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Top 100 Chemists, 2000-2010

Special Report on High-Impact Chemists

On February 10, 2011, Thomson Reuters released data identifying the world's top 100 chemists over the past 11 years as ranked by the impact of their published research.

The top 100 is intended to celebrate the achievements of chemists who achieved the highest citation impact scores for chemistry papers (articles and reviews) published since January 2000. Thomson Reuters published the table in support of the International Year of Chemistry.

Top 100 Chemists, 2000-2010
About the Analyses

Top 100 Chemists, 2000-2010, Ranked by Citation Impact
(among those with 50 or more papers)

Rank	Institution	Papers	Citations	Impact
1	Charles M. LIEBER Harvard University	74	17,776	240.22
2	Omar M. YAGHI University of California Los Angeles	90	19,870	220.78
3	Michael O'KEEFFE Arizona State University	73	12,910	176.85
4	K. Barry SHARPLESS Scripps Research Institute	60	9,754	162.57
5	A. Paul ALIVISATOS University of California Berkeley	93	14,589	156.87
6	Richard E. SMALLEY† Formerly Rice University	60	9,217	153.62
7	Hongjie DAI Stanford University	88	12,768	145.09
8	Xiaogang PENG University of Arkansas	59	8,548	144.88
9	Valery V. FOKIN Scripps Research Institute	54	6,853	126.91
10 [MS 1]	Peidong YANG University of California Berkeley	95	11,167	117.55
11	Benjamin LIST Max Planck Institute for Coal Research	81	8,808	108.74
12 [MS 50]	Mark E. THOMPSON University of Southern California	53	5,394	101.77

13	Robert H HAUGE Rice University	55	5,566	101.20
14	Eric N. JACOBSEN Harvard University	81	7,985	98.58
15	Banglin CHEN University of Texas San Antonio	61	5,929	97.20
16	David W.C. MACMILLAN Princeton University	55	5,267	95.76
17	Mostafa EL-SAYED Georgia Institute of Technology	111	10,135	91.31
18	Ezio RIZZARDO Commonwealth Scientific And Industrial Research Organization (CSIRO), Australia	52	4,747	91.29
19	Michael S. STRANO Massachusetts Institute of Technology	54	4,843	89.69
20	Michael J. ZAWOROTKO University of South Florida	83	7,403	89.19
21	Dmitri V. TALAPIN University of Chicago	56	4,981	88.95
22	Ryoji NOYORI Nagoya University	62	5,486	88.48
23	Chad A. MIRKIN Northwestern University	233	20,505	88.00
24	Liberato MANNA Italian Institute of Technology	62	5,431	87.60
25	Richard P. VAN DUYNE Northwestern University	88	7,690	87.39
26	Robert H. GRUBBS California Institute of Technology	170	14,617	85.98
27	Carlos F. BARBAS Scripps Research Institute	95	8,029	84.52
28	James R. HEATH California Institute of Technology	69	5,830	84.49
29	Moungi G. BAWENDI Massachusetts Institute of Technology	52	4,364	83.92
30	David A. CASE Rutgers University	60	5,007	83.45
31	Shouheng SUN Brown University	84	6,970	82.98
32 [MS 10]	Catherine J. MURPHY University of Illinois Urbana-Campaign	69	5,717	82.86
33	M. G. FINN Scripps Research Institute	76	6,286	82.71
34	Stephen L. BUCHWALD Massachusetts Institute of Technology	169	13,941	82.49
35 [MS 4]	Younan XIA Washington University St. Louis	161	13,120	81.49
36	Stuart L. SCHREIBER Harvard University	66	5,369	81.35
37 [MS 19]	Taeghwan HYEON Seoul National University	82	6,587	80.33

38	George M. WHITESIDES Harvard University	228	18,237	79.99
39	Ryong RYOO Korea Advanced Institute of Science and Technology	77	6,057	78.66
40	Michael F. RUBNER Massachusetts Institute of Technology	51	4,004	78.51
41 [MS 20]	Xiangfeng DUAN University of California Los Angeles	64	5,022	78.47
42 [MS 48]	Michael GRÄTZEL Swiss Federal Institute of Technology Lausanne	187	14,602	78.09
43	Gregory C. FU Massachusetts Institute of Technology	111	8,384	75.53
44 [MS 89]	Horst WELLER University of Hamburg	73	5,428	74.36
45	Joan F. BRENNECKE University of Notre Dame	65	4,827	74.26
46	Kenneth R. SEDDON Queen's University Belfast	94	6,916	73.57
47 [MS 8]	Alan J. HEEGER University of California Santa Barbara	66	4,758	72.09
48	Andreas MANZ Korea Institute of Science and Technology - Europe	70	5,030	71.86
49	Hua Chun ZENG National University of Singapore	53	3,673	69.30
50	Suprakas Sinha RAY Council for Scientific and Industrial Research (CSIR), South Africa	50	3,411	68.22
51	Mikhail E. ITKIS University of California Riverside	60	4,069	67.82
52	Osamu TERASAKI Stockholm University	92	6,198	67.37
53 [MS 29]	Shaik M. ZAKEERUDDIN Swiss Federal Institute of Technology Lausanne	63	4,204	66.73
54	Wenbin LIN University of North Carolina Chapel Hill	104	6,930	66.63
55 [MS 2]	Yadong YIN University of California Riverside	57	3,787	66.44
56	John R. YATES Scripps Research Institute	86	5,696	66.23
57	Samuel I. STUPP Northwestern University	62	4,073	65.69
58	Kimoon KIM Pohang University of Science and Technology	128	8,375	65.43
59	Prashant V. KAMAT University of Notre Dame	99	6,426	64.91
60	John D. HOLBREY Queen's University Belfast	63	4,016	63.75
61 [MS 5]	Jens K. NØRSKOV Technical University of Denmark	122	7,736	63.41

62	Yugang SUN Argonne National Laboratory	93	5,896	63.40
63 [MS 75]	Evgeny KATZ Clarkson University	97	6,147	63.37
64	Craig J. HAWKER University of California Santa Barbara	141	8,893	63.07
65 [MS 71]	Christian SRRE Versailles Saint-Quentin-en-Yvelines University	72	4,517	62.74
66	Richard H FRIEND University of Cambridge	74	4,642	62.73
67	Jean M. J. FRÉCHET University of California Berkeley	209	12,985	62.13
68	James M. TOUR Rice University	134	8,325	62.13
69	Robert C. HADDON University of California Riverside	84	5,191	61.80
70 [MS 24]	Peter J. STANG University of Utah	103	6,356	61.71
71	Nicholas A. KOTOV University of Michigan	78	4,809	61.65
72	F. Dean TOSTE University of California Berkeley	84	5,163	61.46
73	Michal KRUK City University of New York	54	3,315	61.39
74 [MS 83]	Didier ASTRUC University Bordeaux I	114	6,883	60.38
75	Michael GIERSIG Free University of Berlin	55	3,310	60.18
76	George C. SCHATZ Northwestern University	202	12,116	59.98
77	Harold G. CRAIGHEAD Cornell University	51	3,042	59.65
78	Keith FAGNOU† University of Ottawa	63	3,747	59.48
79	Milan MRKSICH University of Chicago	54	3,168	58.67
80	Alois FÜRSTNER Max Planck Institute for Coal Research	151	8,858	58.66
81	Karl Anker JØRGENSEN Aarhus University	152	8,893	58.51
82	Rustem F. ISMAGILOV University of Chicago	59	3,437	58.25
83	Richard A. FRIESNER Columbia University	98	5,697	58.13
84	Jairton DUPONT Federal University of Rio Grande do Sul	120	6,964	58.03
85	John F. HARTWIG University of Illinois Urbana-Campaign	167	9,638	57.71
86	Robert LANGER Massachusetts Institute of Technology	98	5,632	57.47

87	Mark E. DAVIS California Institute of Technology	66	3,791	57.44
88	Manos MAVRIKAKIS University of Wisconsin Madison	56	3,205	57.23
89	Adi EISENBERG McGill University	65	3,720	57.23
90	Maurice BROOKHART University of North Carolina Chapel Hill	87	4,978	57.22
91	Amir H. HOVEYDA Boston College	122	6,967	57.11
92	Charles R. MARTIN University of Florida	58	3,312	57.10
93	Alexander ZAPF University of Rostock	60	3,407	56.78
94	Jeffrey R. LONG University of California Berkeley	98	5,563	56.77
95	Neil R. CHAMPNESS University of Nottingham	86	4,877	56.71
96	Naomi J. HALAS Rice University	73	4,131	56.59
97	Abraham NITZAN Tel Aviv University	51	2,879	56.45
98	Charles L. BROOKS University of Michigan	67	3,778	56.39
99	Helmut CÖLFEN Max Planck Institute of Colloids and Interfaces	82	4,595	56.04
100	Jérôme CORNIL University of Mons	65	3,640	56.00
101	Geoffrey W. COATES Cornell University	90	5,029	55.88

† = deceased

SOURCE: *Essential Science Indicators*[SM] from Thomson Reuters, January 1, 2000 – October 31, 2010

The United Nations Educational, Scientific and Cultural Organization (UNESCO) and the International Union of Pure and Applied Chemistry (IUPAC) have proclaimed 2011 the International Year of Chemistry. During the year, celebrations and special events will be held around the globe “to increase the public appreciation of chemistry in meeting world needs, to encourage interest in chemistry among young people, and to generate enthusiasm for the creative future of chemistry.”

The table is intended to celebrate the achievements of 100 chemists who achieved the highest citation impact scores for chemistry papers (articles and reviews) published since January 2000.

Citation impact (citations per paper) is a weighted measure of influence that seeks to reveal consistently superior performance. To ensure that a high score could not be achieved by a few highly cited papers, a threshold of 50 papers was used in the analysis. The average citation impact in chemistry for the period was 11.07, so all the researchers listed above achieved more than five times that mark.

Since approximately a million chemists were recorded in the journal publications indexed by Thomson Reuters during the last 11 years, these 100 represent the top hundredth of one percent. Sixteen of

those listed also ranked in the top 100 by citation impact in materials science, among those who published 25 or more papers in that field during the last 11 years. Their ranks in materials science [MS] are noted beneath their ranks in chemistry.

Nanotechnology in all its aspects is strongly in evidence when one surveys the research interests of the chemists listed. While the rubric covers much, and some skeptics call “nano” the latest fad in chemistry, there is no denying the message of the citation indicators. The field has attracted enormous interest during the last decade. Of the 100, 60 of these chemists identify nanotechnology as their main focus or a significant research topic.

The national affiliations of the authors are: 70 for the United States, seven for Germany, four for the United Kingdom, three for South Korea, two each for Canada, France, Denmark, and Switzerland, and one apiece for Australia, Belgium, Sweden, Italy, Israel, South Africa, Brazil, Japan, and Singapore.

The institutions appearing three or more times are: Massachusetts Institute of Technology (6), The Scripps Research Institute (5), University of California Berkeley (5), Harvard University (4), Rice University (4), Northwestern University (4), California Institute of Technology (3), University of California Riverside (3), and University of Chicago (3).

To provide a more comprehensive view of high-impact researchers in chemistry, lists of the top 100 researchers in materials science and in biochemistry will appear during the year on *ScienceWatch.com*.

For more information, view *Essential Science Indicators*SM from Thomson Reuters.

CORRECTION

“Kimoon Kim, Professor of Chemistry at Pohang University of Science and Technology in South Korea, should have been listed in the table published February 10, 2011 that featured the top 100 chemists of the last decade. Unfortunately, his specific publication and citation record was not evident, owing to many persons of the same name (KIM K) publishing chemistry papers in the period 2000-2010. The ranking, by citation impact, would have placed Professor Kim 58th among the 100 names listed. The correct publication and citation statistics for Kim are: 128 chemistry papers; 8,375 citations to these papers; and a citations-per-paper score of 65.43. Thomson Reuters sincerely regrets the omission of Professor Kim from the ranking.”

EMAIL | BACK TO TOP

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