

# Włodzisław Duch

## List of Publications, October 2018

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

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

Some [DuchLab projects](#) (look here for selected papers on specific topics).

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

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

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## 5 Books

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## 21 Edited Books

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<b>Submitted</b>	<b>Submitted</b>	<b>Submitted</b>	<b>Submitted</b>	<b>Submitted</b>
<b>and</b>	<a href="#"><u>in preparation</u></a>			

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1. Duch W.  
Multi-level Explanations in Neuroscience I: From genes to subjective experiences(sub. to APPB 10/2018).  
Presented at the Cracow School of Theoretical Physics, LVIII Course, Zakopane, 15-23 June 2018. Neuroscience: Machine Learning Meets Fundamental Theory.
2. Komorowski M, Aghabeig M, Nikadon J, Piotrowski T, Dreszer J, Bałaj B, Lewandowska M, Wojciechowski J, Pawlaczyk N, Szmytke M, Cichocki A, and Duch W.  
Multi-level Explanations in Neuroscience II: EEG Spectral Fingerprints and Tensor Decompositions for Understanding Brain Activity - initial results (sub. to APPB 10/2018).  
Presented at the Cracow School of Theoretical Physics, LVIII Course, Zakopane, 15-23 June 2018. Neuroscience: Machine Learning Meets Fundamental Theory.

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. *Human Brain Mapping* (sub. 9/2018)
4. Duch W.  
Meta-analizy w badaniach nad nabywaniem języka. *Psychologia Rozwojowa* (12 pp, sub. 2018).
5. M. Gut et al. Dyscalculia. *Frontiers in Psychology*, special issue "On the Development of Space-Number Relations: Linguistic and Cognitive Determinants, Influences, and Associations" (in revision, 2018).
6. 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*.
7. Ratajczak E, Duch W. (2015). Global warning: Psychology and psychopathology of modern changing environment. (in submission).

**In print   In print   In print   In print   In print   In print   In print   In print**

1. Duch, W. Mind as a shadow of neurodynamics. [Physics of Life Reviews](#), Special Issue "Physics of mind", Ed. F. Schoeller
2. Duch W. (2017), [Autism Spectrum Disorder and deep attractors in neurodynamics](#) | [Show abstract](#)  
Book chapter, Springer Handbook of Multi-Scale Models of Brain Disorders: From Microscopic to Macroscopic Assessment of Brain Dynamics (accepted, in print).

**2018   2018   2018   2018   2018   2018   2018   2018**  
**2018   2018**

329. Duch W. (2018), [Kurt Lewin, psychological constructs and sources of brain cognitive activity](#) | [Show abstract](#)  
Polish Psychological Forum 23(1), 5-19.  
Presented at: XXVI Psychology Colloquium, Polish Academy of Science "Brain-behavior relations in psychology", June 2017.  
[arXiv:1711.01767](#), [Neurons and Cognition](#)

330. O. Sokolov, W. Osińska, A. Mreła, W. Duch. (2018) *Modeling of scientific publications disciplinary collocation based on optimistic fuzzy aggregation norms*. Advances in Intelligent Systems and Computing, Vol. 853, pp. 145-153
331. Mikołajewski D, Duch W. (2018) [Brain stem modeling at a system level – chances and limitations](#). Bio-Algorithms and Med-Systems 20180015. DOI: <https://doi.org/10.1515/bams-2018-0015>
332. Duch W. [Separability is not the best goal for machine learning](#). cs arXiv preprint, arXiv:1807.02873
333. Duch W. [Eliminatywizm i konstrukty psychologiczne](#). | [Show abstract](#) Rozdział w książce "Filozof w Krainie Umysłów", dedykowany Andrzejowi Klawiterowi z okazji 45-lecia pracy naukowej. Wyd. Naukowe Wydziału Nauk Społecznych UAM, Poznań, pp. 201-216, 2018.
334. Boruta, M., Dreszer, J., Pawlaczyk, N., Kmiecik, M., Grzybowska, M., Ignaczewska, A., Duch, W. (2018). [Gestures reflected – tracing gestural development from a child's EEG signal](#). In: Cuskley, C., Flaherty, M., Little, H., McCrohon, L., Ravignani, A. & Verhoef, T. (Eds.): The Evolution of Language: Proceedings of the 12th International Conference (EVO LANG XII). doi:10.12775/3991-1.010
335. Jacek Matulewski, Bibiana Bałaj, Ewelina Marek, Łukasz Piasecki, Włodzisław Duch. *MovEye: Gaze Control of Video Playback*. ACM Symposium on Eye Tracking Research and Applications (ETRA 2018), Symposium on Communication by Gaze Interaction (COGAIN), Warsaw 14-17.06.2018.

#### Conference posters and abstracts

1. 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
2. Karolina Finc, Miriam Kosik, Kamil Bonna, Włodzisław Duch and Simone Kühn. *Task-related functional network reconfiguration following 6-week working memory training*. [Network Neuroscience](#), Paris 11.06.2018, P15
3. Kamil Bonna, Karolina Finc, Miriam Kosik, Włodzisław Duch, Simone Kühn. *Short and Long-Term Changes of Functional Network Segregation Over the Course of Working Memory Training*. [Network Neuroscience](#), Paris 11.06.2018, P19
4. Komorowski M, Wojciechowski J, Nikadon J, Piotrowski T, Dreszer J, Duch W, *EEG Spectral Fingerprints as a method for classifying different regions of the human brain – initial results*. [11th Conference on Electrophysiological Techniques in Bioelectricity Research](#): from Ion Channels to Neural Networks, pp. 21. Warsaw,

Nencki Institute of Experimental Biology of the Polish Academy of Sciences, 25-26.05.2018.

5. Julia Rodkiewicz, Małgorzata Gut, Łukasz Goraczewski, Jacek Matulewski, Karolina Finc, Katarzyna Mańkowska, Dominika Ciechalska, Aleksandra Mielewczyk, Natalia Witkowska, Natalia Sobolewska, Jakub Słupczewski, Marta Szymańska and Włodzisław Duch. *The effect of cognitive and cognitive-motor training with the use of mathematical computer game "Kalkulilo" on the number line estimation and number magnitude comparison*, | [Show abstract](#) [Neuronus 2018](#), IBRO Science Forum, Kraków 20-22.04.2018, pp. 129-130.
6. Karolina Finc, Miriam Kosik, Kamil Bonna, Włodzisław Duch, Simone Kühn. *Task-based functional network changes following 6-week working memory training*. [Neuronus 2018](#), IBRO Science Forum, Kraków 20-22.04.2018, pp. 127.
7. Małgorzata Gut, Łukasz Goraczewski, Karolina Finc, Jacek Matulewski, Anna Walerzak-Więckowska, Włodzisław Duch. *Number line estimation strategies used by children with dyscalculia and healthy controls*. [Neuronus 2018](#), IBRO Science Forum, Kraków 20-22.04.2018, pp. 129.
8. Julia Rodkiewicz, Małgorzata Gut, Jacek Matulewski, Łukasz Goraczewski, Karolina Finc, Katarzyna Mańkowska, Dominika Ciechalska, Aleksandra Mielewczyk, Natalia Witkowska, Natalia Sobolewska, Jakub Słupczewski, Marta Szymańska, Włodzisław Duch. *The effect of cognitive and cognitive-motor training with the use of mathematical computer game "Kalkulilo" on the number line estimation and number magnitude comparison*. [Neuronus 2018](#), IBRO Science Forum, Kraków 20-22.04.2018, pp. 129.
9. Miriam Kosik, Karolina Finc, Kamil Bonna, Włodzisław Duch, Simone Kühn. *Exploring working memory modalities - functional network alterations due to increasing demands of visuospatial and auditory working memory tasks*. [Neuronus 2018](#), IBRO Science Forum, Kraków 20-22.04.2018, pp. 131.
10. 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*. [Neuronus 2018](#), IBRO Science Forum, Kraków 20-22.04.2018, pp. 134.
11. 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 [VI Neuromania conference](#), Toruń 2-4.06.2018
12. Marcin Hajnowski; Mateusz Stawicki; Ewa Ratajczak; Michał Meina; Włodzisław Duch. *Trening idealny*. pp. 48 [VI Neuromania conference](#), Toruń 2-4.06.2018

Popular science (in Polish)

1. Duch W, [Naukowa ślepotą](#). [Pauza Akademicka](#) 435, 6.09.2018, str. 2-3.

2. Duch W. [Fizyka, Informatyka i Kognitywistyka](#). Głos Uczelni 1/2018.
3. Duch W. [Honorowy Doktorat dla Informatyka](#). Głos Uczelni 2/2018, str 7-8.

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**2017    2017    2017    2017    2017    2017    2017    2017**  
**2017    2017**

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324. Finc K, Bonna K, Lewandowska M, Wolak T, Nikadon J, Dreszer J, Duch W, Kühn S. (2017) [Transition of the functional brain network related to increasing cognitive demands](#). | [Show abstract](#)  
Human Brain Mapping 38(7), 3659–3674, DOI: 10.1002/hbm.23621
325. Duch W. (2017) [Why minds cannot be received, but are created by brains](#) | [Show abstract](#)  
[Scientia et Fides](#) 5(2), 1-28.
326. Linowiecki R, Matulewski J, Bałaj B, Ignaczewska A, Dreszer J, Duch W. (2017) *GCAF: Narzędzie do tworzenia eksperymentów dotyczących badania nabywania mowy i treningu z interakcją wzrokową u niemowląt*.  
[Lingwistyka Stosowana \(Applied Linguistics / Angewandte Linguistik\)](#) 20, 83-99.
327. Duch W, [Którędy do cyfrowego świata?](#)  
[Pauza Akademicka](#) 1.06.2017, p. 3
328. Duch W. [Czy neuronauki pomogą nam rozwinąć pełny potencjał?](#)  
Głos Uczelni 5/2017, str 12-16.

Posters presented at conferences in 2017

1. Finc, K, Bonna, K, Lewandowska, M, Wolak, T, Nikadon, J, Dreszer, J, Duch, W, Kühn, S. (2017) Default Mode Network Role in Global Workspace Formation During Increasing Cognitive Demands. Keystone Symposia: Connectomics, Santa Fe (USA), invited talk and poster.
2. Bonna, K, Finc, K., Duch, W. (2017) Discovering generative model of human connectome by symbolic regression. Keystone Symposia: Connectomics, Santa Fe (USA)
3. Ratajczak E, Hajnowski M, Fojutowska J, Stawicki M, Szczęsny P, Dreszer-Drogorób J, Duch W.  
[Achievement or approach? Is psychophysiological stress upon divergent thinking related to task performance or to trait anxiety?](#) (Aspects of Neuroscience 2017)
4. Gut M, Goraczewski Ł, Matulewski J, Finc K, Mańkowska K, Babiuch K, Ciechalska D, Mielewczyk A, Poczopko K, Witkowska N, Duch W. (2017)  
*The cognitive-motor training in development of a mental number line with the use*

of the mathematical computer game "Kalkulilo". [European Congress of Psychology](#), Amsterdam 2017.

5. Joanna Dołycka, Agnieszka Ignaczewska, Joanna Dreszer, Bibiana Bałaj, Jacek Matulewski, Rafał Linowiecki, Bartosz Rafał, Włodzisław Duch. (2017)  
*Użycie eye-trackera w badaniach nad słuchem fonematycznym niemowląt między 8. a 12. miesiącem życia*. Neuromania, Toruń, 27-28.05
6. Joanna Dołycka, Agnieszka Ignaczewska, Joanna Dreszer, Bibiana Bałaj, Włodzisław Duch. (2017)  
*Różnice widoczne w słuchu fonematycznym między osobami dorosłymi a niemowlętami do 12. miesiąca życia*. Neuromania, Toruń, 27-28.05
7. Dygasiewicz M., Kępiński D., Joachimiak M., Duch W. (2017)  
*System wirtualnej rzeczywistości wspomagający rehabilitację osób wybudzonych ze śpiączki*. Neuromania, Toruń, 27-28.05

Notes on science:

1. Duch W, [Ocena nauki czy jednostek naukowych? Pauza Akademicka](#) 372, 16.02.2017

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**2016    2016    2016    2016    2016    2016    2016    2016**  
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319. Gravier A, Quek H.C, Duch W, Abdul Wahab, Gravier-Rymaszewska J.  
[Neural network modelling of the influence of channelopathies on reflex visual attention](#).  
[Cognitive Neurodynamics](#) 10(1), 49-72, 2016.
320. Duch W. (2016). Muzyka a wyobraźnia: Mózgowe preludium (*Cognitive Science and Music*).  
[Słyszę 4\(150\)](#), pp. 50-51, 2016.  
Presented at International Scientific Conference [Hearing Implants and Music](#),  
World Hearing Center, Kajetany near Warsaw, 16.07.2015
321. Duch W, Wyzwania Polityki Naukowej w Polsce.  
[Zagadnienia Naukoznawstwa](#) 1(207), 2016, pp. 135-143  
Uwagi wygłoszone na panelu dyskusyjnym „Współczesne wyzwania dla naukoznawcy w świetle polityki naukowej, jak i refleksji filozoficznej”, Poznań, 18.09.2015.
322. Duch W, [Where will the neurosciences lead us?](#)  
Interfaces, codes, symbols. The future of communication. City of the Future /  
Laboratory Wrocław. E-book chapter, pp. 204-222, 2017

323. Duch W, [Gdzie nas zaprowadzą neuronauki?](#)  
Interfejsy, kody, symbole. Przyszłość komunikowania. Miasto Przyszłości /  
Laboratorium Wrocław (rozdział ebooka), str 20-39. ISBN: 978-83-946602-8-4
324. Gut M, Goraczewski Ł, Matulewski J, Finc K, Ignaczewska A, Bałaj B, Dreszer J, Kmieciak M, Stępińska J, Majewski J, Bendlin E, Cholewa P, Duch W. (2016)  
*Trening poznawczy przy użyciu komputerowej gry matematycznej a przetwarzanie informacji numerycznej u dzieci – wyniki badań pilotażowych.* Rozdział w książce:  
[Cywilizacja zabawy, rozrywki i wypoczynku.](#) M. Suchacka (red.), Wydawnictwo E-bookowo, str. 57-83.

Posters presented at the Neuromania conference, Toruń 28-28.05.2016

1. Fojutowska J, Szczęsny P, Ratajczak E, Wojciechowski J, Szczypiński J, Dreszer J, Duch W.  
[Aktywność przedczołowa w procesach twórczych – badanie techniką EEG.](#)
2. Mańkowska K, M. Gut, J. Matulewski, Ł. Goraczewski, K. Finc, M. Kmieciak, N. Witkowska D. Sebastian, A. Mielewczyk, E. Sobiechowski, K. Poczopko, K. Babiuch, J. Majewski, P. Cholewa, E. Bendlin, W. Duch.  
[Kształtowanie mentalnej reprezentacji osi liczbowej](#) pod wpływem edukacyjno-terapeutycznej gry komputerowej „Kalkulilo”.
3. Mielewczyk A, Gut M, Matulewski J, Finc K, Goraczewski Ł, Kmieciak M, Mańkowska K, D. Sebastian, Sobiechowski E, Witkowska N, Duch W.  
[Operowanie różnymi formatami liczb i zależności numeryczno-przestrzenne u dzieci w wieku wczesnoszkolnym.](#)
4. Rafał B, Dreszer J, Bałaj B, Matulewski J, Ignaczewska A, Duch W.  
[Wzrokowa reakcja antycypacyjna u niemowląt.](#)
5. Ratajczak E, Wojciechowski J, Fojutowska J, Szczęsny P, Szczypiński J, Bałaj B, Dreszer J, Duch W.  
[Twórczy intelekt?](#) Neuroobrazowanie zależności między kreatywnością a inteligencją płynną techniką EEG.
6. Stawicki M, Szreder K, Ratajczak E, Dreszer J, Duch W.  
[Odzwierciedlenie poziomu odczuwanego stresu oraz lęku w zmienności rytmu serca.](#)
7. Stawicki M, Ratajczak E, Dreszer J, Duch W.  
[Zmienności rytmu serca a poziomu odczuwanego stresu.](#)
8. Wojciechowski J, Jan Szczypiński, Ewa Ratajczak, Julita Fojutowska, Joanna Dreszer, Bibiana-Bałaj, Duch W.  
[Kontrola zachowania a aktywność spoczynkowa mózgu.](#)

Posters presented at the Neuronus conference, Kraków 22-24.04.2016

9. Fojutowska J, Ratajczak E, Szczęsny P, Wojciechowski J, Szczypiński J, Bałaj B, Dreszer J, Duch W.  
[Frontal complexity: higher variability correlates with lower creativity and lower HRV.](#)
10. Kmieciak M, Goraczewski Ł., Matulewski, J., Gut, M., Finc, K., Ignaczewska, A., Stępińska, J., Bałaj, B., Dreszer J., Majewski, J., Bendlin, E., Cholewa, P., Duch, W.

[The cognitive training with the game “Kalkulilo” and mathematical abilities in children](#) – the preliminary results of a pilot study.

11. Szczęsny P, Ratajczak E, Fojutowska J, Wojciechowski J, Szczypiński J, Bałaj B, Dreszer J, Duch W.  
[Heart Rate Variability dynamics as a psychophysiological marker of temperament and anxiety.](#)
12. Szczypiński J., Wojciechowski J., Fojutowska J., Szczęsny P., Dreszer J., Ratajczak E., Duch W.  
[Behavioral control linked to resting-state EEG complexity.](#)

Remaining posters 2016

13. Fojutowska J., Ratajczak E., Szczęsny P., Dreszer J., Duch W.  
[Divergent thinking and Heart Rate Variability Biofeedback](#) (Aspects of Neuroscience, Warsaw, 25-27.11.2016)
14. Ratajczak E., Szczęsny P., Fojutowska J., Dreszer-Drogorób J., Duch W.  
[HRV-biofeedback: the effects of session count on psychophysiological functioning](#) – preliminary results. (Aspects of Neuroscience 2016)
15. Szczypiński J, Wojciechowski J, Ratajczak E, Fojutowska J, Bałaj B, Dreszer-Drogorób J, Duch W.  
[Is brain neurodynamics tied to self-control?](#) (Aspects of Neuroscience 2016)
16. Ignaczewska A, Dreszer J, Bałaj B, Matulewski J, Linowiecki R, Duch W.  
[Badanie słuchu fonematycznego niemowląt – zastosowanie procedury z wykorzystaniem eyetrackera](#) (IV Polska Konferencja Eyetrackingowa, 7-8.04.2016).
17. Mikołajewski D, Duch W.  
[Computational models for understanding of the role of brainstem in disorders of consciousness](#) (4th Baltic-Nordic Summer School on Neuroinformatics, BNNI 2016)
18. Ratajczak E, Szczypiński J, Wojciechowski J, Fojutowska J, Szczęsny P, Bałaj B, Dreszer J, Duch W.  
[Creative intellect? An EEG study of creativity and fluid intelligence](#) (Krakowska Konferencja Kognitywistyczna 2016)
19. Ratajczak E, Szczypiński J, Wojciechowski J, Fojutowska J, Szczęsny P, Bałaj B, Dreszer J, Duch W.  
[Między twórczością a inteligencją płynną – neuroobrazowanie zależności techniką EEG](#) (Zjazd Polskiego Towarzystwa Kognitywistycznego, Białystok 2016)

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**2015    2015    2015    2015    2015    2015    2015    2015**  
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312. Duch W, [Memetics and Neural Models of Conspiracy Theories.](#)  
arXiv.org > q-bio > arXiv:1508.04561

313. Sokolov O, Dobosz K, Dreszer J, Bałaj B, Duch W, Grzelak S, Komendzinski T, Mikołajewski D, Piotrowski T, Świerkocka M, and Weber, P. [Intelligent emotions](#)



[stabilization system](#) using standardized images, breath sensor and biofeedback - preliminary findings - short communication,  
Journal of Education, Health and Sport. 5(2):260-268, 2015.

314. Sokolov, O., Meszyński, S., Weber, P., Mikołajewski, D., Piotrowski, T., Dreszer, J., Bałaj, B., Grzelak, S., Duch, W., Komendziński, T., Dobosz, K., Świerkocka, M.  
[Multiagent modeling of emotions influence on physiological systems: new concept](#).  
Journal of Education, Health and Sport. 5(1):221-240, 2015.
315. Sokolov O, Dobosz K, Dreszer J, Bałaj B, Duch W, Grzelak S, Komendzinski T, Mikołajewski D, Piotrowski T, Świerkocka M, and Weber, P.  
[Spirometry Data Analysis and Monitoring in Medical and Physiological Tests](#).  
Journal of Education, Health and Sport. 2015;5(3):35-46. ISSN 2391-8306. DOI: 10.5281/zenodo.16171
316. Weihui Dai, Włodzisław Duch, Abdul Hanan Abdullah, Dongrong Xu, and Ye-sho Chen, [Recent Advances in Learning Theory. Computational Intelligence and Neuroscience](#), Vol. 2015, Article ID 395948.
317. [Processing clinical text with domain-specific spreading activation methods](#).  
US Patent Application No. 12/006.813 (April 2008), published 2015, co-authors: John Pestian, Paweł Matykiewicz, Tracy Glauser, Robert Kowatch, Jackie Grupp-Phelan.
318. Duch W, [Life sciences and the quality of life](#), [European Files](#), March 2015, pp. 10-11.

#### Posters and conference abstracts

1. Dreszer J, Bałaj B, Matulewski J, Lewandowska M, Goraczewski Ł, Duch W. XVIII. European Conference on Eye Movements (ECEM 2015), Vienna, 16-21.08.2015.  
[The Gaze Controlled Game as a Cognitive Training for Children with Math Difficulties](#), p. 260  
Poster: [A gaze-contingent paradigm as a basis for interactive training of the phonetic contrasts discrimination](#) : a pilot study.
2. Stępińska, J., Goraczewski, Ł., Matulewski, J., Gut, M., Finc, K., Bałaj, B., Dreszer J., Majewski, J., Bendlin, E., Cholewa, P., Ignaczewska, A., Szczypiński, J., Kmiecik, M. i Duch, W. (2015).  
[The computer game "Kalkulilo" as a cognitive training method](#) for children with developmental dyscalculia and its application value in the mathematical education - poster prezentowany na Vth International Conference Aspects of Neuroscience, Warszawa, listopad 2015;
3. Ignaczewska A, Dreszer J, Bałaj B, Matulewski J, Linowiecki R, Rafał B, Duch W.  
[Using an eye-tracker in the study of the phonemic hearing infants - a comparison research methods](#). Vth International Conference Aspects of Neuroscience, Warszawa, 11/2015, poster.
4. Kmiecik, M., Goraczewski, Ł., Matulewski, J., Gut, M., Finc, K., Ignaczewska, A., Bałaj, B., Dreszer J., Szczypiński, J., Stępińska, J., Majewski, J., Bendlin E., Cholewa P, Duch, W. (2015).  
[The cognitive training with the game "Kalkulilo" and mathematical abilities in](#)

- [children](#) – the preliminary results of a pilot study. Vth International Conference Aspects of Neuroscience, Warszawa, 11/2015, poster.
5. Wojciechowski J, Czarnecka M, Dołycka J, Szczypiński J, Bałaj B, Dreszer J, Duch W.  
[Differentiation of French phonemes, that are not present in polish language by monolingual Polish individuals - EEG study.](#) Vth International Conference Aspects of Neuroscience, Warszawa, 11/2015 (presentation).
6. Ratajczak E, Szczęsny P, Wojciechowski J, Szczypiński J, Nikadon J, Meina M, Bałaj B, Dreszer-Drogorób J, Duch W.  
[In the Heart of Creativity.](#) Divergent thinking and HRV in Computerized Alternative Uses Task. An EEG-ECG pilot study. Vth International Conference Aspects of Neuroscience, Warszawa, 11/2015 (poster).
7. Ratajczak E, Wojciechowski J, Szczypiński J, Nikadon J, Bałaj B, Dreszer-Drogorób J, Duch W.  
[Creative thinking in computerized Alternative Uses Task – an EEG pilot study.](#) Neuronus, Kraków 05/2015 (poster).
8. Ratajczak E, Szczęsny P, Wojciechowski J, Szczypiński J, Nikadon J, Bałaj B, Dreszer-Drogorób J, Duch W.  
[Neuronalne korelaty twórczości.](#) Neuromania, Toruń 5/2015 (poster).

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1. Duch W (1980) *New approach to the CI method*. XI-th Congress of the Polish Chemical Society, Wrocław, Poland
  2. Duch W (1980) *Metoda bezpośredniego oddziaływania konfiguracyjnego*. Rozprawa doktorska. Instytut Fizyki UMK, Toruń, Maj 1980
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2. Duch W, Karwowski J (1979) *Coupling constants in the direct configuration interaction method*. Theor Chim Acta(Berl.) **51**:175-188

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1. Duch W, Karwowski J (1979) *Large-scale N-fermion calculations*. School of computational methods in theoretical physics, Roznov, Czechoslovakia
  2. Duch W, Karwowski J (1979) *Direct determination of eigenvectors and eigenvalues*. XXVI-th Congress of the Polish Physical Society, Torun, Poland
  3. Duch W (1979) *Generalization of the Roos scheme*. X-th Congress of the Polish Chemical Society, Wrocław, Poland
  4. Duch W, Karwowski J (1979) *Calculation of the coupling constants in the direct CI method*. X-th Congress of the Polish Chemical Society, Wrocław, Poland
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## Popular articles (written when I was PhD student)

1. Duch W (1978) *Out-of-body and reincarnation phenomena from the point of view of physics*. New Humanity, No.23-27, 34 pp.  
[Comments and scanned manuscript](#)
2. Duch W (1978) [Tradycje Wschodu: Buddyzm](#). Przekrój N.1747, 1/10/1978
3. Duch W (1978) [Medytacja Transcendentalna](#). Przekrój N.1736, 16/7/1978 10.
4. Duch W (1978) [Medytacja](#). Przekrój N.1734, 2/7/1978
5. Duch W (1978) [Dwie półkule i twórczość](#). Przekrój N.1732, 18/6/1978, str. 20
6. Duch W (1978) [Elektronika i stresy](#), Przekrój N.1730, 4/6/1978, str 21-22.  
Pierwszy artykuł po polsku na temat biofeedback!
7. Duch W (1978) [Życie po życiu](#). Przekrój N.1725, 30/4/1978. Pierwszy artykuł po polsku na temat doświadczeń bliskich śmierci (NDE).
8. Duch W (1978) [Niewiadome czy nieprawdopodobne](#). Przekrój N.1720, 26/3/1978

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1. Duch W, Karwowski J (1977) *Coupling constants in the direct configuration interaction method*. Preprint UMK No.357
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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, Bibiana Bałaj, Joanna Dreszer-Drogorób, Oleksandr Sokolov, Tomasz Komendziński, Jacek Matulewski, Dariusz Mikołajewski, Tomasz Piotrowski, Michał Meina System do wspomagania rozwoju percepcyjno-poznawczego niemowląt i małych Dzieci (System supporting perceptual-cognitive development of infants and babies), Zgłoszenie Patentowe PL P411648 (2015).
3. Układ aktywnego stymulatora ośrodków mowy, zwłaszcza niemowląt i dzieci. BUP nr: 99/03 str.73 zawierającej skrót wynalazku,

**In preparation    In preparation    In preparation    In preparation    In preparation**

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1. Duch W, *Memetics and Neural Models of Conspiracy Theories*, WCCI 2014?
2. Mikołajewski D, Duch W, *Brain stem – from general view to computational model based on switchboard rules of operation*
3. Mikołajewski D, Duch W, *Modeling effects of consciousness disorders in brainstem computational model*
4. Duch W, *Towards comprehensive approach to attention deficit disorders*. Neural Networks (in prep).
5. Duch W, *Consciousness, Top-Down Attention and Imagery Agnosia*. (in prep)
6. Duch W, *Geometric Model of Mind*. In prep.
7. Duch W, *Autism*. New ideas in psychology? BBS? (in prep.)
8. Duch W, *Amusia and Talent*. New ideas in psychology? BBS? JCS? (in prep.)
9. Duch W, *Bridging the Mind-Brain Gap*. Journal of Consciousness Studies (in prep.)
10. Duch W, Grabczewski K, Jankowski N, *Meta-learning*. Edited book (in prep. Springer Oct 2009) + some chapters ...
11. Duch W, *Artificial minds: neurocognitive approach*. Book chapter (in prep.)
12. Duch W, Biesiada J, *Boosted margin-based feature selection filter for microarray gene expression data*.
13. Duch W, *Mapping pursuit networks*. NPL (in prep.)

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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  
Total 533 contributions at the end of 2015

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