

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

---

Library Philosophy and Practice (e-journal)

Libraries at University of Nebraska-Lincoln

---

Spring 3-24-2021

## Animal Cell Diseases: A Scientometric Mapping of Highly Cited papers

Surulinathi Muthuraj  
surulinathi@gmail.com

Arputha Sahaya Rani Y  
*Bharathidasan University*, srsahayaranisat@gmail.com

Srinivasaragavan S Professor and Head, Library Information Science  
*Bharathidasan University*

Elaveni B Final Year MLISc  
*Bharathidasan University*

Jayasuriya T Final year MLISc  
*Bharathidasan University*

Follow this and additional works at: <https://digitalcommons.unl.edu/libphilprac>



Part of the [Library and Information Science Commons](#)

---

Muthuraj, Surulinathi; Y, Arputha Sahaya Rani; S, Srinivasaragavan Professor and Head, Library Information Science; B, Elaveni Final Year MLISc; and T, Jayasuriya Final year MLISc, "Animal Cell Diseases: A Scientometric Mapping of Highly Cited papers" (2021). *Library Philosophy and Practice (e-journal)*. 5348.

<https://digitalcommons.unl.edu/libphilprac/5348>

# **Animal Cell Diseases: A Scientometric Mapping of Highly Cited papers**

**M. Surulinathi**, Assistant Professor,  
**Y. Arputha Sahaya Rani**, Research Scholar,  
**S. Srinivasaragavan**, Professor  
**B. Elaveni**, II Year MLIS  
**T. Jayasuriya**, II Year MLIS

Department of Library and Information Science,  
Bharathidasan University, Tiruchirappalli-24, Tamilnadu, India

Corresponding Author: [surulinathi@gmail.com](mailto:surulinathi@gmail.com)

## **ABSTRACT**

*The published article receives the number of Citations are measure of its impact in the scientific community. This study identifies the Highly cited articles on Animal Cell Diseases. Publications are identified using the Web of Science by Clarivate Analytics. A search was performed using “Animal Cell Diseases” with topic field. The 526 top-cited articles were selected, analyzed and Visualized. The most cited manuscripts appeared 208 journals, 3340 authors, 729 Institutions from 39 Countries. The citation counts for these articles ranged from 500-6157. 95 % of articles are were published between 1992-2012 and highest number of citations registered between 2000-2008. The most cited articles are: The most cited one is “Apel K, Hirt H Reactive oxygen species: Metabolism, oxidative stress, and signal transduction ANNUAL REVIEW OF PLANT BIOLOGY. 2004; 55: 373-399” with 6157 citations and authors are from Switzerland and Austria followed by “Xu HY, Barnes GT, Yang Q, Tan Q, Yang DS, et al.Chronic inflammation in fat plays a crucial role in the development of obesity-related insulin resistance JOURNAL OF CLINICAL INVESTIGATION. 2003 DEC; 112 (12): 1821-1830” with 4398 Citations authors from USA, “Donehower La, Harvey M, Slagle Bl, Mcarthur Mj, Montgomery Ca, Et Al.Mice Deficient For P53 Are Developmentally Normal But Susceptible To Spontaneous Tumors Nature. 1992 Mar 19; 356 (6366): 215-221” with 3926 Citations from USA. The time of publication, field of study, nature of the work, and the journal in which the work appears are possible determinants of the likelihood of citation and impact.*

**Keywords:** Animal Cell Diseases; Highly Cited papers; Citations;

## **INTRODUCTION**

Scientometrics is the quantitative study of science. It aims to analyze and evaluate science, technology, and innovation. Major research includes measuring the impact of authors, publications, journals, institutes, Citations, highly cited works and countries as referenced to sets of scientific publications such as articles and patents. Highly cited articles are very different from ‘ordinary’ cited articles. Typically, they are authored by a large number of

scientists and Scholars, often involving international collaboration. Highly cited papers typically obtain citations from a large number of different sources and from papers representing both close by and faraway fields.

Animal disease, an impairment of the normal state of an animal that interrupts or modifies its vital functions. Concern with diseases that afflict animal's dates from the earliest human contacts with animals and is reflected in early views of religion and magic. Diseases of animals remain a concern principally because of the economic losses they cause and the possible transmission of the causative agents to humans. The branch of medicine called veterinary medicine deals with the study, prevention, and treatment of diseases not only in domesticated animals but also in wild animals and in animals used in scientific research. The prevention, control, and eradication of diseases of economically important animals are agricultural concerns. Programs for the control of diseases communicable from animals to man, called zoonosis, especially those in pets and in wildlife, are closely related to human health. Further, the diseases of animals are of increasing importance, for a primary public-health problem throughout the world is animal-protein deficiency in the diet of humans. Indeed, both the United Nations Food and Agricultural Organization (FAO) and the World Health Organization (WHO) have been attempting to solve the problem of protein deficits in a world whose human population is rapidly expanding.

### **OBJECTIVES OF THE STUDY**

The objective of the study is to perform the “Animal Cell Diseases: A Scientometric mapping of Highly Cited papers”. The parameters studied include:

- To find out growth of Publications and Citations;
- To find out the Geographical distribution of publications and Citations;
- To find out the highly preferred journals
- To identify the most productive and Highly Cited Authors;
- To find out the highly cited papers;
- Most Cited Institutions;

## **MATERIALS AND METHODS**

Web of Science database was used for retrieving data on Animal Cell Disease for all years using the search term “Animal Cell Diseases” with topic field. Records pertaining to animal cell disease were retrieved 92331 papers during the period of 1989-2021 and we have limited only the papers which have received minimum of 500 Citations. A total of 526 publications and registered 476184 Citations to these publications were transferred to Biblioshiny, VoSViewer and Histcite for tabulation and visualization of Concept Mapping and analyzed the data as per objectives of the study.

## **DATA ANALYSIS AND INTERPRETATIONS**

### **Geographical wise distribution of Publications and Citations**

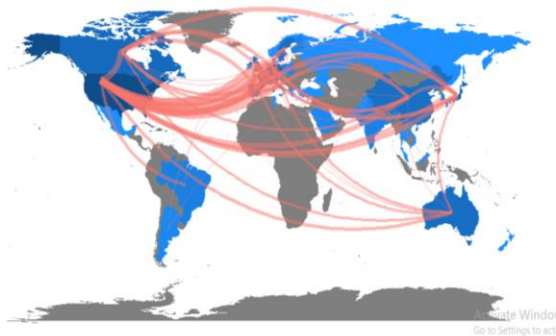
In all, there were indexed 526 publications with 476184 Citations from 39 countries involved the research in Animal Cell Diseases. The most Cited Countries are: USA had the highest share of 305907 Citations for 345 publications followed by Germany with 43976 Citations for 49 publications, UK with 40602 Citations for 42 publications, Japan with 28854 Citations for 28 publications, France with 23909 Citations for 27 publications. The study found that 15 Countries registered more than 10000 Citations, 18 Countries registered more than 5000 Citations, 32 Countries with more than 1000 Citations and 39 Countries with more than 500 Citations. It noted that India secured 25<sup>th</sup> position with 2171 Citations.

**Table 1: Most Cited Countries**

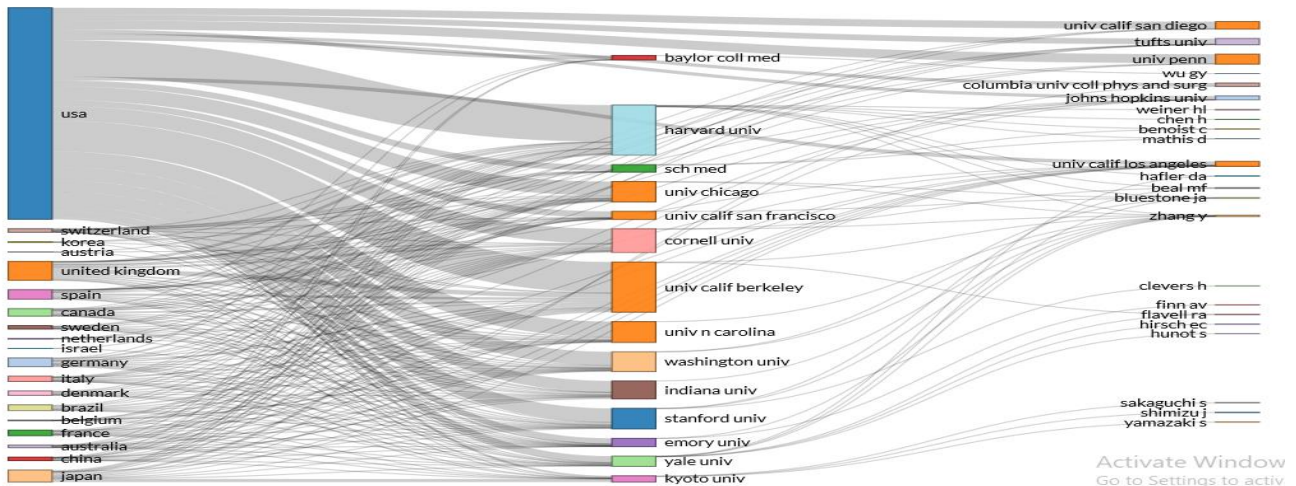
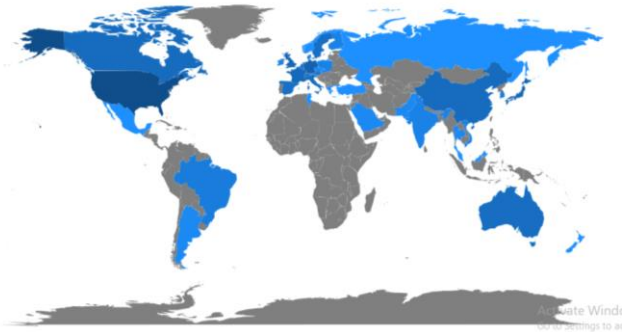
#	Country	Records	%	Citations	Country	Records	%	Citations
1	USA	345	65.6	305907	Saudi Arabia	2	0.4	2904
2	Germany	49	9.3	43976	Argentina	2	0.4	2252
3	UK	42	8.0	40602	Finland	3	0.6	2233
4	Japan	28	5.3	28854	Poland	3	0.6	2220
5	France	27	5.1	23909	India	3	0.6	2171
6	Canada	24	4.6	22262	Norway	1	0.2	1953
7	Australia	18	3.4	18577	Singapore	3	0.6	1880

8	Netherlands	18	3.4	16930	Israel	3	0.6	1685
9	Peoples R China	14	2.7	16784	Czech Republic	1	0.2	1678
10	Italy	19	3.6	16204	Mexico	1	0.2	1678
11	Switzerland	13	2.5	16120	Vietnam	1	0.2	1237
12	Sweden	14	2.7	13826	Ireland	2	0.4	1092
13	Spain	14	2.7	11610	Taiwan	1	0.2	859
14	Austria	7	1.3	10860	Greece	1	0.2	835
15	South Korea	5	1.0	6642	Tunisia	1	0.2	770
16	Belgium	7	1.3	5962	Luxembourg	1	0.2	629
17	Denmark	7	1.3	5287	Thailand	1	0.2	624
18	Slovakia	2	0.4	3369	Malaysia	1	0.2	574
19	Brazil	4	0.8	3168	Russia	1	0.2	543

Country Collaboration Map

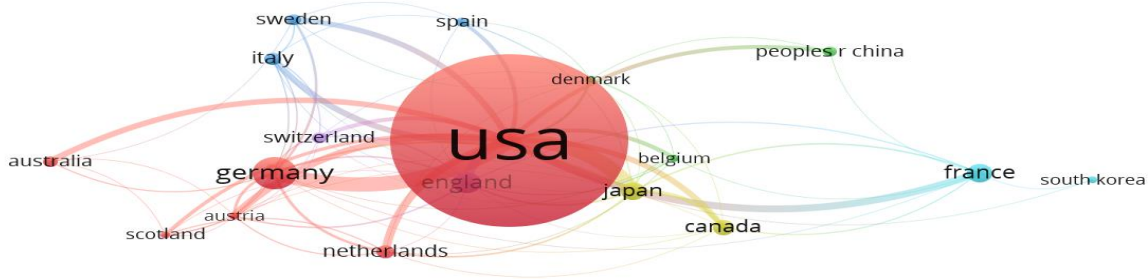


Country Scientific Production



Three Fields Plot: (Countries, Institutions and Authors)

Country	Documents	Citations	Total link strength
usa	349	311632	238
germany	55	48381	72
japan	28	28854	67
england	34	30797	39
austria	8	11622	33
netherlands	20	23325	32
canada	24	22262	28
france	29	25297	28
italy	19	16204	24
sweden	16	15323	21
switzerland	16	18707	21
australia	17	17841	18
belgium	8	8496	17
scotland	10	10555	15
denmark	8	5829	13
spain	14	11610	13
peoples r china	15	18163	11
south korea	5	6642	2



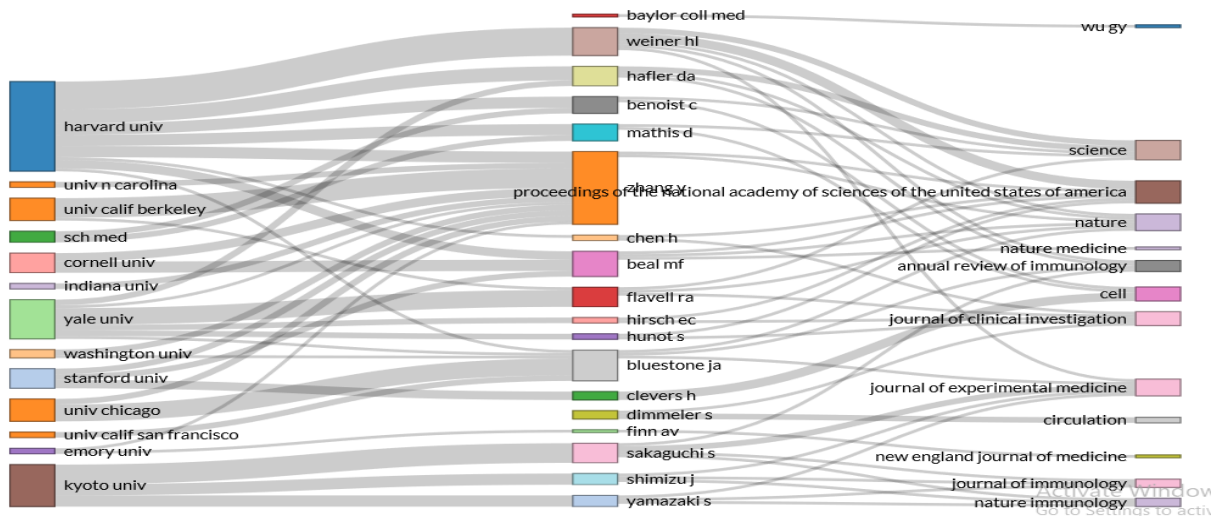
### Most Cited Institutions (729)

Among all Institutions, the most cited Institutions are: Harvard University from USA with 53424 Citations for 55 publications followed by Stanford University with 17259 Citations for 18 publications, Cornell University with 15712 citations 17 publications. It noted that 13 Institution are registered more than 10000 Citations, 45 Institutions with more than 5000 Citations and 383 Institutions with more than 1000 Citations.

**Table: 2 Most Cited Institutions**

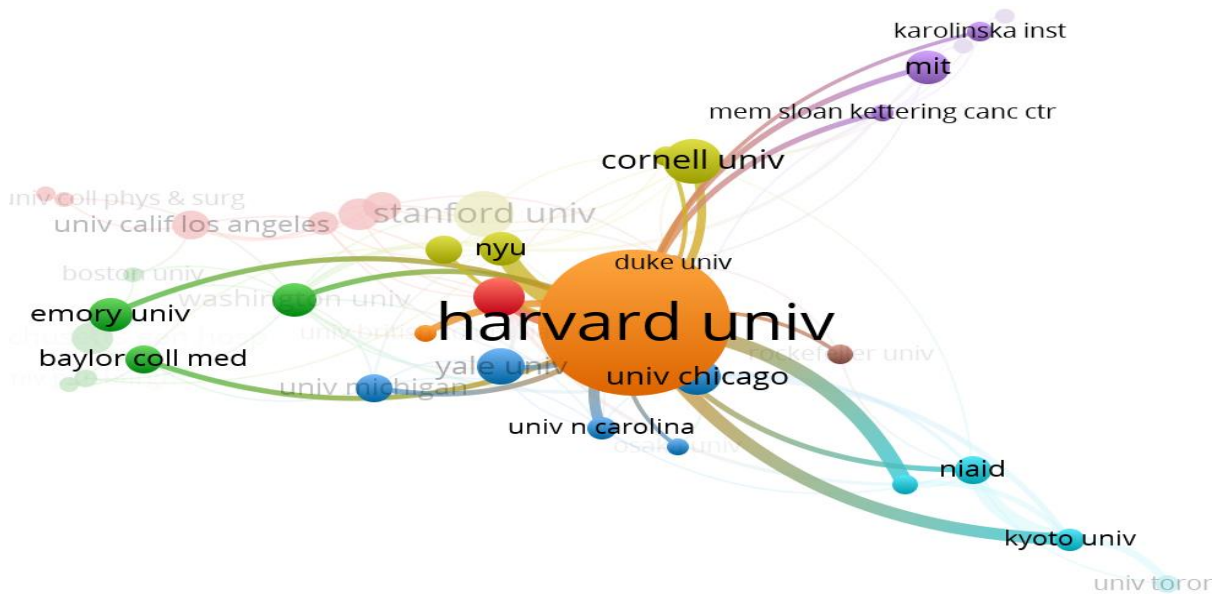
#	Institution	Records	Citations	Institution	Records	Citations
1	Harvard University	55	53424	Chinese Acad Sci	5	6918
2	Stanford University	18	17259	Univ Minnesota	5	6577
3	Cornell University	17	15712	Tufts Univ	7	6421
4	Univ Chicago	14	15570	Univ Colorado	8	6210
5	MIT	12	15336	Brigham & Womens Hosp	6	6194

6	University Calif San Francisco	14	14005	ETH	1	6157
7	Washington University	13	11502	Univ Vienna	1	6157
8	Yale University	13	11368	NCI	4	6112
9	NYU	11	10946	Univ Edinburgh	3	6060
10	Kyoto University	8	10610	Indiana Univ	6	6020
11	Baylor Coll Med	9	10574	Texas A&M Univ	4	5998
12	Univ Calif Los Angeles	11	10561	Univ Pittsburgh	6	5921
13	Emory University	12	10132	Univ Melbourne	6	5863
14	Massachusetts Gen Hosp	11	8797	Univ Massachusetts	4	5849
15	Univ N Carolina	8	8365	Centocor Inc	4	5786
16	Univ Michigan	9	8304	Hubrecht Lab	2	5442
17	Univ Calif San Diego	10	7810	Univ Utrecht	2	5442
18	Univ Calif Berkeley	8	7782	Michigan State Univ	6	5408
19	Johns Hopkins Univ	11	7682	Univ Toronto	6	5258
20	Boston Univ	6	7633	Karolinska Inst	6	5208
21	NIAID	9	7478	Tokyo Metropolitan Inst Gerontol	4	5175
22	Duke Univ	7	7366	Rockefeller Univ	6	5110
23	Univ Penn	9	6944			



**Three Fields Plot: (Institutions, Authors and Sources)**

Organization	Documents	Citations	Total link strength
harvard univ	54	52045	61
kyoto univ	7	8932	24
nyu	11	10946	24
univ calif san francisco	13	12327	18
washington univ	11	8445	18
niaid	9	7478	17
univ chicago	12	12513	15
brigham & womens hosp	6	6194	13
cornell univ	15	12655	13
univ n carolina	7	6986	11
duke univ	5	4309	10
mit	11	13957	8
yale univ	12	9989	8
baylor coll med	9	10574	7
mem sloan kettering canc ctr	5	4142	7
univ colorado	8	6210	7
univ michigan	9	8304	7
univ penn	9	6944	7
univ calif los angeles	10	8883	6
univ calif san diego	10	7810	6



### Citation Network of Institutions

#### Year wise distribution of Citations

Table 3 depicts the year wise distribution of Citations on Animal Cell Diseases during the study period. The most cited years are: 2004 with 33236 Citations for 31 papers followed by 31880 Citations in 2006, with 29493 Citation 2000, 29212 Citations in 2001. The overall year wise distribution of Citations with data shown in as Table 3.

**Table: 3 Most Cited Years**

#	Year	Records	Citations	Year	Records	Citations
1	2004	31	33236	2012	17	16828
2	2006	33	31880	2009	23	16813
3	2000	34	29493	1994	16	14315



4	2001	33	29212	2010	16	14289
5	2003	22	28825	1992	10	12898
6	2007	30	28542	1995	14	11823
7	2002	32	27792	1991	14	11718
8	2008	27	24958	1993	11	8985
9	2005	28	22127	2013	7	5694
10	1999	25	19750	2014	6	5685
11	2011	23	19691	2015	3	2338
12	1996	21	19410	2016	2	1319
13	1997	23	19264	2017	1	1131
14	1998	22	17047	2020	2	1121

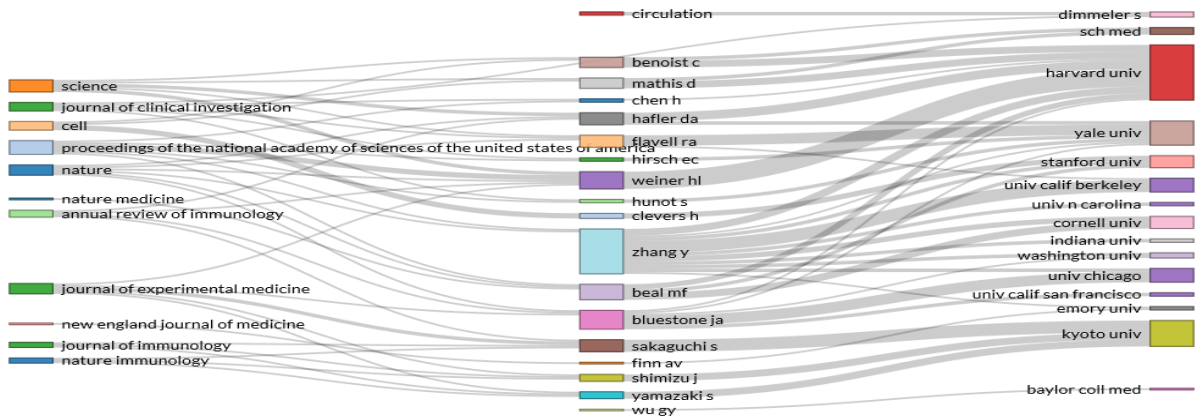
### **Most Cited Journals**

During the study period, 526 papers are indexed by 208 journals and registered 476184 Citations in the field of Animal Cell Diseases. The most Cited journals are: Nature with 39377 Citations for 38 papers, PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA with 29016 Citations for 36 papers, Science with 28883 Citations for 29 papers, Cell with 24408 Citations for 20 publications. It is noted that 8 journals registered more than 10000 Citations, 109 journals registered more than 1000 Citations. The highest impact factor journals are: NEW ENGLAND JOURNAL OF MEDICINE with 74.699, Lancet with 60.392, NATURE REVIEWS CANCER with 53.030, NATURE REVIEWS IMMUNOLOGY with 44.019, NATURE with 42.778, SCIENCE with 41.845 and Cell with 38.637.

**Table: 4 Most Cited Journals**

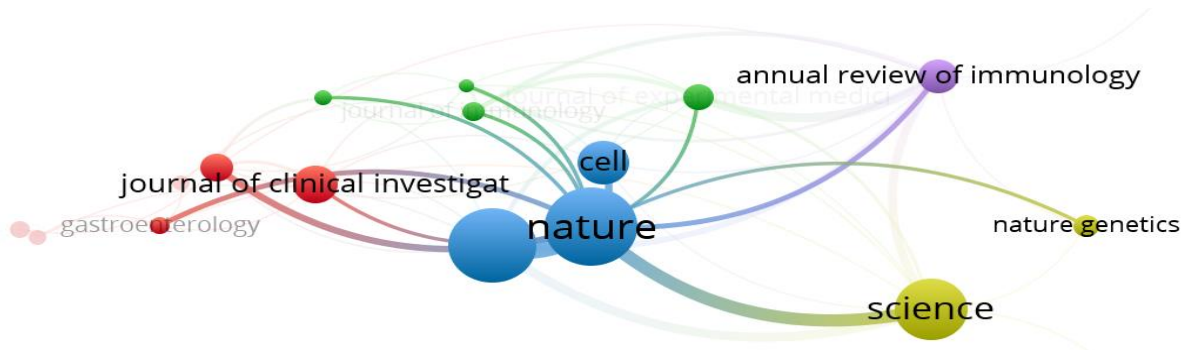
#	Journal	Impact Factor	Records	Citations
1	NATURE	42.778	38	39377
2	PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA	9.412	36	29016
3	SCIENCE	41.845	29	28883
4	CELL	38.637	20	24408

5	ANNUAL REVIEW OF IMMUNOLOGY	19.900	15	17655
6	JOURNAL OF CLINICAL INVESTIGATION	11.864	17	15725
7	NATURE GENETICS	27.603	9	10313
8	NEW ENGLAND JOURNAL OF MEDICINE	74.699	7	10226
9	JOURNAL OF EXPERIMENTAL MEDICINE	11.743	11	9273
10	NATURE MEDICINE	36.130	12	8547
11	PHYSIOLOGICAL REVIEWS	25.588	8	8491
12	CLINICAL MICROBIOLOGY REVIEWS	17.406	10	7450
13	LANCET	60.392	7	7333
14	JOURNAL OF IMMUNOLOGY	4.718	8	6343
15	ANNUAL REVIEW OF PLANT BIOLOGY	19.540	1	6157
16	NATURE REVIEWS IMMUNOLOGY	44.019	6	5376
17	GASTROENTEROLOGY	20.877	7	5345
18	NATURE REVIEWS MOLECULAR CELL BIOLOGY	55.47	3	5316
19	CIRCULATION	23.603	7	4430
20	NATURE IMMUNOLOGY	20.479	5	4358
21	JOURNAL OF CELLULAR PHYSIOLOGY	4.522	2	3859
22	CELL RESEARCH	20.507	2	3721
23	AMERICAN JOURNAL OF CLINICAL NUTRITION	6.77	4	3291
24	NATURE REVIEWS CANCER	53.030	3	3280
25	GENES & DEVELOPMENT	9.527	4	3220
26	NATURE BIOTECHNOLOGY	36.558	2	3172
27	CIRCULATION RESEARCH	15.862	4	3124
28	ANNUAL REVIEW OF MICROBIOLOGY	11.000	4	3086
29	IMMUNITY	22.553	3	3067
30	PHARMACOLOGY & THERAPEUTICS	11.127	3	2981



**Three Fields Plot: (Sources, Authors and Institutions)**

Source	Documents	Citations	Total link strength
nature	38	39377	33
proceedings of the national academe...	36	29016	27
annual review of immunology	15	17655	26
science	29	28883	26
journal of experimental medicine	11	9273	18
journal of immunology	8	6343	13
nature medicine	12	8547	13
nature immunology	5	4358	10
cell	20	24408	8
journal of clinical investigation	17	15725	7
gastroenterology	7	5345	6
nature reviews immunology	6	5376	6
circulation	7	4430	3
nature genetics	9	10313	3
new england journal of medicine	7	10226	3
physiological reviews	8	8491	2
clinical microbiology reviews	10	7450	1
lancet	7	7333	1



**Citation Network of Sources**

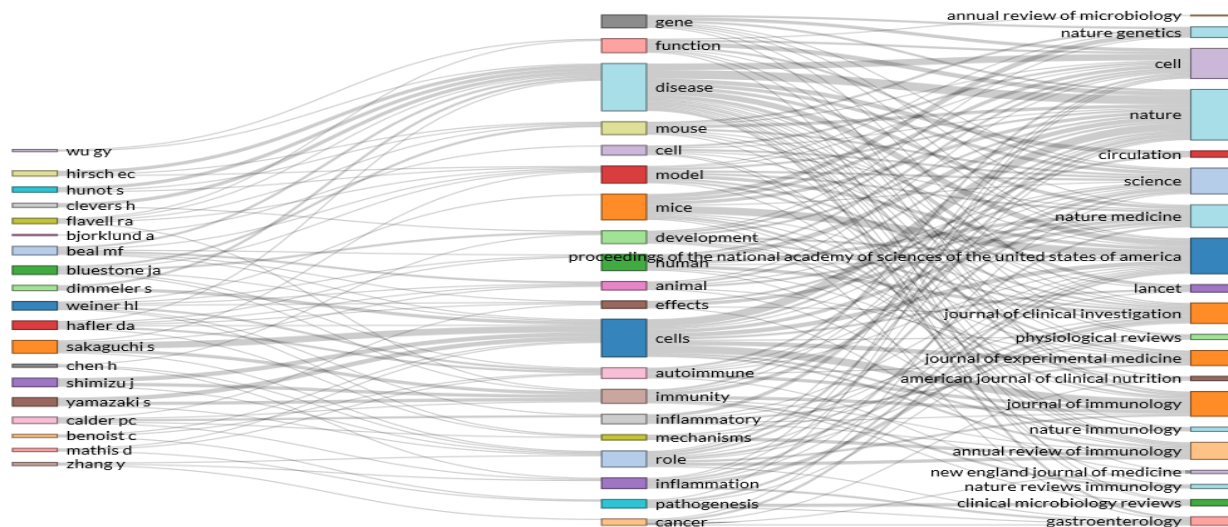
### Most Cited Authors

Table 5 lists the 30 most cited authors during 1989–2021 by total citations 156037 and the honor of the most cited author goes to S. Sakaguchi with 8358 Citations for 6 articles (ACPP is 1393) followed by Clevers H with 8103 Citations for 3 papers (ACPP is 2701), Wang J with 7441 Citations for 3 Papers (ACPP is 2480.333). It is noted that 1323 authors registered more than 1000 Citations and 11 authors scored more than 5000 Citations.

**Table: 5 Most Cited Authors**

#	Author	Records	Citations	ACPP	Author	Records	Citations	ACPP
1	Sakaguchi S	6	8358	1393	Barnes GT	1	4398	4398
2	Clevers H	3	8103	2701	Chou CJ	1	4398	4398
3	Wang J	3	7441	2480.33	Nichols A	1	4398	4398
4	Zhang Y	4	6981	1745.25	Ross JS	1	4398	4398
5	Hirt H	2	6919	3459.5	Sole J	1	4398	4398
6	Weiner HL	9	6785	753.88	Tan Q	1	4398	4398
7	Chen H	3	6216	2072	Tartaglia LA	1	4398	4398
8	Apel K	1	6157	6157	Xu HY	1	4398	4398

9	Wu GY	4	5998	1499.5	Yang DS	1	4398	4398
10	Shimizu J	4	5175	1293.75	Yang Q	1	4398	4398
11	Yamazaki S	4	5175	1293.75	Bluestone JA	4	4182	1045.5
12	Nusse R	3	4932	1644	Beal MF	6	4120	686.66
13	Jaenisch R	2	4734	2367	Takahashi T	3	4074	1358
14	BRADLEY A	2	4445	2222.5	BUTEL JS	1	3926	3926
15	Li RQ	2	4410	2205	DONEHOWER LA	1	3926	3926



**Three Fields Plots: (Authors, Titles and Sources)**

## Bibliographic Form wise distribution of Publications

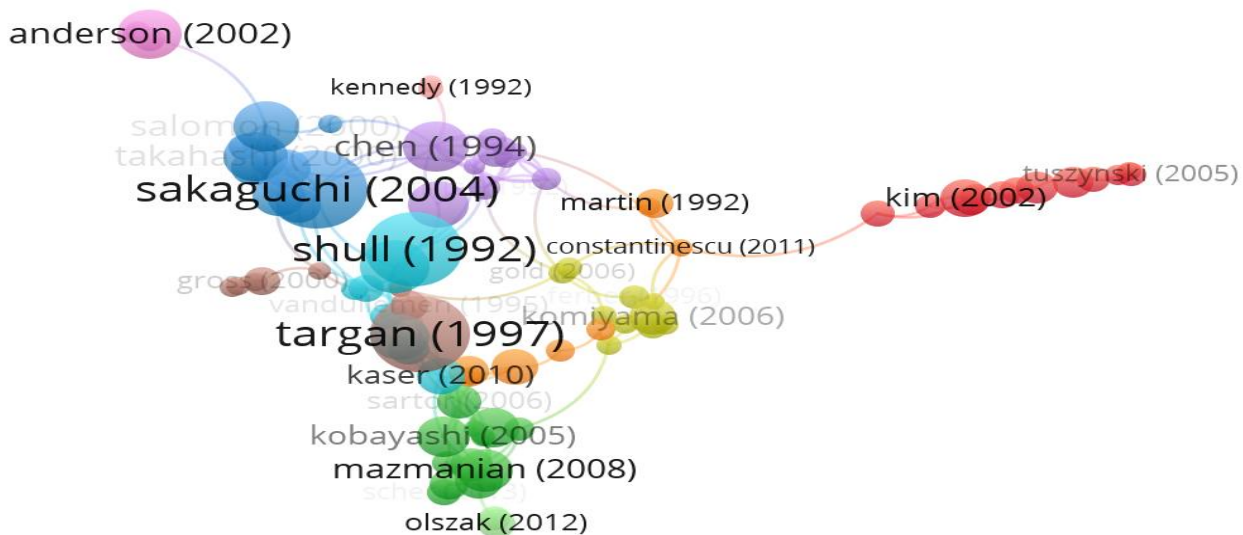
This table 6 illustrates the document wise distribution of publication in Animal Cell Diseases research during the study period. The maximum 265 of research papers were found in ‘Journal Articles’ type documents, followed by 237 of records were ‘Review’ type documents, 8 with Article; Proceedings Paper, 7 with Editorial Materials. It noted that 7 forms are covered in this field.

**Table: 6 Document wise distribution of Publications**

#	Document Type	Records	TGCS
1	Article	265	233551
2	Review	237	223741
3	Review; Book Chapter	7	6644
4	Article; Proceedings Paper	8	5578

5	Editorial Material	7	5168
6	Article; Retracted Publication	1	967
7	Note	1	535

Document	Citations	Links
sakaguchi (2004)	2577	12
chen (1994)	1617	12
kaser (2010)	1176	10
miller (1992)	764	10
faria (2005)	508	10
suri-payer (1998)	716	9
khoury (1992)	698	9
salomon (2000)	1612	8
mazmanian (2008)	1371	8
shimizu (2002)	1280	8
sakaguchi (2001)	1205	8
weiner (1994)	835	8
trentham (1993)	577	8
takahashi (2000)	1589	7
sartor (2006)	1069	7
powrie (1993)	842	7
gold (2006)	670	7
jabs (1996)	627	7
shull (1992)	2458	6
kim (2002)	1197	6
shimizu (1999)	1101	6



### Highly Cited papers

Table 7 list the Top 20 highly cited papers in Animal Cell Diseases publications during the period of study. The most cited one is “Apel K, Hirt H Reactive oxygen species: Metabolism, oxidative stress, and signal transduction ANNUAL REVIEW OF PLANT BIOLOGY. 2004; 55: 373-399” with 6157 citations and authors are from Switzerland and Austria followed by “Xu HY, Barnes GT, Yang Q, Tan Q, Yang DS, et al.Chronic inflammation in fat plays a crucial role in the development of obesity-related insulin resistance JOURNAL OF CLINICAL

INVESTIGATION. 2003 DEC; 112 (12): 1821-1830” with 4398 Citations authors from USA, “Donehower La, Harvey M, Slagle Bl, Mcarthur Mj, Montgomery Ca, Et Al.Mice Deficient For P53 Are Developmentally Normal But Susceptible To Spontaneous Tumors Nature. 1992 Mar 19; 356 (6366): 215-221” with 3926 Citations from USA. It is noted that 11 papers from USA out of 20 of listed papers. 129 papers registered more than 1000 Citations.

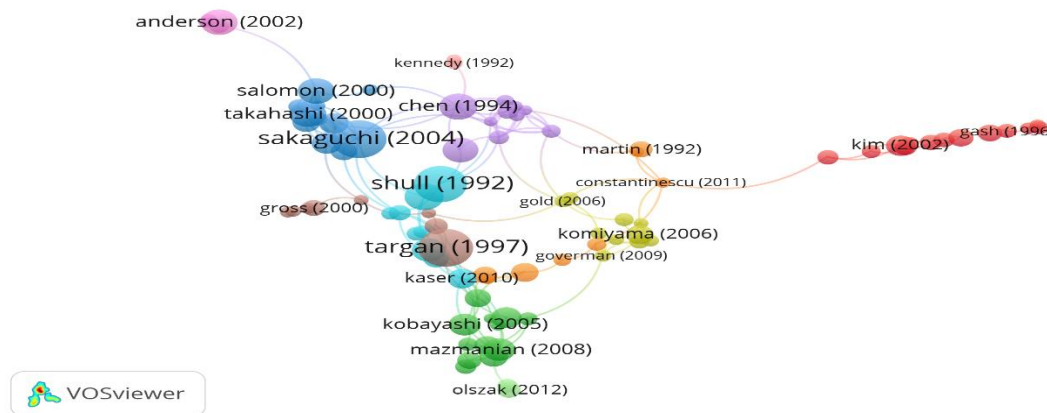
**Table: 7 Highly Cited papers**

	<b>Date / Author / Journal</b>	<b>Citations</b>	<b>Citation Reference</b>	<b>Country Collaboration</b>
1	282 Apel K, Hirt H, Reactive oxygen species: Metabolism, oxidative stress, and signal transduction ANNUAL REVIEW OF PLANT BIOLOGY. 2004; 55: 373-399	6157	134	Switzerland & Austria
2	275 Xu HY, Barnes GT, Yang Q, Tan Q, Yang DS, et al., Chronic inflammation in fat plays a crucial role in the development of obesity-related insulin resistance, JOURNAL OF CLINICAL INVESTIGATION. 2003 DEC; 112 (12): 1821-1830	4398	52	USA
3	19 DONEHOWER LA, HARVEY M, SLAGLE BL, MCARTHUR MJ, MONTGOMERY CA, et al. MICE DEFICIENT FOR P53 ARE DEVELOPMENTALLY NORMAL BUT SUSCEPTIBLE TO SPONTANEOUS TUMORS NATURE. 1992 MAR 19; 356 (6366): 215-221	3926	52	USA
4	263 Jaenisch R, Bird A., Epigenetic regulation of gene expression: how the genome integrates intrinsic and environmental signals NATURE GENETICS. 2003 MAR; 33: 245-254	3887	186	USA & Scotland
5	365 Clevers H, Wnt/beta-catenin signaling in development and disease CELL. 2006 NOV 3; 127 (3): 469-480	3861	113	Netherlands
6	501 Clevers H, Nusse R Wnt/beta-Catenin Signaling and Disease CELL. 2012 JUN 8; 149 (6): 1192-1205	3111	176	Netherlands & USA
7	421 Chen X, Ba Y, Ma LJ, Cai X, Yin Y, et al. Characterization of microRNAs in serum: a novel class of biomarkers for diagnosis of cancer and other diseases, CELL RESEARCH. 2008 OCT; 18 (10): 997-1006	3031	20	China
8	161 Scholzen T, Gerdes J, The Ki-67 protein: From the known and the unknown JOURNAL OF CELLULAR PHYSIOLOGY. 2000 MAR; 182 (3): 311-322	3013	95	Germany

9	313 Valko M, Morris H, Cronin MTD, Metals, toxicity and oxidative stress, CURRENT MEDICINAL CHEMISTRY. 2005; 12 (10): 1161-1208	2770	457	Slovakia & England
10	273 Zipfel WR, Williams RM, Webb WW, Nonlinear magic: multiphoton microscopy in the biosciences NATURE BIOTECHNOLOGY. 2003 NOV; 21 (11): 1368-1376	2629	143	USA
11	258 Egan MF, Kojima M, Callicott JH, Goldberg TE, Kolachana BS, et al., The BDNF val66met polymorphism affects activity-dependent secretion of BDNF and human memory and hippocampal function CELL. 2003 JAN 24; 112 (2): 257-269	2621	52	USA & Japan
12	214 Keane J, Gershon S, Wise RP, Mirabile-Levens E, Kasznica J, et al., Tuberculosis associated with infliximab, a tumor necrosis factor (alpha)-neutralizing agent, NEW ENGLAND JOURNAL OF MEDICINE. 2001 OCT 11; 345 (15): 1098-1104	2602	40	USA
13	279 Sakaguchi S, Naturally arising CD4(+) regulatory T cells for immunologic self-tolerance and negative control of immune responses, ANNUAL REVIEW OF IMMUNOLOGY. 2004; 22: 531-562	2577	136	Japan
14	108 Targan SR, Hanauer SB, vanDeventer SJH, Mayer L, Present DH, et al., A short-term study of chimeric monoclonal antibody cA2 to tumor necrosis factor alpha for Crohn's disease, NEW ENGLAND JOURNAL OF MEDICINE. 1997 OCT 9; 337 (15): 1029-1035	2534	38	USA, Netherlands & Belgium
15	518 Ha M, Kim VN, Regulation of microRNA biogenesis, NATURE REVIEWS MOLECULAR CELL BIOLOGY. 2014 AUG; 15 (8): 509-524	2509	270	South Korea
16	22 SHULL MM, ORMSBY I, KIER AB, PAWLOWSKI S, DIEBOLD RJ, et al., TARGETED DISRUPTION OF THE MOUSE TRANSFORMING GROWTH FACTOR-BETA-1 GENE RESULTS IN MULTIFOCAL INFLAMMATORY DISEASE NATURE. 1992 OCT 22; 359 (6397): 693-699	2458	52	USA
17	504 Zaki AM, van Boheemen S, Bestebroer TM, Osterhaus ADME, Fouchier RAM Isolation of a Novel Coronavirus from a Man with Pneumonia in Saudi Arabia NEW ENGLAND JOURNAL OF MEDICINE. 2012 NOV 8; 367 (19): 1814-1820	2248	25	Netherlands & Saudi Arabia
18	76 Goodell MA, Brose K, Paradis G, Conner AS, Mulligan RC, Isolation and functional properties of murine hematopoietic stem cells that are replicating in vivo, JOURNAL OF EXPERIMENTAL MEDICINE. 1996 APR 1; 183 (4): 1797-1806	2180	38	USA
19	245 Mandal BK, Suzuki KT, Arsenic round the world: a review, TALANTA. 2002 AUG 16; 58 (1): Art. No. PII S0039-9140(02)00268-0	2127	367	Japan

20	219 Bennett BL, Sasaki DT, Murray BW, O'Leary EC, Sakata ST, et al., SP600125, an anthrapyrazolone inhibitor of Jun N-terminal kinase PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA. 2001 NOV 20; 98 (24): 13681-13686	2066	39	USA
----	--	------	----	-----

Document	Citations	Links
sakaguchi (2004)	2577	12
chen (1994)	1617	12
kaser (2010)	1176	10
millar (1992)	764	10
faria (2005)	508	10
suri-payer (1998)	716	9
khoury (1992)	698	9
salomon (2000)	1612	8
mazmanian (2008)	1371	8
shimizu (2002)	1280	8
sakaguchi (2001)	1205	8
weiner (1994)	835	8
trentham (1993)	577	8
takahashi (2000)	1589	7
sartor (2006)	1069	7
powrie (1993)	842	7
gold (2006)	670	7
jabs (1996)	627	7
shull (1992)	2458	6
kim (2002)	1197	6
shimizu (1999)	1101	6



## Citation Network of Documents

### FINDINGS AND CONCLUSION

In this study, we have provided a supplemental evaluation of the status of Highly Cited Papers on Animal Cell Diseases. Our analysis confirms that papers in ACD have increased the citation rapidly during the study period, and most notably in the 2000 to 2008. In total, there were 526 research articles published in 208 journals, 3340 authors, 729 Institutions from 39 Countries. Hence, these journals are the core journals and play important roles during the knowledge dissemination and exchange in Animal Cell Diseases. The most cited papers of



publications registered 476184 Citations and Average Citation Per Paper is 905.29. This scientometric study provides an in-depth analysis of global Highly Cited papers in Animal Cell Diseases research. Collaborative research has led to substantial progress in patient stratification and implementation of standardized treatment protocols. Studies like this one are useful for researchers, Scholars and others working on Animal Cell Diseases in order to understand the strengths and evolution of the research. At the present time Animal Cell Diseases are more significant and multifarious applications tool for current research streams.

## REFERENCES

- **Rajagopal, T., Archunan, G., Surulinathi, M., & Ponmanickam, P. (2013).** Research output in pheromone biology: A case study of india. *Scientometrics*, 94(2), 711-719.
- **Sebastiyan, R., Babu, V. R., & Surulinathi, M. (2020).** Mapping of research output in food economics:A scientometric ananalysis. *Library Philosophy and Practice*, Summer 9-1-2020, 1-18.
- **Senthamilselvi, A., Surulinathi, M., Karthik, M., & Jayasuriya, T. (2020).** Research output on coronavirus (covid-19)/Hantavirus in india: A scientometric study. *Library Philosophy and Practice*, Winter 11-2-2020, 1-34.
- **Surulinathi, M., Balasubramani, R., & Amsaveni, N. (2020).** Covid-19 research output in 2020: The global perspective using scientometric study. *Library Philosophy and Practice*, 2020, 1-18.
- **Surulinathi, M., Rajkumar, N., Jayasuriya, T., & Rajagopal, T. (2021).** Indian contribution in animal behaviour research: A scientometric study. *Library Philosophy and Practice*, 2021, 1-19.
- **Surulinathi, M., Sankaralingam, R., Senthamilselvi, A., & Jayasuriya, T. (2020).** Highly cited works in covid-19: The global perspective. *Library Philosophy and Practice*, 2020, 1-18.