

Research trends in “Biomaterials” under advanced materials from last five years

Dear Reader,

In this issue, we continue to publish the data collected from Scopus in accordance to Biomaterials under “Advanced Materials” research from last five years. We elucidated the data for top-ten countries, affiliations and authors in respective biomaterials field. The most producing countries in last five years were USA, China, Germany, South Korea, Japan, United Kingdom, India, Australia, Italy and Spain ranked in respect to last five years performances (**Table 1**). In addition to country ranking, we also extracted the citation variation through years besides the total numbers of citation and *h*-indexes. As clearly seen in citation variation through last five years, the trends in the biomaterials has still exponentially grown up meanwhile it has also seen in the distribution/number of patents approved mainly by US patent office (**Fig. 1**). In addition, one third of the all patents belong to private company as well as top-twenty patents mostly belong to academic research institutes (**Fig. 2**). Beside **Table 2** including top-ten researchers in top-ten countries, we want to guide the attentions on who/what leads these researches: institute-driven, collaborative and senior researcher leading works. In this respect, we extracted data through new view, top-one author with number of document in each affiliation as well as we sorted the most cited article with number of citation for each author (**Table 3**). Interestingly, we distinguish that some institutes encourage the researchers to study on biomaterials (numbers of documents distributed between authors in narrow variations) whereas a research group have led their institutes (numbers of documents mainly produced by a leading author(s)). In addition, some authors have multi-affiliations, which designate the collaboration not only between institutes but also between countries. Another outcome we report here is top-five journal (according to citations received) chosen as publishing media are Acta Biomaterialia (10), Advanced Materials (8),

Biomaterials (8), Materials Science and Engineering C (6), Advanced Functional Materials (4), Bulletin of the Chemical Society of Japan (4), Journal of Biomedical Materials Research Part A (4) and Progress in Polymer Science (4). Also, we determined that top-five journal in accordance to citations are Biotechnology Advances (711), Bulletin of the Chemical Society of Japan (595), Biomaterials (389), Advanced Materials (387 and 325) and Science (296) whereas top-five journal in accordance to citations/years are Bulletin of the Chemical Society of Japan (198.3), Biotechnology Advances (142.2), Acta Biomaterialia (112), Advanced Materials (81.9) and Biomaterials (77.8). In conclusions, trends in biomaterial research are likely to continue for certain period meanwhile patent and new products would take place in the market.

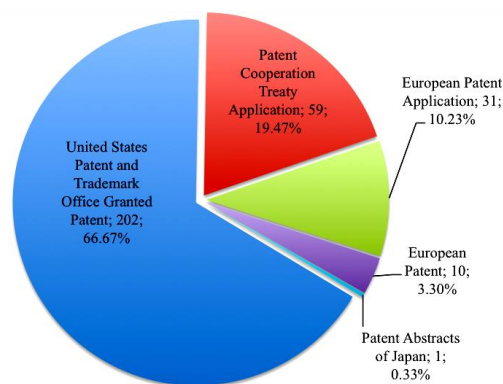


Fig 1. Distribution of approved patents according to patent office. The data were extracted as “Biomaterials” under “Advanced Materials” in all fields on August 02, 2015 from Scopus.

Table 1. Ranking of top-ten countries in accordance to the numbers of documents with *h*-indexes and citation variation through years last five years. The data were collected as “Biomaterials” under “Advanced Materials” in all fields.*

Country	# Docs	# Citations							Total	h-index
		< 2011	2011	2012	2013	2014	2015	2015>		
1. USA	2571	500	3212	7190	11382	16282	10500	3	49069	91
2. China	2238	154	1358	3224	5889	9113	6730	3	26471	72
3. Germany	778	109	698	1544	2691	3890	2571	0	11503	47
4. S. Korea	577	51	387	946	1791	2589	1669	0	7433	40
5. Japan	515	71	456	1133	1679	2362	1482	0	7183	39
6. UK	472	69	391	840	1366	2193	1397	1	6257	37
7. India	456	38	264	711	1245	1980	1337	2	5577	31
8. Australia	387	36	277	831	1544	2271	1386	2	6347	38
9. Italy	362	30	249	638	1153	1540	976	1	4587	34
10. Spain	319	49	339	725	1152	1673	1110	1	5049	36

*All data were collected from Scopus on August 02, 2015.

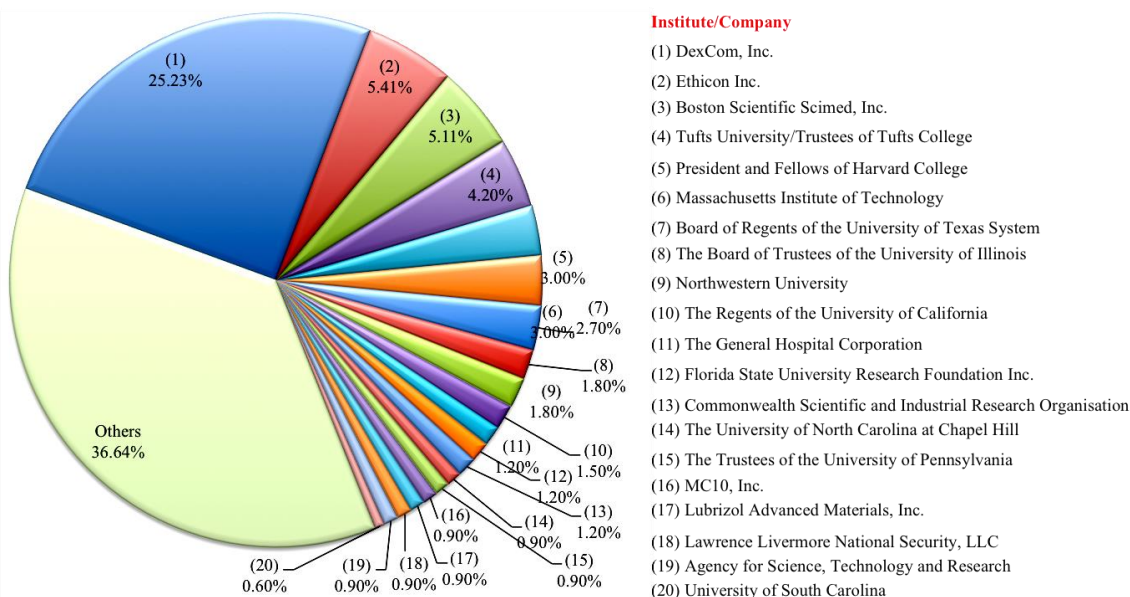


Fig 2. Top-twenty owner for patent approved as biomaterial last five years. The data were extracted as “Biomaterials” under “Advanced Materials” in all fields on August 02, 2015 from Scopus.

Until meeting at next editorial in which we would compile the recent advances in another subject area of advanced materials, we wish good health and success to you all in your research target.

With all the best wishes,



Lokman Uzun, PhD
Associate Editor
Advanced Materials Letters

Table 2. Top-ten researchers in top-ten countries in accordance to the numbers of documents through years last five years. The data were collected as “Biomaterials” under “Advanced Materials” in all fields.*

Author	# Docs	Author	# Docs	Author	# Docs	Author	# Docs	Author	# Docs
1. USA		2. China		3. Germany		4. South Korea		5. Japan	
Kaplan, D.L.	101	Zheng, Y.F.	42	Lendlein, A.	145	Khademhosseini, A.	22	Ariga, K.	20
Khademhosseini, A.	68	Shao, Z.	25	Behl, M.	51	Woo, K.D.	16	Khademhosseini, A.	18
Omenetto, F.G.	52	Ding, J.	24	Kratz, K.	49	Kim, G.	12	Niinomi, M.	17
Murphy, W.L.	26	Jiang, L.	20	Boccaccini, A.R.	33	Lee, H.	11	Vinu, A.	16
Rogers, J.A.	26	Huang, N.	20	Neffe, A.T.	30	Oh, S.H.	11	Yamashita, K.	14
Anseth, K.S.	25	Chen, H.	20	Wischke, C.	25	Kim, H.W.	9	Hill, J.P.	14
Bettinger, C.J.	23	Fang, Y.	19	Jung, F.	21	Koh, Y.H.	9	Nagai, A.	13
Langer, R.	23	Feng, Q.	18	Hiebl, B.	20	Suh, K.Y.	9	Nakamura, M.	13
Lahann, J.	21	Chen, X.	16	Scheibel, T.	17	Cho, S.W.	9	Nakai, M.	12
Webster, T.J.	21	Chang, J.	15	Heuchel, M.	15	Jeong, B.	9	Ishihara, K.	11
								Nakano, T.	11
6. United Kingdom		7. India		8. Australia		9. Italy		10. Spain	
Alexander, M.R.	28	Kundu, S.C.	15	Wallace, G.G.	19	Kenny, J.M.	9	Vallet-Regi, M.	23
Davies, M.C.	17	Basu, B.	9	Hutmacher, D.W.	16	Benfenati, V.	9	Rodríguez-Cabello, J.C.	13
Hook, A.L.	17	Sethuraman, S.	9	Caruso, F.	15	Netti, P.A.	9	Arcos, D.	12
Vollrath, F.	14	Krishnan, U.M.	8	Voelcker, N.H.	12	Muccini, M.	9	Villaverde, A.	9
Jones, J.R.	13	Kaushik, B.K.	7	Li, Q.	12	Tampieri, A.	8	Arias, F.J.	8
Scurr, D.J.	12	Negi, Y.S.	7	In Het Panhuis, M.	12	Fortunati, E.	8	Vazquez, E.	8
Porter, D.	12	Kumar, B.	7	Xiao, Y.	11	Zamboni, R.	8	Alonso, M.	8
Seifalian, A.M.	10	Kondawar, S.B.	6	Chen, Q.	11	Ambrosio, L.	8	Orive, G.	8
Oreffo, R.O.C.	9	Jayakumar, R.	6	Thissen, H.	9	Armentano, I.	8	Seras-Franzoso, J.	7
Stevens, M.M.	8	Ariga, K.	6	Zhou, S.	9	Iafisco, M.	8	Gil, F.J.	6
Gadegaard, N.	8			Vasilev, K.	9	Rossi, F.	8	García-Fruitos, E.	6
				Zreiqat, H.	9			De La Fuente, J.M.	6
				Poole-Warren, L.A.	9			Solans, C.	6
								Ginebra, M.P.	6
								Manero, J.M.	6
								Planell, J.A.	6

*All data were collected from Scopus on August 02, 2015.

Table 3. Top-ten affiliations in top-ten countries and top-author in each one in accordance to the numbers of documents through years last five years. The data were collected as “Biomaterials” under “Advanced Materials” in all fields.*

	Affiliation	# Docs	Top Author ^(# Docs)	Most Cited Article ^(# Citation)	
USA	Massachusetts Institute of Technology	231	Khademhosseini, A. ⁽⁶⁴⁾	Advanced Materials, 24 (2012)1782. ⁽¹¹⁴⁾	
	Tufts University	136	Kaplan, D.L. ⁽¹⁰³⁾	Science, 329 (2010) 528. ⁽²⁹⁶⁾	
	Harvard University	104	Khademhosseini, A. ⁽⁵⁰⁾	Advanced Materials, 24 (2012)1782. ⁽¹¹⁴⁾	
	Brigham and Women's Hospital	91	Khademhosseini, A. ⁽⁵⁸⁾	Advanced Materials, 24 (2012)1782. ⁽¹¹⁴⁾	
	University Michigan Ann Arbor	69	Lahann, J. ⁽²⁰⁾	Curr. Opin. Colloid Interface Sci., 16 (2011) 195. ⁽⁸³⁾	
	Georgia Institute of Technology	66	Tsukruk, V.V. ⁽¹⁵⁾	Advanced Functional Materials, 20 (2010) 840. ⁽⁴²⁾	
	University of Washington Seattle	64	Jiang, S. ⁽⁸⁾	Advanced Materials, 22 (2010) 920. ⁽³⁸⁷⁾	
	University of Illinois at Urbana-Champaign	63	Rogers, J.A. ⁽²³⁾	Science, 337 (2012) 1640. ⁽¹³⁴⁾	
	Northwestern University	63	Stupp, S.I. ⁽¹²⁾	Chemical Communications, 48 (2012) 26. ⁽¹⁵¹⁾	
China	University of Colorado at Boulder	53	Anseth, K.S. ⁽²⁵⁾	Advanced Materials, 22 (2010) 3484. ⁽¹¹⁶⁾	
	Soochow University	119	Chen, H. ⁽¹⁹⁾	Macromolecular Bioscience, 11 (2011) 1031. ⁽³²⁾	
	Tsinghua University	109	Feng, Q. ⁽¹⁸⁾	Materials Sci. Engineering C, 31 (2011) 683. ⁽²⁴⁾	
	Sichuan University	97	Fan, H. ⁽⁹⁾	Acta Biomaterialia, 7 (2011) 2384. ⁽⁴⁹⁾	
	Chinese Academy of Sciences	93	Jiang, L. ⁽⁵⁾	Advanced Materials, 23 (2011) 719. ⁽³²⁵⁾	
	Peking University	87	Zheng, Y.F. ⁽⁴²⁾	Biomaterials, 31 (2010) 1093. ⁽¹³⁰⁾	
	Fudan University	86	Shao, Z. ⁽²⁵⁾	Biomacromolecules, 11 (2010) 1. ⁽³³⁾	
	Shanghai Jiaotong University	84	Lu, Q. ⁽⁶⁾	Angewandte Chemie Int. Ed., 49 (2010) 8476. ⁽³⁰⁾	
	Zhejiang University	76	Gao, C. ⁽¹⁴⁾	Chemical Society Reviews, 41 (2012) 6103. ⁽¹⁰²⁾	
Germany	Donghua University	59	Mo, X. ⁽⁶⁾	Acta Biomaterialia, 7 (2011) 634. ⁽⁵⁶⁾	
	Southeast University	57	Gu, Z. ⁽⁹⁾	Biomedical Materials, 5 (2010) A.N.065011. ⁽¹⁸⁾	
	Helmholtz-Zentrum Geesthacht - Zentrum für Material- und Küstenforschung GmbH	125	Lendlein, A. ⁽¹¹³⁾	Advanced Materials, 22 (2010) 3388. ⁽²⁷⁴⁾	
	Friedrich-Alexander-Universität Erlangen-Nürnberg	45	Boccaccini, A.R. ⁽³³⁾	Biomaterials, 32 (2011) 2757. ⁽³⁸⁹⁾	
	Universität Potsdam	36	Lendlein, A. ⁽³³⁾	Journal of Materials Chemistry, 20 (2010) 8875. ⁽⁴³⁾	
	Technische Universität Dresden	35	Calin, M. ⁽⁵⁾	Materials Sci. Engineering C, 33 (2013) 875. ⁽²⁶⁾	
	Max Planck Institut für Kolloid Und Grenzflächenforschung Potsdam	33	Fratzl, P. ⁽⁹⁾	Nature Communications, 3 (2012) A.N. 1720. ⁽³⁶⁾	
	Leibniz-Institut für Polymerforschung Dresden e.V.	30	Maitz, M.F. ⁽¹⁰⁾	Biomaterials, 33 (2012)1017. ⁽¹⁹⁾	
	Max Planck Institute for Polymer Research	30	Landfester, K. ⁽⁶⁾	Small, 8 (2012) 2222. ⁽³⁶⁾	
South Korea	Julius-Maximilians-Universität Würzburg	27	Groll, J. ⁽⁸⁾	Progress in Polymer Science, 37 (2012) 1678. ⁽⁸⁸⁾	
	Rheinisch-Westfälische Technische Hochschule Aachen	27	Möller, M. ⁽⁵⁾	Advanced Engineering Materials, 13 (2011) B395. ⁽⁹⁾	
	Karlsruhe Institute of Technology	26	Barner-Kowollik, C. ⁽⁸⁾	Biomacromolecules, 12 (2011) 1137. ⁽³⁸⁾	
	Universität Bayreuth	26	Scheibel, T. ⁽¹⁷⁾	Progress in Polymer Science, 35 (2010) 1093. ⁽⁹⁹⁾	
	Seoul National University	80	Koh, Y.H. ⁽⁹⁾	J. Mater. Sci. Mater. Medicine, 24 (2013) 773. ⁽¹⁸⁾	
	Korea Advanced Institute of Science & Technology	48	Lee, H. ⁽¹⁰⁾	Angewandte Chemie – Int. Ed., 49 (2010) 9401. ⁽¹⁴³⁾	
	Yonsei University	42	Cho, S.W. ⁽⁹⁾	Nature Materials, 9 (2010) 768. ⁽²⁰⁸⁾	
	Chonbuk National University	36	Woo, K.D. ⁽¹⁴⁾	Materials and Design, 49 (2013) 511. ⁽⁷⁾	
	Pohang University of Science and Technology	30	Cho, D.W. ⁽⁸⁾	Biofabrication, 3 (2011) A.N. 034102. ⁽³⁵⁾	
Japan	Kyung Hee University	29	Khademhosseini, A. ⁽¹⁷⁾	Biomaterials, 33 (2012) 9009. (35)	
	Korea University	29	Koh, Y.H. ⁽⁹⁾	J. Mater. Sci. Mater. Medicine, 24 (2013) 773. ⁽¹⁸⁾	
	Sungkyunkwan University	29	Lee, D.S. ⁽⁴⁾	Acta Biomaterialia, 7 (2011) 3123. ⁽²⁵⁾	
	Korea Institute of Science and Technology	28	Kim, S.H. ⁽⁷⁾	European Cells and Materials, 25 (2012) 114. ⁽¹²⁾	
	Pusan National University	24	Ha, C.S. ⁽³⁾	Langmuir, 26 (2010) 18442. ⁽²⁷⁾	
			Kim, I. ⁽³⁾	Langmuir, 26 (2010) 18442. ⁽²⁷⁾	
	Japan	National Institute for Materials Science Tsukuba	71	Ariga, K. ⁽¹⁹⁾	Bull. Chemical Society of Japan, 85 (2012) 1. ⁽⁵⁹⁵⁾
		Institute for Materials Research, Tohoku University	51	Niinomi, M. ⁽¹⁵⁾	Acta Biomaterialia, 8 (2012) 3888. ⁽¹¹⁸⁾
		University of Tokyo	40	Ishihara, K. ⁽¹¹⁾	Colloids and Surfaces B, 79 (2010) 357. ⁽³⁹⁾
Tohoku University		38	Nakai, M. ⁽⁹⁾	Materials Sci. Engineering C, 31 (2011) 1436. ⁽²⁶⁾	
			Niinomi, M. ⁽⁹⁾	Materials Sci. Engineering C, 31 (2011) 1436. ⁽²⁶⁾	
Japan Science and Technology Agency		34	Ariga, K. ⁽¹²⁾	Bull. Chemical Society of Japan, 85 (2012) 1. ⁽⁵⁹⁵⁾	
			Hill, J.P. ⁽¹²⁾	Bull. Chemical Society of Japan, 85 (2012) 1. ⁽⁵⁹⁵⁾	
Osaka University		34	Nakano, T. ⁽¹¹⁾	Materials Sci. Engineering C, 31 (2011) 1436. ⁽²⁶⁾	
Kyoto University		28	Tabata, Y. ⁽³⁾	J. Biomater. Science, Polym. Ed., 21 (2010) 1403. ⁽¹⁹⁾	
Tokyo Medical and Dental University		27	Yamashita, K. ⁽¹⁴⁾	J. Biomed. Mater. Res. Part A, 92 (2010) 783. ⁽²²⁾	
	Kyushu University		23	Matsuno, H. ⁽³⁾	ACS Appl. Materials and Interfaces, 3 (2011) 351. ⁽¹⁰⁾
				Kitaoka, T. ⁽³⁾	Scientific Reports, 4 (2014) A.N. 5532. ⁽¹⁰⁾
National Institute of Advanced Industrial Science and Technology	23	Ito, A. ⁽⁶⁾	Biofabrication, 3 (2011) A.N. 022001. ⁽¹⁴⁾		
		Sogo, Y. ⁽⁶⁾	Biofabrication, 3 (2011) A.N. 022001. ⁽¹⁴⁾		

*All data were collected from Scopus on August 02, 2015.

Table 3. Continued.*

	Affiliation	# Docs	Top Author (# Docs)	Most Cited Article (# Citation)	
United Kingdom	University of Nottingham	52	Alexander, M.R. ⁽²⁹⁾	Nature Materials, 9 (2010) 768. ⁽²⁰⁸⁾	
	Imperial College London	47	Jones, J.R. ⁽¹³⁾	Acta Biomaterialia, 9 (2013) 4457. ⁽²²⁴⁾	
	UCL	32	Seifalian, A.M. ⁽¹¹⁾	Nanomedicine, 6 (2011) 1101. ⁽³⁸⁾	
	University of Oxford	29	Vollrath, F. ⁽¹⁴⁾	Soft Matter, 7 (2011) 9595. ⁽³⁶⁾	
	University of Manchester	28	Lee, P.D. ⁽⁴⁾	J. Materials Chemistry B, 2 (2014) 668. ⁽⁶⁾	
	University of Sheffield	25	Leggett, G.J. ⁽⁶⁾	J. Am. Chem. Soc., 133 (2011) 2749. ⁽²⁴⁾	
	University of Cambridge	23	Best, S.M. ⁽⁴⁾	J. Materials Science, 47 (2012) 610. ⁽²⁵⁾	
	University of Glasgow	19	Gadegaard, N. ⁽⁸⁾	Surface Science Reports, 65 (2010) 145. ⁽⁶⁷⁾	
	University of Leeds	19	Meldrum, F.C. ⁽⁴⁾	Advanced Functional Materials, 22 (2012) 907. ⁽³⁷⁾	
	University of Birmingham	17	Callow, J.A. ⁽⁵⁾	Biofouling, 27 (2011) 1139. ⁽²⁵⁾	
			Callow, M.E. ⁽⁵⁾	Biofouling, 27 (2011) 1139. ⁽²⁵⁾	
	The University of Warwick	17	Mallick, K.K. ⁽⁶⁾	Mater. Sci. Engineering C, 35 (2014) 106. ⁽¹³⁾	
India	Indian Institute of Technology, Kharagpur	26	Kundu, S.C. ⁽¹⁴⁾	Biotechnol. Advances, 28 (2010) 325. ⁽⁷¹⁾	
	Indian Institute of Science	16	Chatterjee, K. ⁽⁵⁾	ACS Appl. Materials and Interfaces, 7 (2015) 3237. ⁽⁵⁾	
	Indian Institute of Technology, Kanpur	16	Basu, B. ⁽⁸⁾	Advanced Structural Ceramics, (Book) 2011, 474p. ⁽²⁷⁾	
	Indian Institute of Technology, Bombay	14	Bellare, J.R. ⁽²⁾	J. Biomedical Nanotechnology, 9 (2013) 2073. ⁽⁶⁾	
	Indian Association for the Cultivation of Science	13	Banerjee, A. ⁽³⁾	Org. Biomolecular Chemistry, 19 (2011) 6610. ⁽¹⁸⁾	
	Indian Institute of Technology Roorkee		13	Kaushik, B.K. ⁽⁷⁾	J. Mater. Sci. Materials in Electronics, 25 (2014) 1. ⁽⁹⁾
				Negi, Y.S. ⁽⁷⁾	J. Mater. Sci. Materials in Electronics, 25 (2014) 1. ⁽⁹⁾
				Kumar, B. ⁽⁷⁾	J. Mater. Sci. Materials in Electronics, 25 (2014) 1. ⁽⁹⁾
	Vellore Institute of Technology	12	Grace, A.N. ⁽²⁾	Applied Surface Science, 327 (2015) 27. ⁽²⁾	
	Sree Chitra Tirunal Inst. Medical Sci. Technology	12	Sharma, C.P. ⁽⁴⁾	J. Biomaterials Applications, 25 (2010) 291. ⁽⁵¹⁾	
	SASTRA University	11	Sethuraman, S. ⁽⁹⁾	J. Mater. Sci. Mater. Medicine, 23 (2012) 1797. ⁽¹⁸⁾	
Banaras Hindu University	11	Maiti, P. ⁽⁴⁾	Macromolecules, 43 (2010) 9928. ⁽¹⁷⁾		
Central Leather Research Institute India		11	Mandal, A.B. ⁽³⁾	Rev. Env. Sci. Biotechnology, 10 (2011) 151. ⁽¹⁷⁾	
			Sastry, T.P. ⁽³⁾	RSC Advances, 5 (2015) 15763. ⁽¹⁾	
Australia	The University of Sydney	54	Li, Q. ⁽¹²⁾	Biomaterials, 32 (2011) 5003. ⁽³¹⁾	
	Queensland University of Technology QUT	40	Hutmacher, D.W. ⁽¹⁶⁾	Progress in Polymer Science, 37 (2012) 1079. ⁽¹²⁹⁾	
	Commonwealth Scientific & Indust. Res. Organization	40	Thissen, H. ⁽⁶⁾	Advanced Drug Delivery Reviews, 64 (2012) 1820. ⁽³³⁾	
	Monash University	39	Chen, Q. ⁽¹¹⁾	Progress in Polymer Science, 38 (2013) 584. ⁽⁷²⁾	
	University of Queensland	39	Vinu, A. ⁽⁶⁾	Bull. Chemical Society of Japan, 85 (2012) 1. ⁽⁵⁹⁵⁾	
	University of Melbourne	33	Caruso, F. ⁽¹⁴⁾	Small, 6 (2010) 1836. ⁽¹⁷⁷⁾	
	University of South Australia	33	Vasilev, K. ⁽⁹⁾	Biomaterials, 31 (2010) 532. ⁽⁹⁴⁾	
	University of Wollongong	31	Wallace, G.G. ⁽¹⁹⁾	Chemistry of Materials, 24 (2012) 828. ⁽²³⁾	
	Swinburne University of Technology	25	Crawford, R.J. ⁽⁷⁾	Biomaterials, 31 (2010) 3674. ⁽¹⁰¹⁾	
University of New South Wales UNSW Australia	24	Poole-Warren, L.A. ⁽⁹⁾	Journal of Controlled Release, 154 (2011) 110. ⁽³¹⁾		
Italy	Consiglio Nazionale delle Ricerche	58	Ambrosio, L. ⁽⁸⁾	Biomacromolecules, 12 (2011) 4183. ⁽²⁹⁾	
	Istituto Italiano di Tecnologia	39	Netti, P.A. ⁽⁷⁾	Acta Biomaterialia, 6 (2010) 2532. ⁽⁶⁷⁾	
	Alma Mater Studiorum Universita di Bologna		29	Bigi, A. ⁽³⁾	Biomaterials, 33 (2012) 722. ⁽¹⁷⁾
				Muccini, M. ⁽³⁾	Advanced Functional Materials, 22 (2012) 1871. ⁽¹⁸⁾
				Toffanin, S. ⁽³⁾	Advanced Functional Materials, 22 (2012) 1871. ⁽¹⁸⁾
	Politecnico di Milano	22	Rossi, F. ⁽⁷⁾	ACS Chemical Neuroscience, 2 (2011) 336. ⁽²⁹⁾	
	Universita degli Studi di Napoli Federico II	17	Netti, P.A. ⁽⁶⁾	Acta Biomaterialia, 6 (2010) 2532. ⁽⁶⁷⁾	
	Universita di Pisa	16	Chiellini, E. ⁽⁶⁾	Chemical Society Reviews, 41 (2012) 7147. ⁽⁹⁴⁾	
	Universita degli Studi di Torino	15	Ugliengo, P. ⁽³⁾	Chemical Reviews, 113 (2013) 4216. ⁽⁷⁸⁾	
	Universita degli Studi di Trieste		15	Donati, I. ⁽⁴⁾	Acta Biomaterialia, 7 (2011) 337. ⁽⁴³⁾
				Prato, M. ⁽⁴⁾	ACS Nano, 6 (2012) 2041. ⁽²⁹⁾
			Travan, A. ⁽⁴⁾	Acta Biomaterialia, 7 (2011) 337. ⁽⁴³⁾	
Politecnico di Torino		14	Baino, F. ⁽⁵⁾	J. Biomed. Mater. Res. Part A, 97 (2011) 514. ⁽⁶⁸⁾	
			Vitale-Brovarone, C. ⁽⁵⁾	J. Biomed. Mater. Res. Part A, 97 (2011) 514. ⁽⁶⁸⁾	
Universita degli Studi di Milano	14	Milani, P. ⁽⁴⁾	PLoS ONE, 5 (2010) A.N. e11862. ⁽⁷⁷⁾		
Spain	CIBER Bioingenieria, Biomateriales y Nanomedicina	69	Vallet-Regi, M. ⁽¹⁷⁾	Chemical Society Reviews, 40 (2011) 596. ⁽¹²⁸⁾	
	Universitat Politecnica de Catalunya	24	Ginebra, M.P. ⁽⁶⁾	Acta Biomaterialia, 6 (2010) 2863. ⁽⁹¹⁾	
	Universidad Autonoma de Barcelona	20	Villaverde, A. ⁽⁸⁾	Trends in Microbiology, 18 (2010) 423. ⁽⁴⁴⁾	
	Universidad Complutense de Madrid	20	Portoles, M.T. ⁽⁵⁾	Macromolecular Bioscience, 12 (2012) 446. ⁽⁷⁾	
	Universidad de Valladolid	18	Rodriguez-Cabello, J.C. ⁽¹¹⁾	Small, 7 (2011) 2640. ⁽⁴⁵⁾	
	CSIC - Instituto de Ciencia y Tecnologia de Polimeros	17	Bosch, P. ⁽²⁾	J. Biomed. Mater. Res. Part A, 96 (2011) 196. ⁽⁷⁾	
	CSIC - Instituto de Ciencia de Materiales de Madrid	15	Ruiz-Hitzky, E. ⁽⁵⁾	Advanced Materials, 22 (2010) 323. ⁽¹⁵¹⁾	
	Universidad de Zaragoza	15	De La Fuente, J.M. ⁽⁶⁾	Langmuir, 28 (2012) 8965. ⁽⁴¹⁾	
	Universidad Autonoma de Madrid		15	Torres-Costa, V. ⁽⁴⁾	Journal of Nanophotonics, 4, (2010) A.N. 042502. ⁽¹⁷⁾
				Manso-Silvan, M. ⁽⁴⁾	Journal of Nanophotonics, 4, (2010) A.N. 042502. ⁽¹⁷⁾
Institut de Bioenginyeria de Catalunya	15	Planell, J.A. ⁽⁶⁾	Journal of Tissue Engineering, 3 (2012) 1. ⁽³¹⁾		

*All data were collected from Scopus on August 02, 2015.