

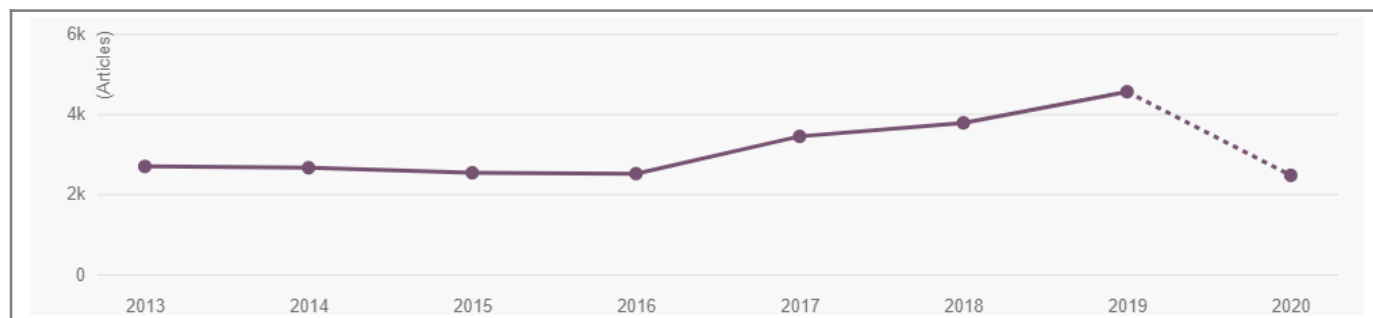
# A8770J - Prosthetics and other practical applications

[view online](#)

Report generated from year 2013 to 2020

|   |
|---|
| <p><b>Articles published</b></p> <p>24635 articles published with this Subject classification between 2013 - 2020</p>   |
| <p><b>Articles published % change</b></p> <p>Between 2013 - 2019 article output increased <b>69.29%</b></p>   |
| <p><b>Times cited</b></p> <p>Articles published with this Subject classification between 2013 - 2020 have been cited <b>58658</b> times, with an average of <b>2.38</b> citations per article</p> |

## Subject classification over time



| # | Year | Articles | % Change | Times cited | Avg times cited |
|---|------|----------|----------|-------------|-----------------|
| 1 | 2013 | 2690     | n/a      | 13622       | 5.06            |
| 2 | 2014 | 2658     | -1.19%   | 13571       | 5.11            |
| 3 | 2015 | 2533     | -4.70%   | 9376        | 3.70            |
| 4 | 2016 | 2512     | -0.83%   | 8533        | 3.40            |
| 5 | 2017 | 3441     | 36.98%   | 7349        | 2.14            |
| 6 | 2018 | 3778     | 9.79%    | 4288        | 1.13            |
| 7 | 2019 | 4554     | 20.54%   | 1594        | 0.35            |
| 8 | 2020 | 2469     | n/a      | 325         | 0.13            |

### Co-occurring concepts

| #  | Controlled terms          | Articles |
|----|---------------------------|----------|
| 1  | prosthetics               | 16852    |
| 2  | biomedical materials      | 8594     |
| 3  | bone                      | 6366     |
| 4  | biomechanics              | 5612     |
| 5  | cellular biophysics       | 5068     |
| 6  | orthopaedics              | 3598     |
| 7  | tissue engineering        | 2882     |
| 8  | diseases                  | 2713     |
| 9  | neurophysiology           | 2699     |
| 10 | surgery                   | 2279     |
| 11 | dentistry                 | 2231     |
| 12 | medical signal processing | 2063     |
| 13 | biological tissues        | 1911     |
| 14 | finite element analysis   | 1878     |
| 15 | polymers                  | 1874     |
| 16 | biomedical electrodes     | 1809     |
| 17 | nanomedicine              | 1805     |
| 18 | proteins                  | 1801     |
| 19 | molecular biophysics      | 1795     |
| 20 | bioceramics               | 1790     |

Total terms : 3772

| #  | Subject classifications  | Articles |
|----|--|----------|
| 1  | A8770 - Biomedical engineering   | 24635    |
| 2  | A8700 - Biophysics, medical physics, and biomedical engineering                | 24635    |
| 3  | A8000 - Cross-disciplinary physics and related areas of science and technology | 24635    |
| 4  | B7000 - Instrumentation and special applications                               | 19359    |
| 5  | B7500 - Medical physics and biomedical engineering                             | 19340    |
| 6  | B7520 - Patient care and treatment   | 19053    |
| 7  | B7520E - Prosthetics and orthotics   | 17972    |
| 8  | A8770M - Biomedical materials  | 10158    |
| 9  | B7510 - Biomedical measurement and imaging                                     | 6966     |
| 10 | A8745 - Biomechanics, biorheology, biological fluid dynamics                   | 6662     |
| 11 | A8100 - Materials science  | 6136     |
| 12 | C7000 - Computer applications  | 5542     |
| 13 | C7300 - Natural sciences computing   | 5273     |
| 14 | C7330 - Biology and medical computing  | 5268     |
| 15 | A6000 - Condensed matter: structure, thermal and mechanical properties         | 5185     |
| 16 | A8725 - Cellular biophysics  | 4901     |
| 17 | A8770G - Patient care and treatment  | 4792     |
| 18 | B6000 - Communications   | 4533     |
| 19 | A8730 - Biophysics of neurophysiological processes                             | 4336     |
| 20 | A0000 - General  | 4237     |

Total codes : 1490

## Top organisations

| #  | Organisations   | Articles |
|----|---|----------|
| 1  | Shanghai Jiao Tong University<br>Shanghai, China<br>academic                  | 378      |
| 2  | Peking University<br>Beijing, China<br>academic                               | 195      |
| 3  | Tsinghua University<br>Beijing, China<br>academic                             | 191      |
| 4  | National University of Singapore<br>Singapore, Singapore<br>academic          | 181      |
| 5  | Seoul National University<br>Gwanak-gu, South Korea<br>academic               | 181      |
| 6  | Sichuan University<br>Chengdu, China<br>academic                              | 172      |
| 7  | Ecole Polytechnique Federale de Lausanne<br>Lausanne, Switzerland<br>academic | 169      |
| 8  | Imperial College London<br>London, UK<br>academic                             | 166      |
| 9  | Universitat Rostock<br>Rostock, Germany<br>academic                           | 164      |
| 10 | University College London<br>London, UK<br>academic                           | 159      |

| #  | Organisations  | Articles |
|----|--|----------|
| 11 | <a href="#">University of Pittsburgh</a><br>Pittsburgh, USA<br>academic                            | 156      |
| 12 | <a href="#">Harvard University</a><br>Cambridge, USA<br>academic                                   | 149      |
| 13 | <a href="#">Georgia Institute of Technology</a><br>Atlanta, USA<br>academic                        | 148      |
| 14 | <a href="#">Johns Hopkins University</a><br>Baltimore, USA<br>academic                             | 146      |
| 15 | <a href="#">Northwestern University</a><br>Evanston, USA<br>academic                               | 145      |
| 16 | <a href="#">Stanford University</a><br>Stanford, USA<br>academic                                   | 145      |
| 17 | <a href="#">University of Michigan</a><br>Ann Arbor, USA<br>academic                               | 145      |
| 18 | <a href="#">Xi'an Jiaotong University</a><br>Xi'an, China<br>academic                              | 139      |
| 19 | <a href="#">University of New South Wales</a><br>Sydney, Australia<br>academic                     | 138      |
| 20 | <a href="#">Rheinisch Westfälische Technische Hochschule Aachen</a><br>Aachen, Germany<br>academic | 137      |

Total organisations : 4544

## Journals

| #  | Journal   | Articles |
|----|---|----------|
| 1  | Materials Science and Engineering: C (Materials for Biological Applications)                        | 800      |
| 2  | Acta Biomaterialia  | 615      |
| 3  | Biomaterials  | 384      |
| 4  | Journal of Biomechanics   | 352      |
| 5  | Materials   | 345      |
| 6  | IEEE Transactions on Neural Systems and Rehabilitation Engineering                                  | 339      |
| 7  | Proceedings of the Institution of Mechanical Engineers, Part H (Journal of Engineering in Medicine) | 313      |
| 8  | IOP Conference Series: Materials Science and Engineering  | 310      |
| 9  | Journal of Biomedical Materials Research Part B: Applied Biomaterials                               | 305      |
| 10 | Journal of Neural Engineering   | 300      |
| 11 | AIP Conference Proceedings  | 263      |
| 12 | Medical Engineering & Physics   | 255      |
| 13 | Journal of Materials Science: Materials in Medicine   | 244      |
| 14 | Proceedings of SPIE   | 241      |
| 15 | Key Engineering Materials   | 235      |
| 16 | Proceedings of SPIE - Progress in Biomedical Optics and Imaging                                     | 235      |
| 17 | Journal of Materials Chemistry B  | 224      |
| 18 | Journal of Physics: Conference Series   | 208      |
| 19 | Journal of the Mechanical Behavior of Biomedical Materials  | 208      |

| #  | Journal                          | Articles |
|----|----------------------------------|----------|
| 20 | Annals of Biomedical Engineering | 206      |

Total journals : 1338

## Conferences

| #  | Conference  | Articles |
|----|---|----------|
| 1  | 2014 36th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)              | 151      |
| 2  | 2013 35th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)              | 147      |
| 3  | 2015 37th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC). Proceedings | 137      |
| 4  | 2016 38th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)              | 129      |
| 5  | 2018 40th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)              | 120      |
| 6  | 2020 42nd Annual International Conference of the IEEE Engineering in Medicine & Biology Society (EMBC)                | 112      |
| 7  | 2019 41st Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)              | 107      |
| 8  | 2017 International Conference on Rehabilitation Robotics (ICORR)  | 94       |
| 9  | 2017 39th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)              | 72       |
| 10 | 2013 6th International IEEE/EMBS Conference on Neural Engineering (NER 2013)  | 67       |
| 11 | 2019 IEEE 16th International Conference on Rehabilitation Robotics (ICORR)  | 59       |
| 12 | 2015 7th International IEEE/EMBS Conference on Neural Engineering (NER). Proceedings                                  | 57       |
| 13 | 2018 7th IEEE International Conference on Biomedical Robotics and Biomechatronics (Biorob)                            | 52       |
| 14 | 2020 8th IEEE RAS/EMBS International Conference for Biomedical Robotics and Biomechatronics (BioRob)                  | 46       |
| 15 | 2019 9th International IEEE/EMBS Conference on Neural Engineering (NER)   | 45       |
| 16 | 2014 IEEE Biomedical Circuits and Systems Conference (BioCAS). Proceedings  | 38       |
| 17 | 2017 IEEE Biomedical Circuits and Systems Conference (BioCAS)   | 31       |
| 18 | 2017 8th International IEEE/EMBS Conference on Neural Engineering (NER)   | 29       |
| 19 | 2014 40th Annual Northeast Bioengineering Conference (NEBEC)  | 27       |
| 20 | 2018 IEEE Biomedical Circuits and Systems Conference (BioCAS)   | 25       |

Total conferences : 2301

## Related controlled terms

| #  | Controlled terms                       | Articles |
|----|--|----------|
| 1  | <a href="#">prosthetics</a>            | 16852    |
| 2  | <a href="#">biomedical materials</a>   | 8594     |
| 3  | <a href="#">orthopaedics</a>           | 3598     |
| 4  | <a href="#">stents</a>                 | 1599     |
| 5  | <a href="#">orthotics</a>              | 1297     |
| 6  | <a href="#">handicapped aids</a>       | 1211     |
| 7  | <a href="#">patient rehabilitation</a> | 1174     |
| 8  | <a href="#">artificial limbs</a>       | 712      |
| 9  | <a href="#">artificial organs</a>      | 606      |
| 10 | <a href="#">cochlear implants</a>      | 599      |
| 11 | <a href="#">hydrogels</a>              | 573      |

| #  | Controlled terms                          | Articles |
|----|---|----------|
| 12 | <a href="#">prosthetic power supplies</a> | 536      |
| 13 | <a href="#">neuromuscular stimulation</a> | 438      |
| 14 | <a href="#">pacemakers</a>                | 437      |
| 15 | <a href="#">hearing aids</a>              | 416      |
| 16 | <a href="#">contact lenses</a>            | 216      |
| 17 | <a href="#">defibrillators</a>            | 126      |
| 18 | <a href="#">ophthalmic lenses</a>         | 110      |
| 19 | <a href="#">wearable robots</a>           | 99       |
| 20 | <a href="#">sensory aids</a>              | 9        |

Total terms : 20

### Related Subject classifications

| # | Parent   |
|---|--|
| 1 | <a href="#">A8770 - Biomedical engineering</a> |

Total codes : 1

| # | Siblings  | Articles |
|---|---|----------|
| 1 | <a href="#">A8770M - Biomedical materials</a>   | 0        |
| 2 | <a href="#">A8770F - Electrodiagnostics and other electrical measurement techniques</a> | 0        |
| 3 | <a href="#">A8770G - Patient care and treatment</a>                                     | 0        |
| 4 | <a href="#">A8770E - Patient diagnostic methods and instrumentation</a>                 | 0        |
| 5 | <a href="#">A8770H - Radiation therapy</a>  | 0        |

Total codes : 5

| # | Children | Articles |
|---|----------|----------|
|   |          |          |

Total codes : 0