



6

RESEARCH AND TRANSFER OF KNOWLEDGE

Note: The data provided below are taken from the document "Research Report Academic Year 2013/2014. Bibliometric and Statistical Indicators of R&D" by the Bibliometric Unit of the Vice-Rector's Office for Scientific Policy and Research at the University of Granada. The full version of this document can be found via the following link:

http://investigacion.ugr.es/ugrinvestiga/pages/doc_ugrcifras/memoria2013_2014_20

The information sources, ranking systems and the biometric indicators used can be found in this document.

SCIENTIFIC OUTPUT AND IMPACT OF RESEARCH ACTIVITY

General results of output and impact

Table 1. Evolution of the output indicators in the Web of Science database

	No. of Publications Web of Science	No. of Publications Citable Publications	% Citable Citable Publications	No. of Citable Publications JCR with IF	% Citable Publications JCR with IF
2004	939	872	93%	759	87%
2005	1027	961	94%	831	86%
2006	1234	1086	88%	961	88%
2007	1444	1298	90%	1102	85%
2008	1561	1383	89%	1170	85%
2009	1733	1525	88%	1339	88%
2010	1847	1675	91%	1516	91%
2011	2312	2049	89%	1857	91%
2012	2503	2332	93%	2150	92%
2013	2548	2237	88%	2145	95%
TOTAL	17148	15418	90%	13830	90%

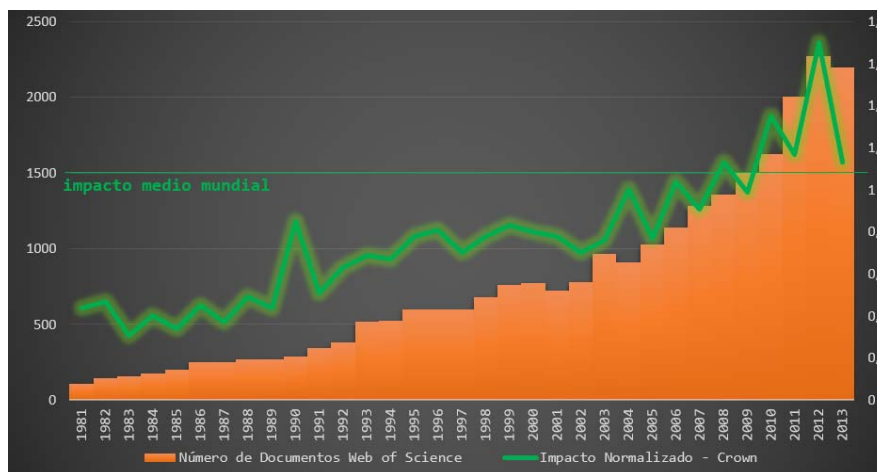
- Chronological Period: 2004-2012
- Source: Arts & Humanities Citation Index, Social Science Citation Index, Science Citation Index and Journal Citation Reports

Table 2. Visibility indicators in the scientific journals of the Journal Citation Reports

	No. of Publications indexed in Q1 JCR	% Publications indexed in Q1 JCR	No. of Publications indexed in TOP3 JCR	% Publications indexed in TOP3 JCR
2004	295	34%	47	5%
2005	342	36%	83	9%
2006	413	38%	93	9%
2007	470	36%	95	7%
2008	526	38%	113	8%
2009	677	44%	133	9%
2010	744	44%	111	7%
2011	992	48%	155	8%
2012	1177	50%	205	9%
2013	1103	49%	167	7%
TOTAL	6739	44%	1202	7%

- Chronological Period: 2004-2013
- Source: Arts & Humanities Citation Index, Social Science Citation Index, Science Citation Index and Journal Citation Reports

Graph 1. Evolution of the number of publications in the Web of Science and of the Normalised Impact - Crown



- Chronological Period: 1981-2013
- Source: In-Cites – Thomson Reuters

Table 3. Evolution of the output and impact indicators

	Number of Publications Web of Science	Number of Citations Totals	Average Citations	Percentage Documents Not Cited	Normalised Impact Crown
1981	108	954	8.83	77.78	0.44
1982	144	1364	9.47	74.31	0.47
1983	156	986	6.32	75.64	0.31
1984	179	1475	8.24	79.89	0.40
1985	200	1426	7.13	81.00	0.34
1986	250	2402	9.61	80.00	0.45
1987	249	2055	8.25	74.30	0.37
1988	267	2952	11.06	75.66	0.49
1989	272	2732	10.04	80.51	0.44
1990	290	5846	20.16	85.52	0.85
1991	346	4195	12.12	86.99	0.51
1992	381	5947	15.61	89.24	0.63
1993	516	9113	17.66	89.53	0.69
1994	524	8762	16.72	91.60	0.67
1995	597	11792	19.75	90.95	0.78
1996	599	12189	20.35	91.99	0.81
1997	597	10662	17.86	90.95	0.70
1998	682	13860	20.32	90.03	0.78
1999	761	16238	21.34	91.85	0.83
2000	774	16392	21.18	92.76	0.80
2001	724	14524	20.06	93.92	0.78
2002	782	13672	17.48	91.82	0.70
2003	963	17413	18.08	91.59	0.76
2004	908	20250	22.30	93.28	1.00
2005	1028	16293	15.85	89.98	0.77
2006	1141	21597	18.93	93.08	1.04
2007	1282	18678	14.57	90.09	0.91
2008	1360	20544	15.11	90.00	1.13
2009	1508	16338	10.83	88.26	0.99
2010	1627	18081	11.11	87.34	1.35
2011	2004	12629	6.30	80.64	1.17
2012	2269	10347	4.56	66.77	1.70
2013	2198	1326	0.60	27.07	1.13

- Chronological Period: 1981-2013



• Source: In-Cites – Thomson Reuters

Table 4. Evolution of the Normalised Impact - CROWN compared with various geographical areas

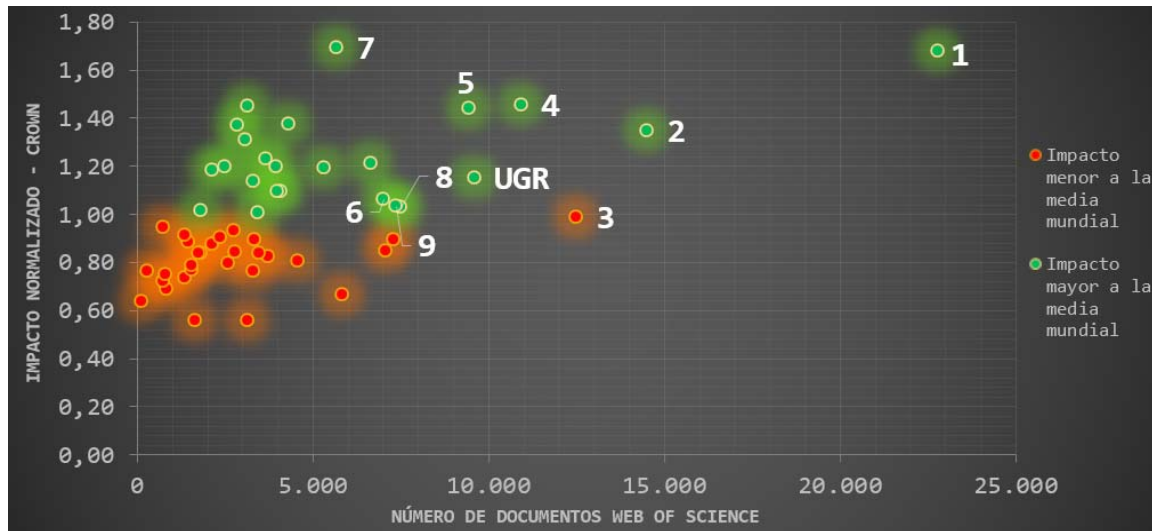
	Normalised Impact UGR	Normalised Impact Spain	Normalised Impact European Union 15	Normalised Impact OECD
1981	0.44	0.47	0.98	1.14
1982	0.47	0.50	0.97	1.14
1983	0.31	0.47	0.97	1.14
1984	0.40	0.53	0.99	1.14
1985	0.34	0.57	0.97	1.14
1986	0.45	0.58	0.97	1.14
1987	0.37	0.56	0.97	1.14
1988	0.49	0.62	0.96	1.15
1989	0.44	0.65	0.97	1.15
1990	0.85	0.70	0.97	1.13
1991	0.51	0.69	0.98	1.13
1992	0.63	0.76	0.99	1.11
1993	0.69	0.79	1.00	1.10
1994	0.67	0.83	1.01	1.10
1995	0.78	0.83	1.01	1.10
1996	0.81	0.86	1.02	1.10
1997	0.70	0.88	1.03	1.10
1998	0.78	0.89	1.03	1.10
1999	0.83	0.93	1.04	1.10
2000	0.80	0.93	1.05	1.09
2001	0.78	0.93	1.05	1.09
2002	0.70	0.95	1.07	1.09
2003	0.76	0.98	1.08	1.09
2004	1.00	1.02	1.09	1.09
2005	0.77	1.04	1.11	1.10
2006	1.04	1.07	1.12	1.10
2007	0.91	1.09	1.14	1.11
2008	1.13	1.11	1.16	1.12
2009	0.99	1.13	1.17	1.12
2010	1.35	1.20	1.19	1.12
2011	1.17	1.22	1.20	1.12
2012	1.70	1.28	1.22	1.12
2013	1.13	1.27	1.26	1.14

- Chronological Period: 1981-2013
- Source: In-Cites – Thomson Reuters



Comparison with other universities

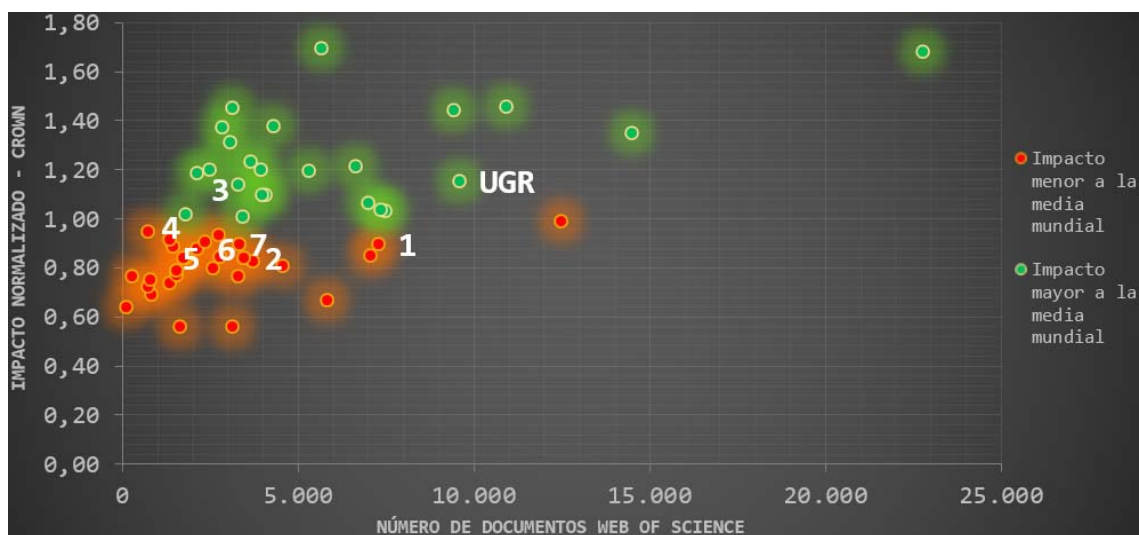
Graph 2. Strategic map of Spanish universities according to the Normalised Impact - CROWN and number of Web of Science Publications.



- Period: 2009-2013
- Source: In-Cites Thomson Reuters
- Codes universities in the Shanghai Ranking

No. 1: UNIV BARCELONA | No. 2: AUTONOMOUS UNIV BARCELONA | No. 3: COMPLUTENSE UNIV MADRID | No. 4: UNIV VALENCIA | No. 5: AUTONOMOUS UNIV MADRID | No. 6: POLYTECH UNIV VALENCIA | No. 7: UNIV POMPEU FABRA | No. 8: UNIV ZARAGOZA | No. 9: UNIV BASQUE COUNTRY

Graph 3. Strategic map of Andalusian universities according to the Normalised Impact - CROWN and number of Web of Science documents.



- Period: 2009-2013
- Source: In-Cites Thomson Reuters
- Codes Andalusian universities:

No. 1: UNIV SEVILLE | No. 2: UNIV MALAGA | No. 3: UNIV CORDOBA | No. 4: UNIV HUELVA | No. 5: UNIV ALMERIA | No. 6: UNIV JAEN | No. 7: UNIV CADIZ



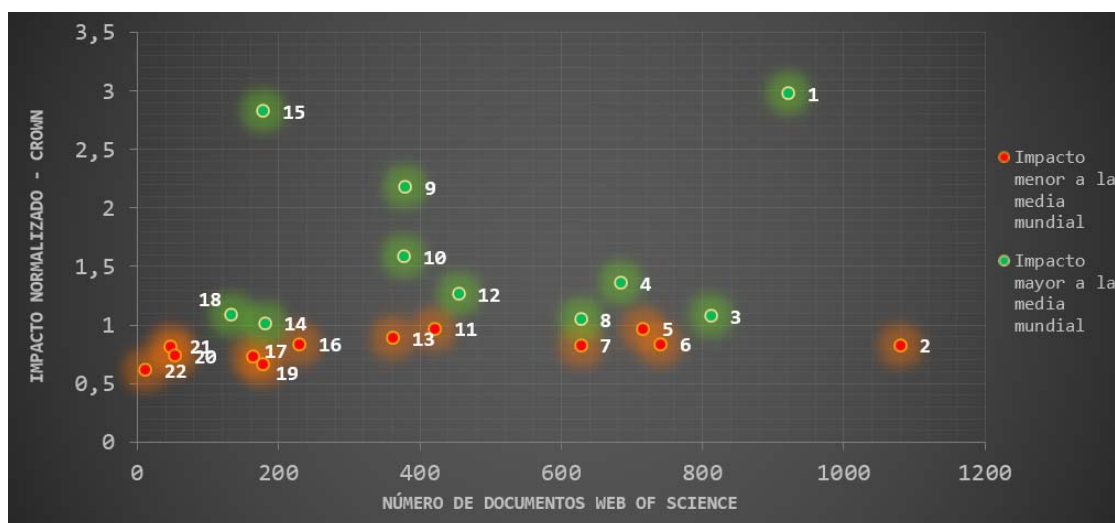
Table 5. Number of Web of Science Publications and Relative Growth Rate for Spanish universities included in the Shanghai Ranking (ARWU) and Andalusian universities

	Five-year period ►	2002	2003	2004	2005	2006	2007	2008	2009
		2006	2007	2008	2009	2010	2011	2012	2013
UNIV BARCELONA		11953	12922	14333	16090	17815	19733	21284	22790
	Relative Growth Rate	---	1.08	1.11	1.12	1.11	1.11	1.08	1.07
AUT UNIV BARCELONA		7064	7939	9011	10049	11035	12209	13495	14532
	Relative Growth Rate	---	1.12	1.14	1.12	1.10	1.11	1.11	1.08
UNIV COMPLUTENSE		8040	8460	9125	9758	10477	11200	11955	12517
	Relative Growth Rate	---	1.05	1.08	1.07	1.07	1.07	1.07	1.05
UNIV VALENCIA		6775	7317	7938	8464	9074	9642	10340	10947
	Relative Growth Rate	---	1.08	1.08	1.07	1.07	1.06	1.07	1.06
AUTONOMOUS UNIV MADRID		6314	6670	7132	7534	7929	8428	8964	9451
	Relative Growth Rate	--	1.06	1.07	1.06	1.05	1.06	1.06	1.05
UNIV GRANADA		4822	5322	5719	6319	6918	7781	8768	9606
	Relative Growth Rate	---	1.10	1.07	1.10	1.09	1.12	1.13	1.10
UNIV ZARAGOZA		3792	4154	4604	5091	5583	6198	6842	7382
	Relative Growth Rate	---	1.10	1.11	1.11	1.10	1.11	1.10	1.08
UNIV BASQUE COUNTRY		4023	4274	4613	4966	5517	6055	6749	7501
	Relative Growth Rate	---	1.06	1.08	1.08	1.11	1.10	1.11	1.11
UNIV SEVILLE		4351	4615	4899	5237	5603	6076	6636	7303
	Relative Growth Rate	---	1.06	1.06	1.07	1.07	1.08	1.09	1.10
POL. UNIV VALENCIA		3797	4276	4636	5087	5369	5891	6374	6999
	Relative Growth Rate	---	1.13	1.08	1.10	1.06	1.10	1.08	1.10
UNIV MALAGA		2194	2245	2372	2531	2719	2932	3211	3488
	Relative Growth Rate	---	1.02	1.06	1.07	1.07	1.08	1.10	1.09
UNIV CORDOBA		1872	2020	2232	2407	2663	2840	3064	3309
	Relative Growth Rate	---	1.08	1.10	1.08	1.11	1.07	1.08	1.08
UNIV JAEN		1212	1286	1367	1522	1661	1793	1979	2149
	Relative Growth Rate	---	1.06	1.06	1.11	1.09	1.08	1.10	1.09
UNIV CADIZ		2379	2491	2715	2902	3124	3260	3375	3360
	Relative Growth Rate	---	1.05	1.09	1.07	1.08	1.04	1.04	1.00
UNIV HUELVA		549	610	696	816	925	1113	1246	1352
	Relative Growth Rate	---	1.11	1.14	1.17	1.13	1.20	1.12	1.09

- Chronological Period: 2001-2013. Information grouped by five-year period
- Source: In-Cites — Thomson Reuters

Results by area and category

Graph 4. Strategic map of the ESI disciplines where the University of Granada publishes according to its Normalised Impact and No. of Web of Science documents



- Period: 2009-2013



- Source: In-Cites Thomson Reuters
- Codes: No. 1: Physics | No. 2: Clinical Medicine | No. 3: Chemistry | No. 4: Engineering | No. 5: Geosciences | No. 6: Social Sciences, general | No. 7: Psychiatry/Psychology | No. 8: Mathematics | No. 9: Computer Science | No. 10: Plant & Animal Science | No. 11: Environment/Ecology | No. 12: Agricultural Sciences | No. 13: Biology & Biochemistry | No. 14: Pharmacology & Toxicology | No. 15: Space Science | No. 16: Neuroscience & Behavior | No. 17: Molecular Biology & Genetics | No. 18: Materials Science | No. 19: Economics & Business | No. 20: Microbiology | No. 21: Immunology | No. 22: Multidisciplinary

Table 6. Evolution of the number of Web of Science publications and Normalised Impact - CROWN for the 22 ESI categories

	2001	2002	2003	2004	2005	2006	2007	2008	2009
	2005	2006	2007	2008	2009	2010	2011	2012	2013
Agricultural Sciences	185	202	224	253	274	311	351	387	456
Normalised Impact - Crown	0.97	1.14	1.17	1.19	1.45	1.41	1.36	1.23	1.26
Biology & Biochemistry	204	226	223	220	237	265	281	330	363
Normalised Impact - Crown	0.60	0.59	0.68	0.76	0.85	0.91	0.87	0.80	0.88
Chemistry	613	640	665	669	709	718	766	790	813
Normalised Impact - Crown	0.97	0.94	0.97	1.02	1.02	0.98	0.96	0.97	1.07
Clinical Medicine	337	382	429	480	562	625	767	922	1081
Normalised Impact - Crown	0.67	0.69	0.71	0.82	0.86	0.93	0.90	0.89	0.82
Computer Science	280	332	342	305	309	292	264	315	381
Normalised Impact - Crown	0.72	0.72	0.79	0.74	0.76	1.15	1.63	1.94	2.16
Economics & Business	24	33	42	61	78	100	128	153	179
Normalised Impact - Crown	0.40	0.73	0.77	0.51	0.63	0.72	0.89	0.78	0.66
Engineering	291	348	393	428	484	533	558	653	686
Normalised Impact - Crown	1.34	1.39	1.54	1.27	1.24	1.17	1.31	1.27	1.35
Environment/Ecology	139	169	195	235	265	305	341	380	423
Normalised Impact - Crown	0.73	0.93	0.96	1.06	1.03	1.04	1.01	0.98	0.97
Geosciences	344	381	421	441	495	528	594	681	717
Normalised Impact - Crown	0.63	0.67	0.79	0.85	0.84	0.94	0.90	0.92	0.96
Immunology	45	44	50	52	52	53	50	52	48
Normalised Impact - Crown	0.41	0.48	0.64	0.74	0.70	0.66	0.74	0.78	0.81
Materials Science	28	35	47	55	62	68	86	109	134
Normalised Impact - Crown	0.97	1.05	1.30	1.46	1.56	1.24	0.93	0.92	1.08
Mathematics	499	491	524	529	533	558	591	605	629
Normalised Impact - Crown	1.08	0.99	1.07	1.15	1.17	1.19	1.08	0.97	1.04
Microbiology	69	78	85	87	75	72	64	55	54
Normalised Impact - Crown	0.50	0.45	0.45	0.58	0.67	0.77	0.76	0.78	0.73
Molecular Biology & Genetics	120	117	125	136	126	134	151	169	166
Normalised Impact - Crown	0.39	0.37	0.40	0.36	0.44	0.51	0.60	0.65	0.72
Multidisciplinary	5	4	3	2	4	5	5	8	12
Normalised Impact - Crown	0.69	1.17	1.07	0.07	0.21	0.44	0.81	0.88	0.61
Neuroscience & Behavior	98	101	126	139	162	167	188	197	231
Normalised Impact - Crown	0.29	0.42	0.45	0.54	0.63	0.70	0.80	0.70	0.83
Pharmacology & Toxicology	97	108	107	117	129	144	142	168	182
Normalised Impact - Crown	0.90	0.72	0.75	0.84	0.91	1.15	1.29	1.11	1.01
Physics	399	434	474	505	543	578	673	832	923
Normalised Impact - Crown	1.78	2.49	3.06	3.60	2.82	3.33	2.64	3.11	2.98
Plant & Animal Science	212	219	226	255	281	322	350	370	379
Normalised Impact - Crown	0.67	0.73	0.84	0.94	0.98	1.09	1.28	1.39	1.58
Psychiatry/Psychology	175	215	266	316	388	438	528	580	629
Normalised Impact - Crown	0.51	0.54	0.65	0.61	0.71	0.68	0.76	0.83	0.83
Social Sciences, general	95	114	180	241	333	447	564	656	742
Normalised Impact - Crown	0.71	0.65	0.60	0.54	0.54	0.56	0.63	0.73	0.83
Space Science	51	58	79	83	89	107	159	165	180
Normalised Impact - Crown	0.75	0.64	0.67	0.82	1.18	1.25	1.51	1.59	1.82

- Chronological Period: 2001-2013. Information grouped by five-year period
- Source: In-Cites — Thomson Reuters



Table 7. Output and impact indicators for categories that have produced at least 50 documents and are above the world average impact (Crown). 2009-2013

	Publications Web of Science	Percentage Over UGR Total	Average Citations	Percentage Publications Cited	Normalised Impact CROWN
MATHEMATICS	413	4.30	1.80	57.63	1.16
COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE	383	3.99	7.70	70.23	1.93
MATHEMATICS, APPLIED	379	3.95	2.48	60.16	1.06
ENVIRONMENTAL SCIENCES	343	3.57	5.63	75.80	1.03
PHYSICS, PARTICLES & FIELDS	334	3.48	27.52	84.13	4.04
PHYSICS, MULTIDISCIPLINARY	327	3.40	17.34	86.85	2.78
ENGINEERING, ELECTRICAL & ELECTRONIC	311	3.24	4.84	67.20	1.37
ASTRONOMY & ASTROPHYSICS	295	3.07	20.08	84.41	2.12
FOOD SCIENCE & TECHNOLOGY	245	2.55	5.13	73.47	1.30
CHEMISTRY, ANALYTICAL	236	2.46	6.25	72.88	1.09
DENTISTRY, ORAL SURGERY & MEDICINE	224	2.33	4.79	65.63	1.38
COMPUTER SCIENCE, INTERDISCIPLINARY APPLICATIONS	217	2.26	6.53	65.90	1.48
PHARMACOLOGY & PHARMACY	195	2.03	6.54	73.85	1.12
GEOCHEMISTRY & GEOPHYSICS	190	1.98	5.49	76.32	1.02
SPORT SCIENCES	181	1.88	4.91	62.98	1.13
PUBLIC, ENVIRONMENTAL & OCCUPATIONAL HEALTH	175	1.82	4.83	66.86	1.14
INFORMATION SCIENCE & LIBRARY SCIENCE	160	1.67	3.21	61.25	1.15
ENGINEERING, CHEMICAL	153	1.59	5.12	75.16	1.09
OPERATIONS RESEARCH & MANAGEMENT SCIENCE	150	1.56	4.67	71.33	1.35
COMPUTER SCIENCE, INFORMATION SYSTEMS	138	1.44	6.24	68.84	2.15
ENDOCRINOLOGY & METABOLISM	137	1.43	8.24	74.45	1.04
WATER RESOURCES	133	1.38	4.08	75.19	1.06
CHEMISTRY, APPLIED	129	1.34	5.65	82.95	1.15
PHYSICS, MATHEMATICAL	126	1.31	4.21	73.02	1.13
PLANT SCIENCES	124	1.29	6.93	76.61	1.26
ENGINEERING, CIVIL	113	1.18	3.90	70.80	1.09
CHEMISTRY, INORGANIC & NUCLEAR	110	1.15	5.80	81.82	1.12
METEOROLOGY & ATMOSPHERIC SCIENCES	106	1.10	6.16	83.96	1.06
GEOLOGY	104	1.08	4.70	68.27	1.22
MINERALOGY	99	1.03	4.96	73.74	1.18
GEOGRAPHY, PHYSICAL	98	1.02	6.12	83.67	1.21
ZOOLOGY	93	0.97	3.60	70.97	1.13
MARINE & FRESHWATER BIOLOGY	90	0.94	5.17	73.33	1.21
PALEONTOLOGY	89	0.93	4.66	71.91	1.31
PHYSIOLOGY	89	0.93	7.15	77.53	1.11
COMPUTER SCIENCE, THEORY & METHODS	85	0.88	7.93	64.71	3.22
CHEMISTRY, ORGANIC	80	0.83	7.58	81.25	1.24
CHEMISTRY, MEDICINAL	75	0.78	5.32	74.67	1.00
CRYSTALLOGRAPHY	72	0.75	4.36	72.22	1.24
INSTRUMENTS & INSTRUMENTATION	70	0.73	5.69	70.00	1.55
CLINICAL NEUROLOGY	68	0.71	7.71	75.00	1.28
BIOPHYSICS	65	0.68	7.95	83.08	1.12
MECHANICS	63	0.66	4.98	73.02	1.46
AGRICULTURE, MULTIDISCIPLINARY	61	0.64	4.79	77.05	1.63
POLYMER SCIENCE	60	0.62	8.62	85.00	1.58
PHYSICS, NUCLEAR	54	0.56	72.80	79.63	16.58
TOXICOLOGY	54	0.56	5.91	79.63	1.08
PEDIATRICS	53	0.55	6.77	67.92	1.75



Table 8. Output and impact indicators for categories that have produced at least 50 documents and are NOT above the world average impact (Crown). 2009-2013

	Publications Web of Science	Percentage Over UGR Total	Average Citations	Percentage Publications Cited	Normalised Impact CROWN
GEOSCIENCES, MULTIDISCIPLINARY	338	3.52	4.57	75.15	0.98
NUTRITION & DIETETICS	311	3.24	5.10	63.34	0.84
CHEMISTRY, PHYSICAL	306	3.19	6.56	81.70	0.80
BIOCHEMISTRY & MOLECULAR BIOLOGY	277	2.88	7.70	79.78	0.84
NEUROSCIENCES	238	2.48	7.57	74.79	0.90
MATERIALS SCIENCE, MULTIDISCIPLINARY	226	2.35	5.67	76.99	0.87
ECOLOGY	221	2.30	5.39	73.76	0.82
PSYCHOLOGY, MULTIDISCIPLINARY	219	2.28	3.55	59.36	0.87
CHEMISTRY, MULTIDISCIPLINARY	197	2.05	7.81	80.71	0.81
PSYCHOLOGY, EXPERIMENTAL	164	1.71	3.84	69.51	0.67
ENGINEERING, ENVIRONMENTAL	137	1.43	6.18	75.18	0.88
BIOTECHNOLOGY & APPLIED MICROBIOLOGY	136	1.42	5.09	75.00	0.79
STATISTICS & PROBABILITY	132	1.37	2.92	57.58	0.87
PSYCHIATRY	129	1.34	5.40	69.77	0.89
PSYCHOLOGY	121	1.26	4.21	60.33	0.74
BIOCHEMICAL RESEARCH METHODS	118	1.23	6.47	74.58	0.90
PHYSICS, ATOMIC, MOLECULAR & CHEMICAL	117	1.22	5.67	80.34	0.98
PHYSICS, APPLIED	116	1.21	3.34	63.79	0.60
EDUCATION & EDUCATIONAL RESEARCH	116	1.21	1.08	24.14	0.53
CELL BIOLOGY	110	1.15	7.51	76.36	0.62
ECONOMICS	108	1.12	1.94	46.30	0.73
PSYCHOLOGY, CLINICAL	99	1.03	4.81	61.62	0.96
OPTICS	95	0.99	3.96	67.37	0.87
BEHAVIORAL SCIENCES	95	0.99	4.47	74.74	0.68
GENETICS & HEREDITY	93	0.97	6.89	82.80	0.74
MANAGEMENT	90	0.94	2.39	57.78	0.64
ONCOLOGY	88	0.92	6.48	77.27	0.75
MICROBIOLOGY	82	0.85	5.07	80.49	0.68
MATHEMATICS, INTERDISCIPLINARY APPLICATIONS	75	0.78	1.73	56.00	0.57
LANGUAGE & LINGUISTICS	74	0.77	0.59	22.97	0.60
COMPUTER SCIENCE, SOFTWARE ENGINEERING	72	0.75	2.21	50.00	0.95
LINGUISTICS	70	0.73	0.77	24.29	0.41
MEDICINE, RESEARCH & EXPERIMENTAL	59	0.61	5.98	69.49	0.97
ENGINEERING, BIOMEDICAL	59	0.61	3.44	64.41	0.61
BUSINESS	58	0.60	1.55	39.66	0.43
IMMUNOLOGY	55	0.57	6.67	72.73	0.75
CONSTRUCTION & BUILDING TECHNOLOGY	54	0.56	2.44	59.26	0.89
PSYCHOLOGY, APPLIED	54	0.56	2.09	42.59	0.55
REHABILITATION	53	0.55	2.45	67.92	0.72
ENERGY & FUELS	52	0.54	6.27	76.92	0.99
OBSTETRICS & GYNECOLOGY	52	0.54	3.67	67.31	0.89
PHYSICS, CONDENSED MATTER	52	0.54	3.65	75.00	0.51
EVOLUTIONARY BIOLOGY	51	0.53	5.78	82.35	0.67



Contribution to open access

Table 9. Ranking of departments and research groups of the UGR with the greatest number of documents available on DIGIBUG

Departments	No. docs	Research Groups	No. docs
Theoretical Physics and Cosmology	175	EC3. Evaluation of Science and Scientific Communication (HUM777)	127
Economic Theory and History	117	Women's Studies (HUM603)	110
Anatomical Pathology and History of Science	116	History of Science (HUM773)	86
Urban and Regional Planning	64	FORCE. School-Focused Training (HUM386)	53
Teaching and School Organisation	53	Visual Communication (HUM228)	44
Philosophy II	53	Urban and Regional Planning Laboratory (RNM357)	40
Greek Studies	49	Architecture and Contemporary Culture (HUM813)	31
Teaching of Experimental Sciences	47	Functional Evaluation and the Physiology of Exercise (CTS262)	25
Teaching of Language and Literature	45	Transport and Safety (TEP246)	22
Financial Economics and Accountancy	39	Toponymy, History and Archaeology of the Kingdom of Granada (HUM162)	21
International Private Law and History of Law	37	Philosophy as social therapy (FFI2009-12218)	17
Translation and Interpreting	35	SECABA Laboratory (Lab Quality Evaluation and I. Retrieval)	15
Applied Economics	34	Drainage Basin Analysis (RNM190)	13
Applied Physics	34	Infosphere: Information and (TIC197)	12
Information and Communication	34	Musical Heritage of Andalusia (HUM263)	11
Radiology and Medical Physics	33	Emerging Talents and Social Education (HUM580)	11
English and German Studies	28	Environment Flow Dynamics. Marine Section (TEP209)	9
Personality, Evaluation and Psychological Treatment	27	Educative Communication Research (HUM871)	9
Economy and Business Quantitative Methods	25	Municipal Roman Laws in Andalusia (SEJ286)	9
Regional Geographic Analysis and Physical Geography	24	Engineering and Infrastructure (TEP190)	8
Stratigraphy and Paleontology	24	Literature and Translation (HUM383)	8
Computer Architecture and Technology	23	Seismology and Geophysics (RNM104)	8
Political and Governmental Science	23	Teaching of Language and Literature (HUM457)	7
Commercial Law and Roman Law	22	Andalusian Recent Prehistory Studies (HUM274)	7

Researchers on Google Scholar

Table 10. Ranking of UGR researchers according to the number of citations on Scholar

Francisco Herrera	30136	J. Alberto Aragon-Correa	2764
Enrique Herrera-Viedma	12536	Rafael Molina	2733
Roberto Pittau	9859	Fernando González-Caballero	2688
José Luis Verdegay	8666	Francisco O'valle Ravassa	2616
Angel Gil Hernández	8662	Chris Cornelis	2616
Andrew S. Kowalski	8415	M. Rosario Rueda	2602
José Rivera-Utrilla	6322	Javier Ramírez	2513
Jonatan R Ruiz, PhD	6298	Javier Llorens Montes	2438
Francisco B Ortega, PhD	6005	Juan Luis Castro	2377
José María Gómez	5859	Jorge Casillas	2269
Regino Zamora	5820	Antonio González	2203
Juan de Dios Luna del Castillo	5717	Julio Ortega	2159
Carmen Batanero	5645	Miguel Moya	2109
MA Vila	5499	Pedro J Real	2097
Antonio Segura Carretero	4939	José C. Segura	2085
Juan D. Godino	4641	Victor Herrero-Solana	2084
Roque Hidalgo Álvarez	4573	Luis Rico	2082
AV Delgado	4271	Emilio Delgado López-Cózar	2030
Enrique Ruiz Arriola	4232	Francisco Santoyo	2015
Manuel Lozano	4203	FJ Olmo	1944
Juan J. Merelo Guervós	4034	Miguel Sánchez Caja	1938
Jose Luis Vilchez Quero	4005	Miguel Angel Cabrerizo Vilchez	1898
Jose L. Oliver	3932	JE Amaro	1857
Joaquín Marro	3909	Juana Pérez	1853
Juan Lupiáñez	3792	José Gutiérrez Pérez	1819
Miguel A Muñoz	3755	Eduardo Ros	1754



Antonio Bolivar	3755	Pedro J Torres	1747
Josefa Leon Lopez	3679	Juan Manuel Gorriz	1712
González Lodeiro	3602	Juan Gabriel Martinez	1707
Jorge Castro	3570	José Antonio Lupiáñez Cara	1694
Francisco Carrasco Marin	3471	María Dolores Suarez	1661
Serafín Moral	3457	Evaristo Jimenez-Contreras	1610
Francisco F Nogales	3359	Nikolay Vassilev	1608
Alberto Prieto	3265	Pedro Medina	1608
Enrique Fernández Mondejar	3261	Rosa Pulgar	1582
Luis M. de Campos	3225	Angel Rodríguez Palacios	1580
Lucas Alados-Arboledas	3130	Jose Azañon	1542
Vicente E. Caballo	3079	Rafael Alcalá	1485
Lorenzo Luis Salcedo Moreno	3006	Juan de Vicente	1478
Juan Pedro M. Camacho	2985	Ángela Ruiz-Extremera	1419
Lucas Alados Arboledas	2873	A Catena	1389



POSITION OF THE UGR IN RESEARCH RANKINGS

General results of output and impact

Table 11. Position occupied by the UGR in the 12 scientific fields taken into consideration in the I-UGR Rankings according to Field and Scientific Discipline. 2013 ed.

	2012 Edition 2007-2011		2013 Edition 2008-2012		2013 Edition 2009-2013	
INFORMATION AND COMMUNICATION TECHNOLOGY	1	=	1	=	1	=
EARTH AND ENVIRONMENTAL SCIENCES	3	=	3	=	3	=
MATHEMATICS	3	=	6	↓	4	↑
PSYCHOLOGY AND EDUCATION	3	=	3	=	2	↑
OTHER SOCIAL SCIENCES	4	=	5	↓	6	↓
ECONOMICS, ENTERPRISE AND BUSINESS	7	↑	12	↓	18	↓
PHYSICS	7	↓	5	↑	10	↓
AGRARIAN SCIENCES	9	=	9	=	6	↑
BIOLOGICAL SCIENCES	10	↑	10	=	10	=
MEDICINE AND PHARMACY	10	=	10	=	9	↑
ENGINEERING	12	↓	12	=	13	↓
CHEMISTRY AND CHEMICAL ENGINEERING	16	=	16	=	15	↑

Table 12. Position occupied by the UGR in the scientific disciplines taken into consideration in the I-UGR Rankings according to Field and Scientific Discipline. 2014 ed.

	Edition 2012 2007-2011		Edition 2013 2008-2012		Edition 2014 2009-2013	
Documentation	1	=	1	=	1	=
Education	3	↑	1	↑	1	=
Computer Science	1	=	1	=	1	=
Dentistry	1	=	1	=	2	↓
Physical Activity and Sport	3	↑	1	↑	1	=
Geosciences	2	=	2	=	2	=
Statistics	1	↓	2	↓	1	↑
Rehabilitation and Physiotherapy	7	↑	2	↑	3	↓
Psychology	3	=	3	=	2	↑
Ecology and Environmental Sciences	5	↓	6	↓	5	↑
Public Health	4	=	4	=	4	=
Electrical and Electronic Engineering	3	↓	4	↓	3	↑
Agriculture	4	↓	5	↓	4	↑
Civil Engineering	9	↑	6	↑	9	↓
Business and Enterprise	4	↓	15	↓	20	↓
Plant and Animal Biology	8	↑	7	↑	9	↓
Pharmacy and Toxicology	6	↓	8	↓	8	=
Economics	9	↑	8	↑	10	↓
Neuroscience	10	↑	9	↑	8	↑
Industrial Engineering	16	↑	15	↑	7	↑
Geography and Town Planning	23	↑	10	↑	9	↑
Medicine	11	=	11	=	10	↑
Food Science and Technology	12	↑	11	↑	7	↑
Telecommunications	--	---	---	---	---	---
Political Science	10	↓	12	↓	7	↑
Communication	8	↓	12	↓	12	=



Materials Science	14	13	↑	15	↓
Architecture	14	16	↓	13	↑
Sociology	10	13	↓	16	↓
Multidisciplinary	10	15	↓	15	=
Chemistry	16	16	=	15	↑
Biochemistry, Celular and Molecular Biology	14	17	↓	12	↑
Genetics and Evolutionary Biology	17	17	=	16	↑
Microbiology and Virology	18	22	↓	21	↑
Veterinary Science and Livestock Breeding	26	33	↓	32	↑
Chemical Engineering	26	29	↓	17	↑

A strategic map is provided below showing the position occupied by the UGR in the 12 Scientific Fields in the I-UGR Rankings so that we can see where we stand in relation to other universities

Table 13. Strategic Map I-UGR Rankings. 2009-2013. Field: Agrarian Sciences

Rank	UNIVERSITY	QUANTITATIVE DIMENSION	QUANTITATIVE DIMENSION	IFQ ² A INDEX
1	Cordoba	0,906	0,632	0,572
2	Madrid Polytechnic	0,935	0,455	0,426
3	Barcelona Autonomous	0,671	0,620	0,416
4	Barcelona	0,566	0,729	0,412
5	Lleida	0,601	0,663	0,399
6	Granada	0,465	0,741	0,345
7	Catalonia Polytechnic	0,366	0,908	0,333
8	Santiago de Compostela	0,609	0,532	0,324
9	Castilla la Mancha	0,492	0,657	0,323
10	Madrid Complutense	0,503	0,622	0,313
11	Valencia Polytechnic	0,642	0,475	0,305
12	Vigo	0,451	0,673	0,304
13	Miguel Hernández	0,403	0,693	0,280
14	Seville	0,480	0,554	0,266
15	Zaragoza	0,475	0,527	0,250
16	Cartagena Polytechnic	0,316	0,780	0,246
17	Valencia	0,328	0,694	0,227
18	Girona	0,325	0,688	0,224
19	Murcia	0,427	0,512	0,218
20	León	0,437	0,474	0,207

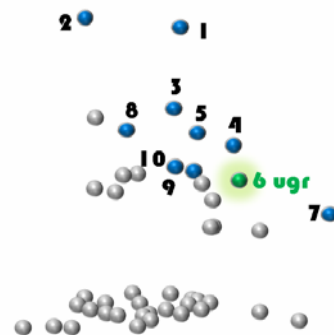


Table 14. Strategic Map I-UGR Rankings. 2009-2013. Field: Biological Sciences

Rank	UNIVERSITY	QUANTITATIVE DIMENSION	QUANTITATIVE DIMENSION	IFQ ² A INDEX
1	Barcelona	1,000	0,708	0,708
2	Barcelona Autonomous	0,806	0,629	0,507
3	Pompeu Fabra	0,486	1,000	0,486
4	Madrid Autonomous	0,650	0,646	0,420
5	Valencia	0,514	0,630	0,324
6	Santiago de Compostela	0,476	0,645	0,307
7	Madrid Complutense	0,565	0,514	0,291
8	Seville	0,365	0,589	0,215
9	Basque Country	0,341	0,551	0,188
10	Granada	0,355	0,528	0,188
11	Cordoba	0,338	0,535	0,181
12	Navarre	0,251	0,678	0,170
13	Zaragoza	0,317	0,534	0,169
14	Salamanca	0,284	0,592	0,168
15	Valencia Polytechnic	0,290	0,569	0,165
16	Oviedo	0,262	0,613	0,160
17	Rovira i Virgili	0,238	0,659	0,157
18	Vigo	0,281	0,548	0,154
19	Catalonia Polytechnic	0,208	0,689	0,143
20	Balearic Islands	0,209	0,665	0,139

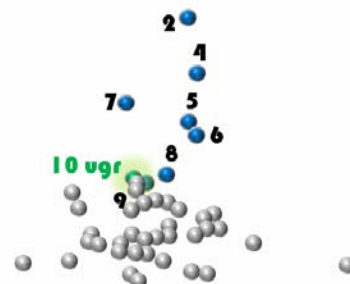




Table 15. Strategic Map I-UGR Rankings. 2009-2013. Field: Earth and Environmental Sciences

Rank	University	QUANTITATIVE DIMENSION	QUANTITATIVE DIMENSION	IFQ ² A INDEX
1	Barcelona	1.000	0.757	0.757
2	Barcelona Autonomous	0.861	0.824	0.710
3	Granada	0.719	0.630	0.453
4	Girona	0.432	0.929	0.401
5	Madrid Complutense	0.661	0.588	0.389
6	Catalonia Polytechnic	0.566	0.614	0.347
7	Valencia	0.431	0.686	0.295
8	Castilla la Mancha	0.432	0.650	0.281
9	Basque Country	0.425	0.648	0.276
10	Rev Juan Carlos	0.313	0.867	0.271
11	Santiago de Compostela	0.397	0.682	0.271
12	Seville	0.394	0.675	0.266
13	Rovira i Virgili	0.320	0.764	0.245
14	Madrid Autonomous	0.387	0.626	0.242
15	Almeria	0.272	0.882	0.240
16	Extremadura	0.309	0.774	0.239
17	Balearic Islands	0.312	0.755	0.235
18	Vigo	0.412	0.563	0.232
19	Alicante	0.320	0.700	0.224
20	Valencia Polytechnic	0.336	0.651	0.219

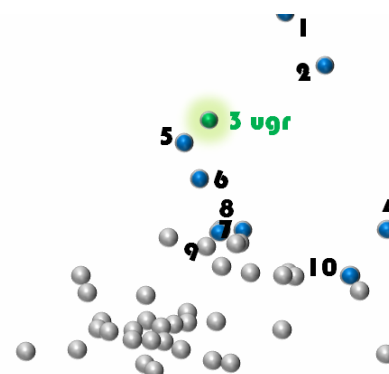


Table 16. Strategic Map I-UGR Rankings. 2009-2013. Field: Economics, Enterprise and Business

Rank	University	QUANTITATIVE DIMENSION	QUANTITATIVE DIMENSION	IFQ ² A INDEX
1	Pompeu Fabra	0.811	0.876	0.710
2	Barcelona Autonomous	0.995	0.706	0.702
3	Navarre	0.706	0.803	0.567
4	Carlos III	0.866	0.640	0.555
5	Barcelona	0.806	0.598	0.482
6	Valencia	0.728	0.436	0.317
7	IE University	0.300	0.926	0.278
8	Valencia Polytechnic	0.393	0.561	0.220
9	Basque Country	0.453	0.478	0.217
10	Jaume I Castellón	0.408	0.529	0.216
11	Seville	0.377	0.549	0.207
12	Pablo de Olavide	0.301	0.666	0.201
13	Alicante	0.38	0.515	0.196
14	Madrid Autonomous	0.386	0.451	0.174
15	Murcia	0.386	0.422	0.163
16	Zaragoza	0.476	0.335	0.160
17	Navarre Public	0.319	0.487	0.155
18	Granada	0.390	0.390	0.152
19	Santiago de Compostela	0.283	0.525	0.148
20	Oviedo	0.363	0.402	0.146

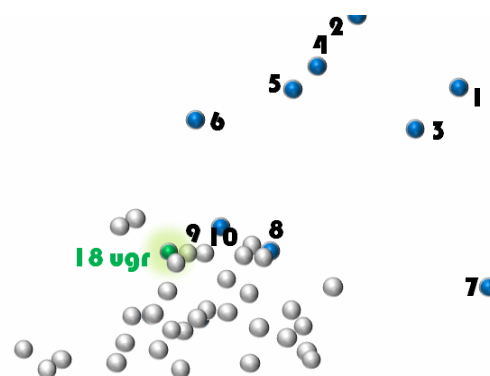


Table 17. Strategic Map I-UGR Rankings. 2009-2013. Field: Physics

Rank	University	QUANTITATIVE DIMENSION	QUANTITATIVE DIMENSION	IFQ ² A INDEX
1	Madrid Autonomous	0.995	0.701	0.697
2	Barcelona	0.893	0.668	0.596
3	Valencia	0.809	0.674	0.545
4	La Laguna	0.561	0.759	0.426
5	Barcelona Autonomous	0.677	0.628	0.425
6	Cantabria	0.470	0.839	0.394
7	Madrid Complutense	0.694	0.533	0.370
8	Catalonia Polytechnic	0.654	0.555	0.363
9	Basque Country	0.636	0.504	0.321
10	Granada	0.472	0.599	0.282
11	Santiago de Compostela	0.428	0.546	0.234
12	Zaragoza	0.446	0.458	0.204
13	Balearic Islands	0.275	0.705	0.194
14	Oviedo	0.241	0.499	0.120
15	Seville	0.311	0.379	0.118
16	Valencia Polytechnic	0.304	0.384	0.117
17	Vigo	0.231	0.491	0.114
18	Cordoba	0.141	0.807	0.113
19	Madrid Polytechnic	0.389	0.291	0.113
20	Alicante	0.210	0.514	0.108

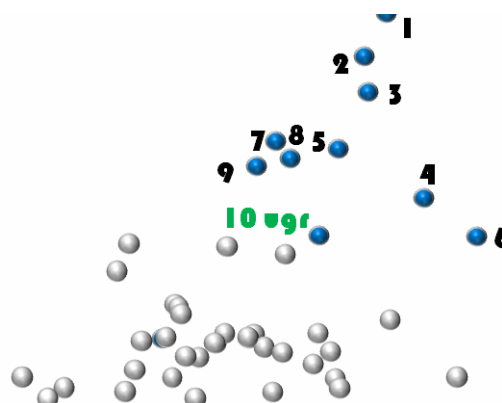




Table 18. Strategic Map I-UGR Rankings. 2009-2013. Field: Engineering

Rank	University	QUANTITATIVE DIMENSION	QUANTITATIVE DIMENSION	IFQ ² A INDEX
1	Catalonia Polytechnic	0.999	0.654	0.653
2	Barcelona	0.577	0.955	0.551
3	Barcelona Autonomous	0.599	0.833	0.499
4	Zaragoza	0.602	0.816	0.492
5	Vigo	0.491	0.913	0.449
6	Valencia	0.473	0.946	0.448
7	Madrid Autonomous	0.499	0.865	0.432
8	Valencia Polytechnic	0.744	0.580	0.432
9	Seville	0.621	0.672	0.417
10	Madrid Complutense	0.503	0.809	0.407
11	Basque Countrv	0.579	0.677	0.392
12	Madrid Polytechnic	0.739	0.422	0.312
13	Granada	0.445	0.678	0.302
14	Castilla la Mancha	0.387	0.701	0.271
15	Jaume I Castellón	0.322	0.824	0.266
16	Rovira i Virgili	0.310	0.837	0.260
17	Cordoba	0.246	0.902	0.222
18	Santiago de Compostela	0.292	0.722	0.211
19	Alicante	0.278	0.736	0.205
20	Carlos III	0.387	0.479	0.185

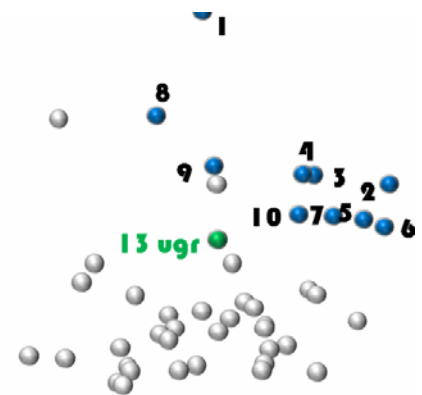


Table 19. Strategic Map I-UGR Rankings. 2009-2013. Field: Mathematics

Rank	University	QUANTITATIVE DIMENSION	QUANTITATIVE DIMENSION	IFQ ² A INDEX
1	Santiago de Compostela	0.627	0.759	0.476
2	Catalonia Polytechnic	0.881	0.532	0.468
3	Barcelona	0.687	0.653	0.448
4	Granada	0.739	0.506	0.374
5	Valencia Polytechnic	0.675	0.503	0.339
6	Seville	0.670	0.502	0.336
7	Madrid Complutense	0.650	0.454	0.295
8	Barcelona Autonomous	0.566	0.470	0.266
9	Pompeu Fabra	0.330	0.769	0.254
10	Zaragoza	0.470	0.490	0.230
11	Madrid Autonomous	0.477	0.467	0.223
12	Carlos III	0.445	0.497	0.221
13	Madrid Polytechnic	0.418	0.460	0.192
14	Valencia	0.394	0.446	0.176
15	Vigo	0.341	0.510	0.174
16	Murcia	0.356	0.48	0.171
17	La Laguna	0.286	0.565	0.162
18	Oviedo	0.320	0.486	0.156
19	Malaga	0.333	0.463	0.154
20	Basque Countrv	0.320	0.440	0.141

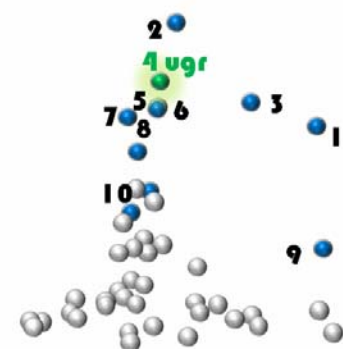


Table 20. Strategic Map I-UGR Rankings. 2009-2013. Field: Medicine and Pharmacy

Rank	University	QUANTITATIVE DIMENSION	QUANTITATIVE DIMENSION	IFQ ² A INDEX
1	Barcelona	1.000	0.960	0.96
2	Barcelona Autonomous	0.667	0.789	0.527
3	Valencia	0.477	0.745	0.355
4	Navarre	0.373	0.904	0.337
5	Madrid Autonomous	0.383	0.831	0.318
6	Madrid Complutense	0.392	0.644	0.253
7	Pompeu Fabra	0.234	0.928	0.217
8	Santiago de Compostela	0.291	0.694	0.202
9	Granada	0.304	0.622	0.189
10	Salamanca	0.245	0.756	0.185
11	Zaragoza	0.226	0.678	0.153
12	Cordoba	0.158	0.86	0.136
13	Basque Countrv	0.215	0.629	0.135
14	Rovira i Virgili	0.166	0.796	0.132
15	Seville	0.192	0.640	0.123
16	Miguel Hernández	0.156	0.776	0.121
17	Oviedo	0.173	0.678	0.118
18	Murcia	0.184	0.576	0.106
19	Cantabria	0.123	0.721	0.089
20	Vigo	0.120	0.657	0.079

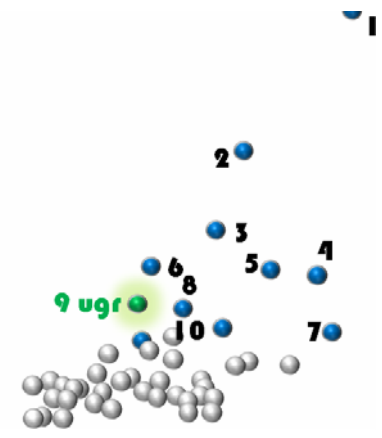




Table 21. Strategic Map I-UGR Rankings. 2009-2013. Field: Other Social Sciences

Rank	University	QUANTITATIVE DIMENSION	QUANTITATIVE DIMENSION	IFQ ² A INDEX
1	Barcelona	1.000	0.709	0.709
2	Barcelona Autonomous	0.833	0.615	0.512
3	Rovira i Virgili	0.447	1.000	0.447
4	Pompeu Fabra	0.724	0.615	0.445
5	Madrid Complutense	0.777	0.504	0.392
6	Granada	0.73	0.534	0.390
7	Carlos III	0.448	0.558	0.250
8	Madrid Autonomous	0.442	0.538	0.238
9	Zaragoza	0.427	0.544	0.232
10	Valencia	0.467	0.463	0.216
11	Santiago de Compostela	0.292	0.644	0.188
12	Navarre	0.338	0.536	0.181
13	Las Palmas de Gran Canaria	0.239	0.733	0.175
14	Seville	0.357	0.473	0.169
15	Basque Countrv	0.386	0.413	0.160
16	Cantabria	0.242	0.631	0.152
17	Balearic Islands	0.201	0.754	0.152
18	Alcalá de Henares	0.272	0.543	0.148
19	Madrid Polytechnic	0.237	0.619	0.147
20	U.N.E.D.	0.321	0.454	0.146

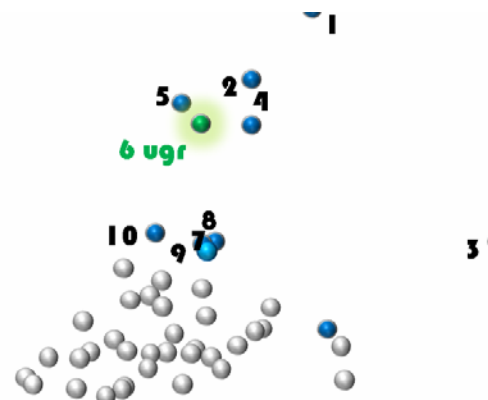


Table 22. Strategic Map I-UGR Rankings. 2009-2013. Field: Psychology and Education

Rank	University	QUANTITATIVE DIMENSION	QUANTITATIVE DIMENSION	IFQ ² A INDEX
1	Barcelona	0.989	0.790	0.781
2	Granada	0.928	0.564	0.524
3	Valencia	0.780	0.665	0.519
4	Barcelona Autonomous	0.658	0.595	0.392
5	Madrid Complutense	0.592	0.529	0.313
6	Pompeu Fabra	0.340	0.881	0.299
7	Madrid Autonomous	0.563	0.500	0.282
8	La Laguna	0.354	0.658	0.233
9	Basque Countrv	0.455	0.451	0.205
10	Balearic Islands	0.253	0.791	0.200
11	Jaume I Castellón	0.279	0.544	0.151
12	Jaén	0.265	0.562	0.149
13	Oviedo	0.358	0.397	0.142
14	Murcia	0.386	0.365	0.141
15	Santiago de Compostela	0.315	0.441	0.139
16	U.N.E.D.	0.343	0.370	0.127
17	Seville	0.320	0.376	0.120
18	Malaga	0.302	0.379	0.114
19	Navarre	0.144	0.765	0.110
20	Valladolid	0.163	0.423	0.069

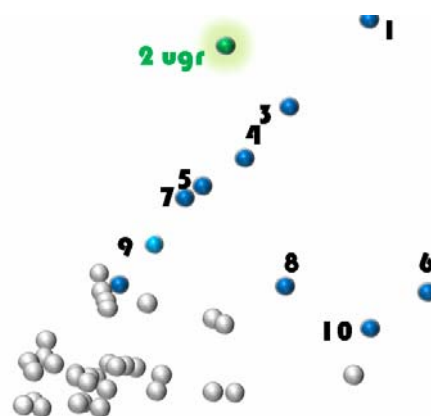


Table 23. Strategic Map I-UGR Rankings. 2009-2013. Field: Chemistry and Chemical Engineering

Rank	University	QUANTITATIVE DIMENSION	QUANTITATIVE DIMENSION	IFQ ² A INDEX
1	Barcelona	0.975	0.720	0.702
2	Valencia	0.802	0.789	0.633
3	Valencia Polytechnic	0.763	0.739	0.564
4	Madrid Autonomous	0.721	0.722	0.521
5	Basque Countrv	0.798	0.623	0.497
6	Madrid Complutense	0.710	0.673	0.477
7	Zaragoza	0.666	0.708	0.471
8	Barcelona Autonomous	0.616	0.725	0.447
9	Rovira i Virgili	0.495	0.809	0.400
10	Vigo	0.535	0.700	0.375
11	Jaume I Castellón	0.375	0.983	0.369
12	Santiago de Compostela	0.585	0.612	0.358
13	Alicante	0.457	0.746	0.341
14	Seville	0.508	0.632	0.321
15	Granada	0.468	0.590	0.276
16	Oviedo	0.407	0.623	0.253
17	Cordoba	0.353	0.643	0.227
18	Girona	0.309	0.690	0.213
19	Castilla la Mancha	0.340	0.577	0.196
20	La Laguna	0.282	0.639	0.180

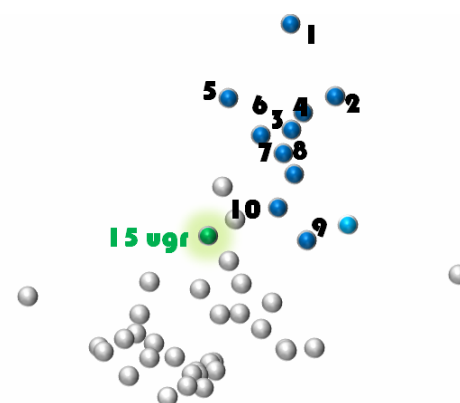
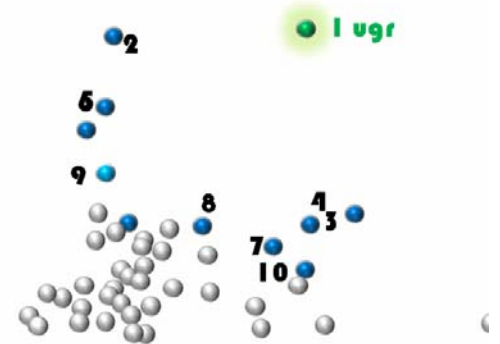




Table 24. Strategic Map I-UGR Rankings. 2009-2013. Field: Information and Communication Technologies

Rank	University	QUANTITATIVE DIMENSION	QUANTITATIVE DIMENSION	IFQ ² A INDEX
1	Granada	0.838	0.704	0.591
2	Catalonia Polytechnic	0.816	0.395	0.323
3	Jaén	0.383	0.783	0.3
4	Barcelona	0.358	0.711	0.254
5	Valencia Polytechnic	0.644	0.382	0.246
6	Madrid Polytechnic	0.587	0.351	0.206
7	Rovira i Virgili	0.304	0.652	0.198
8	Oviedo	0.353	0.538	0.19
9	Carlos III	0.485	0.382	0.185
10	Cordoba	0.247	0.703	0.174
11	Zaragoza	0.349	0.483	0.169
12	Pompeu Fabra	0.284	0.546	0.155
13	Madrid Complutense	0.361	0.419	0.151
14	Navarre Public	0.210	0.691	0.145
15	Seville	0.387	0.369	0.143
16	Basque Country	0.321	0.442	0.142
17	Murcia	0.295	0.472	0.139
18	Malaga	0.341	0.397	0.135
19	Barcelona Autonomous	0.304	0.440	0.134
20	Ramon Llull	0.119	1.000	0.119





MOST CITED RESEARCHERS AND PAPERS

Researchers included on Highcited.com

- **Francisco Herrera Triguero.** Director of the research group SCI²S - Soft Computing and Intelligent Information Systems and a member of the Department of Computation and Artificial Intelligence Sciences.
- **Enrique Herrera-Viedma.** Member of the research group SCI²S - Soft Computing and Intelligent Information Systems and a member of the Department of Computation and Artificial Intelligence Sciences.

Highly Cited Papers - ESI

Table 25. Number of Highly Cited Papers from the University of Granada in the ESI, distributed by ESI category

PHYSICS	46	24%
ENGINEERING	23	12%
COMPUTER SCIENCE	21	11%
SPACE SCIENCE	12	6%
CLINICAL MEDICINE	12	6%
MATHEMATICS	10	5%
SOCIAL SCIENCES, GENERAL	10	5%
AGRICULTURAL SCIENCES	9	5%
ENVIRONMENT/ECOLOGY	8	4%
CHEMISTRY	7	4%
PLANT & ANIMAL SCIENCE	7	4%
BIOLOGY & BIOCHEMISTRY	6	3%
GEOSCIENCES	6	3%
PHARMACOLOGY & TOXICOLOGY	3	2%
PSYCHIATRY/PSYCHOLOGY	3	2%
MOLECULAR BIOLOGY & GENETICS	2	1%
NEUROSCIENCE & BEHAVIOR	1	1%
ECONOMICS & BUSINESS	1	1%

- Chronological Period: Complete
- Source: Essential Science Indicators – Thomson Reuters

Graph 5. Annual evolution of the number of highly cited papers in the Essential Science Indicators from Thomson Reuters

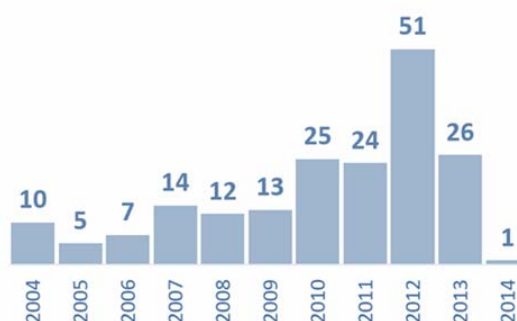




Table 26. Bibliographic references of highly cited papers

ADDICT BIOL 19 (2): 272-281 MAR 2014	IEEE TRANS SYST MAN CYBERN C 42 (1): 86-100 JAN 2012	NEW J PHYS 13: - MAY 24 2011
AMER J EPIDEMIOL 174 (2): 173-184 JUL 15 2011	IEEE TRANS SYST MAN CYBERN C 42 (4): 463-484 JUL 2012	NEW PHYCOL 176 (4): 749-763 2007
ANN INST HENRI POINCARÉ-ANAL 30 (1): 141-155 JAN-FEB 2013	INFORM SCIENCES 180 (10): 2044-2064 SP. ISS. SI MAY 15 2010	NEW PHYCOL 184 (2): 353-364 2009
APPL CLAY SCI 36 (1-3): 22-36 APR 2007	INFORM SCIENCES 180 (23): 4477-4495 DEC 1 2010	NEW PHYCOL 188 (2): 333-353 2010
APPL INTELL 36 (2): 330-347 MAR 2012	INFORM SCIENCES 181 (20): 4340-4360 OCT 15 2011	NUCL PHYS B 813 (1-2): 22-90 MAY 21 2009
APPL SOFT COMPUT 13 (1): 149-157 JAN 2013	INFORM SCIENCES 181 (9): 1503-1516 MAY 1 2011	NUTR METAB CARDIOVASC DIS 20 (4): 284-294 MAY 2010
ASTRON ASTROPHYS 520: - SEP-OCT 2010	INFORM SCIENCES 184 (1): 1-19 FEB 1 2012	NUTR REV 68 (4): 191-206 APR 2010
ASTRON ASTROPHYS 536: - DEC 2011	INFORM SCIENCES 186 (1): 73-92 MAR 1 2012	NUTRITION 28 (1): 9-19 JAN 2012
ASTRON ASTROPHYS 536: - DEC 2011	INFORM SCIENCES 207: 1-18 NOV 10 2012	PHARMACOECONOMICS 30 (4): 257-270 2012
ASTRON ASTROPHYS 536: - DEC 2011	INFORM SCIENCES 221: 110-123 FEB 1 2013	PHYS LETT B 592 (1-4): 1-1109 JUL 15 2004
ASTRON ASTROPHYS 536: - DEC 2011	INFORM SCIENCES 241: 28-42 AUG 20 2013	PHYS LETT B 667 (1-5): 1+ SEP 18 2008
ASTRON ASTROPHYS 536: - DEC 2011	INT J CLIMATOL 24 (8): 925-944 JUN 30 2004	PHYS LETT B 685 (4-5): 239-246 MAR 8 2010
ASTRON ASTROPHYS 536: - DEC 2011	INT J CLIN HEALTH PSYCHOL 8 (3): 751-764 SEP 2008	PHYS LETT B 688 (1): 21-42 APR 26 2010
ASTRON ASTROPHYS 538: - FEB 2012	INT J COMPUT INTELL SYST 3 (4): 382-395 SP. ISS. SI OCT 2010	PHYS LETT B 701 (2): 186-203 JUL 4 2011
ASTRON ASTROPHYS 550: - FEB 2013	INT J EPIDEMIOL 41 (4): 930-940 AUG 2012	PHYS LETT B 707 (3-4): 330-348 FEB 1 2012
ASTROPART PHYSICS 29 (3): 188-204 APR 2008	INT J INF TECHNOL DECIS MAK 8 (1): 109-131 MAR 2009	PHYS LETT B 708 (1-2): 37-54 FEB 14 2012
BIOCHEM PHARMACOL 77 (6): 1053-1063 MAR 15 2009	INT J INTELL SYST 24 (2): 201-222 FEB 2009	PHYS LETT B 709 (3): 137-157 MAR 19 2012
BIOL CONSERV 157: 372-385 JAN 2013	INT J OBESITY 32 (1): 1-11 JAN 2008	PHYS LETT B 710 (1): 49-66 MAR 29 2012
BIOL REV 89 (1): 215-231 FEB 2014	INT J PEDIATR OBES 5 (1): 3-18 2010	PHYS LETT B 710 (3): 383-402 APR 12 2012
BIOPHYS CHEM 148 (1-3): 1-15 MAY 2010	ISPRS J PHOTOGRAMM 67: 93-104 JAN 2012	PHYS LETT B 713 (4-5): 387-407 JUL 18 2012
BRIT J NUTR 104 (1): 83-92 JUL 14 2010	J AM SOC INF SCI TECHNOL 62 (7): 1382-1402 JUL 2011	PHYS LETT B 716 (1): 1-29 SEP 17 2012
BRIT J NUTR 107: S159-S170 SUPPL. 2 JUN 2012	J AMER COLL NUTR 25 (2): 79-99 APR 2006	PHYS LETT B 718 (3): 879-901 JAN 8 2013
BRIT J NUTR 107: S85-S106 SUPPL. 2 JUN 2012	J CLEAN PROD 24: 76-84 MAR 2012	PHYS LETT B 718 (4-5): 1284-1302 JAN 29 2013
BRIT J SOC PSYCHOL 48 (1): 1-33 MAR 2009	J CLIN ONCOL 31 (17): 2189-U195 JUN 10 2013	PHYS LETT B 719 (4-5): 220-241 FEB 26 2013
BRIT J SPORT MED 45 (6): 504-510 MAY 2011	J COLLOID INTERFACE SCI 309 (2): 194-224 MAY 15 2007	PHYS LETT B 720 (1-3): 13-31 MAR 13 2013
CARBON 42 (1): 83-94 2004	J DIFFERENTIAL EQUATIONS 232 (1): 277-284 JAN 1 2007	PHYS LETT B 720 (4-5): 277-308 MAR 26 2013
CARBON 43 (3): 455-465 2005	J DIFFERENTIAL EQUATIONS 239 (1): 196-212 AUG 1 2007	PHYS LETT B 726 (1-3): 120-144 OCT 2013
CELL 149 (5): 1048-1059 MAY 25 2012	J ENVIRON MANAGE 85 (4): 833-846 DEC 2007	PHYS LETT B 726 (1-3): 88-119 OCT 2013
CHEM ENG J 148 (2-3): 473-479 MAY 15 2009	J FUNCT ANAL 237 (2): 655-674 AUG 15 2006	PHYS REV C 86 (1): - JUL 24 2012
CHEM REV 112 (11): 5818-5878 NOV 2012	J FUNCT ANAL 264 (1): 270-287 JAN 1 2013	PHYS REV D 74 (6): - SEP 2006
CHEST 141 (2): E227S-E277S SUPPL. S FEB 2012	J HAZARD MATER 187 (1-3): 1-23 MAR 15 2011	PHYS REV D 85 (1): - JAN 18 2012
CIRCULATION 124 (23): 2483-U348 DEC 6 2011	J HEURISTICS 15 (6): 617-644 DEC 2009	PHYS REV D 85 (11): - JUN 8 2012
COMPUT PHYS COMMUN 184 (3): 986-997 MAR 2013	J HIGH ENERGY PHYS (1): - JAN 2013	PHYS REV D 86 (1): - JUL 20 2012
CRIT REV FOOD SCI NUTR 51 (4): 331-362 2011	J HIGH ENERGY PHYS (5): - MAY 2011	PHYS REV D 86 (3): - AUG 2 2012
CURR NEUROPHARMACOL 6 (4): 344-366 DEC 2008	J HIGH ENERGY PHYS (5): - MAY 2011	PHYS REV D 87 (1): - JAN 22 2013
ECOL APPL 14 (4): 1128-1138 AUG 2004	J INFORMETR 3 (4): 273-289 OCT 2009	PHYS REV LETT 101 (6): - AUG 8 2008
ENVIRON INT 37 (5): 858-866 JUL 2011	J MACH LEARN RES 9: 2677-2694 DEC 2008	PHYS REV LETT 104 (9): - MAR 5 2010
ENVIRON MICROBIOL 15 (1): 211-226 SP. ISS. SI JAN 2013	J MATH ANAL APPL 388 (2): 665-675 APR 15 2012	PHYS REV LETT 105 (25): - DEC 13 2010
EUR HEART J 34 (5): 390+ FEB 2013	J MULT-VALUED LOG SOFT COMPUT 17 (2-3): 255-287 SP. ISS. SI 2011	PHYS REV LETT 106 (13): - MAR 28 2011
EUR J OPER RES 154 (1): 98-109 APR 1	J PERINATAL MED 36 (1): 5-14 2008	PHYS REV LETT 108 (11): - MAR 13 2012



2004		
EUR J OPER RES 166 (1): 115-132 OCT 1 2005	J PHYS G-NUCL PARTICLE PHYS 33 (1): 1-+ SP. ISS. SI JUL 2006	PHYS REV LETT 108 (4): - JAN 26 2012
EUR J OPER RES 182 (1): 383-399 OCT 1 2007	J PHYS G-NUCL PARTICLE PHYS 37 (7A): 1-1422 JUL 2010	PHYS REV LETT 110 (1): - JAN 3 2013
EUR J PUBLIC HEALTH 22 (3): 373-377 JUN 2012	J PINEAL RES 38 (1): 1-9 JAN 2005	PHYS REV LETT 110 (18): - MAY 1 2013
EUR PHYS J C 70 (3): 823-874 DEC 2010	J PINEAL RES 52 (2): 167-202 MAR 2012	PLANT PHYSIOL 136 (1): 2722-2733 SEP 2004
EVOL COMPUT 12 (3): 273-302 FAL 2004	J PINEAL RES 52 (2): 217-227 MAR 2012	PLOS MED 8 (11): - NOV 2011
FOOD CHEM TOXICOL 50 (5): 1508-1516 MAY 2012	JUDGM DECIS MAK 7 (1): 25-47 JAN 2012	PROC NAT ACAD SCI USA 105 (38): 14319-14324 SEP 23 2008
FOOD CONTROL 31 (2): 353-358 JUN 2013	KNOWL-BASED SYST 23 (1): 32-39 SP. ISS. SI FEB 2010	PROG ELECTROMAGN RES 122: 61-76 2012
FOOD RES INT 50 (1): 401-408 JAN 2013	KNOWL-BASED SYST 23 (2): 169-181 MAR 2010	PUBLIC HEALTH NUTR 11 (3): 288-299 MAR 2008
FOREST ECOL MANAGE 259 (4): 660-684 SP. ISS. SI FEB 5 2010	KNOWL-BASED SYST 25 (1): 3-12 SP. ISS. SI FEB 2012	REPROD TOXICOL 24 (2): 139-177 AUG-SEP 2007
FUZZY OPTIM DECIS MAK 8 (4): 337-364 DEC 2009	LEUKEMIA 27 (11): 2165-2176 NOV 2013	REV FISH BIOL FISHERIES 15 (1-2): 75-88 FEB 2005
FUZZY SET SYSTEM 141 (1): 5-31 JAN 1 2004	MATH MODEL METHOD APPL SCI 17 (1): 1675-1692 2007	REV MOD PHYS 84 (2): 885-944 MAY 24 2012
GLOBAL ECOL BIOGEOGR 15 (1): 1-7 JAN 2006	MATH MODEL METHOD APPL SCI 20 (7): 1179-1207 JUL 2010	SCI TOTAL ENVIR 400 (1-3): 115-141 AUG 1 2008
HYDROBIOLOGIA 646 (1): 73-90 JUN 2010	MATH MODEL METHOD APPL SCI 22 (1): - JAN 2012	SCIENCE 318 (5852): 938-943 NOV 9 2007
IEEE TRANS FUZZY SYST 13 (5): 644-658 OCT 2005	MATH MODEL METHOD APPL SCI 22: - SUPPL. 1 APR 2012	SCIENCE 336 (6079): 353-355 APR 20 2012
IEEE TRANS FUZZY SYST 15 (5): 863-877 OCT 2007	MOLECULES 12 (8): 1679-1719 AUG 2007	SCIENTOMETRICS 92 (2): 281-292 SP. ISS. SI AUG 2012
IEEE TRANS FUZZY SYST 16 (2): 354-370 APR 2008	MON NOTIC ROY ASTRON SOC 371 (2): 703-718 SEP 11 2006	SOC SCI MED 70 (7): 1019-1025 APR 2010
IEEE TRANS FUZZY SYST 17 (2): 279-290 APR 2009	NAT CLIM CHANGE 2 (2): 111-115 FEB 2012	SOFT COMPUT 13 (10): 959-977 AUG 2009
IEEE TRANS FUZZY SYST 20 (1): 109-119 FEB 2012	NAT GENET 43 (7): 663-U189 JUL 2011	SOFT COMPUT 13 (3): 307-318 FEB 2009
IEEE TRANS FUZZY SYST 21 (1): 45-65 FEB 2013	NAT PHYS 8 (2): 164-167 FEB 2012	SOFT MATTER 7 (8): 3701-3710 2011
IEEE TRANS IMAGE PROCESSING 19 (1): 53-63 JAN 2010	NAT STRUCT MOL BIOL 19 (1): 79-U97 JAN 2012	TALANTA 63 (4): 1061-1067 JUL 8 2004
IEEE TRANS PATT ANAL MACH INT 34 (3): 417-435 MAR 2012	NATURE 443 (7113): 850-853 OCT 19 2006	TECTONICS 23 (1): - FEB 3 2004
IEEE TRANS SYST MAN CYBERN B 37 (1): 176-189 FEB 2007	NATURE 488 (7413): 609-+ AUG 30 2012	THROMB HAEMOST 98 (4): 756-764 OCT 2007



HUMAN RESOURCES AND FUNDING

Human resources

Table 27. Human Resources in research obtained via various national and regional calls for researchers

	2009	2010	2011	2012	2013
GRANTS and CONTRACTS FROM THE AUTONOMOUS GOVERNMENT OF ANDALUSIA					
• Areas	36	38	EXPIRED	EXPIRED	EXPIRED
• Predoctoral	32	42	18	NR	NR
• Doctors	33	13	9	NR	NR
GRANTS and CONTRACTS FROM THE MINISTRY					
• FPI Grants	29	23	30	30	19
• FPU Grants	90	79	76	78	67
• Juan de la Cierva	11	9	9	9	EX
• Ramón y Cajal	9	9	14	7	PE

- Chronological Period: 2009-2013
- Source: Vice-Rector's Office for Scientific Policy and Research

Table 28. FPI grants obtained by the universities for every 100 teachers

Rank		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total FPI / average 100 teachers
1	UPF	3.31	4.68	4.59	2.92	4.55	7.52	5.23	7.80	4.85	6.35	5.18
2	UC3M	3.89	2.02	3.64	2.95	2.46	3.27	1.38	3.18	1.31	2.15	2.62
3	UAB	2.41	2.34	1.90	1.51	2.58	2.26	2.57	2.50	2.56	2.00	2.26
4	UAM	2.14	1.93	2.72	2.20	2.16	2.50	2.18	2.35	2.18	2.10	2.25
5	UPC	2.66	1.56	2.50	2.40	1.85	2.71	1.24	2.32	1.38	2.10	2.07
6	UDG	2.80	3.19	1.36	1.40	3.06	2.91	0.77	2.23	0.73	1.43	1.99
7	UB	2.15	1.84	1.73	2.22	2.09	1.44	1.68	2.12	1.67	1.76	1.87
8	UNICAN	2.84	0.79	1.75	2.23	1.23	1.69	1.68	1.38	1.69	3.09	1.84
9	UDL	0.93	1.88	1.40	2.09	1.82	1.64	1.42	2.10	1.39	1.15	1.58
...
19	Granada	0.99	0.93	1.52	0.93	0.84	1.29	1.39	0.94	1.40	1.31	1.15

- Chronological Period: 2003-2012
- Source: IUNE

If we compare the results on a national level, the University of Granada occupies the 19th position in the Spanish university ranking according to FPI for every 100 teachers. As regards FPU grants, the University of Granada occupies the 4th position.

Table 29. FPU grants obtained by the universities for every 100 teachers

Rank		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total FPU / average 100 teachers
1	UPF	10.60	12.04	17.67	17.52	18.18	19.55	3.14	3.39	3.24	3.34	10.87
2	UAM	12.31	13.24	15.18	13.86	11.04	12.28	1.55	1.61	1.37	1.79	8.42
3	UAB	8.34	9.97	13.13	13.32	14.81	14.42	2.30	1.69	1.95	2.06	8.20
4	Granada	7.90	9.21	10.88	10.95	10.43	11.44	2.41	3.31	3.54	3.03	7.31
5	UB	7.50	7.89	9.43	9.35	9.15	10.61	1.94	1.97	1.85	1.93	6.16
6	UV	7.96	9.19	10.19	9.12	8.54	9.03	1.14	1.75	1.66	1.75	6.03
7	USC	6.33	7.51	9.35	9.20	9.43	10.57	1.64	1.77	1.10	1.55	5.85
8	UCM	7.45	8.29	9.21	8.83	8.78	9.41	1.81	1.50	1.50	1.55	5.83
9	UCO	8.09	8.66	9.60	8.42	7.45	7.96	1.10	1.59	1.62	1.22	5.57
10	USAL	6.54	7.45	8.11	6.92	7.13	7.74	1.51	1.26	1.67	0.88	4.92

- Chronological Period: 2003-2012



• Source: IUNE

Research Projects

Table 30. Annual evolution of the Research Projects from the National Plan

Year	Number Projects	Funding Average	Funding Total
2009	109	€92,473	€10,079,542
2010	120	€74,014	€8,807,711
2011	104	€83,257	€8,658,739
2012	86	€66,368	€5,707,681
2013	81	€74,066	€5,999,355
Total	500	€78,036	€39,253,028

- Chronological Period: 2009-2013
- Source: Vice-Rector's Office for Scientific Policy and Research

Table 31. Breakdown of the National Plan 2013 call according to the typology of the call

	Number Projects	Funding Amount	Average Funding	Predoctoral Contracts
EXCELLENCE	47	€3,049,733	€64,887	18
CHALLENGES	34	€2,949,622	€86,753	8
Total	81	€5,999,355	€74,066	26

Table 32. National Plan Research project obtained by the universities

Rank	University	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total PN
1	Barcelona	159	143	198	192	132	187	199	148	164	178	1700
2	Complutense	150	137	170	181	130	173	196	158	159	168	1622
3	Barcelona Autonomous	119	81	106	135	115	98	140	127	117	104	1142
4	Valencia	95	96	116	122	108	104	122	94	100	91	1048
5	Granada	89	94	103	109	123	107	111	120	104	86	1046
6	Madrid Autonomous	84	101	118	102	78	127	120	89	97	100	1016
7	Seville	85	94	80	106	105	85	101	96	79	78	909
8	Catalonia Polytechnic	71	93	105	81	82	92	93	87	93	72	869
9	Basque Country	61	75	78	97	69	82	109	92	76	108	847
10	Zaragoza	71	71	84	89	73	84	89	90	79	73	803

- Chronological Period: 2003-2012
- Source: IUNE

Table 33. Research projects from the National Plan obtained by Spanish universities out of every 100 professors

University	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total PN average 100 teachers
1 Pompeu Fabra	15.23	10.70	9.54	16.06	10.23	12.78	17.77	13.90	13.59	21.40	14.12
2 Carlos III	10.83	10.83	10.02	10.11	7.56	8.71	9.00	7.53	8.32	8.91	9.18
3 Pablo Olavide	9.43	8.06	10.16	13.10	9.50	7.60	6.12	5.69	6.40	4.68	8.07
4 Barcelona Aut.	8.20	5.57	7.21	9.27	8.47	6.70	9.49	8.59	7.88	6.49	7.79
5 Girona	6.87	7.06	7.26	10.00	8.71	7.38	8.09	7.35	6.75	5.52	7.50
6 Madrid Aut.	6.67	7.51	8.45	7.00	5.09	8.34	7.46	5.50	6.05	6.18	6.83
8 Barcelona	5.99	5.15	7.15	7.10	4.83	6.92	7.44	5.60	6.07	7.47	6.37
9 Lleida	6.51	7.53	5.35	6.26	5.69	5.62	7.58	6.29	4.18	8.06	6.31
10 Catalonia Pol.	4.97	6.60	7.49	5.90	6.06	6.73	6.43	6.51	7.14	5.03	6.29
...
20 Granada	4.21	4.37	4.75	5.08	5.46	4.44	4.54	4.91	4.29	3.52	4.56

- Chronological Period: 2003-2012



• Source: IUNE

Projects of the National Plan 2013

Table 34. Research projects of the National Plan - Challenges

CGL2013-45410-R	REGIONAL MONITORING OF AEROSOLS IN THE ATMOSPHERE IN THREE DIMENSIONS	198,000.00	Lucas Alados Arboledas
SAF2013-47761-R	COMBINING MULTISPECTRAL LIDAR AND A NETWORK OF CEILOMETERS-RADIOMETERS		
SAF2013-47761-R	PRECLINICAL STUDY FOR THE TREATMENT OF MITOCHONDRIAL ENCEPHALOMYOPATHY ASSOCIATED WITH COENZYME Q DEFICIENCY	85,000.00	Luis Carlos Lopez Garcia
TIN2013-41990-R	TOWARDS PERSONALISED MEDICINE: DEVELOPMENT OF ARTIFICIAL INTELLIGENCE METHODS TO IDENTIFY NEW GENETIC AND EPIGENETIC MARKERS. APPLICATION TO COLORECTAL CANCER	109,559.00	Armando Blanco Moron
TIN2013-43880-R	PASSIVE MILLIMETRE IMAGING: CAPTURE, IMPROVEMENT AND DETECTION OF THREATS	105,700.00	Rafael Molina Soriano
FIS2013-41821-R	BIOLOGICAL TISSUE WITH MECHANICAL PROPERTIES CONTROLLABLE VIA MAGNETIC FIELDS	65,000.00	Modesto Torcuato Lopez Lopez
FIS2013-47666-C3-1-R	ELECTRICAL PROPERTIES OF THE SOLID/SOLUTION INTERPHASE. THEORETICAL MODELS AND APPLICATIONS FOR OBTAINING ELECTRICAL ENERGY FROM CHANGES IN SALINITY	71,700.00	Angel Vicente Delgado Mora
MAT2013-43922-R	THE LINK BETWEEN THE PHYSICAL-CHEMICAL PROPERTIES OF COLLOIDAL SYSTEMS AND THEIR EFFECTIVENESS IN NANOBIOLOGICAL APPLICATIONS	57,143.00	Ana Belen Jodar Reyes
MAT2013-44429-R	SELF-ASSEMBLY AND BEHAVIOUR OF STRONGLY CONFINED MAGNETORHEOLOGICAL FLUIDS IN FLUX	163,265.00	Juan De Vicente Alvarez-Manzanada
BIO2013-40697-R	STRUCTURAL AND THERMODYNAMIC DETERMINANTS OF THE CYTOTOXICITY OF BETA-AMYLOID OLIGOMERS IMPLICATIONS FOR ALZHEIMER'S	150,000.00	Francisco Conejero Lara
TIN2013-48319-R	STUDY OF INTELLIGENT TECHNOLOGIES FOR THE MONITORING OF WEB ENVIRONMENTS	33,150.00	Jose Manuel Zurita Lopez
TIN2013-47276-C6-3-R	ADVANCES IN DIGITAL CONTENT FOR SERIOUS GAMES	34,689.00	Carlos Ureña Almagro
AGL2013-49090-C2-2-R	BIOINFORMATIC CHARACTERISATION OF THE REGULATORY REGIONS OF THE RESISTANCE TO RED SPIDER MITES IN TOMATOES	70,000.00	Jose-Lutgardo Oliver Jimenez
CGL2013-43013-R	CONTINENTAL FORMATIONS AS POTENTIAL CONVENTIONAL AND NON-CONVENTIONAL CONTAINER ROCKS: CHARACTERISATION OF OUTCROPS AND SUBSOIL	130,000.00	Cesar Viseras Alarcon
CGL2013-46655-R	RE-USE OF AGRICULTURAL WASTE IN SOILS FOR THE OPTIMISATION OF RESOURCES IN SUBTROPICAL CULTIVATION: TOWARDS A COMPREHENSIVE PROPOSAL	94,000.00	Emilia Fernandez Ondoño
CGL2013-47038-R	ENVIRONMENTAL AND CLIMATE CHANGE IN THE SOUTH OF EUROPE - THE PALEOECOLOGICAL REGISTER OF PADUL, SIERRA NEVADA	84,000.00	Gonzalo Jimenez Moreno
CGL2013-48539-R	IMPACTS OF CLIMATE CHANGE ON THE WATER RESOURCES OF THE DUERO BASIN IN HIGH RESOLUTION	169,000.00	Maria Jesus Esteban Parra
CTM2013-46951-R	RESTORATION OF AQUATIC ECOSYSTEMS VIA MAGNETIC NANOPARTICLES: ECOTOXICOLOGICAL EFFECTS AND RECOVERY OF PHOSPHORUS AS A FERTILISER	117,000.00	Inmaculada De Vicente Alvarez Manzanada
CTQ2013-44545-R	ANALYTICAL DEVICES PRINTED ON A FLEXIBLE SUBSTRATE	117,000.00	Luis Fermin Capitan Vallvey
CTQ2013-44789-R	REDUCTION OF CO ₂ EMISSIONS AND RENEWABLE ENERGY STORAGE TECHNOLOGIES USING ADVANCED CARBON MATERIALS	131,000.00	Agustin Francisco Perez Cadenas
ECO2013-48413-R	EFFICIENCY, SOCIOECONOMIC FACTORS AND PROVISION OF LOCAL PUBLIC SERVICES VIA CLASSIFICATION, DISTANCE ASSOCIATION AND UNFOLDING TECHNIQUES	27,000.00	Jose Fernando Vera Vera
FIS2013-42204-R	EVALUATION, IMPACT AND IMPROVEMENT IN VISUAL QUALITY IN EVERYDAY SITUATIONS AFTER EYE SURGERY	42,000.00	María Rosario González Anera
MAT2013-43946-R	NON-INVASIVE OPTICAL METHODS AND INTELLIGENT SYSTEMS FOR EVALUATING NANOSTRUCTURED BIOMATERIALS: APPLICATION TO REGENERATIVE MEDICINE AND DENTISTRY	40,816.00	Maria Del Mar Perez Gomez
SAF2013-48971-C2-1-R	BIOMEDICAL APPLICATIONS OF AS-48: A PROTEIN WITH A WIDE SPECTRUM OF ANTIMICROBIAL ACTIVITY	100,000.00	Mercedes Maqueda Abreu
TEC2013-47283-R	MODELLING OF SOLAR CELLS BASED ON QUANTUM DOTS AND ORGANIC SEMICONDUCTORS	19,800.00	Salvador Rodriguez Bolivar
TEC2013-48414-C3-1-R	NUMERICAL AND EXPERIMENTAL ANALYSIS OF THE ELECTROMAGNETIC IMMUNITY OF UAV UNDER INDIRECT EFFECTS OF RAYS AND HIRF	141,000.00	Salvador Gonzalez Garcia
DEP2013-40908-R	LONGITUDINAL MONITORING AND GENETIC MODULATION IN FIBROMYALGIA. EFFECTS OF PHYSICAL EXERCISE AND HYDROTHERAPY ON PAIN, HEALTH AND QUALITY OF LIFE	100,000.00	Manuel Delgado Fernandez
DEP2013-47540-R	EFFECTS OF A RANDOMISED TEST BASED ON PHYSICAL EXERCISE ON COGNITIVE FUNCTION AND THE BRAIN (FUNCTIONALLY AND STRUCTURALLY) IN OVERWEIGHT/OBESE PRE-ADOLESCENTS	120,000.00	Francisco B Ortega Porcel
DEP2013-48211-R	PHYSICAL CONDITION AS A MEDIATOR OF THE IMPACT OF MENTAL WORKLOAD EXPERIENCED BY MILITARY AVIATION PILOTS	50,000.00	David Cardenas Velez
ECO2013-44879-R	INDIVIDUAL CHARACTERISTICS, PREFERENCES AND WELLBEING, EFFICIENT ALLOCATIONS	33,800.00	Teresa Maria Garcia Muñoz
DER2013-48416-C2-1-R	REMODELLING PUBLIC EMPLOYMENT AND THE ADMINISTRATIVE ORGANISATION TO SAFEGUARD THE WELFARE STATE	47,000.00	Federico A. Castillo Blanco
PSI2013-42792-R	NEUROPSYCHOLOGICAL AND BRAIN FUNCTION IN PERPETRATORS OF GENDER-BASED VIOLENCE	75,000.00	Miguel Perez Garcia
SAF2013-45752-R	MOLECULAR MECHANISMS OF THE ANTI-OBESITY EFFECT OF MELATONIN IN OBESE AND DIABETIC ZUCKER RATS	52,000.00	Ahmad Agil Abdalla
SAF2013-40891-R	STUDY OF THE POSITIONING OF NUCLEOSOMES IN BIVALENT CHROMATIN IN PLURIPOTENT CELLS	90,000.00	David Landeira Frias
CSO2013-43266-R	BUILDING DIFFERENCES AT SCHOOL. STUDIES OF THE CAREERS OF TEACHERS AND STUDENTS FROM THE TEMPORARY LANGUAGE ADAPTATION CLASSROOMS (ATAL)	26,000.00	F. Javier Garcia Castaño



Table 356. Research projects of the National Plan - Excellence

AGL2013-42778-P	IMPLICATION OF POLYAMINES AND BRASSINOSTEROIDS ON THE RESPONSE TO SALINITY OF THE RHIZOBIUM - LEGUME SYMBIOSIS METABOLIC AND MOLECULAR ASPECTS	102000
BIA2013-43462-P	GEOMATIC SIMULATIONS FOR MODELLING ENVIRONMENTAL DYNAMICS II. HORIZON 2020	72000
CGL2013-40785-P	ORIGIN OF ZIRCON IN MAGMATIC PROCESSES. MECHANISMS AND APPLICATIONS TO THE STUDY OF CORTICAL RECYCLING AND MANTLE DYNAMICS	200000
CGL2013-46612-P	BIOMIMETIC GROWTH OF NANOMAGNETITES. APPLICATIONS IN ASTROBIOLOGY AND NANOTECHNOLOGY	66000
CGL2013-47236-P	CARBONATE PRODUCERS IN NEOGENE CARBONATE PLATFORMS IN THE BAETIC CORDILLERA. FACTORS THAT CONTROL COMPOSITION AND RESEDIMENTATION	72000
CGL2013-47558-P	ECOLOGICAL AND GENETIC PROCESSES THAT CAUSE SPECIATION: THE INTERACTION BETWEEN HYBRIDISATION, POLIPLIIDY AND LOCAL ADAPTATION IN GENERALIST PLANTS	85000
CGL2013-47725-P	EPIDEMIOLOGY AND MOLECULAR IDENTIFICATION OF TWIN SPECIES OF ANISAKIS SIMPLEX S.L.: ITS DEVELOPMENT AND DIFFERENTIAL EXPRESSION OF PROTEOLYTIC ACTIVITY	85000
CGL2013-48193-C3-2-P	MULTIPLE FUNCTIONS OF SIGNALS: IMPORTANCE OF SEX, AGE AND BACTERIAL ENVIRONMENT	126000
CGL2013-48247-P	BIOMINERALISATION IN MOLLUSCS: CHRYSALLOGRAPHY, ORGANISATION AND EVOLUTION OF MICROSTRUCTURES. NANOSTRUCTURE AND GROWTH OF BIOCRYSTALS	90000
CSO2013-40646-P	REBUILDING THE COUNTRYSIDE OF THE NON-BORDER REGIONS THROUGH INDUSTRIAL RELOCATION AND MIGRATION: THE CASES OF MOROCCO AND MEXICO	70000
CSO2013-47713-P	GEOHISTORIC RECONSTRUCTION OF ARBOREAL VEGETATION ON MEDITERRANEAN ULTRAMAFIC SUBSTRATES	38000
CTM2013-48154-P	TREATMENT OF URBAN WASTE WATER WITH VARIABLE SALINITY IN BIOREACTORS WITH A SUBMERGED MEMBRANE WITH AND WITHOUT A BED IN SUSPENSION	168000
DER2013-48665-P	RISK EVALUATION AND MANAGEMENT IN THE FIELD OF MEDICINE AND FOOD: PHARMACOVIGILANCE AND FOOD SAFETY	38000
ECO2013-47009-P	BUSINESS-RELATED DETERMINANTS AND CONSEQUENCES OF THE GENERATION OF PATENTED ENVIRONMENTAL INNOVATIONS IN THE ENERGY INDUSTRY	41100
ECO2013-47027-P	INTEGRATION OF SUPPLY CHAIN MANAGEMENT AND QUALITY MANAGEMENT: INFLUENCE ON THE DEVELOPMENT OF DYNAMIC CAPABILITIES	61700
EDU2013-41054-P	THE "LEARN TO LIVE TOGETHER AT HOME" PROGRAMME AND ITS INFLUENCE ON IMPROVING SOCIAL COMPETENCE AND REDUCING BEHAVIOURAL ISSUES	31400
EDU2013-41141-P	MEANINGS OF PROBABILITY IN THE COMPULSORY EDUCATION CURRICULUM AND TEACHER TRAINING	31400
EDU2013-48432-P	TEACHER LEADERSHIP AND DEVELOPMENT OF SCHOOL AS A PROFESSIONAL COMMUNITY: SUCCESSFUL PRACTICES IN COMPULSORY EDUCATION	25000
FFI2013-41662-P	HERMENEUTICS TODAY. NEW TRENDS AND AUTHORS	37000
FFI2013-44836-P	NATURALISM, EXPRESSIVISM AND NORMATIVITY	45000
FIS2013-43201-P	STATISTICAL PHYSICS OF COMPLEX SYSTEMS: FROM BASIC PRINCIPLES TO THE FRONTIERS OF THE PHYSICS OF MATTER, ECOLOGY AND NEUROSCIENCE	145000
FIS2013-45952-P	ADVANCED COLORIMETRY: TEXTURE AND COLOUR IN IMAGES	32000
FPA2013-47836-C3-1-P	PRECISE CALCULATIONS FOR THE SEARCH FOR NEW PHYSICS ON THE TEV SCALE IN LARGE COLLIDERS AND PARTICLE OBSERVATORIES	140000
FPA2013-47836-C3-2-P	IMPLICATIONS OF NEW PHYSICS IN HIGH-ENERGY COLLIDERS	85000
FPA2013-47836-C3-3-P	QCD AND NEW ASTROPARTICLE PHYSICS	70000
HAR2013-41728-P	MODELS FOR PROMOTING AND APPRECIATING THE ARTS. FROM LIBERAL REFORMISM TO THE END OF AUTARKY (1925-1957)	40000
HAR2013-42794-P	SLAVERY AND RESCUE: HUMAN TRAFFICKING AND INSECURITY IN THE WESTERN MEDITERRANEAN (15 TH TO THE 19 TH CENTURIES)	34000
HAR2013-47779-C3-1-P	COLLECTIVE MOBILISATION, CONFRONTATION AND SPREAD OF DEMOCRATIC ATTITUDES AMONG THE RURAL ANDALUSIAN POPULATION DURING THE LATE FRANCO ERA AND THE POLITICAL TRANSITION, 1962-1982	26000
HAR2013-48658-C2-1-P	MUSIC DURING THE CIVIL WAR AND UNDER FRANCO (1936-1960): POPULAR CULTURES, MUSIC LIFE AND HISPANO-AMERICAN EXCHANGES	36000
MTM2013-41992-P	NON-COMMUTATIVE ALGEBRAIC STRUCTURES: APPLICATIONS	38724
MTM2013-43970-P	GLOBAL GEOMETRY OF SURFACES AND ASSOCIATED NON-LINEAR DIFFERENTIAL EQUATIONS	64525
MTM2013-47828-C2-1-P	SEMI-RIEMANNIAN GEOMETRY AND VARIATIONAL PROBLEMS IN PHYSICAL MATHEMATICS	62293
MTM2013-47929-P	ADVANCES IN MODELLING WITH FUNCTIONAL DATA. APPLICATION IN LIFETIME ANALYSIS	59500
MTM2013-48371-C2-1-P	GEOMETRICAL INEQUALITIES	40041
PSI2013-45041-P	PSYCHOSOCIAL ANALYSIS OF VIOLENCE AGAINST WOMEN: ATTITUDES, MYTHS, NORMALISING SOCIAL CONTEXTS AND TENDENCIES TOWARDS AGRESSION	35000
PSI2013-45055-P	CAUSAL LEARNING AND PERCEPTION OF UNCERTAINTY AS INDICATORS OF THE SEVERITY AND SIGNS OF PATHOLOGICAL GAMBLING	40000
PSI2013-45567-P	UNDERLYING NEURAL MECHANISMS IN THE STRATEGIC AND AUTOMATIC EFFECTS OF AFFECTIVE INFORMATION IN INTERPERSONAL DECISION-MAKING	65000
PSI2013-45678-P	SOCIAL INEQUALITY: PSYCHOSOCIAL CONSEQUENCES AND WAYS OF COPING	35000
PSI2013-46385-P	SUSTAINED ATTENTION, PHYSICAL EXERCISE AND PHYSICAL FORM: KNOWLEDGE FROM EEG AND EKG	55000
SAF2013-49019-P	A MELOTONIN GEL THAT PREVENTS AND CURES MUCOSITIS: EVALUATION OF ITS INTERACTION WITH THE CYTOTOXIC EFFECTS OF RADIO AND CHEMOTHERAPY	90000
TEC2013-46690-P	NEW APPROACHES TO THE TREATMENT OF DISTORTION FOR MULTIMEDIA APPLICATIONS ON INTELLIGENT MOBILE DEVICES	39900
TIN2013-40658-P	INTELLIGENT CONSENSUS SYSTEMS FOR DECISION-MAKING IN HETEROGENEOUS AND DYNAMIC CONTEXTS: APPLICATIONS IN E-TOURISM	75650
TIN2013-42741-P	IMPROVEMENT IN INFORMATION ACCESS SYSTEMS THROUGH THE DESIGN AND APPLICATION OF ADAPTABILITY TECHNIQUES.  	34650
TIN2013-46223-P	ARCHITECTURE FOR 5G MOBILE NETWORKS BASED ON SOFTWARE DEFINED NETWORKS	16800
TIN2013-46638-C3-2-P	PROBABILISTIC GRAPHIC MODELS FOR SCALABLE DATA ANALYSIS	54000
TIN2013-47069-P	COMPUTATIONAL NEUROSCIENCE IN CLOSED PERCEPTION-ACTION CYCLES	112500
TIN2013-47210-P	A COMPREHENSIVE APPROACH BASED ON FLEXIBLE COMPUTATION FOR THE ANALYSIS AND MODELLING OF TIME SERIES	38550

R&D OFFERING AT THE UGR



Source: OTRI - University of Granada R&D offering portal (<http://ofertaimasd.ugr.es>)

Date: June 2014

Research groups operating in the Portal	286
Lines of Research	1,435
Technical Services offered	1,415
Technological Offers	412
Search requests for researchers and/or research groups (academic year 2013/2014)	98

RESEARCH CONTRACTS AND AGREEMENTS

Research contracts and agreements made in 2013-2014

Managed by the Delegation for Transfer, Innovation and Business

No. contracts	345
Contract volume	€6,257,700.03
UGR professors involved	450 (150 as lead researchers)

Other contracts and agreements

1 collaboration agreement for the co-funding of predoctoral grants (€13,000)
19 confidentiality and material transfer agreements
3 patronage agreements (€11,000)
9 corporate collaboration agreements in general interest activities

Collaborative R&D Projects

Projects requested	24
Participants	35 external entities and 58 researchers
Projects awarded	27
Projects managed via subcontracting	42 (€3,128,775)

INDUSTRIAL AND INTELLECTUAL PROPERTY MANAGEMENT

Patents:

33 new patents
42 results eligible for protection.

International extensions:

15 international applications via PCT
1 patent application for an invention in Europe, USA, Mexico Japan, Brazil, China, Russia and Canada
1 divisional patent application in New Zealand

Use of protected results:

20 expressions of interest in protected results
3 new exclusive patent licence agreements

Prototypes and Proofs of Concept

2 technical development projects
2 grants awarded (€5,965)
3 expressions of interest from interested companies



CREATION OF COMPANIES BASED ON KNOWLEDGE: SPIN-OFF

No. of companies created 2013-2014	6
No. of UGR Spin-Offs	71
No. of products and services	234

Source: <http://spinoff.ugr.es>