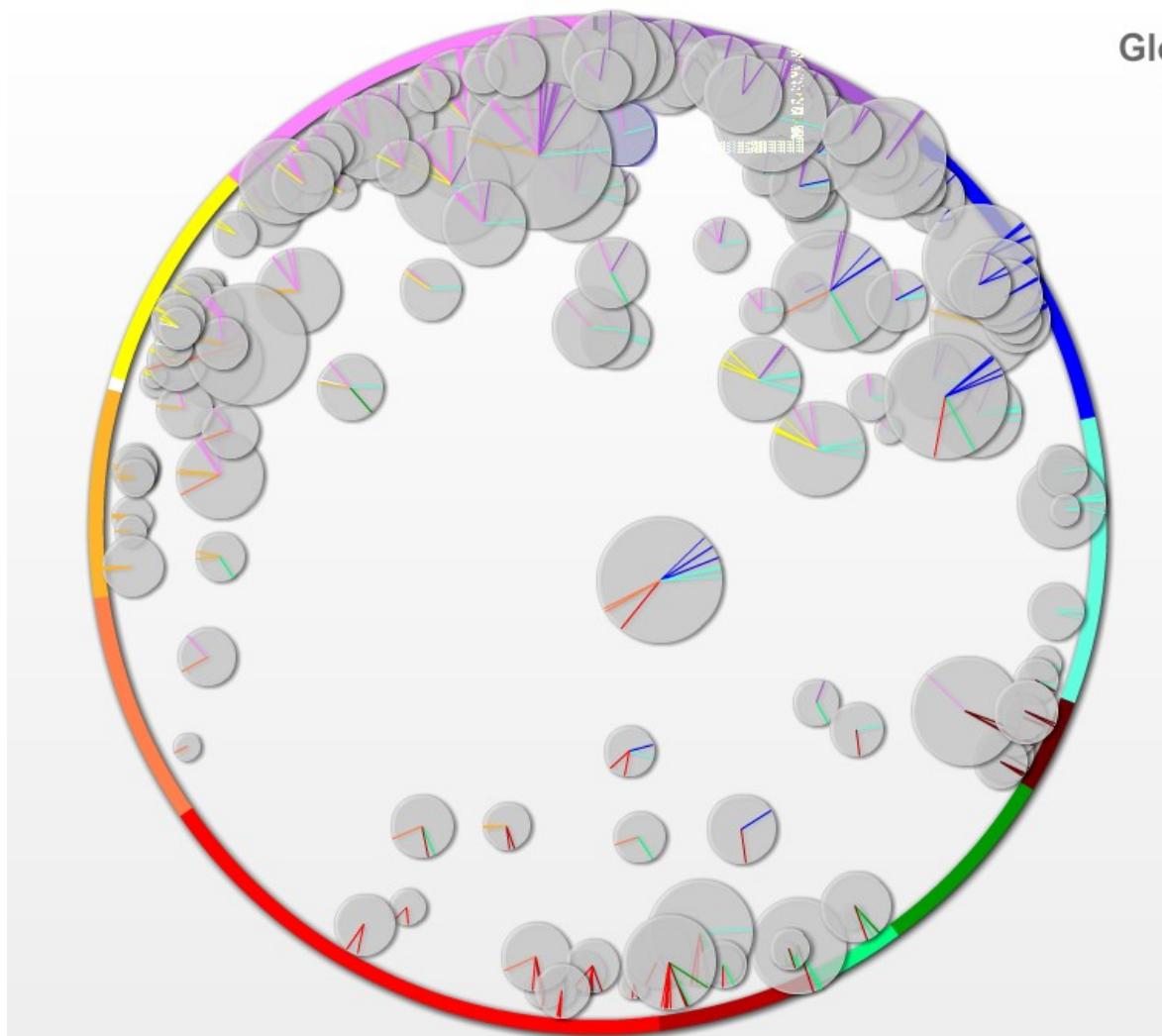
Article-level co-citation analysis as a foundation for better analysis of interdisciplinary fields

SciVal Spotlight provides unique value in three areas:

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Wheel of Science—MIT's Research Strengths



Global

2008

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MIT Distinctive Competency—Top Authors

Distinctive Competency # 2

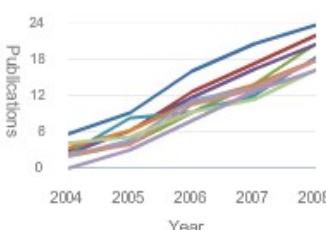
Main Keywords: photonic crystal, boundary conditions, ring resonator

Change region **Global** 
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View top authors:

- All institutions
- Massachusetts Insti...authors
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Fractions vs. Period



Name	Institution	Fractions	Articles	SotA	Cited
1. Kimerling L.C.	Massachusetts Institut...	23.7	45.0	1.54	213.1
2. Ippen E.P.	Massachusetts Institut...	22.0	33.0	5.77	195.3
3. Smith H.I.	Massachusetts Institut...	20.6	28.0	6.42	176.0
4. Barwicz T.	Massachusetts Institut...	20.5	28.0	5.16	197.4
5. Temkin R.J.	Massachusetts Institut...	18.4	25.0	2.94	69.9
6. Rakich P.T.	Massachusetts Institut...	17.9	24.0	5.74	189.4
7. Thumm M.K.	Universitat Karlsruhe	17.9	23.0	4.49	49.1
8. Popovic M.A.	Massachusetts Institut...	17.9	26.0	6.32	158.3
9. Nusinovich G.S.	University of Maryland	16.3	22.0	-0.14	25.7
10. Kartner F.X.	Massachusetts Institut...	16.3	27.0	6.43	134.1

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Kimerling L.C.

Primary institution: Massachusetts Institute of Technology

Number of Competencies: 2



Articles in Scopus: 341 [View 341 articles in Scopus](#)

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Competencies

Competency number	Articles	Fractionalized	Keywords
2 (DC)	45	23.7	photonic crystal;boundary conditions;ring resonator
79 (EC)	1	0.3	electron microscopy;dislocation density;virtual substrates



MIT Distinctive Competency—Top Institutions

Distinctive Competency # 2

Main Keywords: photonic crystal, boundary conditions, ring resonator

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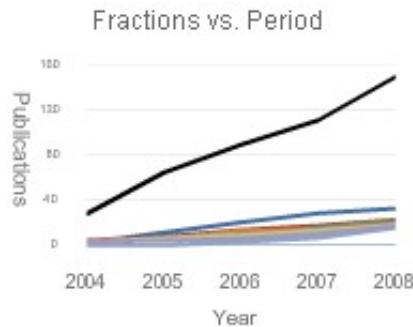
General

Rank Lists ▾

Visualizations ▾

View top institutions:

- All institutions
- Only collaborating institutions



Only Collaborating institutions

Institution	Fractionalized	Articles	RL	SotA	Cited
1. Massachusetts Institute of Techn...	149.3	247.0	7.7	1.6	1,267.4
2. RAS	32.5	72.0	0.0	-7.2	72.5
3. University of Maryland	22.7	41.0	0.0	0.3	32.4
4. CNR	22.2	40.0	0.0	2.0	34.9
5. Forschungszentrum Karlsruhe	21.4	31.0	0.1	4.8	54.5
6. CNRS	20.3	50.0	0.1	1.2	139.6
7. Universitat Karlsruhe	19.3	31.0	0.0	3.2	84.2
8. Ecole Polytechnique Federale de ...	19.2	28.0	0.1	0.6	28.7
9. A-STAR	18.4	34.0	0.1	4.3	57.0
10. Georgia Institute of Technology	18.1	46.0	0.1	0.8	132.1
11. University of Alberta	17.1	31.0	0.0	4.3	206.6

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MIT Distinctive Competency – Treemap

Distinctive Competency #2

Main Keywords: photonic crystal, boundary conditions, ring resonator

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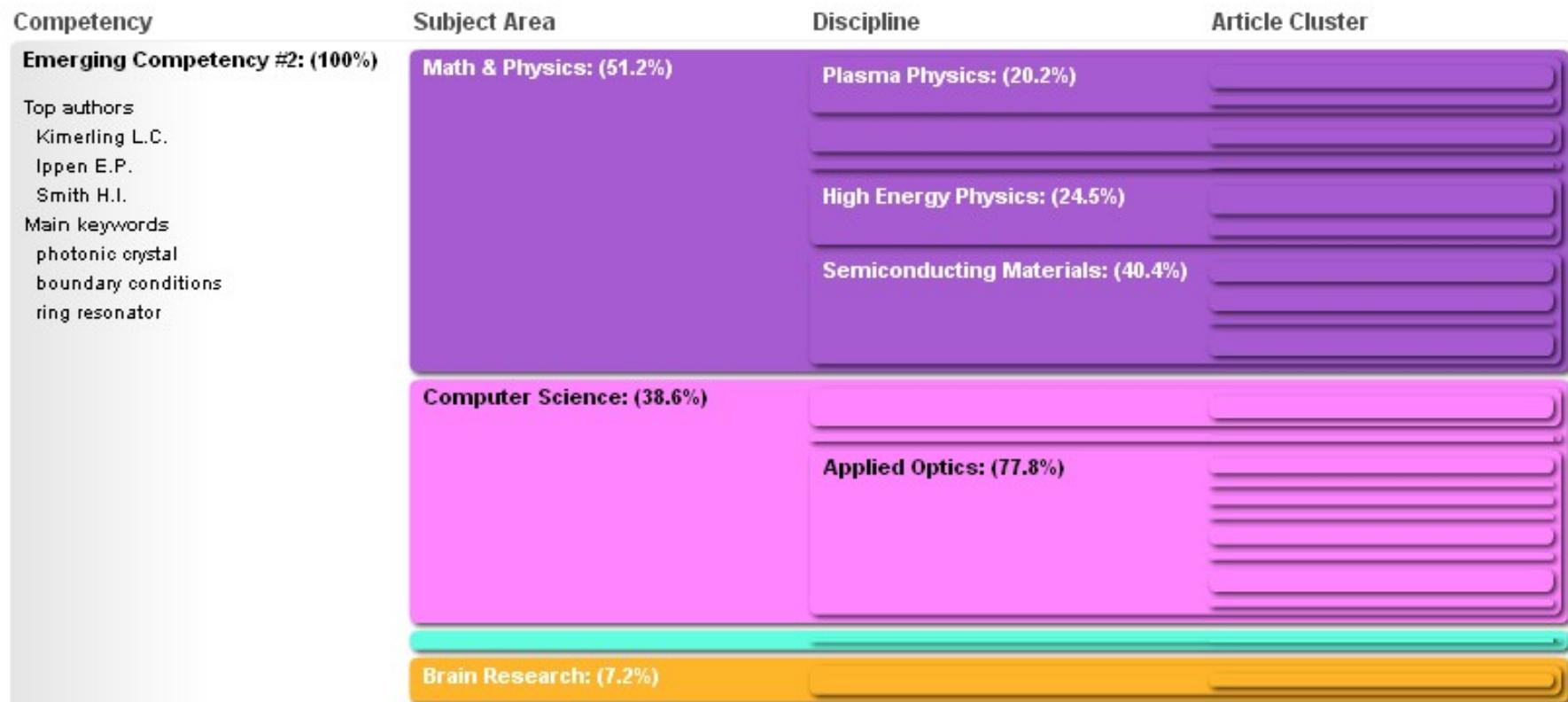
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Rank Lists

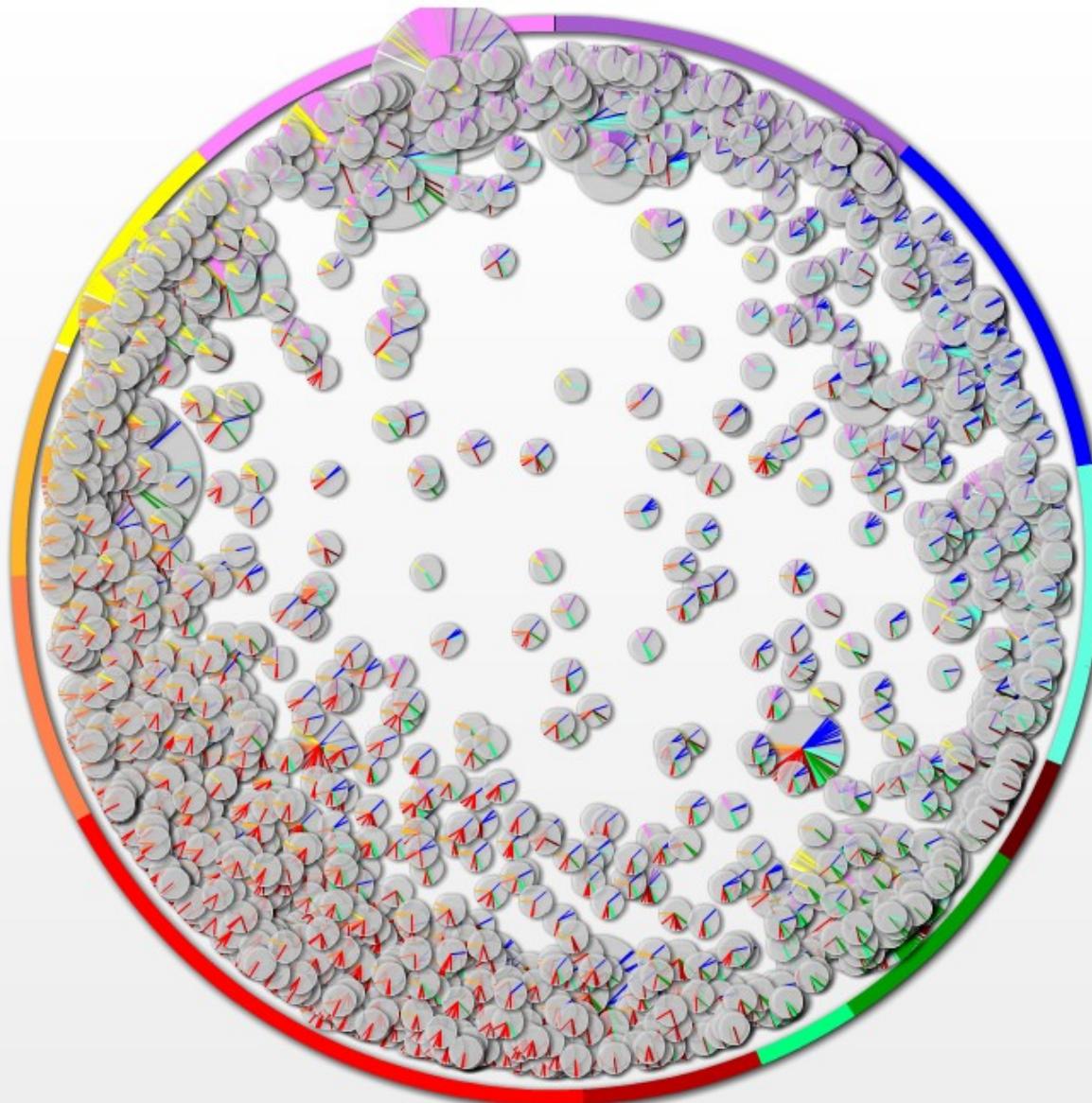
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Treemap

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US National Map



Global

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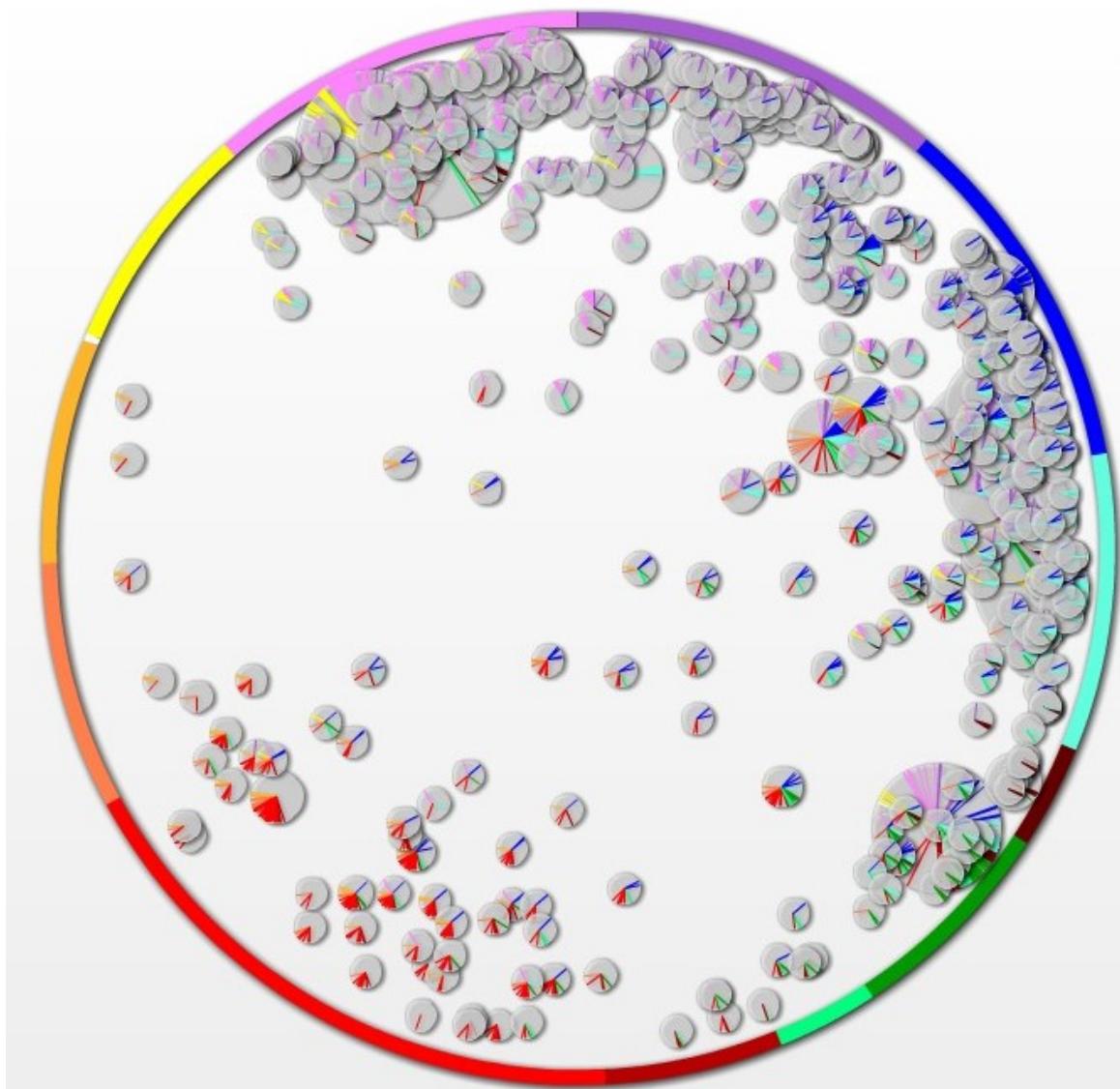
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Chinese National Map



Subject areas

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WATER RESOURCES: MAPPING OUT THE RESEARCH LANDSCAPE

Christiane Barranguet,
Executive Publisher Aquatic Sciences

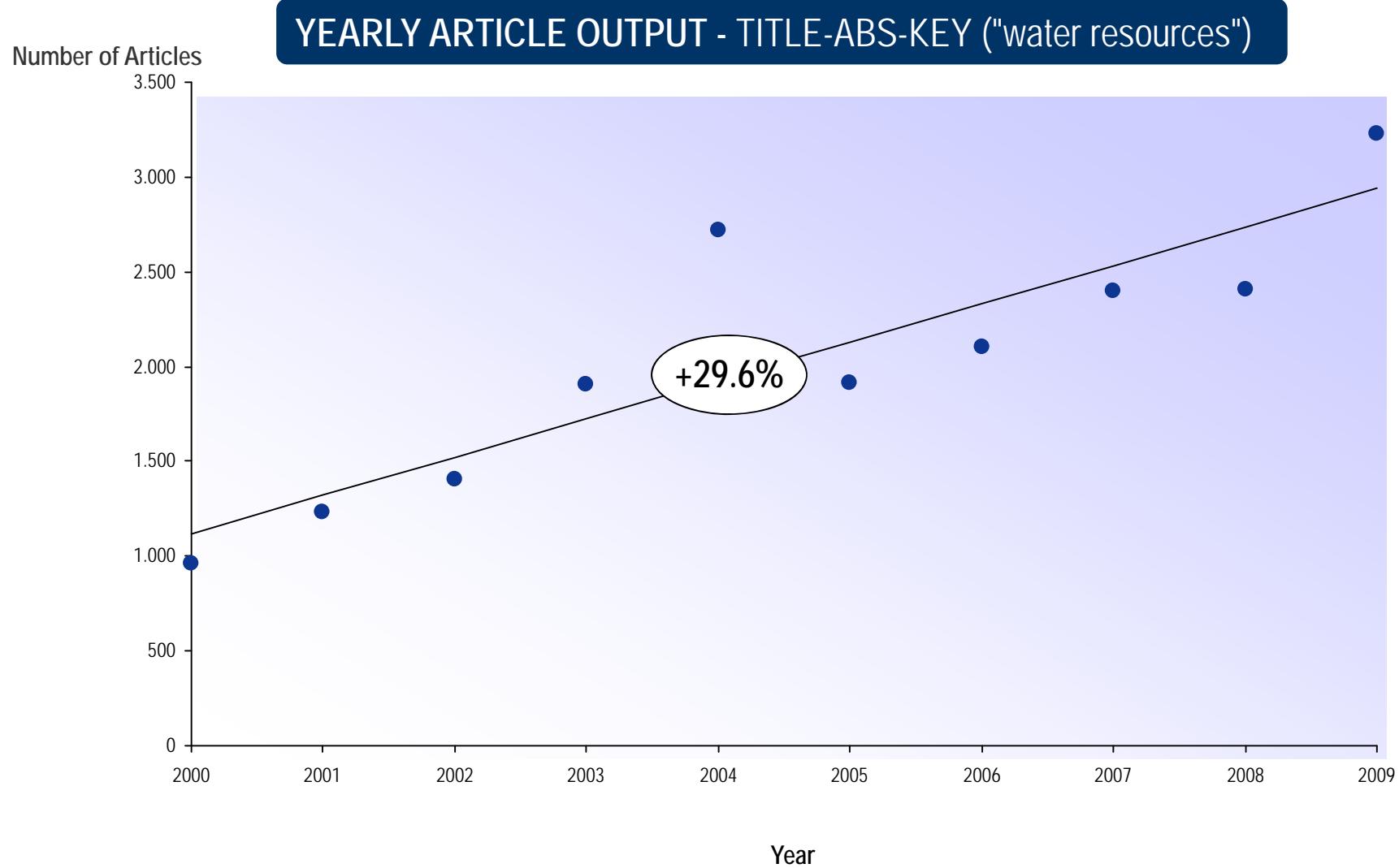
Elsevier publishes some of the top journals in the fields of water research and 30% of the articles

Category	Total # journals	Elsevier # journals	Market share (%)	Influence	5year IF	Relative IF	Market growth in % (04-08)	ELS Growth in %
Fisheries	44	4	23.18	29	3.647	1.238	14.8	9.8
Marine and Freshwater Biology	90	12	26.44	31	4.198	1.203	32.0	33.7
Oceanography	56	14	34.48	36	4.071	1.073	31.1	49.6
Water Resources	68	10	28.8	45	3.48	1.364	56.9	41.8
Total and averages	258	40			3.849	1.220		

Elsevier publishes the number one cited journal *Water Research* and other essential publication outlets like *Journal of Hydrology*, *Advances in Water Resources*, *Agricultural and water management*, etc.

J

Steady article output growth (2000-09)



Source: Scopus

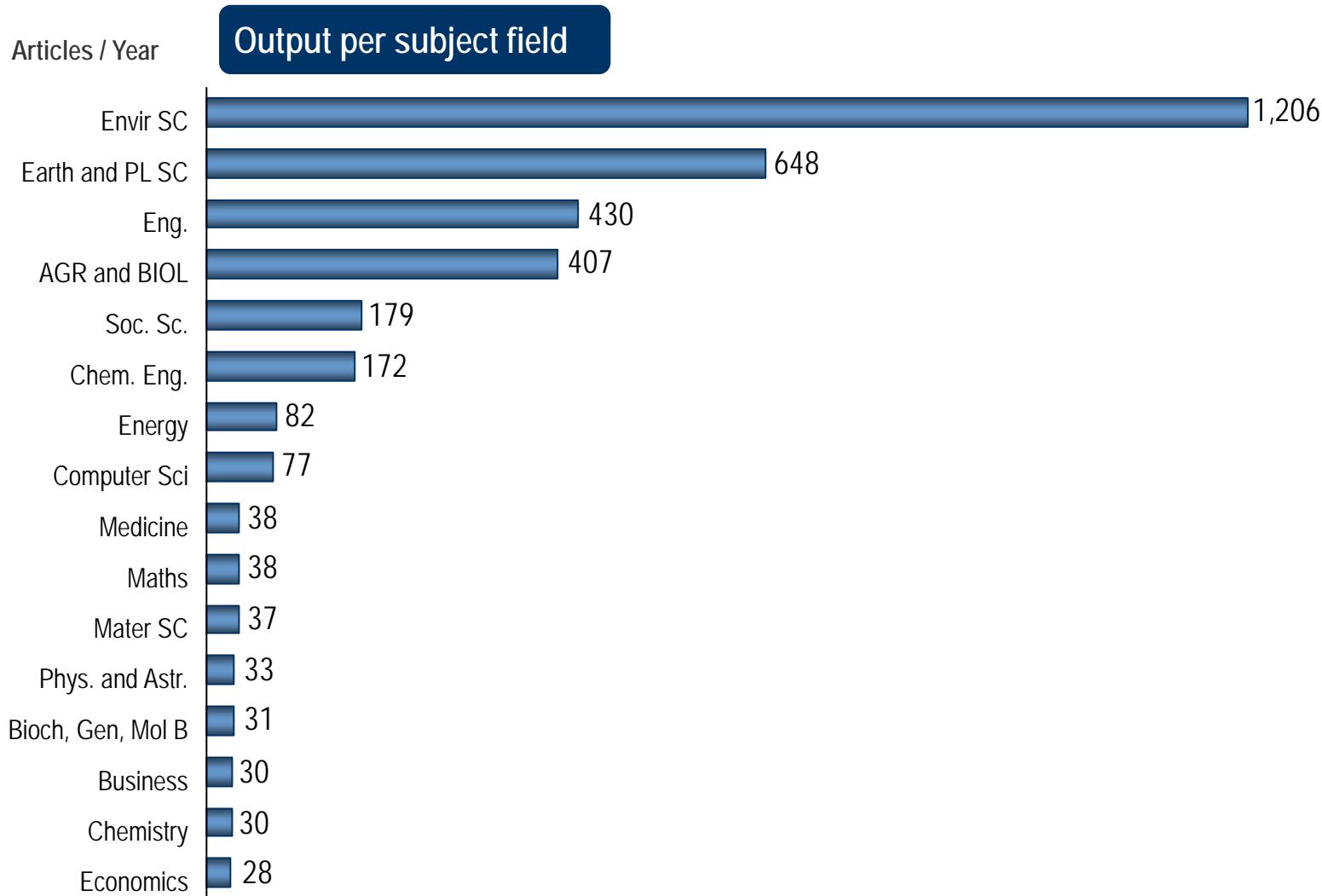
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Water resources is a multi-disciplinary field

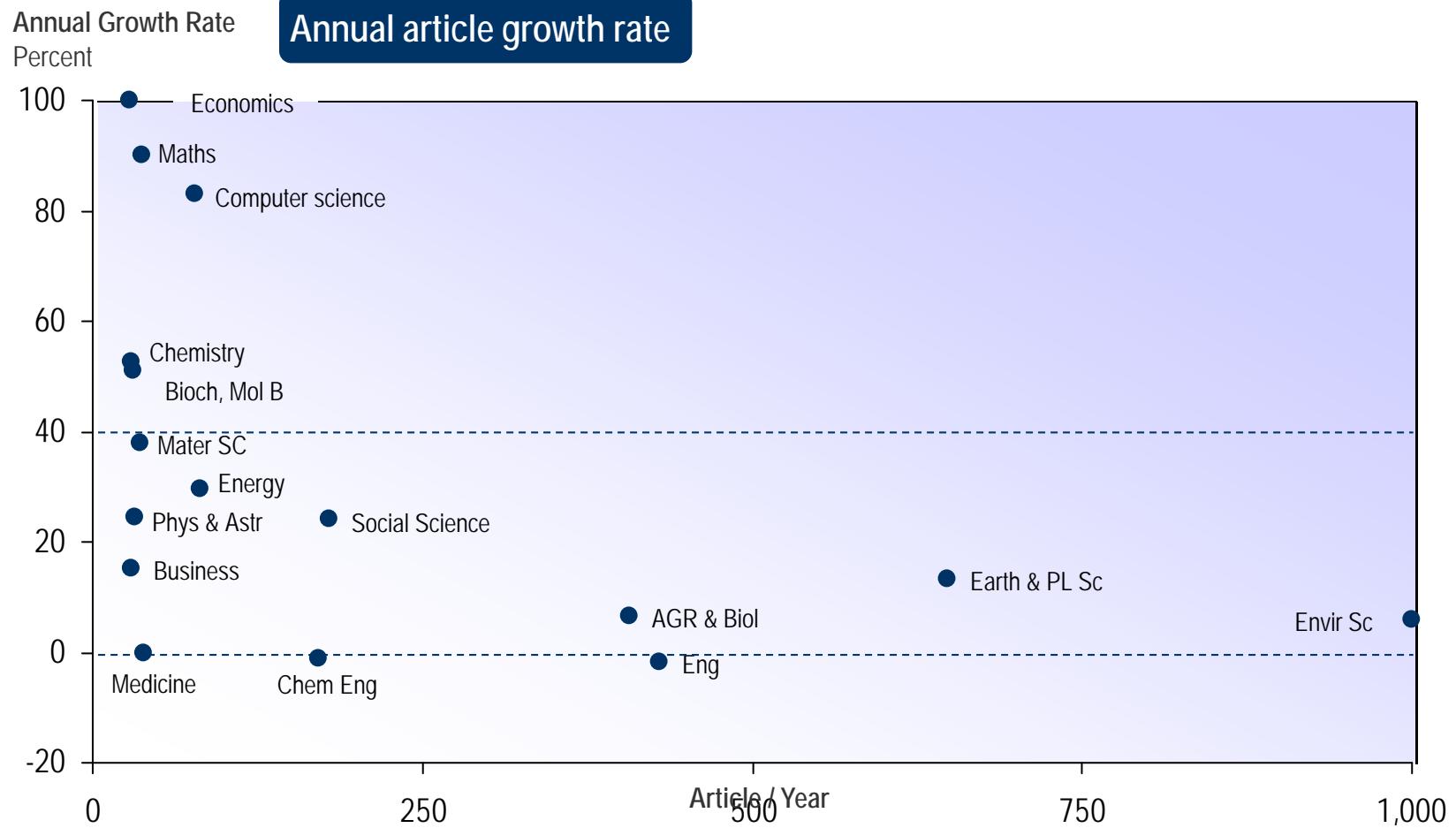
(water resources 2005-8)



Source: Scopus

The field is becoming more and more multi-disciplinary

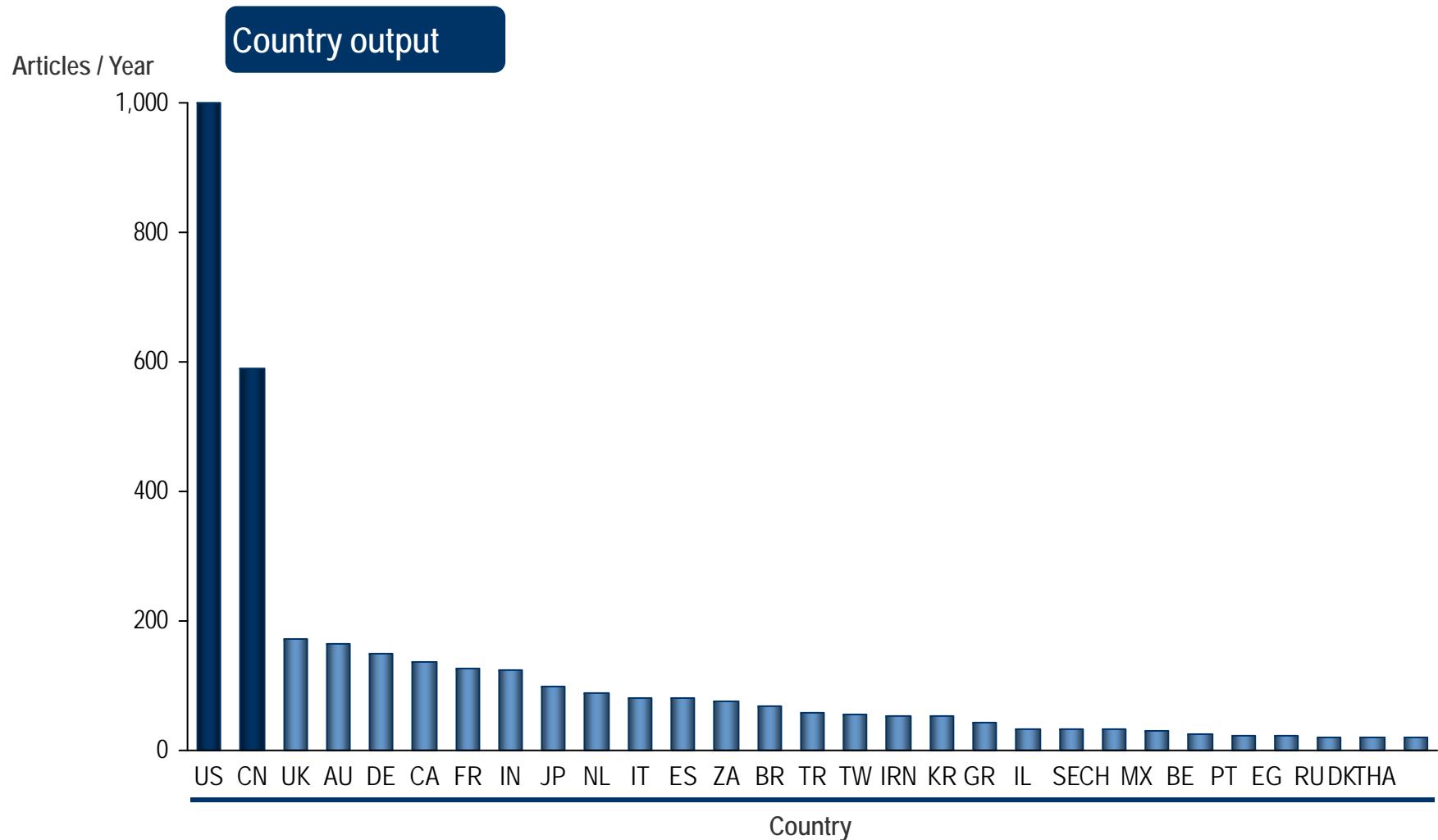
(water resources 2005-8)



Source: Scopus

The field is highly international

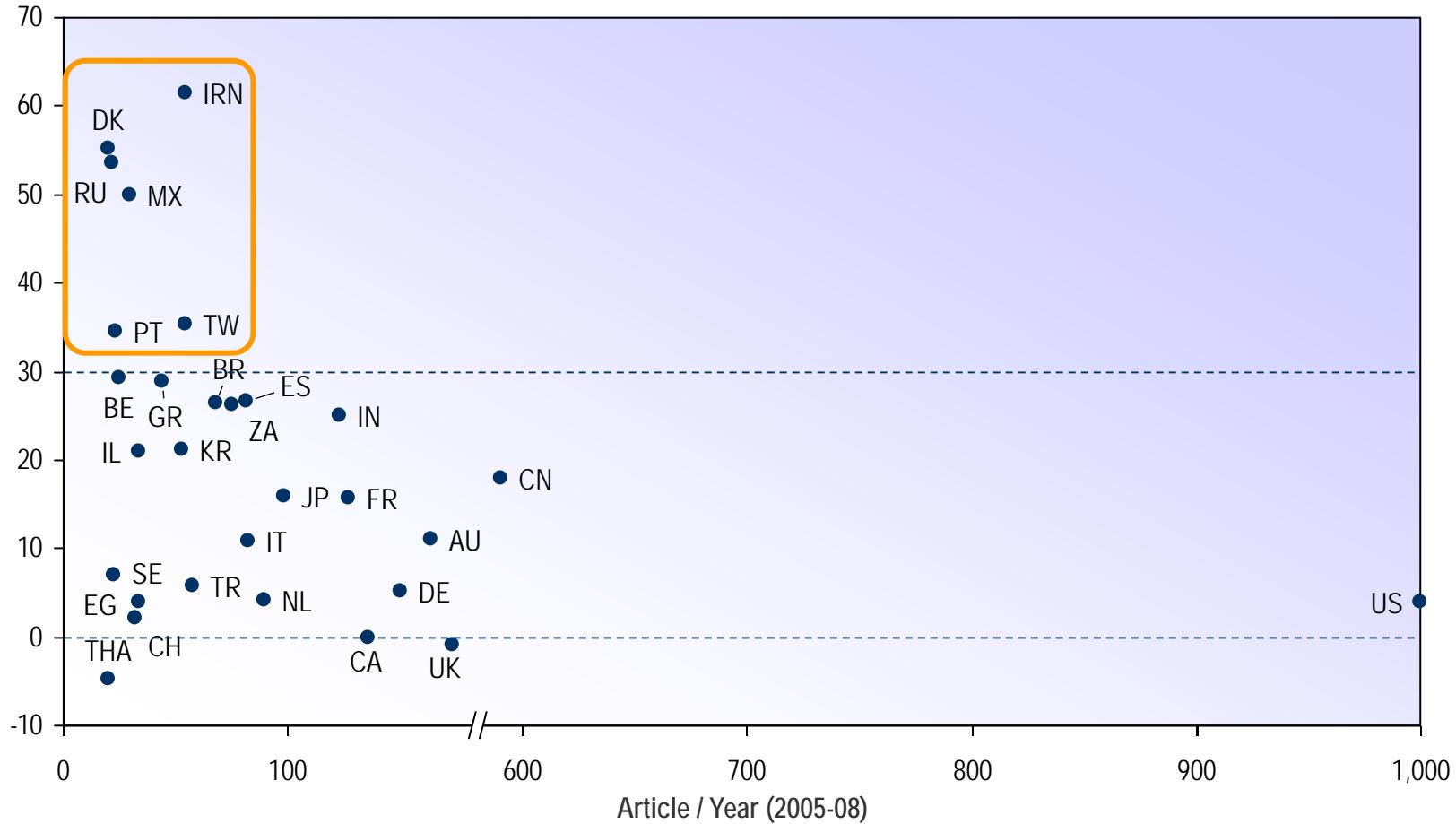
USA and China leading in article output (water resources 2005-8)



Source: Scopus

Denmark, Russia, Iran, Mexico, Portugal and Taiwan are growing at great rates (water resources 2005-8)

Annual Growth Rate
Percent



Annual percentage growth per average annual article output

Source: Scopus

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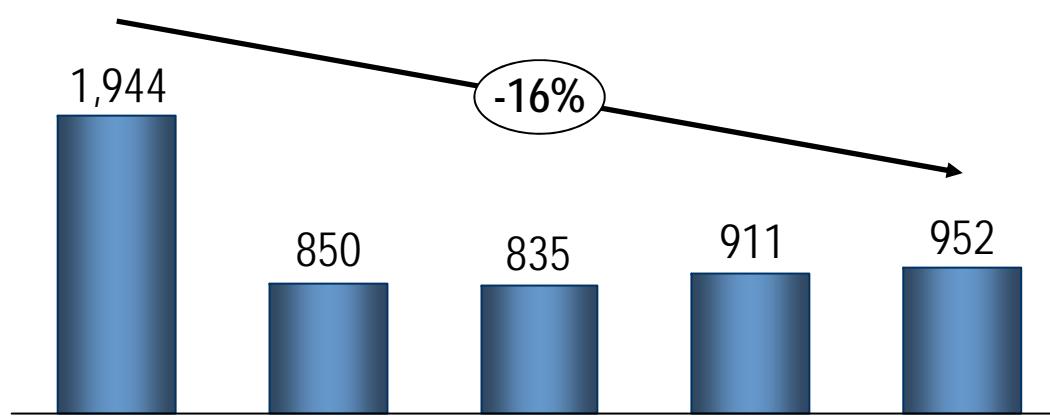
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Overview of article growth, 2004-08 – US and China

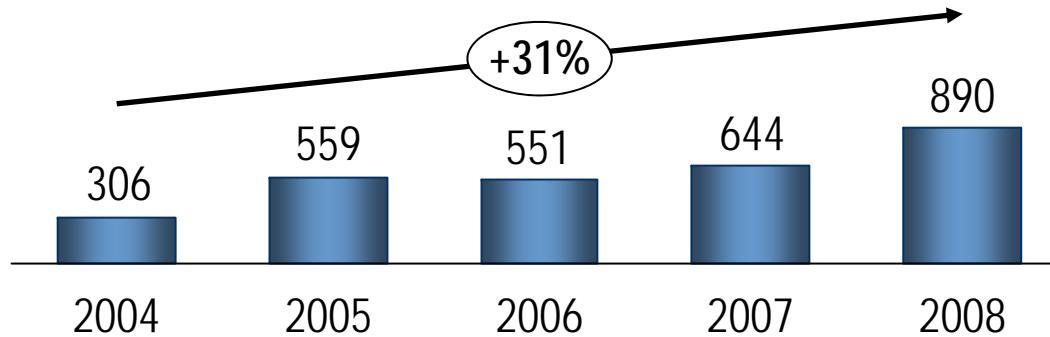
Number of publications

(water resources 2005-8)

US



China



Source: Scopus

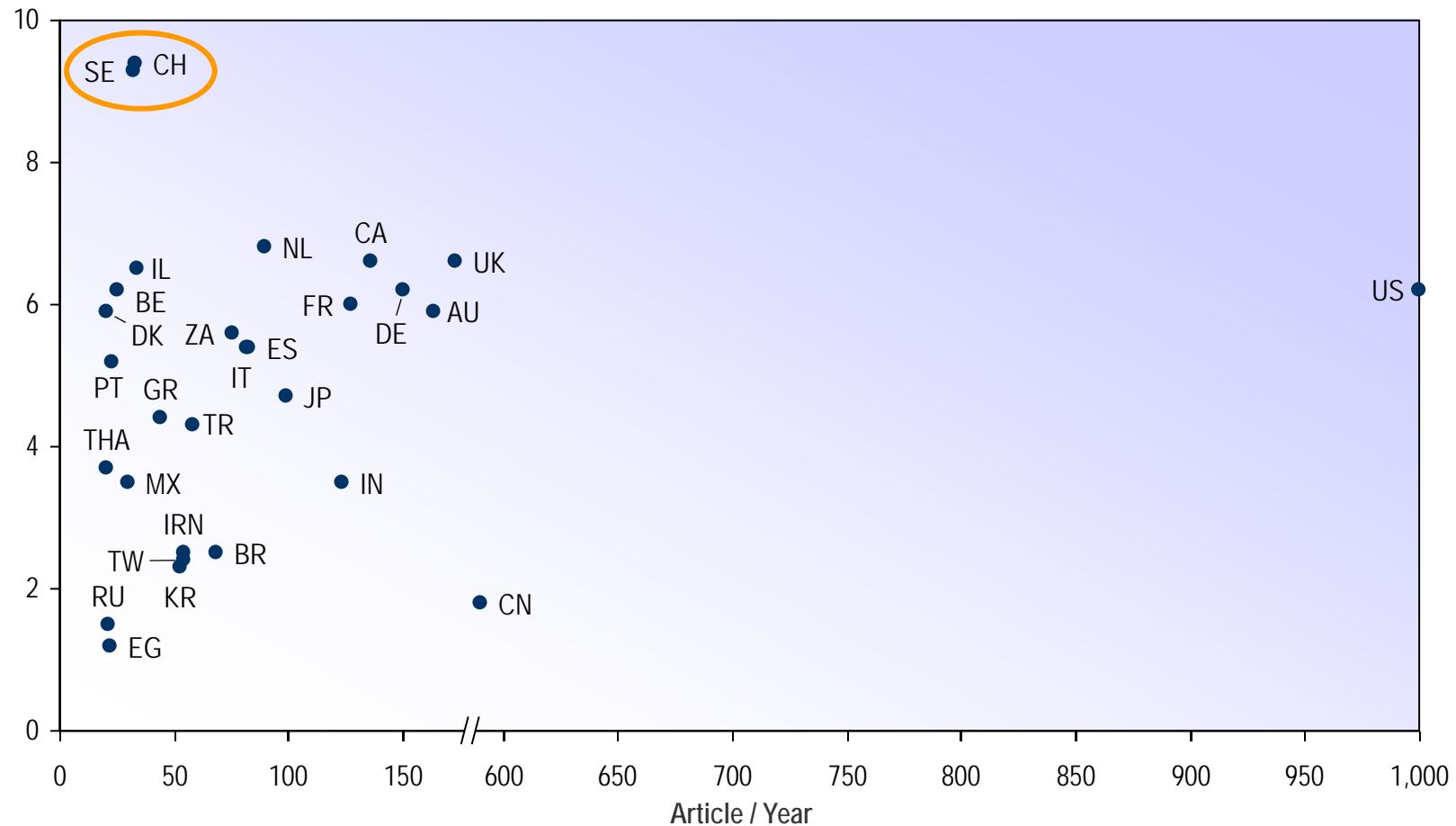
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Switzerland and Sweden show highest citation impact per paper (water resources 2005-8)

Cites / Article



Country citation impact per paper

Source: Scopus

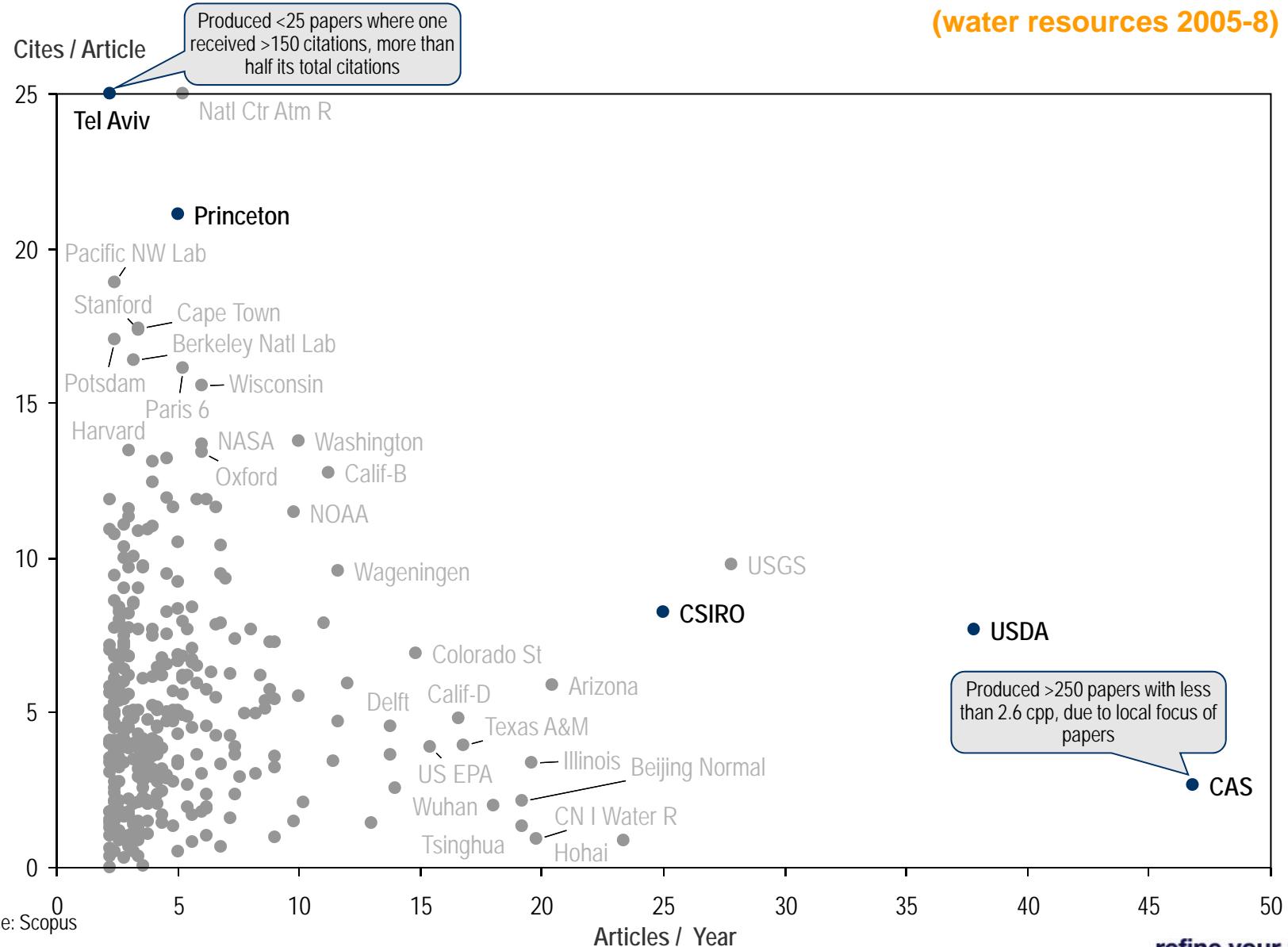
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Institutes with highest article output or cites per article

(water resources 2005-8)

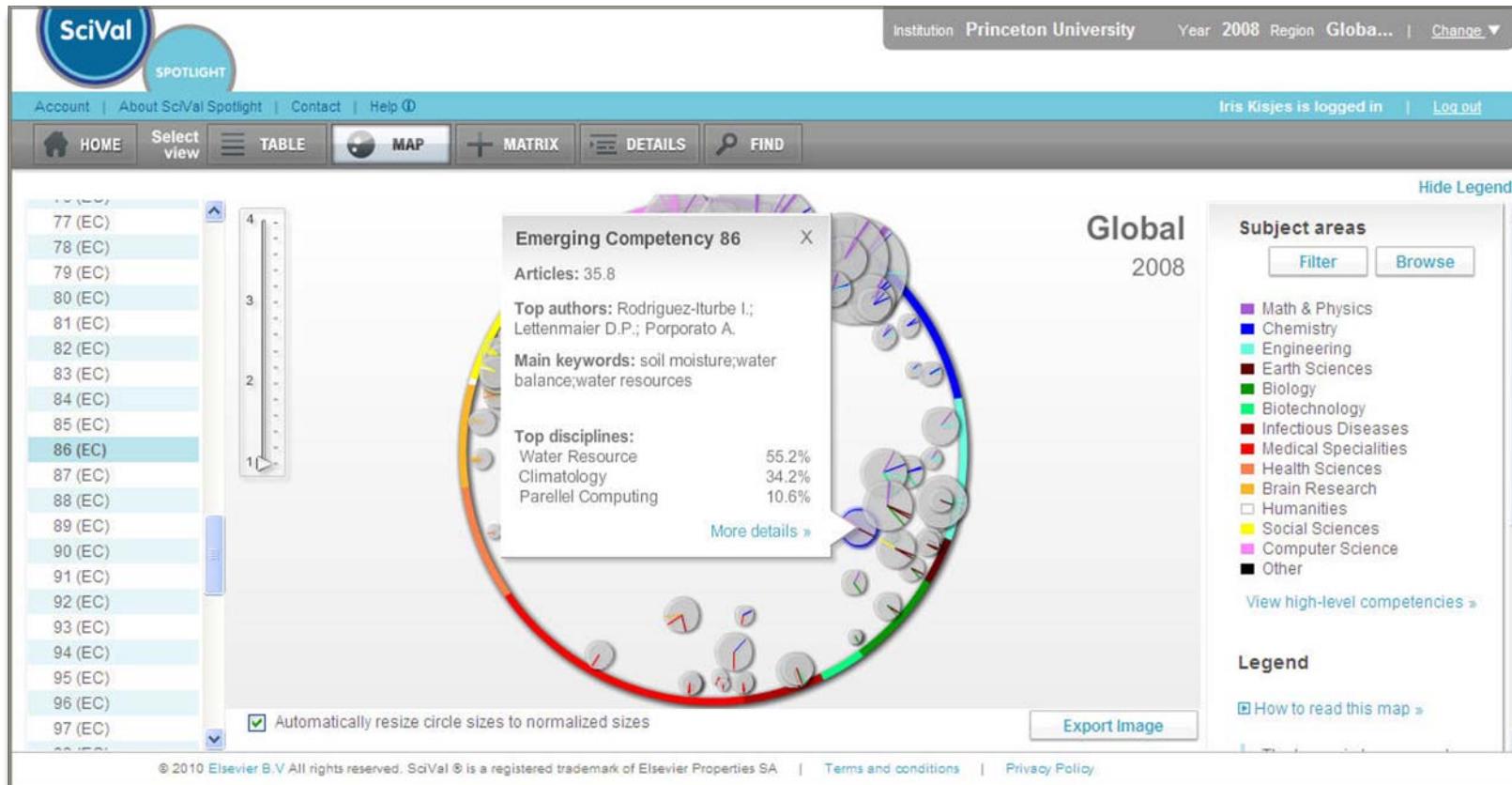




Source: Spotlight

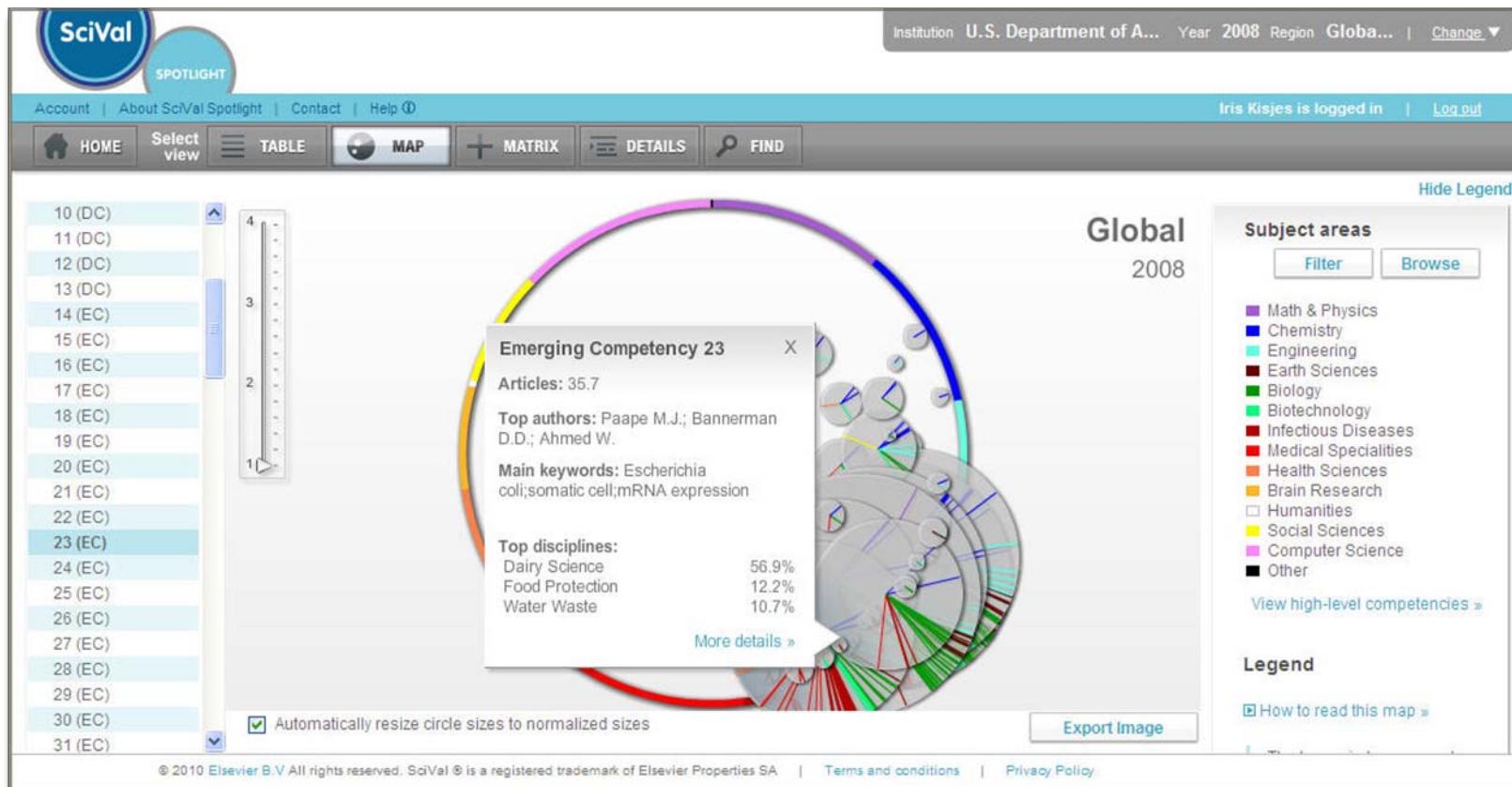


Princeton



Source: Spotlight





Source: Spotlight



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- Submission deadline 1 November 2010
- Winners announced June 2011
- <http://www.reedelsevier.com/CorporateResponsibility/EnvChallenge/2010.htm> or email EnvironmentalChallenge@reedelsevier.com



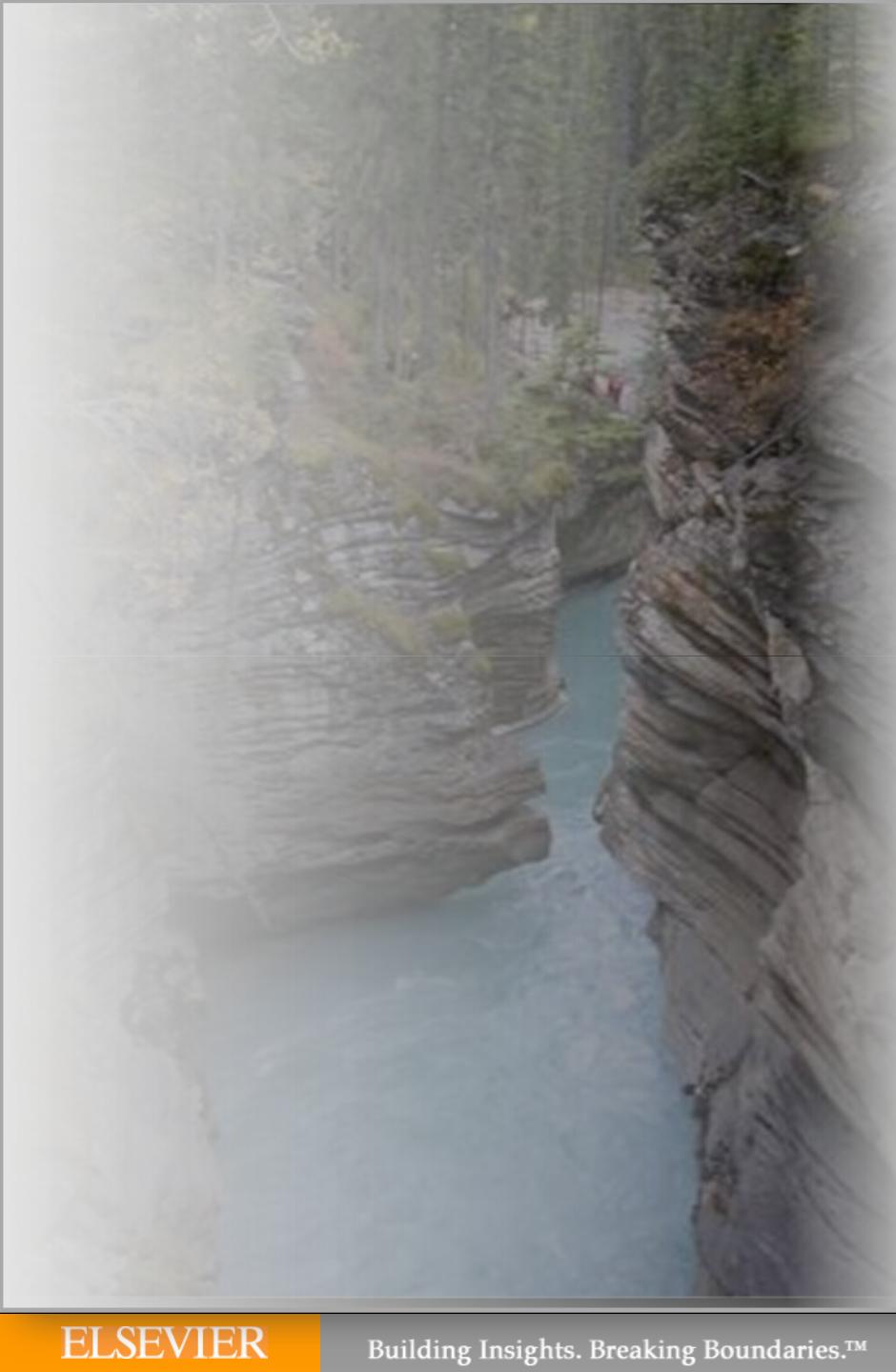
Summary



Research in Water Resources is increasing 27% above average research growth, with China leading in research output.

The field is increasingly multidisciplinary which makes it challenging to comprehend by simply looking at the research output in journal categories.

Technological solutions help us understand the field, where it is moving and where we might want to offer incentives to drive it.



Thank You!

If you have any questions or would like to contact us:

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c.barranget@elsevier.com