

**Beyond the shelves:
Measuring Impact with Institutional
Assessment Tools**

Elizabeth Brown

Binghamton University Libraries

June 10, 2013

*Next Generation Sci-Tech Librarians:
Helping Institutions and Researchers Increase
Their Impact*

2013 SLA Annual Conference

Our Users see us this way:



Source: <https://blogs.binghamton.edu/index.php/gallery/>

We see ourselves supporting:

Print Archives and Collections



Electronic Content



Research Data, supplementary research materials

URLs: <http://futurepath.org/digital-information-presevation/>; <http://www.nationalgalleries.org/object/GMAA42/2/GKL1012>;
<http://metalink.binghamton.edu:8332/v/DIURBR94GJBKS1C3TBKAGBQ19XQQQ4DBVYRJHJKGH2ADLG2D3Y-08701?func=native-link&resource=BNG05356>

Our library databases fit and the campus information ecosystem



Library journal indexes/databases

Article citations, references and co-authors; Subject coverage



Research analytical tools

Program, research and individual researcher/faculty strengths



Informal scholarship

Readership, contacts, outreach and discussion of work



Tools are evolving to move seamlessly between these sources of personal and collective data

Indexing / Abstracting Databases

- Scifinder Scholar
- Scopus
- Web of Science
- Journal Citation Reports
- Google Scholar Citations*
- Scilmago*

Provide analytical data from individual pieces of research output, plus some collective data

*Freely available source

Scifinder Scholar

Limited citation
count sorting,
analysis

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Explore References | Explore Substances | Explore Reactions

Citation Sort

Add KMP Alert | Research Topic "season of birth and dopamine" > references (3) > Season of birth and dopamine r... > citing references (1)

Reference Detail | Get Substances | Get Reactions | Get Cited | Get Citing | Get Full Text | Send to SciPlanner

Link | Save

Return

1. Season of birth and dopamine receptor gene associations with impulsivity, sensation seeking and reproductive behaviors

By: Eisenberg, Dan T. A.; Campbell, Benjamin; MacKillop, James; Lum, J. Koji; Wilson, David S.

Season of birth (SOB) has been assocd. with many physiol. and psychol. traits including novelty seeking and sensation seeking. Similar traits have been assocd. with polymorphisms in the dopamine system. SOB and dopamine receptor genetic polymorphisms may independently and interactively influence similar behaviors and have common effects on the dopaminergic system. Based on a sample of 195 subjects, we examd. whether SOB was assocd. with impulsivity, sensation seeking and reproductive behaviors. Addnl. we examd. potential interactions of dopamine receptor genes with SOB for the same set of traits. Phenotypes were evaluated using the S-Oriented Inventory, the Barratt Impulsivity Scale, the Eysenck Impulsivity Questionnaire, the Sensation Seeking Scale, and the Delay Discounting Task. Subjects were asked about their age at first sex as well as their desired age at the birth of their first child. The dopamine gene polymorphisms examd. were Dopamine Receptor 1 (DRD1) TaqI A and D4 (DRD4) 48 bp VNTR. Primary analyses included factorial gender × SOB ANOVAs or binary logistic regression models for each dependent trait. Anal. extended the factorial models by also including DRD2 and DRD4 genotypes as independent variables. Winter-born males were more sensation seeking than summer-born males. In factorial models including both genotype and season of birth as variables, two previously unobserved effects were discovered: (1) a SOB × D

Source: Scifinder Scholar, March 2012

Web of Science/Web of Knowledge

Web of Science SM

<< Back to previous results list

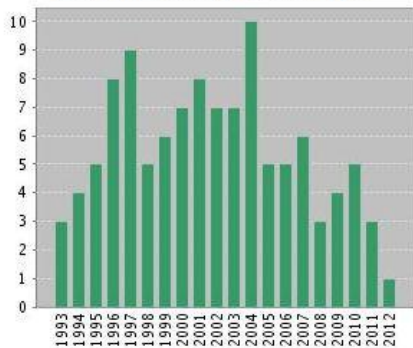
Citation Report Address=(chem*) AND Address=(bing*)

Refined by: Authors=(WHITTINGHAM MS)

Timespan=All Years. Databases=SCI-EXPANDED, A&HCI, SSCI.

This report reflects citations to source items indexed within Web of Science. Perform a Cited Reference Search to include citations to items not indexed within Web of Science.

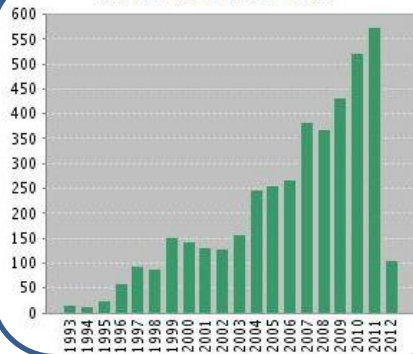
Published Items in Each Year



The latest 20 years are displayed.

[View a graph with all years.](#)

Citations in Each Year



The latest 20 years are displayed.

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Impact over time

Results found:	130
Sum of the Times Cited [?]:	4183
Sum of Times Cited without self-citations [?]:	3741
Citing Articles [?]:	2901
Citing Articles without self-citations [?]:	2806
Average Citations per Item [?]:	32.18
h-index [?]:	34

Results: 130

Page 1 of 13 Go

Sort by: Times Cited -- highest to lowest

High Impact Articles

Use the checkboxes to remove individual items from this Citation Report or restrict to items published between 1982 and 2012 Go

- Title: **Lithium batteries and cathode materials**
 Author(s): Whittingham MS
 Source: CHEMICAL REVIEWS Volume: 104 Issue: 10 Pages: 4271-4301 DOI: 10.1021/cr020731c Published: OCT 2004
- Title: **Hydrothermal synthesis of lithium iron phosphate cathodes**
 Author(s): Yang SF; Zavalij PY; Whittingham MS
 Source: ELECTROCHEMISTRY COMMUNICATIONS Volume: 3 Issue: 9 Pages: 505-508 DOI: 10.1016/S1388-2481(01)00200-4 Published: SEP 2001
- Title: **Hydrothermal synthesis of vanadium oxides**
 Author(s): Chirayil T; Zavalij PY; Whittingham MS
 Source: CHEMISTRY OF MATERIALS Volume: 10 Issue: 10 Pages: 2629-2640 DOI: 10.1021/cm980242m Published: OCT 1998

2008	2009	2010	2011	2012	Total	Average Citations per Year
368	431	522	573	107	4183	174.29
76	96	131	197	42	697	77.44
35	28	47	51	7	283	23.58
12	19	20	15	5	224	14.93

Source: Web of Science , March 2012

Journal Citation Report shows individual *journal* performance

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Journal Citation Reports[®]

WELCOME HELP

2011 JCR Science E

Journal Summary List

Journal Title Ch

Journals from: subject categories MATERIALS SCIENCE, MULTIDISCIPLINARY VIEW CATEGORY SUMMARY LIST

Sorted by: Impact Factor SORT AGAIN

Journals 1 - 20 (of 232)

Navigation icons: <<< << [1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10] >>>

Page 1

MARK ALL UPDATE MARKED LIST


Ranking is based on your journal and sort selections.

Mark	Rank	Abbreviated Journal Title (linked to journal information)	ISSN	JCR Data ⁱ					Eigenfactor [®] Metrics ⁱ		
				Total Cites	Impact Factor	5-Year Impact Factor	Immediacy Index	Articles	Cited Half-life	Eigenfactor [®] Score	Article Influence [®] Score
<input type="checkbox"/>	1	NAT MATER	1476-1122	39242	32.841	36.732	6.246	134	4.7	0.22091	17.925
<input type="checkbox"/>	2	NAT NANOTECHNOL	1748-3387	16581	27.270	33.781	5.496	117	3.1	0.12858	14.885
<input type="checkbox"/>	3	PROG MATER SCI	0079-6425	5017	18.216	23.899	5.000	23	6.6	0.01513	9.271
<input type="checkbox"/>	4	NANO TODAY	1748-0132	2170	15.355	16.078	2.324	37	2.8	0.01213	5.167
<input type="checkbox"/>	5	MAT SCI ENG R	0927-796X	4487	14.951	16.500	1.750	12	7.9	0.00815	5.695

Impact Factor

Google Scholar Citations - Personal Profiles


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Citations to my articles



Select: [All](#), [None](#) Actions ▼ 1-18

Title / Author	Cited by	Year
<input type="checkbox"/> Luminescence studies of pyridine. alpha.-diimine rhenium (I) tricarbonyl complexes LA Sacksteder, AP Zipp, EA Brown, J Streich, JN Demas, BA DeGraff <i>Inorganic Chemistry</i> 29 (21), 4335-4340	210	1990
<input type="checkbox"/> Quantification of penicillin-G and procaine in equine urine and plasma using high-performance liquid chromatography Y Luo, B McNamara, MA Fennell, DC Teleis, L May, J Rudy, AO Watson, CE Uboh ... <i>Journal of Chromatography B: Biomedical Sciences and Applications</i> 714 (2 ...	21	1998
<input type="checkbox"/> Coding into the great unknown: analyzing instant messaging session transcripts to identify user behaviors and measure quality of service S Maximiek, E Rushton, E Brown <i>College & Research Libraries</i> 71 (4), 361-374	10	2010
<input type="checkbox"/> Pharmacokinetics of penicillin G procaine versus penicillin G potassium and		

Scimago (University of Granada)



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Journal Rankings

Ranking Parameters

Subject Area:

Subject Category:

Country: Year:

Order By:

Display journals with at least:

Subject Area: Chemistry.
Year: 2011.

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1 - 50 of 398 << First | < Previous | Next > | Last >>

How to cite this website?

SJR is developed by:

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	Title	SJR	H index	Total Docs. (2011)	Total Docs. (3years)	Total Refs.	Total Cites (3years)	Citable Docs. (3years)	Cites / Doc. (2years)	Ref. / Doc.	Country
1	Chemical Reviews	3,791	356	117	560	39.834	13.080	528	23,16	340,46	
2	Annual Review of Analytical Chemistry	2,596	20	20	73	2.403	504	72	5,05	120,15	
3	Chemical Society Reviews	2,493	160	229	718	31.518	11.959	700	16,69	137,63	
4	Nano Letters	2,379	197	534	2.510	18.290	19.386	2.476	7,44	34,25	
5	Accounts of Chemical	2.378	204	62	509	2.801	6.982	494	11.73	45.18	

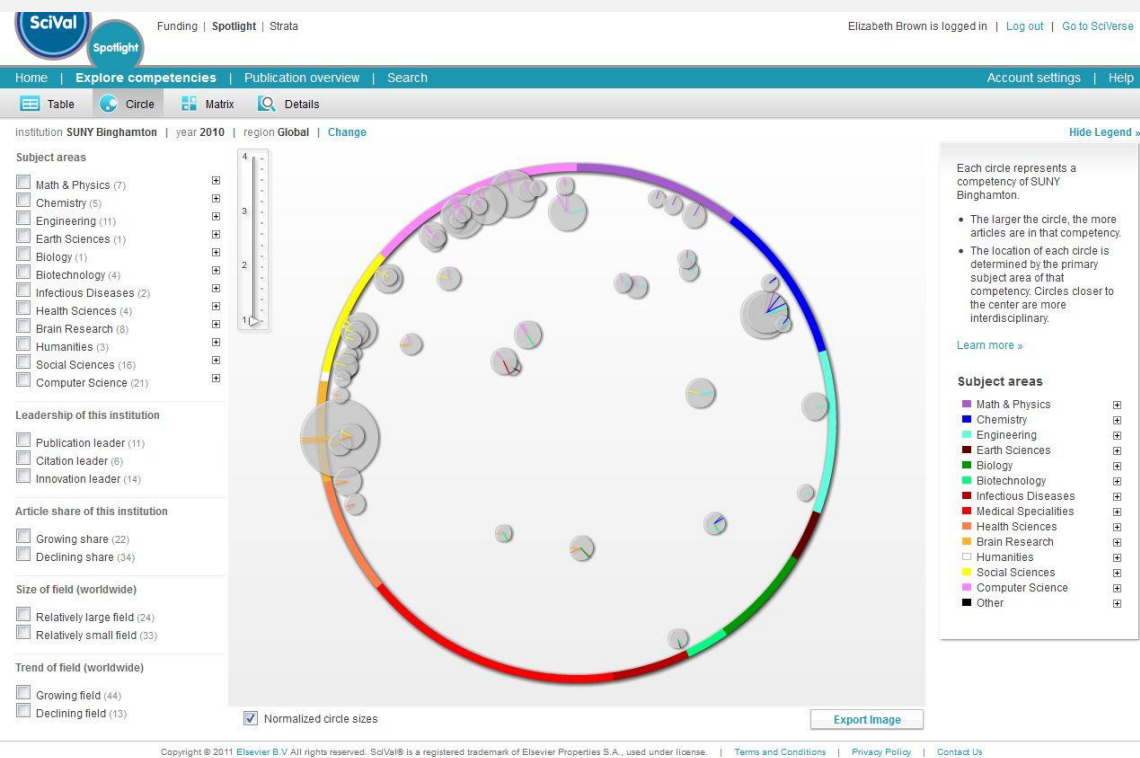
Research Analytical Tools

- Scival Spotlight
- Academic Analytics
- InCites
- Microsoft Academic Search*

Examine research productivity to identify

- Current, emerging and interdisciplinary campus research strengths
- Potential collaborators and peers
- Unmet collections needs

SciVal Spotlight gives a visual image of research output from citation and journal article data



Uses:

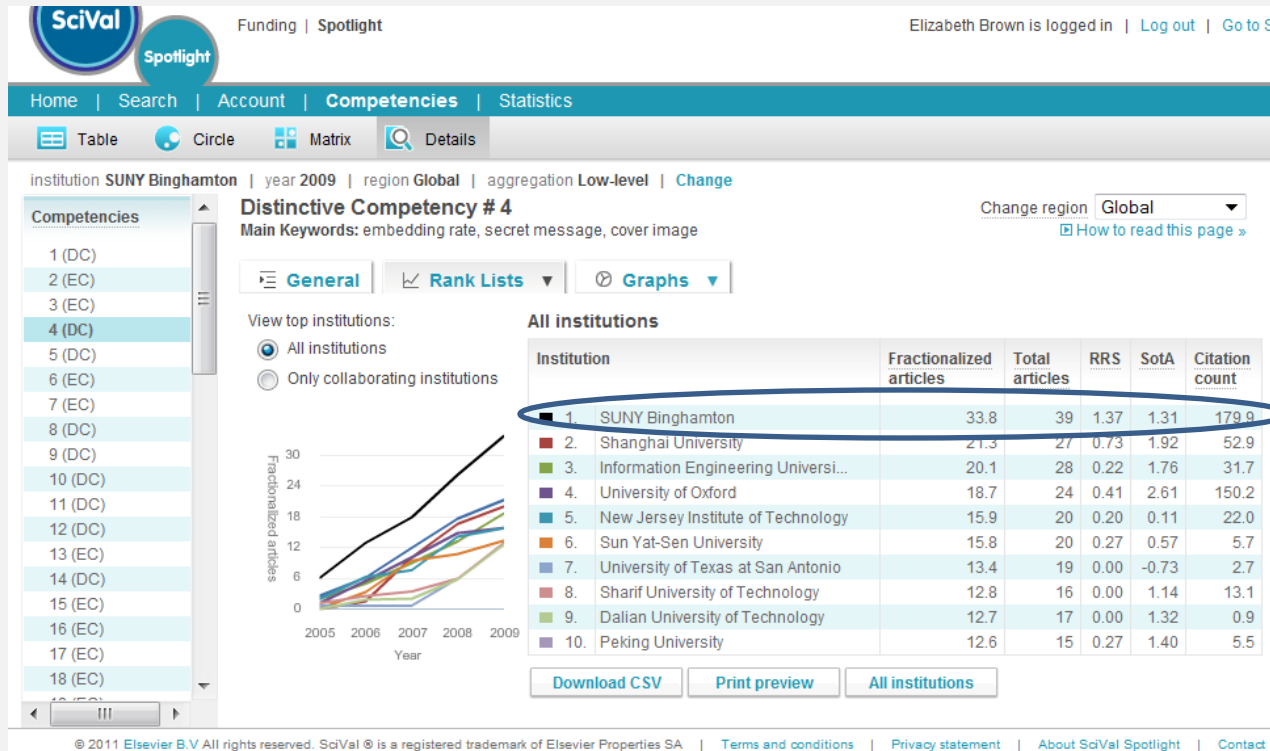
- Clustered Scopus citation data to create research profile groupings and summaries
- Collexis' semantic technology purchased by Elsevier

“Wheel of Research” shows a visual map of:

- Normalized citation analysis of research output
- Subject-identified research areas
- Interdisciplinary research lies closer to the wheel's center

SciVal Spotlight Faculty Peer Rankings

Locate peers within specific research areas:



- Identify institutional peers from author lists
- Target international recruitment to key peers and collaborators

High-Impact Research Leaders

Rank	Authors	Department(s)	Research Area(s)	# pubs	# cites
1	Wu N.E.; Klir G.J.; Zacks S.	EE; SSIE; Math	Signal Processing; Fuzzy Sets; Computer-Aided Process Planning	44	178.8
2	Spear N.E.; Miller R.R.; Arias C.M.	Psych	Psychopharmacology; Consciousness; Neurotoxicology	134	671.3
5	Meng W.; Zhao H.; Gupta C.	Comp Sci	Data Mining	14	32.6
7	Younis M.I.; Alsaleem F.M.	ME	Sensors & Actuators; Semiconducting Materials; Nanotechnology	48	137
9	Fridrich J.; Filler T.; Kodovský J.	EE	Data Mining; Image Processing	39	214.2
10	Yammarino F.J.; Dionne S.D.; Gooty J.	SOM	Leadership & Organizational Behavior; Strategic Management	22	37.3
11	Zhong C.J.; Luo J.P.; Wang L.	Chem	Sensors & Actuators; Nanotechnology; Electrochemistry	56	426.1
14	Fordham B.O.; Cingranelli D.L.; Clark D.H.	Poli Sci	International Conflict; Political Studies	12	10.9
19	Zhou J.; Zhang Y.; Braiotta L.B.	SOM	Financial Accounting	10	28.7
22	Wilson D.S.; Dlugos M.J.	Biol, EVoS	Molecular Ecology; Consciousness; Bioethics	15	126.4
25	Long B.; Zhang Z.M.	Comp Sci	Machine Learning; Data Mining	15	40.7

- Faculty research impacting future collections growth
- Higher priority research data to preserve
- Interdisciplinary strengths and relationships

SciVal Spotlight Faculty, Program Comparisons

Faculty rank, productivity and representation in Spotlight competencies shows loci of future high-impact research

Mature Department

Rank	Avg Pub/Date Range	Avg % of art in comp.
Professor	57	78%
Professor	16	34%
Professor	30	25%
Associate	40	24%
Professor	37	21%
Associate	29	17%
Professor	13	8%
Professor	15	2%
Distinguished	21	0%

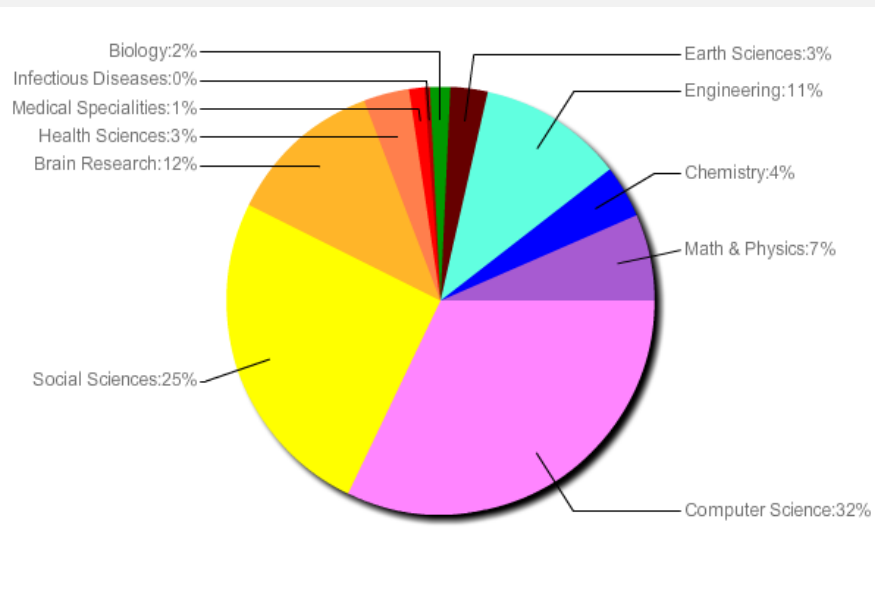
Newer, growing Department

Rank	Avg Pub/Date Range	Avg % of art in comp.
Associate	34	90%
Assistant	13	85%
Distinguished	18	51%
Distinguished	65	51%
Research	12	43%
Assistant	16	39%
Distinguished Teaching	14	29%
Associate	34	22%
Associate	21	11%
Associate	35	3%
Professor	18	0%

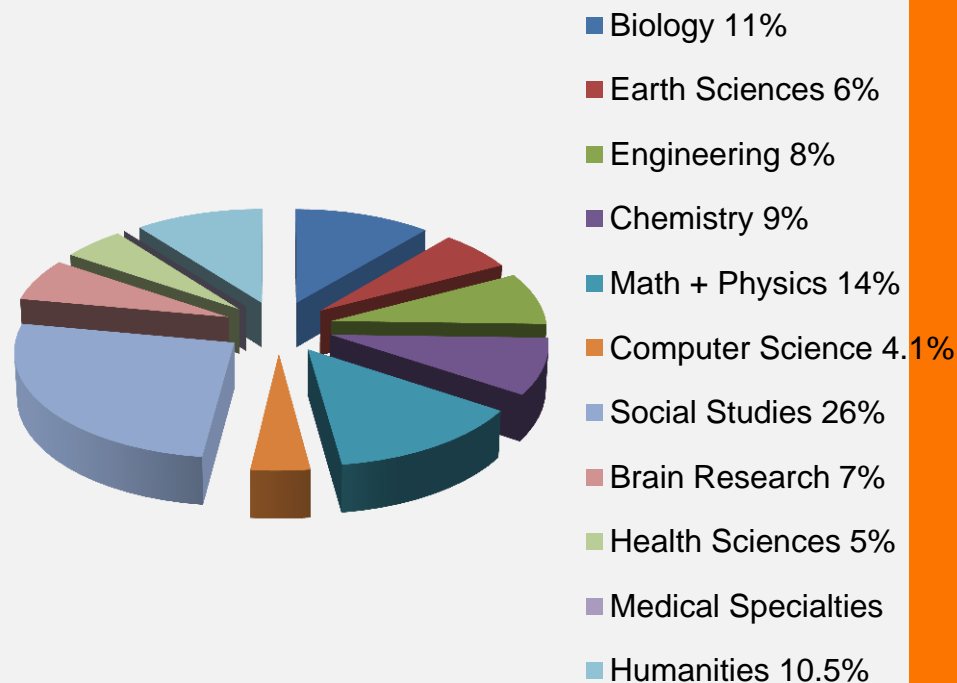
Sources: SciVal Spotlight (2004-2010), Binghamton University Campus Directory and Department Web Site data, July 2011

SciVal competencies and library budget support

2005-2009 SciVal Subject Categories



% of Binghamton Collections Budget (2008-2009)



Source: SciVal Spotlight Data, (2005-2009), BU Libraries Collections Budget Data (2009)

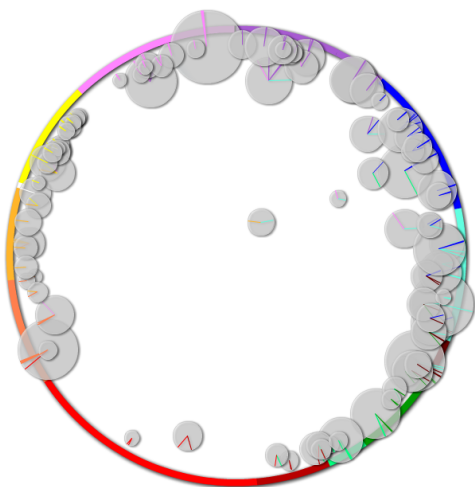
SciVal Spotlight Collections Data

Aggregated publication lists identify key journals, proceedings and books to strategically build the Libraries' collections

Journal (Proceeding)	Ave #pub/5 years	Library Availability
Lecture Notes in Computer Science	57	Print
Proceedings of SPIE - The International Society for Optical Engineering	48	No
Materials Research Society Symposium - Proceedings	26	Print
Alcoholism: Clinical and Experimental Research	24	Print/Elec
Proceedings - Electronic Components and Technology Conference	24	Yes*
ASME International Mechanical Engineering Congress and Exposition, Proceedings	17	Yes*
Langmuir	16	Print/Elec
Physical Review B - Condensed Matter and Materials Physics	15	Print/Elec
Journal of Experimental Psychology: Animal Behavior Processes	15	Print/Elec
Developmental Psychobiology	13	Print/Elec
2006 IIE Annual Conference and Exhibition	13	No
Pharmacology, Biochemistry and Behavior	13	Print/Elec
Journal of Electronic Packaging, Transactions of the ASME	12	Print/Elec
2010 12th IEEE Intersociety Conference, ITherm 2010	12	Elec

University of Delaware

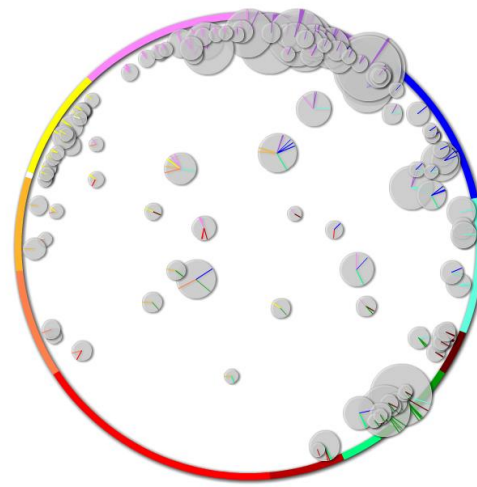
institution: University of Delaware
year: 2009
compare: Global
settings: sizes of circles on the maps are normalized



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UC, Santa Barbara

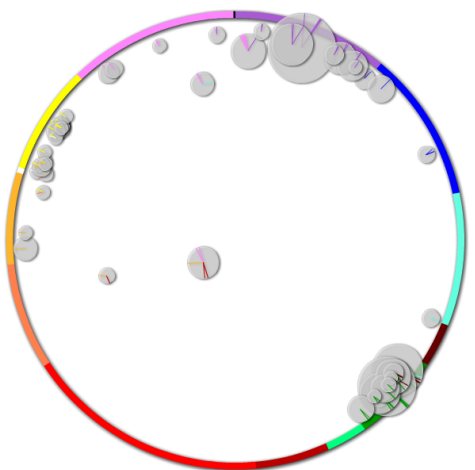
institution: University of California at Santa Barbara
year: 2009
compare: Global
settings: sizes of circles on the maps are normalized



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College of William and Mary

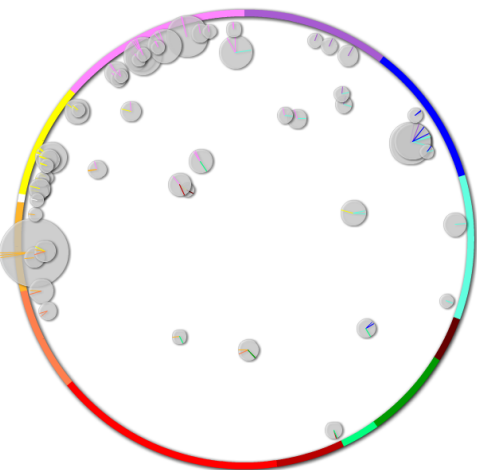
institution: College of William and Mary
year: 2009
compare: Global
settings: sizes of circles on the maps are normalized



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Binghamton (SUNY)

institution: SUNY Binghamton
year: 2010
compare: Global
settings: sizes of circles on the maps are normalized



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SciVal Peer Institution Analysis

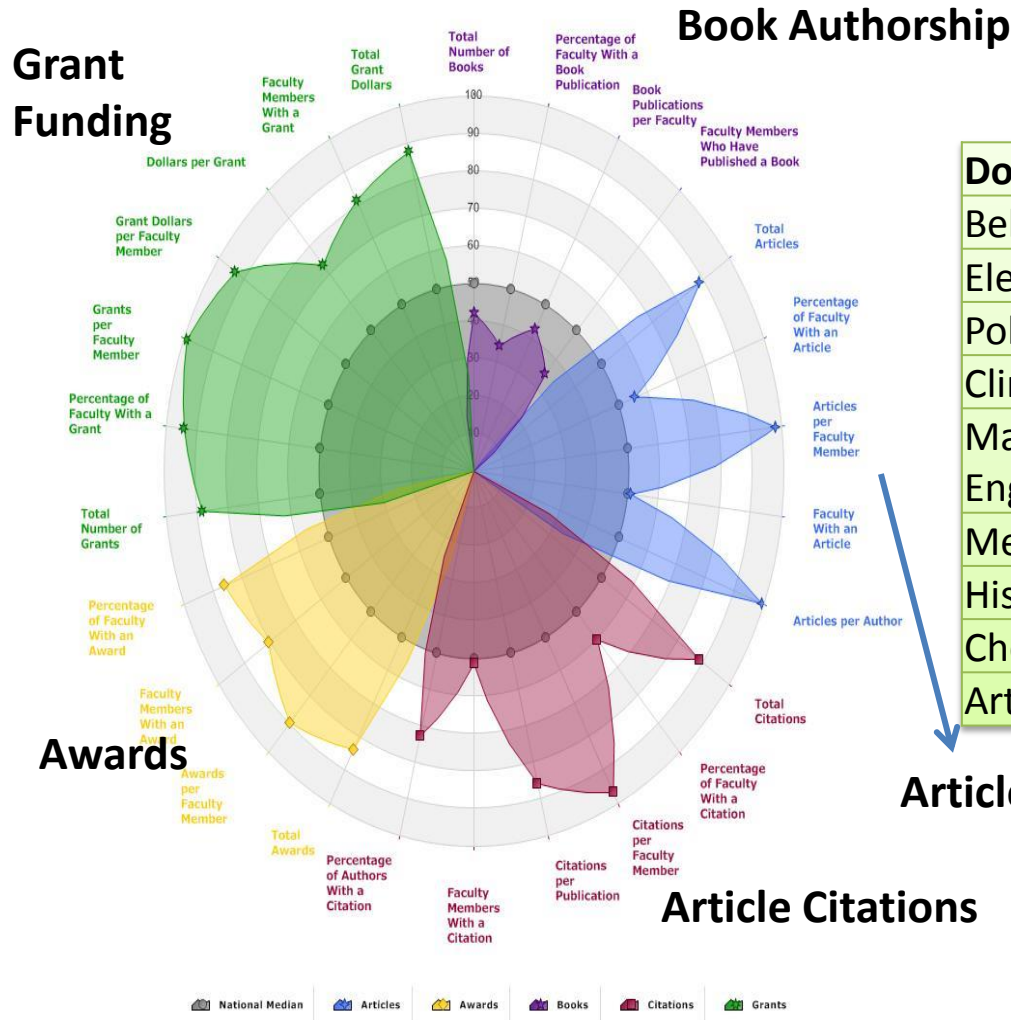
Indicates:

- Quantity of research
- Extent of interdisciplinary research
- Areas of research strengths

Verdict: Binghamton may suffer from *Aspirational Peer Syndrome*

Data Source: SciVal Spotlight Global Data (2006-2010); Scopus citation data (2006-2010)

Academic Analytics uses additional variables to compare academic programs



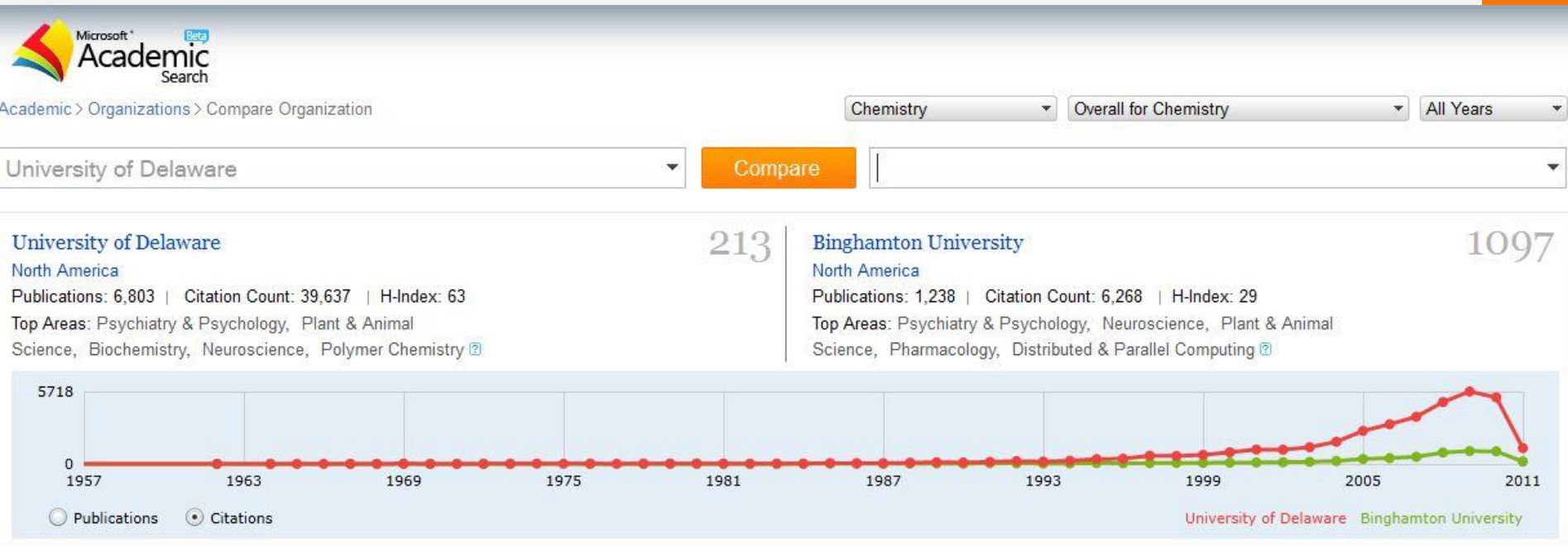
Binghamton's 2009 report

Doctoral Program	# Faculty	Percentile
Behavioral Neuroscience	12	88
Electrical Engineering	15	79
Political Science	18	76
Clinical Psychology	10	74
Materials Science & Engineering	23	70
Mechanical Engineering	16	70
History	28	68
Chemistry	16	67
Art History	7	64

Article Authorship

Microsoft Academic Search

Analytical data comparisons are possible, plus author comparisons and conference advisory tools



Source: Microsoft Academic Search website, March 2012, URL:
<http://academic.research.microsoft.com/Comparison?entitytype=7&id1=16846&id2=5302&topdomainid=5>

Conclusions

- Research Analytical Tools provide comprehensive data on faculty performance and impact
- Library Databases show article and journal-level impact and provide some analytical data
- Alternative metrics complement and provide additional information to licensed products
- Need to provide both personal and collective performance metrics

Future Directions / Predictions

- Faculty Productivity Data Collection
- Further analysis of Academic Analytics data
- Identify specialized reports /data from InCites and SciVal to complement Academic Analytics

Sources

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- *Advanced Computing Infrastructure: Vision and Strategic Plan*, National Science Foundation Cyberinfrastructure for 21st Century Science and Engineering (CIF21), February 2012. URL: http://www.nsf.gov/publications/pub_summ.jsp?ods_key=nsf12051
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- *Social Media and research workflow*, CIBER, University College London, December 14, 2010. URL: www.ucl.ac.uk/infostudies/research/ciber/social-media-report.pdf.

Thank You!

- Binghamton University Libraries
- Dean John M. Meador
- Senior Vice Provost Michael McGoff
- Binghamton University Graduate School

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