

Index

Note: ‘Page numbers followed by “f” indicate figures and “t” indicate tables.’

A

Academic—corporate collaborated
 nano-publications, 81,
 37–47, 39f
All Science Journal Classification
 (ASJC), 19

B

Bibliometric indicators methods,
 79, 87–92
Biosensors, 31

C

China’s academic—corporate
 collaborations, 50
Chinese Academy of Sciences
 (CAS), 13, 44–46
Citation, 89
Compound annual growth rate (CAGR),
 5, 21–22, 32f, 65–66, 90
Cooperation, 70
Corporate entities, 75–76
Counting, 89
Country codes, 101
Cross-regional collaboration, 77–78
Cross-sector collaboration, 89

D

Data sources
 Elsevier funding institutional, 97–98
 PatentSight, 96–97
 SciVal, 95–96
 Scopus, 95
Degradation, 33

E

Electrodes, 31
Elsevier funding institutional, 97–98
European Patent Office (EPO), 50, 77

F

Federal Ministry for Food and
 Agriculture, 65
Field-weighted citation impact (FWCI),
 2–3, 23, 43–44, 72, 72f, 75, 90
Financial support, 77–78
Full publication, 91
Funding Institutional, 69

G

German Environment Agency, 65
German Science Foundation, 65
Germany, 75–76
Global corporate entities, 36
Global nano-related research output, 2
Ground-breaking technology, 26–27

H

Higher field-weighted citation, 9–11

I

Immunology, 51
Industry
 academic—corporate collaborations,
 37–47, 39f
 China’s academic—corporate
 collaborations, 50
 Chinese Academy of Sciences
 (CAS), 44–46
 European Patent Office (EPO), 50
 field-weighted citation impact
 (FWCI), 43–44
 global corporate entities, 36
 immunology, 51
 knowledge transfer, 48–51
 patent citation, scholarly output,
 48–51, 49f–50f
 microbiology, 51
 nano-related patents, 53–62

Industry (*Continued*)

- inventing countries, 53–55, 54f
 - nano-related patents count, 56t
 - Patent Asset Index, 55–59, 56t, 59t
 - patent transfer
 - joint ownership, 60–62
 - patent ownership transfer, 60, 62t
 - pharmacology, 51
 - research in basic science, 36–37
 - Science, Technology and Industry (SINTEF), 43–44
- Institutional collaboration, 90
- Intensive companies, 75–76
- International collaboration, 70, 90
- International scientific funding data, 79

J

- Japan Patent Office, 77
- Japan Society for the Promotion of Science (JSPS), 65
- Joint ownership, 60–62

K

- Knowledge flow diagram, 19–21, 20f–21f
- Knowledge transfer, 48–51

M

- Materials science, 67
- Microbiology, 51
- MicroRNAs, 32

N

- Nano-publications, 9–12, 11f–12f, 20–21, 32–33
- Nano-related academic output, 6–9, 6f–8f
- Nano-related awards, 67
- Nano-related patents, 53–62
 - inventing countries, 53–55, 54f
 - nano-related patents count, 56t
 - Patent Asset Index, 55–59, 56t
- Nano-related researchers worldwide, 5, 5f
- Nanoscience
 - academic impact of nanoscience, 9–12

- higher field-weighted citation, 9–11
- nano-publications, 9–11
- global nano-related research output, 2
- institutions' academic research
 - analysis, 13–16
- nano-publications, 13
- National Center for Nanoscience and Technology (NCNST), 14–16, 16f
- nano-publications, 11–12, 11f–12f
- nano-related academic output, 6
- nano-related researchers worldwide, 5
- prominent topic clusters related to, 30–33
- scholarly output
 - China, 4
 - compound annual growth rate (CAGR), 5
 - field-weighted citation impact (FWCI), 2–3
 - nano-related academic output, 6–9, 6f–8f
 - nano-related researchers worldwide, 5, 5f
 - trends, 5–9
- Nanotechnology, 75
- NASA Department of Energy, 65
- National Center for Nanoscience and Technology (NCNST), 14–16, 16f
- National collaboration, 91
- National Institutes of Health (NIH), 65
- National Natural Science Foundation of China (NSFC), 65
- National Science Foundation (NSF), 65

O

- Output/publication output, 91
- Ozonization, 33

P

- Patent Asset Index, 55–59, 56t, 59t
- Patent citation, scholarly output, 48–51, 49f–50f
- Patent indicators

competitive impact, 93–94
 market coverage, 93
 Patent Asset Index, 94
 technology relevance, 93
 Patent ownership transfer, 60, 62t
 PatentSight, 96–97
 Patent transfer
 joint ownership, 60–62
 patent ownership transfer, 60, 62t
 Postscript
 bibliometric methods, 79
 international scientific funding data, 79
 quantitative research methods, 79
 Prominence score, 92

Q

Quantitative research methods, 79

R

Research and development (R&D)
 funding analysis for nanoscience,
 65–69
 count funders, 68–69, 69f
 nano-related awards in each subject,
 66–68
 number and value of nano-related
 awards, 65–66
 international collaboration, 70–73
 nano-publications, 72–73, 72f
 research fields, 70–71, 71f
 upward trend, nanoscience,
 73, 73f

S

Science, Technology and Industry
 (SINTEF), 43–44
 SciVal, 95–96
 Scopus, 26–27, 95, 99
 Single-author publication, 91

T

Topic clusters, 91

U

United States, 75–76

Universality, basic science
 academic impact, 24, 26f
 advanced science, 26–33
 All Science Journal Classification
 (ASJC), 19
 biosensors, 31
 compound annual growth rate (CAGR),
 21–22, 32f
 drops, hydrophobicity, contact angle,
 33
 electrodes, 31
 field-weighted citation impact
 (FWCI), 23
 ground-breaking technology, 26–27
 immunology and microbiology, 23–24
 knowledge
 flow diagram, 19–21, 20f–21f
 nano-publications, 20–21
 membranes, desalination,
 ultrafiltration, 33
 MicroRNAs, 32
 nano-publications, 20–21, 32–33
 prominent topic clusters with, 30–31
 nanoscience, prominent topic clusters
 related to, 30–33
 ozonization, degradation, wastewater
 treatment, 33
 prominence score, 27
 prominent topics, nanoscience's
 connection with, 27–29
 scholarly output, 23–24, 24f
 basic science, 21–22
 Scopus-indexed publications, 26–27
 topic clusters, 27
 Universal science, 75
 US Patent and Trademark Office, 77

V

Volkswagen Foundation, 65

W

Wastewater treatment, 33
 World Intellectual Property
 Organization, 77