RANKING OF HUNGARIAN SCIENTISTS USING H-INDEX

Gyula Mester*

Óbuda University – Doctoral School of Safety and Security Sciences
Budapest, Hungary

ABSTRACT

The article presents the latest ranking list of Hungarian scientists in 2023. The ranking is presented primarily according to the h-index of scientists. Scientists with the same h-index are ranked by the number of citations. We present the top 34 Hungarian scientists with the minimum h-index 104. h-index can be determined from the following online databases: Web of Science, Scopus, Google Scholar and the Publish or Perish program. The ranking is edited using the Google Scholar database. We also present the Orcid ID number of scientists. The first chapter is the introduction, in the second chapter we present the latest ranking list of Hungarian scientists in 2023, the third chapter is the conclusions.

KEY WORDS

Hungarian scientists, Google Scholar, h-index, citations, Orcid ID

CLASSIFICATION

ACM: K.4.2
JEL: Z19

*Corresponding author, η: drmestergyula@gmail.com; -;

INTRODUCTION

The article presents the latest ranking list of Hungarian scientists using h-index in 2023.

Indexes in Scientometrics are based on citations. However, in contrast to the journal impact factor, which gives only the ranking of the scientific journals, ordered by impact factor, indexes are suitable for ranking of:

- scientists,
- scientific journals,
- countries.

An effective way to measure scientific performance is to measure citations, because if someone is cited a lot by other scientists, they are probably a better scientist. The ranking is presented primarily according to the h-index of Hungarian scientists.

The h-index is the largest h number, indicating that h number of publications contain at least h citations, h-index can be determined from the following online databases: Web of Science, Scopus, Google Scholar and the Publish or Perish program. The h-index, also known as the Hirsch index, is based on citations. The h-index was published by physicist Jorge E. Hirsch (University of California, San Diego) in 2005:

"A scientist has index h if h of his/her N articles have at least h citations each, and the other $(N-h)$ articles have no more than h citations each" [1].

The h-index was originally proposed by Hirsch to compare individual performance only, but it can also be used to compare the h-index of:

- research groups,
- journals,
- disciplines,
- institutions,
- countries.

The advantage the h-index is that it combines both the:

- quantity – number of articles,
- quality – citations to these articles.

A researcher cannot have a high h-index without publishing a considerable number of articles. The h-index favours researchers that publish a continuous stream of articles.

The original h-index does not distinguish between dependent and independent citations, i.e., it also takes self-citations into account. The ranking is edited using the Google Scholar database [2].

Scientists with the same h-index are ranked by the number of citations. We present the top 34 scientists in the ranking list of Hungarian scientists with the minimum h-index 104.

The article is organized as follows:

- in Section 1 the Introduction is given,
- in Section 2 the ranking list of Hungarian scientists in 2023 is presented,
- conclusions are given in Section 3.

THE LATEST RANKING LIST OF HUNGARIAN SCIENTISTS IN 2023

The latest ranking list of Hungarian scientists in 2023 is presented primarily according to the scientists h-index. The ranking has been constructed using the Google Scholar database. Scientists with matching h-index are ranked by the number of citations [3-8].

34 scientists are included in the ranked list [9, 10]. The minimum h-index of the ranked scientists is 104. We also present the Orcid ID number of the scientists. The ranking list is the following:

1. Gábor I. Veres
   h-index = 221, 227 861 citations, Orcid ID: 0000-0002-5440-4356

   Gábor I. Veres
   FOLLOW
   Eötvös Loránd Tudományegyetem
   Verified email at ludens.elte.hu
   részecskefizika

   Cited by

	All
Citations	227861
h-index	221

2. Daniel Dobos
   h-index = 210, 212 543 citations, Orcid ID: 0000-0001-5343-5583

   Daniel Dobos
   FOLLOW
   Other names ▸
   CERN, University of Lancaster, Swisscom
   Verified email at cern.ch
   Particle Physics   AI/ML/QML   Graph Analytics

   Cited by

	All
Citations	212543
h-index	210

3. Gabriella Pasztor
   h-index = 205, 293 487 citations, Orcid ID: 0000-0003-0707-9762

   Gabriella Pasztor
   FOLLOW
   Senior Research Fellow, Eötvös Loránd University, Budapest
   Verified email at ttk.elte.hu - Homepage
   Particle Physics

   Cited by

	All
Citations	293487
h-index	205

4. Zoltán Trócsányi
   h-index = 196, 203 552 citations, Orcid ID: 0000-0002-2129-1279

   Zoltán Trócsányi
   FOLLOW
   Institute of Physics, ELTE Eotvos Lorand University, Budapest, Hungary
   Verified email at ttk.elte.hu - Homepage
   Particle physics   Beyond Standard Model   Quantum Chromodynamics   Phenomenology

   Cited by

	All
Citations	203552
h-index	196

5. Dezso Horvath
   h-index= 194, 211 244 citations, Orcid ID: 0000-0003-0091-477X

   Dezso Horvath
   FOLLOW
   Unknown affiliation
   Verified email at rmki.kfki.hu - Homepage
   Physics

   Cited by

	All
Citations	211244
h-index	194

6. Ferenc Jolesz
   h-index = 168, 89 095 citations, Orcid ID: -

   Ferenc Jolesz M.D.
   FOLLOW
   Harvard Medical School, Brigham and Women's Hospital
   Verified email at bwh.harvard.edu - Homepage
   First interest Neuroscience   Second interest Magnetic r…   Third Interest Image-guided…

   Cited by

	All
Citations	89095
h-index	168

7. Peter Fonagy
   h-index = 167, 141 629 citations, Orcid ID: 0000-0003-0229-0091

   Peter Fonagy
   FOLLOW
   University College London, The Anna Freud Centre
   Verified email at ucl.ac.uk
   Borderline personality disor…   psychotherapy outcomes   attachment theory   psychoanalysis

   Cited by

	All
Citations	141629
h-index	167

8. **Gyorgy Buzsaki**
   h-index = 167, 132 654 citations, Orcid ID: 0000-0002-3100-4800

Gyorgy Buzsaki

NYU Neuroscience Institute
Verified email at nyumc.org - Homepage
Systems Neuroscience

FOLLOW

Cited by

	All
Citations	132654
h-index	167

9. **Albert-László Barabási**
   h-index = 163, 277 890 citations, Orcid ID: 0000-0002-4028-3522

Albert-László Barabási

Northeastern University, Harvard Medical School
Verified email at neu.edu - Homepage
network science   statistical physics   biological physics   physics   medicine

FOLLOW

Cited by

	All
Citations	277890
h-index	163

10. **Csaba Szabo**
    h-index = 145, 82 986 citations, Orcid ID: 0000-0003-3110-4235

Csaba Szabo

Professor, Chair of Pharmacology, University of Fribourg, Switzerland
Verified email at unifr.ch - Homepage
pharmacology   nitric oxide   hydrogen sulfide   PARP   mitochondria

FOLLOW

Cited by

	All
Citations	82986
h-index	145

11. **József Pálinkás**
    h-index = 141, 121 656 citations, Orcid ID: -

József Pálinkás

Institute of Nuclear Research of the Hungarian Academy of Sciences
Verified email at atomki.hu - Homepage
particle physics

FOLLOW

Cited by

	All
Citations	121656
h-index	141

12. **Mate Csanad**
    h-index = 139, 77 174 citations, Orcid ID: 0000-0002-3154-6925

Mate Csanad

Eötvös Loránd University
Verified email at elte.hu - Homepage
Particle physics   nuclear physics   heavy ion phyics   high energy physics

FOLLOW

Cited by

	All
Citations	77174
h-index	139

13. **Ferenc Siklér**
    h-index = 137, 104 811 citations, Orcid ID: 0000-0001-9608-3901

Ferenc Siklér

Research professor at Wigner RCP, Budapest
Verified email at wigner.hu - Homepage
Experimental particle physics

FOLLOW

Cited by

	All
Citations	104811
h-index	137

14. **Steve Horvath**
    h-index = 134, 98 827 citations, Orcid ID: 0000-0002-4110-3589

Steve Horvath

Professor of Human Genetics and Biostatistics, University of California, Los Angeles
Verified email at mednet.ucla.edu
Bioinformatics   Human Genetics   Biostatistics   Systems Biology   Network Analysis

FOLLOW

Cited by

	All
Citations	98827
h-index	134

15. Peter Levai
h-index = 132, 78 741 citations, Orcid ID: 0009-0006-9345-9620

Peter Levai
MTA Wigner RCP, Budapest, Hungary
Verified email at wigner.hu
Theoretical nuclear physics   Heavy ion collisions   Quark-gluon plasma

FOLLOW

Cited by

	All
Citations	78741
h-index	132

16. Peter Mészáros
h-index = 130, 68 206 citations, Orcid ID: 0000-0003-0123-2674

Peter Mészáros
Pennsylvania State University
Verified email at psu.edu - Homepage
High energy and particle as…

FOLLOW

Cited by

	All
Citations	68206
h-index	130

17. Peter Somogyi
h-index = 120, 49 972 citations, Orcid ID: 0000-0001-7650-684X

Peter Somogyi
University of Oxford
Verified email at pharm.ox.ac.uk - Homepage
Neuroscience

FOLLOW

Cited by

	All
Citations	49972
h-index	120

18. Tamas L. Horvath
h-index = 118, 57 456 citations, Orcid ID: -

Tamas L. Horvath
Yale University
Verified email at yale.edu

FOLLOW

Cited by

	All
Citations	57455
h-index	118

19. Zsuzsa Marka
h-index = 117, 95 907 citations, Orcid ID: -

Zsuzsa Marka
Columbia Astrophysics Laboratory, Columbia University in the City of New York
Verified email at astro.columbia.edu - Homepage
Multimessenger   Gravitational waves   Astrophysics   Astroparticle Physics   Biophysics

FOLLOW

Cited by

	All
Citations	95907
h-index	117

20. Imre Bartos
h-index = 117, 93 232 citations, Orcid ID: 0000-0001-5607-3637

Imre Bartos
University of Florida
Verified email at ufl.edu - Homepage
gravitational wave astrophy…   multi-messenger astrophysics   high-energy astroparticle p…

FOLLOW

Cited by

	All
Citations	93232
h-index	117

21. Andras Nagy
h-index = 116, 73 188 citations, Orcid ID: 0000-0003-4311-0413

Andras Nagy
Senior Scientist, Mount Sinai Hospital, Lunenfeld-Tanenbaum Research Institute
Verified email at lunenfeld.ca - Homepage
stem cells   regenerative medicine

FOLLOW

Cited by

	All
Citations	73188
h-index	116

22. Lajos Pusztai
h-index = 116, 68 086 citations, Orcid ID: 0000-0001-9632-6686

Lajos Pusztai
Yale School of Medicine
Verified email at yale.edu - Homepage
breast cancer

Cited by

	All
Citations	68086
h-index	116

23. Csaba P. Kovesdy
h-index = 116, 51 261 citations, Orcid ID = 0000-0002-8204-911X

Csaba P Kovesdy
University of Tennessee
Verified email at uthsc.edu

Cited by

	All
Citations	51261
h-index	116

24. Bencedi Gyula
h-index = 113, 43 395 citations, Orcid ID: 0000-0002-9040-5292

Bencedi Gyula
Research fellow at Wigner RCP
Verified email at wigner.hu
experimental particle physics

Cited by

	All
Citations	43395
h-index	113

25. Peter Falkai
h-index = 112, 49 749 citations, Orcid ID: 0000-0003-2873-8667

Peter Falkai
Professor of Psychiatry und Psychotherapy
Verified email at med.uni-muenchen.de - Homepage
Schizophrenia   Neuroimaging   Neurobiology

Cited by

	All
Citations	49749
h-index	112

26. Peter Raffai
h-index = 109, 86 148 citations, Orcid ID: 0000-0001-7576-0141

Peter Raffai
Institute of Physics, Eötvös Loránd University, 1117 Budapest, Hungary
Verified email at ttk.elte.hu - Homepage
physics   astrophysics   gravitational waves   cosmology

Cited by

	All
Citations	86148
h-index	109

27. Endre Nagy
h-index = 109, 45 489 citations, Orcid ID: 0000-0002-3863-4194

Endre Nagy
University of Pannonia
Verified email at mukki.richem.hu - Homepage
chemical and biochemical p…

Cited by

	All
Citations	45489
h-index	109

28. Zsolt Frei
h-index = 108, 88 204 citations, Orcid ID: 0000-0002-0181-8491

Zsolt Frei
Eötvös Loránd University
Verified email at ttk.elte.hu

Cited by

	All
Citations	88204
h-index	108

29. Zoltan Acs
h-index= 108, 74 437 citations, Orcid ID: 0000-0001-5284-0149

Zoltan Acs
George Mason University
Verified email at gmu.edu - Homepage
Innovation   entrepreneurship   economic geography   economic development   small business

FOLLOW

Cited by

	All
Citations	74437
h-index	108

30. Laszlo Lovasz
h-index = 108, 67 495 citations, Orcid ID: 0000-0001-6596-0465

Laszlo Lovasz
professor of mathematics, Eotvos University, Budapest
Verified email at cs.elte.hu - Homepage
discrete mathematics   combinatorics

FOLLOW

Cited by

	All
Citations	67495
h-index	108

31. Peter Daszak
h-index = 107, 65 980 citations, Orcid ID: 0000-0002-2046-5695

Peter Daszak
EcoHealth Alliance
Verified email at ecohealthalliance.org

FOLLOW

Cited by

	All
Citations	65980
h-index	107

32. Tamás Csörgő
h-index = 106, 47 927 citations, Orcid ID: 0000-0002-9110-9663

Tamás Csörgő
Scientific Advisor, Wigner RCP Budapest, and Research Professor, MATE Institute of Technology
Verified email at cern.ch - Homepage
theoretical nuclear physics   experimental nuclear physics   theoretical partice physics
experimental particle physics

FOLLOW

Cited by

	All
Citations	47927
h-index	106
i10-index	461

33. Robert Vertesi
h-index = 105, 43 293 citations, Orcid ID: 0000-0003-3706-5265

Robert Vertesi
Senior Researcher, Wigner RCP Budapest
Verified email at wigner.hu - Homepage
high-enery physics   heavy ions   jets   heavy flavor

FOLLOW

Cited by

	All
Citations	43293
h-index	105

34. Robert Vajtai
h-index = 104, 50 526 citations, Orcid ID: 0000-0002-3942-8827

Robert Vajtai
Rice University
Verified email at rice.edu
material science   nanomaterials

FOLLOW

Cited by

	All
Citations	50526
h-index	104

CONCLUSIONS

The article presents the top 34 researchers in the latest ranking list of Hungarian scientists in 2023. The ranking is presented primarily according to the h-index of scientists. Scientists with the same h-index are ranked by the number of citations.

The advantage the h-index is that it combines both the quantity – number of articles and quality – citations to these articles. The ranking is edited using the Google Scholar database. The minimum h-index for scientists is 104. We presented the scientists Orcid ID.

REFERENCES

[1] Hirsch, J.E.: *An Index to Quantify an Individual's Scientific Output*.
Proceedings of the National Academy of Sciences of the United States of America **102**, 16569-16572, 2005,
http://dx.doi.org/10.1073/pnas.0507655102,

[2] –: *Google Scholar*.
https://scholar.google.com, accessed 15th July 2023,

[3] Mester, G.: *The 2022 ranking list of citation analysis researchers using h-index*.
Interdisciplinary Description of Complex Systems **20**(6), 775-779, 2022,
http://dx.doi.org/10.7906/indecs.20.6.8,

[4] Mester, G.: *Rankings Scientists, Journals and Countries Using h-index*.
Interdisciplinary Description of Complex Systems **14**(1), 1-9, 2016,
http://dx.doi.org/10.7906/indecs.14.1.1,

[5] Mester, G.: *Measurement of new scientific results*. In Hungarian.
XXX Kandó Conference. Budapest, pp.1-10, 2014,

[6] Mester, G.: *Ranking of Croatian Researchers from Several Disciplines using Google Scholar Database*.
Interdisciplinary Description of Complex Systems **15**(2), 168-173, 2017,
http://dx.doi.org/10.7906/indecs.15.2.6,

[7] Mester, G.: *Higher Education World rankings 2011*. In Hungarian.
Proceedings of the Conference Informatika a felsőoktatásban. Debrecen, pp.269-277, 2011,

[8] Mester, G.: *Ranking Baltic States Researchers*.
Interdisciplinary Description of Complex Systems **15**(3), 174-179, 2017,
http://dx.doi.org/10.7906/indecs.15.3.1,

[9] Berek, L.: *A decade of predatory journals with an overview of the literature*.
Transactions on Advanced Research **18**(1), 4-8. 2022,

[10] Berek, L.: *How to Identify Predatory Journals? An idea of an Expert System*.
IPSI Transactions on Advanced Research **16**(2), 3-6, 2020.