

Włodzisław Duch

List of Publications, April 2020

[A list of talks](#) and [links to some presentations](#).

Other [on-line papers](#) of the [Department of Informatics](#),
Institute of Technical Sciences, [Faculty of Physics, Astronomy and Informatics](#)
| [Nicolaus Copernicus University](#).

[CV](#) | and some [DuchLab projects](#) (look here for selected papers on specific topics).

[Google list of videos](#) with my lectures.

[This list in PDF](#) | [papers by topics](#) | [Open all topics](#) | [conferences, past and planned](#) | [in PDF](#) | [Google Profile](#) | [arxiv page](#) | [ORCID ID](#) | [publikacje po polsku](#) (papers in Polish).

[Books](#) | [Papers in preparation](#) | [submitted](#) | [in print](#) | [2019](#) | [2018](#) | [2017](#) | [2016](#) | [2015](#) | [2014](#) | [2013](#) | [2012](#) | [2011](#) | [2010](#) | [2009](#) | [2008](#) | [2007](#) | [2006](#) | [2005](#) | [2004](#) | [2003](#) | [2002](#) | [2001](#) | [2000](#) | ...

5 Books

1. Mikołajewski D, Duch W, [Pień mózgu. Przybliżenie aspektów medycznych dzięki modelowaniu biocybernetycznemu](#). WN UMK 2017, hard cover ISBN 978-83-231-3942-3; soft: ISBN 978-83-231-3941-6
2. Duch W, Kucharski T, Gomuła J, Adamczak R, *Metody uczenia maszynowego w analizie danych psychometrycznych. Zastosowanie do wielowymiarowego kwestionariusza osobowości MMPI-WISKAD*. (Toruń, March 1999; 650 pp., ISBN 83-231-0986-9)
3. Duch W (1997) [Fascynujący świat programów komputerowych](#). (Nakom, Poznań, November 1997; 456 pp, ISBN 83-85060-92-8)
4. Duch W (1997) [Fascynujący świat komputerów](#). (Nakom, Poznań, 20 May 1997; 444 pp, ISBN 83-86969-09-1)
5. Duch W (1986) [Graphical representation of model spaces](#) see also [Google Books](#). Springer Verlag, Berlin Lecture Notes in Chem Vol. 42, 190 pp.

21 Edited Books

21. Stefan Wermter, Cornelius Weber, Włodzisław Duch, Timo Honkela, Petia Koprinkova-Hristova, Sven Magg, Günther Palm, Alessandro E.P. Villa (Eds.), [Artificial Neural Networks and Machine Learning](#) -- ICANN 2014 | [Show abstract](#)
Springer Lecture Notes in Computer Science, Vol. 8681, XXVI, 852 p. 338 illus.
20. Tadeusiewicz R, Korbicz J, Rutkowski L, Duch W (Eds), [Sieci neuronowe w inżynierii biomedycznej](#) | [Show abstract](#)
Wyd. Exit, Warszawa 2013, pp. 775.
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19. Villa, A.E.P, Duch, W, Érdi, P, Masulli, F, Palm, G, [Artificial Neural Networks and Machine Learning ICANN 2012, Part II](#)
Springer Lecture Notes in Computer Science, Vol. 7553, pp. XXVII, 587 p. 172 illus.
18. Villa, A.E.P, Duch, W, Érdi, P, Masulli, F, Palm, G, [Artificial Neural Networks and Machine Learning ICANN 2012, Part I](#)
Springer Lecture Notes in Computer Science, Vol. 7552, pp. XXVII, 739 p. 318 illus.
17. Honkela T, Duch W, Girolami M, Kaski S, [Artificial Neural Networks and Machine Learning Research. ICANN 2011, Part I](#)
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16. Honkela T, Duch W, Girolami M, Kaski S, [Artificial Neural Networks and Machine Learning Research. ICANN 2011, Part II](#)
Springer Lecture Notes in Computer Science, Vol. 6792, pp. 470
15. Jankowski N, Duch W, Grąbczewski K, [Meta-learning in Computational Intelligence](#). | [Show abstract](#)
Studies in Computational Intelligence, Vol. 358, 1st Edition, pp. X + 362. 127 illus, 76 in color, Springer 2011.
14. Diamantaras K, Duch W, and Iliadis L.S. (Eds.), [20th International Conference on Artificial Neural Networks \(ICANN 2010\), Part I](#),
Springer Lecture Notes in Computer Science, Vol. 6352, 2010, XXXI, 587 p., ISBN 978-3-642-15818-6 (print), 978-3-642-15819-3 (electronic).
13. Diamantaras K, Duch W, and Iliadis L.S. (Eds.), [20th International Conference on Artificial Neural Networks \(ICANN 2010\), Part II](#),
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12. Diamantaras K, Duch W, and Iliadis L.S. (Eds.), [20th International Conference on Artificial Neural Networks \(ICANN 2010\), Part III](#),
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11. Duch Włodzisław, Zhao Xiande, Gao Jinwu,
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10. Wang H-F, Neace M.B, Zhu Y, Duch W,
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9. Duch W, Mandziuk J (Eds.), [Challenges for Computational Intelligence](#).
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8. Marques de Sá, J, Alexandre L.A, Duch W, and Mandic D.P. (Eds.), [Proceedings of the 17th International Conference on Artificial Neural Networks \(ICANN 2007\), Part I](#), Springer Lecture Notes in Computer Science, Vol. 4668, 2007, XXXI, 978 pp. ISBN 978-3-540-74689-8.
7. Marques de Sá, J, Alexandre L.A, Duch W, and Mandic D.P. (Eds.), [Proceedings of the 17th International Conference on Artificial Neural Networks \(ICANN 2007\), Part II](#), Springer Lecture Notes in Computer Science, Vol. 4669, 2007, XXXI, 990 pp. ISBN 978-3-540-74693-5.
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4. Duch W, Kacprzyk J, Oja E, Zadrozny S (Eds), [Artificial Neural Networks: Biological Inspirations](#). Proceedings of the 15th International Conference on Artificial Neural Networks (ICANN 2005), Warsaw, Poland, September 11-15, 2005, Part I. Springer Lecture Notes in Computer Science, Vol 3696, 2005, XXXI, 703 pp. Softcover, ISBN: 3-540-28752-3.
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1. Duch W, *Engineering Applications of Neural Networks*. Proceedings of the 5th International Conference EANN'99, 13-15 September 1999, Warsaw, Poland
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1. Ratajczak E, Hajnowski M, Duch W. (2019). Bridging methodological gaps in HRV-biofeedback research with novel tools: sham control and training quality index reveals an initial placebo-influenced phase of biofeedback training. *Psychophysiology* (9/2019, revised 3/2020).

2. Joanna Dreszer, Marek Grochowski, Monika Lewandowska, Jan Nikadon, Joanna Gorgol, Bibianna Bałaj, Karolina Finc, Włodzisław Duch, Tomasz Piotrowski. (2019) Spatiotemporal Complexity Patterns of the Frontoparietal Network Predict Fluid Intelligence: Sex Matters. HBM (subm. 7/2019, in revision).
3. Bonna, Kamil; Finc, Karolina; Zimmermann, Maria; Bola, Łukasz; Szul, Maciej; Mostowski, Piotr; Rutkowski, Paweł; Duch, Włodzisław; Marchewka, Artur; Jednoróg, Katarzyna; Szwed, Marcin. Early deafness leads to re-shaping of global functional connectivity beyond the auditory cortex. Brain Imaging and Behaviour (sub. 12/2018, in revision)
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5. Ratajczak E, Dreszer J, Duch W. (2018). Changes of heart. The influence of HRV-biofeedback treatment on various conditions – a detailed review and experimental guide". In revision, Applied Psychophysiology and Biofeedback.
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2. Karolina Finc, Kamil Bonna, Xiaosong He, David Lydon-Staley, Simone Kühn, Włodzisław Duch and Danielle S. Bassett. (2020) Dynamic reconfiguration of functional brain network during working memory training. Nature Neuroscience (IF=21.1) (in print 2/2020), see also [bioRxiv preprint](#).
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341. Duch W. (2019), Autism Spectrum Disorder and deep attractors in neurodynamics | [Show abstract](#)
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345. O. Sokolov, V. Osińska, A. Mreła, W. Duch, M. Burak. (2019) [Scientists' Contribution to Science and Methods of Its Visualization](#).
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346. Rykaczewski, Krzysztof; Nikadon, Jan; Duch, Włodzisław; Piotrowski, Tomasz.
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149. Komorowski MK, Wojciechowski J, Nikadon J, Piotrowski TJ, Dreszer J, Duch W (2019) Spectral Fingerprints: identification accuracy of regions of the human brain varies with an analyzed dataset - a MEG and EEG data study.
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332. Duch W. (2018), [Kurt Lewin, psychological constructs and sources of brain cognitive activity](#). | [Show abstract](#)
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133. Miriam Kosik, Karolina Finc, Kamil Bonna, Simone Kühn, Włodzisław Duch. *Brain Functional Network Alterations Due to Increasing Demands of Visuospatial and Auditory Working Memory Task*.
[Network Neuroscience](#), Paris 11.06.2018, P. 5

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136. Karolina Finc, Kamil Bonna, Miriam Kosik, Włodzisław Duch and Simone Kühn (2018). *Dynamics and plasticity of functional brain networks. ?* University of Washington eScience Institute, Seattle, USA, poster.
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146. Michał Komorowski; J Wojciechowski; J Nikadon; T Piotrowski; J Dreszer, W Duch, *Recognizing cortical and deep sources of human brain activity from resting-state EEG spectral fingerprints*.

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147. Michał Komorowski; J Wojciechowski; J Nikadon; T Piotrowski; J Dreszer, W Duch, *Klasyfikacja struktur korowych i podkorowych na podstawie sygnału EEG za pomocą metody Spectral Fingerprints*. pp. 11

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148. Marcin Hajnowski; Mateusz Stawicki; Ewa Ratajczak; Michał Meina; Włodzisław Duch. *Trening idealny*. pp. 48

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In this paper I have proposed to measure correlations between pairs of particles in a double Mach-Zehnder experiment. I did send it to two journals and then gave up, referees found it "seriously flawed" and "completely wrong". Unfortunately I had no time or energy to push the paper through

the refereeing procedure. Yet in 1993 experiment had been done confirming all predictions and the excitement about entangled systems continues to this day, see my letter to [Physics Today here](#).

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- Duch W (1978) [Tradycje Wschodu: Buddyzm](#). Przekrój N.1747, 1/10/1978
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Patents

1. [Processing clinical text with domain-specific spreading activation methods](#).
US Patent Application No. 12/006.813 (April 2008), published 2015, granted and published 6.01.2016, Patent 8,930,178 B2.
co-authors: John Pestian, Paweł Matykiewicz, Włodzisław Duch, Tracy Glauser, Robert Kowatch, Jackie Grupp-Phelan; granted in Oct 25, 2016, U.S. No. 9,477,655 [Processing Text with Domain-Specific Spreading Activation Methods](#).
2. Włodzisław Duch, Bibianna Bałaj, Joanna Dreszer-Drogorób, Oleksandr Sokolov, Tomasz Komendziński, Jacek Matulewski, Dariusz Mikołajewski, Tomasz Piotrowski, Michał Meina System do wspomaganie rozwoju percepcyjno-poznawczego niemowląt i małych Dzieci (System supporting perceptual-cognitive development of infants and babies), Zgłoszenie Patentowe PL P411648 (2015).
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Summary (all contributions, without books and papers in preparation):

14 papers in 1977-79;

62 papers in 1980-89;

59 papers in 1990-95,

79 papers in 1996-99, razem 214

89 papers in 2000-03, razem 303

9 papers in 2004,

17 papers in 2005,

13 papers in 2006,

20 papers in 2007

25 papers in 2008

16 papers in 2009

20 papers in 2010

19 papers in 2011

16 papers in 2012

21 papers in 2013

17 papers in 2014

12 papers in 2015

25 papers in 2016

12 papers in 2017

Total 570 contributions at the end of 2017 (including some posters and abstracts)