



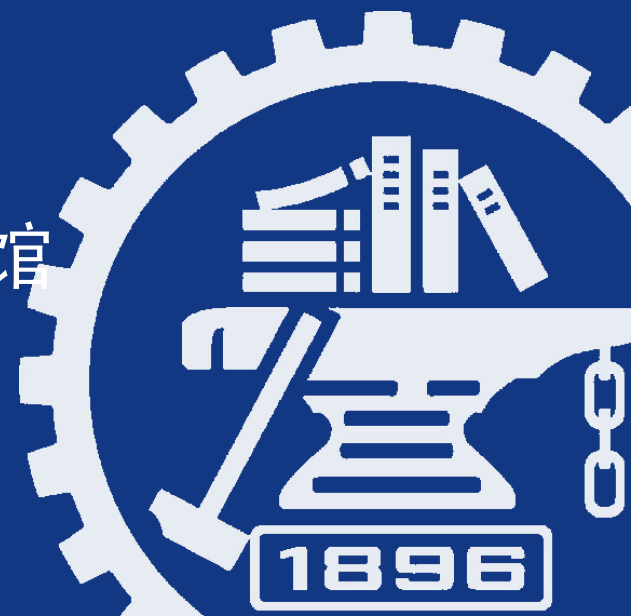
上海交通大学
SHANGHAI JIAO TONG UNIVERSITY



ESI在学科评估与前沿分析中的应用

仇晓春

上海交通大学医学院图书馆
2013.4.2





学科评估的常用方法

① 同行评议 (Peer review) :

始于19世纪, 科技界进行科技评估的基本方法

弊端: 权威至上、马太效应、近亲发展

② 科学计量学 (Scientometrics) :

科学计量学是应用数理统计和计算技术等数学方法对科学活动的产出进行定量分析, 从中找出科学活动规律性的一门科学分支学科。

科学文献是科学活动的产出和交流的主要形式之一, 文献计量学研究成为学科评价重要方法。



文献计量学 (Bibliometrics)

用数学和统计学的方法，定量地分析一切知识载体的交叉科学。它是集数学、统计学、文献学为一体，注重量化的综合性知识体系。

- 1926年，洛特卡定律：科技文献作者分布规律；
- 1948年，齐普夫定律：文献中词频分布规律；
- 1934年，布拉德福定律：某一学科论文的期刊分布规律；
- 1963年，美国费城科学情报研究所加菲尔德博士创立《科学引文索引》(SCI)，为科学计量学研究提供了数据基础。



什么是 ESI ?

- 基本科学指标（**Essential Science Indicators**，简称**ESI**）是汤姆森科技信息集团在汇集和分析**ISI Web of Science**（**SCI**、**SSCI**）所收录的学术文献及其所引用的参考文献的基础上建立起来的分析型数据库；
 - 衡量科学研究绩效、跟踪科学发展前沿。
-



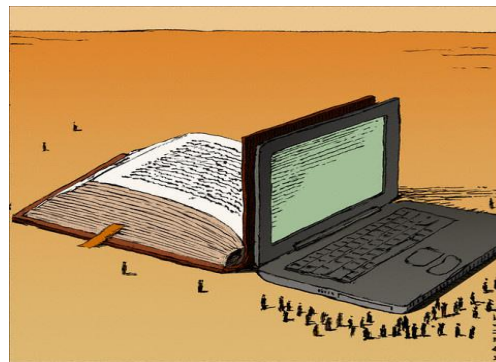
- **ESI** 是一个了解有关研究绩效的有用的工具，可以回答有关研究绩效的很多问题：

例如：

- 在某个特定研究领域里是哪一个机构产出了高被引的研究成果？
- 我们所在的机构在某一研究领域中的排名情况是如何的？
- 在这个领域里谁是最具影响力的研究人员？
- 我们所在机构发表文献的被引趋势是上升的还是下降的？
- 我的论文的被引用情况同其它类似的文章相比的结果如何？
-



- 按照共引关系聚类高被引论文，用以了解新的突破可能出现的领域以及科学家之间的非正式交流的关系，发现研究领域里的热门话题。





❶ ESI 的数据来源：

- 来自于 ISI Web of Science 的超过10年的数据
 - ESI 于 Mar, 2013更新，覆盖的数据为10年另6个月，2002年1月 – 2012年12月31日
 - 数据每2个月更新一次（一年6次）。
- 发表在近9000种期刊上的9百万个条目(文章, 述评, 论文)
- 每一种期刊都被按照22个学科进行了分类标引



在22个学科领域里涵盖了Web of Science 10年来的数据

- Agricultural Science
- Biology & Biochemistry
- Chemistry
- Clinical Medicine
- Computer Science
- Economics & Business
- Engineering
- Environment/ Ecology
- Geosciences
- Immunology
- Materials Science
- Mathematics
- Microbiology
- Molecular Biology & Genetics
- Multidisciplinary*
- Neuroscience & Behavior
- Pharmacology
- Physics
- Plant & Animal Science
- Psychiatry/Psychology
- Social Sciences--general
- Space Science



- ④ ESI数据库以引文分析为基础，针对22个专业领域，通过计算**论文数**、**引文数**、**篇均被引频次**（Average Citations Per Paper）和**单篇年均被引频次**（Averages）、**平均年份**（Mean Year）、**标准共引阈值**（Normalized Co-citation）、**引文阈值**等指标，从各个角度对各国科研水平、期刊的声誉和影响力，以及科研机构和科学家的学术水平进行全面衡量，并对当前正在深入研究和有突破性进展的科学领域进行直观反映。
- ④ 通过ESI数据库，用户不仅可以了解在各研究领域中最领先的国家、期刊、科学家、论文和研究机构，识别自然科学和社会科学领域的重要趋势与方向，还能够确定具体研究领域内的研究成果及其影响，评估潜在的雇员、合作者、和竞争对手，并对彼此的研究业绩和竞争能力进行评估，从而具备更深层次的战略竞争情报意义。
- ④ 除提供具体数据图表以外，ESI还为用户提供了简要的数据分析指导，并为所有图表提供解释性的链接页面。



④ 引文排名 (Citation Rankings)

科学家 (Scientists) 1%

研究机构 (Institutions) 1%

国家/地区 (Countries/ Territories) 50%

期刊 (Journals) 50%

④ 高被引论文 (Most Cited Papers)

10年高被引论文 (Highly Cited Papers)

2 年高被引论文 (Hot Papers)

④ 引文分析 (Citation Analysis)

学科基值 (Baselines)

研究前沿 (Research Fronts)

④ 专家评述 (Commentary)



WEB OF KNOWLEDGESM

DISCOVERY STARTS HERE

登录

标记结果列表 (0)

我的 EndNote Web

我的 ResearcherID

我的引文跟踪

我的期刊

所有数据库

选择一个数据库

Web of Science

其他资源

分析工具:

Journal Citation Reports[®]

期刊影响因子提供了对全球主要期刊进行评估的系统、客观的方法

- 提供基于引文数据的量化统计信息
- 提供各种影响指标, 包括 Journal Impact Factor 和 Eigenfactor[®]
- 包括显示类别中排名的表、期刊自引数据和 Impact Factor 盒状图

Essential Science IndicatorsSM

深层的分析评价工具, 提供对科学家、研究机构、国家/地区和期刊论文排名的数据。

- 根据期刊的论文发表数和引文数据, 探究科研绩效统计和科学/学科发展趋势的数据
- 确定特定学科领域的科研成果和影响力
- 分析评价员工、合作者、评审人和竞争对手的能力

网站:

BiologyBrowser

为进行生命科学信息研究的团体提供免费的资源和链接数据库。

Index to Organism Names

世界上最大的在线科学生物物种名称数据库。

ResearcherID.com

ResearcherID 为全球的科研界提供最具价值的作者信息索引。每位在编作者都有一个唯一的编号, 作为快捷标识符。

Science Watch[®]

每周跟踪免费网络资源中的热点、新涌现的论文和研究前沿, 从而进行科学评价和分析。这些网络资源包括使用 Thomson Reuters 的 *Essential Science Indicators*SM 进行筛选的科学家、期刊论文、科研机构和国家/地区的访谈、以第一人称撰写的评论、播客以及概要信息。



ISI Web of KnowledgeSM

Essential Science IndicatorsSM

Essential Science Indicators has been updated as of March 1, 2013 to cover an 11-year period, January 1, 2002-December 31, 2012.

[Information for New Users](#)

- 引文排名
- 高被引论文
- 引文分析

Citation Rankings:	<ul style="list-style-type: none"> - Scientists - Institutions - Countries/Territories - Journals 	Commentary: <input type="button" value="IN-CITES"/> <input type="button" value="SPECIAL TOPICS"/> <input type="button" value="SCIENCE-WATCH"/>
Most Cited Papers:	<ul style="list-style-type: none"> - Highly Cited Papers (last 10 years) - Hot Papers (last 2 years) 	
Citation Analysis:	<ul style="list-style-type: none"> - Baselines - Research Fronts 	

- 专家评述

NOTICES

TUTORIAL

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科学家排名 (Scientists)

ISI Web of KnowledgeSM

Essential Science IndicatorsSM

WELCOME HELP IN-CITES

- (All Fields)
- (All Fields)
- Agricultural Sciences
- Biology & Biochemistry
- Chemistry
- Clinical Medicine**
- Computer Science
- Economics & Business
- Engineering
- Environment/Ecology
- Geosciences
- Immunology
- Materials Science
- Mathematics
- Microbiology
- Molecular Biology & Genetics
- Multidisciplinary
- Neuroscience & Behavior
- Pharmacology & Toxicology
- Physics
- Plant & Animal Science
- Psychiatry/Psychology
- Social Sciences, general
- Space Science

BY FIELD

Select a scientist from this field

OR

BY NAME

Select a scientist from the alpha

[0-9](#) [A](#) [B](#) [C](#) [D](#)

Example: WEINBERG RA [\(mc\)](#)

rch.
[N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

LES

- Enter WEINBERG to search for citation data for a
- Enter WEINBERG RA to search for citation data
- Enter WEINBERG R* to search for citation data
- initials (the asterisk stands for possible subsequent initials).
- If an author's last name includes spaces (e.g., Van Horn, de los Rios), enter this name without the space(s). For example, enter VANHORN * for Van Horn, DELOSRIOS * for de los Rios.
- If an author's last name includes a nonalphanumeric character (e.g., O'Donnell, Aguilar-Benitez), enter this name without the character. For example, enter O'DONNELL for O'Donnell, AGUILARBENITEZ for Aguilar-Benitez.































SCIENTIST RANKINGS IN CLINICAL MEDICINE

Display items with at least: Citation(s)Sorted by: Citations

1 - 20 (of 20338)



Page 1 of 1017

	View		Scientist	Papers	Citations	Citations Per Paper
1			WANG, Y	3,576	45,163	12.63
2			THUN, MJ	192	38,026	198.05
3			JEMAL, A	91	38,016	417.76
4			LI, Y	2,907	35,827	12.32
5			COLLINS, R	168	34,791	207.09
6			ZHANG, Y	3,183	34,646	10.88
7			WARD, E	102	34,599	339.21
8			KIM, JH	3,546	33,604	9.48
9			CHEN, J	2,190	32,908	15.03
10			LEE, JH	3,341	32,267	9.66
11			ZHANG, L	2,373	32,214	13.58
12			YUSUF, S	377	31,666	83.99
13			WANG, L	2,364	31,609	13.37
14			WANG, J	2,682	30,232	11.27
15			NAKAMURA, T	2,042	29,453	14.42

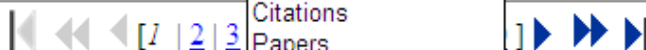
SCIENTIST RANKINGS IN CLINICAL MEDICINE

Display items with at least:
















Sorted by:

- Citations
- Papers
- Citations per Paper
- Scientist

1 - 20 (of 15275)



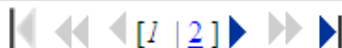
Page 1 of 764

	View	Scientist	Papers	Citations	Citations Per Paper
1		JEMAL, A	91	38,016	417.76
2		SIEGEL, R	58	22,729	391.88
3		WARD, E	102	34,599	339.21
4		XU, JQ	67	21,329	318.34
5		PETO, R	96	28,279	294.57
6		BLACK, HR	66	16,270	246.52
7		PRENTICE, RL	51	12,258	240.35
8		GOLUB, TR	68	15,548	228.65
9		JONES, DW	59	13,006	220.44
10		ANDERSON, GL	60	12,809	213.48
11		COLLINS, R	168	34,791	207.09
12		THUN, MJ	192	38,026	198.05
13		GREEN, LA	64	12,664	197.88
14		FUTREAL, PA	52	9,676	186.08
15		GRUNDY, SM	124	22,460	181.13

TOP PAPERS FOR JEMAL, A IN CLINICAL MEDICINE

Sorted by: Citations

1 - 20 (of 35)



Page 1 of 2

WEB OF SCIENCE

1 Citations: 5,317

Title: CANCER STATISTICS, 2008

Authors: [JEMAL A](#); [SIEGEL R](#); [WARD E](#); [HAO YP](#); [XU JQ](#); [MURRAY T](#); [THUN MJ](#)Source: [CA-A CANCER J CLIN](#)
58 (2): 71-96 MAR-APR 2008Addresses: [Amer Canc Soc](#), Dept Epidemiol & Surveillance Res, Atlanta, GA 30329 USA.
[Ctr Dis Control & Prevent](#), Natl Ctr Hlth Stat, Div Vital Stat, Mortal Stat Branch, Hyattsville, MD 20782 USA.Field: [CLINICAL MEDICINE](#)

2 Citations: 4,596

WEB OF SCIENCE

Title: CANCER STATISTICS, 2009

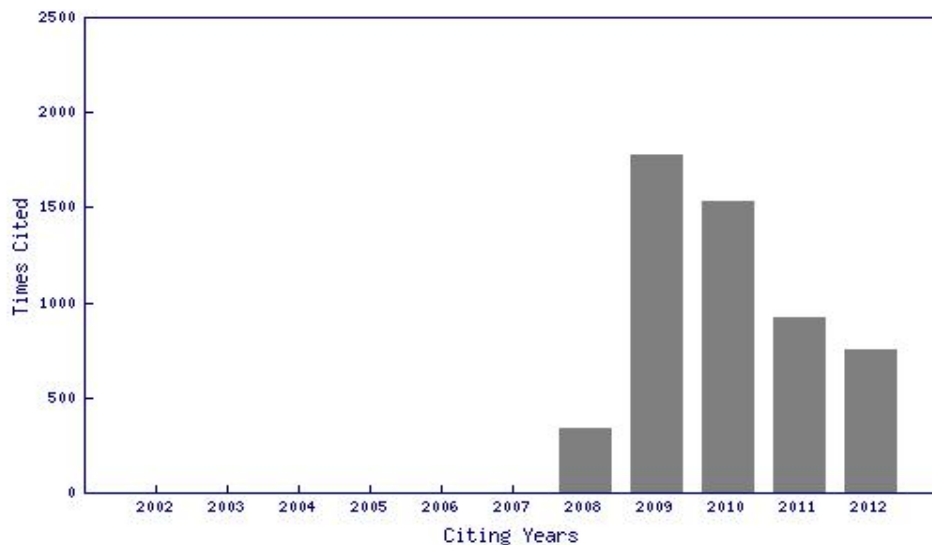
Authors: [JEMAL A](#); [SIEGEL R](#); [WARD E](#); [HAO YP](#); [XU JQ](#); [THUN MJ](#)Source: [CA-A CANCER J CLIN](#)
59 (4): 225-249 JUL-AUG 2009Addresses: [Amer Canc Soc](#), Surveillance Informat Serv, 250 Williams St NW, Atlanta, GA 30303 USA.

TOP PAPERS FOR JEMAL, A IN CLINICAL MEDICINE

Title: CANCER STATISTICS, 2008

Source: CA-A CANCER J CLIN 58 (2): 71-96 MAR-APR 2008

Number of Citations (by year):



[How to read this graph](#)

[View table of graph data](#)

Number of Citations (by year):

[Back to graph view](#)

Citing Years:	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Times Cited	0	0	0	0	0	0	342	1772	1536	917	750

SCIENTISTS MENU

BY FIELD	Select a scientist from this field: <input type="text" value="(All Fields)"/> <input type="button" value="GO"/>
OR	
BY NAME	<p>Select a scientist from the alphabetical list or enter a name to search.</p> <p>0-9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z</p> <p>Example: WEINBERG RA (more examples)</p> <p><input type="text" value="Wang ZY"/> <input type="button" value="SEARCH"/></p>

Wang ZY

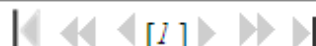
SCIENTIST SEARCH EXAMPLES

- Enter **WEINBERG** to search for citation data for any author whose last name is Weinberg.
- Enter **WEINBERG RA** to search for citation data for any author whose last name is Weinberg and whose only initials are RA.
- Enter **WEINBERG R*** to search for citation data for any author whose last name is Weinberg, whose first initial is R, and who may have other subsequent initials (the asterisk stands for possible subsequent initials).
- If an author's last name includes spaces (e.g., Van Horn, de los Rios), enter this name without the space(s). For example, enter **VANHORN *** for Van Horn, **DELOSRIOS *** for de los Rios.
- If an author's last name includes a nonalphanumeric character (e.g., O'Donnell, Aguilar-Benitez), enter this name without the character. For example, enter **ODONNELL** for O'Donnell, **AGUILARBENITEZ** for Aguilar-Benitez.























FIELD RANKINGS FOR WANG, ZY

Display items with at least: Citation(s)Sorted by: Citations

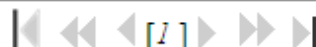
1 - 10 (of 10)



Page 1 of

	View	Field	Papers	Citations	Citations Per Paper
1	 	CHEMISTRY	872	8,259	9.5
2	 	PHYSICS	546	4,327	7.9
3	 	CLINICAL MEDICINE	391	3,328	8.5
4	 	MATERIALS SCIENCE	353	2,647	7.5
5	 	PLANT & ANIMAL SCIENCE	214	2,591	12.1
6	 	BIOLOGY & BIOCHEMISTRY	185	2,429	13.2
7	 	MOLECULAR BIOLOGY & GENETICS	104	2,385	22.9
8	 	ENGINEERING	310	1,270	4.1
9	 	ENVIRONMENT/ECOLOGY	93	539	5.8
10	 	AGRICULTURAL SCIENCES	57	420	7.4
	 	ALL FIELDS*	3,570	30,706	8.6

1 - 10 (of 10)



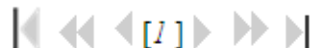
Page 1 of

* Includes data for all papers from ranked and unranked fields.

TOP PAPERS FOR WANG, ZY IN CLINICAL MEDICINE

Sorted by: Citations

1 - 4 (of 4)



Page 1 of 1

1 Citations: 233

RESEARCH FRONT

WEB OF SCIENCE

Title: ACUTE PROMYELOCYTIC LEUKEMIA: FROM HIGHLY FATAL TO HIGHLY CURABLE

Authors: [WANG ZY](#); [CHEN Z](#)Source: [BLOOD](#)
111 (5): 2505-2515 MAR 1 2008Addresses: [Shanghai Jiao Tong Univ.](#) Shanghai Inst Hematol, Rui Jin Hosp, Sch Med, 197 Rui Jin Rd 2, Shanghai 200025, [Peoples R China](#).
[Shanghai Jiao Tong Univ.](#) Shanghai Inst Hematol, Rui Jin Hosp, Sch Med, Shanghai 200025, [Peoples R China](#).
[Shanghai Jiao Tong Univ.](#) State Key Lab Med Genom, Rui Jin Hosp, Shanghai 200025, [Peoples R China](#).
[Shanghai Jiao Tong Univ.](#) Shanghai Ctr Syst Biomed, Shanghai 200025, [Peoples R China](#).Field: [CLINICAL MEDICINE](#)

2 Citations: 205

WEB OF SCIENCE

Title: ALL-TRANS RETINOIC ACID/AS(2)O(3) COMBINATION YIELDS A HIGH QUALITY REMISSION AND SURVIVAL IN NEWLY DIAGNOSED ACUTE PROMYELOCYTIC LEUKEMIA

Authors: [SHEN ZX](#); [SHI ZZ](#); [FANG J](#); [GU BW](#); [LI JM](#); [ZHU YM](#); [SHI JY](#); [ZHENG PZ](#); [YAN H](#); [LIU YF](#); [CHEN Y](#); [SHEN Y](#); [WU W](#); [TANG W](#); [WAXMAN S](#); DE THE H; [WANG ZY](#); [CHEN SJ](#); [CHEN Z](#)

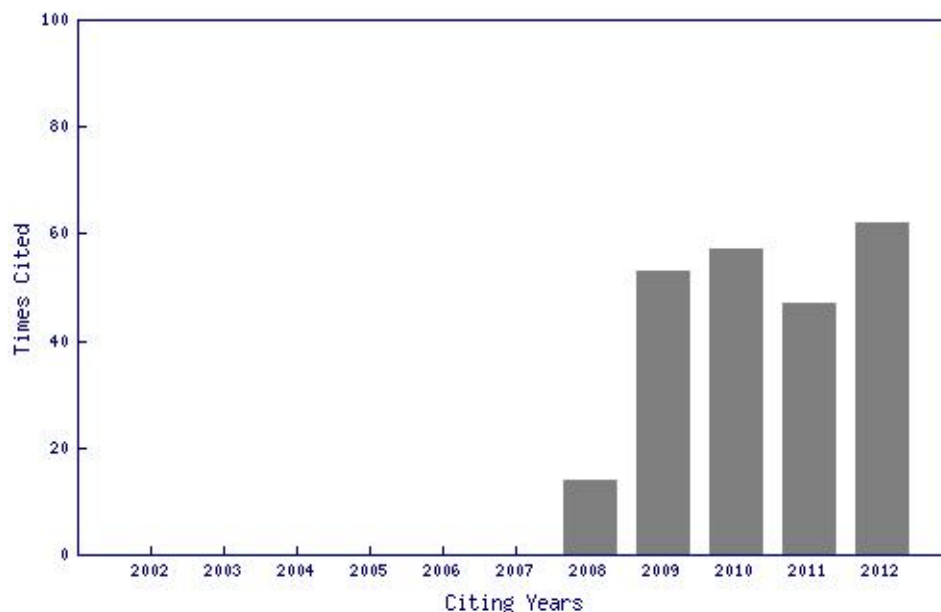
TOP PAPERS FOR WANG, ZY IN CLINICAL MEDICINE

Title: ACUTE PROMYELOCYTIC LEUKEMIA: FROM HIGHLY FATAL TO HIGHLY CURABLE

Source: BLOOD 111 (5): 2505-2515 MAR 1 2008

Number of Citations (by year):

[How to read this graph](#)
[View table of graph data](#)

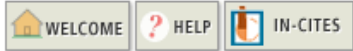


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ISI Web of KnowledgeSM

Essential Science IndicatorsSM



INSTITUTIONS MENU

No matching records found for 'harvard university'

BY FIELD

Select an institution from this field: (All Fields)

OR

BY NAME

Select an institution from the alphabetical list or enter a name to search.

[0-9](#) [A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

Example: HARVARD UNIV* ([more examples](#))

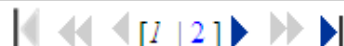
harvard univ*

INSTITUTION SEARCH EXAMPLES

- Enter **MIT** to search for citation data in which at least one address includes the MASSACHUSETTS INSTITUTE OF TECHNOLOGY.
- Enter **NCI** to search for citation data in which at least one address includes the NATIONAL CANCER INSTITUTE.
- Enter **HARVARD UNIV*** to search for citation data in which at least one address includes HARVARD UNIVERSITY.
- Enter **HARVARD*** to search for citation data from HARVARD UNIVERSITY or the HARVARD SMITHSONIAN CTR ASTROPHYS.
- Enter **SALK INST*** to search for citation data in which at least one address includes the SALK INSTITUTE FOR BIOLOGICAL STUDIES.

Display items with at least: Citation(s)Sorted by:

1 - 20 (of 22)



Page 1 of 2

	View	Field	Papers	Citations	Citations Per Paper
1		CLINICAL MEDICINE	48,551	1,367,196	28.16
2		MOLECULAR BIOLOGY & GENETICS	9,783	547,886	56.00
3		BIOLOGY & BIOCHEMISTRY	8,961	330,766	36.91
4		NEUROSCIENCE & BEHAVIOR	7,851	282,456	35.98
5		IMMUNOLOGY	4,453	172,595	38.76
6		PSYCHIATRY/PSYCHOLOGY	6,234	138,465	22.21
7		PHYSICS	5,679	130,909	23.05
8		CHEMISTRY	3,482	123,731	35.53
9		MICROBIOLOGY	2,401	79,555	33.13
10		SOCIAL SCIENCES, GENERAL	6,876	73,023	10.62
11		ECONOMICS & BUSINESS	3,018	59,066	19.57
12		GEOSCIENCES	1,578	41,670	26.41
13		ENVIRONMENT/ECOLOGY	1,560	35,187	22.56
14		PHARMACOLOGY & TOXICOLOGY	1,282	28,504	22.23
15		PLANT & ANIMAL SCIENCE	1,348	25,857	19.18
16		MATERIALS SCIENCE	956	25,726	26.91
17		ENGINEERING	1,469	19,616	13.35
18		SPACE SCIENCE	699	19,049	27.25
19		COMPUTER SCIENCE	1,090	17,228	15.81
20		MULTIDISCIPLINARY	432	13,384	30.98



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COUNTRY/TERRITORY RANKINGS IN CLINICAL MEDICINE

Display items with at least: Citation(s)

Sorted by: Citations

1 - 20 (of 109)

Page 1 of 6

	View		Country/Territory	Papers	Citations	Citations Per Paper
1			USA	824,527	15,255,330	18.50
2			ENGLAND	193,232	3,413,472	17.67
3			GERMANY	198,951	2,912,946	14.64
4			CANADA	111,759	2,056,745	18.40
5			ITALY	125,628	2,024,785	16.12
6			JAPAN	175,850	1,993,136	11.33
7			FRANCE	128,451	1,904,468	14.83
8			NETHERLANDS	85,312	1,671,191	19.59
9			AUSTRALIA	82,497	1,296,312	15.71
10			SWEDEN	52,520	986,650	18.79
11			SWITZERLAND	51,288	983,779	19.18
12			SPAIN	70,133	964,104	13.75



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JOURNAL RANKINGS IN CLINICAL MEDICINE

Display items with at least: Citations per Paper ▾

Sorted by: Citations per Paper ▾

1 - 20 (of 1108)

[1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10]

Page 1 of 56

	View	Journal	Papers	Citations	Citations Per Paper
1		SCIENCE	566	157,657	278.55
2		NATURE	978	254,534	260.26
3		CA-A CANCER J CLIN	212	50,249	237.02
4		N ENGL J MED	3,654	737,632	201.87
5		NAT REV CANCER	730	119,782	164.08
6		JAMA-J AM MED ASSN	3,044	393,747	129.35
7		NATURE MED	1,759	217,603	123.71
8		LANCET	4,201	478,275	113.85
9		J EXP MED	3,022	231,102	76.47
10		J CLIN INVEST	3,922	282,440	72.01
11		ANN INTERN MED	1,904	131,805	69.23
12		PROC NAT ACAD SCI USA	5,167	349,561	67.65



高被引论文

- **Highly Cited Papers:** 列出在22个学科里被引次数最高的文献. 排序列表按照论文被引用次数的高低排在前 1% 的论文;
- **Hot Papers:** 在最近两年里发表的论文中, 按照最近两个月里某个学科领域中被引用次数进入前1‰的论文。



Citation Rankings:	<ul style="list-style-type: none">- <u>Scientists</u>- <u>Institutions</u>- <u>Countries/Territories</u>- <u>Journals</u>
Most Cited Papers:	<ul style="list-style-type: none">- <u>Highly Cited Papers (last 10 years)</u>- <u>Hot Papers (last 2 years)</u>
Citation Analysis:	<ul style="list-style-type: none">- <u>Baselines</u>- <u>Research Fronts</u>

HIGHLY CITED PAPERS MENU

BY FIELD	Display papers from this field: (All Fields) <input type="button" value="GO"/>															
OR																
BY NAME	Show alphabetic list of: Scientist <input type="button" value="GO"/>															
OR																
BY SEARCHING	Enter terms or phrases separated by AND or OR in one or more of the search fields below. Searches combined using the AND operator. <div style="margin-top: 10px;"> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Title word:</td> <td style="width: 40%;"><input type="text"/></td> <td style="width: 40%;"><i>example: allerg* and inflam*</i></td> </tr> <tr> <td>Scientist:</td> <td><input type="text"/></td> <td><i>example: WEINBERG R*</i></td> </tr> <tr> <td>Institution:</td> <td><input type="text"/></td> <td><i>example: SALK INST*</i></td> </tr> <tr> <td>Country/Territory:</td> <td><input type="text"/></td> <td><i>example: USA</i></td> </tr> <tr> <td>Journal:</td> <td><input type="text"/></td> <td><i>example: J Cell* (view full titles)</i></td> </tr> </table> <div style="text-align: center; margin-top: 5px;"> <input type="button" value="SEARCH"/> <input type="button" value="CLEAR"/> </div> </div>	Title word:	<input type="text"/>	<i>example: allerg* and inflam*</i>	Scientist:	<input type="text"/>	<i>example: WEINBERG R*</i>	Institution:	<input type="text"/>	<i>example: SALK INST*</i>	Country/Territory:	<input type="text"/>	<i>example: USA</i>	Journal:	<input type="text"/>	<i>example: J Cell* (view full titles)</i>
Title word:	<input type="text"/>	<i>example: allerg* and inflam*</i>														
Scientist:	<input type="text"/>	<i>example: WEINBERG R*</i>														
Institution:	<input type="text"/>	<i>example: SALK INST*</i>														
Country/Territory:	<input type="text"/>	<i>example: USA</i>														
Journal:	<input type="text"/>	<i>example: J Cell* (view full titles)</i>														


HIGHLY CITED PAPERS IN CLINICAL MEDICINE

Sorted by: **Citations**

1 - 20 (of 23523)



Page 1 of 1177

1 Citations: 6,829 

WEB OF SCIENCE

Title: RISKS AND BENEFITS OF ESTROGEN PLUS PROGESTIN IN HEALTHY POSTMENOPAUSAL WOMEN - PRINCIPAL RESULTS FROM THE WOMEN'S HEALTH INITIATIVE RANDOMIZED CONTROLLED TRIAL


Authors: [ROSSOUW JE](#); [ANDERSON GL](#); [PRENTICE RL](#); [LACROIX AZ](#); [KOOOPERBERG C](#); [STEFANICK ML](#); [JACKSON RD](#); [BERESFORD SAA](#); [HOWARD BV](#); [JOHNSON KC](#); [KOTCHEN M](#); [OCKENE J](#)

Source: [JAMA-J AM MED ASSN](#) 288 (3): 321-333 JUL 17 2002

Addresses:

- [NHLBI](#), Div Womens Hlth Initiat, 6705 Rockledge Dr, 1 Rockledge Ctr, Suite 300, MS-79, Bethesda, MD 20817 USA.
- [NHLBI](#), Div Womens Hlth Initiat, Bethesda, MD 20817 USA.
- [Fred Hutchinson Canc Res Ctr](#), Seattle, WA 98104 USA.
- [Stanford Univ](#), Ctr Clin, Stanford, CA 94305 USA.
- [Ohio State Univ](#), Ctr Clin, Columbus, OH 43210 USA.
- [MedStar Res Inst](#), Washington, DC USA.
- [Univ Tennessee](#), Memphis, TN USA.
- [Med Coll Wisconsin](#), Milwaukee, WI 53226 USA.
- [Univ Massachusetts](#), Sch Med, Worcester, MA USA.

Field: [CLINICAL MEDICINE](#)

2 Citations: 6,582 

COMMENTARY

WEB OF SCIENCE

Title: THE SEVENTH REPORT OF THE JOINT NATIONAL COMMITTEE ON PREVENTION, DETECTION, EVALUATION, AND TREATMENT OF HIGH BLOOD PRESSURE - THE JNC 7 REPORT

Authors: [CHOBANIAN AV](#); [BAKRIS GL](#); [BLACK HR](#); [CUSHMAN WC](#); [GREEN LA](#); [IZZO JL](#); [JONES DW](#); [MATERSON](#)



Highly Cited Papers

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HIGHLY CITED PAPERS MENU

BY FIELD	Display papers from this field: (All Fields) <input type="button" value="GO"/>
OR	
BY NAME	Show alphabetic list of: Scientist <input type="button" value="GO"/>
OR	
BY SEARCHING	<p>Enter terms or phrases separated by the operators AND or OR in one or more of the search fields below. Search fields are automatically combined using the AND operator.</p> <p>Title word: <input type="text"/> <i>example: allerg* and inflam*</i></p> <p>Scientist: <input type="text"/> <i>example: WEINBERG R*</i></p> <p>Institution: <input type="text"/> <i>example: SALK INST*</i></p> <p>Country/Territory: <input type="text" value="PEOPLES R CHINA"/> <i>example: USA</i></p> <p>Journal: <input type="text"/> <i>example: J Cell* (view full titles)</i></p> <p><input type="button" value="SEARCH"/> <input type="button" value="CLEAR"/></p>

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Highly Cited Papers

10 Citations: 1,631

Title: [A REVIEW ON POLYMER NANOFIBERS BY ELECTROSPINNING AND THEIR APPLICATIONS IN NANOCOMPOSITES](#)

Authors: [HUANG ZM](#); [ZHANG YZ](#); [KOTAKI M](#); [RAMAKRISHNA S](#)

Source: [COMPOSITES SCI TECHNOL](#) 63 (15): 2223-2253 NOV 2003

Addresses: [Tongji Univ](#), Dept Engr Mech, 1239 Siping Rd, Shanghai 200092, [Peoples R China](#).
[Tongji Univ](#), Dept Engr Mech, Shanghai 200092, [Peoples R China](#).
[Natl Univ Singapore](#), Div Bioengn, Singapore 119260, [Singapore](#).
[Natl Univ Singapore](#), Nanosci & Nanotechnol Initiat, Singapore 119260, [Singapore](#).
[Natl Univ Singapore](#), Dept Mech Engr, Singapore 119260, [Singapore](#).

Field: [MATERIALS SCIENCE](#)

WEB OF SCIENCE

11 Citations: 1,439

Title: [PIEZOELECTRIC NANOGENERATORS BASED ON ZINC OXIDE NANOWIRE ARRAYS](#)

Authors: [WANG ZL](#); [SONG JH](#)

Source: [SCIENCE](#) 312 (5771): 242-246 APR 14 2006

Addresses: [Georgia Inst Technol](#), Sch Mat Sci & Engr, Atlanta, GA 30332 USA.
[Peking Univ](#), Coll Engr, Dept Adv Mat & Nanotechnol, Beijing 100871, [Peoples R China](#).
[Natl Ctr Nanosci & Technol](#), Beijing 100080, [Peoples R China](#).

Field: [MATERIALS SCIENCE](#)

COMMENTARY

WEB OF SCIENCE



ST: Why do you think your paper is highly cited?

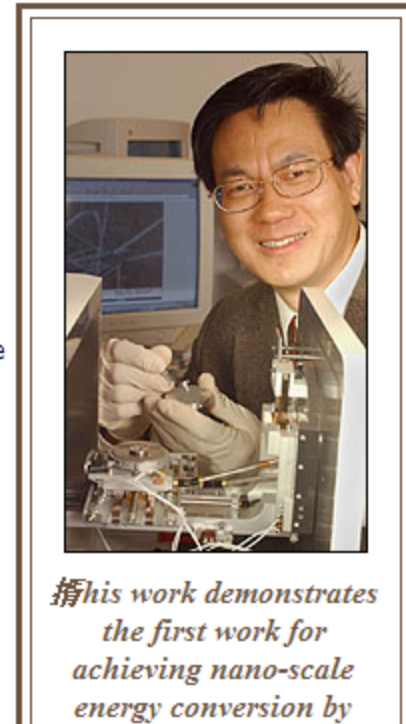
Developing novel technologies for wireless nanodevices and nanosystems are of critical importance for *in-situ*, real-time and implantable biosensing, biomedical monitoring, and biodetection. Nanosensors are currently under intense development for ultrasensitive and real-time detection of biomolecules. An implanted wireless biosensor, for example, requires a power source, which may be provided directly or indirectly by the charging of a battery. It is highly desired for wireless devices and even required for implanted biomedical devices to be self-powered without using a battery.

The principle and technology demonstrated in the paper¹ have the potential of converting mechanical movement energy (such as body movement, muscle stretching, blood pressure), vibration energy (such as acoustic/ultrasonic waves), and hydraulic energy (such as the flow of body fluid, blood flow, contraction of blood vessels) into electric energy that may be sufficient for self-powering nanodevices and nanosystems.

The nano-generator could be the foundation for exploring new self-powering technology for *in-situ*, real-time and implantable biosensing, biomedical monitoring, and biodetection, with great potential for defense and civil applications. The technology can also be applied for building wireless, self-powered sensors by harvesting energy from the environment. The technology can also be used to generate electricity by body movement.

We have recently demonstrated that ZnO nanowires grown on [conductive polymer](#) can be effectively used for generating electricity².

ST: Does it describe a new discovery, methodology, or synthesis of knowledge?



This work demonstrates the first work for achieving nano-scale energy conversion by



HOT PAPERS

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BY FIELD	Display papers from this field: (All Fields) <input type="button" value="GO"/>
OR	
BY NAME	Show alphabetic list of: Scientist <input type="button" value="GO"/>
OR	
BY SEARCHING	<p>Enter terms or phrases separated by the operators AND or OR in one or more of the search fields below. Search fields are automatically combined using the AND operator.</p> <p>Title word: <input type="text" value="STEM CELLS"/> <i>example: climat* and chang*</i></p> <p>Scientist: <input type="text"/> <i>example: SMITH A*</i></p> <p>Institution: <input type="text"/> <i>example: SALK INST*</i></p> <p>Country/Territory: <input type="text"/> <i>example: USA</i></p> <p>Journal: <input type="text"/> <i>example: Phys Rev Lett* (view full titles)</i></p> <p><input type="button" value="SEARCH"/> <input type="button" value="CLEAR"/></p>

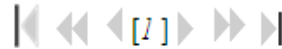
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HOT PAPERS FOR (STEM CELLS)

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1 - 19 (of 19)



Page 1 of 1

1 Citations: 233

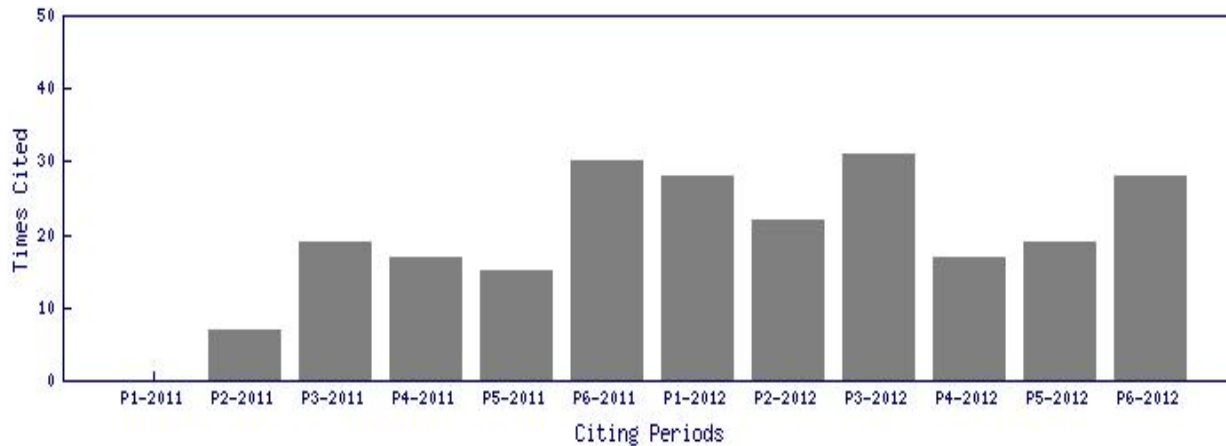
HOT PAPER

RESEARCH FRONT

WEB OF SCIENCE

Title: HOTSPOTS OF ABERRANT EPIGENOMIC REPROGRAMMING IN HUMAN INDUCED PLURIPOTENT STEM CELLS

Authors: [LISTER R](#); [PELIZZOLA M](#); [KIDA YS](#); [HAWKINS RD](#); [NERY JR](#); [HON G](#); [ANTOSIEWICZ-BOURGET J](#); [O'MALLEY R](#); [CASTANON R](#); [KLUGMAN S](#); [DOWNES M](#); [YU R](#); [STEWART R](#); [REN B](#); [THOMSON JA](#); [EVANS RM](#); [ECKER JR](#)



Field: [CLINICAL MEDICINE](#)



引文分析 (Citation Analysis)

- ④ 学科基值 (Baselines)
 - ④ 研究前沿 (Research Fronts)
-



- Baseline给出了各领域论文每年的年平均被引频次和10年累积平均被引频次，平均被引频次 (Averages)值由某领域总引文数除以总论文数得到。
- 平均被引频次值可以被用作科学家、机构、国家以及期刊排位表给出的单篇被引值的基线, 独立年份的学科领域平均值可用于该年份出版的论文的比较。



Baseline

Average Citation Rates
for papers published by field, 2002 - 2012
([How to read this data](#))

Fields	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	All Years
All Fields	21.74	20.31	19.14	17.14	14.81	12.99	10.10	7.86	5.27	2.58	0.52	10.98
Agricultural Sciences	16.16	15.65	14.80	12.90	11.61	9.57	6.86	5.15	3.28	1.52	0.29	7.53
Biology & Biochemistry	32.91	30.82	28.37	24.68	21.05	18.47	14.79	11.27	7.35	3.64	0.69	17.03
Chemistry	21.44	20.13	19.48	18.02	15.70	13.94	11.75	9.53	6.57	3.38	0.70	12.00
Clinical Medicine	25.76	24.64	23.32	21.25	18.19	15.72	11.92	9.04	6.16	2.85	0.55	13.03
Computer Science	9.88	6.94	5.33	5.11	4.12	6.12	5.00	3.76	2.48	1.05	0.19	4.28
Economics & Business	16.42	15.19	14.21	12.16	10.14	8.45	5.80	4.06	2.49	1.13	0.24	6.83
Fields	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	All Years
Engineering	9.66	9.25	9.17	8.17	7.26	6.86	5.25	4.38	2.81	1.35	0.26	5.27
Environment/Ecology	24.98	23.59	21.97	19.36	16.72	14.61	11.17	8.32	5.31	2.63	0.51	11.82
Geosciences	20.17	19.09	17.66	15.66	14.71	11.19	9.15	7.26	4.70	2.44	0.54	10.08
Immunology	39.75	37.25	36.01	31.89	27.80	24.61	19.69	15.23	9.74	4.82	0.88	21.73
Materials Science	13.33	13.93	12.85	11.82	10.82	9.83	8.11	6.71	4.77	2.46	0.47	7.94
Mathematics	7.68	7.09	6.56	6.04	5.28	4.40	3.58	2.75	1.73	0.83	0.19	3.68
Microbiology	31.23	29.45	27.90	25.95	21.27	17.81	14.06	10.61	7.10	3.36	0.64	15.48
Fields	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	All Years
Molecular Biology & Genetics	50.36	46.03	42.48	36.83	31.95	27.19	21.54	16.53	10.64	5.25	1.00	24.20
Multidisciplinary	7.96	6.92	6.94	12.93	13.49	11.76	11.01	7.87	6.62	3.76	1.35	7.87
Neuroscience & Behavior	38.46	34.83	32.76	29.64	25.56	21.71	16.89	12.75	8.23	3.96	0.77	19.44
Pharmacology & Toxicology	25.66	23.06	23.07	19.52	18.55	15.57	12.37	9.07	5.72	2.72	0.54	12.48
Physics	15.72	14.87	14.54	13.26	11.80	9.25	7.52	7.02	5.10	2.72	0.66	8.90
Plant & Animal Science	16.36	15.27	14.39	12.45	10.81	9.12	6.98	5.25	3.46	1.68	0.35	8.06



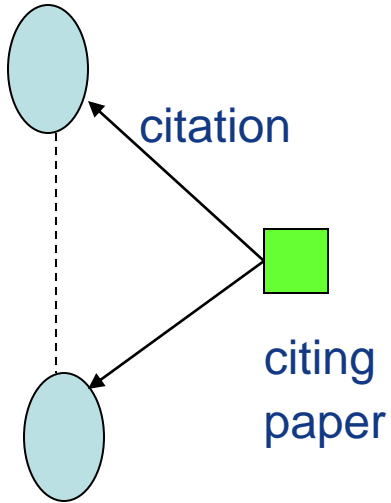
研究前沿 (RESEARCH FRONT)

- ④ **研究前沿**是引文网络结构根据若干篇原创性成果的核心文献来描述某个特定研究领域现状的应用;
- ④ **研究前沿**汇集特定领域核心文献和研究焦点, 追踪学科发展趋势, 辨析科学家、研究机构、国家对科学发展的贡献;
- ④ **研究前沿**是一组高被引论文, 是通过聚类分析而定义的核心论文;
- ④ **研究前沿**采用独特的视角来审视学科领域: 用以了解新的突破可能出现的领域以及科学家之间的非正式交流的关系;
- ④ 学科分类精确到期刊, 而不是具体到单篇文章;
- ④ 聚类的命名基于半自动化的词频处理过程而形成。

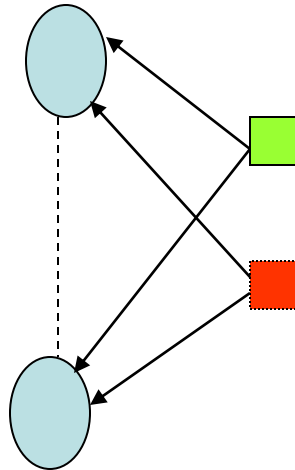


文献间的共引关系

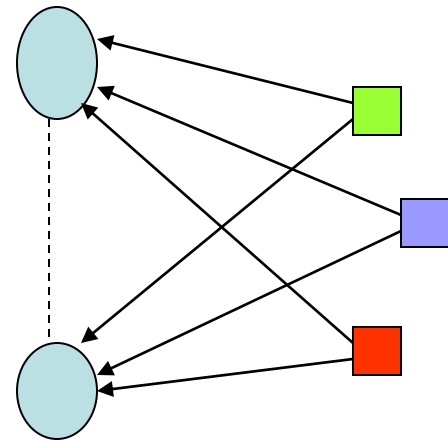
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2



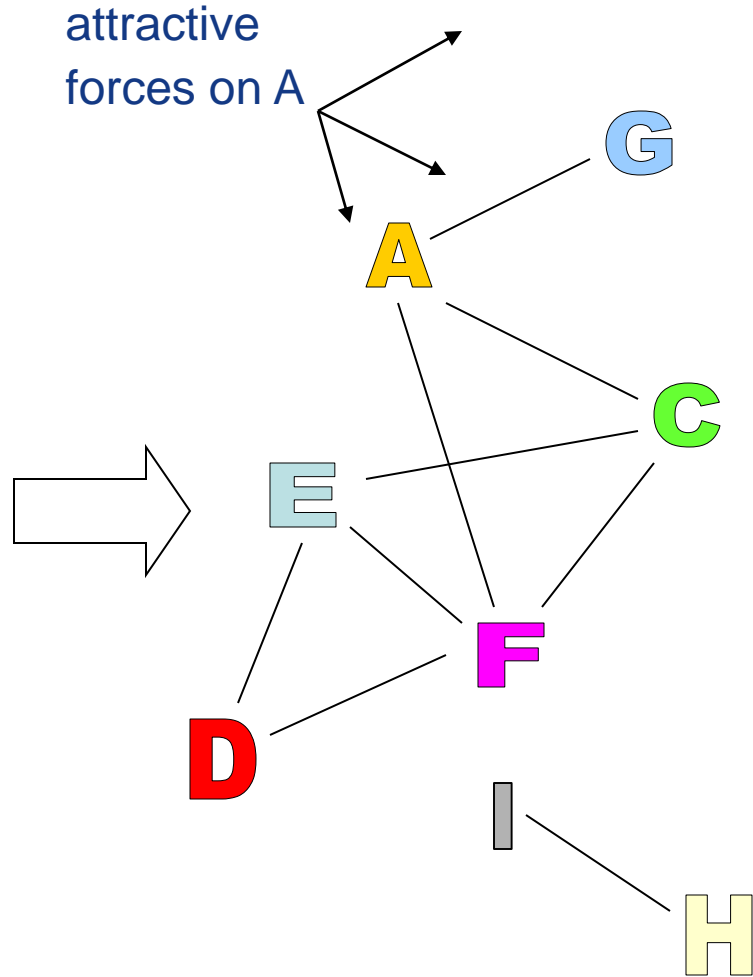
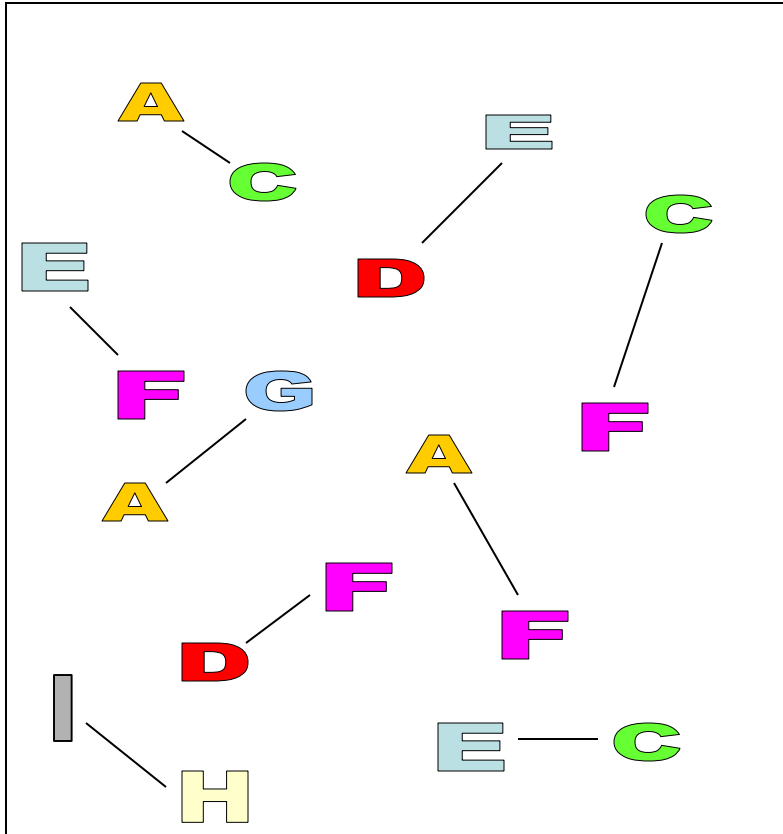
3



co-cited
papers



文献的聚类

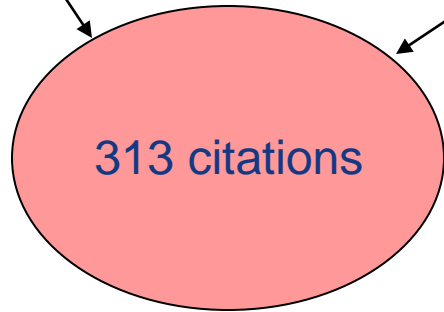




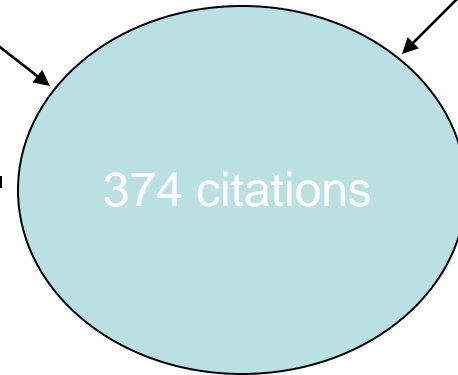
标准共引阈值

citation

co-citation



160 co-citations



$$0.47 = 160 / (313 * 374)^{.5}$$

Chen J, et al,
Solution properties of single-walled
Carbon nanotubes
Science, 1998

Liu J, et al,
Fullerene pipes
Science, 1998



什么是平均年份 (Mean Year) ?

平均年份 (Mean Year)

是引文发表的平均年份是衡量学术界对相关主题研究的活跃程度的一个指标, 其核心思想是引文发表的平均年份越近, 表示当前对该主题开展的研究越多。

Mean Year离当前年份越近越能表明该主题处于当前学科热点或研究前沿。即就是前沿课题研究兴起的时间点。



RESEARCH FRONTS MENU

BY FIELD:	Select a topic from this field:	(All Fields) <input type="button" value="GO"/>
OR		
BY NAME:	Enter up to five terms or phrases <i>Example: BREAST CANCER</i>	Enter terms AND or OR to search.
	<input type="text"/>	<input type="button" value="SEARCH"/>

- (All Fields)
- Agricultural Sciences
- Biology & Biochemistry
- Chemistry
- Clinical Medicine
- Computer Science
- Economics & Business
- Engineering
- Environment/Ecology
- Geosciences
- Immunology
- Materials Science
- Mathematics
- Microbiology
- Molecular Biology & Genetics
- Multidisciplinary
- Neuroscience & Behavior
- Pharmacology & Toxicology
- Physics
- Plant & Animal Science
- Psychiatry/Psychology
- Social Sciences, general
- Space Science

EXAMPLES

- Enter **CANCER** to search for citation data in the area of CANCER SCREENING or BREAST CANCER GENE MUTATIONS.
- Enter **HEPATITIS*** to search for citation data in the area of HEPATITIS-A VIRUS or HEPATITIS-A VIRUS.
- Enter **HIV-1** to search for citation data in the area of HIV-1 THERAPY or HIV-1 DISEASE PROGRESSION.
- Enter **POLYMER*** to search for citation data in the area of POLYMERIZATION REACTION, POLYMER LIGHT-EMITTING CELLS or POLYSTYRENE BLOCK POLYMERS.



RESEARCH FRONTS RANKINGS IN BIOLOGY & BIOCHEMISTRY













Sorted by: Citations

SORT AGAIN

1 - 20 (of 611)



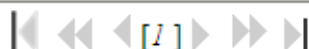
Page 1 of 31

View	Fronts	Papers	Citations	Citations Per Paper	Mean Year
1  	HUMAN INDUCED PLURIPOTENT STEM CELLS; GERMLINE-COMPETENT INDUCED PLURIPOTENT STEM CELLS; INDUCED PLURIPOTENT STEM CELL LINES DERIVED; HUMAN SOMATIC CELLS; ADULT HUMAN FIBROBLASTS	9	11,385	1265.00	2007.5
2  	MACROMOLECULAR STRUCTURE SOLUTION; MACROMOLECULAR CRYSTALLOGRAPHY; ALL-ATOM STRUCTURE VALIDATION; AUTOMATED MACROMOLECULAR MODEL BUILDING; MACROMOLECULAR CRYSTAL STRUCTURES	16	10,960	685.00	2009.6
3  	MICRORNA TARGET SITES; MICRORNA TARGET RECOGNITION; ARGONAUTE HITS-CLIP DECODES MICRORNA-MRNA INTERACTION MAPS; NONCONSERVED MICRORNA TARGETS; DATABASE CURATES EXPERIMENTALLY VALIDATED MICRORNA-TARGET INTERACTIONS	23	8,508	369.91	2009.0
4  	BREAST CANCER METASTASIS SUPPRESSOR 1; MIR-146; HUMAN HEPATOCELLULAR CANCER; HUMAN PROSTATE CARCINOMA CELL LINES; MICRORNA GENE EXPRESSION PROFILE; SUPPRESSES BREAST CANCER METASTASIS	40	8,492	212.30	2008.0
5  	HUMAN GUT MICROBIOTA; GUT MICROBIOTA CONTROL METABOLIC ENDOTOXEMIA-INDUCED INFLAMMATION; HUMAN GUT MICROBIOME; GUT MICROBIOTA CONTROL INFLAMMATION; GUT MICROBIOTA COMPOSITION	39	8,409	215.62	2009.0
6  	ENGINEERED HUMAN BETA(2)-ADRENERGIC G PROTEIN-COUPLED	42	7,676	182.76	2009.9

CORE PAPERS IN HUMAN INDUCED PLURIPOTENT STEM CELLS; GERMLINE-COMPETENT INDUCED PLURIPOTENT STEM CELLS; INDUCED PLURIPOTENT STEM CELL LINES DERIVED; HUMAN SOMATIC CELLS; ADULT HUMAN FIBROBLASTS IN BIOLOGY & BIOCHEMISTRY

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1 - 9 (of 9)



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1 Citations: 3,193

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Title: INDUCTION OF PLURIPOTENT STEM CELLS FROM ADULT HUMAN FIBROBLASTS BY DEFINED FACTORS**Authors:** [TAKAHASHI K.](#); [TANABE K.](#); [OHNUKI M.](#); [NARITA M.](#); [ICHISAKA T.](#); [TOMODA K.](#); [YAMANAKA S.](#)**Source:** [CELL](#)
131 (5): 861-872 NOV 30 2007**Addresses:** [Kyoto Univ.](#), Inst Frontier Med Sci, Dept Stem Cell Biol, Kyoto 6068507, [Japan](#).
[Japan Sci & Technol Agncy](#), CREST, Kawagoe, Saitama 3320012, [Japan](#).
[Gladstone Inst Cardiovasc Dis](#), San Francisco, CA 94158 USA.
[Kyoto Univ.](#), Inst Integrat Cell Mat Sci, Kyoto 6068507, [Japan](#).**Field:** [MOLECULAR BIOLOGY & GENETICS](#)

2 Citations: 2,465

RESEARCH FRONT

WEB OF SCIENCE

Title: INDUCED PLURIPOTENT STEM CELL LINES DERIVED FROM HUMAN SOMATIC CELLS**Authors:** [YU JY.](#); [VODYANIK MA.](#); [SMUGA-OTTO K.](#); [ANTOSIEWICZ-BOURGET J.](#); [FRANE JL.](#); [TIAN S.](#); [NIE J.](#); [JONSDOTTIR GA.](#); [RUOTTI V.](#); [STEWART R.](#); [SLUKVIN II.](#); [THOMSON JA.](#)



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