



Datos de Producción Científica
(2003-2009) en
BIOTECNOLOGÍA

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COMPETITIVIDAD





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3.053
3.022
3.053
3.053
3.053
3.213 3.173 3.213
3.34 3.102 3.213
3.173

ANÁLISIS GENERAL

Objetivos:

- Cuales son las principales áreas productoras de conocimiento a nivel nacional. Patrones de publicación y de colaboración
- Cuál es su posición de estas áreas en el contexto internacional. Volumen y visibilidad
- Cuáles son los principales países productores en cada área y con cuáles colabora España

Gráfico 1. Principales indicadores bibliométricos de referencia para las categorías asociadas

Period: 2003 - 2009

■ average scientific impact above world average
■ average scientific impact below world average
--- Field Normalized Citation Score = 1.11

| Subject Category | Output | Cites | Cites per document | % Cited documents | Normalized citation |
|--|--------|-------|--------------------|-------------------|---------------------|
| Biotechnology | 3887 | 38529 | 9.91 | 87.96% | 1.09 |
| Applied Microbiology and Biotechnology | 2814 | 27042 | 9.61 | 89.52% | 1.17 |

Gráfico 2. Tipología documental por área temática 2003-2009

| Subject Categories | Article | Conference Paper | Review | Editorial | Others |
|--|---------|------------------|--------|-----------|--------|
| Biotechnology | 88% | 4% | 6% | 1% | 2% |
| Applied Microbiology and Biotechnology | 88% | 3% | 4% | 1% | 3% |

Gráfico 3. Lengua de publicación de la producción científica

| Subject Categories | English | Spanish | French | Catalan; Valencian | Others |
|--|---------|---------|--------|--------------------|--------|
| Biotechnology | 100% | 0% | 0% | 0% | 0% |
| Applied Microbiology and Biotechnology | 100% | 0% | 0% | 0% | 0% |

Gráfico 4. Excelencia científica por área temática 2003-2009

| Subject Category | Output in Excellence | Excellence |
|--|----------------------|------------|
| Biotechnology | 806 (1.84%) | 20.74 |
| Applied Microbiology and Biotechnology | 544 (1.24%) | 19.33 |

Gráfico 5. Evolución de la excelencia científica en cada categoría temática en comparación con el total español

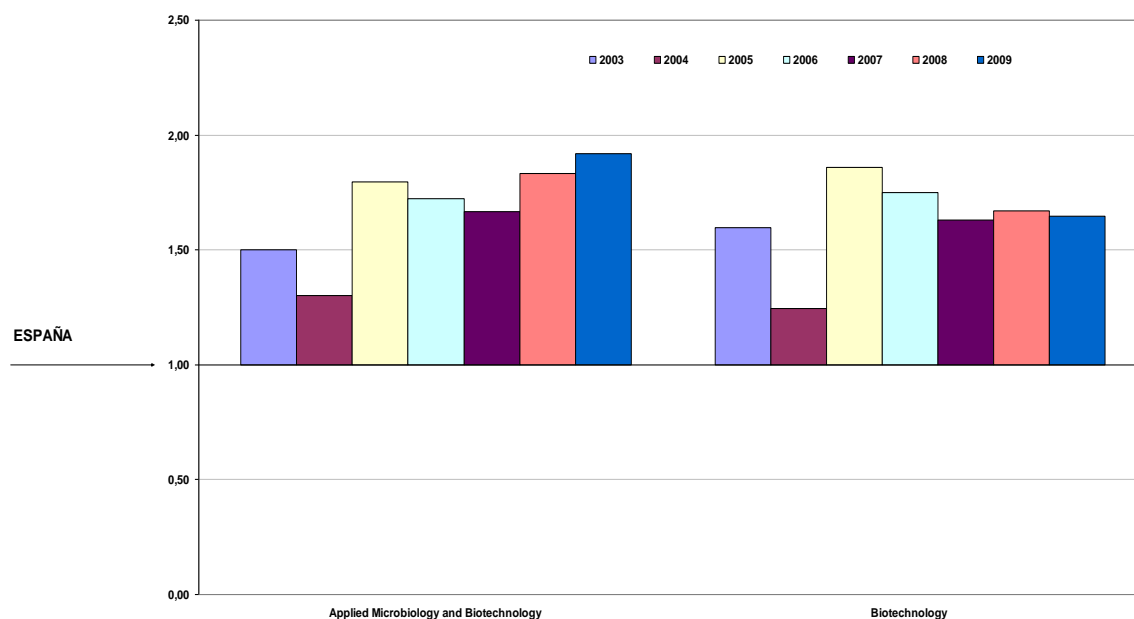
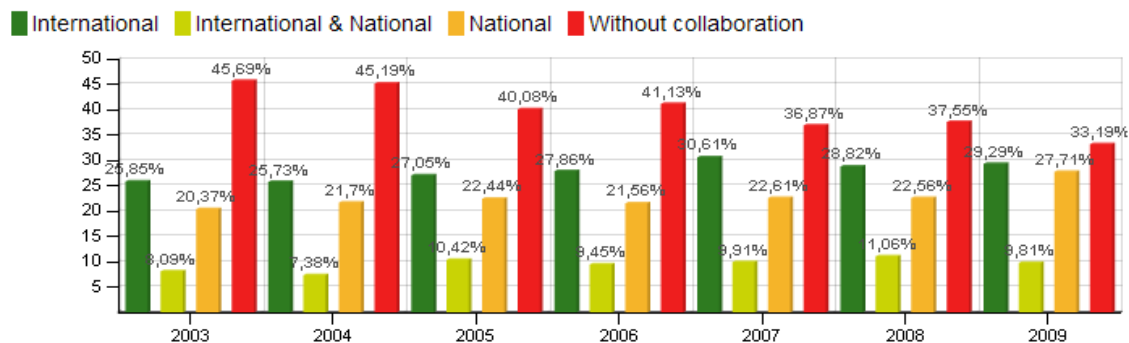


Figura 1. Evolución de los patrones de colaboración y el impacto normalizado. Biotechnology. Output



Normalized Citation relative to:

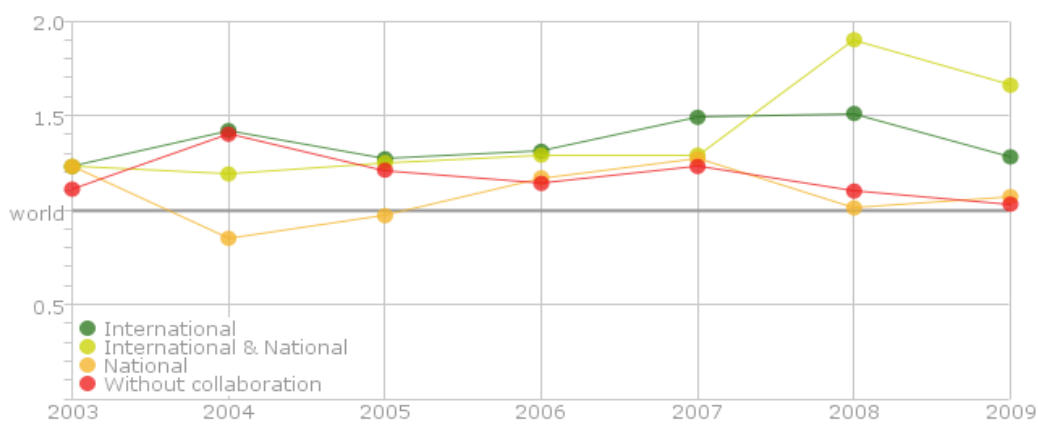
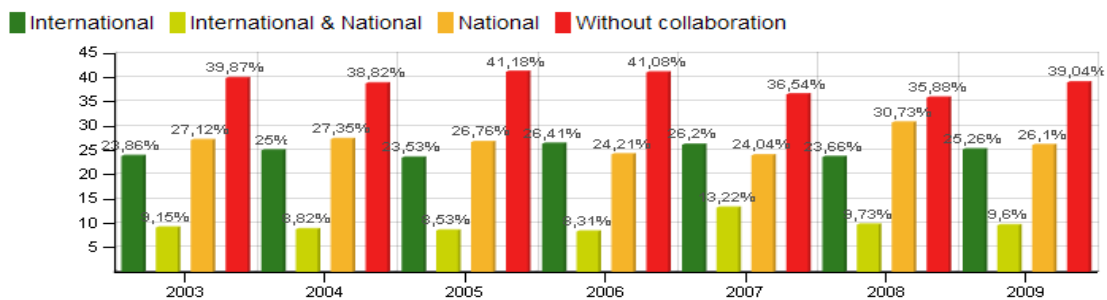


Figura 2. Evolución de los patrones de colaboración y el impacto normalizado. Applied and Microbiology Biotechnology.

Output



Normalized Citation relative to:

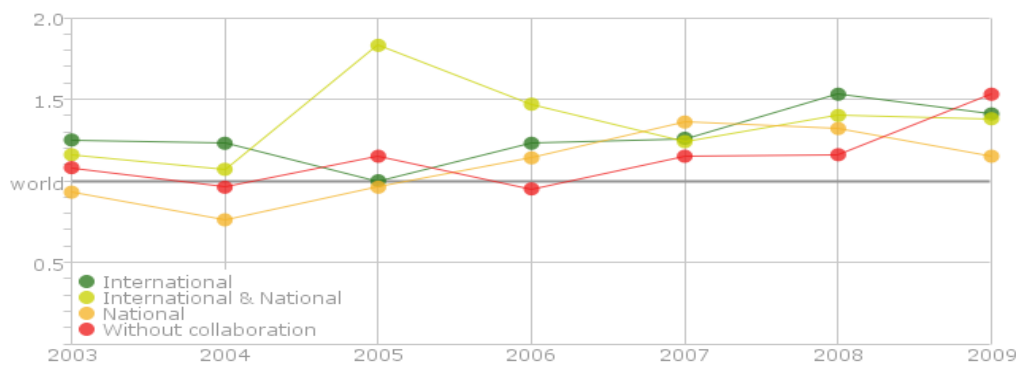


Figura 3. Producción total y producción de excelencia en Biotechnology

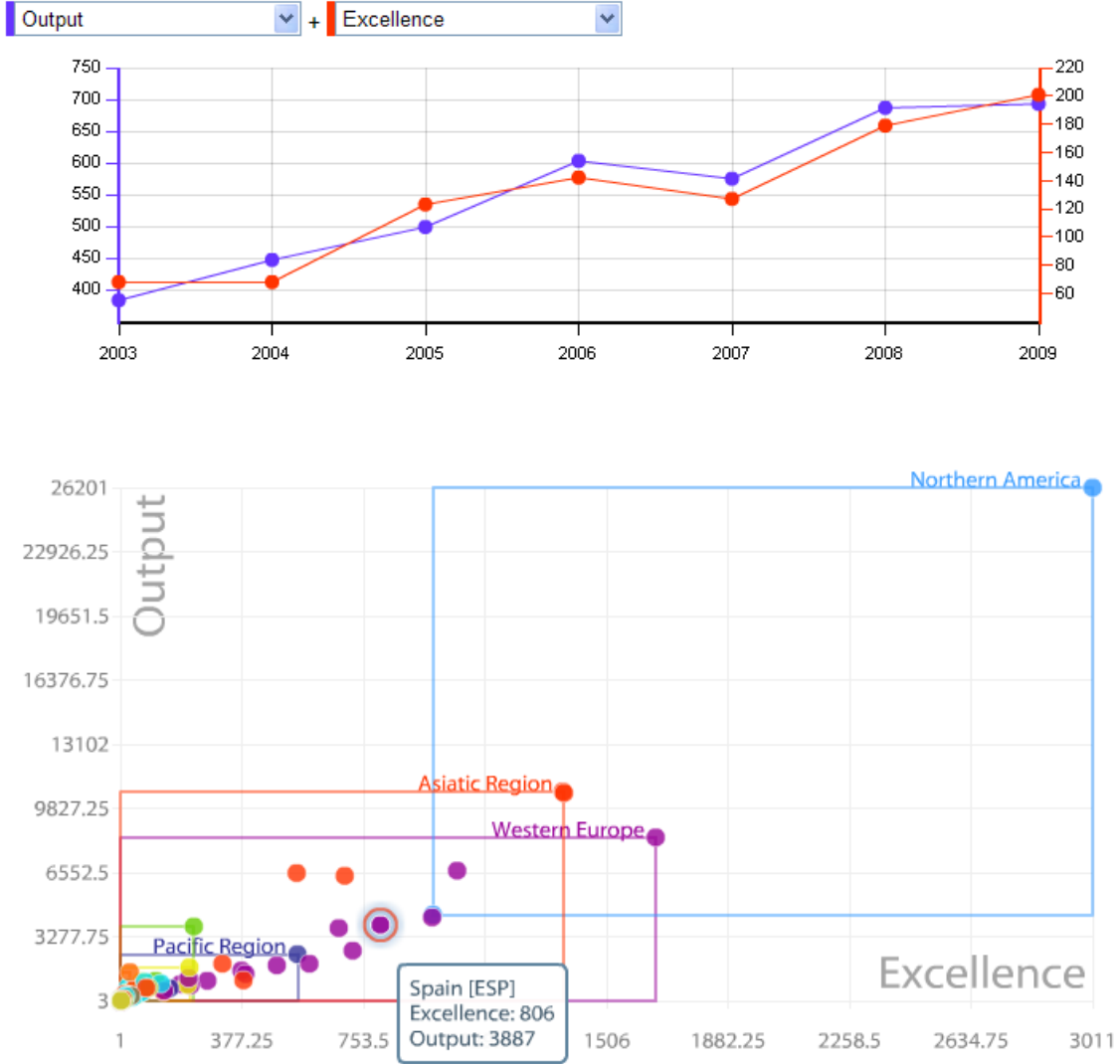


Figura 4. Posición en el ranking internacional de España en los indicadores de referencia. Biotechnology

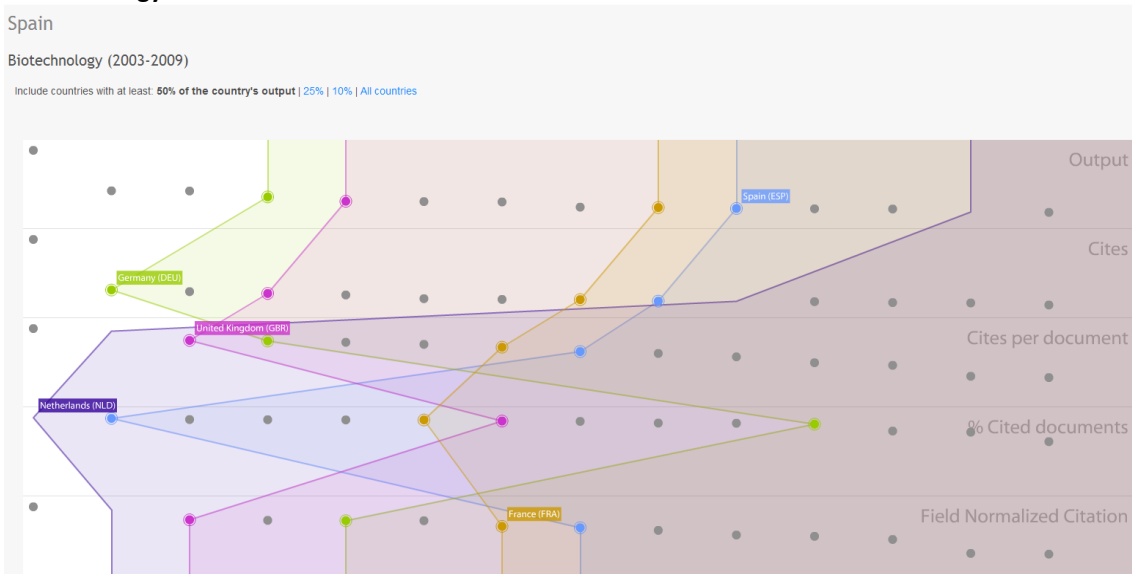


Tabla 1. Principales países productores en Biotechnology

| Country | Output | Cites | Cites per document | % Cited documents | Field Normalized Citation |
|----------------|-------------|--------------|--------------------|-------------------|---------------------------|
| United States | 26201 | 391552 | 14,94 | 0,43 | 1,57 |
| China | 10698 | 73722 | 6,89 | 0,67 | 0,92 |
| Japan | 10615 | 92901 | 8,75 | 0,59 | 0,89 |
| Germany | 8347 | 101981 | 12,22 | 1,13 | 1,25 |
| United Kingdom | 6659 | 82316 | 12,36 | 1,34 | 1,27 |
| India | 6529 | 29379 | 4,5 | 0,57 | 0,5 |
| South Korea | 6397 | 47791 | 7,47 | 0,91 | 0,82 |
| Canada | 4407 | 52520 | 11,92 | 2,05 | 1,25 |
| France | 4271 | 46393 | 10,86 | 1,93 | 1,12 |
| SPAIN | 3887 | 38529 | 9,91 | 1,97 | 1,09 |
| Brazil | 3804 | 16063 | 4,22 | 1,01 | 0,48 |
| Italy | 3725 | 35442 | 9,51 | 1,91 | 1,03 |
| Netherlands | 2575 | 37016 | 14,38 | 4,01 | 1,5 |
| Australia | 2389 | 27439 | 11,49 | 3,72 | 1,26 |

Figura 5. 40 Principales países productores con España en Biotechnology (más de 7 documentos)

| Country | Documents | Cites per document |
|---------|---------------|--------------------|
| USA | 270 (12,74 %) | 13.76 |
| GBR | 230 (10,85 %) | 12.45 |
| FRA | 157 (7,41 %) | 12.68 |
| DEU | 157 (7,41 %) | 15.86 |
| ITA | 141 (6,65 %) | 12.21 |
| NLD | 95 (4,48 %) | 16 |
| PRT | 68 (3,21 %) | 10.54 |
| MEX | 67 (3,16 %) | 7.18 |
| ARG | 64 (3,02 %) | 7.94 |
| SWE | 59 (2,78 %) | 17.81 |
| BRA | 50 (2,36 %) | 3.44 |
| AUS | 49 (2,31 %) | 14.82 |
| BEL | 49 (2,31 %) | 13.67 |
| DNK | 47 (2,22 %) | 18.62 |
| CHE | 47 (2,22 %) | 10.94 |
| CAN | 45 (2,12 %) | 19.67 |
| IRL | 40 (1,89 %) | 16.1 |
| AUT | 35 (1,65 %) | 17.09 |
| CHL | 35 (1,65 %) | 9.8 |
| CUB | 28 (1,32 %) | 8.39 |
| NZL | 27 (1,27 %) | 16.67 |
| JPN | 24 (1,13 %) | 23.21 |
| COL | 22 (1,04 %) | 6.05 |
| ZAF | 20 (0,94 %) | 10.05 |
| CHN | 20 (0,94 %) | 16.55 |
| FIN | 19 (0,90 %) | 24.26 |
| ISR | 18 (0,85 %) | 25.72 |
| GRC | 18 (0,85 %) | 10.61 |
| HUN | 15 (0,71 %) | 8.07 |
| CZE | 14 (0,66 %) | 28.14 |
| VEN | 14 (0,66 %) | 5 |
| RUS | 13 (0,61 %) | 4.85 |
| POL | 12 (0,57 %) | 6 |
| TUN | 12 (0,57 %) | 9.5 |
| MAR | 11 (0,52 %) | 7.27 |
| NOR | 11 (0,52 %) | 11.45 |
| IND | 10 (0,47 %) | 12.1 |
| IRN | 9 (0,42 %) | 10.22 |
| ROU | 9 (0,42 %) | 8 |
| TUR | 8 (0,38 %) | 17.25 |

Figura 6. Producción total y producción de excelencia en Applied Microbiology and Biotechnology

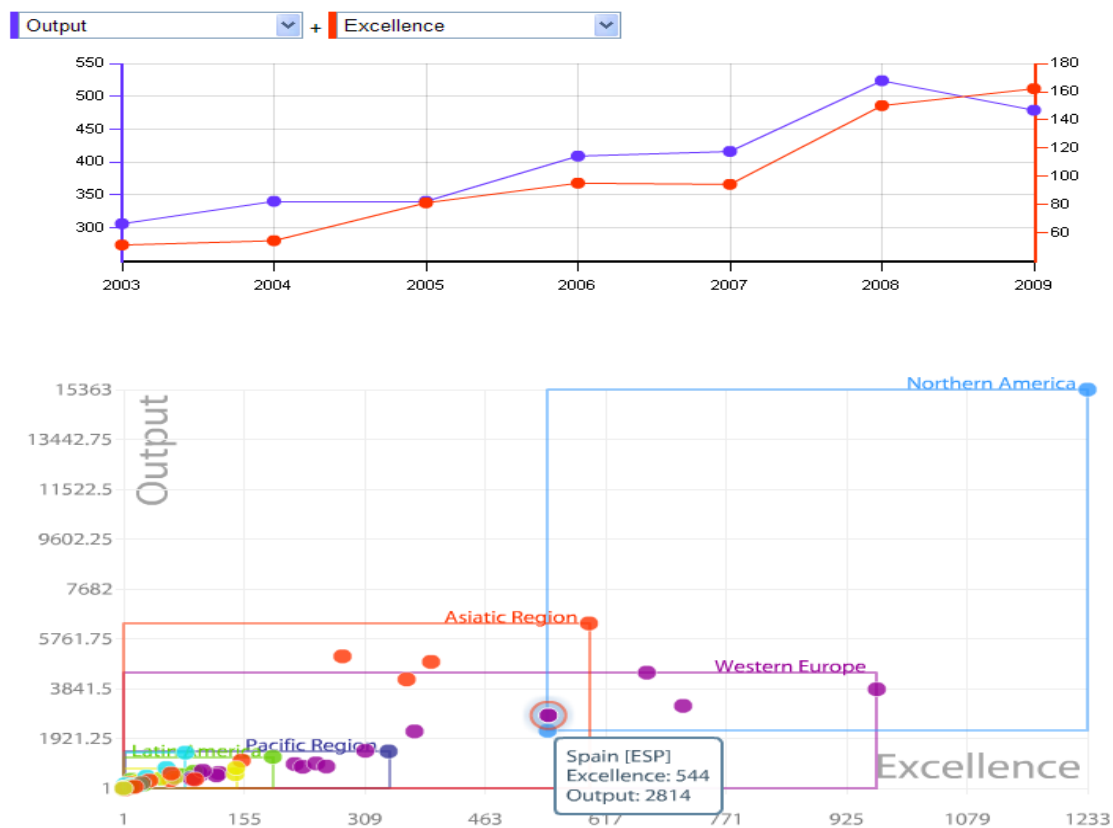


Figura 7. Posición en el ranking internacional de España en los indicadores de referencia. Applied Microbiology and Biotechnology

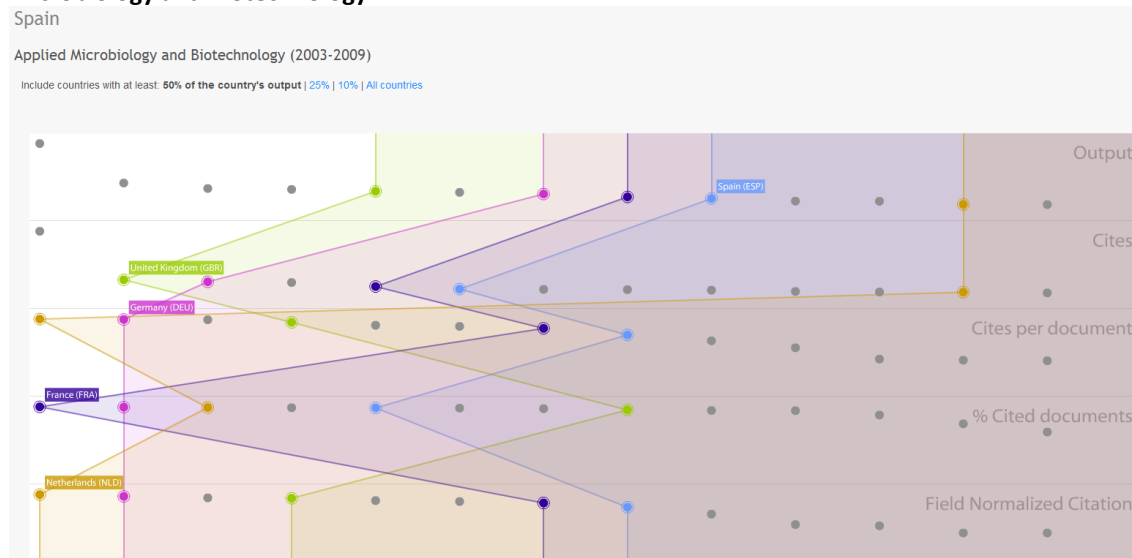


Tabla 2. Principales países productores en Biotechnology

| Country | Output | Cites | Cites per document | % Cited documents | Field Normalized Citation |
|----------------|-------------|--------------|--------------------|-------------------|---------------------------|
| United States | 15363 | 190876 | 12,42 | 0,59 | 1,37 |
| Japan | 6354 | 45722 | 7,2 | 0,81 | 0,8 |
| South Korea | 5087 | 25843 | 5,08 | 0,76 | 0,62 |
| China | 4873 | 23807 | 4,89 | 1,06 | 0,77 |
| United Kingdom | 4459 | 53238 | 11,94 | 1,91 | 1,36 |
| India | 4200 | 20126 | 4,79 | 0,87 | 0,62 |
| Germany | 3822 | 47725 | 12,49 | 2,43 | 1,4 |
| France | 3179 | 34455 | 10,84 | 2,54 | 1,26 |
| SPAIN | 2814 | 27042 | 9,61 | 2,6 | 1,17 |
| Canada | 2217 | 25323 | 11,42 | 3,97 | 1,31 |
| Italy | 2191 | 18609 | 8,49 | 2,88 | 1,02 |
| Netherlands | 1446 | 18170 | 12,57 | 6,45 | 1,44 |
| Australia | 1424 | 15939 | 11,19 | 6 | 1,29 |

Figura 8. 40 Principales países productores con España en Applied Microbiology and Biotechnology

| Country | Documents | Cites per document |
|---------|---------------|--------------------|
| USA | 194 (12,99 %) | 12.45 |
| GBR | 155 (10,37 %) | 12.88 |
| FRA | 147 (9,84 %) | 13.14 |
| DEU | 115 (7,70 %) | 14.27 |
| ITA | 84 (5,62 %) | 10.7 |
| NLD | 69 (4,62 %) | 11.41 |
| SWE | 50 (3,35 %) | 13.08 |
| PRT | 44 (2,95 %) | 9.61 |
| AUT | 43 (2,88 %) | 10.4 |
| BEL | 42 (2,81 %) | 12.43 |
| DNK | 40 (2,68 %) | 16.58 |
| ARG | 39 (2,61 %) | 8.33 |
| CAN | 35 (2,34 %) | 13.09 |
| MEX | 32 (2,14 %) | 9.78 |
| CHE | 26 (1,74 %) | 15.62 |
| AUS | 25 (1,67 %) | 9.44 |
| BRA | 25 (1,67 %) | 6.52 |
| COL | 23 (1,54 %) | 7.17 |
| FIN | 23 (1,54 %) | 8.61 |
| CHL | 21 (1,41 %) | 7.19 |
| GRC | 18 (1,20 %) | 9.94 |
| ISR | 15 (1,00 %) | 13.93 |
| CZE | 14 (0,94 %) | 9.71 |
| IRL | 14 (0,94 %) | 8.5 |
| NOR | 14 (0,94 %) | 14.79 |
| CHN | 11 (0,74 %) | 14.27 |
| CUB | 11 (0,74 %) | 5.91 |
| POL | 11 (0,74 %) | 7.45 |
| RUS | 11 (0,74 %) | 6.82 |
| MAR | 10 (0,67 %) | 7.2 |
| IRN | 10 (0,67 %) | 6.6 |
| ZAF | 9 (0,60 %) | 9 |
| JPN | 9 (0,60 %) | 11.11 |
| TUN | 9 (0,60 %) | 6.44 |
| NZL | 9 (0,60 %) | 18.22 |
| TUR | 8 (0,54 %) | 13 |
| HUN | 7 (0,47 %) | 11.71 |
| CRI | 6 (0,40 %) | 6.67 |
| VEN | 6 (0,40 %) | 16.5 |
| SVN | 5 (0,33 %) | 7.6 |

REVISTAS DE PUBLICACIÓN E IMPACTO ALCANZADO

- ¿Dónde se publica la ciencia española en cada especialidad? Distribución del número de documentos publicados por cuartiles. Impacto alcanzado en cada cuartil respecto al mundo
- Presencia e influencia de revistas extranjeras frente a revistas nacionales.
- Geocitación. ¿A qué países citamos y qué países nos citan?

Figura 9. Distribución por cuartiles de las revistas de publicación en Biotechnology

| | ASSJR | Q4 (lowest values) | Q3 | Q2 | Q1 (highest values) |
|------|-------|--------------------|-----|-----|---------------------|
| 2003 | 1.04 | 14 | 6 | 148 | 215 |
| 2004 | 1.03 | 2 | 13 | 184 | 248 |
| 2005 | 1.02 | 1 | 19 | 240 | 239 |
| 2006 | 1.02 | 11 | 58 | 291 | 243 |
| 2007 | 1.03 | 26 | 46 | 291 | 212 |
| 2008 | 1.02 | 45 | 69 | 351 | 222 |
| 2009 | 1.01 | 15 | 167 | 233 | 276 |

Normalized Citation relative to: World

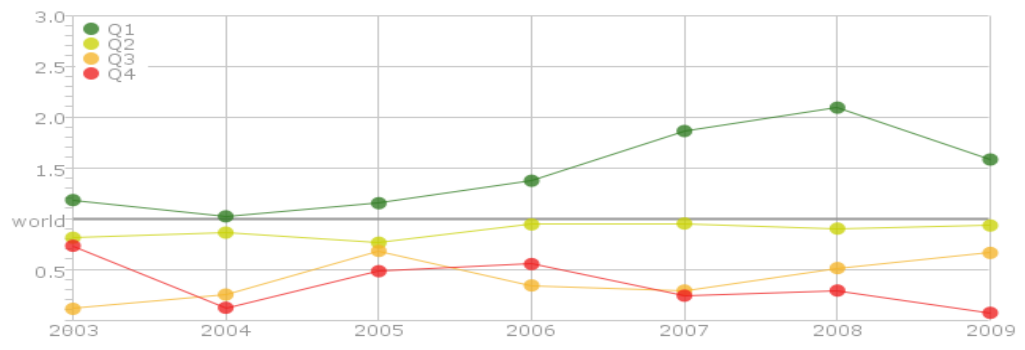


Figura 10. Distribución por cuartiles de las revistas de publicación en Applied Microbiology and Biotechnology

| | ASSJR | Q4 (lowest values) | Q3 | Q2 | Q1 (highest values) |
|------|-------|--------------------|-----|-----|---------------------|
| 2003 | 1.01 | 3 | 37 | 154 | 112 |
| 2004 | 1.02 | 1 | 18 | 208 | 113 |
| 2005 | 1.02 | 3 | 37 | 165 | 135 |
| 2006 | 1.01 | 5 | 26 | 208 | 170 |
| 2007 | 1.02 | 2 | 122 | 149 | 143 |
| 2008 | 1.01 | 17 | 75 | 226 | 206 |
| 2009 | 1.01 | 5 | 69 | 241 | 164 |

Normalized Citation relative to: World

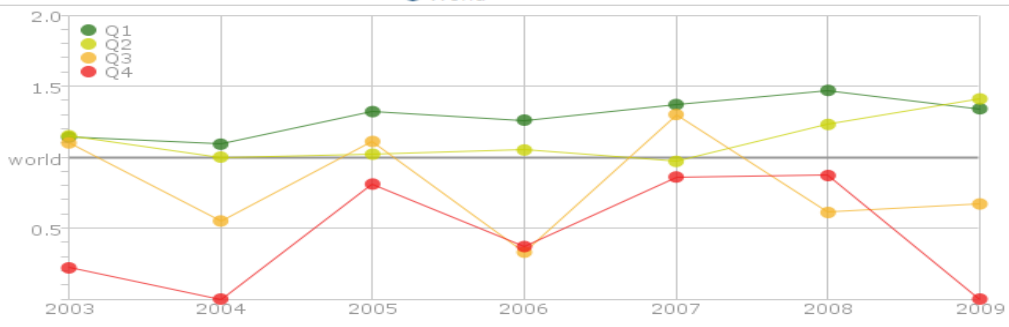


Figura 11. Biotechnology. Revistas de publicación, país y número de documentos 2003-2009 (más de 19 documentos)

| | Source | Country | Output |
|----|--|---------|--------|
| 1 | Applied and Environmental Microbiology | USA | 391 |
| 2 | Journal of Food Protection | USA | 258 |
| 3 | Journal of Applied Microbiology | GBR | 184 |
| 4 | Journal of Chemical Technology and Biotechnology | USA | 170 |
| 5 | Enzyme and Microbial Technology | NLD | 140 |
| 6 | Biosensors and Bioelectronics | NLD | 119 |
| 7 | Process Biochemistry | NLD | 119 |
| 8 | Applied Microbiology and Biotechnology | DEU | 117 |
| 9 | Biochemical Engineering Journal | NLD | 106 |
| 10 | Biomaterials | NLD | 98 |
| 11 | Reproduction in Domestic Animals | GBR | 97 |
| 12 | Biosystems Engineering | USA | 91 |
| 13 | Journal of Biotechnology | NLD | 91 |
| 14 | AIChE Journal | USA | 85 |
| 15 | Journal of Proteome Research | USA | 84 |
| 16 | Animal Reproduction Science | NLD | 83 |
| 17 | Biotechnology and Bioengineering | DEU | 79 |
| 18 | Plant Breeding | GBR | 72 |
| 19 | European Journal of Pharmaceutics and Biopharmaceutics | NLD | 64 |
| 20 | Genome / National Research Council Canada = Genome / Conseil national de recherches Canada | CAN | 56 |
| 21 | Small | DEU | 53 |
| 22 | Bio Systems | NLD | 49 |
| 23 | Journal of Microbiological Methods | NLD | 49 |
| 24 | Yeast | USA | 49 |
| 25 | Biotechnology Letters | NLD | 48 |
| 26 | Acta Biomaterialia | NLD | 42 |
| 27 | Colloids and Surfaces B: Biointerfaces | NLD | 42 |
| 28 | Journal of Industrial Microbiology and Biotechnology | DEU | 42 |
| 29 | Molecular Ecology Resources | GBR | 42 |
| 30 | Applied Biochemistry and Biotechnology - Part A Enzyme Engineering and Biotechnology | USA | 37 |
| 31 | Microbial Biotechnology | GBR | 37 |
| 32 | Journal of Immunological Methods | NLD | 32 |
| 33 | Nature Biotechnology | GBR | 32 |
| 34 | Transgenic Research | GBR | 31 |
| 35 | Biocatalysis and Biotransformation | GBR | 29 |
| 36 | Canadian Journal of Microbiology | CAN | 28 |
| 37 | Biodegradation | NLD | 26 |
| 38 | Chimica Oggi | ITA | 23 |
| 39 | Protein Expression and Purification | USA | 21 |
| 40 | Bioprocess and Biosystems Engineering | DEU | 20 |

Figura 12. Número de revistas editadas por cada país, cantidad de documentos y citas por documento según país de publicación. Biotechnology

| Country | Source Publications | Documents | Cites per document |
|---------|---------------------|-----------|--------------------|
| NLD | 31 | 1258 | 12.02 |
| GBR | 31 | 660 | 8.63 |
| USA | 30 | 1316 | 10.16 |
| DEU | 17 | 395 | 8.15 |
| ITA | 3 | 46 | 2.3 |
| BRA | 3 | 18 | 0.89 |
| CAN | 3 | 86 | 7.64 |
| JPN | 2 | 13 | 6.31 |
| KOR | 2 | 9 | 0.89 |
| HRV | 2 | 31 | 2.9 |
| CUB | 1 | 5 | 1.4 |
| PAK | 1 | 7 | 0.57 |
| COL | 1 | 4 | 0 |
| CHL | 1 | 8 | 1.13 |
| CHE | 1 | 14 | 9 |
| IND | 1 | 2 | 1 |
| KEN | 1 | 9 | 1 |
| BGR | 1 | 5 | 1 |
| BEL | 1 | 1 | 0 |

Figura 13. Applied and Microbiology Biotechnology. Revistas de publicación, país y número de documentos 2003-2009 (más de 10 documentos)

| | Source | Country | Output |
|----|--|---------|--------|
| 1 | Journal of Bacteriology | USA | 302 |
| 2 | Bioresource Technology | NLD | 290 |
| 3 | Journal of Food Protection | USA | 258 |
| 4 | Journal of Applied Microbiology | GBR | 184 |
| 5 | International Journal of Antimicrobial Agents | NLD | 158 |
| 6 | Environmental Microbiology | GBR | 143 |
| 7 | Enzyme and Microbial Technology | NLD | 140 |
| 8 | Diagnostic Microbiology and Infectious Disease | NLD | 101 |
| 9 | Aquatic Microbial Ecology | DEU | 78 |
| 10 | FEMS Yeast Research | GBR | 68 |
| 11 | Journal of Infection | GBR | 65 |
| 12 | Research in Microbiology | NLD | 60 |
| 13 | Journal of Dairy Research | GBR | 57 |
| 14 | Systematic and Applied Microbiology | NLD | 56 |
| 15 | Journal of Hospital Infection | GBR | 55 |
| 16 | Microbial Ecology | DEU | 55 |
| 17 | Journal of Clinical Virology | NLD | 52 |
| 18 | Journal of Microbiological Methods | NLD | 49 |
| 19 | Biotechnology Letters | NLD | 48 |
| 20 | Journal of Industrial Microbiology and Biotechnology | DEU | 42 |
| 21 | Microbial Biotechnology | GBR | 37 |
| 22 | Stem Cells | USA | 37 |
| 23 | Microbial Cell Factories | GBR | 34 |
| 24 | Extremophiles : life under extreme conditions | DEU | 31 |
| 25 | Transgenic Research | GBR | 31 |
| 26 | Journal of Eukaryotic Microbiology | GBR | 23 |
| 27 | Marine Biotechnology | DEU | 22 |
| 28 | Bioprocess and Biosystems Engineering | DEU | 20 |
| 29 | Molecular and Cellular Probes | USA | 20 |
| 30 | Disease Markers | NLD | 18 |
| 31 | Clinical Microbiology Newsletter | NLD | 17 |
| 32 | Comparative and Functional Genomics | USA | 17 |
| 33 | International Journal of Biological Markers | ITA | 17 |
| 34 | Cancer Gene Therapy | GBR | 16 |
| 35 | Tuberculosis | USA | 16 |
| 36 | Journal of Biomedicine and Biotechnology | USA | 14 |
| 37 | Journal of Molecular Microbiology and Biotechnology | CHE | 14 |
| 38 | Microbiological Research | NLD | 14 |
| 39 | International Journal of Biological Sciences | CAN | 13 |
| 40 | Biotechnology Journal | DEU | 12 |
| 41 | Foodborne Pathogens and Disease | USA | 12 |
| 42 | Journal of Applied Phycology | NLD | 11 |

Figura 14. Número de revistas editadas por cada país, cantidad de documentos y citas por documento según país de publicación. Applied and Microbiology Biotechnology

| Country | Source Publications | Documents | Cites per document |
|---------|---------------------|-----------|--------------------|
| USA | 16 | 720 | 10.43 |
| GBR | 15 | 731 | 9.39 |
| NLD | 14 | 1019 | 10.02 |
| DEU | 8 | 261 | 8.18 |
| KOR | 3 | 11 | 1.64 |
| JPN | 2 | 6 | 3.5 |
| ITA | 2 | 23 | 3.3 |
| RUS | 2 | 5 | 1.8 |
| CHE | 1 | 14 | 9 |
| CAN | 1 | 13 | 4.85 |
| HUN | 1 | 1 | 0 |
| COL | 1 | 4 | 0 |
| POL | 1 | 1 | 3 |
| CUB | 1 | 5 | 1.4 |

Gráfico 6. Geocitación. Citas recibidas y referencias hechas por país 2003-2009. Biotechnology

| Country | Citation | |
|---------|----------|------------------|
| USA | 5500 | (citations from) |
| | 23200 | (references to) |
| ESP | 11908 | |
| | 17746 | |
| GBR | 2019 | |
| | 7518 | |
| DEU | 2362 | |
| | 7195 | |
| FRA | 2010 | |
| | 5763 | |
| JPN | 1251 | |
| | 4658 | |
| ITA | 1980 | |
| | 3668 | |
| CAN | 1226 | |
| | 3585 | |
| NLD | 940 | |
| | 3543 | |
| SWE | 630 | |
| | 2150 | |
| AUS | 735 | |
| | 2146 | |
| CHE | 582 | |
| | 1940 | |
| CHN | 3667 | |
| | 1778 | |
| DNK | 524 | |
| | 1678 | |
| BEL | 650 | |
| | 1674 | |
| IND | 1360 | |
| | 1347 | |
| KOR | 787 | |
| | 1178 | |
| BRA | 1172 | |
| | 1054 | |
| ISR | 266 | |
| | 962 | |
| FIN | 359 | |
| | 917 | |
| IRL | 439 | |
| | 878 | |
| AUT | 472 | |
| | 854 | |
| MEX | 481 | |
| | 722 | |
| ARG | 496 | |
| | 696 | |
| NOR | 229 | |
| | 696 | |
| TWN | 359 | |
| | 622 | |
| GRC | 402 | |
| | 615 | |
| NZL | 269 | |
| | 605 | |
| TUR | 646 | |
| | 600 | |

3.213 3.173 3.213
3.053 3.2
3.053 3.2

Gráfico 7. Geocitación. Citas recibidas y referencias hechas por país 2003-2009. Applied Microbiology and Biotechnology

| Country | Citation | |
|---------|----------|------------------|
| USA | 4627 | (citations from) |
| | 18646 | (references to) |
| ESP | 8207 | |
| | 13408 | |
| GBR | 1752 | |
| | 5892 | |
| DEU | 1728 | |
| | 5638 | |
| FRA | 1860 | |
| | 4971 | |
| JPN | 878 | |
| | 2914 | |
| CAN | 959 | |
| | 2567 | |
| NLD | 732 | |
| | 2559 | |
| ITA | 1384 | |
| | 2346 | |
| SWE | 436 | |
| | 1492 | |
| CHE | 502 | |
| | 1434 | |
| DNK | 384 | |
| | 1432 | |
| AUS | 539 | |
| | 1368 | |
| BEL | 570 | |
| | 1338 | |
| FIN | 241 | |
| | 760 | |
| IND | 873 | |
| | 743 | |
| AUT | 353 | |
| | 713 | |
| NOR | 215 | |
| | 688 | |
| CHN | 1752 | |
| | 688 | |
| BRA | 748 | |
| | 676 | |
| ISR | 246 | |
| | 662 | |
| KOR | 472 | |
| | 655 | |
| IRL | 317 | |
| | 644 | |
| PRT | 482 | |
| | 641 | |
| MEX | 311 | |
| | 523 | |
| GRC | 364 | |
| | 488 | |
| NZL | 163 | |
| | 450 | |
| ARG | 350 | |
| | 429 | |
| TWN | 264 | |
| | 385 | |
| TUR | 460 | |
| | 371 | |

EVOLUCIÓN DE LA PRODUCCIÓN Y EL IMPACTO DE LA PRODUCCIÓN CIENTÍFICA POR SECTORES PRODUCTIVOS

Figura 15. Evolución del número de documentos producidos por la empresa privada y el resto de sectores productivos y tasa de crecimiento durante 2003-2009. Biotechnology

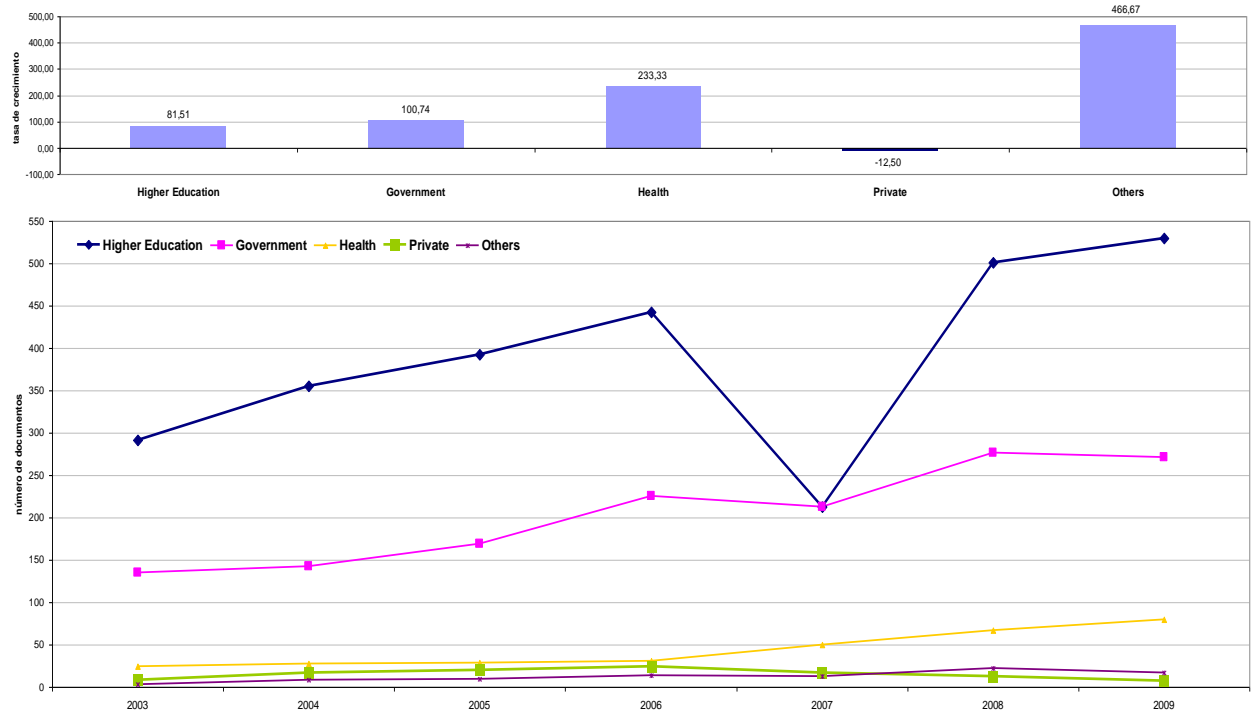


Figura 16. Evolución del impacto normalizado con respecto al mundo de los documentos producidos por la empresa privada y el resto de sectores productivos. Biotechnology

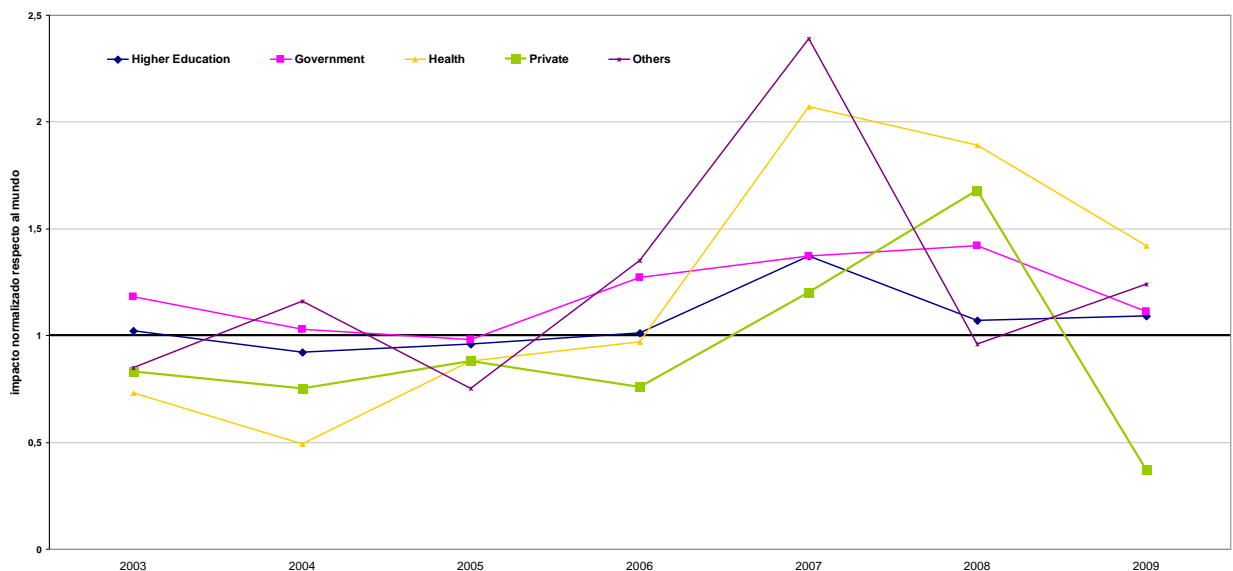


Figura 17. Evolución del número de documentos producidos por la empresa privada y el resto de sectores productivos y tasa de crecimiento durante 2003-2009. Applied and Microbiology Biotechnology

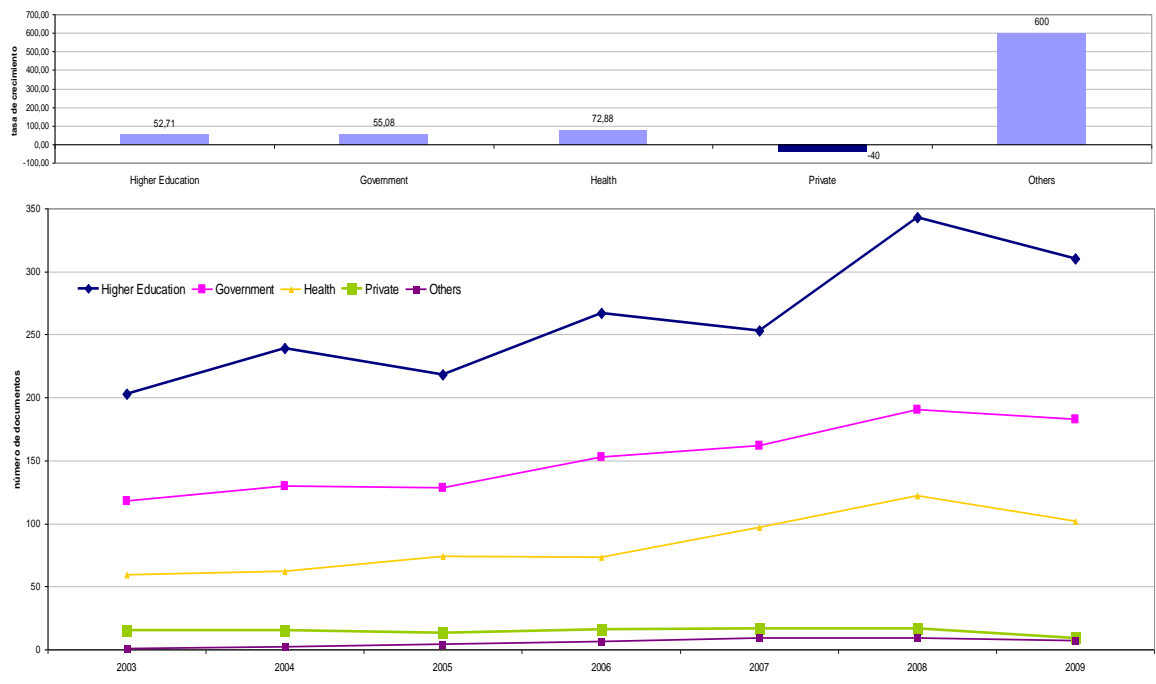
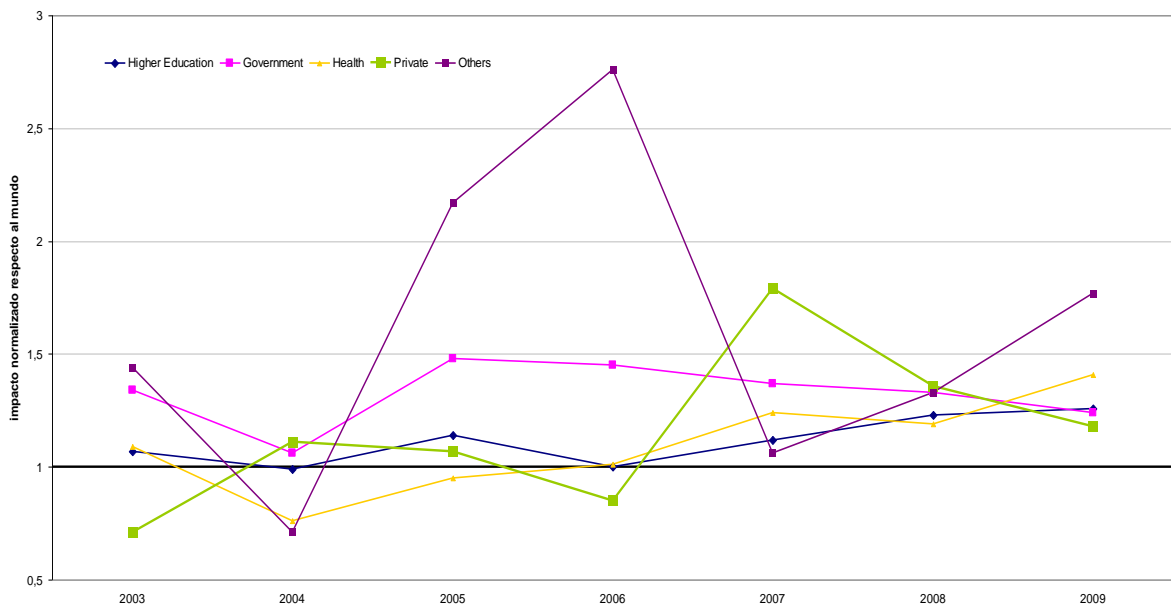


Figura 18. Evolución del impacto normalizado con respecto al mundo de los documentos producidos por la empresa privada y el resto de sectores productivos. Applied and Microbiology Biotechnology



PATRONES DE COLABORACIÓN SECTORIAL

BIOTECHNOLOGY

Figura 19. Evolución de los principales indicadores por sector productivo.

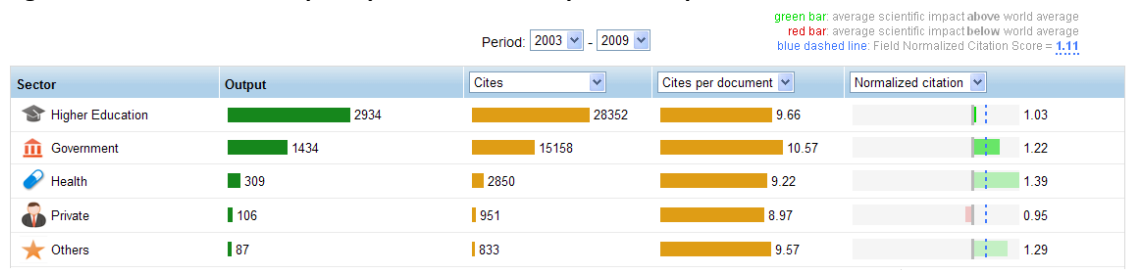


Figura 20. Tipos de colaboración por sector en el quinquenio 2003-2007

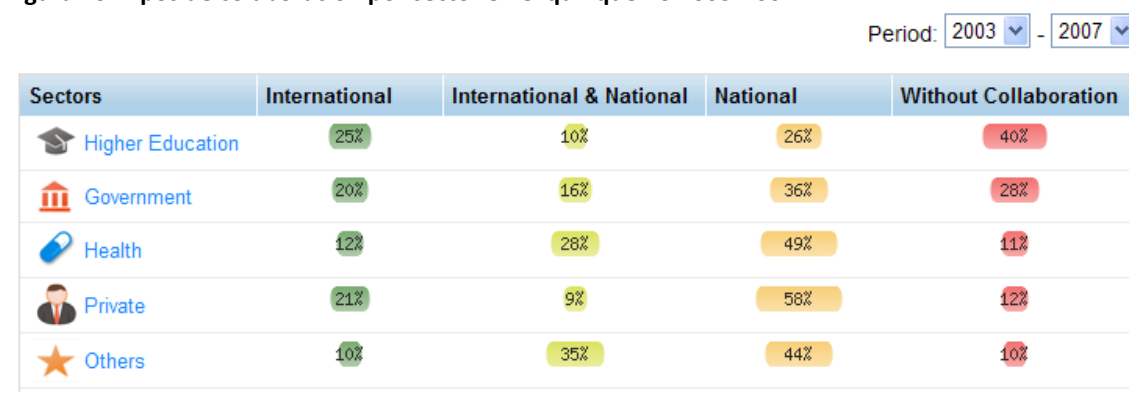


Figura 21. Tipos de colaboración por sector en el quinquenio 2004-2008

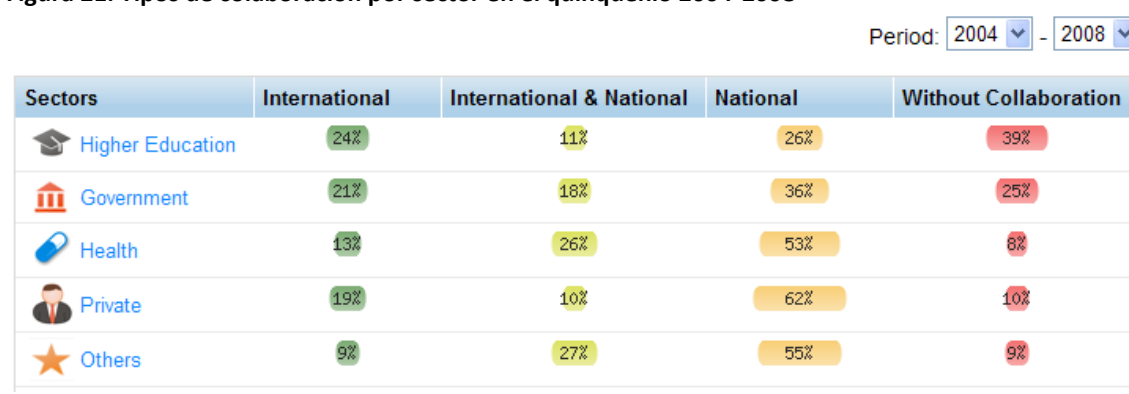


Figura 22. Tipos de colaboración por sector en el quinquenio 2005-2009



APPLIED AND MICROBIOLOGY BIOTECHNOLOGY

Figura 23. Evolución de los principales indicadores por sector productivo.

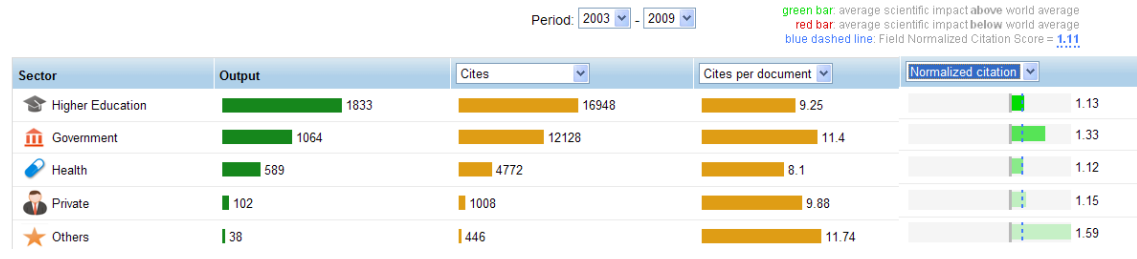


Figura 24. Tipos de colaboración por sector en el quinquenio 2003-2007

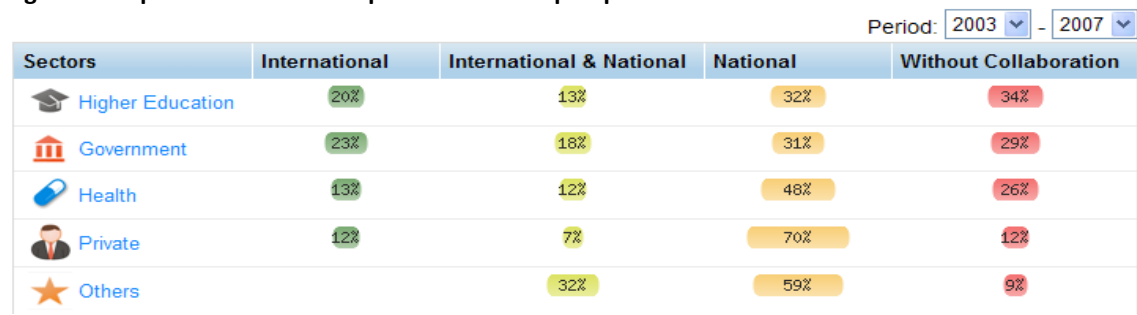


Figura 25. Tipos de colaboración por sector en el quinquenio 2004-2008

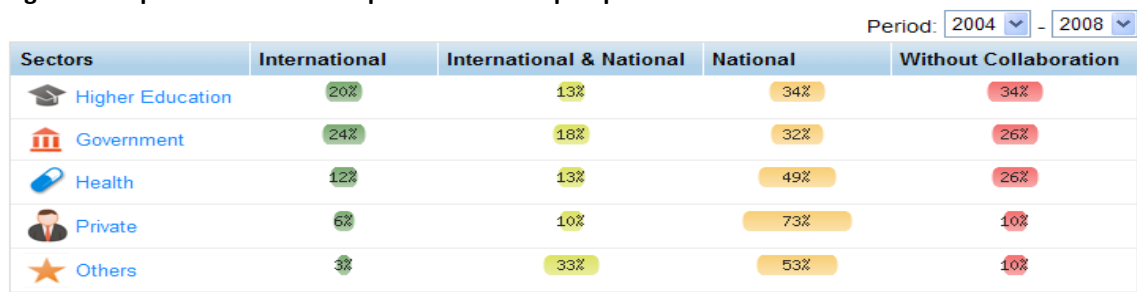
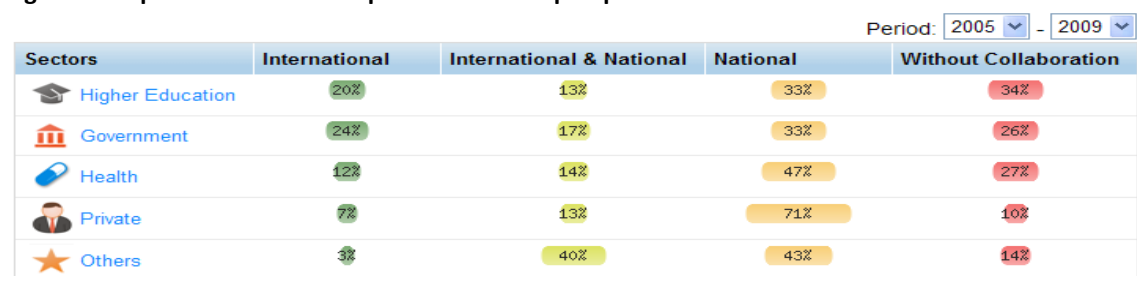


Figura 26. Tipos de colaboración por sector en el quinquenio 2005-2009



ANÁLISIS INSTITUCIONAL

- Principales instituciones españolas productoras de conocimiento
- Colaboración interinstitucional por sector productivo y región geográfica

BIOTECHNOLOGY

Figura 27. Instituciones universitarias con producción en Biotechnology (más de 10 documentos)

| | Institution | Sector | Documents | Cites per document |
|----|--|--------|-----------|--------------------|
| 1 | CSIR Universidad Complutense de Madrid | 🎓 | 256 | 10.02 |
| 2 | CSIR Universitat Autònoma de Barcelona | 🎓 | 242 | 10.1 |
| 3 | CSIR Universitat de Barcelona | 🎓 | 214 | 11.28 |
| 4 | CSIR Universidade de Santiago de Compostela | 🎓 | 199 | 11.05 |
| 5 | CSIR Universidad Autónoma de Madrid | 🎓 | 151 | 11.81 |
| 6 | CSIR Universitat de Valencia | 🎓 | 137 | 8.58 |
| 7 | CSIR Universidad de Granada | 🎓 | 116 | 11.31 |
| 8 | CSIR Universidad de Sevilla | 🎓 | 112 | 9.06 |
| 9 | CSIR Universidad de Murcia | 🎓 | 111 | 7.32 |
| 10 | CSIR Universidade de Vigo | 🎓 | 106 | 10.54 |
| 11 | CSIR Universitat Politècnica de Catalunya | 🎓 | 95 | 9.89 |
| 12 | CSIR Universidad de Zaragoza | 🎓 | 94 | 9.37 |
| 13 | CSIR Universidad de Oviedo | 🎓 | 94 | 8.91 |
| 14 | CSIR Universidad de Córdoba | 🎓 | 85 | 7.82 |
| 15 | CSIR Universidad de Almería | 🎓 | 84 | 10.81 |
| 16 | CSIR Universidad de León, Spain | 🎓 | 80 | 8.65 |
| 17 | CSIR Universitat de Lleida | 🎓 | 74 | 10.04 |
| 18 | CSIR Universidad Politécnica de Valencia | 🎓 | 74 | 8.14 |
| 19 | CSIR Universidad de Extremadura | 🎓 | 72 | 8.35 |
| 20 | CSIR Universidad Politécnica de Madrid | 🎓 | 66 | 7.65 |
| 21 | CSIR Universitat Rovira i Virgili | 🎓 | 64 | 10.33 |
| 22 | CSIR Universidad de Castilla-La Mancha | 🎓 | 62 | 6.42 |
| 23 | CSIR Universidad del País Vasco | 🎓 | 55 | 9.49 |
| 24 | CSIR Universidade da Coruña | 🎓 | 49 | 10.43 |
| 25 | CSIR Universidad de Salamanca | 🎓 | 48 | 16.98 |
| 26 | CSIR Universidad de La Laguna | 🎓 | 48 | 10.17 |
| 27 | CSIR Universitat de Girona | 🎓 | 45 | 9.62 |
| 28 | CSIR Universidad de Jaén | 🎓 | 44 | 11.39 |
| 29 | CSIR Universidad de Valladolid | 🎓 | 43 | 7.51 |
| 30 | CSIR Universidad de Cádiz | 🎓 | 36 | 8.89 |
| 31 | CSIR Universidad de Alcalá | 🎓 | 36 | 8.17 |
| 32 | CSIR Universidad de Navarra | 🎓 | 32 | 8.13 |
| 33 | CSIR Universidad Miguel Hernández | 🎓 | 31 | 7.71 |
| 34 | CSIR Universidad Pública de Navarra | 🎓 | 30 | 8.4 |
| 35 | CSIR Universidad de Málaga | 🎓 | 29 | 11.03 |
| 36 | CSIR Universidad de Huelva | 🎓 | 25 | 5 |
| 37 | CSIR Universidad de Cantabria | 🎓 | 21 | 6.05 |
| 38 | CSIR Universitat Pompeu Fabra | 🎓 | 19 | 7.79 |
| 39 | CSIR Universidad de las Palmas de Gran Canaria | 🎓 | 19 | 4.26 |
| 40 | CSIR Universitat d'Alacant | 🎓 | 18 | 6.61 |
| 41 | CSIR Universidad Politécnica de Cartagena | 🎓 | 17 | 2.94 |
| 42 | CSIR Universidad de Burgos | 🎓 | 15 | 6.8 |
| 43 | CSIR Universidad Pablo de Olavide | 🎓 | 15 | 8.13 |
| 44 | CSIR Universidad San Pablo CEU | 🎓 | 11 | 6.73 |
| 45 | CSIR Universitat de les Illes Balears | 🎓 | 11 | 5.18 |
| 46 | CSIR Universidad Rey Juan Carlos | 🎓 | 11 | 4.18 |

3.213 3.173 3.173
3.053 3.2 3.102 3.213
3.053 3.2 3.102 3.213

Figura 28. Colaboración interinstitucional con el sector universitario. Asia (más de un documento)

| | Institution | Country | Sector | Documents | Cites per document |
|----|---|---------|--------|-----------|--------------------|
| 1 | SIR Science University of Malaysia | | | 6 | 3 |
| 2 | SIR University of Tokyo | | | 6 | 13.33 |
| 3 | SIR Tohoku University | | | 5 | 2 |
| 4 | SIR Nanjing Agricultural University | | | 4 | 9.25 |
| 5 | SIR National University of Singapore | | | 4 | 39.75 |
| 6 | SIR BeiHang University | | | 4 | 35 |
| 7 | SIR Huazhong Normal University | | | 4 | 22.5 |
| 8 | SIR National Cheng Kung University | | | 4 | 6.25 |
| 9 | Karnataka Veterinary Animal and Fisheries Sciences University | | | 3 | 4 |
| 10 | SIR Kyoto University | | | 3 | 68 |
| 11 | SIR Hokkaido University | | | 3 | 2 |
| 12 | SIR University of the Ryukyus | | | 3 | 2 |
| 13 | SIR Tokyo University of Marine Science and Technology | | | 3 | 4 |
| 14 | SIR Putra University | | | 3 | 2 |
| 15 | SIR The Chinese University of Hong Kong | | | 3 | 4 |
| 16 | SIR The University of Hong Kong | | | 3 | 4 |
| 17 | SIR Nanjing Normal University | | | 3 | 2 |
| 18 | SIR Soon Chun Hyang University | | | 3 | 2 |
| 19 | SIR National Taiwan University | | | 3 | 4 |
| 20 | SIR East China Normal University | | | 3 | 4 |
| 21 | SIR National Taiwan Normal University | | | 3 | 4 |
| 22 | SIR Yonsei University | | | 2 | 37 |
| 23 | SIR Okayama University | | | 2 | 22 |
| 24 | SIR Mahidol University | | | 2 | 37 |
| 25 | SIR University of Hyderabad | | | 2 | 43 |
| 26 | SIR Seoul National University | | | 2 | 43 |
| 27 | SIR University of Delhi | | | 2 | 43 |
| 28 | SIR The Hong Kong University of Science and Technology | | | 2 | 30.5 |
| 29 | SIR Fudan University | | | 2 | 37 |
| 30 | SIR Nanyang Technological University | | | 2 | 18.5 |
| 31 | SIR Zhejiang University | | | 2 | 4.5 |
| 32 | SIR Kuvempu University | | | 2 | 37 |

Figura 29. Colaboración interinstitucional con el sector universitario. Europa del Este

| | Institution | Country | Sector | Documents | Cites per document |
|----|--|---------|--------|-----------|--------------------|
| 1 | SIR University of Zagreb | | | 11 | 3.18 |
| 2 | SIR Szent Istvan University | | | 9 | 9.22 |
| 3 | SIR Masaryk University | | | 5 | 41.6 |
| 4 | SIR Jagiellonian University | | | 4 | 7.5 |
| 5 | SIR University of Wroclaw | | | 3 | 10 |
| 6 | SIR University of Ljubljana | | | 3 | 7.67 |
| 7 | SIR Medical University of Bialystok | | | 3 | 2 |
| 8 | SIR Poznan University of Medical Sciences | | | 2 | 2 |
| 9 | SIR Rzeszow University of Technology | | | 1 | 1 |
| 10 | SIR University of Bucharest | | | 1 | 0 |
| 11 | SIR St. Petersburg State Electrotechnical University | | | 1 | 0 |
| 12 | SIR Semmelweis University | | | 1 | 4 |
| 13 | SIR Lomonosov Moscow State University | | | 1 | 23 |
| 14 | SIR University of Pannonia | | | 1 | 11 |
| 15 | SIR University of Chemical Technology and Metallurgy | | | 1 | 9 |
| 16 | SIR Politehnica University of Bucharest | | | 1 | 2 |
| 17 | SIR Slovak University of Technology | | | 1 | 6 |
| 18 | SIR University of Maribor | | | 1 | 1 |
| 19 | SIR Saratov State University | | | 1 | 0 |
| 20 | SIR University of Szeged | | | 1 | 7 |
| 21 | SIR Silesian University | | | 1 | 1 |
| 22 | SIR University of Novi Sad | | | 1 | 1 |
| 23 | SIR University of South Bohemia | | | 1 | 37 |
| 24 | SIR St. Petersburg State Polytechnic University | | | 1 | 4 |

Figura 30. Colaboración interinstitucional con el sector universitario. Oriente Próximo (más de un documento)

| | Institution | Country | Sector | Documents | Cites per document |
|----|---|---------|--------|-----------|--------------------|
| 1 | SIR Ben-Gurion University of the Negev | | | 7 | 3.29 |
| 2 | SIR Technion - Israel Institute of Technology | | | 5 | 51.6 |
| 3 | SIR Hebrew University of Jerusalem | | | 5 | 62.2 |
| 4 | SIR University of Tehran | | | 4 | 3 |
| 5 | SIR Isfahan University of Technology | | | 3 | 21.67 |
| 6 | SIR An-Najah National University | | | 3 | 1 |
| 7 | Tishreen University | | | 3 | 1 |
| 8 | SIR Middle East Technical University | | | 2 | 4 |
| 9 | SIR Bar-Ilan University | | | 2 | 1.5 |
| 10 | SIR Yeditepe University | | | 2 | 4 |
| 11 | SIR Mansoura University | | | 2 | 8 |
| 12 | SIR Istanbul Technical University | | | 2 | 30.5 |

Figura 31. Colaboración interinstitucional con el sector universitario. Latinoamérica (más de 3 documentos)

| | Institution | Country | Sector | Documents | Cites per document |
|----|---|------------|------------|-----------|--------------------|
| 1 | SIR Universidad de Buenos Aires | Argentina | University | 25 | 6.96 |
| 2 | SIR Universidad Autonoma de Tamaulipas | Mexico | University | 19 | 5.16 |
| 3 | SIR Universidad de Chile | Chile | University | 18 | 10 |
| 4 | SIR Universidad Nacional del Litoral | Argentina | University | 18 | 11.22 |
| 5 | SIR Pontificia Universidad Catolica de Valparaiso | Chile | University | 16 | 15.44 |
| 6 | SIR Universidad Autonoma Metropolitana | Mexico | University | 14 | 10 |
| 7 | SIR Universidad Nacional Autonoma de Mexico | Mexico | University | 11 | 5.27 |
| 8 | SIR Universidade de Sao Paulo | Brazil | University | 11 | 4.82 |
| 9 | SIR Universidad Nacional de La Plata | Argentina | University | 11 | 8.18 |
| 10 | SIR Universidade Federal do Rio de Janeiro | Brazil | University | 10 | 3.8 |
| 11 | SIR Universidad del Zulia | Venezuela | University | 10 | 8.7 |
| 12 | SIR Universidad Nacional de Colombia | Colombia | University | 9 | 5 |
| 13 | SIR Universidad de la Republica | Uruguay | University | 8 | 21.13 |
| 14 | SIR Universidad Central de Venezuela | Venezuela | University | 7 | 4.57 |
| 15 | SIR Universidad Industrial de Santander | Colombia | University | 7 | 4.86 |
| 16 | SIR Universidad Nacional del Comahue | Argentina | University | 7 | 9.86 |
| 17 | SIR Universidade Federal do Para | Brazil | University | 7 | 3.14 |
| 18 | SIR Universidad Central Marta Abreu de Las Villas | Cuba | University | 6 | 6.5 |
| 19 | SIR Universidad de Antioquia | Colombia | University | 6 | 4.33 |
| 20 | SIR Universidad de Costa Rica | Costa Rica | University | 6 | 22 |
| 21 | SIR Pontificia Universidad Javeriana | Colombia | University | 5 | 15.6 |
| 22 | SIR Instituto Politecnico Nacional | Mexico | University | 5 | 10.4 |
| 23 | SIR Centro de Investigacion y de Estudios Avanzados del IPN | Mexico | University | 5 | 2.4 |
| 24 | SIR Universidade Federal do Rio Grande do Sul | Brazil | University | 5 | 3.6 |
| 25 | SIR Universidad Austral de Chile | Chile | University | 5 | 2.8 |
| 26 | SIR Universidad Nacional Mayor de San Marcos | Peru | University | 5 | 19.2 |
| 27 | SIR Universidad Autonoma del Estado de Hidalgo | Mexico | University | 5 | 3 |
| 28 | SIR Universidad Nacional de Tucuman | Argentina | University | 5 | 2.8 |
| 29 | SIR Universidad Tecnica Federico Santa Maria | Chile | University | 5 | 5.4 |
| 30 | SIR Colegio de Postgraduados | Mexico | University | 4 | 1 |
| 31 | SIR Instituto Tecnologico de Veracruz | Mexico | University | 4 | 4.75 |
| 32 | SIR Universidad de Guadalajara | Mexico | University | 4 | 3.5 |
| 33 | SIR Fundacao Universidade Regional de Blumenau | Brazil | University | 4 | 7 |
| 34 | SIR Instituto Superior Politecnico Jose Antonio Echeverria | Cuba | University | 4 | 11.5 |
| 35 | SIR Universidade Federal de Sao Carlos | Brazil | University | 4 | 3.5 |
| 36 | SIR Universidade Estadual Paulista Julio de Mesquita Filho | Brazil | University | 4 | 0.5 |
| 37 | SIR Benemerita Universidad Autonoma de Puebla | Mexico | University | 4 | 0.5 |
| 38 | SIR Universidad de La Habana | Cuba | University | 4 | 2.5 |

Figura 32. Colaboración interinstitucional con el sector universitario. Norteamérica (más de 4 documentos)

| | Institution | Country | Sector | Documents | Cites per document |
|----|---|---------|------------|-----------|--------------------|
| 1 | Oklahoma State University, Stillwater | USA | University | 21 | 4.38 |
| 2 | University of California, Davis | USA | University | 18 | 22.5 |
| 3 | Massachusetts Institute of Technology | USA | University | 16 | 11.94 |
| 4 | McGill University | Canada | University | 16 | 7.69 |
| 5 | Michigan State University | USA | University | 15 | 3.47 |
| 6 | Harvard University | USA | University | 14 | 19.43 |
| 7 | University of Southern California | USA | University | 13 | 28.38 |
| 8 | Cornell University | USA | University | 13 | 17.85 |
| 9 | Yale University | USA | University | 13 | 13.62 |
| 10 | Johns Hopkins University | USA | University | 10 | 24.7 |
| 11 | University of California, Berkeley | USA | University | 9 | 2.44 |
| 12 | University of Maryland, College Park | USA | University | 9 | 17.44 |
| 13 | University of Tennessee, Knoxville | USA | University | 9 | 19 |
| 14 | North Carolina State University | USA | University | 7 | 18.29 |
| 15 | University of Michigan, Ann Arbor | USA | University | 7 | 13.86 |
| 16 | Carnegie Mellon University | USA | University | 7 | 8 |
| 17 | Oregon State University | USA | University | 7 | 11.86 |
| 18 | Purdue University | USA | University | 7 | 3.71 |
| 19 | University of California, San Francisco | USA | University | 7 | 12.14 |
| 20 | University of California, Los Angeles | USA | University | 7 | 27.43 |
| 21 | Stanford University | USA | University | 7 | 39 |
| 22 | University of Guelph | Canada | University | 7 | 5.29 |
| 23 | University of Georgia | USA | University | 7 | 38.71 |
| 24 | University of Wisconsin, Madison | USA | University | 7 | 13.14 |
| 25 | University of Utah | USA | University | 6 | 2 |
| 26 | Washington State University, Pullman | USA | University | 6 | 12 |
| 27 | University of Kentucky | USA | University | 6 | 11.67 |
| 28 | University of Washington | USA | University | 6 | 31 |
| 29 | Iowa State University | USA | University | 5 | 5.6 |
| 30 | University of California, Riverside | USA | University | 5 | 5.4 |
| 31 | Arizona State University | USA | University | 5 | 3.6 |
| 32 | University of Waterloo | Canada | University | 5 | 5.6 |
| 33 | University of Toronto | Canada | University | 5 | 44 |
| 34 | University of Minnesota, Twin Cities | USA | University | 5 | 13.2 |
| 35 | Louisiana State University, Baton Rouge | USA | University | 5 | 17.2 |
| 36 | University of Florida | USA | University | 5 | 4 |
| 37 | Northwestern University, Evanston | USA | University | 5 | 18.8 |
| 38 | University of Western Ontario | Canada | University | 5 | 5.4 |

Figura 33. Colaboración interinstitucional con el sector universitario. África del Norte

| | Institution | Country | Sector | Documents | Cites per document |
|---|---|---------|--------|-----------|--------------------|
| 1 | Universite Abdelmalek Essaadi Tetouan | | | 6 | 7 |
| 2 | Universite Mentouri-Constantine | | | 6 | 2 |
| 3 | Universite de Tunis El Manar | | | 3 | 1.67 |
| 4 | Ecole Normale Superieure, Tetouan | | | 1 | 1 |
| 5 | Institut Agronomique et Veterinaire Hassan II | | | 1 | 25 |
| 6 | Universite Ibn Zohr | | | 1 | 0 |

Figura 34. Colaboración interinstitucional con el sector universitario. Región del Pacifico

| | Institution | Country | Sector | Documents | Cites per document |
|----|---------------------------------|---------|--------|-----------|--------------------|
| 1 | Massey University | | | 19 | 21.63 |
| 2 | University of Melbourne | | | 12 | 22.08 |
| 3 | The University of Queensland | | | 11 | 12.45 |
| 4 | The University of Adelaide | | | 6 | 10.33 |
| 5 | Curtin University of Technology | | | 4 | 6.5 |
| 6 | James Cook University | | | 4 | 3.25 |
| 7 | University of Otago | | | 4 | 7.75 |
| 8 | University of Sydney | | | 3 | 4.67 |
| 9 | University of Western Sydney | | | 3 | 4 |
| 10 | The University of Newcastle | | | 3 | 1.67 |
| 11 | La Trobe University | | | 1 | 5 |
| 12 | University of Auckland | | | 1 | 11 |
| 13 | Monash University, Melbourne | | | 1 | 200 |

Figura 35. Colaboración interinstitucional con el sector universitario. Sudáfrica

| | Institution | Country | Sector | Documents | Cites per document |
|---|--------------------------------|---------|--------|-----------|--------------------|
| 1 | University of Pretoria | | | 11 | 7.55 |
| 2 | Stellenbosch University | | | 11 | 4.09 |
| 3 | University of Cape Town | | | 5 | 28 |
| 4 | University of the Western Cape | | | 4 | 23 |

Figura 36. Instituciones gubernamentales con producción en Biotechnology (más de 2 documento)

| | Institution | Sector | Documents | Cites per document |
|----|---|--------|-----------|--------------------|
| 1 | CSIR Consejo Superior de Investigaciones Científicas | | 1083 | 10.49 |
| 2 | CSIR Institut de Recerca i Tecnologia Agroalimentaries Barcelona | | 73 | 9.56 |
| 3 | CSIR Instituto Nacional de Investigacion y Tecnologia Agraria y Alimentaria | | 70 | 8.21 |
| 4 | CSIR Instituto Valenciano de Investigaciones Agrarias | | 41 | 7.15 |
| 5 | Institut de Quimica Avancada de Catalunya | | 40 | 11.5 |
| 6 | CSIR Instituto de Investigacion y Formacion Agraria y Pesquera | | 30 | 5.2 |
| 7 | CSIR Centro de Investigaciones Energeticas, Medioambientales y Tecnologicas | | 25 | 20.72 |
| 8 | Institutio Catalana de Recerca i Estudis Avancats | | 20 | 15.65 |
| 9 | CSIR Xarxa de Referencia en Tecnologia dels Aliments | | 19 | 13.37 |
| 10 | Junta de Comunidades de Castilla-La Mancha Toledo | | 18 | 8.39 |
| 11 | CSIR Instituto Nacional de Tecnica Aeroespacial Esteban Terradas | | 17 | 19.29 |
| 12 | CSIR Servicio Regional de Investigacion y Desarrollo Agroalimentario de Asturias Villaviciosa | | 12 | 2.92 |
| 13 | CSIR Institut de Bioenginyeria de Catalunya | | 12 | 5.42 |
| 14 | CSIR Centro de Investigacion y Tecnologia Agroalimentaria de Aragon | | 11 | 6.91 |
| 15 | CSIR Institut Catala de Nanotecnologia | | 9 | 8 |
| 16 | Consejeria de Innovacion, Ciencia y Empresa Sevilla | | 8 | 3.88 |
| 17 | CSIR Neiker-Tecnalia, Instituto Vasco de Investigacion y Desarrollo Agrario Arkaute | | 8 | 10 |
| 18 | CSIR Instituto de Prospectiva Tecnologica | | 8 | 28.25 |
| 19 | Generalitat de Catalunya Barcelona | | 7 | 19 |
| 20 | Junta de Andalucia Sevilla | | 7 | 3.29 |
| 21 | CSIR Institut de Ciencies Fotoniques | | 7 | 5.29 |
| 22 | Centro de Investigacion Cooperativa en Biomateriales | | 7 | 8.29 |
| 23 | Laboratorio de Genetica Molecular Vegetal | | 6 | 12.83 |
| 24 | Gobierno de Aragon Zaragoza | | 6 | 8.33 |
| 25 | CSIR Instituto Espanol de Oceanografia | | 5 | 4.8 |
| 26 | CSIR Centro de Investigacion Forestal | | 5 | 2.4 |
| 27 | Consejeria de Agricultura y Desarrollo Rural Toledo | | 5 | 16.6 |
| 28 | Centro de Referencia de Bioingenieria de Cataluna | | 5 | 17.4 |
| 29 | Instituto Tecnologico Agrario de Castilla y Leon Valladolid | | 4 | 4.75 |
| 30 | CSIR Centre de Recerca en Sanitat Animal | | 4 | 11.5 |
| 31 | CSIR Centro de Estudios e Investigaciones Tecnicas de Gipuzkoa | | 4 | 8.5 |
| 32 | CSIR Instituto Murciano de Investigacion y Desarrollo Agrario y Alimentario La Alberca | | 4 | 5.5 |
| 33 | Centro Regional de Seleccion y Reproduccion Animal de Valdepenas | | 4 | 7 |
| 34 | CSIR Instituto Canario de Investigaciones Agrarias | | 3 | 6 |
| 35 | Ajuntament de Barcelona | | 3 | 4.67 |
| 36 | Gobierno de Canarias Las Palmas | | 3 | 4.67 |
| 37 | Centro Apicola Regional | | 3 | 21 |
| 38 | Junta de Castilla y Leon Valladolid | | 3 | 8.67 |
| 39 | Consejeria de Medio Ambiente Sevilla | | 3 | 3.67 |

Figura 37. Colaboración interinstitucional con el sector gubernamental. Asia

| | Institution | Country | Sector | Documents | Cites per document |
|----|---|---------|--------|-----------|--------------------|
| 1 | Chinese Academy of Sciences | | | 8 | 14.63 |
| 2 | Institute of Physical and Chemical Research | | | 3 | 28.33 |
| 3 | Bhabha Atomic Research Centre | | | 3 | 1.67 |
| 4 | Chinese Academy of Agricultural Sciences | | | 3 | 2 |
| 5 | Agency for Science, Technology and Research Singapore | | | 3 | 84.67 |
| 6 | Council of Scientific and Industrial Research | | | 2 | 37 |
| 7 | Beijing Institute of Radiation Medicine | | | 2 | 37 |
| 8 | Chinese Academy of Forestry | | | 2 | 13 |
| 9 | National Institute of Plant Genome Research | | | 2 | 43 |
| 10 | Malaysian Agricultural Research and Development Institute | | | 2 | 26 |
| 11 | National Institute for Materials Science | | | 2 | 12 |
| 12 | Kazusa Dna Research Institute | | | 2 | 37 |
| 13 | Indian Council of Agricultural Research | | | 2 | 43 |
| 14 | Southeast Asian Fisheries Development Center Aquaculture Department | | | 1 | 10 |
| 15 | International Centre for Genetic Engineering and Biotechnology | | | 1 | 8 |

Figura 38. Colaboración interinstitucional con el sector gubernamental. Europa del Este

| | Institution | Country | Sector | Documents | Cites per document |
|----|---|---------|--------|-----------|--------------------|
| 1 | Academy of Sciences of the Czech Republic | | | 10 | 30.9 |
| 2 | Russian Academy of Sciences | | | 9 | 4.67 |
| 3 | Bulgarian Academy of Sciences | | | 7 | 2.14 |
| 4 | Romanian Academy | | | 4 | 10.5 |
| 5 | Polish Academy of Sciences | | | 3 | 8.33 |
| 6 | Hungarian Academy of Sciences | | | 2 | 9 |
| 7 | Institute of Atomic Physics | | | 2 | 10.5 |
| 8 | Veterinary Research Institute | | | 1 | 19 |
| 9 | Food Research Institute in Bratislava | | | 1 | 26 |
| 10 | Slovak Academy of Sciences | | | 1 | 6 |
| 11 | Slovenian Academy of Sciences and Arts | | | 1 | 12 |
| 12 | Nuclear Research Institute | | | 1 | 0 |

Figura 39. Colaboración interinstitucional con el sector gubernamental. Oriente Próximo

| | Institution | Country | Sector | Documents | Cites per document |
|---|---|---------|--------|-----------|--------------------|
| 1 | International Center for Agricultural Research in Dry Areas | | | 3 | 1 |
| 2 | Agricultural Research Organization | | | 1 | 9 |

Figura 40. Colaboración interinstitucional con el sector gubernamental. África del Norte

| | Institution | Country | Sector | Documents | Cites per document |
|---|--|---------|--------|-----------|--------------------|
| 1 | Institut National de Recherches Agronomique de Tunis | | | 8 | 4.63 |
| 2 | Centre de Biotechnologie de Sfax | | | 3 | 13 |
| 3 | Institut National de la Recherche Agronomique | | | 3 | 1 |
| 4 | Institut Preparatoire aux Etudes Scientifiques et Techniques | | | 1 | 36 |
| 5 | Institut National de Recherche Halieutique | | | 1 | 0 |

Figura 41. Colaboración interinstitucional con el sector gubernamental. Región del Pacífico

| | Institution | Country | Sector | Documents | Cites per document |
|---|--|---------|--------|-----------|--------------------|
| 1 | Commonwealth Scientific and Industrial Research Organization | | | 8 | 7.25 |
| 2 | AgResearch Ltd. | | | 4 | 9.5 |
| 3 | New Zealand Institute for Crop & Food Research Limited | | | 3 | 1 |
| 4 | Australian Wine Research Institute | | | 3 | 1.67 |
| 5 | Food Science Australia | | | 1 | 0 |
| 6 | Australian Institute of Marine Science | | | 1 | 3 |

Figura 42. Colaboración interinstitucional con el sector gubernamental. Latinoamérica (más de un documento)

| | Institution | Country | Sector | Documents | Cites per document |
|----|--|---------|--------|-----------|--------------------|
| 1 | Consejo Nacional de Investigaciones Cientificas y Tecnicas | | | 25 | 6.04 |
| 2 | Consejo Nacional de Ciencia y Tecnologia | | | 11 | 14.45 |
| 3 | Instituto Nacional de Tecnologia Agropecuaria | | | 7 | 3.14 |
| 4 | Centro de Ingenieria Genetica y Biotecnologia La Habana | | | 5 | 15 |
| 5 | Empresa Brasileira de Pesquisa Agropecuaria | | | 5 | 2.6 |
| 6 | Corporacion para Investigaciones Biologicas | | | 4 | 5.75 |
| 7 | Ministerio del Poder Popular para Ciencia, Tecnologia e Industrias Intermedias | | | 3 | 2 |
| 8 | Instituto Nacional de Investigaciones de la Caña de Azúcar | | | 3 | 7.67 |
| 9 | Instituto Nacional de Investigaciones Agropecuarias | | | 2 | 3.5 |
| 10 | Instituto Nacional de Investigaciones Forestales, Agricolas y Pecuarias | | | 2 | 4.5 |
| 11 | Centro de Investigacion Cientifico Tecnologico para la Minería | | | 2 | 2 |
| 12 | Centro de Quimica Farmaceutica | | | 2 | 3 |
| 13 | Centro Nacional de Sanidad Agropecuaria | | | 2 | 2 |

Figura 43. Colaboración interinstitucional con el sector gubernamental. Europa Occidental (más de 2 documentos)

| | Institution | Country | Sector | Documents | Cites per document |
|----|---|---------|------------|-----------|--------------------|
| 1 | SIR Centre National de la Recherche Scientifique | FR | Government | 70 | 9.6 |
| 2 | SIR Institut National de la Recherche Agronomique | FR | Government | 40 | 12.6 |
| 3 | SIR Consiglio Nazionale delle Ricerche | IT | Government | 28 | 12.46 |
| 4 | SIR Max Planck Gesellschaft | DE | Government | 25 | 32.6 |
| 5 | SIR European Commission - Joint Research Centre | EU | Government | 17 | 15.06 |
| 6 | SIR Commissariat a l'Energie Atomique | FR | Government | 15 | 21.93 |
| 7 | SIR Biotechnology and Biological Sciences Research Council | UK | Government | 13 | 6.62 |
| 8 | SIR Helmholtz Zentrum fur Infektionsforschung | DE | Government | 11 | 18.64 |
| 9 | SIR European Molecular Biology Laboratory Heidelberg | DE | Government | 10 | 28.4 |
| 10 | SIR Netherlands Organisation for Applied Scientific Research | NL | Government | 8 | 7.5 |
| 11 | SIR Irish Agriculture and Food Development Authority | IE | Government | 6 | 9.5 |
| 12 | SIR Institute for Health and Consumer Protection | IT | Government | 6 | 2.67 |
| 13 | SIR Fraunhofer Gesellschaft | DE | Government | 6 | 29.67 |
| 14 | SIR Silsoe Research Institute | UK | Government | 6 | 22.67 |
| 15 | SIR Osterreichische Akademie der Wissenschaften | AT | Government | 6 | 44.5 |
| 16 | SIR Plant Research International | NL | Government | 6 | 22.5 |
| 17 | SIR Centro Per Lo Studio e la Prevenzione Oncologica | IT | Government | 6 | 4 |
| 18 | SIR Institut de Recherche pour le Developpement Paris | FR | Government | 6 | 2.33 |
| 19 | SIR Roslin Institute | UK | Government | 5 | 4.4 |
| 21 | SIR Department for Environment, Food and Rural Affairs | UK | Government | 4 | 13.5 |
| 22 | SIR German Cancer Research Center | DE | Government | 4 | 28.5 |
| 23 | SIR Hellenic Centre for Marine Research | GR | Government | 4 | 3.75 |
| 24 | SIR National Hellenic Research Foundation | GR | Government | 4 | 6.75 |
| 25 | SIR Laboratorio Nacional de Energia e Geologia | PT | Government | 4 | 7.5 |
| 26 | SIR Forschungszentrum Dresden Rossendorf | DE | Government | 4 | 11 |
| 27 | SIR Universite Europeenne de Bretagne - Pole de Recherche et d'Enseignement Superieur | FR | Government | 4 | 0 |
| 28 | SIR Center of Advanced European Studies and Research | DE | Government | 4 | 18 |
| 29 | SIR Universite de Lyon - Pole de Recherche et d'Enseignement Superieur | FR | Government | 3 | 7 |
| 30 | SIR Office Veterinaire Federal | CH | Government | 3 | 5 |
| 31 | SIR Leibniz Institut fur Festkorper und Werkstofforschung Dresden | DE | Government | 3 | 1 |
| 32 | SIR Institut Francais de Recherche pour l'Exploitation de la Mer | FR | Government | 3 | 11.33 |
| 33 | SIR Forschungsanstalt Agroscope Reckenholz-Tanikon Art | CH | Government | 3 | 6.67 |
| 34 | SIR Paul Scherrer Institut | CH | Government | 3 | 1 |
| 35 | SIR Top Institute Food and Nutrition | NL | Government | 3 | 28.33 |

Figura 44. Colaboración interinstitucional con el sector gubernamental. Norteamérica

| | Institution | Country | Sector | Documents | Cites per document |
|----|--|---------|--------|-----------|--------------------|
| 1 | SIR United States Department of Agriculture | | | 33 | 6.64 |
| 2 | SIR University of Maryland Biotechnology Institute | | | 5 | 14.6 |
| 3 | SIR Argonne National Laboratory | | | 4 | 13.5 |
| 4 | SIR Dauphin Island Sea Lab | | | 4 | 29 |
| 5 | SIR Pacific Northwest National Laboratory | | | 3 | 24.67 |
| 6 | SIR Broad Institute of MIT and Harvard | | | 2 | 27 |
| 7 | SIR Boyce Thompson Institute for Plant Research | | | 2 | 43 |
| 8 | SIR Lawrence Berkeley National Laboratory | | | 1 | 2 |
| 9 | SIR U.S. Food and Drug Administration | | | 1 | 2 |
| 10 | SIR US Environmental Protection Agency | | | 1 | 2 |
| 11 | SIR Agriculture and Agri-Food Canada | | | 1 | 3 |
| 12 | SIR US Naval Research Laboratory | | | 1 | 21 |
| 13 | SIR Virginia Bioinformatics Institute | | | 1 | 76 |
| 14 | SIR National Institute of Standards and Technology | | | 1 | 53 |
| 15 | SIR Los Alamos National Laboratory | | | 1 | 41 |
| 16 | SIR Oak Ridge National Laboratory | | | 1 | 41 |
| 17 | SIR Armed Forces Institute of Pathology | | | 1 | 5 |
| 18 | SIR Smithsonian Institution | | | 1 | 1 |
| 19 | SIR Natural Resources Canada | | | 1 | 101 |
| 20 | SIR Brookhaven National Laboratory | | | 1 | 0 |

Figura 45. Colaboración interinstitucional con el sector sanitario. Asia

| | Institution | Country | Sector | Documents | Cites per document |
|---|---|---------|--------|-----------|--------------------|
| 1 | SIR Siriraj Hospital | | | 2 | 37 |
| 2 | SIR National Institute of Biomedical Innovation | | | 1 | 0 |

Figura 46. Colaboración interinstitucional con el sector sanitario. Europa del Este

| | Institution | Country | Sector | Documents | Cites per document |
|---|--|---------|--------|-----------|--------------------|
| 1 | SIR National Institute of Public Health | | | 1 | 26 |
| 2 | SIR Children's Memorial Health Institute | | | 1 | 4 |
| 3 | SIR National Institute of Environmental Health | | | 1 | 8 |
| 4 | SIR Orthopaedic Hospital Valdoitra | | | 1 | 12 |

Figura 47. Colaboración interinstitucional con el sector sanitario. Oriente Próximo

| | Institution | Country | Sector | Documents | Cites per document |
|---|-----------------------------|---------|--------|-----------|--------------------|
| 1 | SIR Carmel Medical Center | | | 3 | 8 |
| 2 | SIR Rambam Medical Center | | | 1 | 200 |
| 3 | SIR Hadassah Medical Center | | | 1 | 200 |

Figura 48. Instituciones sanitarias con producción en Biotechnology (más de 3 documentos)

| | Institution | Sector | Documents | Cites per document |
|----|---|--------|-----------|--------------------|
| 1 | SIR Centro de Investigacion Biomedica en Red en Bioingenieria, Biomateriales y Nanomedicina | | 49 | 4.53 |
| 2 | SIR Instituto de Salud Carlos III | | 24 | 5.46 |
| 3 | SIR Fundacion Jimenez Diaz | | 17 | 12.24 |
| 4 | SIR Hospital Universitari Vall d'Hebron | | 14 | 5.86 |
| 5 | SIR Hospital Universitario Ramon y Cajal | | 12 | 9.42 |
| 6 | SIR Institut de Recerca Biomedica Barcelona | | 11 | 10.91 |
| 7 | Banco de Lineas Celulares de Andalucia | | 11 | 8.55 |
| 8 | SIR Institut Municipal d'Investigacio Medica | | 11 | 10.18 |
| 9 | SIR Hospital Universitario Central de Asturias | | 10 | 4.6 |
| 10 | SIR Hospital Universitario La Paz | | 10 | 12.2 |
| 11 | SIR Centro Nacional de Investigaciones Oncologicas | | 9 | 9.11 |
| 12 | SIR Centro de Regulacion Genomica | | 9 | 21 |
| 13 | SIR Hospital de la Santa Creu i Sant Pau | | 8 | 5.5 |
| 14 | SIR Complejo Hospitalario Regional Virgen de las Nieves | | 8 | 10.13 |
| 15 | SIR Centro de Investigacion Principe Felipe | | 7 | 39.57 |
| 16 | SIR Centro de Investigacion Biomedica en Red de Epidemiologia y Salud Publica | | 7 | 9.57 |
| 17 | SIR Centro Nacional de Investigaciones Cardiovasculares | | 7 | 5.71 |
| 18 | SIR Complejo Hospitalario Universitario de Santiago | | 6 | 3.83 |
| 19 | Hospital de Jove | | 6 | 7.17 |
| 20 | SIR Hospital Universitario Puerta de Hierro Majadahonda | | 6 | 9.33 |
| 21 | SIR Institut Catala d'Oncologia, Hospitalet de Llobregat | | 6 | 10.83 |
| 22 | SIR Institut d'Investigacions Biomediques August Pi i Sunyer | | 5 | 16.2 |
| 23 | SIR Departament de Salut Barcelona | | 5 | 20 |
| 24 | SIR Institut Catala de Ciencies Cardiovasculares | | 5 | 5.4 |
| 25 | SIR Institut d'Investigacio Biomedica de Bellvitge | | 5 | 2.6 |
| 26 | SIR Complejo Asistencial de Avila | | 5 | 6.2 |
| 27 | SIR Complejo Hospitalario Universitario a Coruna | | 5 | 4.2 |
| 28 | SIR Departamento de Sanidad y Consumo Vitoria-Gasteiz | | 4 | 6.75 |
| 29 | Banco Andaluz de Celulas Madre | | 4 | 13.25 |
| 30 | SIR Hospital Clinic i Provincial de Barcelona | | 4 | 10.25 |
| 31 | SIR Centro de Investigacion Biomedica en Red Fisiopatologia de la Obesidad y Nutricion | | 4 | 3.75 |
| 32 | SIR Hospital del Mar | | 4 | 10.25 |
| 33 | SIR Instituto Aragonés de Ciencias de la Salud | | 4 | 4.5 |
| 34 | SIR Hospital Universitario 12 de Octubre | | 4 | 9.25 |
| 35 | Servicio Canario de Salud Las Palmas | | 4 | 2.5 |
| 36 | SIR Complejo Universitario de San Carlos | | 4 | 7 |
| 37 | SIR Centro de Investigacion Cooperativa Biogune | | 4 | 26.25 |
| 38 | SIR Hospital Universitari de Girona Dr. Josep Trueta | | 4 | 13.75 |

Figura 49. Colaboración interinstitucional con el sector sanitario. África del Norte

| | Institution | Country | Sector | Documents | Cites per document |
|---|--|---------|--------|-----------|--------------------|
| 1 | Hopital La Rabta | | | 1 | 2 |
| 2 | Centre Hospitalier Universitaire Farhat Hached de Sousse | | | 1 | 1 |

Figura 50. Colaboración interinstitucional con el sector sanitario. Latinoamérica

| | Institution | Country | Sector | Documents | Cites per document |
|---|---|---------|--------|-----------|--------------------|
| 1 | Comision Coordinadora de Institutos Nacionales de Salud y Hospitales de Alta Especialidad | | | 4 | 10 |
| 2 | Instituto Mexicano del Seguro Social | | | 4 | 1 |
| 3 | Fundacao Oswaldo Cruz | | | 4 | 6.5 |
| 4 | Instituto de Medicina Tropical Pedro Kouri | | | 4 | 4.5 |
| 5 | Instituto Butantan | | | 2 | 18 |
| 6 | Pan American Health Organization Cuba | | | 1 | 0 |
| 7 | Fundacion Instituto de Inmunologia de Colombia | | | 1 | 6 |
| 8 | Centro de Neurociencias de Cuba | | | 1 | 0 |

Figura 51. Colaboración interinstitucional con el sector sanitario. Norteamérica

| | Institution | Country | Sector | Documents | Cites per document |
|----|---|---------|--------|-----------|--------------------|
| 1 | National Institutes of Health United States | | | 14 | 42.29 |
| 2 | Centers for Disease Control and Prevention Estados Unidos | | | 6 | 7.67 |
| 3 | Howard Hughes Medical Institute | | | 5 | 46.4 |
| 4 | U.S. Department of Health & Human Services | | | 4 | 55 |
| 5 | Northshore University HealthSystem | | | 4 | 23.5 |
| 6 | Dana Farber Cancer Institute | | | 4 | 47 |
| 7 | Schepens Eye Research Institute | | | 3 | 10 |
| 8 | Mount Sinai Hospital Joseph and Wolf Lebovic Health Complex | | | 3 | 111.33 |
| 9 | J. Craig Venter Institute | | | 3 | 35 |
| 10 | Mount Sinai Medical Center | | | 3 | 20.33 |
| 11 | Hospital for Sick Children | | | 3 | 91.33 |
| 12 | Fred Hutchinson Cancer Research Center | | | 3 | 24.67 |
| 13 | Institute for Systems Biology | | | 2 | 37 |
| 14 | Scripps Research Institute | | | 2 | 37 |
| 15 | Salk Institute for Biological Studies | | | 2 | 158 |
| 16 | Pennington Biomedical Research Center | | | 2 | 37 |
| 17 | Burnham Institute for Medical Research | | | 2 | 8 |
| 18 | CareGroup Healthcare System | | | 2 | 28 |
| 19 | Cold Spring Harbor Laboratory | | | 2 | 27 |

Figura 52. Colaboración interinstitucional con el sector sanitario. Europa Occidental

| | Institution | Country | Sector | Documents | Cites per document |
|----|--|---------|----------|-----------|--------------------|
| 1 | SIR Institut National de la Sante et de la Recherche Medicale | FR | Pharmacy | 16 | 10.44 |
| 2 | SIR Istituti Ortopedici Rizzoli | IT | Pharmacy | 6 | 14.17 |
| 3 | SIR Medical Research Council | GB | Pharmacy | 6 | 15.5 |
| 4 | SIR Assistance Publique Hopitaux de Paris | FR | Pharmacy | 6 | 23.17 |
| 5 | SIR Istituto Superiore di Sanita | IT | Pharmacy | 5 | 8 |
| 6 | SIR Wellcome Trust Sanger Institute | GB | Pharmacy | 4 | 12 |
| 7 | SIR Swedish Institute for Infectious Disease Control | SE | Pharmacy | 4 | 32 |
| 8 | SIR Imperial College Healthcare NHS Trust | GB | Pharmacy | 4 | 23.5 |
| 9 | SIR Institut Pasteur de Paris | FR | Pharmacy | 4 | 8 |
| 10 | SIR Helsinki University Central Hospital | FI | Pharmacy | 3 | 22 |
| 11 | SIR Malmo University Hospital | SE | Pharmacy | 3 | 4 |
| 12 | SIR Radboud University Nijmegen Medical Centre | NL | Pharmacy | 3 | 1 |
| 13 | SIR Hopitaux Universitaires de Geneve | CH | Pharmacy | 2 | 37 |
| 14 | SIR Guy's & Saint Thomas' NHS Foundation Trust | GB | Pharmacy | 2 | 0 |
| 15 | SIR Institut Curie | FR | Pharmacy | 2 | 9 |
| 16 | SIR Fondazione IRCCS Ospedale Maggiore Policlinico, Mangiagalli e Regina Elena | IT | Pharmacy | 2 | 12 |
| 17 | SIR The Leeds Teaching Hospitals NHS Trust | GB | Pharmacy | 2 | 106.5 |
| 18 | SIR National Institute for Public Health and the Environment | NL | Pharmacy | 2 | 9 |
| 19 | SIR Charite - Universitätsmedizin Berlin | DE | Pharmacy | 2 | 1 |
| 20 | SIR Norrland's University Hospital | SE | Pharmacy | 2 | 22 |
| 21 | SIR Uppsala University Hospital | SE | Pharmacy | 2 | 1 |
| 22 | SIR Health Protection Agency | GB | Pharmacy | 2 | 7 |
| 23 | SIR Istituto Ortopedico Galeazzi | IT | Pharmacy | 2 | 7 |

Figura 53. Colaboración interinstitucional con el sector sanitario. Región del Pacífico

| | Institution | Country | Sector | Documents | Cites per document |
|---|--|---------|----------|-----------|--------------------|
| 1 | SIR Flinders Medical Centre | AU | Pharmacy | 1 | 17 |
| 2 | SIR Royal Perth Hospital | AU | Pharmacy | 1 | 0 |
| 3 | SIR Monash Institute of Medical Research | AU | Pharmacy | 1 | 200 |

Figura 54. Instituciones privadas con producción en Biotechnology (más de 1 documento)

| | Institution | Sector | Documents | Cites per document |
|----|--|--------|-----------|--------------------|
| 1 | Merck Sharp & Dohme de Espana, S.A. Madrid | | 12 | 10 |
| 2 | Puleva Biotech, S.A. | | 9 | 11.33 |
| 3 | GlaxoSmithKline, Espana | | 8 | 5.88 |
| 4 | Empresa Nacional de Celulosa de Pontevedra | | 5 | 21 |
| 5 | Labaqua, S.A. | | 5 | 8.2 |
| 6 | Antibioticos, S.A. | | 4 | 11.25 |
| 7 | Bioiberica, S.A. | | 3 | 1.67 |
| 8 | Newbiotechnic, S.A. | | 3 | 11 |
| 9 | Iberdrola, S.A. | | 3 | 2 |
| 10 | Poligono Industrial Las Atalayas | | 3 | 11.33 |
| 11 | Biokit, S.A. | | 3 | 17.33 |
| 12 | Cogal, Soc. Coop. Gallega | | 2 | 0 |
| 13 | Bioferma Murcia, S.A. | | 2 | 3 |
| 14 | Genomica, S.A.U. | | 2 | 14.5 |
| 15 | Inmunologia Genetica y Aplicada, S.A. | | 2 | 5.5 |
| 16 | Instituto Biomar, S.A. | | 2 | 8 |
| 17 | Laboratorios Hipra, S.A. | | 2 | 6 |
| 18 | Stolt Sea Farms, S.A. | | 2 | 22 |
| 19 | Tecnatom, S.A. | | 2 | 0 |
| 20 | Societat General d'Aigues de Barcelona, S.A. | | 2 | 4.5 |
| 21 | Biomedal S.L. | | 2 | 10.5 |
| 22 | Alma Bioinformatics, S.L. | | 2 | 0 |

Figura 55. Colaboración interinstitucional con el sector privado. Latinoamérica

| | Institution | Country | Sector | Documents | Cites per document |
|---|-------------|---------|--------|-----------|--------------------|
| 1 | Petrobras | | | 3 | 2.33 |

Figura 56. Colaboración interinstitucional con el sector privado. Norteamérica

| | Institution | Country | Sector | Documents | Cites per document |
|---|--------------------------------|---------|--------|-----------|--------------------|
| 1 | DuPont | | | 6 | 5.83 |
| 2 | MITRE Corporation, Bedford | | | 4 | 0.75 |
| 3 | Merck & Co., Inc. | | | 4 | 13 |
| 4 | Eli Lilly and Company | | | 1 | 10 |
| 5 | IBM Corporation | | | 1 | 41 |
| 6 | GlaxoSmithKline, United States | | | 1 | 0 |

Figura 57. Colaboración interinstitucional con el sector privado. Europa Occidental

| | Institution | Country | Sector | Documents | Cites per document |
|----|--|---------|--------|-----------|--------------------|
| 1 | SIR Nestle Switzerland | | | 11 | 2.09 |
| 2 | SIR GlaxoSmithKline, United Kingdom | | | 5 | 31 |
| 3 | SIR Siemens AG | | | 4 | 33.5 |
| 4 | SIR BASF AG | | | 3 | 11 |
| 5 | SIR Centre Suisse d'Electronique et Microtechnique, S.A. | | | 2 | 2 |
| 6 | Cellzome AG | | | 2 | 37 |
| 7 | Applied Biosystems | | | 2 | 10 |
| 8 | Mosaiques Diagnostics and Therapeutics AG | | | 2 | 37 |
| 9 | SONY Computer Science Laboratory Paris | | | 2 | 0.5 |
| 10 | SIR Merck Serono, S.A. | | | 2 | 67 |
| 11 | SIR DSM Nutritional Products, Ltd. | | | 1 | 7 |
| 12 | SIR BASF, Switzerland | | | 1 | 4 |
| 13 | SIR Total | | | 1 | 2 |
| 14 | SIR Roche Diagnostics GmbH | | | 1 | 14 |

Figura 58. Otras instituciones con producción en Biotechnology (más de 1 documento)

| | Institution | Sector | Documents | Cites per document |
|----|--|--------|-----------|--------------------|
| 1 | Parc Cientific de Barcelona | | 24 | 9.21 |
| 2 | Fundacion Cajamar | | 7 | 11.14 |
| 3 | Parque Tecnologico de San Sebastian | | 6 | 10.67 |
| 4 | SIR Centro de Tecnologias Electroquimicas | | 5 | 18 |
| 5 | Parque Cientifico de Madrid Cantoblanco | | 5 | 2.4 |
| 6 | Parc Mediterrani de la Tecnologia | | 5 | 4 |
| 7 | Parque Tecnologico de Madrid | | 4 | 5.25 |
| 8 | Parque Tecnologico de Bizkaia | | 3 | 31.33 |
| 9 | Valencia Parc Tecnologic | | 3 | 25.67 |
| 10 | Formatex Reserach Center | | 3 | 0 |
| 11 | SIR INASMET Tecnalía | | 3 | 3.33 |
| 12 | Centre de Bioelectronica i Nanobiociencia | | 2 | 6.5 |
| 13 | SIR AZTI Tecnalía | | 2 | 6 |
| 14 | Centro Tecnolologico Gaiker | | 2 | 14.5 |
| 15 | SIR Ikerlan | | 2 | 7.5 |
| 16 | Parque Tecnologico de Ciencias de la Salud | | 2 | 8.5 |
| 17 | SIR Instituto Mediterraneo para el Avance de la Biotechnology y la Investigacion Sanitaria | | 2 | 1 |
| 18 | Parc de Montjuic | | 2 | 7 |

3.213 3.173 3.173
 3.053 3.2 3.192 3.213
 3.053 3.2 3.192 3.213

Figura 59. Colaboración interinstitucional con otros sectores. Norteamérica

| | Institution | Country | Sector | Documents | Cites per document |
|---|--------------------------------------|---------|--------|-----------|--------------------|
| 1 | Woods Hole Oceanographic Institution | | | 3 | 4 |
| 2 | Marine Biological Laboratory | | | 1 | 3 |

Figura 60. Colaboración interinstitucional con otros sectores. Europa Occidental

| | Institution | Country | Sector | Documents | Cites per document |
|---|--|---------|--------|-----------|--------------------|
| 1 | VTT Technical Research Centre of Finland | | | 4 | 6.75 |
| 2 | Minatec Campus d'Innovation en Micro et Nanotechnologies | | | 2 | 3 |
| 3 | Istituto Italiano di Tecnologia | | | 1 | 0 |
| 4 | International Centre for Life | | | 1 | 200 |
| 5 | Zoological Society of London | | | 1 | 0 |

APPLIED AND MICROBIOLOGY BIOTECHNOLOGY

Figura 61. Instituciones universitarias con producción en Applied Microbiology and Biotechnology (más de 1 documento entre 2003-2009)

| | Institution | Sector | Documents | Cites per document |
|----|---|----------------|-----------|--------------------|
| 1 | Universitat Autònoma de Barcelona | Graduation cap | 156 | 9.84 |
| 2 | Universitat de Barcelona | Graduation cap | 151 | 9.59 |
| 3 | Universidad Complutense de Madrid | Graduation cap | 137 | 10.05 |
| 4 | Universitat de València | Graduation cap | 102 | 10.52 |
| 5 | Universidad Autónoma de Madrid | Graduation cap | 99 | 11.25 |
| 6 | Universidad de Sevilla | Graduation cap | 92 | 8 |
| 7 | Universidad de Granada | Graduation cap | 85 | 9.04 |
| 8 | Universidad de Córdoba | Graduation cap | 80 | 5.16 |
| 9 | Universidad de Santiago de Compostela | Graduation cap | 77 | 7.86 |
| 10 | Universidad de León, Spain | Graduation cap | 77 | 9.62 |
| 11 | Universidade de Vigo | Graduation cap | 61 | 9.41 |
| 12 | Universidad de Zaragoza | Graduation cap | 53 | 8.98 |
| 13 | Universidad de Oviedo | Graduation cap | 52 | 10.1 |
| 14 | Universidad Miguel Hernández | Graduation cap | 50 | 12.46 |
| 15 | Universidad de Murcia | Graduation cap | 50 | 6.96 |
| 16 | Universitat Rovira i Virgili | Graduation cap | 42 | 9.38 |
| 17 | Universidad de Salamanca | Graduation cap | 40 | 5.9 |
| 18 | Universidad del País Vasco | Graduation cap | 40 | 9.43 |
| 19 | Universitat de Lleida | Graduation cap | 36 | 13.44 |
| 20 | Universidad de Jaén | Graduation cap | 33 | 11.24 |
| 21 | Universitat de les Illes Balears | Graduation cap | 33 | 11.67 |
| 22 | Universitat Politècnica de Catalunya | Graduation cap | 31 | 11.81 |
| 23 | Universidade da Coruña | Graduation cap | 28 | 9.93 |
| 24 | Universidad de La Laguna | Graduation cap | 28 | 8.07 |
| 25 | Universidad de Almería | Graduation cap | 27 | 8.33 |
| 26 | Universidad de Huelva | Graduation cap | 27 | 5.63 |
| 27 | Universidad de Málaga | Graduation cap | 26 | 7.15 |
| 28 | Universitat de Girona | Graduation cap | 26 | 9 |
| 29 | Universidad de Extremadura | Graduation cap | 25 | 5.92 |
| 30 | Universitat d'Alacant | Graduation cap | 24 | 8.79 |
| 31 | Universidad Pública de Navarra | Graduation cap | 24 | 14.63 |
| 32 | Universidad de Cádiz | Graduation cap | 23 | 7.26 |
| 33 | Universidad Politécnica de Madrid | Graduation cap | 22 | 9.91 |
| 34 | Universidad Politécnica de Valencia | Graduation cap | 22 | 8.64 |
| 35 | Universidad de Valladolid | Graduation cap | 21 | 8.86 |
| 36 | Universidad de Castilla-La Mancha | Graduation cap | 21 | 9.76 |
| 37 | Universidad de Navarra | Graduation cap | 19 | 8.47 |
| 38 | Universidad de Cantabria | Graduation cap | 19 | 8 |
| 39 | Universidad de las Palmas de Gran Canaria | Graduation cap | 18 | 7.78 |
| 40 | Universidad Pablo de Olavide | Graduation cap | 18 | 12.94 |
| 41 | Universidad de Alcalá | Graduation cap | 17 | 8.12 |
| 42 | Universidad Cardinal Herrera CEU | Graduation cap | 16 | 18.31 |
| 43 | Universidad Rey Juan Carlos | Graduation cap | 12 | 11 |
| 44 | Universidad de La Rioja | Graduation cap | 8 | 5.38 |
| 45 | Universidad San Pablo CEU | Graduation cap | 7 | 4.14 |
| 46 | Universitat Pompeu Fabra | Graduation cap | 6 | 4 |
| 47 | Universidad de Burgos | Graduation cap | 4 | 6.75 |
| 48 | Instituto Químico de Sarria | Graduation cap | 4 | 4.5 |
| 49 | Universitat Ramon Llull | Graduation cap | 4 | 4.5 |
| 50 | Universidad Alfonso X El Sabio | Graduation cap | 3 | 5.33 |
| 51 | Universidad Francisco de Vitoria | Graduation cap | 2 | 3 |
| 52 | Universidad Politécnica de Cartagena | Graduation cap | 2 | 6.5 |

Figura 62. Colaboración interinstitucional con el sector universitario. Asia

| | Institution | Country | Sector | Documents | Cites per document |
|----|---|---------|--------|-----------|--------------------|
| 1 | CSIR Chiang Mai University | TH | U | 5 | 10 |
| 2 | CSIR University of Agriculture, Faisalabad | PK | U | 3 | 3 |
| 3 | CSIR Khon Kaen University | TH | U | 3 | 2 |
| 4 | CSIR National Cheng Kung University | TW | U | 2 | 8 |
| 5 | CSIR Seoul National University | KR | U | 2 | 43 |
| 6 | CSIR University of Delhi | IN | U | 2 | 43 |
| 7 | CSIR Huazhong Agricultural University | CN | U | 2 | 5 |
| 8 | Jain Vishva Bharati Institute | IN | U | 2 | 0 |
| 9 | CSIR International Medical University | MY | U | 2 | 10 |
| 10 | CSIR China Agricultural University | CN | U | 2 | 5 |
| 11 | CSIR Gurukula Kangri Vishwavidyalaya | IN | U | 2 | 3 |
| 12 | CSIR University of Hyderabad | IN | U | 2 | 43 |
| 13 | CSIR National Kaohsiung Marine University | TW | U | 1 | 5 |
| 14 | CSIR Niigata University | JP | U | 1 | 17 |
| 15 | CSIR University of Tokyo | JP | U | 1 | 0 |
| 16 | CSIR Gunma University | JP | U | 1 | 14 |
| 17 | CSIR University of the Philippines Los Banos | PH | U | 1 | 10 |
| 18 | CSIR Second Military Medical University | CN | U | 1 | 21 |
| 19 | CSIR Northeast Normal University | CN | U | 1 | 9 |
| 20 | CSIR Ocean University of China | CN | U | 1 | 9 |
| 21 | CSIR National University of Singapore | SG | U | 1 | 8 |
| 22 | CSIR Xinjiang University | CN | U | 1 | 20 |
| 23 | CSIR National Yang-Ming University | TW | U | 1 | 10 |
| 24 | Malaysia University of Science and Technology | MY | U | 1 | 9 |
| 25 | CSIR Silpakorn University | TH | U | 1 | 0 |

Figura 63. Colaboración interinstitucional con el sector universitario. Europa del Este

| | Institution | Country | Sector | Documents | Cites per document |
|----|---|---------|--------|-----------|--------------------|
| 1 | CSIR Masaryk University | CZ | U | 6 | 2 |
| 2 | CSIR St. Petersburg State Polytechnic University | RU | U | 3 | 4 |
| 3 | CSIR University of Ljubljana | SI | U | 3 | 9.67 |
| 4 | CSIR University of Medicine and Pharmacy Victor Babes | RO | U | 3 | 2 |
| 5 | CSIR University of Szeged | HU | U | 3 | 2 |
| 6 | CSIR University of South Bohemia | CZ | U | 3 | 4 |
| 7 | CSIR Charles University | CZ | U | 2 | 13 |
| 8 | CSIR Semmelweis University | HU | U | 2 | 7 |
| 9 | CSIR University of Gdansk | PL | U | 2 | 0 |
| 10 | CSIR Politehnica University of Bucharest | RO | U | 1 | 9 |
| 11 | CSIR Poznan University of Medical Sciences | PL | U | 1 | 17 |
| 12 | CSIR University of Belgrade | RS | U | 1 | 1 |
| 13 | CSIR Jagiellonian University | PL | U | 1 | 2 |
| 14 | CSIR University of Maribor | SI | U | 1 | 1 |

Figura 64. Colaboración interinstitucional con el sector universitario. Latinoamérica (más de 1 documento)

| | Institution | Country | Sector | Documents | Cites per document |
|----|--|-------------|------------|-----------|--------------------|
| 1 | CSIR Universidad Nacional Autónoma de México | Mexico | University | 16 | 12.44 |
| 2 | CSIR Universidad de Buenos Aires | Argentina | University | 14 | 7.86 |
| 3 | CSIR Universidad Nacional del Nordeste | Argentina | University | 13 | 8.15 |
| 4 | CSIR Universidad Nacional de Colombia | Colombia | University | 10 | 4.9 |
| 5 | CSIR Universidad Nacional del Litoral | Argentina | University | 9 | 5.78 |
| 6 | CSIR Universidade Federal do Rio Grande do Sul | Brazil | University | 7 | 16 |
| 7 | CSIR Universidad de Chile | Chile | University | 7 | 7.43 |
| 8 | CSIR Universidad de Antioquia | Colombia | University | 7 | 7.86 |
| 9 | CSIR Universidad de la Republica | Colombia | University | 6 | 30.67 |
| 10 | CSIR Pontificia Universidad Javeriana | Colombia | University | 6 | 13 |
| 11 | CSIR Universidad Nacional de Rosario | Argentina | University | 6 | 17.83 |
| 12 | CSIR Pontificia Universidad Católica de Valparaíso | Chile | University | 6 | 12.83 |
| 13 | CSIR Pontificia Universidad Católica de Chile | Chile | University | 5 | 2 |
| 14 | CSIR Universidad Nacional del Comahue | Argentina | University | 5 | 9.8 |
| 15 | CSIR Universidad de La Habana | Cuba | University | 5 | 5.4 |
| 16 | CSIR Universidad de Costa Rica | Costa Rica | University | 4 | 3 |
| 17 | CSIR Universidade Federal do Rio de Janeiro | Brazil | University | 4 | 7 |
| 18 | CSIR Universidad Autónoma de Ciudad Juárez | Mexico | University | 4 | 6 |
| 19 | CSIR Universidad Autónoma de Tamaulipas | Mexico | University | 4 | 4 |
| 20 | CSIR Fundacao Universidade Regional de Blumenau | Brazil | University | 4 | 7 |
| 21 | CSIR Universidade Federal de Mato Grosso do Sul | Brazil | University | 4 | 7 |
| 22 | CSIR Universidad Nacional de Tucuman | Argentina | University | 3 | 2 |
| 23 | CSIR Universidad del Rosario | Colombia | University | 3 | 9 |
| 24 | CSIR Universidade Estadual de Goias | Brazil | University | 3 | 4 |
| 25 | CSIR Universidad Autónoma Metropolitana | Mexico | University | 3 | 8 |
| 26 | CSIR Centro de Investigacion y de Estudios Avanzados del IPN | Mexico | University | 3 | 23 |
| 27 | CSIR Universidad de Guadalajara | Mexico | University | 3 | 6 |
| 28 | CSIR Universidad Nacional de Costa Rica | Costa Rica | University | 3 | 18 |
| 29 | CSIR Universidad Autónoma del Estado de Hidalgo | Mexico | University | 3 | 3.33 |
| 30 | CSIR Universidad de Colima | Mexico | University | 3 | 6 |
| 31 | CSIR Universidad Católica del Norte | Chile | University | 3 | 4.67 |
| 32 | CSIR Universidad de Concepcion | Chile | University | 2 | 13 |
| 33 | CSIR Universidade do Estado de Santa Catarina | Brazil | University | 2 | 1 |
| 34 | CSIR Universidad de los Andes, Venezuela | Venezuela | University | 2 | 19.5 |
| 35 | CSIR Universidade Federal de Sao Carlos | Brazil | University | 2 | 2.5 |
| 36 | CSIR Universidad Central de Venezuela | Venezuela | University | 2 | 13 |
| 37 | CSIR Universidade de Sao Paulo | Brazil | University | 2 | 19.5 |
| 38 | CSIR Universidad de Leon, Mexico | Mexico | University | 2 | 1 |
| 39 | CSIR Universidad Industrial de Santander | Colombia | University | 2 | 9 |
| 40 | CSIR Universidad Nacional de Trujillo | Peru | University | 2 | 4 |
| 41 | CSIR Universidad Nacional de Mar del Plata | Argentina | University | 2 | 3 |
| 42 | CSIR Universidad Simon Bolivar, Caracas | Venezuela | University | 2 | 19.5 |
| 43 | CSIR Universidad Metropolitana | Colombia | University | 2 | 5 |
| 44 | CSIR Universidad de Valparaíso | Chile | University | 2 | 9 |
| 45 | CSIR Benemerita Universidad Autónoma de Puebla | Mexico | University | 2 | 12 |
| 46 | CSIR Instituto Politecnico Nacional | Mexico | University | 2 | 3 |
| 47 | CSIR Universidade Federal de Ciencias da Saude de Porto Alegre | Brazil | University | 2 | 9 |
| 48 | CSIR Universidad de Puerto Rico | Puerto Rico | University | 2 | 21 |

Figura 65. Colaboración interinstitucional con el sector universitario. Oriente Próximo

| | Institution | Country | Sector | Documents | Cites per document |
|----|--|---------|--------|-----------|--------------------|
| 1 | SIR Hacettepe University | | | 7 | 24.29 |
| 2 | SIR Hebrew University of Jerusalem | | | 6 | 22.5 |
| 3 | SIR Tel Aviv University | | | 4 | 10 |
| 4 | SIR University of Tehran | | | 4 | 4.5 |
| 5 | SIR Bar-Ilan University | | | 4 | 2.5 |
| 6 | SIR Technion - Israel Institute of Technology | | | 3 | 38 |
| 7 | SIR Tehran University of Medical Sciences | | | 2 | 3 |
| 8 | SIR Islamic Azad University, Science and Research Branch, Tehran | | | 2 | 0 |
| 9 | SIR Shiraz University | | | 1 | 3 |
| 10 | SIR Mustafa Kemal University | | | 1 | 14 |
| 11 | SIR Suleyman Demirel University, Isparta | | | 1 | 1 |
| 12 | SIR Ben-Gurion University of the Negev | | | 1 | 2 |
| 13 | SIR Sohag University | | | 1 | 9 |
| 14 | SIR Weizmann Institute of Science | | | 1 | 9 |
| 15 | SIR Isfahan University of Technology | | | 1 | 38 |
| 16 | SIR Dicle University | | | 1 | 4 |
| 17 | SIR Sharif University of Technology | | | 1 | 8 |
| 18 | SIR Middle East Technical University | | | 1 | 4 |
| 19 | SIR Alzahra University | | | 1 | 2 |

Figura 66. Colaboración interinstitucional con el sector universitario. África del Norte

| | Institution | Country | Sector | Documents | Cites per document |
|---|---|---------|--------|-----------|--------------------|
| 1 | SIR Universite Abdelmalek Essaadi Tetouan | | | 5 | 6.2 |
| 2 | SIR Universite Hassan II - Ain Chock | | | 2 | 0 |
| 3 | SIR Universite Cadi Ayyad | | | 1 | 24 |
| 4 | SIR Universite de Monastir | | | 1 | 5 |
| 5 | Ecole Normale Supérieure, Rabat | | | 1 | 4 |
| 6 | SIR Universite de Tunis El Manar | | | 1 | 4 |
| 7 | SIR Universite Mohammed V-Agdal | | | 1 | 4 |

Figura 67. Colaboración interinstitucional con el sector universitario. Norteamérica (más de 3 documentos)

| | Institution | Country | Sector | Documents | Cites per document |
|----|---|---------|--------|-----------|--------------------|
| 1 | SR University of North Carolina, Chapel Hill | USA | U | 30 | 11.67 |
| 2 | SR The University of British Columbia | Canada | U | 12 | 16.75 |
| 3 | SR University of Massachusetts, Amherst | USA | U | 10 | 16.8 |
| 4 | SR Oklahoma State University, Stillwater | USA | U | 10 | 8.1 |
| 5 | SR Michigan State University | USA | U | 9 | 11.33 |
| 6 | SR Laval University | Canada | U | 9 | 14.33 |
| 7 | SR Cornell University | USA | U | 8 | 22.88 |
| 8 | SR Harvard University | USA | U | 8 | 40.75 |
| 9 | SR University of Illinois, Urbana-Champaign | USA | U | 7 | 7.71 |
| 10 | SR University of Wisconsin, Madison | USA | U | 7 | 9.86 |
| 11 | SR University of California, Davis | USA | U | 7 | 5.71 |
| 12 | SR University of California, San Francisco | USA | U | 6 | 8 |
| 13 | SR Washington State University, Pullman | USA | U | 6 | 11.67 |
| 14 | SR University of Washington | USA | U | 6 | 11 |
| 15 | SR Oregon State University | USA | U | 5 | 2 |
| 16 | SR University of Minnesota, Twin Cities | USA | U | 5 | 26.6 |
| 17 | SR University of Michigan, Ann Arbor | USA | U | 5 | 4.4 |
| 18 | SR Iowa State University | USA | U | 5 | 9.8 |
| 19 | SR Portland State University | USA | U | 5 | 6.2 |
| 20 | SR Northwestern University, Evanston | USA | U | 4 | 6.5 |
| 21 | SR University of Texas, Health Science Center at Houston | USA | U | 4 | 9 |
| 22 | SR University of Arizona | USA | U | 4 | 7 |
| 23 | SR Massachusetts Institute of Technology | USA | U | 4 | 8.5 |
| 24 | SR Seattle Pacific University | USA | U | 4 | 7 |
| 25 | SR Wake Forest University | USA | U | 4 | 7 |
| 26 | SR McGill University | Canada | U | 4 | 2 |
| 27 | SR John Carroll University | USA | U | 4 | 7 |
| 28 | SR Yeshiva University | USA | U | 4 | 10.5 |
| 29 | SR University of Pittsburgh | USA | U | 4 | 8 |
| 30 | Hiram College | USA | U | 4 | 7 |
| 31 | SR Tufts University | USA | U | 4 | 9.25 |
| 32 | SR Virginia Polytechnic Institute and State University | USA | U | 4 | 7 |
| 33 | SR Ohio State University, Columbus | USA | U | 4 | 7 |
| 34 | SR College of William and Mary | USA | U | 3 | 4.67 |
| 35 | SR Wayne State University | USA | U | 3 | 12 |
| 36 | SR University of Massachusetts, Medical School at Worcester | USA | U | 3 | 10.67 |
| 37 | SR University of California, Berkeley | USA | U | 3 | 6.67 |
| 38 | SR University of Georgia | USA | U | 3 | 3.67 |
| 39 | SR University of California, San Diego | USA | U | 3 | 17.33 |
| 40 | SR University of South Dakota | USA | U | 3 | 5.67 |
| 41 | SR University of California, Los Angeles | USA | U | 3 | 2 |
| 42 | SR University of Kentucky | USA | U | 3 | 7.67 |
| 43 | SR Emory University | USA | U | 3 | 6.67 |
| 44 | SR Drew University | USA | U | 3 | 12 |
| 45 | SR University of Manitoba | Canada | U | 3 | 1 |
| 46 | SR Yale University | USA | U | 3 | 11.67 |
| 47 | SR Columbia University | USA | U | 3 | 5 |
| 48 | SR University of Maryland, College Park | USA | U | 3 | 5.33 |
| 49 | SR Johns Hopkins University | USA | U | 3 | 10 |
| 50 | SR University of Utah | USA | U | 3 | 12 |
| 51 | SR University of Georgia | USA | U | 3 | 3.67 |
| 52 | SR University of California, Berkeley | USA | U | 3 | 6.67 |
| 53 | SR Colorado State University | USA | U | 3 | 35.33 |

Figura 68. Colaboración interinstitucional con el sector universitario. Europa Occidental (I)

Datos de Producción Científica (2003-2009) en Biotecnología

3.213 3.173 3.113
3.053 3.2 3.102 3.1



| | Institution | Country | Sector | Documents | Cites per document |
|----|--|---------|-----------|-----------|--------------------|
| 1 | Université Pierre et Marie Curie, Paris 6 | FR | Education | 21 | 11.19 |
| 2 | Ghent University | BE | Education | 19 | 6.79 |
| 3 | Technical University of Denmark | DK | Education | 17 | 14.59 |
| 4 | Ludwig-Maximilians Universität München | DE | Education | 16 | 5.06 |
| 5 | Imperial College London | GB | Education | 16 | 16.81 |
| 6 | Universität für Bodenkultur Wien | AT | Education | 15 | 5.4 |
| 7 | Linnaeus University | SE | Education | 15 | 15.2 |
| 8 | Wageningen University and Research Centre | NL | Education | 15 | 14 |
| 9 | Karolinska Institute | SE | Education | 13 | 18.85 |
| 10 | Newcastle University Newcastle upon Tyne | GB | Education | 13 | 18.15 |
| 11 | The University of Manchester | GB | Education | 12 | 4.58 |
| 12 | Utrecht University | NL | Education | 12 | 7.42 |
| 13 | Leiden University | NL | Education | 10 | 10.1 |
| 14 | University of Cambridge | GB | Education | 10 | 6.4 |
| 15 | University of East Anglia | GB | Education | 10 | 3.4 |
| 16 | Justus-Liebig-Universität Gießen | DE | Education | 10 | 8.7 |
| 17 | Eberhard-Karls-Universität Tübingen | DE | Education | 10 | 12.1 |
| 18 | Università degli Studi di Pavia | IT | Education | 9 | 20 |
| 19 | University of Athens | GR | Education | 9 | 19.44 |
| 20 | Université Paris-Sud 11 | FR | Education | 9 | 10.89 |
| 21 | Universidade Nova de Lisboa | PT | Education | 9 | 6.89 |
| 22 | Technische Universität München | DE | Education | 9 | 18.67 |
| 23 | Universidade do Porto | PT | Education | 9 | 22.33 |
| 24 | Università degli Studi di Napoli Federico II | IT | Education | 9 | 7.33 |
| 25 | The University of Edinburgh | GB | Education | 8 | 10.75 |
| 26 | University of Copenhagen | DK | Education | 8 | 11.88 |
| 27 | Università degli Studi del Molise | IT | Education | 8 | 7 |
| 28 | University of Gothenburg | SE | Education | 8 | 10.63 |
| 29 | Veterinärmedizinische Universität Wien | AT | Education | 8 | 10.75 |
| 30 | Universität Innsbruck | AT | Education | 8 | 10.25 |
| 31 | Universität Wien | AT | Education | 8 | 17.75 |
| 32 | University of Ioannina | GR | Education | 8 | 7.75 |
| 33 | Technische Universität Braunschweig | DE | Education | 8 | 23.88 |
| 34 | Johann Wolfgang Goethe-Universität Frankfurt am Main | DE | Education | 7 | 6 |
| 35 | Universidade Tecnica de Lisboa | PT | Education | 7 | 13.43 |
| 36 | Università Cattolica del Sacro Cuore | IT | Education | 7 | 19.43 |
| 37 | Stockholm University | SE | Education | 7 | 9.14 |
| 38 | The University of Sheffield | GB | Education | 7 | 11 |
| 39 | Università degli Studi di Bologna | IT | Education | 7 | 7.57 |
| 40 | University of Aberdeen | GB | Education | 6 | 3.67 |
| 41 | Lund University | SE | Education | 6 | 16 |
| 42 | Universität Regensburg | DE | Education | 6 | 8.33 |
| 43 | Universidade do Minho | PT | Education | 6 | 7.17 |
| 44 | Université des Sciences et Techniques du Languedoc, Montpellier II | FR | Education | 6 | 4.83 |
| 45 | Uppsala University | SE | Education | 6 | 9.67 |
| 46 | Universidade de Trás-os-Montes e Alto Douro | PT | Education | 6 | 6.67 |
| 47 | Trinity College Dublin | IE | Education | 6 | 8 |
| 48 | University of Southampton | GB | Education | 6 | 9 |
| 49 | Umea University | SE | Education | 5 | 9.2 |
| 50 | Università degli Studi di Milano | IT | Education | 5 | 18.6 |

Figura 69. Colaboración interinstitucional con el sector universitario. Europa Occidental (II)

| | Institution | Country | Sector | Documents | Cites per document |
|-----|--|---------|--------|-----------|--------------------|
| 51 | CSIR University of Dundee | UK | U | 5 | 15.4 |
| 52 | CSIR University of Turku | FI | U | 5 | 19.8 |
| 53 | CSIR Universite Claude Bernard, Lyon I | FR | U | 5 | 9.2 |
| 54 | CSIR Bangor University | UK | U | 5 | 10.6 |
| 55 | CSIR Università degli Studi di Roma La Sapienza | IT | U | 5 | 4.4 |
| 56 | CSIR University of Bergen | NO | U | 5 | 23.4 |
| 57 | CSIR Queen Mary, University of London | UK | U | 5 | 4.6 |
| 58 | CSIR Università degli Studi di Milano | IT | U | 5 | 18.6 |
| 59 | CSIR Albert-Ludwigs-Universität Freiburg im Breisgau | DE | U | 5 | 15.8 |
| 60 | CSIR University of Oxford | UK | U | 5 | 22.2 |
| 61 | CSIR University of Liverpool | UK | U | 5 | 20.2 |
| 62 | CSIR Umea University | SE | U | 5 | 9.2 |
| 63 | CSIR Swiss Federal Institute of Technology | CH | U | 5 | 25.4 |
| 64 | CSIR University of Warwick | UK | U | 5 | 24.2 |
| 65 | CSIR University of Eastern Finland | FI | U | 5 | 2.6 |
| 66 | CSIR Universite de Liege | BE | U | 5 | 25.2 |
| 67 | CSIR University College Cork | IE | U | 5 | 7.6 |
| 68 | CSIR Cranfield University | UK | U | 5 | 9.8 |
| 69 | CSIR University of Helsinki | FI | U | 5 | 8.4 |
| 70 | CSIR Catholic University of Leuven | BE | U | 4 | 10.5 |
| 71 | CSIR Universitat Bielefeld | DE | U | 4 | 25.75 |
| 72 | CSIR Norwegian University of Science and Technology | NO | U | 4 | 7 |
| 73 | CSIR Università degli Studi di Verona | IT | U | 4 | 31.5 |
| 74 | CSIR Aberystwyth University | UK | U | 4 | 4.25 |
| 75 | CSIR University of Amsterdam | NL | U | 4 | 8.75 |
| 76 | CSIR London School of Hygiene and Tropical Medicine | UK | U | 4 | 36.25 |
| 77 | CSIR Universitat Zurich | CH | U | 4 | 16 |
| 78 | CSIR University of Glasgow | UK | U | 4 | 21.25 |
| 79 | CSIR University of Southern Denmark | DK | U | 4 | 13 |
| 80 | CSIR Universite Henri Poincare, Nancy I | FR | U | 4 | 16.25 |
| 81 | CSIR Universite Bordeaux I | FR | U | 4 | 15.25 |
| 82 | CSIR University of York | UK | U | 4 | 4.25 |
| 83 | CSIR Universidade de Evora | PT | U | 4 | 3.25 |
| 84 | CSIR Università degli Studi di Bari | IT | U | 4 | 7.25 |
| 85 | CSIR Royal Free Hampstead NHS Trust | UK | U | 4 | 15.25 |
| 86 | CSIR University of Essex | UK | U | 4 | 3.75 |
| 87 | CSIR Westfälische Wilhelms-Universität Munster | DE | U | 3 | 12.33 |
| 88 | CSIR Aarhus University | DK | U | 3 | 28.67 |
| 89 | CSIR Università degli Studi di Brescia | IT | U | 3 | 2 |
| 90 | CSIR Universite de Strasbourg | FR | U | 3 | 7 |
| 91 | CSIR Heinrich Heine Universität Dusseldorf | DE | U | 3 | 11.67 |
| 92 | CSIR Università degli Studi di Siena | IT | U | 3 | 42 |
| 93 | CSIR Università degli Studi di Genova | IT | U | 3 | 4.67 |
| 94 | CSIR Technische Universität Graz | AT | U | 3 | 18 |
| 95 | CSIR Karl Franzens Universität Graz | AT | U | 3 | 3 |
| 96 | CSIR University of Durham | UK | U | 3 | 45.67 |
| 97 | CSIR University College London | UK | U | 3 | 26 |
| 98 | CSIR Università degli Studi dell'Aquila | IT | U | 3 | 42 |
| 99 | CSIR University of the West of England | UK | U | 3 | 5 |
| 100 | CSIR Freie Universität Berlin | DE | U | 3 | 17.33 |

3.213 3.173 3.113
3.049 3.014 3.102 3.213
3.053 3.2 3.102 3.213
3.063

Figura 70. Colaboración interinstitucional con el sector universitario. Europa Occidental (III)

| | Institution | Country | Sector | Documents | Cites per document |
|-----|--|----------------|------------|-----------|--------------------|
| 101 | Università degli Studi dell'Aquila | Italy | University | 3 | 42 |
| 102 | Université de Strasbourg | France | University | 3 | 7 |
| 103 | Delft University of Technology | Netherlands | University | 3 | 2 |
| 104 | University of Portsmouth | United Kingdom | University | 3 | 4 |
| 105 | Freie Universität Berlin | Germany | University | 3 | 17.33 |
| 106 | University College London | United Kingdom | University | 3 | 26 |
| 107 | Technische Universität Graz | Austria | University | 3 | 18 |
| 108 | Karl Franzens Universität Graz | Austria | University | 3 | 3 |
| 109 | Università degli Studi di Siena | Italy | University | 3 | 42 |
| 110 | Università degli Studi di Genova | Italy | University | 3 | 4.67 |
| 111 | University of the West of England | United Kingdom | University | 3 | 5 |
| 112 | Technische Universität Bergakademie Freiberg | Germany | University | 3 | 6 |
| 113 | University of Groningen | Netherlands | University | 3 | 17.33 |
| 114 | Universidade de Coimbra | Portugal | University | 3 | 8.67 |
| 115 | Universität Duisburg Essen | Germany | University | 3 | 2 |

Figura 71. Colaboración interinstitucional con el sector universitario. Región del Pacífico

| | Institution | Country | Sector | Documents | Cites per document |
|----|-------------------------------------|-------------|------------|-----------|--------------------|
| 1 | Massey University | New Zealand | University | 5 | 16.4 |
| 2 | The University of Queensland | Australia | University | 5 | 6 |
| 3 | University of Melbourne | Australia | University | 5 | 5.8 |
| 4 | Macquarie University | Australia | University | 4 | 7 |
| 5 | Monash University, Melbourne | Australia | University | 4 | 4.25 |
| 6 | The University of Western Australia | Australia | University | 4 | 9 |
| 7 | University of Auckland | New Zealand | University | 1 | 9 |
| 8 | Curtin University of Technology | Australia | University | 1 | 20 |
| 9 | University of Sydney | Australia | University | 1 | 13 |
| 10 | Flinders University | Australia | University | 1 | 0 |
| 11 | University of New South Wales | Australia | University | 1 | 14 |

Figura 72. Colaboración interinstitucional con el sector universitario. Sudáfrica

| | Institution | Country | Sector | Documents | Cites per document |
|---|---|--------------|------------|-----------|--------------------|
| 1 | University of Cape Town | South Africa | University | 6 | 18 |
| 2 | Stellenbosch University | South Africa | University | 5 | 10.2 |
| 3 | University of Pretoria | South Africa | University | 3 | 2 |
| 4 | University of the Witwatersrand, Johannesburg | South Africa | University | 2 | 9 |
| 5 | University of the Western Cape | South Africa | University | 1 | 1 |
| 6 | Addis Ababa University | Ethiopia | University | 1 | 17 |

Figura 73. Instituciones gubernamentales con producción en Applied Microbiology and Biotechnology (más de 1 documento entre 2003-2009)

| | Institution | Sector | Documents | Cites per document |
|----|---|--------|-----------|--------------------|
| 1 | CSIR Consejo Superior de Investigaciones Científicas | | 867 | 11.92 |
| 2 | CSIR Institut de Recerca i Tecnologia Agroalimentaries Barcelona | | 43 | 7.6 |
| 3 | CSIR Instituto Nacional de Investigacion y Tecnologia Agraria y Alimentaria | | 36 | 5.19 |
| 4 | CSIR Instituto Valenciano de Investigaciones Agrarias | | 29 | 12.97 |
| 5 | CSIR Instituto Nacional de Tecnica Aeroespacial Esteban Terradas | | 20 | 18.15 |
| 6 | CSIR Xarxa de Referencia en Tecnologia dels Aliments | | 20 | 12.8 |
| 7 | CSIR Instituto Espanol de Oceanografia | | 16 | 7.44 |
| 8 | CSIR Instituto de Investigacion y Formacion Agraria y Pesquera | | 15 | 5.4 |
| 9 | CSIR Centre de Recerca en Sanitat Animal | | 13 | 10.31 |
| 10 | Generalitat de Catalunya Barcelona | | 10 | 13.7 |
| 11 | Institucio Catalana de Recerca i Estudis Avancats | | 10 | 8.4 |
| 12 | Institut de Quimica Avancada de Catalunya | | 7 | 3.43 |
| 13 | CSIR Centro de Investigaciones Energeticas, Medioambientales y Tecnologicas | | 6 | 30.67 |
| 14 | Junta de Andalucia Sevilla | | 6 | 3.5 |
| 15 | Junta de Comunidades de Castilla-La Mancha Toledo | | 5 | 16.8 |
| 16 | Centro de Investigacions Marinas | | 5 | 4.6 |
| 17 | CSIR Centro de Investigacion y Tecnologia Agroalimentaria de Aragon | | 5 | 8.8 |
| 18 | CSIR Instituto Canario de Investigaciones Agrarias | | 4 | 8.75 |
| 19 | IDICAN | | 4 | 3.75 |
| 20 | CSIR Neiker-Tecnalia, Instituto Vasco de Investigacion y Desarrollo Agrario Arkaute | | 4 | 15 |
| 21 | CSIR Instituto Murciano de Investigacion y Desarrollo Agrario y Alimentario La Alberca | | 3 | 4.33 |
| 22 | CSIR Centre de Recerca Ecologica i Aplicacions Forestals | | 3 | 10.67 |
| 23 | Centro Apicola Regional | | 3 | 22.33 |
| 24 | Conselleria do Mar Santiago de Compostela | | 3 | 6.33 |
| 25 | Generalitat Valenciana Valencia | | 3 | 9.67 |
| 26 | Eusko Jauriaritza Bilbao | | 3 | 8.33 |
| 27 | Gobierno de Canarias Las Palmas | | 3 | 4.67 |
| 28 | Instituto Tecnologico Agrario de Castilla y Leon Valladolid | | 3 | 7 |
| 29 | Xunta de Galicia Santiago de Compostela | | 3 | 6.67 |
| 30 | CSIR Institut de Bioenginyeria de Catalunya | | 3 | 8.67 |
| 31 | CSIR Instituto de Prospectiva Tecnologica | | 2 | 3.5 |
| 32 | Ayuntamiento de Madrid | | 2 | 4.5 |
| 33 | CSIR Centro de Investigacion Forestal | | 2 | 1.5 |
| 34 | Gobierno de Navarra | | 2 | 8.5 |
| 35 | CSIR Instituto Nacional de Toxicologia y Ciencias Forenses Madrid | | 2 | 5 |
| 36 | Centro de Investigaciones Agrarias de Mabegondo | | 2 | 5.5 |
| 37 | Consejeria Agricultura Ganaderia Pesca y Alimentacion | | 2 | 6 |
| 38 | Centro de Biotecnologia y Genomica de Plantas | | 2 | 5 |
| 39 | CSIR Instituto Madrilenio de Investigacion y Desarrollo Rural, Agrario y Alimentario | | 2 | 6 |
| 40 | Consejeria de Innovacion, Ciencia y Empresa Sevilla | | 2 | 4 |
| 41 | CSIR Servicio Regional de Investigacion y Desarrollo Agroalimentario de Asturias Villaviciosa | | 2 | 1.5 |
| 42 | Diputacio de Girona | | 2 | 7 |

Figura 74. Colaboración interinstitucional con el sector gubernamental. Asia

| | Institution | Country | Sector | Documents | Cites per document |
|---|---|---------|--------|-----------|--------------------|
| 1 | Chinese Academy of Sciences | | | 9 | 18.22 |
| 2 | Institute of Physical and Chemical Research | | | 4 | 6 |
| 3 | National Institute of Plant Genome Research | | | 2 | 43 |
| 4 | Indian Council of Agricultural Research | | | 2 | 43 |
| 5 | National Centre for Cell Science | | | 1 | 17 |
| 6 | Southeast Asian Fisheries Development Center Aquaculture Department | | | 1 | 10 |

Figura 75. Colaboración interinstitucional con el sector gubernamental. Europa del Este

| | Institution | Country | Sector | Documents | Cites per document |
|----|---|---------|--------|-----------|--------------------|
| 1 | Academy of Sciences of the Czech Republic | | | 15 | 11.13 |
| 2 | Russian Academy of Sciences | | | 7 | 3.86 |
| 3 | Polish Academy of Sciences | | | 3 | 3 |
| 4 | Institute of Metals and Technology | | | 2 | 6 |
| 5 | Hungarian Academy of Sciences | | | 1 | 12 |
| 6 | Slovenian Academy of Sciences and Arts | | | 1 | 29 |
| 7 | Food Research Institute in Bratislava | | | 1 | 26 |
| 8 | Bulgarian Academy of Sciences | | | 1 | 4 |
| 9 | National Academy of Sciences of Ukraine | | | 1 | 15 |
| 10 | Agricultural Biotechnology Center | | | 1 | 7 |

Figura 76. Colaboración interinstitucional con el sector gubernamental. Oriente Próximo

| | Institution | Country | Sector | Documents | Cites per document |
|---|--|---------|--------|-----------|--------------------|
| 1 | National Research Center for Genetic Engineering and Biotechnology | | | 2 | 0 |
| 2 | Israel Oceanographic and Limnological Research | | | 1 | 3 |

Figura 77. Colaboración interinstitucional con el sector gubernamental. África del Norte

| | Institution | Country | Sector | Documents | Cites per document |
|---|---|---------|--------|-----------|--------------------|
| 1 | Institut National de Recherches Agronomique de Tunis | | | 4 | 3.25 |
| 2 | Centre de Biotechnologie de Sfax | | | 2 | 17 |
| 3 | Centre National de l'Energie, des Sciences et des Techniques Nucleaires | | | 1 | 8 |

Figura 78. Colaboración interinstitucional con el sector gubernamental. Región del Pacífico

| | Institution | Country | Sector | Documents | Cites per document |
|---|--|---------|--------|-----------|--------------------|
| 1 | Australian Institute of Marine Science | | | 2 | 43 |
| 2 | HortResearch Ruakura | | | 1 | 7 |
| 3 | Food Science Australia | | | 1 | 0 |

Figura 79. Colaboración interinstitucional con el sector gubernamental. Latinoamérica

| | Institution | Country | Sector | Documents | Cites per document |
|----|--|---------|--------|-----------|--------------------|
| 1 | CSIR Consejo Nacional de Investigaciones Cientificas y Tecnicas | | | 17 | 8.06 |
| 2 | CSIR Corporacion para Investigaciones Biologicas | | | 7 | 6.71 |
| 3 | CSIR Instituto de Investigaciones Biologicas Clemente Estable | | | 4 | 7.75 |
| 4 | CSIR Administracion Nacional de Laboratorios e Institutos de Salud Dr. Carlos G. Malbran | | | 4 | 3 |
| 5 | Fundacion para Investigaciones Biologicas Aplicadas | | | 4 | 7 |
| 6 | Centro de Investigacion Cientifico Tecnologico para la Minería | | | 3 | 4.67 |
| 7 | CSIR Centro de Ingenieria Genetica y Biotecnologia La Habana | | | 3 | 20 |
| 8 | Instituto Nacional de Recursos Hidraulicos | | | 2 | 11 |
| 9 | CSIR Consejo Nacional de Ciencia y Tecnologia | | | 2 | 6 |
| 10 | Area de Conservacion Guanacaste | | | 2 | 2 |
| 11 | Corporacion CorpoGen | | | 1 | 3 |
| 12 | CSIR Instituto Antartico Argentino | | | 1 | 2 |
| 13 | CSIR Centro Nacional de Investigaciones Cientificas de Cuba | | | 1 | 0 |
| 14 | Instituto de Salud Publica de Chile | | | 1 | 0 |
| 15 | CSIR Instituto Nacional de Tecnologia Agropecuaria | | | 1 | 10 |
| 16 | Centro de Investigacion Endocrinologica | | | 1 | 0 |
| 17 | CSIR Centro de Quimica Farmaceutica | | | 1 | 0 |
| 18 | Centro Nacional de Sanidad Agropecuaria | | | 1 | 0 |
| 19 | CSIR Instituto Venezolano de Investigaciones Cientificas | | | 1 | 33 |
| 20 | Instituto Costarricense de Investigacion y Ensenanza en Nutricion y Salud | | | 1 | 0 |

Figura 80. Colaboración interinstitucional con el sector gubernamental. Norteamérica

| | Institution | Country | Sector | Documents | Cites per document |
|----|---|---------|--------|-----------|--------------------|
| 1 | CSIR United States Department of Agriculture | | | 13 | 4.62 |
| 2 | CSIR Virginia Bioinformatics Institute | | | 4 | 7 |
| 3 | CSIR Monterey Bay Aquarium Research Institute | | | 4 | 32 |
| 4 | CSIR National Research Council Canada | | | 4 | 1.5 |
| 5 | CSIR Louisiana State University Agricultural Center | | | 2 | 2 |
| 6 | CSIR Dauphin Island Sea Lab | | | 2 | 18 |
| 7 | CSIR Lawrence Berkeley National Laboratory | | | 2 | 11 |
| 8 | CSIR Pacific Northwest National Laboratory | | | 2 | 13.5 |
| 9 | CSIR American Museum of Natural History | | | 2 | 2 |
| 10 | CSIR University of Maryland Biotechnology Institute | | | 2 | 4.5 |
| 11 | CSIR Agriculture and Agri-Food Canada | | | 2 | 3.5 |
| 12 | CSIR Boyce Thompson Institute for Plant Research | | | 2 | 43 |
| 13 | CSIR Argonne National Laboratory | | | 2 | 4 |
| 14 | CSIR Los Alamos National Laboratory | | | 2 | 3 |
| 15 | CSIR U.S. Food and Drug Administration | | | 2 | 10.5 |
| 16 | CSIR Donald Danforth Plant Science Center | | | 1 | 12 |
| 17 | CSIR Broad Institute of MIT and Harvard | | | 1 | 5 |

Figura 81. Colaboración interinstitucional con el sector gubernamental. Europa Occidental

| | Institution | Country | Sector | Documents | Cites per document |
|----|--|---------|--------|-----------|--------------------|
| 1 | CSIR Centre National de la Recherche Scientifique | | | 66 | 13.7 |
| 2 | CSIR Max Planck Gesellschaft | | | 34 | 17.56 |
| 3 | CSIR Institut National de la Recherche Agronomique | | | 31 | 15.29 |
| 4 | CSIR Biotechnology and Biological Sciences Research Council | | | 14 | 12.93 |
| 5 | CSIR Royal Netherlands Institute for Sea Research | | | 14 | 7 |
| 6 | CSIR Royal Netherlands Academy of Arts and Sciences | | | 12 | 13.42 |
| 7 | CSIR Helmholtz Zentrum für Infektionsforschung | | | 11 | 23.64 |
| 8 | CSIR Commissariat à l'Energie Atomique | | | 6 | 2 |
| 9 | CSIR Consiglio Nazionale delle Ricerche | | | 6 | 31.5 |
| 10 | CSIR Leibniz-Institut für Ostseeforschung Warnemünde | | | 5 | 7.6 |
| 11 | CSIR Instituto Gulbenkian de Ciencia | | | 5 | 10 |
| 12 | CSIR Robert Koch Institut | | | 5 | 18.2 |
| 13 | CSIR Top Institute Food and Nutrition | | | 4 | 11.5 |
| 14 | CSIR Plant Research International | | | 4 | 24.75 |
| 15 | CSIR Forschungszentrum Borstel – Leibniz-Zentrum für Medizin und Biowissenschaften | | | 4 | 14 |
| 16 | CSIR Nizo Food Research | | | 4 | 13 |
| 17 | CSIR Leibniz-Institut für Meereswissenschaften | | | 4 | 7 |
| 18 | CSIR Institut Français de Recherche pour l'Exploitation de la Mer | | | 4 | 5.5 |
| 19 | CSIR National Hellenic Research Foundation | | | 3 | 6.33 |
| 20 | CSIR Department for Environment, Food and Rural Affairs | | | 3 | 15.33 |
| 21 | CSIR Laboratorio Nacional de Energía e Geología | | | 3 | 19.67 |
| 22 | CSIR Spedali Civili di Brescia | | | 3 | 2 |
| 23 | CSIR Alfred Wegener Institut für Polar und Meeresforschung | | | 3 | 9.67 |
| 24 | CSIR Ente per le Nuove Tecnologie l'Energia e l'Ambiente | | | 2 | 43 |
| 25 | CSIR Helmholtz Zentrum für Umweltforschung | | | 2 | 7.5 |
| 26 | CSIR Österreichische Akademie der Wissenschaften | | | 2 | 36.5 |
| 27 | CSIR Hellenic Centre for Marine Research | | | 2 | 14.5 |
| 28 | CSIR Paul Ehrlich Institut | | | 2 | 10 |
| 29 | CSIR European Commission - Joint Research Centre | | | 2 | 3.5 |
| 30 | CSIR Netherlands Organisation for Applied Scientific Research | | | 2 | 6 |
| 31 | CSIR European Molecular Biology Laboratory Hamburg | | | 2 | 22 |
| 32 | CSIR Bundesanstalt für Materialforschung und -Prüfung | | | 2 | 3 |
| 33 | CSIR Roslin Institute | | | 2 | 4 |
| 34 | CSIR Forschungsanstalt Agroscope Reckenholz-Tanikon Art | | | 2 | 8 |

Figura 82. Instituciones sanitarias con producción en Applied Microbiology and Biotechnology (más de 1 documento entre 2003-2009) (Parte 1)

| | Institution | Sector | Documents | Cites per document |
|----|--|--------|-----------|--------------------|
| 1 | CSIR Instituto de Salud Carlos III | | 70 | 9.64 |
| 2 | CSIR Hospital Clinic i Provincial de Barcelona | | 39 | 6.95 |
| 3 | CSIR Hospital Universitari Vall d'Hebron | | 37 | 8.27 |
| 4 | CSIR Hospital General Universitario Gregorio Marañón | | 32 | 9.75 |
| 5 | CSIR Hospital Universitario Ramon y Cajal | | 26 | 14.27 |
| 6 | CSIR Centro de Investigacion Principe Felipe | | 23 | 9.65 |
| 7 | CSIR Hospital Universitari Germans Trias i Pujol | | 23 | 6.57 |
| 8 | CSIR Complejo Hospitalario Virgen del Rocío | | 21 | 9.19 |
| 9 | CSIR Hospital Universitari de Bellvitge | | 20 | 7.55 |
| 10 | CSIR Fundacion Jimenez Diaz | | 20 | 5.7 |
| 11 | CSIR Complejo Universitario de San Carlos | | 19 | 5.32 |
| 12 | CSIR Complejo Hospitalario Regional Virgen Macarena | | 18 | 6.5 |
| 13 | CSIR Institut d'Investigacions Biomediques August Pi i Sunyer | | 16 | 5.56 |
| 14 | CSIR Centro de Investigacion Biomedica en Red de Enfermedades Respiratorias | | 15 | 3.53 |
| 15 | CSIR Hospital Carlos III | | 15 | 10.13 |
| 16 | CSIR Centro de Investigacion Biomedica en Red de Epidemiologia y Salud Publica | | 14 | 6.36 |
| 17 | CSIR Hospital Universitario La Fe | | 14 | 18.07 |
| 18 | CSIR Hospital de la Santa Creu i Sant Pau | | 13 | 10.62 |
| 19 | CSIR Hospital Universitario La Paz | | 13 | 9.85 |
| 20 | CSIR Complejo Asistencial de Salamanca | | 13 | 7.31 |
| 21 | CSIR Hospital General de Elche | | 13 | 10.54 |
| 22 | CSIR Hospital Universitario Central de Asturias | | 12 | 4.67 |
| 23 | CSIR Institut d'Investigacio Biomedica de Bellvitge | | 10 | 6.4 |
| 24 | CSIR Hospital Clinico Universitario de Valladolid | | 10 | 5.6 |
| 25 | CSIR Complejo Asistencial Son Dureta | | 10 | 10.2 |
| 26 | CSIR Agencia de Salud Publica de Barcelona | | 9 | 5.89 |
| 27 | CSIR Departament de Salut Barcelona | | 9 | 12.33 |
| 28 | Hospital de Jove | | 9 | 5.22 |
| 29 | CSIR Hospital Universitario Marques de Valdecilla | | 8 | 4 |
| 30 | CSIR Donostia Ospitalea | | 8 | 8.88 |
| 31 | CSIR Complejo Hospitalario Universitario de Albacete | | 8 | 9.88 |
| 32 | CSIR Institut Catala d'Oncologia, Hospitalet de Llobregat | | 8 | 19.75 |
| 33 | CSIR Hospital Clinico Universitario Lozano Blesa | | 7 | 7.43 |
| 34 | CSIR Hospital Universitario de Canarias | | 7 | 10.86 |
| 35 | CSIR Hospital Universitario San Cecilio | | 7 | 5.86 |
| 36 | CSIR Complejo Hospitalario Regional Virgen de las Nieves | | 7 | 6.71 |
| 37 | CSIR Complejo Hospitalario de Especialidades Virgen de Valme | | 7 | 17.86 |
| 38 | CSIR Hospital Universitario Puerta de Hierro Majadahonda | | 7 | 10.71 |
| 39 | CSIR Complejo Hospitalario Universitario de Santiago | | 7 | 3.57 |
| 40 | CSIR Hospital Mutua de Terrassa | | 7 | 11.86 |
| 41 | CSIR Hospital Universitario de La Princesa | | 6 | 2.33 |
| 42 | CSIR Centro de Investigacion en Salud Internacional de Barcelona | | 6 | 3.5 |
| 43 | CSIR Hospital Clinico Universitario de Valencia | | 6 | 10.67 |
| 44 | CSIR Hospital Universitario de Getafe | | 6 | 17 |
| 45 | CSIR Hospital Universitario Rio Hortega | | 6 | 6.33 |
| 46 | CSIR Hospital Universitario 12 de Octubre | | 6 | 9 |
| 47 | CSIR Hospital General Universitario de Valencia | | 6 | 12.33 |
| 48 | Instituto de Investigacion en Ciencias de la Salud Germans Trias i Pujol | | 6 | 8.5 |
| 49 | CSIR Complejo Hospitalario Carlos Haya | | 6 | 7.67 |
| 50 | CSIR Hospital Universitari de Tarragona Joan XXIII | | 6 | 7.67 |

Figura 83. Instituciones sanitarias con producción en Applied Microbiology and Biotechnology (más de 1 documento entre 2003-2009) (Parte 2)

| | Institution | Sector | Documents | Cites per document |
|-----|---|--------|-----------|--------------------|
| 51 | Hospital Universitario Severo Ochoa | | 5 | 12.6 |
| 52 | Centro de Investigacion Biomedica en Red en Bioingenieria, Biomateriales y Nanomedicina | | 5 | 4.2 |
| 53 | Centro Nacional de Investigaciones Oncologicas | | 5 | 4.6 |
| 54 | Instituto Valenciano de Microbiologia | | 5 | 14.4 |
| 55 | Corporacio Sanitaria Parc Tauli | | 5 | 10.4 |
| 56 | Banco de Lineas Celulares de Andalucia | | 5 | 5.8 |
| 57 | Basurtuko Ospitalea | | 5 | 7.8 |
| 58 | Hospital de Sant Joan de Deu de Esplugues de Llobregat | | 5 | 10 |
| 59 | Servicio Canario de Salud Las Palmas | | 4 | 2.5 |
| 60 | Departamento de Sanidad y Consumo Vitoria-Gasteiz | | 4 | 9.5 |
| 61 | Hospital del Mar | | 4 | 8.25 |
| 62 | Centro de Transfusión de la Comunidad Valenciana | | 4 | 11.25 |
| 63 | Complejo Hospitalario Universitario a Coruna | | 4 | 10.5 |
| 64 | Complejo Hospitalario Regional Reina Sofia | | 4 | 8.5 |
| 65 | Complejo Hospitalario Materno - Insular | | 4 | 5.75 |
| 66 | Hospital Universitario Principe de Asturias | | 4 | 5 |
| 67 | Hospital General Universitario de Alicante | | 4 | 8.5 |
| 68 | Institut de Recerca Biomedica Barcelona | | 4 | 6.25 |
| 69 | Hospital Comarcal Valle de Los Pedroches | | 4 | 0.5 |
| 70 | Hospital Puerta del Mar | | 3 | 15 |
| 71 | Hospital Universitari de La Ribera | | 3 | 3.67 |
| 72 | Hospital Universitario de Mostoles | | 3 | 3.67 |
| 73 | Complejo Hospitalario de Pontevedra | | 3 | 3.67 |
| 74 | Hospital Infantil Universitario Nino Jesus | | 3 | 41.33 |
| 75 | Complejo Hospitalario Universitario de Vigo | | 3 | 4.33 |
| 76 | Hospital General Universitario Jose Maria Morales Meseguer | | 3 | 8.33 |
| 77 | Hospital General de Catalunya | | 3 | 15 |
| 78 | Hospital San Agustin | | 3 | 3.67 |
| 79 | Hospital Monte Naranco | | 3 | 2.67 |
| 80 | Centro Nacional de Investigaciones Cardiovasculares | | 3 | 18.67 |
| 81 | Institut d'Investigacio Sanitaria Pere Virgili | | 3 | 4 |
| 82 | Complejo Hospitalario de Especialidades Juan Ramon Jimenez | | 3 | 14 |
| 83 | Hospital Universitario Virgen de La Arrixaca | | 3 | 2.33 |
| 84 | Institut Municipal d'Investigacio Medica | | 3 | 8 |
| 85 | Fundacio Irsicaixa | | 3 | 1.67 |
| 86 | Complejo Hospitalario Xeral-Calde | | 3 | 12 |
| 87 | Complejo Hospitalario Virgen de La Victoria | | 3 | 3 |
| 88 | Hospital de Cabuenes | | 3 | 13.33 |
| 89 | Hospital de Cruces | | 3 | 6 |
| 90 | Servicio Madrilenio de Salud | | 3 | 3.33 |
| 91 | Hospital Universitario Puerto Real | | 3 | 11.33 |
| 92 | Hospital Universitario Fundacion Alcorcon | | 2 | 10.5 |
| 93 | Centro de Regulacion Genomica | | 2 | 5 |
| 94 | Centre d'Atencio Primaria Doctor Robert | | 2 | 8.5 |
| 95 | Complejo Hospitalario de Toledo | | 2 | 4 |
| 96 | Consejeria de Salud y Servicios Sanitarios de Oviedo | | 2 | 9 |
| 97 | Escuela Andaluza de Salud Publica | | 2 | 6.5 |
| 98 | Fundacio Puigvert | | 2 | 18.5 |
| 99 | Fundacion Instituto Valenciano de Oncologia | | 2 | 2.5 |
| 100 | Fundacion para el Estudio de las Hepatitis Virales | | 2 | 4 |

Figura 84. Instituciones sanitarias con producción en Applied Microbiology and Biotechnology (más de 1 documento entre 2003-2009) (Parte 3)

| | Institution | Sector | Documents | Cites per document |
|-----|---|--------|-----------|--------------------|
| 101 | Hospital Vega Baja de Orihuela | | 2 | 3 |
| 102 | Hospital Alvarez Buylla | | 2 | 4 |
| 103 | Hospital Carmen y Severo Ochoa | | 2 | 4 |
| 104 | Hospital de Mataro | | 2 | 6.5 |
| 105 | Hospital Son Llatzer | | 2 | 1 |
| 106 | Hospital Universitario de Guadalajara | | 2 | 3.5 |
| 107 | Hospital Universitario Doctor Peset | | 2 | 14 |
| 108 | Hospital Universitario Miguel Servet | | 2 | 3.5 |
| 109 | Instituto Aragonés de Ciencias de la Salud | | 2 | 4.5 |
| 110 | Instituto de Salud Pública del Ayuntamiento de Madrid | | 2 | 4.5 |
| 111 | Instituto de Vacunas de Valencia | | 2 | 8.5 |
| 112 | Laboratori de Referencia de Catalunya | | 2 | 9 |
| 113 | Txagorritxu Ospitalea | | 2 | 5.5 |
| 114 | Centro de Investigación Biomedica en Red de Enfermedades Raras | | 2 | 3 |
| 115 | Centro de Investigación Biomedica en Red sobre Enfermedades Neurodegenerativas | | 2 | 6 |
| 116 | Centro de Investigación Biomedica en Red de Enfermedades Hepáticas y Digestivas | | 2 | 4 |

Figura 85. Colaboración interinstitucional con el sector sanitario. Europa del Este

| | Institution | Country | Sector | Documents | Cites per document |
|---|-------------------------------------|---------|--------|-----------|--------------------|
| 1 | National Institute of Public Health | | | 3 | 42 |
| 2 | Institute of Public Health | | | 1 | 2 |
| 3 | National Institute of Public Health | | | 1 | 26 |

Figura 86. Colaboración interinstitucional con el sector sanitario. Oriente Próximo

| | Institution | Country | Sector | Documents | Cites per document |
|---|----------------------------|---------|--------|-----------|--------------------|
| 1 | Chaim Sheba Medical Center | | | 1 | 13 |
| 2 | Institut Pasteur of Iran | | | 1 | 2 |
| 3 | Shariati Hospital | | | 1 | 5 |

Figura 87. Colaboración interinstitucional con el sector sanitario. África del Norte

| | Institution | Country | Sector | Documents | Cites per document |
|---|--|---------|--------|-----------|--------------------|
| 1 | Centre National de Transfusion Sanguine Tunisia | | | 2 | 4.5 |
| 2 | Centre Hospitalier Universitaire Farhat Hached de Sousse | | | 1 | 1 |
| 3 | Institut National d'Oncologie Sidi Mohamed Ben Abdellah | | | 1 | 8 |

Figura 88. Colaboración interinstitucional con el sector sanitario. Latinoamérica

| | Institution | Country | Sector | Documents | Cites per document |
|----|---|---------|--------|-----------|--------------------|
| 1 | SIR Hospital de Clinicas de Porto Alegre | | | 6 | 18 |
| 2 | SIR Instituto de Medicina Tropical Pedro Kouri | | | 4 | 4.5 |
| 3 | Fundacao Oswaldo Cruz | | | 3 | 9 |
| 4 | Instituto de Diagnostico y Referencia Epidemiologicos | | | 2 | 10 |
| 5 | SIR Santa Casa de Misericordia de Porto Alegre | | | 2 | 9 |
| 6 | SIR Instituto Mexicano del Seguro Social | | | 2 | 2 |
| 7 | Instituto Nacional de Higiene y Medicina Tropical Leopoldo Izquieta Perez | | | 1 | 0 |
| 8 | Pan American Health Organization Cuba | | | 1 | 0 |
| 9 | SIR Hospital Jose Maria Ramos Mejia | | | 1 | 0 |
| 10 | SIR Hospital Nacional de Pediatría Profesor Dr. Juan P. Garrahan | | | 1 | 0 |
| 11 | Instituto Costarricense de Investigaciones Clinicas | | | 1 | 2 |
| 12 | SIR Instituto Nacional de Salud | | | 1 | 0 |
| 13 | Hospital Metropolitano | | | 1 | 0 |
| 14 | Fundacion Cardio Infantil Instituto de Cardiologia | | | 1 | 2 |
| 15 | SIR Comision Coordinadora de Institutos Nacionales de Salud y Hospitales de Alta Especialidad | | | 1 | 10 |
| 16 | Secretaria de Estado en el Despacho de Salud | | | 1 | 38 |
| 17 | SIR Hospital Universitario Pedro Ernesto | | | 1 | 2 |
| 18 | SIR Instituto Adolfo Lutz | | | 1 | 0 |

Figura 89. Colaboración interinstitucional con el sector sanitario. Sudáfrica

| | Institution | Country | Sector | Documents | Cites per document |
|---|--|---------|--------|-----------|--------------------|
| 1 | SIR Charlotte Maxeke Johannesburg Hospital | | | 2 | 9 |
| 2 | SIR South African Medical Research Council | | | 2 | 9 |

Figura 90. Colaboración interinstitucional con el sector sanitario. Región del Pacífico

| | Institution | Country | Sector | Documents | Cites per document |
|---|---|---------|--------|-----------|--------------------|
| 1 | SIR Royal Perth Hospital | | | 4 | 9 |
| 2 | SIR Royal Melbourne Hospital | | | 3 | 2 |
| 3 | SIR Royal Brisbane and Women's Hospital | | | 2 | 1 |
| 4 | SIR Florey Neuroscience Institutes | | | 2 | 2 |

Figura 91. Colaboración interinstitucional con el sector sanitario. Norteamérica

| | Institution | Country | Sector | Documents | Cites per document |
|----|--|---------|----------|-----------|--------------------|
| 1 | SIR NYU Langone Medical Center | USA | Pharmacy | 15 | 19.4 |
| 2 | SIR Centers for Disease Control and Prevention Estados Unidos | USA | Pharmacy | 13 | 3.92 |
| 3 | SIR National Institutes of Health United States | USA | Pharmacy | 11 | 7.27 |
| 4 | SIR Dartmouth-Hitchcock Health Care System | USA | Pharmacy | 8 | 33 |
| 5 | SIR Burnham Institute for Medical Research | USA | Pharmacy | 4 | 8.5 |
| 6 | SIR University of Texas M.D. Anderson Cancer Center | USA | Pharmacy | 4 | 7.75 |
| 7 | SIR Duke Medicine | USA | Pharmacy | 4 | 1.5 |
| 8 | SIR Partners HealthCare System | USA | Pharmacy | 4 | 8 |
| 9 | SIR Fred Hutchinson Cancer Research Center | USA | Pharmacy | 2 | 19 |
| 10 | SIR J. Craig Venter Institute | USA | Pharmacy | 2 | 21 |
| 11 | SIR BC Children's Hospital and Sunny Hill Health Centre for Children Vancouver | Canada | Pharmacy | 2 | 19 |
| 12 | SIR Pennsylvania State University, College of Medicine | USA | Pharmacy | 1 | 19 |
| 13 | SIR Sunnybrook Health Sciences Centre | Canada | Pharmacy | 1 | 33 |
| 14 | SIR Schepens Eye Research Institute | USA | Pharmacy | 1 | 6 |
| 15 | SIR University Hospitals of Cleveland | USA | Pharmacy | 1 | 2 |
| 16 | SIR West Penn Allegheny Health System | USA | Pharmacy | 1 | 4 |
| 17 | SIR McGill University Health Centre | Canada | Pharmacy | 1 | 25 |
| 18 | SIR Centre Hospitalier Universitaire de Quebec | Canada | Pharmacy | 1 | 19 |
| 19 | SIR Children's Memorial Hospital | USA | Pharmacy | 1 | 2 |
| 20 | SIR Howard Hughes Medical Institute | USA | Pharmacy | 1 | 11 |
| 21 | SIR Lawson Health Research Institute | Canada | Pharmacy | 1 | 6 |
| 22 | SIR Baylor College of Medicine | USA | Pharmacy | 1 | 8 |
| 23 | SIR Children's Hospital Boston | USA | Pharmacy | 1 | 17 |
| 24 | SIR Texas Medical Center | USA | Pharmacy | 1 | 20 |
| 25 | SIR Veterans Affairs Medical Centers | USA | Pharmacy | 1 | 3 |
| 26 | SIR Mount Sinai Medical Center | USA | Pharmacy | 1 | 31 |

Figura 92. Colaboración interinstitucional con el sector sanitario. Europa Occidental

| | Institution | Country | Sector | Documents | Cites per document |
|----|---|---------|-----------------|-----------|--------------------|
| 1 | INSIR Institut Pasteur de Paris | FR | Pharmaceuticals | 26 | 18.88 |
| 2 | INSIR Assistance Publique Hopitaux de Paris | FR | Pharmaceuticals | 10 | 24.4 |
| 3 | INSIR Statens Serum Institut | DK | Pharmaceuticals | 7 | 18 |
| 4 | INSIR Ghent University Hospital | BE | Pharmaceuticals | 7 | 2.29 |
| 5 | INSIR Health Protection Agency | GB | Pharmaceuticals | 7 | 10 |
| 6 | INSIR Wellcome Trust Sanger Institute | GB | Pharmaceuticals | 6 | 2.67 |
| 7 | INSIR Medical Research Council | GB | Pharmaceuticals | 6 | 26.67 |
| 8 | INSIR Helsinki University Central Hospital | FI | Pharmaceuticals | 6 | 4 |
| 9 | INSIR Karolinska University Hospital | SE | Pharmaceuticals | 6 | 14.17 |
| 10 | INSIR Charite - Universitätsmedizin Berlin | DE | Pharmaceuticals | 6 | 2 |
| 11 | INSIR Cancer Research UK | GB | Pharmaceuticals | 6 | 3.33 |
| 12 | INSIR Swedish Institute for Infectious Disease Control | SE | Pharmaceuticals | 5 | 20.6 |
| 13 | INSIR Imperial College Healthcare NHS Trust | GB | Pharmaceuticals | 5 | 9.6 |
| 14 | INSIR National Institute for Health and Welfare | FI | Pharmaceuticals | 5 | 3 |
| 15 | INSIR Institut National de la Sante et de la Recherche Medicale | FR | Pharmaceuticals | 5 | 12 |
| 16 | INSIR Hospital Garcia de Orta | PT | Pharmaceuticals | 4 | 3.5 |
| 17 | INSIR Umberto I Policlinico di Roma | IT | Pharmaceuticals | 4 | 7 |
| 18 | INSIR Attikon Athens University Hospital | GR | Pharmaceuticals | 4 | 4 |
| 19 | INSIR National Institute for Public Health and the Environment | NL | Pharmaceuticals | 4 | 14.5 |
| 20 | INSIR Centro Hospitalar de Lisboa Ocidental | PT | Pharmaceuticals | 3 | 0 |
| 21 | INSIR Hellenic Institute Pasteur | GR | Pharmaceuticals | 3 | 42 |
| 22 | INSIR Mater Misericordiae University Hospital | IT | Pharmaceuticals | 3 | 0 |
| 23 | INSIR Centre Hospitalier de Luxembourg | LU | Pharmaceuticals | 3 | 0 |
| 24 | INSIR Istituto Nazionale Malattie Infettive Lazzaro Spallanzani IRCCS | IT | Pharmaceuticals | 3 | 0 |
| 25 | INSIR Istituto Zooprofilattico Sperimentale delle Venezie | IT | Pharmaceuticals | 3 | 8 |
| 26 | INSIR Assistance Publique Hopitaux de Marseille | FR | Pharmaceuticals | 3 | 0 |
| 27 | INSIR Ospedale di Circolo Fondazione Macchi | IT | Pharmaceuticals | 3 | 42 |
| 28 | INSIR Newcastle upon Tyne Hospitals NHS Foundation Trust | GB | Pharmaceuticals | 3 | 18.33 |
| 29 | INSIR Rigshospitalet | DK | Pharmaceuticals | 3 | 0 |
| 30 | INSIR Istituto Superiore di Sanita | IT | Pharmaceuticals | 3 | 9.67 |
| 31 | INSIR Centre Hospitalier Universitaire de Grenoble | FR | Pharmaceuticals | 3 | 37 |
| 32 | INSIR Centre Hospitalier Universitaire de Amiens-Picardie | FR | Pharmaceuticals | 3 | 2 |
| 33 | INSIR Oxford Radcliffe Hospitals NHS Trust | GB | Pharmaceuticals | 3 | 34 |
| 34 | INSIR Herlev Hospital | DK | Pharmaceuticals | 3 | 0 |
| 35 | INSIR Ospedali Riuniti di Bergamo | IT | Pharmaceuticals | 3 | 2 |
| 36 | INSIR Centre Hospitalier Universitaire de Nantes | FR | Pharmaceuticals | 2 | 3 |
| 37 | INSIR Centro Hospitalar de Lisboa Norte | PT | Pharmaceuticals | 2 | 0 |
| 38 | INSIR Hospices Civils de Lyon | FR | Pharmaceuticals | 2 | 4 |
| 39 | INSIR Instituto Nacional de Saude Dr. Ricardo Jorge | PT | Pharmaceuticals | 2 | 5.5 |
| 40 | INSIR Hopital Foch | FR | Pharmaceuticals | 2 | 5 |
| 41 | INSIR Allgemeines Krankenhaus Wien | AT | Pharmaceuticals | 2 | 7 |
| 42 | INSIR Alder Hey Children's NHS Foundation Trust | GB | Pharmaceuticals | 2 | 11 |
| 43 | INSIR Azienda Sanitaria Ulss 6 Vicenza | IT | Pharmaceuticals | 2 | 25 |
| 44 | INSIR Fondazione IFOM Istituto Firc di Oncologia Molecolare | IT | Pharmaceuticals | 2 | 2 |
| 45 | INSIR Sahlgrenska University Hospital | SE | Pharmaceuticals | 2 | 2 |
| 46 | INSIR Barts and the London NHS Trust | GB | Pharmaceuticals | 2 | 12.5 |
| 47 | INSIR University College London Hospital NHS Trust | GB | Pharmaceuticals | 2 | 7 |
| 48 | INSIR Great Ormond Street Hospital for Children NHS Trust | GB | Pharmaceuticals | 2 | 11.5 |
| 49 | INSIR North West London Hospitals NHS Trust | GB | Pharmaceuticals | 2 | 7 |
| 50 | INSIR Radboud University Nijmegen Medical Centre | NL | Pharmaceuticals | 2 | 5 |

Figura 93. Instituciones privadas con producción en Applied Microbiology and Biotechnology (más de 1 documento entre 2003-2009)

| | Institution | Sector | Documents | Cites per document |
|----|--|--------|-----------|--------------------|
| 1 | GlaxoSmithKline, Espana | | 10 | 5.3 |
| 2 | Tedec Meiji Farma, S.A. | | 8 | 8.38 |
| 3 | Puleva Biotech, S.A. | | 7 | 13.43 |
| 4 | Labaqua, S.A. | | 6 | 2.83 |
| 5 | Merck Sharp & Dohme de Espana, S.A. Madrid | | 6 | 16.83 |
| 6 | Grana Datos, S.L. | | 5 | 2.4 |
| 7 | Poligono Industrial Las Atalayas | | 4 | 2.5 |
| 8 | Aquagest, S.A. | | 3 | 10 |
| 9 | Societat General d'Aigues de Barcelona, S.A. | | 3 | 6.67 |
| 10 | Empresa Nacional de Celulosa de Pontevedra | | 3 | 25.67 |
| 11 | SELCO MC | | 2 | 13 |
| 12 | Biotools, B & M Labs, S.A. | | 2 | 14.5 |
| 13 | Stolt Sea Farms, S.A. | | 2 | 37 |
| 14 | Iberdrola, S.A. | | 2 | 2.5 |
| 15 | Biomedal S.L. | | 2 | 8.5 |
| 16 | Era 7 Information Technologies, S.L. | | 2 | 14 |
| 17 | Bioferma Murcia, S.A. | | 2 | 3.5 |
| 18 | Pinturas Hempel, S.A.U | | 2 | 12.5 |
| 19 | Neochemical, S.A. | | 2 | 0.5 |
| 20 | Alma Bioinformatics, S.L. | | 2 | 0 |
| 21 | Antibioticos, S.A. | | 2 | 3.5 |

Figura 94. Colaboración interinstitucional con el sector privado. Norteamérica

| | Institution | Country | Sector | Documents | Cites per document |
|---|--------------------------------|---------|--------|-----------|--------------------|
| 1 | MITRE Corporation, Bedford | | | 4 | 0.75 |
| 2 | Merck & Co., Inc. | | | 2 | 19 |
| 3 | GlaxoSmithKline, United States | | | 1 | 9 |

Figura 95. Colaboración interinstitucional con el sector privado. Europa Occidental

| | Institution | Country | Sector | Documents | Cites per document |
|---|---------------------------------|---------|--------|-----------|--------------------|
| 1 | Nestle Switzerland | | | 6 | 3.33 |
| 2 | GlaxoSmithKline, Belgium | | | 1 | 56 |
| 3 | BASF, Switzerland | | | 1 | 4 |
| 4 | Abbott Deutschland | | | 1 | 4 |
| 5 | GlaxoSmithKline, United Kingdom | | | 1 | 9 |

Figura 96. Otras instituciones con producción en Applied Microbiology and Biotechnology (más de 1 documento entre 2003-2009)

| | Institution | Sector | Documents | Cites per document |
|----|--|--------|-----------|--------------------|
| 1 | Parc Cientific de Barcelona | ★ | 8 | 7.88 |
| 2 | Parque Tecnológico de Ciencias de la Salud | ★ | 4 | 12.25 |
| 3 | Formatex Reserach Center | ★ | 3 | 0 |
| 4 | Associacio Catalana d'Intelligencia Artificial | ★ | 3 | 8.33 |
| 5 | Parque Tecnológico de San Sebastian | ★ | 3 | 5 |
| 6 | Parque Cientifico de Madrid Cantoblanco | ★ | 3 | 2.67 |
| 7 | Parque Tecnológico de Madrid | ★ | 2 | 10.5 |
| 8 | CSIR Centro de Tecnologías Electroquímicas | ★ | 2 | 6 |
| 9 | Fundacion Marcelino Botin | ★ | 1 | 84 |
| 10 | Fundacion para la Atencion e Incorporacion Social | ★ | 1 | 5 |
| 11 | CSIR AZTI Tecnalia | ★ | 1 | 6 |
| 12 | Asociacion Onubense Medica de Enfermedades Infecciosas | ★ | 1 | 22 |
| 13 | Parque Tecnológico de Bizkaia | ★ | 1 | 48 |
| 14 | Valencia Parc Tecnologic | ★ | 1 | 61 |
| 15 | Parque Cientifico y Tecnológico de Gijon | ★ | 1 | 2 |
| 16 | Parc Mediterrani de la Tecnologia | ★ | 1 | 0 |
| 17 | Asociacion Nacional de Fabricantes de Conservas de Pescados y Mariscos | ★ | 1 | 1 |
| 18 | CSIR Fundacio Parc Tauli-Institut Universitari UAB | ★ | 1 | 11 |
| 19 | Fundacion Marques de Valdecilla | ★ | 1 | 1 |
| 20 | Parque Cientifico de Leon | ★ | 1 | 24 |

Figura 97. Colaboración interinstitucional con otros sectores. Norteamérica

| | Institution | Country | Sector | Documents | Cites per document |
|---|---|---------|--------|-----------|--------------------|
| 1 | CSIR Woods Hole Oceanographic Institution | USA | ★ | 4 | 3.5 |
| 2 | CSIR Marine Biological Laboratory | USA | ★ | 4 | 4.5 |

Figura 98. Colaboración interinstitucional con otros sectores. Europa Occidental

| | Institution | Country | Sector | Documents | Cites per document |
|---|--|---------|--------|-----------|--------------------|
| 1 | CSIR VTT Technical Research Centre of Finland | Finland | ★ | 4 | 9.25 |
| 2 | CSIR Deutsche Sammlung von Mikroorganismen und Zellkulturen GmbH | Germany | ★ | 3 | 14 |
| 3 | Societe de Bacteriologie Systematique et Veterinaire | France | ★ | 2 | 35 |
| 4 | International Centre for Life | UK | ★ | 1 | 5 |
| 5 | CSIR The Macaulay Land Use Research Institute | UK | ★ | 1 | 5 |
| 6 | Genopole, Groupement d'Interet Public | France | ★ | 1 | 9 |

3.213 3.173 3.213
 3.029 3.34 3.102 3.213
 3.053 3.2 3.102 3.213
 3.053 3.2 3.102 3.213

CLASIFICACIÓN DE ÁREAS Y CATEGORÍAS SCIMAGO

| | |
|--|--|
| Agricultural and Biological Sciences | Agricultural and Biological Sciences (miscellaneous) |
| | Agronomy and Crop Science |
| | Animal Science and Zoology |
| | Aquatic Science |
| | Ecology, Evolution, Behavior and Systematics |
| | Food Science |
| | Forestry |
| | Horticulture |
| | Insect Science |
| | Plant Science |
| | Soil Science |
| Arts and Humanities | Archeology (arts and humanities) |
| | Arts and Humanities (miscellaneous) |
| | Classics |
| | Conservation |
| | History |
| | History and Philosophy of Science |
| | Language and Linguistics |
| | Literature and Literary Theory |
| | Museology |
| | Music |
| | Philosophy |
| | Religious Studies |
| | Visual Arts and Performing Arts |
| Biochemistry, Genetics and Molecular Biology | Aging |
| | Biochemistry |
| | Biochemistry, Genetics and Molecular Biology (miscellaneous) |
| | Biophysics |
| | Biotechnology |
| | Cancer Research |
| | Cell Biology |
| | Clinical Biochemistry |
| | Developmental Biology |
| | Endocrinology |
| | Genetics |
| | Molecular Biology |
| | Molecular Medicine |
| | Physiology |
| | Structural Biology |

3.053
3.029
3.053
3.053
3.053
3.213 3.173
3.34 3.192
3.172

| | |
|-------------------------------------|---|
| Business, Management and Accounting | Accounting |
| | Business and International Management |
| | Business, Management and Accounting (miscellaneous) |
| | Industrial Relations |
| | Management Information Systems |
| | Management of Technology and Innovation |
| | Marketing |
| | Organizational Behavior and Human Resource Management |
| | Strategy and Management |
| | Tourism, Leisure and Hospitality Management |
| Chemical Engineering | Bioengineering |
| | Catalysis |
| | Chemical Engineering (miscellaneous) |
| | Chemical Health and Safety |
| | Colloid and Surface Chemistry |
| | Filtration and Separation |
| | Fluid Flow and Transfer Processes |
| | Process Chemistry and Technology |
| Chemistry | Analytical Chemistry |
| | Chemistry (miscellaneous) |
| | Electrochemistry |
| | Inorganic Chemistry |
| | Organic Chemistry |
| | Physical and Theoretical Chemistry |
| | Spectroscopy |
| Computer Science | Artificial Intelligence |
| | Computational Theory and Mathematics |
| | Computer Graphics and Computer-Aided Design |
| | Computer Networks and Communications |
| | Computer Science Applications |
| | Computer Science (miscellaneous) |
| | Computer Vision and Pattern Recognition |
| | Hardware and Architecture |
| | Human-Computer Interaction |
| | Information Systems |
| | Signal Processing |
| | Software |

| | |
|-------------------------------------|--|
| Decision Sciences | Decision Sciences (miscellaneous) |
| | Information Systems and Management |
| | Management Science and Operations Research |
| | Statistics, Probability and Uncertainty |
| Dentistry | Dentistry (miscellaneous) |
| | Oral Surgery |
| | Orthodontics |
| | Periodontics |
| Earth and Planetary Sciences | Atmospheric Science |
| | Computers in Earth Sciences |
| | Earth and Planetary Sciences (miscellaneous) |
| | Earth-Surface Processes |
| | Economic Geology |
| | Geochemistry and Petrology |
| | Geology |
| | Geophysics |
| | Geotechnical Engineering and Engineering Geology |
| | Oceanography |
| | Paleontology |
| | Space and Planetary Science |
| | Stratigraphy |
| Economics, Econometrics and Finance | Economics and Econometrics |
| | Economics, Econometrics and Finance (miscellaneous) |
| | Finance |
| Energy | Energy Engineering and Power Technology |
| | Energy (miscellaneous) |
| | Fuel Technology |
| | Nuclear Energy and Engineering |
| | Renewable Energy, Sustainability and the Environment |

| | | |
|--|---|---------------------------|
| Engineering | Aerospace Engineering | |
| | Architecture | |
| | Automotive Engineering | |
| | Biomedical Engineering | |
| | Building and Construction | |
| | Civil and Structural Engineering | |
| | Computational Mechanics | |
| | Control and Systems Engineering | |
| | Electrical and Electronic Engineering | |
| | Engineering (miscellaneous) | |
| | Industrial and Manufacturing Engineering | |
| | Mechanical Engineering | |
| | Mechanics of Materials | |
| | Media Technology | |
| | Ocean Engineering | |
| | Safety, Risk, Reliability and Quality | |
| | Environmental Science | Ecological Modeling |
| | | Ecology |
| | | Environmental Chemistry |
| | | Environmental Engineering |
| Environmental Science (miscellaneous) | | |
| Global and Planetary Change | | |
| Health, Toxicology and Mutagenesis | | |
| Management, Monitoring, Policy and Law | | |
| Nature and Landscape Conservation | | |
| Pollution | | |
| Waste Management and Disposal | | |
| Water Science and Technology | | |
| Health Professions | | Chiropractics |
| | Health Information Management | |
| | Health Professions (miscellaneous) | |
| | Medical Laboratory Technology | |
| | Optometry | |
| | Pharmacy | |
| | Physical Therapy, Sports Therapy and Rehabilitation | |
| | Radiological and Ultrasound Technology | |
| | Speech and Hearing | |



| | |
|-----------------------------|---|
| Immunology and Microbiology | Applied Microbiology and Biotechnology |
| | Immunology |
| | Immunology and Microbiology (miscellaneous) |
| | Microbiology |
| | Parasitology |
| | Virology |
| Materials Science | Biomaterials |
| | Ceramics and Composites |
| | Electronic, Optical and Magnetic Materials |
| | Materials Chemistry |
| | Materials Science (miscellaneous) |
| | Metals and Alloys |
| | Polymers and Plastics |
| | Surfaces, Coatings and Films |
| Mathematics | Algebra and Number Theory |
| | Analysis |
| | Applied Mathematics |
| | Computational Mathematics |
| | Control and Optimization |
| | Discrete Mathematics and Combinatorics |
| | Geometry and Topology |
| | Logic |
| | Mathematical Physics |
| | Mathematics (miscellaneous) |
| | Modeling and Simulation |
| | Numerical Analysis |
| | Statistics and Probability |
| | Theoretical Computer Science |
| Medicine | Anatomy |
| | Anesthesiology and Pain Medicine |
| | Biochemistry (medical) |
| | Cardiology and Cardiovascular Medicine |
| | Complementary and Alternative Medicine |
| | Critical Care and Intensive Care Medicine |
| | Dermatology |
| | Drug Guides |
| | Embryology |
| | Emergency Medicine |
| | Endocrinology, Diabetes and Metabolism |
| | Epidemiology |
| | Family Practice |
| | Gastroenterology |

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| | Genetics (clinical) |
| | Geriatrics and Gerontology |
| | Health Informatics |
| | Health Policy |
| | Hematology |
| | Hepatology |
| | Histology |
| | Immunology and Allergy |
| | Infectious Diseases |
| | Internal Medicine |
| | Medicine (miscellaneous) |
| | Microbiology (medical) |
| | Nephrology |
| | Neurology (clinical) |
| | Obstetrics and Gynecology |
| | Oncology |
| | Ophthalmology |
| | Orthopedics and Sports Medicine |
| | Otorhinolaryngology |
| | Pathology and Forensic Medicine |
| | Pediatrics, Perinatology and Child Health |
| | Pharmacology (medical) |
| | Physiology (medical) |
| | Psychiatry and Mental Health |
| | Public Health, Environmental and Occupational Health |
| | Pulmonary and Respiratory Medicine |
| | Radiology, Nuclear Medicine and Imaging |
| | Rehabilitation |
| | Reproductive Medicine |
| | Reviews and References (medical) |
| | Rheumatology |
| | Surgery |
| | Transplantation |
| | Urology |
| Multidisciplinary | Multidisciplinary |
| Neuroscience | Behavioral Neuroscience |
| | Biological Psychiatry |
| | Cellular and Molecular Neuroscience |
| | Cognitive Neuroscience |
| | Developmental Neuroscience |
| | Neurology |
| | Neuroscience (miscellaneous) |
| | Sensory Systems |

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| Social Sciences | Anthropology |
| | Archeology |
| | Communication |
| | Cultural Studies |
| | Demography |
| | Development |
| | Education |
| | Gender Studies |
| | Geography, Planning and Development |
| | Health (social science) |
| | Human Factors and Ergonomics |
| | Law |
| | Library and Information Sciences |
| | Life-span and Life-course Studies |
| | Linguistics and Language |
| | Political Science and International Relations |
| | Public Administration |
| | Safety Research |
| | Social Sciences (miscellaneous) |
| | Sociology and Political Science |
| Transportation | |
| Urban Studies | |
| Veterinary | Equine |
| | Food Animals |
| | Small Animals |
| | Veterinary (miscellaneous) |



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