

BIBLIOMETRICS: a publications analysis tool

**3rd International Workshop on Bibliometric-enhanced
Information Retrieval (BIR2016)**

20 March 2016, Padua - Italy

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Francesc March Mir

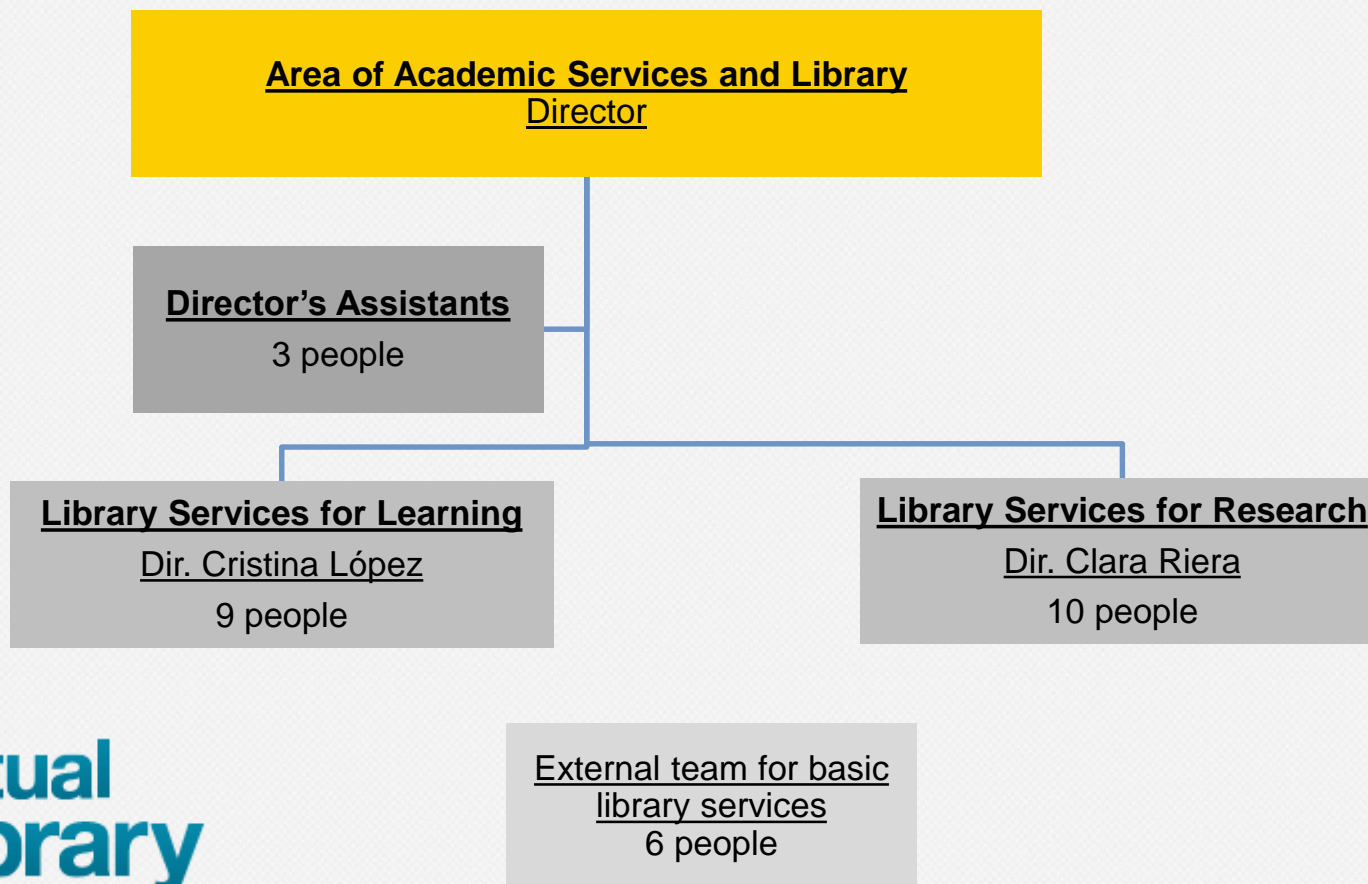
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1. Context
2. Project
3. BIBLIOMETRICS
4. Future goals

1. Context



Virtual Library

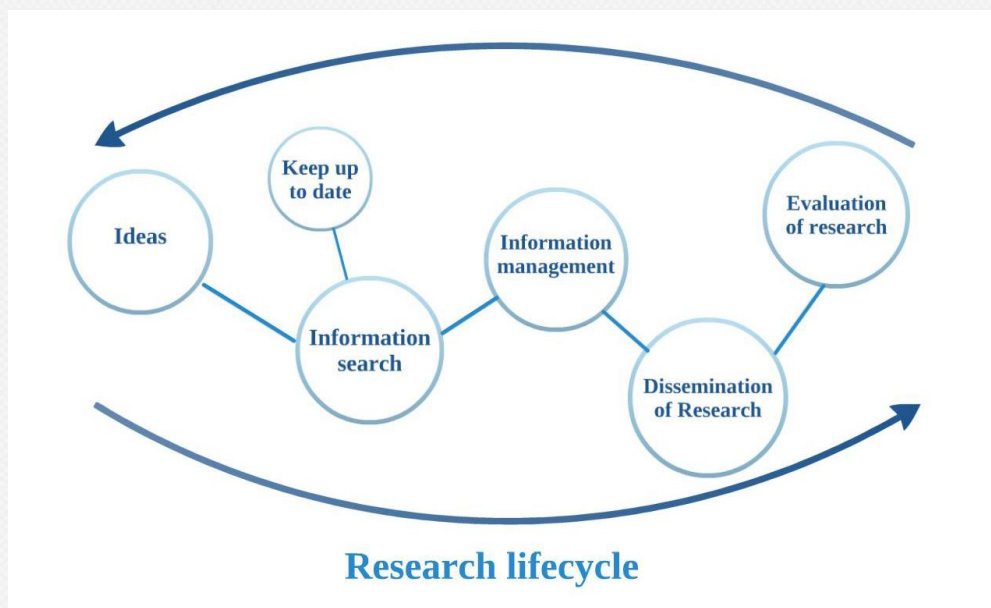


virtual
library



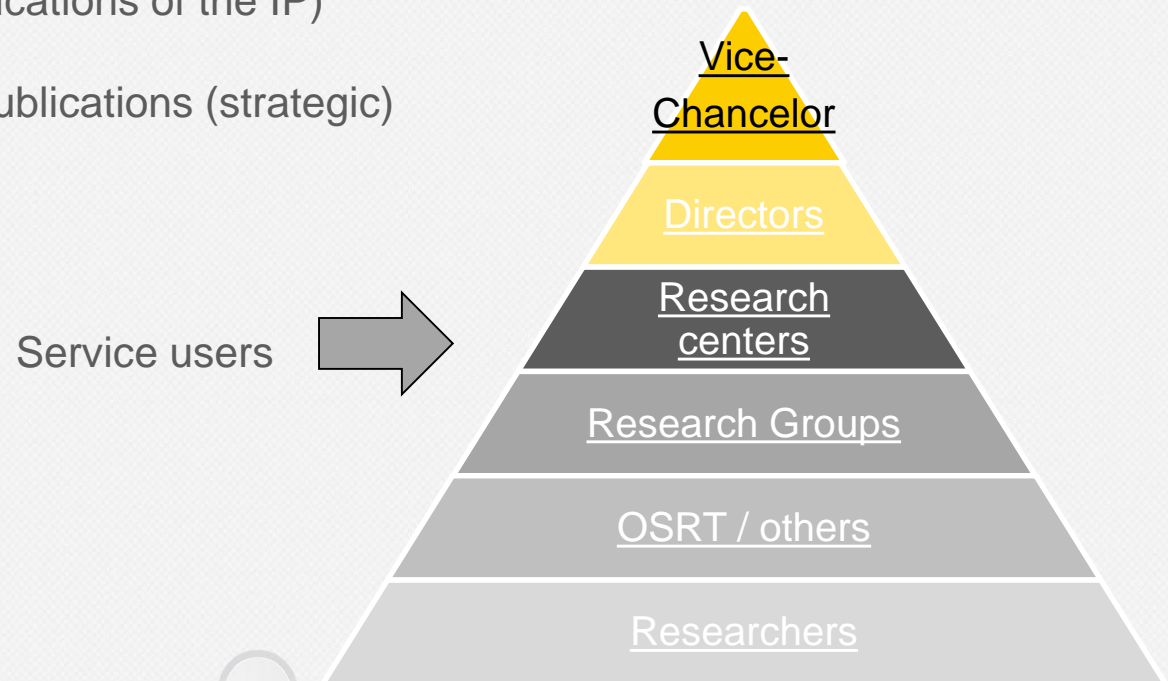
Library Services for Research

- Bibliographic services
- Bibliometric services
- Standardization of author's names
- Support service for accreditation calls
- Open-access publication of Theses
- CRIS data validation
- Predoctoral fellow training
- Editorial policies and Open Access
- UOC's academic journals management
- Research Data Services



Bibliometric services

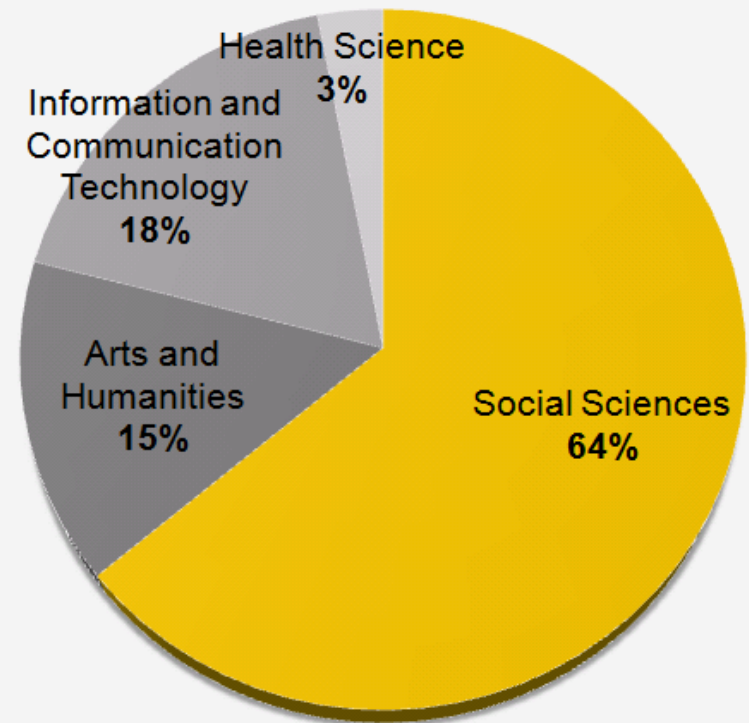
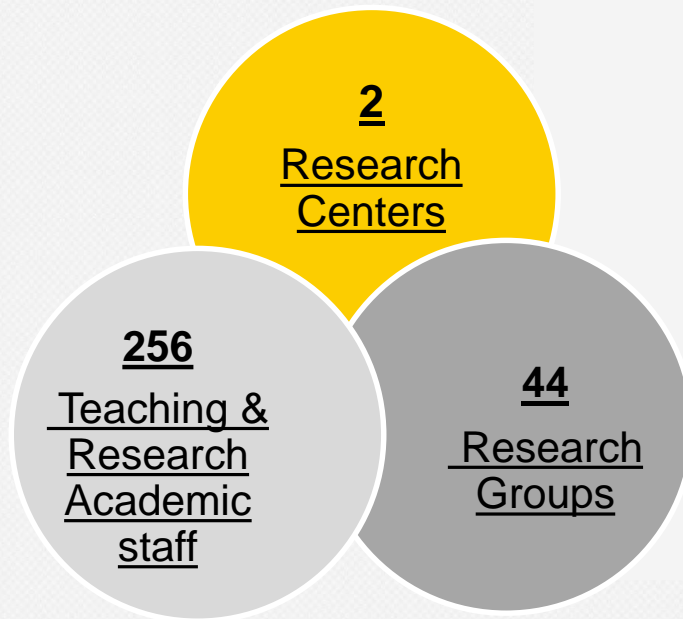
- Evaluation of scientific publications, at individual, research group, department, knowledge area or institutional level
- Support research accreditation activity of Teaching Staff
- Calls for project proposals (publications of the IP)
- Dissemination of the scientific publications (strategic)
- External reports







UOC Research Areas

Focus on:

- Education and ICT (e-learning)
- Information and Knowledge Society



Bibliometric indicators by areas

ACADEMIC DISCIPLINE	FIELD OF STUDY	BIBLIOMETRIC INDEXES
HUMANITIES	LANGUAGE AND LITERATURE	
	HISTORY AND ART	
SOCIAL SCIENCES	COMMUNICATION AND INFORMATION SCIENCES	
	LAW	
	ECONOMICS AND BUSINESS STUDIES	
	EDUCATION	
	SOCIOLOGY AND POLITICAL SCIENCE	
	PSYCHOLOGY	
HEALTH SCIENCES		
ENGINEERING & ARCHITECTURE	INFORMATION AND COMMUNICATION TECHNOLOGIES	

Bibliometric information sources: journal

MIAR ANNUAL VERSIONS

ICDS 2015: 9.862

ICDS 2014: 9.842

ICDS 2013: 9.822

ICDS 2012: 9.801

EDICIÓ 2014

CARHUS Plus

ISSN	TÍTOL	VALORACIÓ	ÀMBIT
0148-2076	19TH CENTURY MUSIC	A	ARTS
0743-4618	AAC: AUGMENTATIVE & ALTERNATIVE COMMUNICATION	A	COMUNICACIÓ I INFORMACIÓ
1941-6520	ACADEMY OF MANAGEMENT ANNALS	A	ECONOMIA
0001-4273	ACADEMY OF MANAGEMENT JOURNAL	A	ECONOMIA
1537-260X	ACADEMY OF MANAGEMENT LEARNING & EDUCATION	A	EDUCACIÓ

RUSC Universities and Knowledge Society Journal

Country: Spain

Subject Area: Social Sciences

Subject Category:

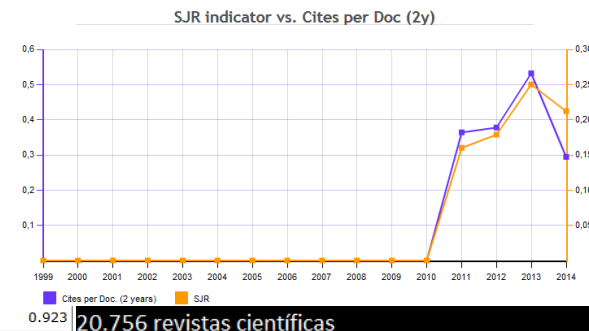
Category	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Education														04	04	03

Publisher: Fundacio per la Universitat Oberta de Catalunya. Publication type: Journals. ISSN: 1698580X

Coverage: 2010-2014

H Index: 5

Mark	Rank	Abbreviated Journal Title (linked to journal information)	ISSN	JCR Data					Eigenfactor® Metric		
				Total Cites	Impact Factor	5-Year Impact Factor	Immediacy Index	Articles	Cited Half-life	Eigenfactor® Score	Article In Sc
	1	J INF TECHNOL	0268-3962	1386	4.525	5.348	0.526	19	6.7	0.00387	
	2	J STRATEGIC INF SYST	0963-8687	1045	2.692	3.388	1.278	18	8.9	0.00114	
	3	INFORM SYST RES	1047-7047	4404	2.436	3.756	0.383	47	>10.0	0.00662	
	4	GOV INFORM Q	0740-624X	1162	2.321	2.453	0.095	74	4.9	0.00210	
	5	EUR J INFORM SYST	0960-085X	1545	2.213	2.445	0.514	37	7.5	0.00209	
	6	J MANAGE INFORM SYST	0742-1222	3258	2.062	3.071	0.767	30	>10.0	0.00302	
	7	INFORM MANAGE-AMSTER	0378-7206	3661	1.865	3.105	0.172	87	9.0	0.00280	
	8	J AM SOC INF SCI TEC	1532-2882	5434	1.846	2.302		0	7.4	0.01034	
	9	J ASSOC INF SYST	1536-9323	1119	1.774	2.684	0.382	34	6.9	0.00256	
	10	INFORM SYST J	1350-1917	923	1.766	2.566	1.250	20	7.5	0.00166	



ERIH

The Euri Science Data Services (NSD) to transfer the maintenance and operations of the European Reference Index for the Humanities (ERIH) to NSD. The ERIH database operated by NSD is called ERIH PLUS.

Search

Title or ISSN: RUSC

Show disciplines

Search

Search hits

The search returned 1 hits.

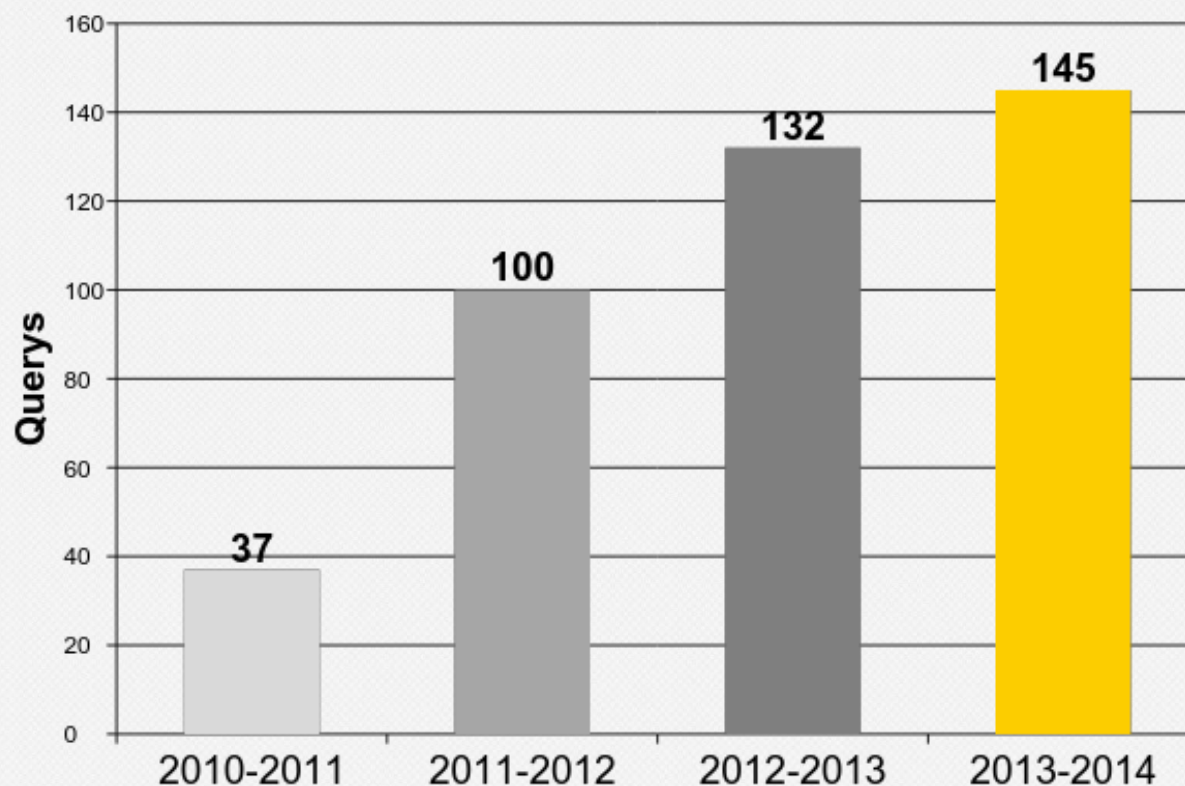
1. RUSC. Universities and Knowledge Society

Electronic ISSN: 1698-580X
Country of publication: Spain Language: English
Open Access (DOAJ): Yes
Discipline: Pedagogical & Educational Research

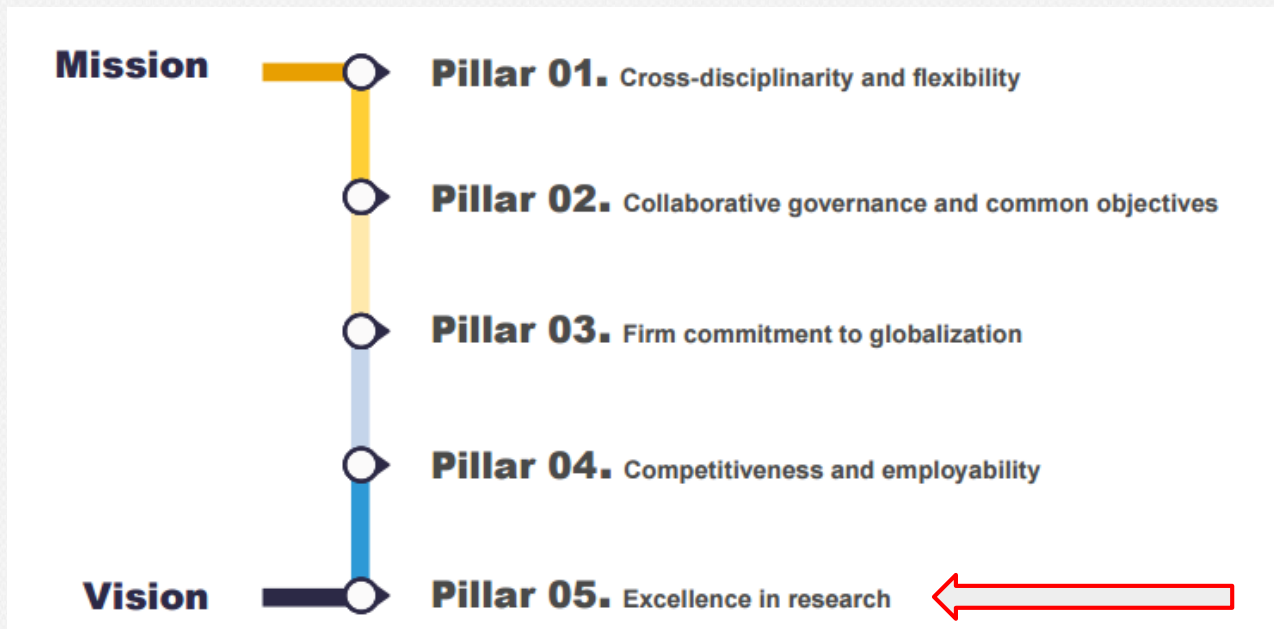
LO DE LA REVISTA

LO DE LA REVISTA	ISSN	GRUPO	EXCELENCIA
G BULLETIN	0149-1423	GRUPO A	EXCELENCIA
S JOURNAL	1550-7416	GRUPO A	EXCELENCIA
TRACT AND APPLIED ANALYSIS	1085-3375	GRUPO A	EXCELENCIA
DEMIC EMERGENCY MEDICINE	1069-6563	GRUPO A	EXCELENCIA
DEMIC MEDICINE	1040-2446	GRUPO A	EXCELENCIA
DEMY OF MANAGEMENT ANNALS	1941-6067	GRUPO A	EXCELENCIA
DEMY OF MANAGEMENT JOURNAL	0001-4273	GRUPO A	EXCELENCIA
DEMY OF MANAGEMENT LEARNING AND EDUCATION	1537-260X	GRUPO A	EXCELENCIA
DEMY OF MANAGEMENT REVIEW	0363-7425	GRUPO A	EXCELENCIA
IDENT ANALYSIS AND PREVENTION	0001-4575	GRUPO A	EXCELENCIA

Increase in bibliometric services



BIBLIOMETRICS: institutional framework



UOC strategies for achieving excellence in research and fostering knowledge transfer

2. Project



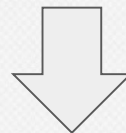
BIBLIOMETRICS: needs

The aim of this tool is offer unified bibliometric data to the UOC community (faculty, researchers and research support staff) for the evaluation of the research outcomes of the university.

- Make the task of Bibliometric support service easier
- From regular reports (PDF) to online access
- Reuse of data
- Users self-sufficient to search bibliometric data and create a report
- Automation of processes

BIBLIOMETRICS: starting point

- Data source disaggregated in different spreadsheets: by faculties and research centers
- No unified data
- Duplicated information
- No data quality control
- High volume of information
- High investment of time to process and analyze data

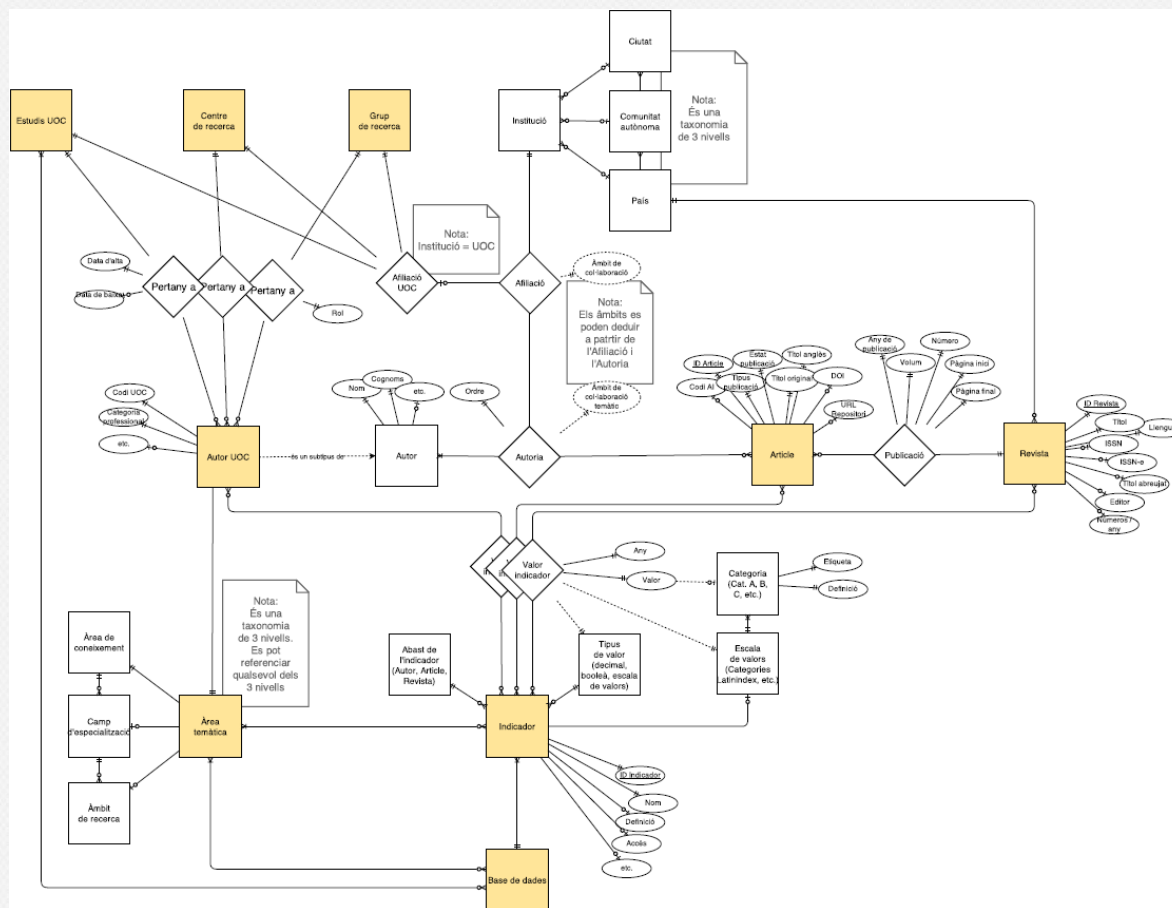


Unification of all data in a database (MS Access): Starting point for the outsourced development team

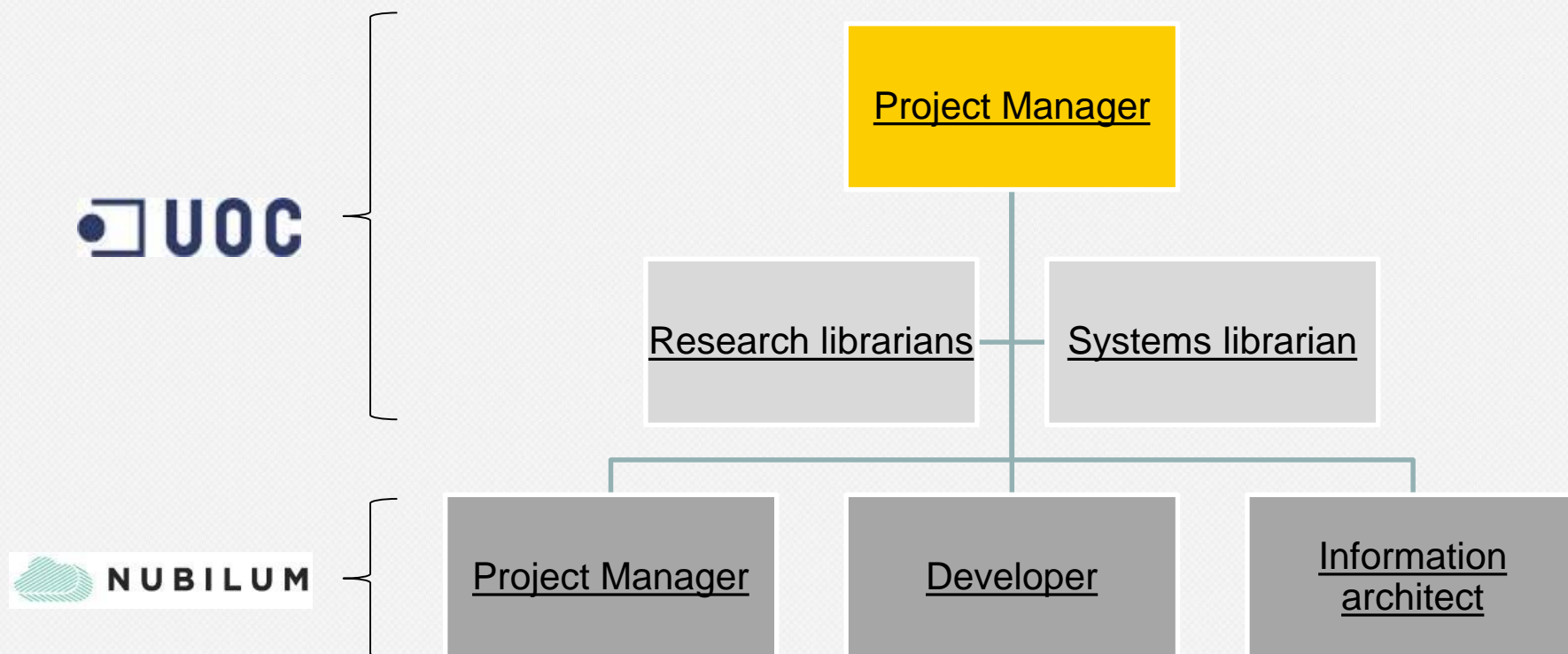
BIBLIOMETRICS: starting point

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1	Codi AI	Tipus de publicació	Títol	Data de publicació	DOI	Tipus de recepció	Estat	Investigador	ISSN-e	ISSN	Volum revista	Número revista	Pàgina d'inici	Pàgina de fi	Col·laboració	ISI Categories	ISI Factor
2	AR/0000000009	Article/comu	A Layered Framework for Evaluating Online Collaborative	2006	10.1016/j.jl	uits, paral·lel	PUBLICAT	Daradounis		1071-5819	64	7	622	635	NAC	COMPUTER	1.09
3	AR/0000000013	Article/comu	An Integrated Approach for Analysing and Assessing the	2004			PUBLICAT	Daradounis		0302-9743	3198		289	304	NAC	COMPUTER	0.51
4	AR/0000000014	Article/comu	Exploring Interaction Behaviour and Performance of Online	2003	10.1007/978		PUBLICAT	Daradounis		0302-9743	2806		126	134	INT		
5	AR/0000000015	Article/comu	A Methodological Framework for Project-based Collaborative	2002			PUBLICAT	Daradounis	1741-5055	1560-4624	12	5/6	389	402	NAC		
6	AR/0000000017	Article/comu	Distributed Cognition in the Context of Virtual Collaborative	2002			PUBLICAT	Daradounis		1093-023X	13	1	135	148	UOC		
7	AR/0000000042	Article/comu	¿Cómo aprender y enseñar con Internet?	2001			PUBLICAT	Coderch, J.: 9		0210-0630	Cuadernos de	301	56	63	NAC	NO	NC
8	AR/0000000043	Article/comu	Para Saber Más	2001			PUBLICAT	Coderch, J.: 9		0210-0630	Cuadernos de	301	81	83	NAC	NO	NC
9	AR/0000000072	Article/comu	Conceptual Modelling Patterns for Roles	2006	10.1007/116	nyeria del S	PUBLICAT	CabotSagrer		1861-2032	3870		158	184	NAC		
10	AR/0000000073	Article/comu	Computing the Relevant Instances That May Violate an On	2005	10.1007/114		PUBLICAT	CabotSagrer		0302-9743	3520		207	248	NAC	COMPUTER	0.40
11	AR/0000000125	Article/comu	A Robust Audio Watermarking Scheme Based on MPEG 1	2003	10.1007/978		PUBLICAT	Megías Jimé		0302-9743	2828		226	238	UOC		
12	AR/0000000127	Article/comu	Robust Frequency Domain Audio Watermarking: a Tuning	2004	10.1007/978		PUBLICAT	Megías Jimé		0302-9743	3304		244	258	UOC	COMPUTER	0.51
13	AR/0000000128	Article/comu	Autonomous and Self-sufficient Groups: Ad hoc Collabora	2005	10.1007/115		PUBLICAT	Marqués Pui		0302-9743	3706		57	72	NAC	COMPUTER	0.40
14	AR/0000000147	Article/comu	Robust Watermarking Scheme Based on the JPEG2000 sta	2005			PUBLICAT	Mingquillón A		1017-9909	14	3	33015	0	UOC	ENGINEERIN	0.87
15	AR/0000000149	Article/comu	Towards personalization in digital libraries through ontolo	2005	10.1108/014		PUBLICAT	Ferran Ferner		0143-5124	26	4	206	217	UOC		
16	AR/0000000151	Article/comu	Total Disclosure of the Embedding and Detection Algorith	2005	10.1007/116		PUBLICAT	Megías Jimé		0302-9743	3783		427	440	UOC	COMPUTER	0.40
17	AR/0000000437	Article/comu	A Grid-Based Approach for Processing Group Activity Log	2004	10.1007/978		PUBLICAT	Xhafa, Fatos		0302-9743	3292		175	186	INT	COMPUTER	0.51
18	AR/0000000438	Article/comu	A Grid-aware Implementation for Providing Effective Fee	2005			PUBLICAT	Caballé Lob		0302-9743	3762		274	283	NAC	COMPUTER	0.40
19	AR/0000000465	Article/comu	El treball i l'aprenentatge cooperatiu en entorns virtuals	2005			PUBLICAT	GuitertCata		1696-7380	Coneixement i	8	44	77	UOC	NO	NC
20	AR/0000000582	Article/comu	Incremental Evaluation of OCL Constraints	2006	10.1007/117	nyeria del S	PUBLICAT	CabotSagrer		0302-9743	4001		81	95	NAC		
21	AR/0000000583	Article/comu	Constraint Support in MDA tools: a Survey	2006	10.1108/117	nyeria del S	PUBLICAT	CabotSagrer		0302-9743	4066		256	267	NAC		
22	AR/0000000676	Article/comu	Uso e integración de las TIC en asignaturas cuantitativas	2006			PUBLICAT	Steeermann		1138-9737	7	1	1	12	UOC		
23	AR/0000000677	Article/comu	LaCOLLA: a Middleware to Support Self-sufficient Collabor	2006		uits, paral·lel	PUBLICAT	Marqués Pui		1335-9150	25		571	595	NAC		
24	AR/0000000719	Article/comu	LaCOLLA: Middleware for Self-Sufficient Online Collabora	2007	10.1109/MIC	uits, paral·lel	PUBLICAT	Marqués Pui		1089-7801	11	2	56	64	NAC	COMPUTER	1.55
25	AR/0000000727	Article/comu	The Octahedron Abstract Domain (extended version)	2007	10.1016/j.jl	nyeria del S	PUBLICAT	Clariso Vilad		0167-6423	64	1	115	139	NAC	COMPUTER	0.83
26	AR/0000000728	Article/comu	Verification of Concurrent Systems with Parametric Delay	2007		nyeria del S	PUBLICAT	Clarió Vilad		0169-2968	78	1	33	33	NAC	MATHEMATI	0.69
27	AR/0000000748	Article/comu	Opera-Learning: Integración de estándares de distribución	2005			PUBLICAT	Pascual Sol		1578-7680	IV		16	24	UOC		
28	AR/0000000749	Article/comu	Personalización del proceso de aprendizaje usando leam	2005			PUBLICAT	Mingquillón A		1578-7680	III		42	55	UOC		
29	AR/0000000750	Article/comu	A Neural Approach for Modeling the Inference of Awareness	2006	10.1007/118	uits, paral·lel	PUBLICAT	Daradounis		0302-9743	4227		464	469	NAC		
30	AR/0000000751	Article/comu	Semantic Description of Grid Based Learning Services	2006	10.1007/119	uits, paral·lel	PUBLICAT	GutiérrezCar		0302-9743	4331		509	518	UOC		
31	AR/0000000753	Article/comu	Education and pedagogy with learning objects and leam	2007	10.1016/j.jl		PUBLICAT	Mingquillón A		0747-5632	23	6	2581	2584	UOC	PSYCHOLOG	1.34
32	AR/0000000754	Article/comu	Enriching e-learning metadata through digital library use	2007	10.1108/026		PUBLICAT	Ferran Ferner		0264-0473	25	2	148	165	INT		0.22
33	AR/0000000789	Article/comu	Competencias TIC y trabajo en equipo en entornos virtua	2007			PUBLICAT	GuitertCata		1698-580X	RUSC. Revista	4	1	12	UOC	NO	NC
34	AR/0000000847	Article/cient	Teaching and Learning Logic in a Virtual Learning Environ	2007	10.1093/jlpp		PLICAT EN LP	HuertasSá	1368-9894	1367-0751	15	4	321	331	UOC	MATHEMATI	0.33
35	AR/0000000886	Article/comu	Search of Performance Inefficiencies in Message Passing	2007		uits, paral·lel	PUBLICAT	JorbaEsteva		0302-9743	4699		409	419	NAC		
36	AR/0000000919	Article/comu	Theoretical Framework for a Practical Evaluation and Com	2006		formation Se	PUBLICAT	Dittmann, Ja		0302-9743	4300		1	40	INT		
37	AR/0000001072	Article/comu	La dimensión social del aprendizaje colaborativo virtual	2007			PUBLICAT EN	GuitertCata		1578-7680	RED. Revista	18	1	21	UOC	NO	NC
38	AR/0000001073	Article/comu	Transformation Techniques for OCL Constraints	2007	http://dx.doi	nyeria del S	PUBLICAT	Cabot Sagrer		0167-6423	S	3	179	195	NAC	COMPUTER	0.83
39	AR/0000001074	Article/comu	On the Quality of Navigation Models with Content-Modifi	2007		nyeria del S	PUBLICAT	Cabot Sagrer		0302-9743	4607		59	73	NAC		
40	AR/0000001075	Article/comu	Tool Support for Model Checking of Web application desig	2007	10.1007/978	nyeria del S	PUBLICAT	Brambilla, M		0302-9743	4607		533	538	INT		
41	AR/0000001104	Article/comu	Integrating descriptions of knowledge management learn	2006	http://dx.doi		EN AMBDO	SiciliaUrbán		0169-023X	D	2	111	121	INT	COMPUTER	1.74
42	AR/0000001111	Article/comu	A virtual mathematics learning environment for engineer	2007			PUBLICAT EN	SanchoVine		1576-4990	Interactive Ed	14	1	18	UOC	NO	NC
43	AR/0000001152	Article/comu	Experiences Using the ResearchCyc Upper Level Ontology	2007	10.1007/978	nyeria del S	PUBLICAT	ConesaCar		0302-9743	4592		143	155	INT		
44	AR/0000001254	Article/comu	Deriving Operation Contracts from UML Class Diagrams	2007		nyeria del S	PUBLICAT	CabotSagrer		0302-9743	4735		196	210	UOC		
45	AR/0000001255	Article/comu	Automatic Generation of Workflow-extended Domain Mo	2007		nyeria del S	PUBLICAT	Brambilla, M		0302-9743	4735		389	375	INT		
46	AR/0000001262	Article/comu	From Declarative to Imperative UML/OCL Operation Spec	2007		nyeria del S	PUBLICAT	CabotSagrer		0302-9743	4801		198	213	UOC		

BIBLIOMETRICS: data structure



BIBLIOMETRICS: project organization chart



BIBLIOMETRICS: transversal project

Collaboration between different university departments/offices to collect data:

- Research and Transfer Support Office
- Planning and Quality Department
- Teachers and Researchers
- Faculty
- Research Centers
- IT Department
- Vice-Chancellor for Strategic Planning and Research Office

Technology

- MySQL



- JAVA



- JAVA development framework



Charting library

- [Higcharts](#)



3. BIBLIOMETRICS



BIBLIOMETRICS

BIBLIOMETRICS

[My profile](#)

Publications



1

UOC

2

Research centers

44

Research groups

745

Authors

1942

Publications

1630

Indexed publications

4636

Citations



Productivity



Visibility



Impact



Collaboration

[Legal advice](#)

BIBLIOMETRICS: what is it?

- An in-house database
- Allows users to search and manage bibliometric data
- It stores the UOC's academic articles and lets users assess their quality based on national and international bibliometric indicators
- Responds to the bibliometric needs both of the **faculty** and **researchers**
- Restricted access for UOC community
- Types of documents: original, review, proceedings paper, editorial material, book review, letter

BIBLIOMETRICS: what does it offer?

- Bibliographic and bibliometric information and normalized data
- Comparative bibliometric analysis of the UOC's researchers, research group, research centers and faculties
- Data extraction in different formats for exporting (graphical, CSV, etc.)
- Graphical representation of data
- Four levels of indicators:
 1. Productivity
 2. Visibility
 3. Impact
 4. Collaboration

BIBLIOMETRICS: sources of bibliographic data

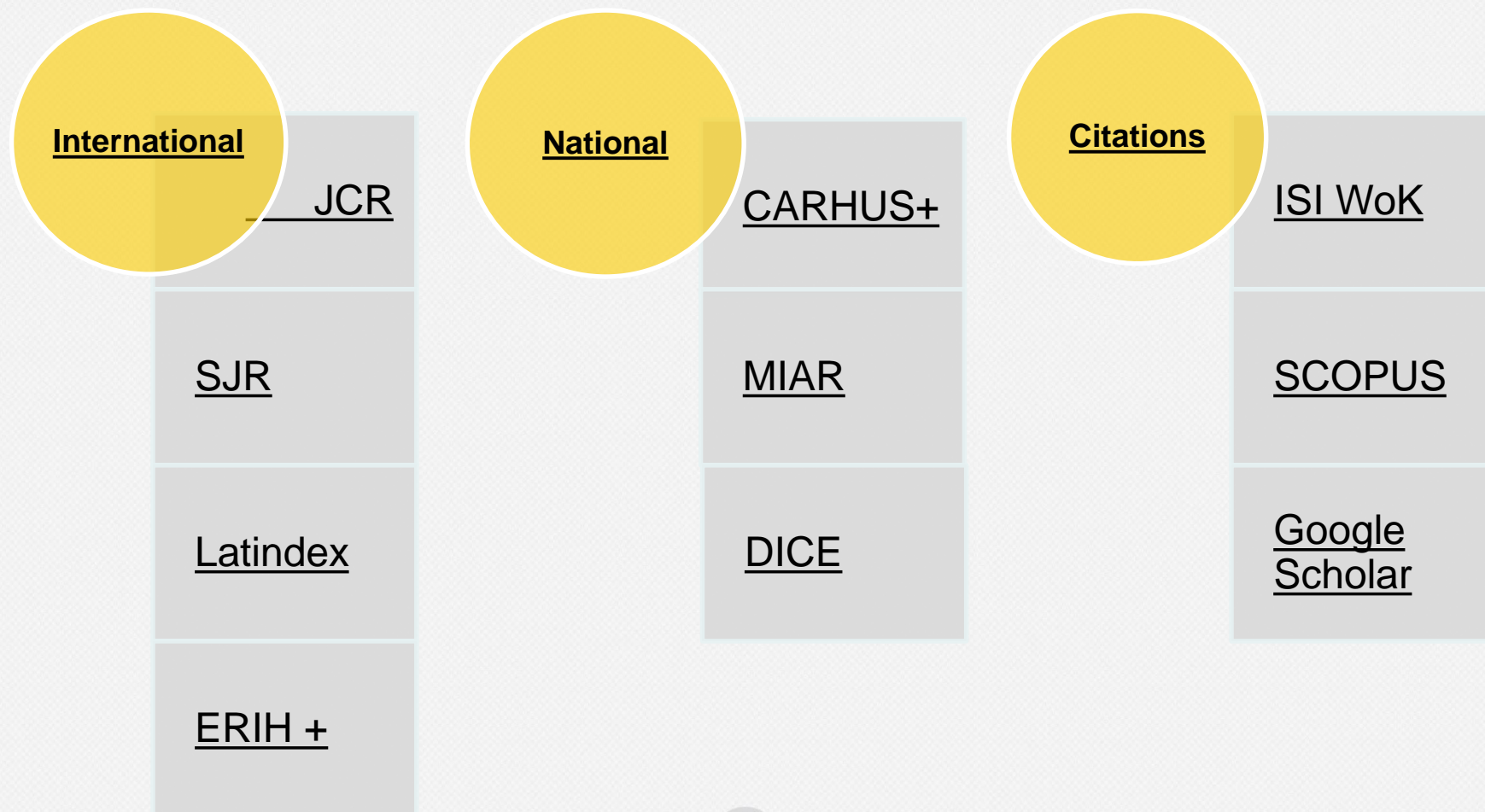
The bibliographic data used by Bibliometrics **come from**:

- CRIS (Current Research Information System)
- ISI Web of Knowledge
- Scopus

Bibliographic information for each publication:

- Authors
- Affiliation
- Type of publication
- Knowledge field
- Year of publication
- Peer review
- Open Access
- Journal indexed or not

BIBLIOMETRICS: sources of bibliometric data



BIBLIOMETRICS: sources of bibliometric data

- Current edition: 2014
- Access: https://boga.agaur.gencat.cat/agaur_boga/AppJava/FlowControl
- MIAR: Information matrix for evaluating journals
- Evaluation system of the scientific journals in the social sciences and humanities published at local, national and international level.



BIBLIOMETRICS: sources of bibliometric data

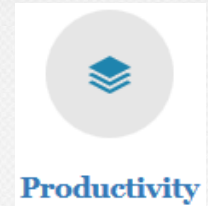
- Last update: 2015
- Periodicity: annual (2008-)
- Access: <http://miar.ub.edu/>
- MIAR: information matrix for evaluating journals
- System for quantitatively measuring the visibility of periodical publications in social and human sciences (2008-)
- Indicator: depending on the dissemination of the journal in the various national and international databases, a dissemination index known as ICDS is extracted.



BIBLIOMETRICS: sources of bibliometric data



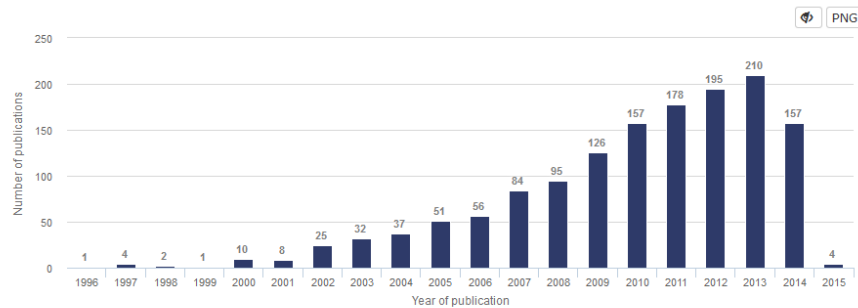
- Access: <http://dice.cindoc.csic.es>
- DICE is a system created to provide information about the quality indicators of Spanish journals of Humanities and Social Sciences. These indicators can be obtained for a particular journal or for the complete group of journals of one area, thus journals can be related using the values of the indicators.
- Indicator: it establishes an index of international dissemination
 - High Visibility: journals with a rating ≥ 12 points due to its presence in international databases
 - Medium Visibility: journals with a rating of between 6 and 11 points due to its presence in international databases.
 - Low Visibility: journals with a rating ≤ 5 points due to its presence in international



BIBLIOMETRICS: indicators

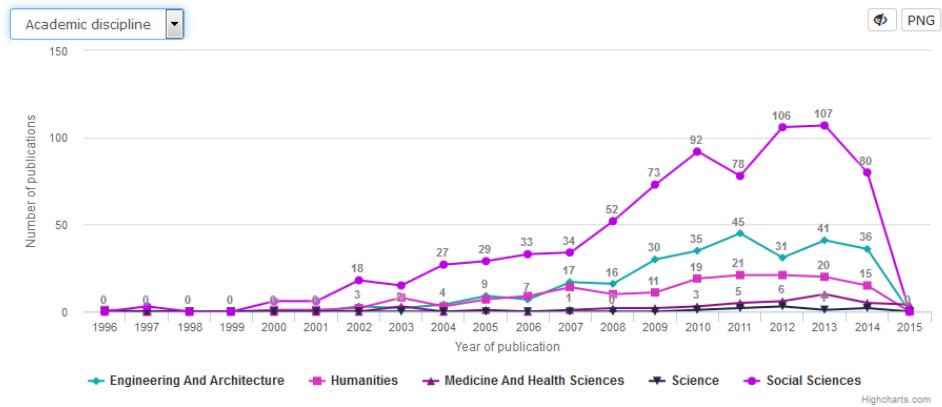
Productivity: number of publications by author, year of publication and type of publication, and the average number of publications by author, research group, research centre or department at the UOC.

Publications by year

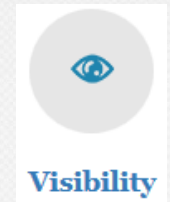


1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
1	4	2	1	10	8	25	32	37	51	56	84	95	126	157	178	195	210	157	4

Comparative publications by year

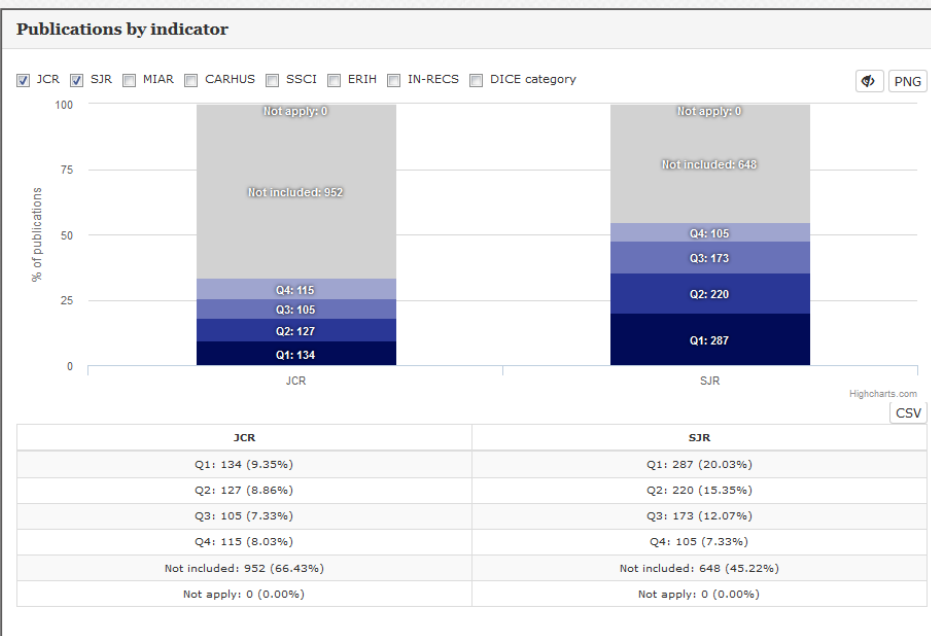


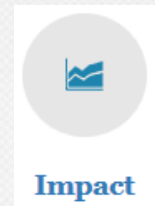
	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Engineering And Architecture	0	0	0	0	0	0	3	2	4	9	7	17	16	30	35	45	31	41	36	0
Humanities	1	0	0	0	1	1	2	8	3	7	9	14	10	11	19	21	21	20	15	0
Medicine And Health Sciences	0	0	0	0	0	0	0	3	0	1	0	1	2	2	3	5	6	10	5	4
Science	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3	1	2	0
Social Sciences	0	3	0	0	6	6	18	15	27	29	33	34	52	73	92	78	106	107	80	0



BIBLIOMETRICS: indicators

Visibility: analysis of the quality of articles in terms of the journal they are published in using international and/or national bibliometric indicators.

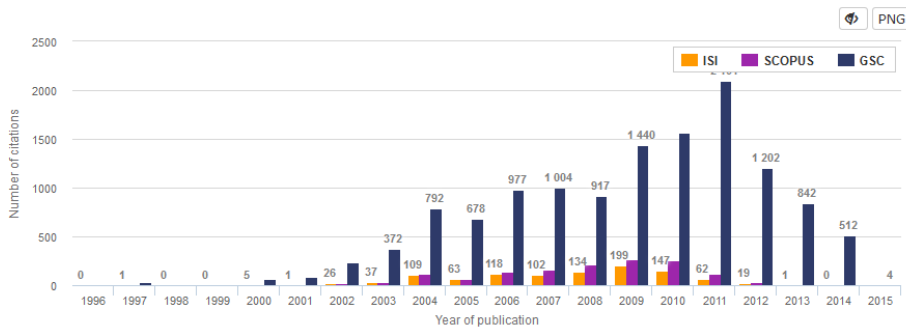




BIBLIOMETRICS: indicators

Impact: analysis of the citations received by publication in ISI WoS, Scopus and Google Scholar databases.

Citations by publication year

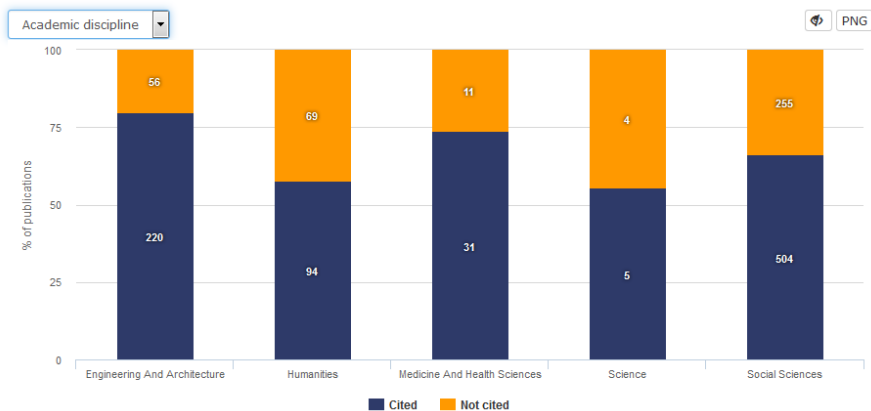


Highcharts.com

CSV

	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
ISI	0	1	0	0	5	1	26	37	109	63	118	102	134	199	147	62	19	1	0
SCOPUS	0	1	0	0	6	3	25	35	121	69	136	157	214	271	253	112	36	3	0
GSC	0	31	9	0	61	87	239	372	792	678	977	1004	917	1440	1562	2101	1202	842	512

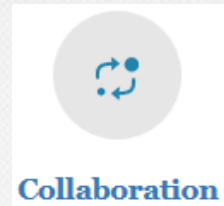
Cited and not cited



Highcharts.com

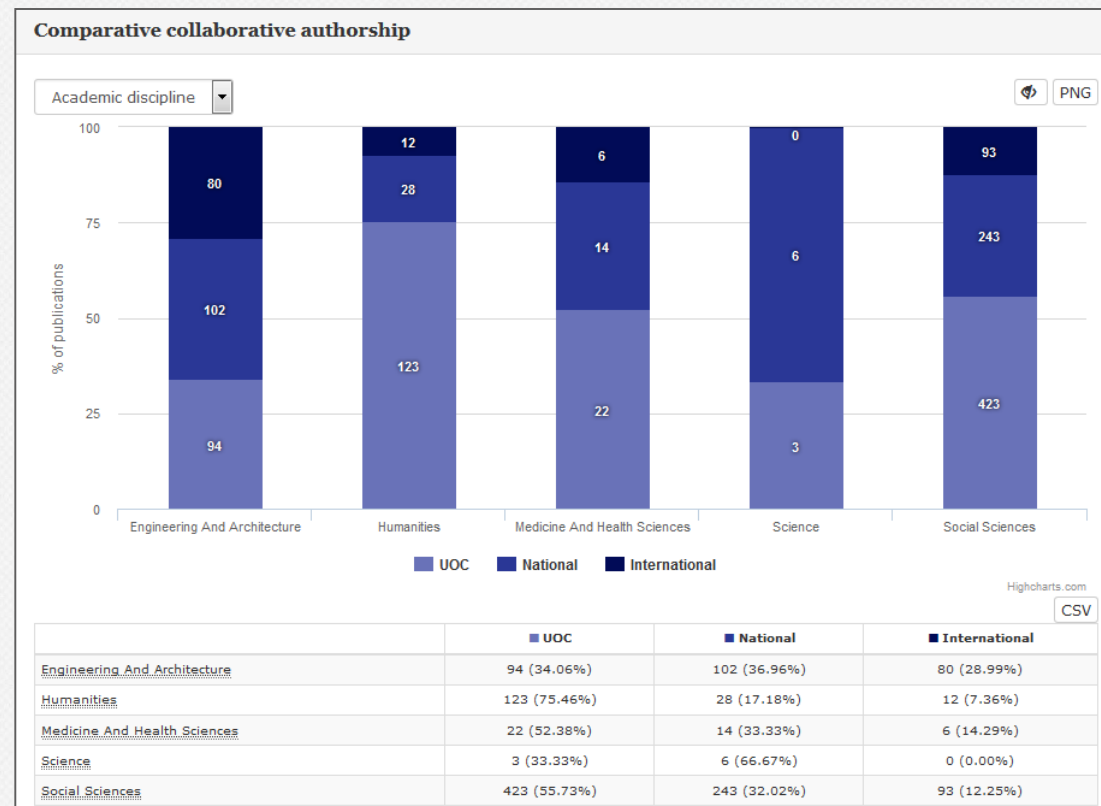
CSV

	Cited	Not cited
Engineering And Architecture	220 (79.71%)	56 (20.29%)
Humanities	94 (57.67%)	69 (42.33%)
Medicine And Health Sciences	31 (73.81%)	11 (26.19%)
Science	5 (55.56%)	4 (44.44%)
Social Sciences	504 (66.40%)	255 (33.60%)



BIBLIOMETRICS: indicators

Collaboration: analysis of the level of co-authoring publications in terms of authors' affiliation.



BIBLIOMETRICS: faceted search

Filter

UOC department >

Research center >

Research group >

Academic discipline >

Field of study >

Author >

Publication type >

Author profile >

Peer review >

Open access >

Indexed >

Publication year >

Date range >

Apply filters

Clean filters

Research center

☐ eLC - eLearn Center (108)
 ☐ IN3 - Internet Interdisciplinary Institute (591)

Academic discipline

☐ Engineering And Architecture (276)
 ☐ Humanities (163)
 ☐ Medicine And Health Sciences (42)
 ☐ Science (9)
 ☐ Social Sciences (759)

Date range

From:

To:

Publication type

☐ Abstract (1)
 ☐ Book review (6)
 ☐ Editorial material (19)
 ☐ Letter (7)
 ☐ Note (2)
 ☐ Original (1273)
 ☐ Proceeding paper (68)
 ☐ Review (50)
 ☐ Working paper (7)

4. Future goals



BIBLIOMETRICS: future goals

- Automatic integration between CRIS and Bibliometrics
- Integration with external data sources by using web services
- To reduce the manual data uploading
- To introduce new document types and indicators: books and book chapters (productivity, impact and collaboration)
- To improve the system performance

Thank you!

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