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THE USE OF THOMSON REUTERS RESEARCH ANALYTIC RESOURCES IN ACADEMIC PERFORMANCE EVALUATION

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SEPTEMBER 2014

Agenda

- Academic Research Performance Evaluation & Bibliometric Analysis
- Citation Analysis: Data and Applications
- A Class of Advanced Bibliometric Indicators
- National Research Assessment in Lithuania
- Discussion





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PART I:

RESEARCH PERFORMANCE EVALUATION & BIBLIOMETRIC ANALYSIS

Academic Research Performance Assessment

Qualitative: Peer review – subjective judgements by experts

Quantitative: Metrics – measuring the impact of research

It can occur at different levels:

Paper/Academic

Department/University

National/International

Why measuring research quality is important?

Allocating funds e.g. funding, grants

University Rankings, League tables (THE, ARWU)

Jobs and promotion



Peer Review

- **Peer review:** A group of expert scholars, working in the same scientific area (peers) that evaluate submitted research work, performance of academics or assess scientific journals in a particular field.

Limitations:

- Time consuming, expensive
- Experts can genuinely disagree (referees)
- There are unconscious and conscious biases
- Is surrounded with mysticism and can create an elite club which can be difficult to enter

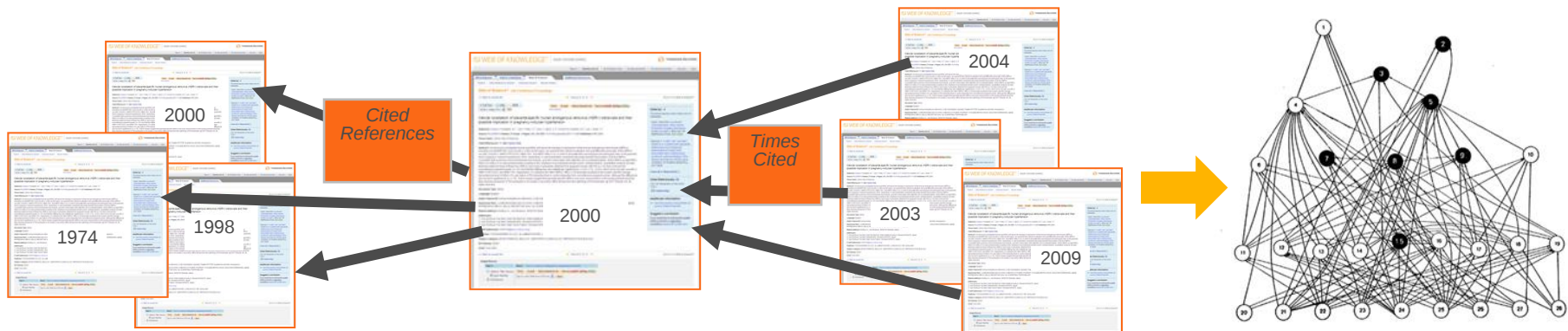


Citation Analysis

Bibliometrics/Scientometrics/Infometrics

Citation is the basic unit of quantitative evaluation of research

Citations measure the number of times a paper has been cited as a surrogate for its scientific impact / utility / merit

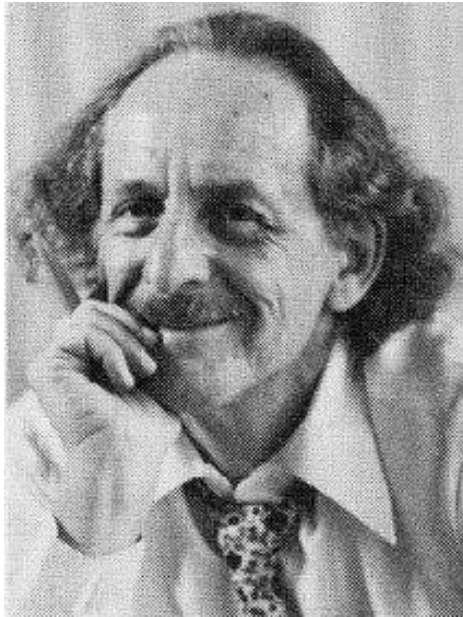


Main driver of citations?

The journal itself (JIF, average citation rate, journals ranking list)



Eugene Garfield's "Association Of Ideas Index"-1955

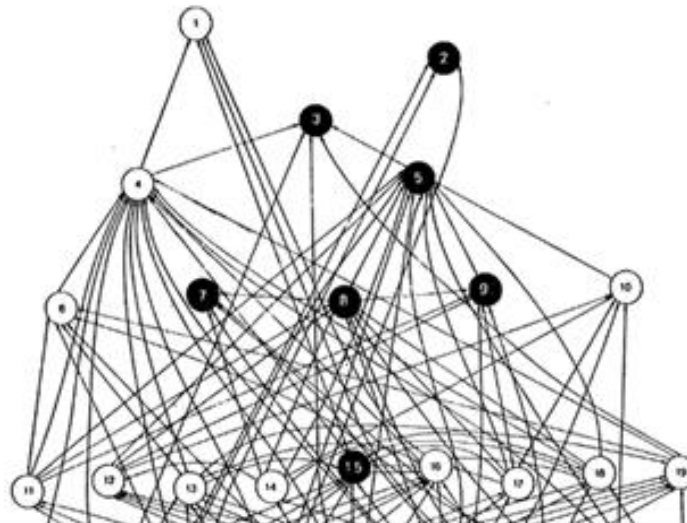


Science, 122(3159), p.108-11, July 1955.

Citation Indexes for Science

A New Dimension in Documentation
through Association of Ideas

Eugene Garfield



50th Anniversary
Science Citation Index®

Web of Science is the “web” presentation of journal citation indexes developed five decades ago by Dr. Eugene Garfield, founder of ISI (now Thomson Reuters SSR) and an icon in the realm of scholarly information

Why bibliometric methods and citation analysis are gaining popularity?

- + Availability of bibliometric data e.g. online bibliometric databases
- + Objective, easy and low cost procedure
- + Positive correlation with peer review

However...

- No qualitative differentiation between citations
- Technical errors
- Citations measure scientific *impact/ utility/ merit*, not quality
- Citations vary across different subject fields and time
- Citation coverage depends on their sources

Where do citations come from?

- Web of Science **SELECTIVE.....YET COMPREHENSIVE**
 - **“Multidisciplinary” coverage**
 - enable to analyze the whole context of scientific research
 - **“Multiyear” coverage**
 - enable to analyze the history and development of sciences
 - **“Cover to Cover” policy**
 - enable to follow the flow of a topic regardless of communication type
 - **“ALL Authors, ALL Addresses”**
 - enable to analyze by author name, by institution
 - **“ALL Cited References”**
 - enable to perform analyses on literature that is not indexed



Selection Process For The Web Of Science Core Collection

Four Points of Evaluation

**Publishing
Standards**

**Editorial
Content**

**International
Diversity**

**Citation
Analysis**

12500 selected Journals

12000 annual selected
conferences

53000 selected books



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Web Of Science Core Collection: Data Capture And Quality

Genome-Wide Identification of Somatic Aberrations from

Genome-Wide Identification of Somatic Aberrations from Paired Normal-Tumor Samples

By: Li, A (Li, Ao)^[1,2]; Liu, YN (Liu, Yuanning)^[2]; Zhao, QH (Zhao, Qihong)^[3]; Feng, HQ (Feng, Huanqing)^[2]; Harris, L (Harris, Lyndsay)^[4]; Wang, MH (Wang, Minghui)^[1,2]
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Abstract

Genomic copy number alteration and allelic imbalance are distinct features of cancer. However, the complicated nature of tumor usually hampers the dissection of the SNP arrays. In this study, we describe a bioinformatic tool, named GIANT, for genome-wide identification of somatic aberrations from paired normal-tumor samples. GIANT can extract genotype information of matched normal samples from tumor samples, even for aneuploid tumor samples.

Abstract

Genomic copy number alteration and allelic imbalance are distinct features of cancer. However, the complicated nature of tumor usually hampers the dissection of the SNP arrays. In this study, we describe a bioinformatic tool, named GIANT, for genome-wide identification of somatic aberrations from paired normal-tumor samples. GIANT can extract genotype information of matched normal samples from tumor samples, even for aneuploid tumor samples. Results show that GIANT has the accuracy as low as 5~10%. Application on a large dataset shows the significance of the various aberrations, and GIANT is a useful bioinformatic tool for interpreting clinical treatment of cancer.

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Competing Interests: The authors have declared that no competing interests exist.

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These authors contributed equally to this work.

Citation Network

34 Times Cited

36 Cited References

[View Related Records](#)

[View Citation Map](#)

[Create Citation Alert](#)

(data from Web of Science™ Core Collection)

All Times Cited Counts

36 in All Databases

34 in Web of Science Core Collection

30 in BIOSIS Citation Index

4 in Chinese Science Citation Database

0 in Data Citation Index

0 in SciELO Citation Index

Funding

Funding Agency

National Natural Science Foundation of China

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PART II:

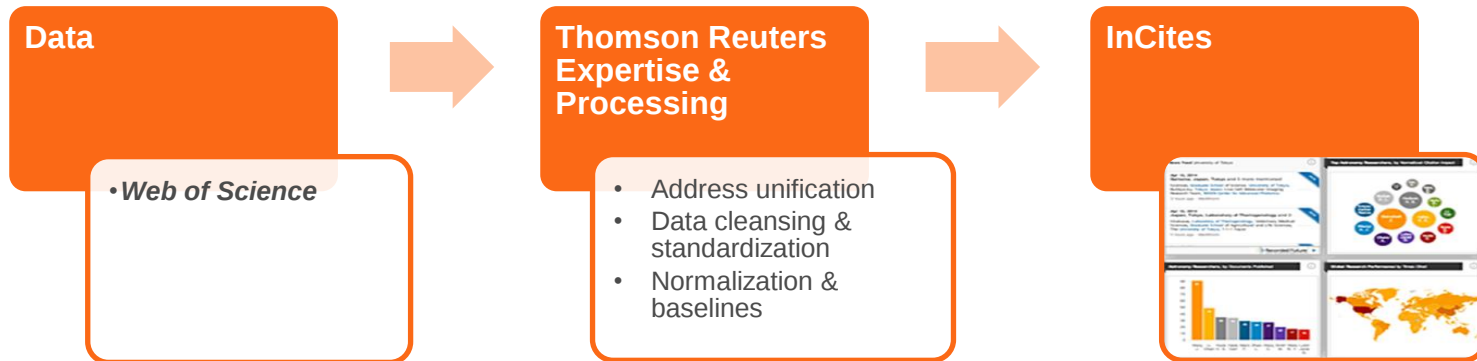
CITATION ANALYSIS:

APPLICATIONS & DATA

Applications of Bibliometric Analysis

1. Quantification:

- Data reduction (extracting essential information)
- Data cleaning and data disambiguation



- For more than four decades Thomson Reuters has provided a wide range of tools and services supporting research evaluation.
- Our specialist work with Web of Science data and ensure maximum standardization and unification before delivery to customers.
- Not just simple counts and averages, but real metrics founded on baselines for comparison and normalized statistics.



Applications of Bibliometric Analysis

2. Measuring:

- What *can* and *what* should be measured?
- What are appropriate measures for the purpose?



Applications of Bibliometric Analysis

3. Benchmarking

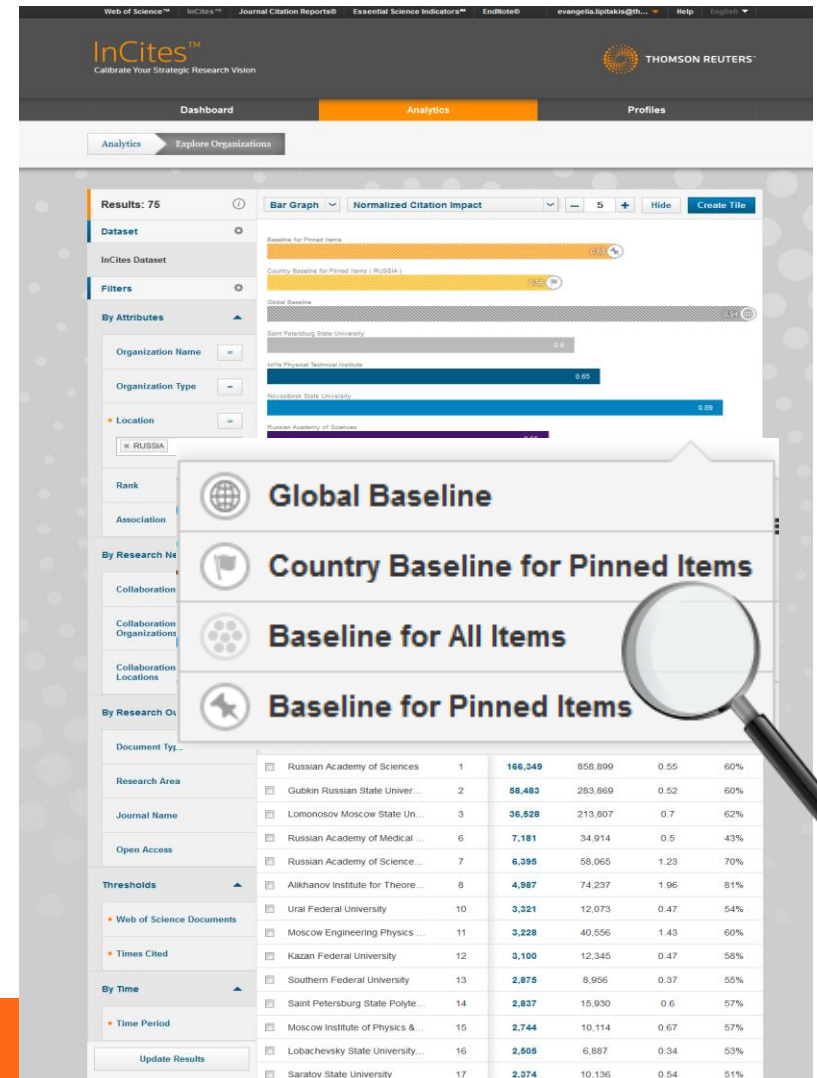
- Comparison (like with like)
- Putting data into context
- Consider limitations

Field Baselines

Baselines are annualized expected citation rates for papers in a research field.

Citation Rates are yearly averages of citations per paper.

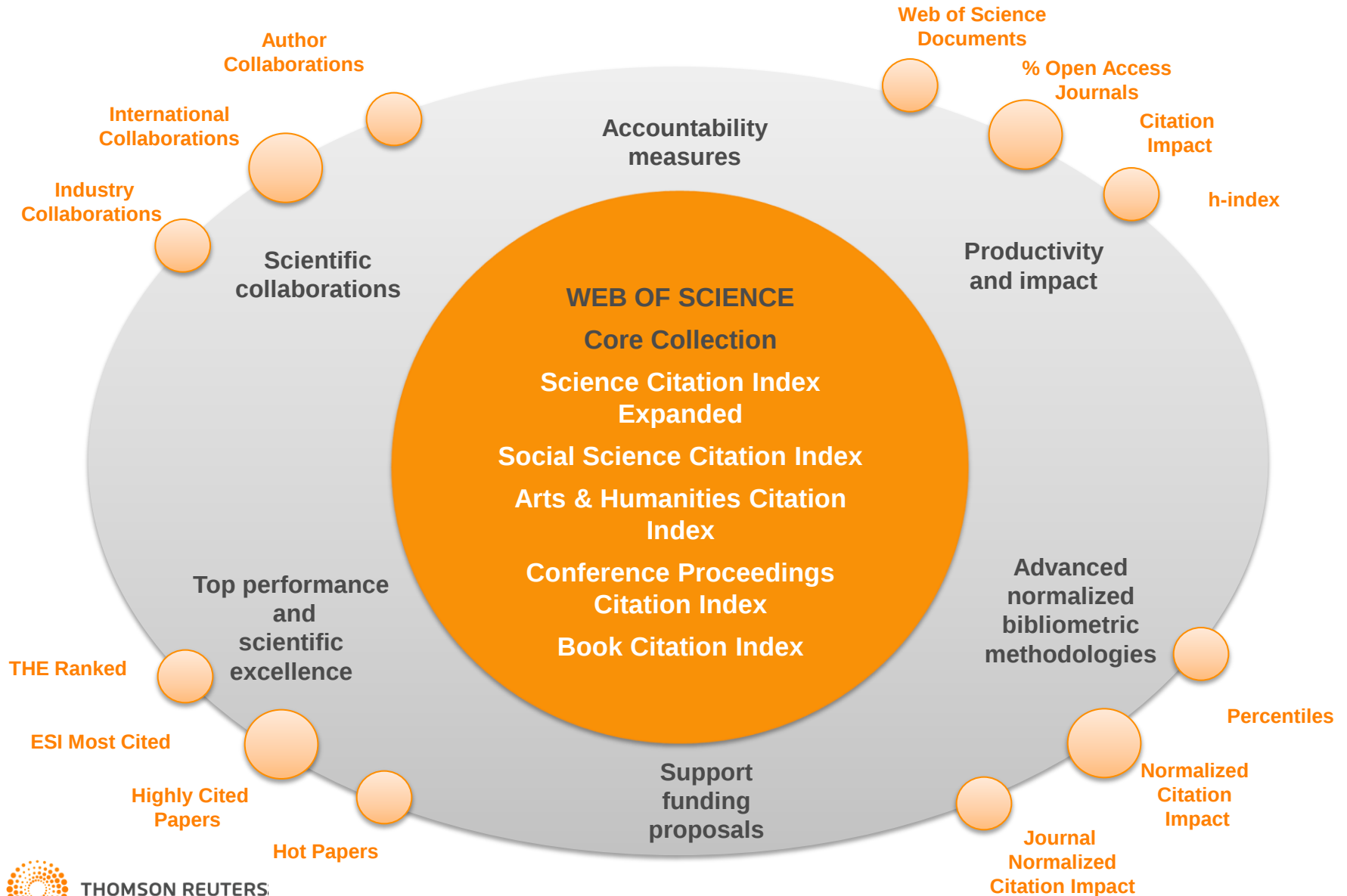
Citation Rates	RESEARCH FIELDS	2004	2005	2006	2007	2008	2009	2010	2011
ALL FIELDS		22.11	20.36	18.25	16.24	13.84	11.56	8.99	6.19
Percentiles	AGRICULTURAL SCIENCES	16.36	15.10	13.59	11.50	9.15	7.53	5.82	3.89
	BIOLOGY & BIOCHEMISTRY	32.36	29.35	26.10	22.72	19.59	16.52	12.50	8.51
	CHEMISTRY	21.33	20.49	18.57	16.56	15.31	12.93	10.62	7.65
	CLINICAL MEDICINE	25.88	24.13	21.34	18.01	15.23	12.64	9.60	6.53
Field Rankings	COMPUTER SCIENCE	7.08	6.60	5.98	8.25	7.14	6.18	4.59	3.05
	ECONOMICS & BUSINESS	17.14	15.58	13.38	10.79	8.27	6.62	4.76	2.92
	ENGINEERING	10.26	9.21	8.98	8.38	7.17	6.52	5.11	3.59
	ENVIRONMENT/EC OLOGY	25.92	24.23	21.03	18.45	15.69	12.50	9.74	6.74
	GEOSCIENCES	20.97	19.31	17.87	14.97	13.22	11.27	8.44	6.02
	IMMUNOLOGY	37.76	35.83	31.31	27.97	23.62	19.68	14.81	10.14
	MATERIALS SCIENCE	14.69	14.44	13.37	13.39	11.55	10.23	8.58	6.18
	MATHEMATICS	7.96	7.13	6.43	5.72	4.97	4.07	3.16	2.08
	MICROBIOLOGY	31.12	28.98	25.33	22.04	18.48	15.59	12.20	7.76
	MOLECULAR BIOLOGY & GENETICS	51.52	46.19	41.70	37.52	30.49	25.38	19.00	13.05
	MULTIDISCIPLINARY	72.04	67.16	63.29	54.36	45.43	40.98	32.37	19.41
	NEUROSCIENCE & BEHAVIOR	34.70	32.14	28.39	25.48	21.17	17.54	13.40	9.08
	PHARMACOLOGY & TOXICOLOGY	24.48	22.38	21.04	18.18	15.60	12.64	9.76	6.55
	PHYSICS	17.39	16.32	14.71	13.48	12.57	10.83	8.71	6.22
	PLANT & ANIMAL SCIENCE	17.31	15.63	14.12	11.90	10.10	8.48	6.57	4.43
	PSYCHIATRY/PSYCHOLOGY	26.78	23.82	20.66	17.85	14.51	11.28	8.44	5.44
	SOCIAL SCIENCES, GENERAL	14.19	13.06	11.57	9.73	7.53	5.97	4.45	2.85
	SPACE SCIENCE	26.39	26.01	25.29	22.73	18.99	17.84	14.53	10.64



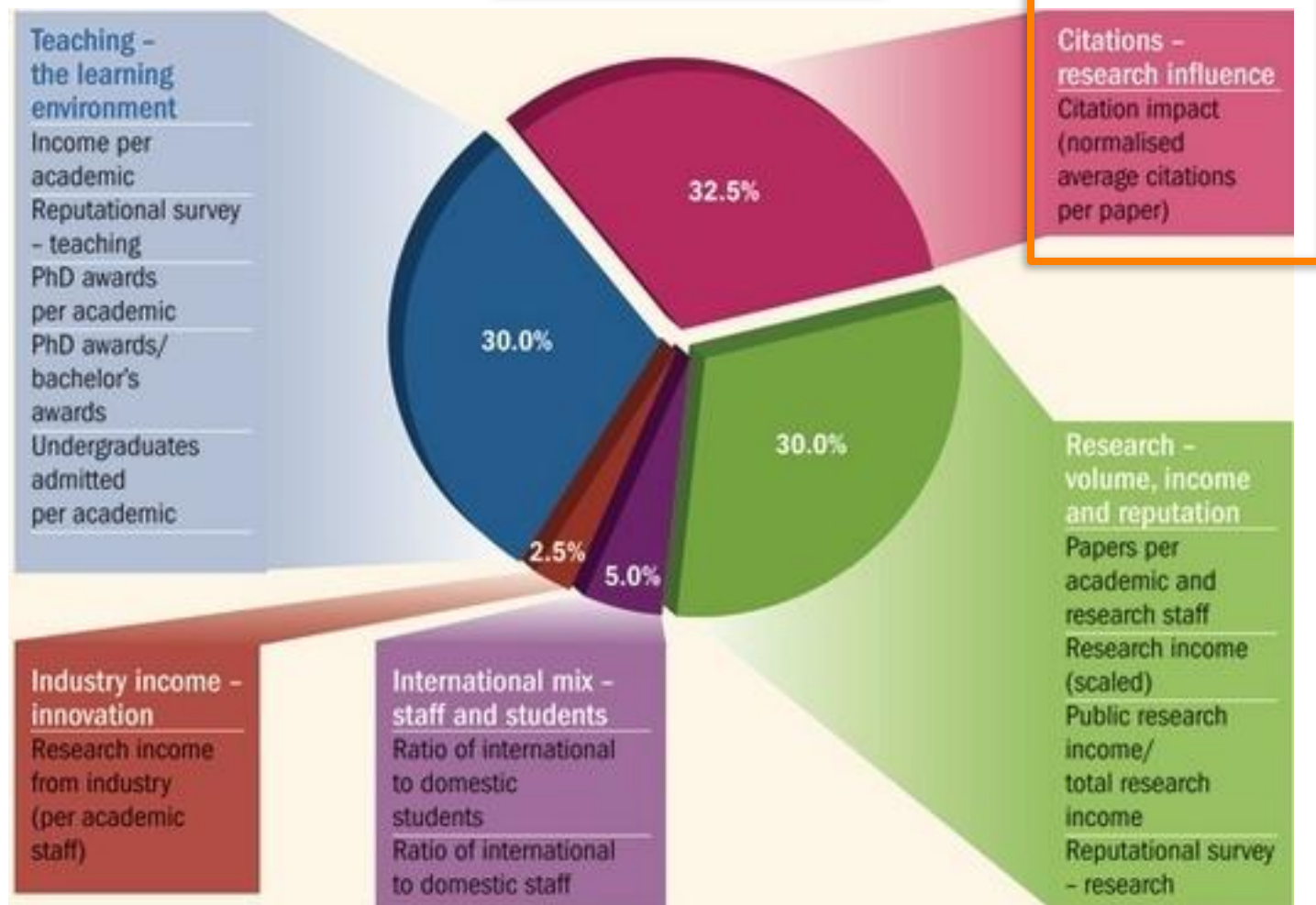
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WEB OF SCIENCE CORE COLLECTION

THE SOURCE OF ALL MAJOR EVALUATION EXERCISES



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The “SHANGHAI RANKING”



Indicators and Weights for ARWU

Criteria	Indicator	Code	Weight
Quality of Education	Alumni of an institution winning Nobel Prizes and Fields Medals	Alumni	10%
Quality of Faculty	Staff of an institution winning Nobel Prizes and Fields Medals	Award	20%
	Highly cited researchers in 21 broad subject categories	HiCi	20%
Research Output	Papers published in Nature and Science*	N&S	20%
	Papers indexed in Science Citation Index-expanded and Social Science Citation Index	PUB	20%
Per Capita Performance	Per capita academic performance of an institution	PCP	10%
Total			100%

Data collection

The CWTS Leiden Ranking 2013 is based on data from the Web of Science bibliographic database produced by Thomson Reuters. The ranking includes the 500 universities worldwide with the largest publication output in the Web of Science database. Although the ranking is limited to universities, it does include organizations directly related to universities, in particular hospitals associated with universities. Changes in the organizational structures of universities up to 2012 have been taken into account.

CWTS Leiden Ranking 2013

Select field and region/country

Field:

Region:

Country:

Select indicators

Type of indicators:

Indicator used for ranking:

Minimum number of publications:

Rank	University	Country	P	PP(top 10%)	Stability interval
1	Nankai Univ		3673	14.4%	
2	Hunan Univ		1969	14.3%	
3	Hong Kong Univ Sci & Technol		2797	13.5%	
4	Univ Sci & Technol China		4914	13.3%	
5	City Univ Hong Kong		3242	12.4%	



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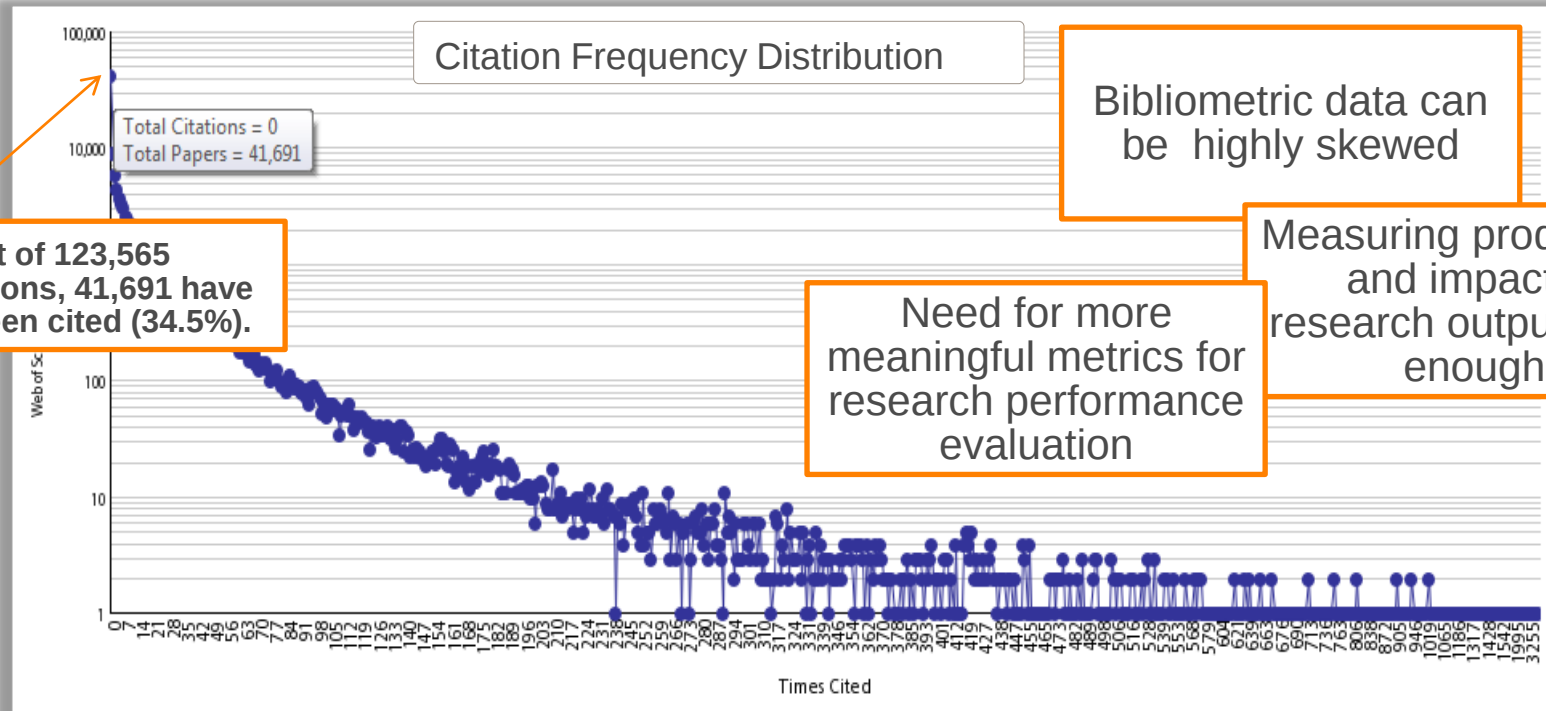
PART III:

BIBLIOMETRIC INDICATORS

% Documents Cited

The percentage of documents that have received at least one citation in a set of publications

% Documents Cited = 65.5%



Out of 123,565 publications, 41,691 have never been cited (34.5%).

Bibliometric data can be highly skewed

Need for more meaningful metrics for research performance evaluation

Measuring productivity and impact of research output is not enough

Citation Impact

The total number of citations divided by the total number of publications in a set

- Also known as 'Average Citation Rate' or 'Citations per Publication'

Example!	Total Publications	Total Citations	<i>Citation Impact</i>
Researcher A	1	50	50
Researcher B	10	200	20

Researcher A: *Citation Impact* = 50

Researcher B: *Citation Impact* = 20

Even though Researcher B has published more documents and received more citations overall.

Does not account for differences in the fields

h-index

A researcher has an *h-index*, if he/she has at least *h* publications for which he/she has received at least *h* citations

- Introduced by physicist J. Hirsch in 2005
- + combines productivity (number of documents) and impact (number of citations)
- + can be applied to any level of aggregation
- + encourages large amounts of impactful research work
- highly time-dependent measure
- ignores the researcher's age
- does not account for field differences

Example!	Total Publications	Total Citations	Citation Impact	<i>h-index</i>
Researcher A	1	50	50	1
Researcher B	10	200	20	10
Researcher C	10	200	20	5



Differences in average citation rates

Citation Impact can vary significantly across different disciplines and time periods.

Cannot be compared without some form of normalization to allow for the differences in fields and time

Web of Science® InCites™ Journal Citation Reports® Essential Science Indicators™ EndNote® evan

InCites™ Essential Science Indicators™

Indicators

Field Baselines

Field Baselines

Baselines are annualized expected citation rates for papers in a research field.

Citation Rates are yearly averages of citations per paper.

Citation Rates	RESEARCH FIELDS ▲	2004	2005	2006	2007
Percentiles	ALL FIELDS	22.11	20.36	18.25	16.24
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	MOLECULAR BIOLOGY & GENETICS	51.52	46.19	41.70	37.52
	SCIENCE	7.08	6.60	5.98	
	ECONOMICS & BUSINESS	17.14	15.58	13.38	10.79

Why Normalized Bibliometric Indicators?

**The average number of citations varies significantly across disciplines
(Field normalization)**

**The average citation maturity rate differs between fields
(Field, Time normalization)**

**Citations are dynamic; they grow over time and cannot be compared across different time periods
(Time normalization)**

**Different publication types have different citation behaviour
(Publication type normalization)**



Normalization at the Article Level

'How many citations should I expect from my papers?'

How do my papers perform in my field?'

'How do other researchers perform in my field?'

'How do my papers perform in the journals I publish?'

'How is my research perceived by the journals I publish in?'

'Knowing I am better than average is not enough. Where do my research papers stand in competition to other similar papers?'

The ratio of all citations over all publications in a given year, **journal** and publication type

Indicator of performance in the **field**:
If >1, performs higher than average
If <1, performs lower than average

Article Title	Authors	Source	Volume	Issue	Pages	Publication Date	Times Cited	Journal Expected Citations	Category Expected Citations	Journal Normalized Citation Impact	Normalized Citation Impact	Percentile in Subject Area	Journal Impact Factor
Human capital creation, accumulation and management in Lithuania: The case of national and foreign capital enterprises	GRUNDEY, DAINORA; VARNAS, DARIUS	TRANSFORMATIONS IN BUSINESS & ECONOMICS	5	3	81-105	2006	15	4.31	12.14	3.48	1.24	20.53	0.26

A class of advanced bibliometric indicators for quantitative research performance evaluation

The ratio of all citations over all publications in a given **journal**, year and publication type

Indicator of performance in the **journal**:
If >1, performs higher than average
If <1, performs lower than average

Percentile is a value above which a certain proportion of the observations fall

Percentiles allow the classification of publications into meaningful citation impact classes

The smaller the percentile number, the higher the number of citations



Normalization at the Author Level

Examples of how InCites users are applying the data

- Identify high-impact researchers in each department and use them as mentors for other faculty members.

Monitor research performance in the **field**:
If >1 , performs higher than average
If <1 , performs lower than average

Monitor research performance in the **journal**:
If >1 , performs higher than average
If <1 , performs lower than average

Example!	Total Publications	Total Citations	Citation Impact	h-index	NCI	JNCI
Researcher D	66	290	4.39	9	1.32	1.86
Researcher E	62	289	4.66	9	0.45	0.72

Differentiate between research output of same productivity and impact in terms of its performance in category and journal dataset and use information to enhance your research performance

Normalization at the Institutional/National Level

The ratio of the average citation rate of a set of documents divided by the world average citation rate, normalized for research field, publication year and publication type

- NCI compares “like with like”

Actual Number of Citations for an Article, in the field of Mathematics, published in 2004...
E.g. 15 citations

vs.

Expected Number of Citations for an Article, in the field of Mathematics, published in 2004...
E.g. 8 citations

USE: NCI is the ideal indicator for National and International University Rankings

NCI is **independent** of the **size** (high/low productivity) and **subject mix** (Sciences, Social Sciences, Arts& Humanities) that an institution/country is publishing in



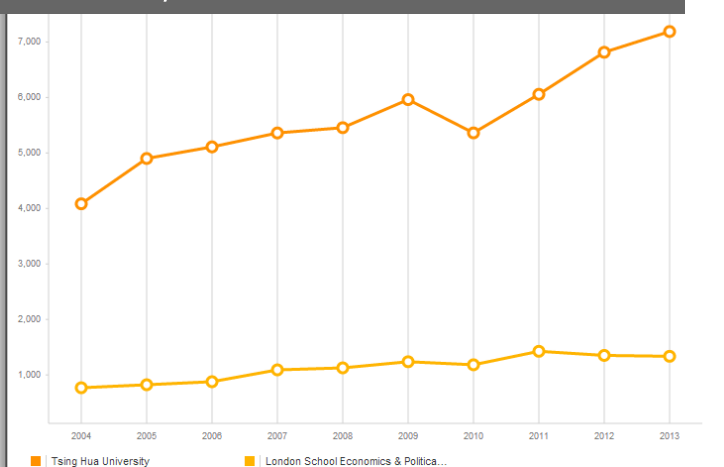
NCI allows comparisons between institutions of different *sizes* and different *subject mixes*

Normalized Citation Impact (NCI)

For example, lets try to compare LSE and Tsing-Hua University..

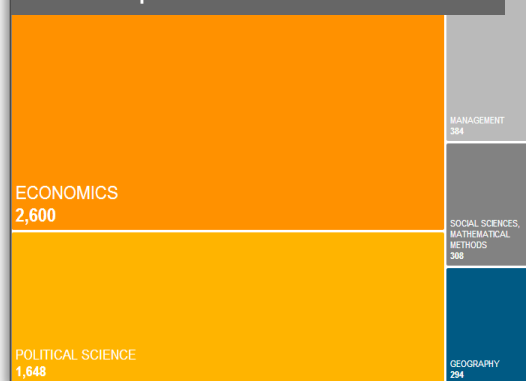
Different Publication Output

Productivity - # of WoS Documents

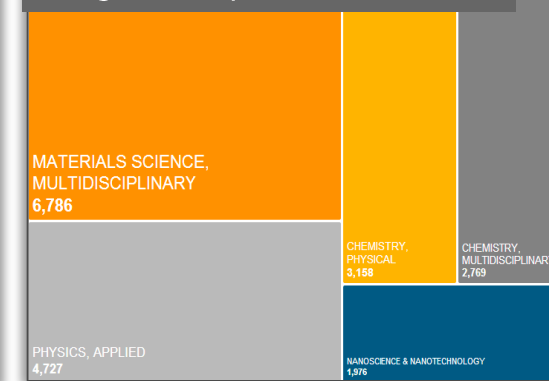


Different Research Areas

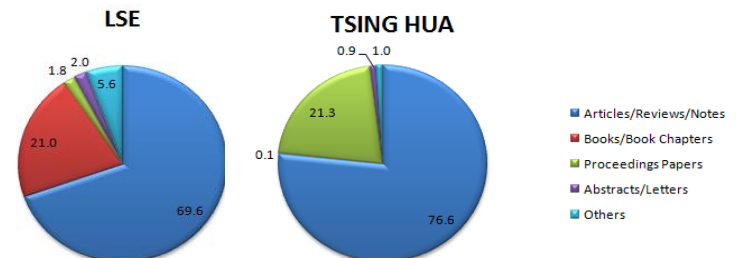
LSE - Top 5 WoS Areas



Tsing Hua - Top 5 WoS Areas



Different Publication Types



Normalized Citation Impact (NCI)

The **Normalized Citation Impact** indicator allows meaningful comparisons of institutions/countries in *different subject mix* and *different publication rates*

'How do my papers perform in my field?'
'How do other institutions perform in my field?'



World University Rankings 2013-2014

001 - 200	201 - 225	226 - 250	251 - 275	276 - 300	301 - 350	351 - 400
Rank ▲	Institution	Location	Overall score	change criteria		
32	London School of Economics and Political Science (LSE)	United Kingdom	69.8			
50	Tsinghua University	China	63.5			



Top Performance Indicators (ESI)

A class of selected indicators measuring scientific excellence and top performance which can be used to benchmark research performance against field baselines worldwide.

Level of Aggregation



	Citation Percentile	Data years examined
Highly Cited Papers	1%	10
Hot Papers	0.1%	2
Researchers	1%	10
Institutions	1%	10
Journals	50%	10
Countries	50%	10

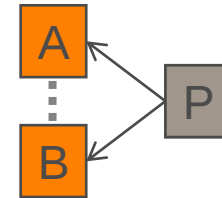


Co-Citation Analysis

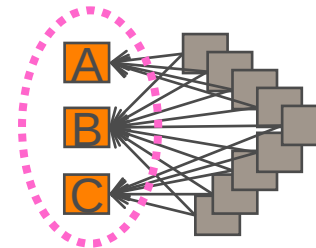
Co-Citation Analysis and Clustering: How Does It Work?

Counting the number of times that a given pair of documents (or authors or journals) are co-cited. The more papers that co-cite the pair, the stronger the relationship. This relationship is *dynamic* (new papers may be published which cite the pair) and *forward looking*.

1. When paper A and B are “co-cited” by paper P, A and B are likely to have topical similarity.



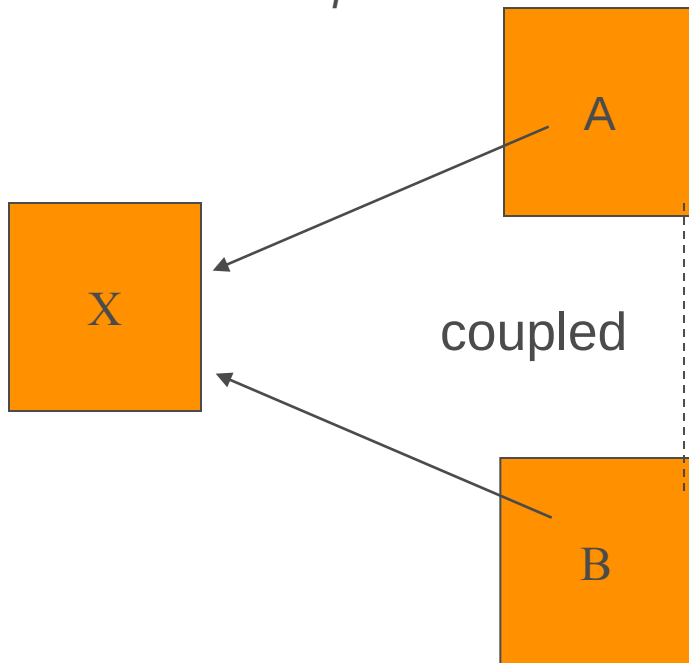
2. When co-citation is frequent, it forms a group of papers that are topically associated to one another.



Bibliographic Coupling

How it relates to but is different from Co-Citation?

- Counting the number of references that a given pair of documents have in common. The relationship between documents is stronger if they have more cited references in common. This relationship is *static over time and retrospective*.



Papers A and B are related because they both cite paper X

M. M. Kessler, "Bibliographic Coupling Between Scientific Papers," *American Documentation*, 14 (1): 10-25, 1963



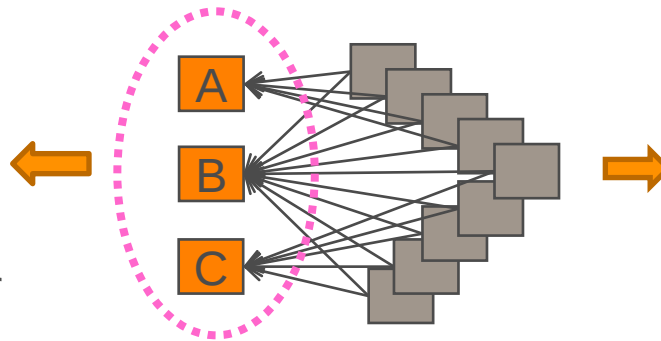
Research Fronts (ESI)

Clusters of papers belonging to the 1% most highly cited papers that are frequently cited together;

➡ A Research Front is formed.

Research Fronts consist of a group of highly cited Core Papers and a set of Citing Papers that frequently cite the Core Papers

A are highly
cited and
B influential
papers that
C have left a
mark in their
field



Co-citing papers
reveal the uptake of
data, techniques and
concepts revealed in
the Core Papers

Top Five Research Fronts in Space Science

	Research Fronts	Highly Cited Papers	Mean Year
1	YOUNGEST NEARBY TYPE IA SUPERNOVA PTF 11KLY (SN 2011FE);TYPE IA SUPERNOVA 2011FE;TYPE IA SUPERNOVA REMNANT SNR 05092-67;TYPE IA SUPERNOVA;NORMAL TYPE IA SUPERNOVAE	39	2011.7
2	SOLAR DYNAMICS OBSERVATORY (SDO);SOLAR OPTICAL TELESCOPE ONBOARD HINODE;SOLAR OPTICAL TELESCOPE;QUIET SOLAR CORONA;SOLAR CORONA	20	2010.7
2	SDSS-III DR9 BARYON OSCILLATION SPECTROSCOPIC SURVEY;SDSS-III BARYON OSCILLATION SPECTROSCOPIC SURVEY;BARYON OSCILLATION SPECTROSCOPIC SURVEY;SLOAN DIGITAL SKY SURVEY DATA RELEASE 7 GALAXY SAMPLE;DATA RELEASE 9 SPECTROSCOPIC GALAXY SAMPLE	20	2011.4
4	KEPLERS CANDIDATE MULTIPLE TRANSITING PLANET SYSTEMS;KEPLER PLANET CANDIDATES;KEPLER LONG CADENCE DATA;KEPLER SHORT CADENCE DATA;KEPLER INPUT CATALOG	19	2010.7
5	FERMI LARGE AREA TELESCOPE FIRST SOURCE CATALOG;FERMI LARGE AREA TELESCOPE SECOND SOURCE CATALOG;FIRST FERMI LARGE AREA TELESCOPE CATALOG;FERMI LARGE AREA TELESCOPE ALL-SKY SURVEY;FERMI LARGE AREA TELESCOPE	16	2010

Research fronts are
drivers of innovation
and scientific
discovery in their
fields

The name of the
Research Fronts
comes from a
summarization of the
titles of the citing
papers

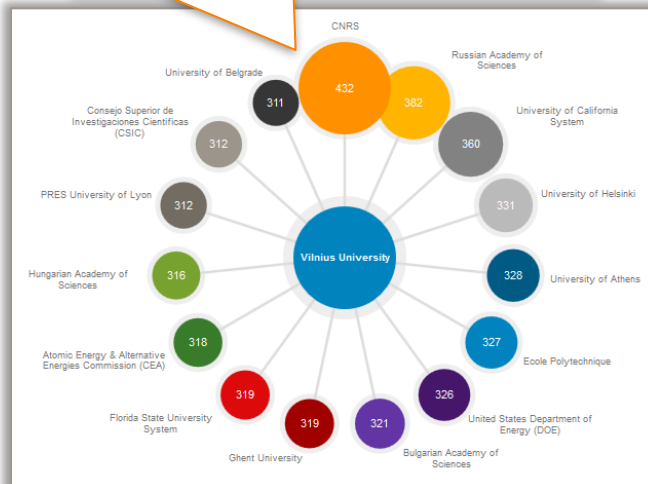
Scientific Collaborations

The number of documents that has been found with at least two different countries in the affiliations of the co-authors, in a set of documents.

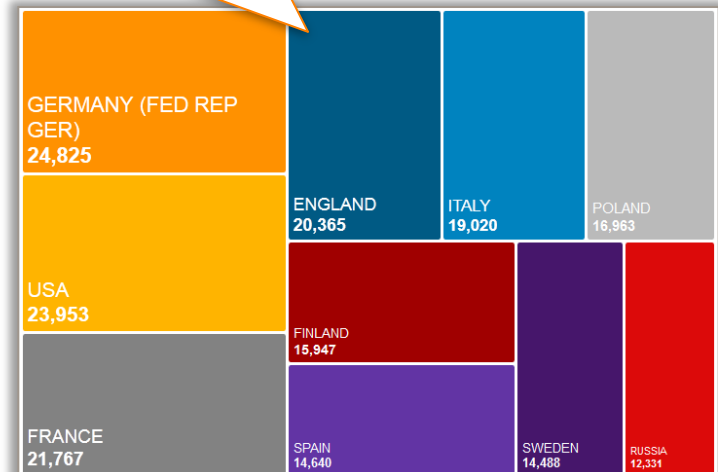
International collaboration has intensified and is often regarded as an indicator of quality and a way to develop and disseminate scientific knowledge

Funding agencies such as EU, stimulate collaboration by applying it as a funding criterion

Which are the top international collaborations of Vilnius University in terms of productivity (publications)?



With which countries Lithuania produces the most impactful collaborations (citations)?





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PART IV:

INCITES NEXT GENERATION

InCites Next Generation

Benchmark

Analyze

Collaborate

Evaluate



User friendly and interoperable platform combining all TR analytic products



Create research entities at all levels
(author, research group, institution, country, field, publication output)



Select from a wide range of advanced bibliometric indicators and baselines



Apply flexible analysis with multiple filters



Analyze big datasets instantly
(Create customized datasets in WoS and export them to InCites for analysis, coming soon)



Produce enhanced visualizations, user friendly reports and comprehensive tables



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InCites Data Overview

Source Edition: Web of Science Core Collection Data

- SCIE, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH

Citing Edition:

- ALL

Document Types:

- ALL (Articles, Reviews, Letters, Editorials, Conference Proceedings, Books, Book Chapters, etc)

Organizations:

- 4,600 unified organizations

Regions:

- 220 Countries

Subject Schemas:

- 11 Discipline Schemas (including WoS & ESI categories and regional schemas)

Publication Types:

- 98,000+ Publication types from Web of Science Core Collection

Time Period:

- 1 Year, Cumulative

Data and Benchmarks:

- Will be updated bimonthly

Source and Citing Years:

- 2004-2013 (30 years of historic data coming soon)

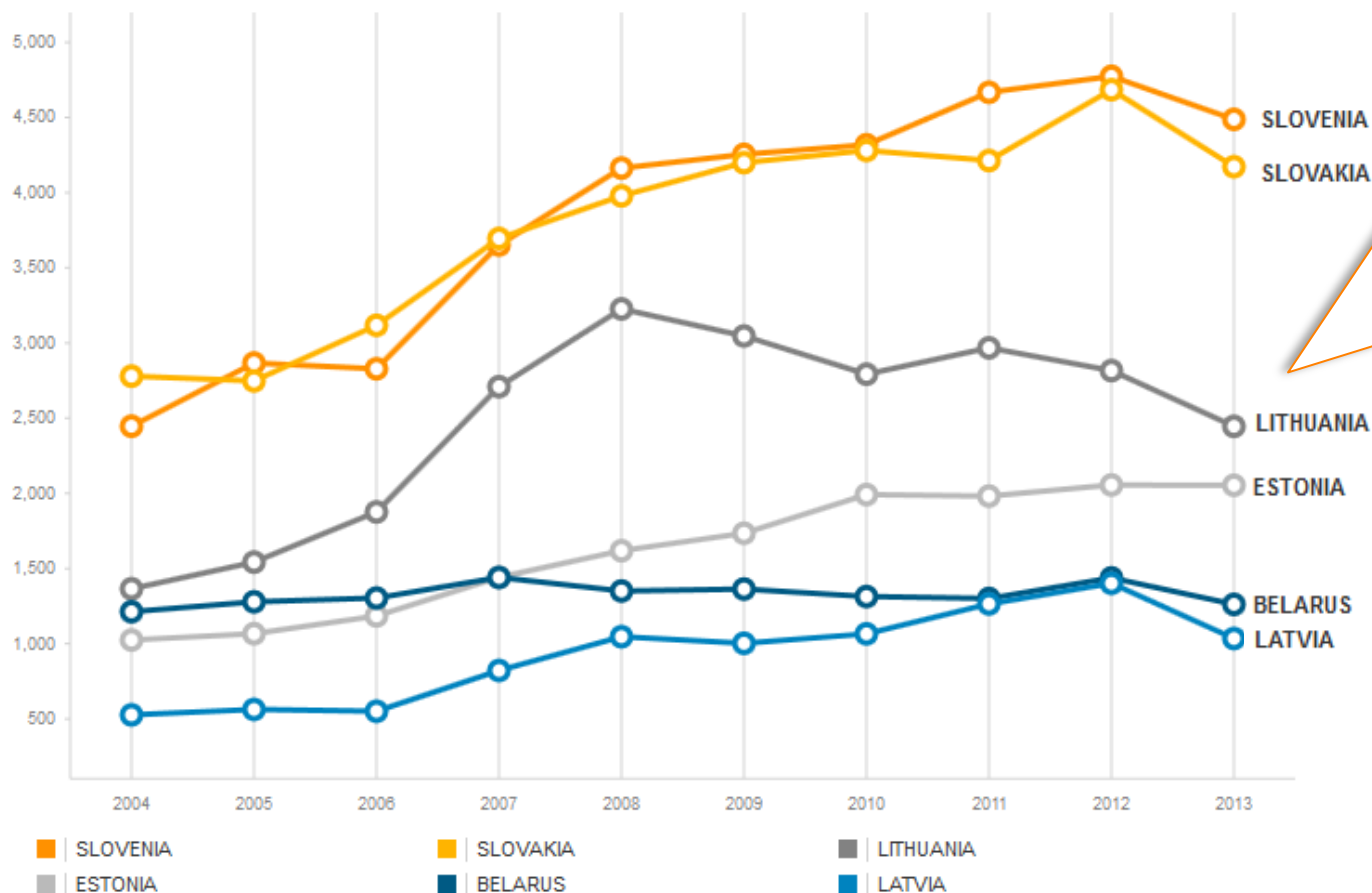


INCITES

Live Demonstration



Country Comparisons - Productivity



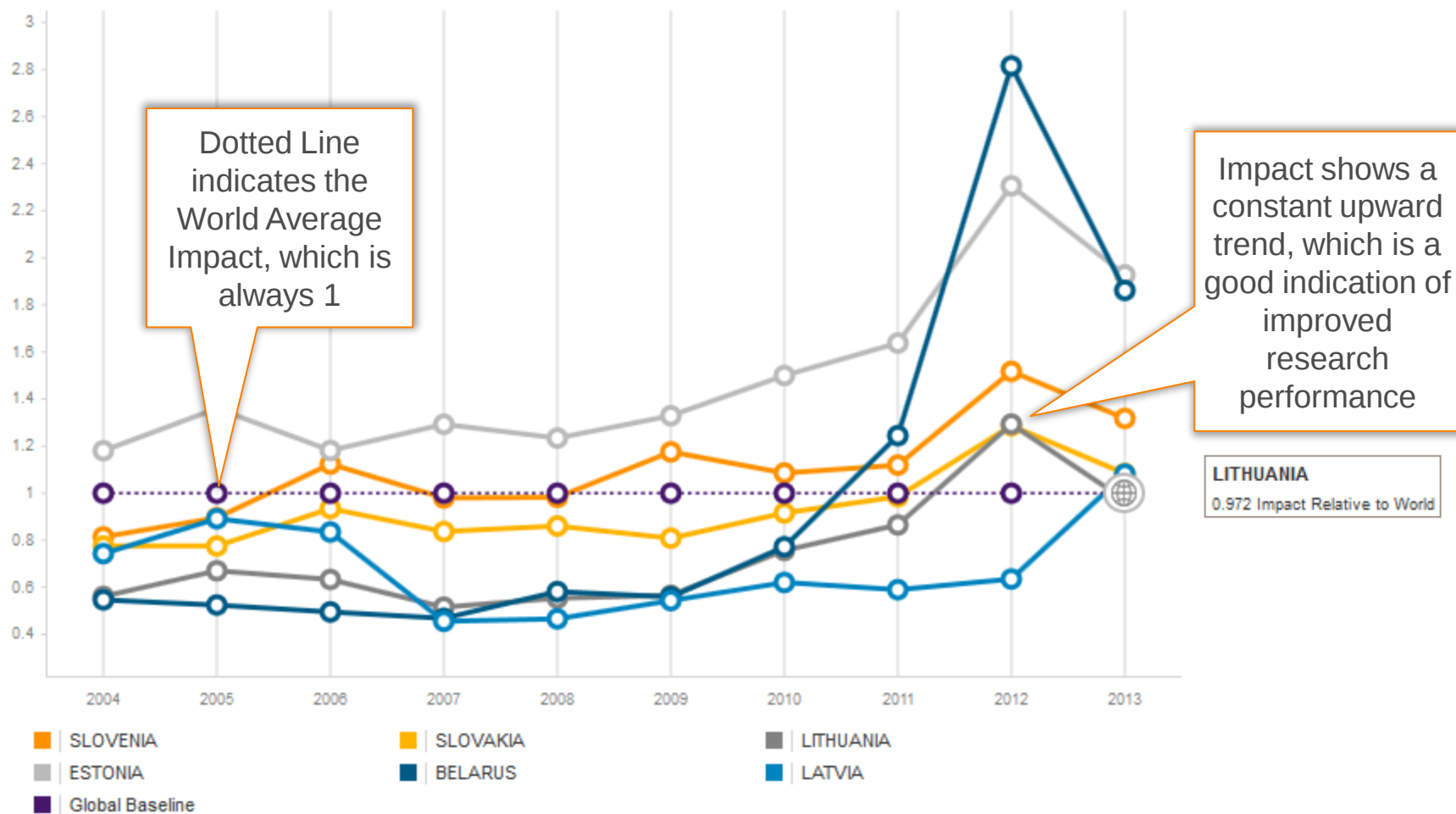
Need to consider the publication practices and fields of research;

Do we follow a dominant “quantitative publication” strategy or are we more selective in what and where we publish?

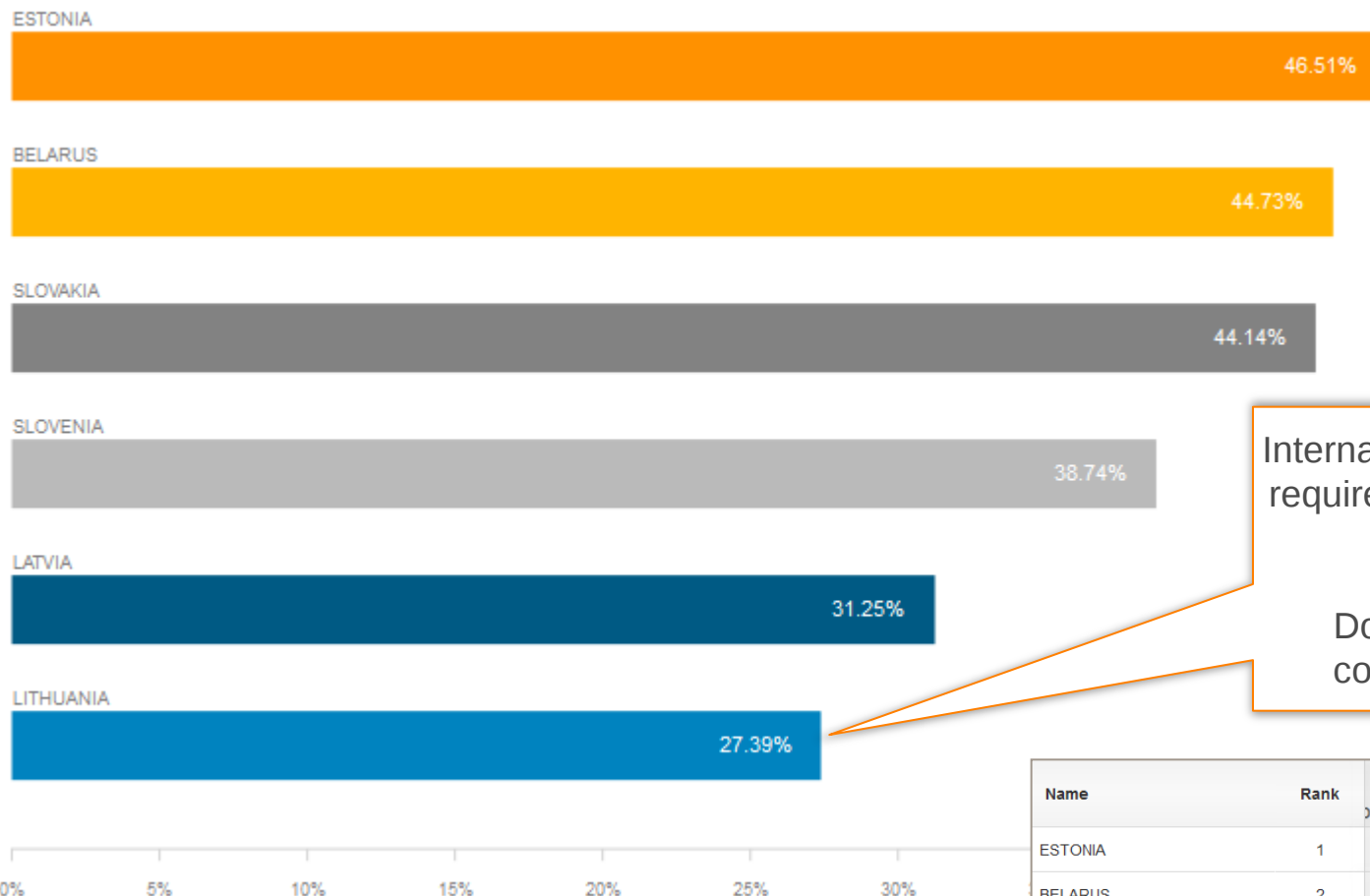
Get access to the underlying data down to article level at any time

Name	Rank	▼ Web of Science Documents	Times Cited	% Docs Cited
SLOVENIA	1	38,463	253,530	60%
SLOVAKIA	2	37,874	216,396	57%
LITHUANIA	3	24,794	103,419	51%
ESTONIA	4	16,157	136,620	62%
BELARUS	5	13,267	61,588	50%
LATVIA	6	9,281	36,084	39%

Country Comparisons - Impact Relative to World



Country Comparisons – International Collaborations



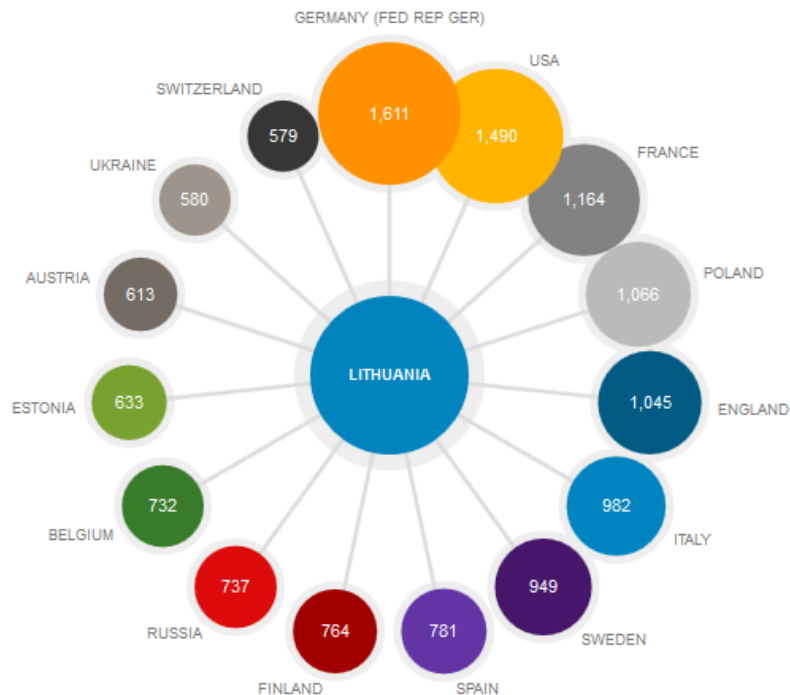
International collaborations are considered to be drivers of impact (citations)

International collaborations require considerable effort and funding.

Does international collaboration pay?

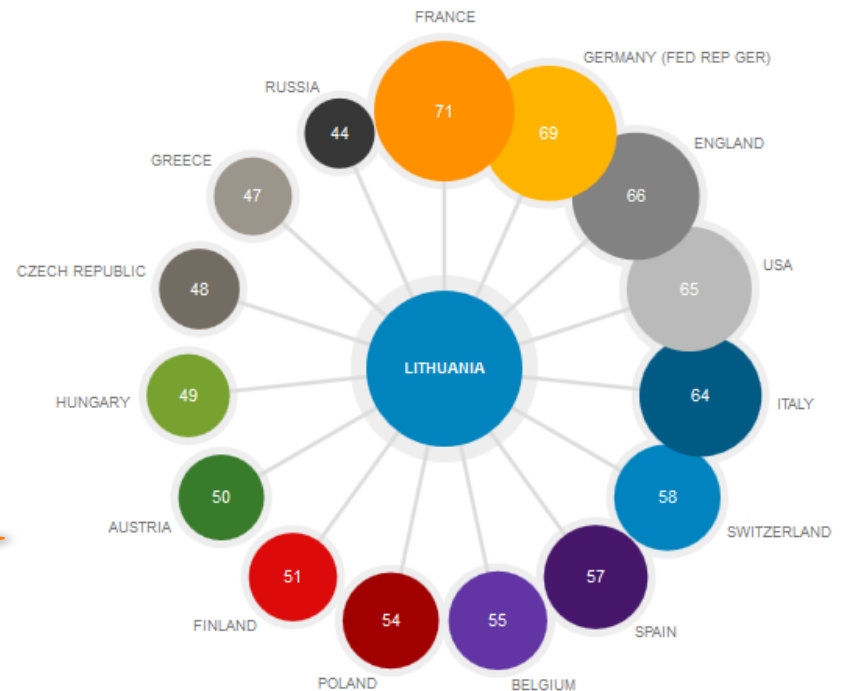
Name	Rank	Web of Science Documents	Times Cited	International Collaborations	▼ % International Collaborations
ESTONIA	1	16,157	136,620	7,515	46.51%
BELARUS	2	13,267	61,588	5,934	44.73%
SLOVAKIA	3	37,874	216,396	16,719	44.14%
SLOVENIA	4	38,463	253,530	14,900	38.74%
LATVIA	5	9,281	36,084	2,900	31.25%
LITHUANIA	6	24,794	103,419	6,791	27.39%

International Collaborations - Countries

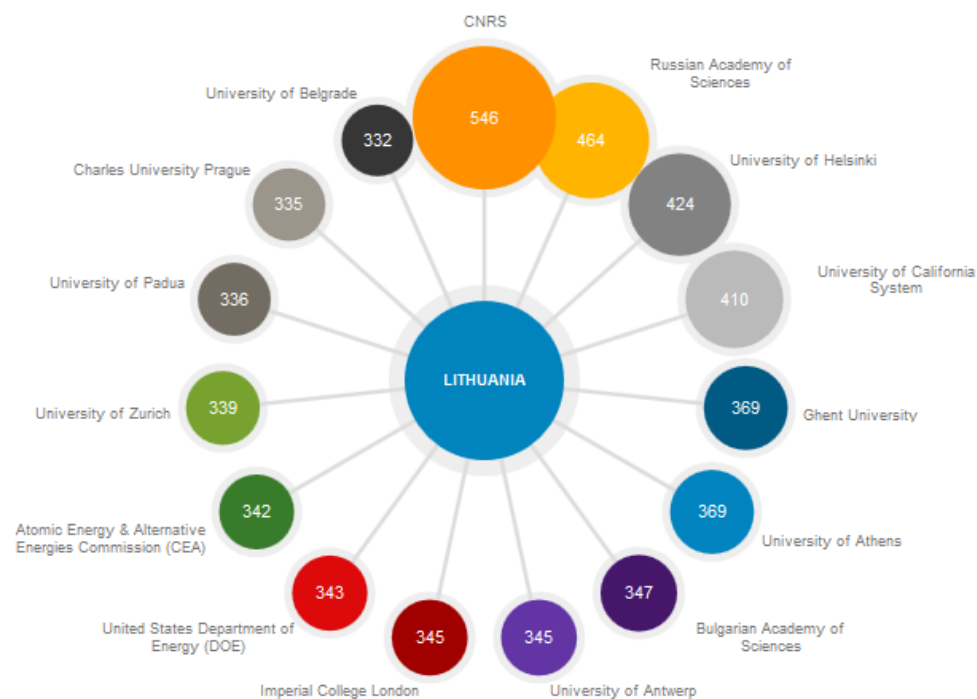


With which countries Lithuania has produced most collaborations (#of documents)?

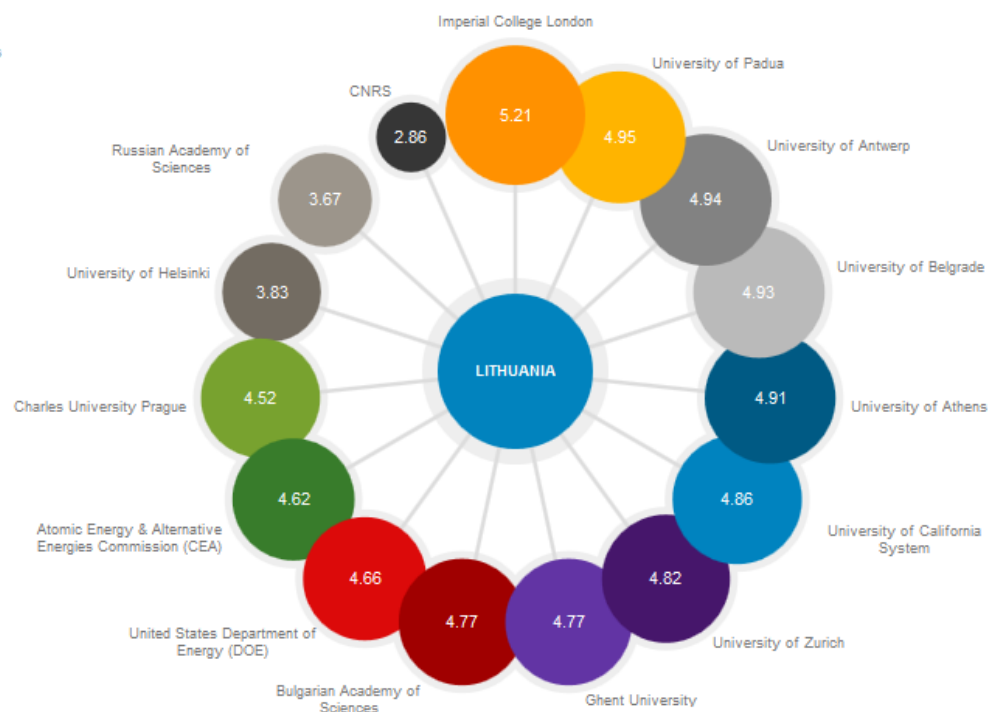
With which countries Lithuania has produced most Highly Cited Papers?



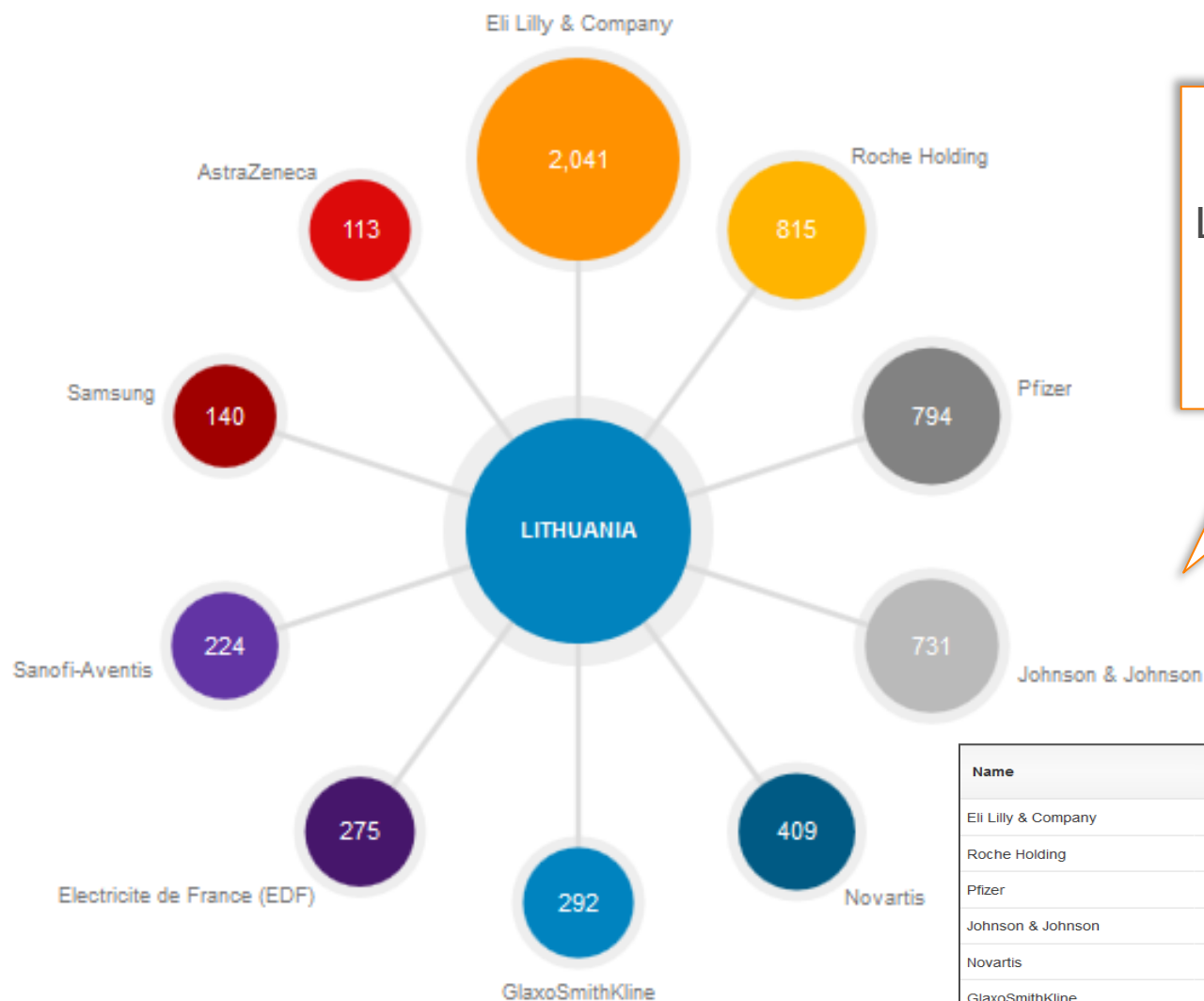
International Collaborations - Institutions



Which are the top 15 institutions that Lithuania produced the best performing collaborations (NCI)?



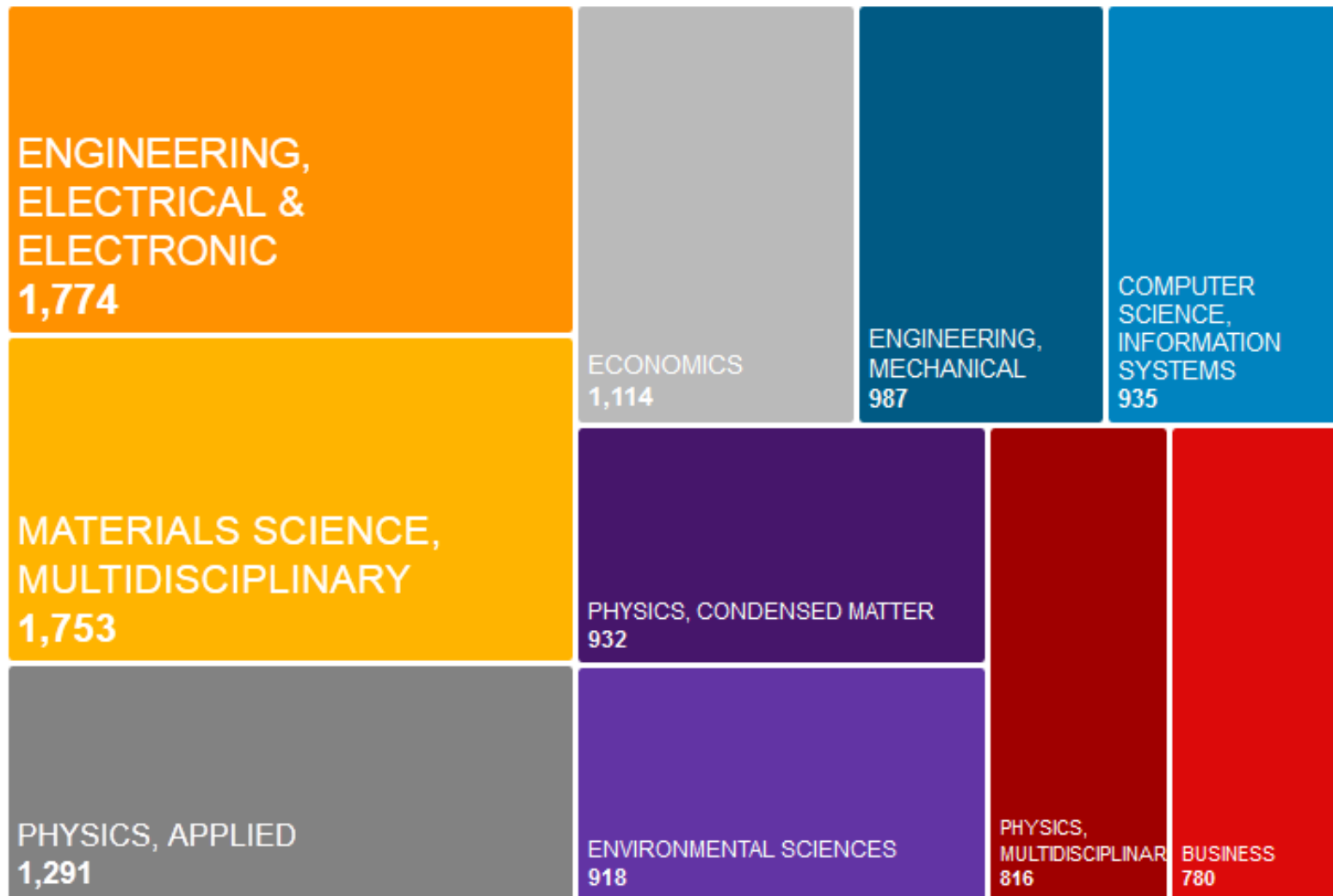
Industry Collaborations – Impact of publications



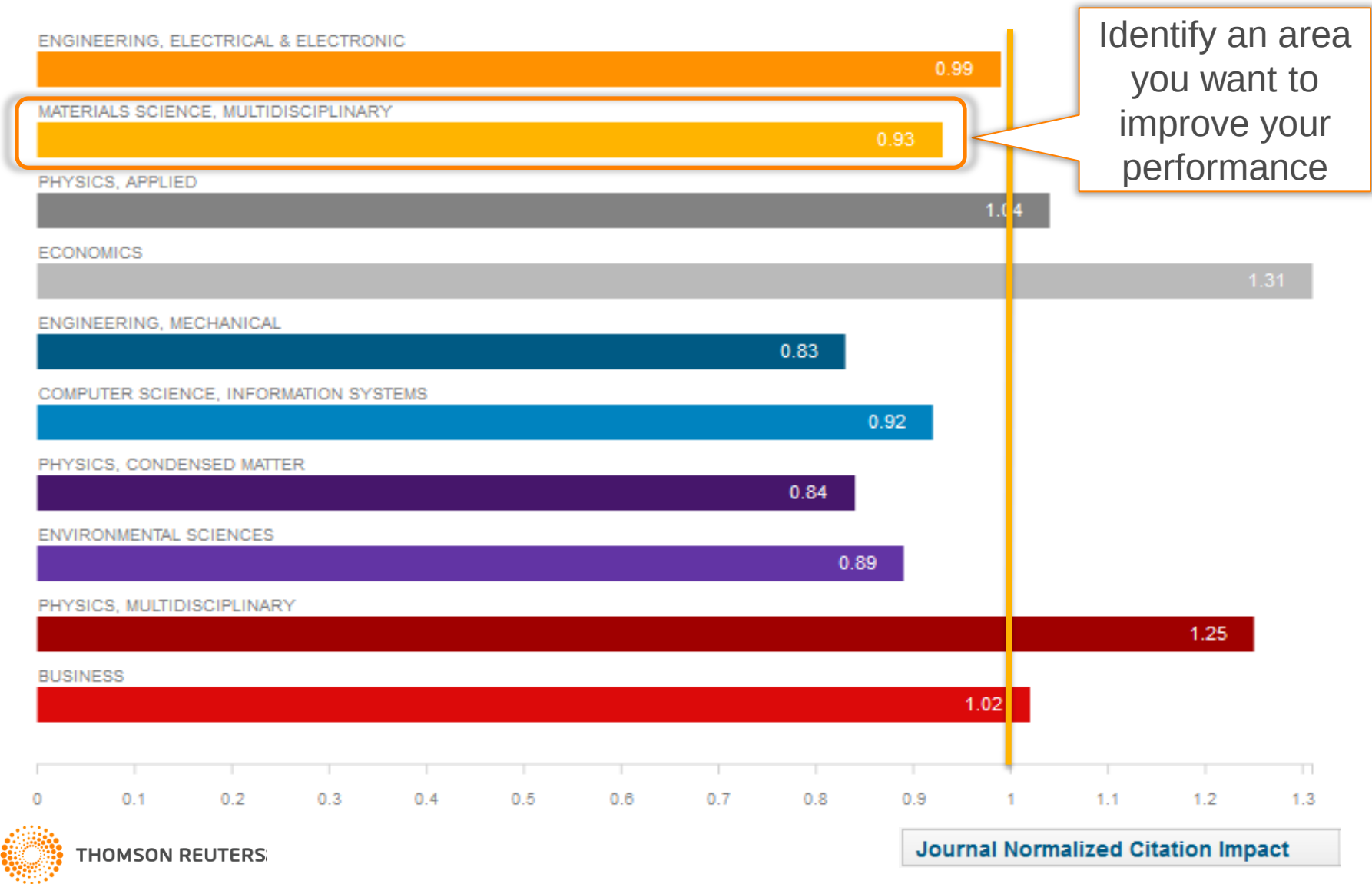
How impactful are Lithuanian publications in collaboration with the industry?

Name	Rank	Web of Science Documents	Times Cited	Normalized Citation Impact	Journal Normalized Citation
Eli Lilly & Company	1	11	2,041	8.05	1.83
Roche Holding	2	15	815	6.76	1.33
Pfizer	3	11	794	10.65	5.46
Johnson & Johnson	4	19	731	2.7	0.76
Novartis	5	20	409	2.1	1.49
GlaxoSmithKline	6	18	292	5.14	2.86
Electricite de France (EDF)	7	2	275	8.36	9.05
Sanofi-Aventis	8	6	224	3.35	2.14
Samsung	9	12	140	0.72	1.54

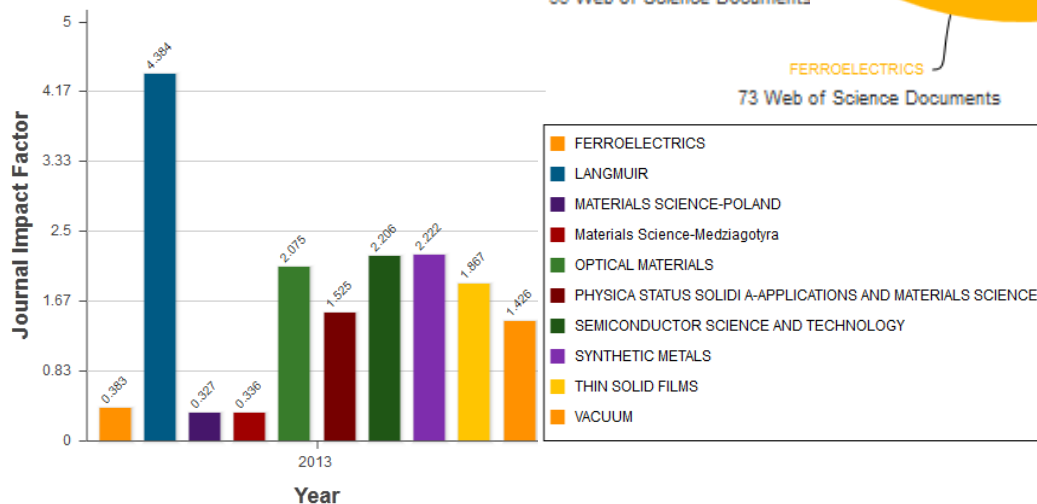
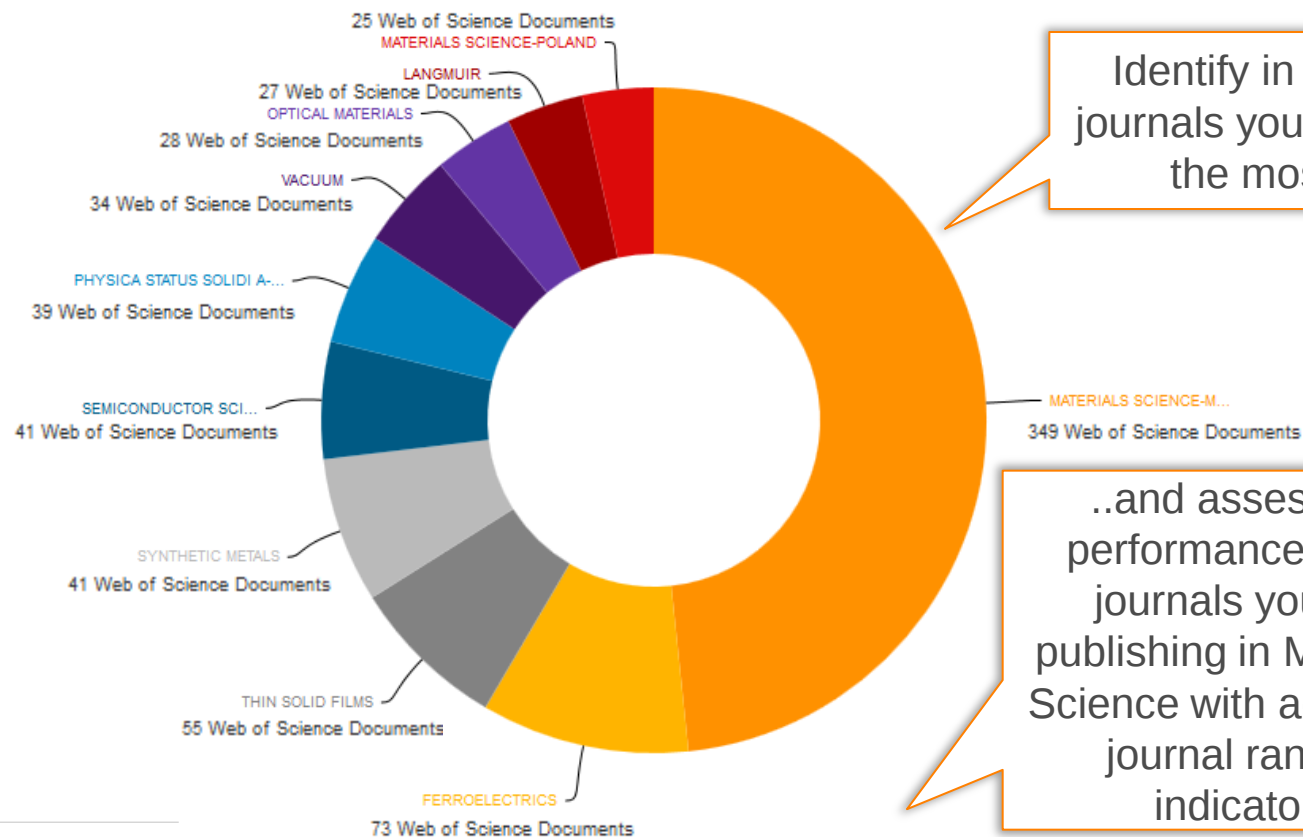
Which disciplines are Lithuanian researchers more active?



Assess your journal strategy in all disciplines with journal ranking indicators

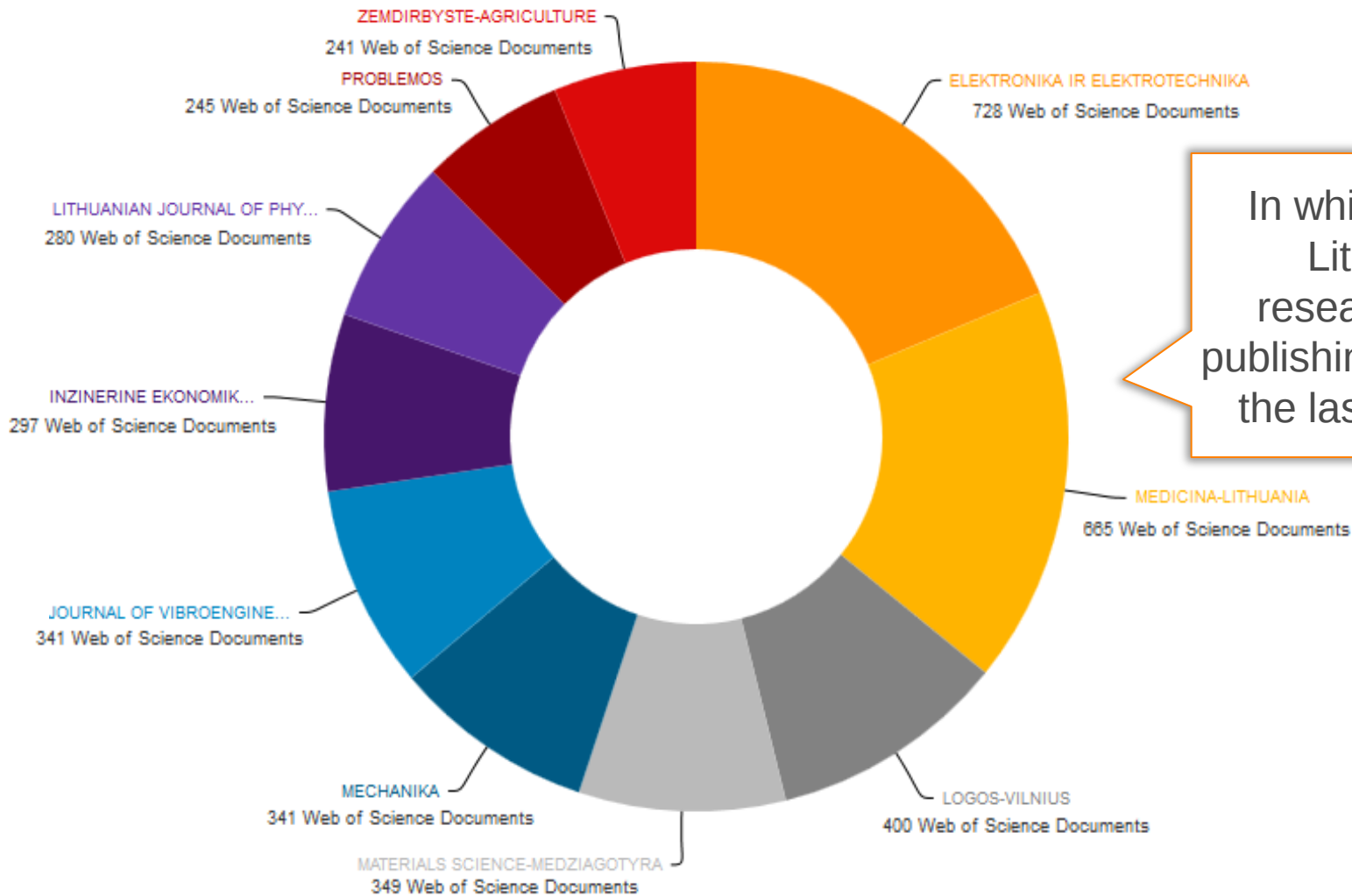


Form your publication strategy in Materials Science



Journal	JIF Quartile
FERROELECTRICS	Q4
LANGMUIR	Q1
MATERIALS SCIENCE-POLAND	Q4
Materials Science-Medziagotyra	Q4
OPTICAL MATERIALS	Q2
PHYSICA STATUS SOLIDI A-APPLICATIONS AND MATERIALS SCIENCE	Q2
SEMICONDUCTOR SCIENCE AND TECHNOLOGY	Q2
SYNTHETIC METALS	Q1
THIN SOLID FILMS	Q2
VACUUM	Q2

In which journals Lithuanian Researcher are publishing the most?



In which journals
Lithuanian
researchers are
publishing the most in
the last 10 years?



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Scott M. J. Matheson, PH.D.
Researcher ▼

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Dashboard
Data last updated 9/26/2013

Notifications

- A Tubular Goodbye for Fluorescent Light Bulbs**
If you've worked in an office, you're probably familiar with the soft glow of fluorescent tubes drifting from the ceiling. If Europ...
The New York Times, Sep 26, 2013
- Collegiate Ingenuity: MIT Graduates Are Hitting The Ground and Running**
consectetur adipisicing elit, sed do eiusmod tempor incididunt u...
Popular Mechanics, Sep 26, 2013
- Can Nickles Save The World?**
Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eu fugiat nulla pariatur. Excepteur sint occaecat c...
Article Source, Sep 26, 2013

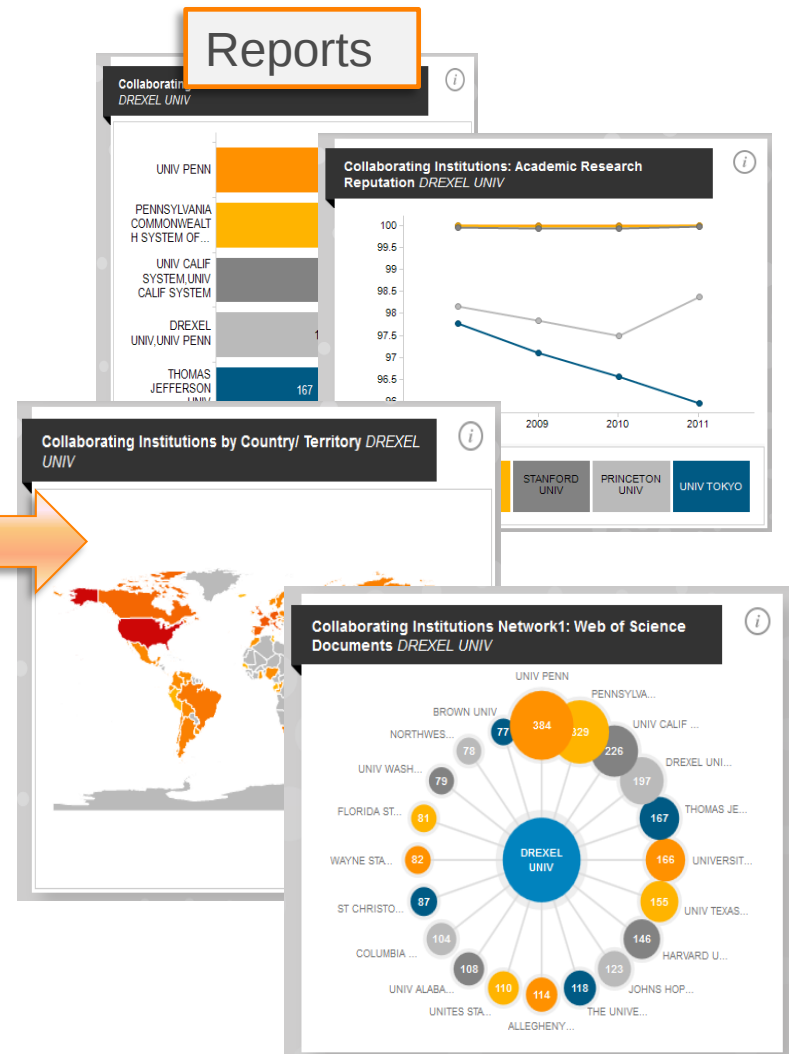
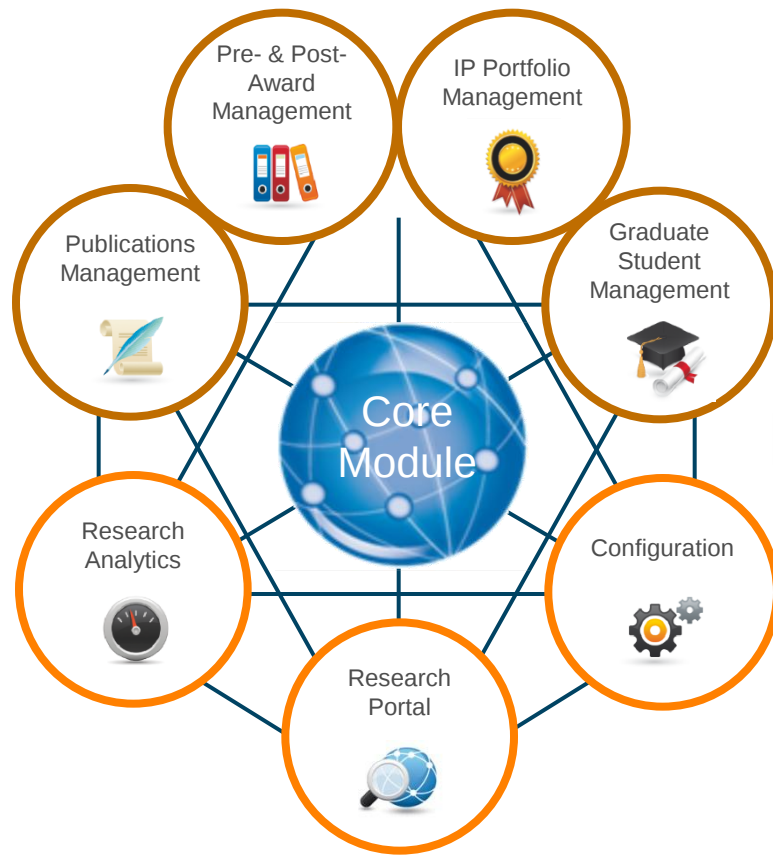
[View All News Articles](#)

Things to do

- Publications for completion 366
- Further information for application 380
- Patents for completion 440
- Projects for completion 480
- Ethic reviews for completion 452

A full research management information system with unique bibliometric analysis capabilities

CONVERIS INFORMATION AND WORKFLOW MANAGEMENT





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A decorative graphic of orange dots of varying sizes is scattered across the slide. A prominent path of dots curves from the bottom left towards the center, while other dots are more sparsely distributed in the upper right and middle sections.

PART IV: DISCUSSION

THANK YOU!



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