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# Mathematics Library News 14

Aaron Lercher

*alerche1@lsu.edu*, *alerche1@lsu.edu*

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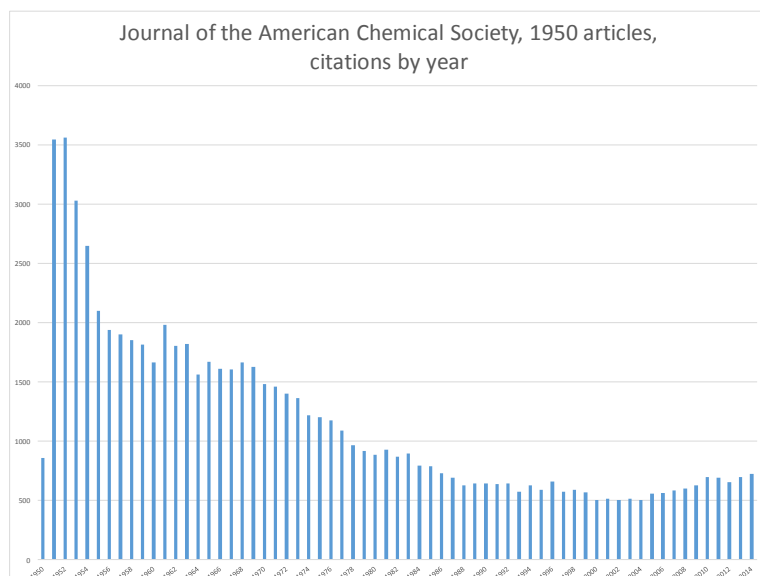
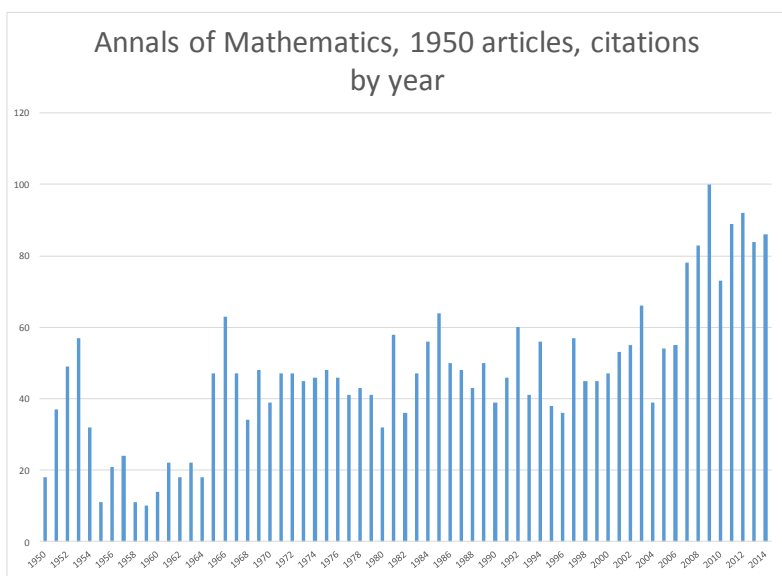
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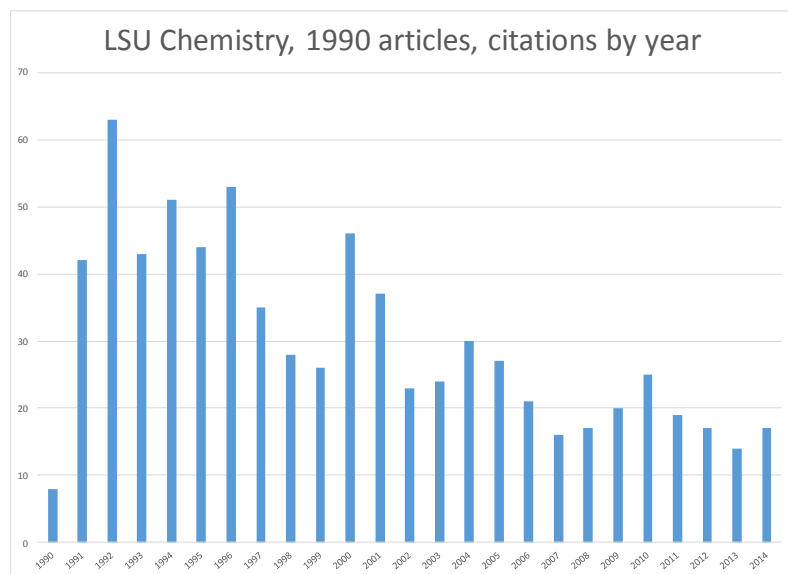
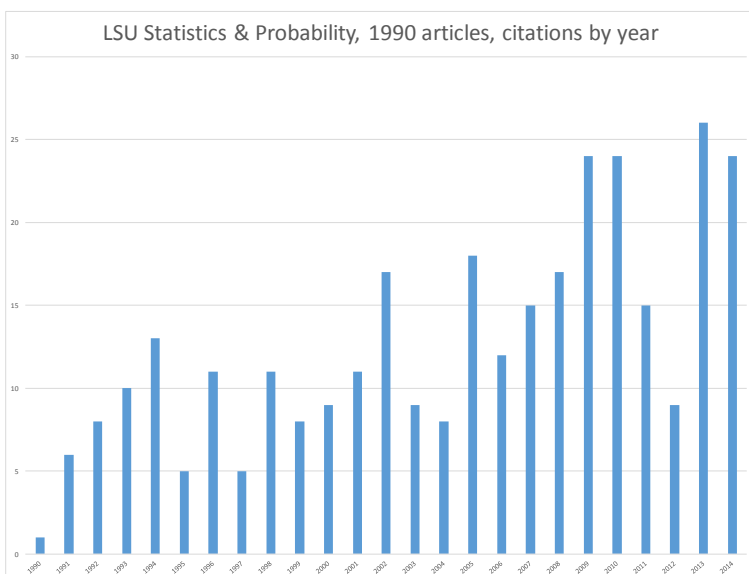
# Mathematics library news 14 December 2015

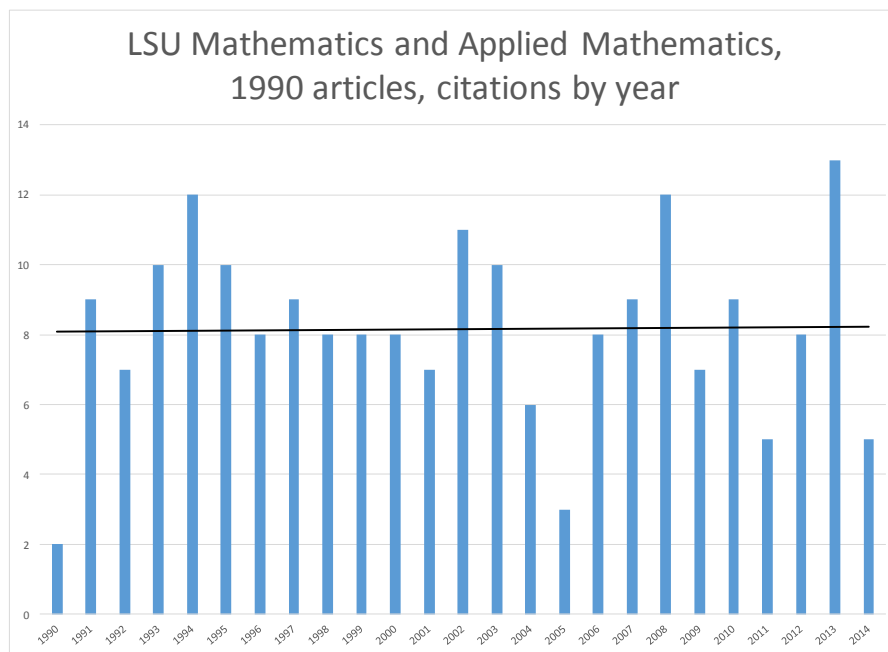
Lately your Mathematics Librarian has been looking at the citation patterns of the aging of scientific literature. There are several ways to look at this. A year ago I sent you some distributions for a single *citing* year. Below are distributions for a single *cited* year. Various studies show an increasing use of older scientific literature throughout science. One especially helpful study is by Larivière et al. in *JASIST* 59(2) (2008), pages 288-296.

For two prestigious journals, one in Mathematics and one in Chemistry, and the same selected year of articles, there are contrasting distributions of citations by year. The pattern for *JACS* of an initially high but subsequently subsiding citation rate also holds, but even more sharply, for journals in Medical and Biological Sciences. The scale is entirely different, with 93 articles published in *Annals of Mathematics* in 1950, versus 2068 articles published in *JACS* in 1950. (Web of Science data)



A similarly contrast of distributions holds for sets of articles published in 1990 with LSU-affiliated authors in selected Web of Science (WoS) subject categories (which classify by journal). For 1990, there are 13 articles with LSU-affiliated authors in category “Statistics & Probability.” The category, “Multidisciplinary Chemistry” has 71 articles in 1990 with LSU-affiliated authors. There were 30 articles with LSU-affiliated authors published in 1990 in either “Mathematics” or “Applied Mathematics.” The latter distribution, with a linear trend shown, is on the next page.





### Who is citing LSU Mathematics and Statistics articles?

WoS was searched for all articles with LSU-affiliated authors in the years 1980, 1990, and 2000, then filtered by WoS categories. Articles citing the LSU-affiliated articles were then retrieved.

For LSU Mathematics and Applied Mathematics articles, most citations to these articles are from Mathematics.

For LSU Statistics & Probability (pages 3 and 4 of this newsletter) citations come from 136 of the 251 WoS subject categories. There is just one article with an LSU-affiliated author in Statistics & Probability for 1980: Population Marginal Means in the Linear Model: An Alternative to Least Squares Means, by Searle, Speed, and Milliken, *American Statistician* 34(4): 216-221. Among the authors, F. Michael Speed was a member of the Department of Experimental Statistics. It has 309 citations in from 110 categories in WoS as of 12/2/15.

In the WoS data below, a journal, and hence the articles in it, can be in more than one category.

Citing Categories (WoS) for LSU Mathematics	1980 articles (n=20)	1990 articles (n=30)	2000 articles (n=38)
AUTOMATION CONTROL SYSTEMS	1	1	11
BIOLOGY		1	
BUSINESS FINANCE			1
COMPUTER SCIENCE ARTIFICIAL INTELLIGENCE		1	2
COMPUTER SCIENCE CYBERNETICS			1
COMPUTER SCIENCE INFORMATION SYSTEMS	1	6	3
COMPUTER SCIENCE INTERDISCIPLINARY APPLICATIONS	2		
COMPUTER SCIENCE SOFTWARE ENGINEERING	3	4	4
COMPUTER SCIENCE THEORY METHODS	2	16	12
ECONOMICS	2		2
ENGINEERING BIOMEDICAL			1
ENGINEERING CIVIL			1
ENGINEERING ELECTRICAL ELECTRONIC		3	1
ENGINEERING INDUSTRIAL	2		
EVOLUTIONARY BIOLOGY		1	
GEOSCIENCES MULTIDISCIPLINARY			1
IMAGING SCIENCE PHOTOGRAPHIC TECHNOLOGY		1	
IMMUNOLOGY			1
MANAGEMENT		1	1
MATHEMATICAL COMPUTATIONAL BIOLOGY		1	
MATHEMATICS	113	133	154
MATHEMATICS APPLIED	49	52	72
MATHEMATICS INTERDISCIPLINARY APPLICATIONS	5	1	2
MULTIDISCIPLINARY SCIENCES	2	2	
OPERATIONS RESEARCH MANAGEMENT SCIENCE	3	2	3
PHYSICS MATHEMATICAL	1	18	5
PHYSICS MULTIDISCIPLINARY	1	1	1
PHYSICS PARTICLES FIELDS			1
SOCIAL SCIENCES MATHEMATICAL METHODS	2		2
STATISTICS PROBABILITY	1	25	8
WATER RESOURCES			1

Citing Categories (WoS) for LSU Statistics & Probability	1980 article (n=1)	1990 articles (n=13)	2000 articles (n=9)
ACOUSTICS	1		
AGRICULTURE DAIRY ANIMAL SCIENCE	15		
AGRICULTURE MULTIDISCIPLINARY	3		
AGRONOMY	6		
ALLERGY	3		
ANDROLOGY	1		
ANTHROPOLOGY	1		
AUTOMATION CONTROL SYSTEMS		1	1
BEHAVIORAL SCIENCES	7		
BIOCHEMICAL RESEARCH METHODS	1		
BIOCHEMISTRY MOLECULAR BIOLOGY	3		
BIODIVERSITY CONSERVATION	5		2
BIOLOGY	6	2	2
BIOTECHNOLOGY APPLIED MICROBIOLOGY	4		
BUSINESS	4	6	
BUSINESS FINANCE	6	55	
CARDIAC CARDIOVASCULAR SYSTEMS	6		
CELL BIOLOGY	1		
CELL TISSUE ENGINEERING	1		
CHEMISTRY APPLIED	1		
CLINICAL NEUROLOGY	11		
COMMUNICATION	1	6	
COMPUTER SCIENCE ARTIFICIAL INTELLIGENCE		1	2
COMPUTER SCIENCE INFORMATION SYSTEMS		2	2
COMPUTER SCIENCE INTERDISCIPLINARY APPLICATIONS	2	13	7
COMPUTER SCIENCE SOFTWARE ENGINEERING	2	1	
COMPUTER SCIENCE THEORY METHODS		1	5
CRITICAL CARE MEDICINE	2		
DENTISTRY ORAL SURGERY MEDICINE	3		
ECOLOGY	31		3
ECONOMICS		163	
EDUCATION EDUCATIONAL RESEARCH	4		1
EDUCATION SCIENTIFIC DISCIPLINES	1		
EDUCATION SPECIAL	2		
ENDOCRINOLOGY METABOLISM	9		
ENERGY FUELS		7	
ENGINEERING BIOMEDICAL	1		1
ENGINEERING CHEMICAL	1		

Citing Categories (WoS) for LSU Statistics & Probability	1980 article (n=1)	1990 articles (n=13)	2000 articles (n=9)
ENGINEERING CIVIL	1		
ENGINEERING ELECTRICAL ELECTRONIC	1		
ENGINEERING ENVIRONMENTAL	1		1
ENGINEERING INDUSTRIAL		3	2
ENGINEERING MECHANICAL		1	
ENGINEERING MULTIDISCIPLINARY		1	
ENTOMOLOGY	5		5
ENVIRONMENTAL SCIENCES	13	3	4
ENVIRONMENTAL STUDIES		9	
ETHICS	1		
FISHERIES	16	2	1
FOOD SCIENCE TECHNOLOGY	8		
FORESTRY	6	2	
GENETICS HEREDITY	4		
GEOSCIENCES MULTIDISCIPLINARY	1		
GERIATRICS GERONTOLOGY	3		
GERONTOLOGY	2		
HEALTH CARE SCIENCES SERVICES	10		
HEALTH POLICY SERVICES	2		
HEMATOLOGY	2		
HORTICULTURE	2		
HOSPITALITY LEISURE SPORT TOURISM		2	
IMMUNOLOGY	9		1
INFECTIOUS DISEASES	5		
INFORMATION SCIENCE LIBRARY SCIENCE		1	
INTERNATIONAL RELATIONS		4	
LAW		1	
LIMNOLOGY	2		1
LINGUISTICS	1		
MANAGEMENT	2	11	1
MARINE FRESHWATER BIOLOGY	10	1	2
MATERIALS SCIENCE PAPER WOOD	3	1	
MATERIALS SCIENCE TEXTILES	2		
MATHEMATICAL COMPUTATIONAL BIOLOGY	2	3	2
MATHEMATICS		2	4
MATHEMATICS APPLIED		1	10
MATHEMATICS INTERDISCIPLINARY APPLICATIONS		33	
MECHANICS		1	
MEDICAL INFORMATICS			1

<b>Citing Categories (WoS) for LSU Statistics &amp; Probability</b>	<b>1980 article (n=1)</b>	<b>1990 articles (n=13)</b>	<b>2000 articles (n=9)</b>
MEDICINE GENERAL INTERNAL	16		
MEDICINE LEGAL	2	1	3
MEDICINE RESEARCH EXPERIMENTAL	3		1
METEOROLOGY ATMOSPHERIC SCIENCES	3		
MICROBIOLOGY	6		
MULTIDISCIPLINARY SCIENCES	2	1	
NEUROIMAGING	1		
NEUROSCIENCES	11		
NUCLEAR SCIENCE TECHNOLOGY	1		
NURSING	4		
NUTRITION DIETETICS	9		
OBSTETRICS GYNECOLOGY	8		
OCEANOGRAPHY	4		
ONCOLOGY	6	2	
OPERATIONS RESEARCH MANAGEMENT SCIENCE		10	6
OPHTHALMOLOGY	1		
ORTHOPEDICS	2		
OTORHINOLARYNGOLOGY	1		
PEDIATRICS	4		
PERIPHERAL VASCULAR DISEASE	5		
PHARMACOLOGY PHARMACY	13	1	
PHYSICS MULTIDISCIPLINARY		7	
PHYSIOLOGY	2		
PLANNING DEVELOPMENT		1	
PLANT SCIENCES	8		
POLITICAL SCIENCE		9	
PSYCHIATRY	7		
PSYCHOLOGY	5		
PSYCHOLOGY APPLIED	2	1	
PSYCHOLOGY CLINICAL	6		
PSYCHOLOGY DEVELOPMENTAL	3		
PSYCHOLOGY EDUCATIONAL	3		
PSYCHOLOGY EXPERIMENTAL	2		
PSYCHOLOGY MATHEMATICAL		2	
PSYCHOLOGY MULTIDISCIPLINARY	3		
PSYCHOLOGY SOCIAL	2		
PUBLIC ENVIRONMENTAL OCCUPATIONAL HEALTH	18	1	2
RADIOLOGY NUCLEAR MEDICINE MEDICAL IMAGING	2		

<b>Citing Categories (WoS) for LSU Statistics &amp; Probability</b>	<b>1980 article (n=1)</b>	<b>1990 articles (n=13)</b>	<b>2000 articles (n=9)</b>
REHABILITATION	6		
REPRODUCTIVE BIOLOGY	7		
RESPIRATORY SYSTEM	4		
RHEUMATOLOGY	1		
SOCIAL SCIENCES INTERDISCIPLINARY	1	2	
SOCIAL SCIENCES MATHEMATICAL METHODS	1	65	
SOCIAL WORK	1		
SOCIOLOGY	2	4	
SOIL SCIENCE	4		
SPORT SCIENCES	1		
STATISTICS PROBABILITY	11	82	14
SUBSTANCE ABUSE	2		
SURGERY	2		
THERMODYNAMICS		2	
TOXICOLOGY	12		
URBAN STUDIES		3	
UROLOGY NEPHROLOGY	2		
VETERINARY SCIENCES	5		3
WATER RESOURCES	1		1
WOMEN S STUDIES	1		
ZOOLOGY	8		