

Włodzisław Duch - Curriculum Vitae



May 2023. Links to PDFs: [CV \(this document\)](#) | [list of papers](#) and [list of conferences](#) | Biograms: [short biogram](#) | [biogram po polsku](#) i w [wersji PDF](#)

[Google Profile](#) | [ORCID ID](#) | [Neurotree](#) | [arxiv page](#) | [Google list of videos](#) with my lectures.

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Office [Department of Informatics](#), Institute of Technical Sciences, Faculty of Physics, Astronomy and Informatics (Katedra Informatyki Stosowanej, Wydział Fizyki, Astronomii i Informatyki Stosowanej)

Laboratory [Neurocognitive Laboratory](#), [Interdisciplinary Center of Modern Technologies](#),
address [Nicolaus Copernicus University](#) (Uniwersytet Mikołaja Kopernika)
ul. Grudziadzka 5, 87-100 Toruń, Poland
E-mail id: wduch, on the server umk.pl
WWW: Google "Wlodek Duch" to find it, or type <https://www.is.umk.pl/~duch>
Tel: (48-56) 622 1543 or 611-3267

Personal data Born: 1954 in Poland
Married: 1976, Children: son 1978; daughter 1980;+4 grandchildren.
Nationality: Polish

Sex: male (definitely)

Education, degrees and titles

- 1997 Title of a "professor of theoretical physics and informatics"
Habilitation (D.Sc.) in many body physics. Thesis title: [Graphical representation of model spaces](#),
- 1987 published by Springer Verlag, Berlin (1986); thesis won the Ministry of Education Award.

- 1980 PhD in quantum chemistry. Thesis title: *Direct Configuration Interaction Method* (Ministry of Education Award granted in 1981). Thesis advisor: Prof. dr hab. Jacek Karwowski.
- 1977-1980 Graduate study in quantum chemistry at the [Nicolaus Copernicus University](#), Torun, Poland.
- 1977 Master of Science diploma (highest honors, "blue diploma").
- 1972-1977 Undergraduate study in physics at the Nicolaus Copernicus University, Torun, Poland.

Academic Genealogy and my Neurotree

Positions held (one month or longer only)

- 2020-now Head, [Neuroinformatics and Artificial Intelligence](#) group in the [University Centre of Excellence Dynamics, Mathematical Analysis and Artificial Intelligence](#), at the [Nicolaus Copernicus University](#).
- 2014-2015 [Chairman of the Polish-U.S. Fulbright Commission Board](#) (przewodniczący Rady Komisji Fulbrighta), from 06/2015 to 30.11.2015.
- 2014-2015 Undersecretary of State (Vice-minister), in the [Ministry of Science and Higher Education](#), from 22.04.2014 to 30.11.2015.
- 2013-now Head, [Neurocognitive Laboratory](#), [Interdisciplinary Center of Modern Technologies](#), [Nicolaus Copernicus University](#).
- 2012-2014 Vice-President for Research and ICT Infrastructure, and Deputy President of the [Nicolaus Copernicus University](#) (Prorektor ds. Badań Naukowych i Informatyzacji UMK); from 09/2012 to 05/2014.
- 2010-2012 Nanyang Visiting Professor, [Nanyang Technological University](#), [School of Computer Engineering](#), [Division of Software & Information Systems](#), Singapore (4 month/year).
- 2004-2007 Visiting Professor, [Nanyang Technological University](#), [School of Computer Engineering](#), Department of Computer Science, Singapore (6 month each year).
- 2003 Senior Fellow, [Nanyang Technological University](#), [School of Computer Engineering](#), Department of Computer Science, Singapore (1 year sabbatical).
- 2002-2009 Visiting Professor, [Dept. of Biomedical Informatics](#), [Cincinnati Children's Research Foundation](#), USA. 10 times, 2-4 weeks
- 2001-2002 President, Executive Board of the Kopernik.pl company (March 2001, the company existed till the end of 2002).
- 2000-now Professor Ordinarius (Profesor zwyczajny), [Nicolaus Copernicus University](#) (UMK), head of the [Department of Informatics](#), [Torun](#), Poland; teaching, research, administration, member of countless committees.
- 1998-2008 President, DuchSoft research and development company, creation of GhostMiner data mining software taken over by Fujitsu.
- 1990-1999 Associate Professor (Profesor Nadzwyczajny), [Nicolaus Copernicus University](#) (UMK), head of the [Department of Computer Methods](#), [Torun](#), Poland; teaching, research, administration, member of countless committees.
- 1996-2001 Visiting Scientist, [Max-Planck-Institut für Astrophysik](#) (MPA), Garching b. München, Germany; 1-2 month each year, research.
- 2000 Visiting Professor, [Meiji University](#), [Department of Computer Science](#), Kawasaki,

- Tokyo, Japan; 1 month, research.
- 1997 Visiting Scientist, [Max-Planck-Institut für Psychological Research](#) (MPPF), München, Germany; 1 month, research.
- 1997 Visiting Professor, [LSIIT, Artificial Intelligence Department](#), Louis Pasteur University, Strasbourg, France, 1 month, research.
- 1996 Senior Research Fellow, [Kyushu Institute of Technology](#), Faculty of Computer Science and Systems Engineering, Iizuka, Fukuoka, Japan; 3 month, research.
- 1995 Visiting Scientist, [Center for Neural Networks](#), King's College, London, and IUT, Université de Champagne, Reims, France, research.
- 1994 Senior Research Fellow, [Rikkyo University](#), Department of Chemistry, Tokyo, Japan; 3 month, research.
- 1992-1994 Visiting Scientist, [Max-Planck-Institut für Astrophysik](#) (MPA), Garching b. München, Germany; 2 month each year, research.
- 1992 Visiting Professor, [Department of Chemistry](#), University of Alberta, Edmonton, Canada; 1 month, research.
- 1991 Visiting Professor, Department of Chemistry, University of Alberta, Edmonton, Canada; 5 weeks, research.
- 1990 Visiting Professor, [Quantum Theory Project](#), University of Florida, Gainesville, Florida, USA; 6 weeks, research.
- 1989-1991 Visiting Scientist, [Max-Planck-Institut für Astrophysik](#) (MPA), Garching b. München; 3 month each year, research.
- 1988 Visiting Professor, Department of Chemistry, [University of Southern California](#), Los Angeles, California; 1.5 month, research.
- 1988 Visiting Scientist, [Max-Planck-Institut für Astrophysik](#) (MPA), Garching b. München, Germany; 1.5 month, research.
- 1988-1991 Vice-president for computing, [Nicolaus Copernicus University](#).
- 1988-1990 Associate Professor (Docent), [Nicolaus Copernicus University](#), Institute of Physics, Toruń, Poland; teaching, research, administration.
- 1987 Visiting Scientist, Institute of Theoretical Physics, Stockholm University, Stockholm, Sweden; 1 month, research;
- 1987 Visiting Scientist, MPA; 3 month, research.
- 1985-1987 Alexander von Humboldt Fellow. [Max-Planck-Institut für Astrophysik](#) (MPA), Garching b. München, Germany; 1.5 years, research.
- 1984-1988 Adiunkt (Assistant Professor), Institute of Physics, [Nicolaus Copernicus University](#), Toruń, Poland; teaching and research.
- 1984 Visiting Scientist, [Max-Planck-Institut für Astrophysik](#) (MPA), Garching b. München, Germany; 3 months, research.
- 1982-1984 Starszy Asystent (Senior Assistant), Institute of Physics, [Nicolaus Copernicus University](#), Toruń, Poland; teaching and research.
- 1980-1982 Postdoctoral fellow, Department of Chemistry, [University of Southern California](#) (USC), Los Angeles, California, USA; 2 years, research.
- 1980 Asystent (Teaching Assistant), [Institute of Physics](#), [Nicolaus Copernicus University](#), Toruń, Poland; teaching and research.

Journals - editorial boards

1. [Annals of Computer Science and Information Systems](#), Polish Information Processing Society (2018)
2. [Artificial Intelligence in Health](#) (2023).

3. [Behavioral and Brain Sciences](#), BBS associate, 2003-2010
4. [Behaviormetrika](#) (Springer), advisory board, since 2017
5. [Cognitive Computation](#) (Springer), since 2012
6. [Cognitive Neurodynamics](#) (Springer), since 2006, now 2019-2021 term
7. [Computer Physics Communications](#) (Elsevier, North Holland), Special Editor (1994-2007)
8. [Frontiers in Human Neuroscience](#) (Frontiers, Basel, Switzerland), Special Editor (2023).
9. [IEEE Transactions on Neural Networks, books and media editor](#), appointed 2000, 2002, 2004, 2006-2008 ([list of reviews](#))
10. [International Journal of Computational Intelligence](#), editor (2004-2006)
11. [International Journal of Information Technology and Intelligent Computing](#), editor, 2006-2008
12. [International Journal of Neural Systems](#) (IJNS), World Scientific, Editorial Advisory Board 2005-2010
13. [International Journal of Signal Processing](#), editor (2004-2006)
14. [International Journal of Transpersonal Studies](#), editor 2001-2015
15. [Journal of Artificial General Intelligence](#) (JAGI), starting in 2008
16. [Journal of Artificial Intelligence and Soft Computing Research](#), since 2009
17. [Journal of Mind and Behavior](#), assessing editor, since 2002
18. [Journal of Neurophilosophy](#), editorial board, since 2022
19. [Machine Graphics and Vision](#), 2003-2010
20. [Natural Intelligence: the INNS Magazine](#), 2011-12
21. [Neural Information Processing Letters and Reviews](#), since 2003-08
22. [Nonlinear Biomedical Physics](#), Open Access journal (BioMed Central, London), since 2006, in 2012 re-launched as the [European Physical Journal](#) (EPJ) Nonlinear Biomedical Physics.
23. [Scientia et Fides](#), Scientific Council, since 2015
24. [Theoria et Historia Scientiarum](#), since 2014
25. [Handbook of Natural Computing: Theory, Experiments, and Applications](#), Springer, advisory board, since 2008
- In Polish:**
26. [Kognitywistyka i Media w Edukacji](#) (Cognitive Science and Media in Education), scientific secretary, 1998-2012
27. [Avant. Trends in Interdisciplinary Studies](#), head of scientific board, since 2011
28. [Studia z Kognitywistyki i Filozofii Umysłu](#), UAM, since 2015

Professional associations

1. European Union COST Action BM0605: Consciousness: A Transdisciplinary, Integrated Approach, since 2008.
2. EU COST Action BM601 [Neuromath](#), Advanced Methods for the Estimation of Human Brain Activity and Connectivity, since 2007.
3. EU COST Action B27 [Electric neuronal oscillations and cognition \(ENOC\)](#), working group, 2006-08.
4. EU COST IntelliCIS (Intelligent Monitoring, Control and Security of Critical Infra-structure Systems) Action IC0806, 2009.
5. [EUCog II](#) - 2nd European Network for the Advancement of Artificial Cognitive Systems, Interaction and Robotics.
6. European Union expert in the Horizon 2020 Program (FET proposals), 2014-now.
7. European Union expert in the 7th Framework Program (FET proposals), 2007-13.
8. European Union expert in the 6th Framework Program in the "Life Sciences" panel, 2003-05.
9. European Union expert in the 5th Framework Program in the "Life Sciences" panel, Marie Curie program, 2000-02.
10. [Polish Committee of Scientific Research](#), reviewer for VIII (1994), IX (1995), X (1996) call, section (T11E) "Medical Technologies"
11. Reviewer of the [Foundation for Polish Science](#) (Homing +, MPD, Pomost, Venture, Welcome, Team, FNP Prize) |

[The National Centre for Research and Development](#) (Lider) | [National Science Center](#) | and the Polish [Ministry of Education](#).

Reviewer of the Konorski Prize, Polish Academy of Sciences, Committee of Neurobiology.
Reviewer of the NAWA-STER Programs, Ministry of Science and Education (2020, 2021)

12. [Asia-Pacific Artificial Intelligence Association](#), [Fellow \(since 2022\)](#).
13. [Association for Computing Machinery](#) (ACM) individual member since 1990.
14. [EIT Health](#), high level expert group [Think Tank member](#) of the European Institute of Innovation & Technology (2017).
15. [European Neural Network Society](#); now active as past President; President 2006-2008, second term 2009-2011; President-elect 2005; member of the executive committee 2001-2004; individual ENNS member since 1993.
16. [European Physical Society](#), individual member since 1984.
17. [IEEE](#) Senior Member since 2002, Member since 1997.
18. [IEEE Computational Intelligence Society](#), CIS Technical Committee member since 2003; Neural Networks Pioneer Award sub-committee (2012).
19. [IEEE Neural Network Society](#) (previously NN Council), active member since 6/1997, [current NN Technical Committee](#) and previous [NNTC](#) member
20. [IEEE Signal Processing Society](#), since 2015.
21. IEEE [Towards Human-like Intelligence](#), Computational Intelligence Society Task Force, vice-president (since 2012)
22. [Interdisciplinary Centre for Mathematical and Computational Modelling](#) (ICM), Scientific Council (2017-2022).
23. [International Artificial Intelligence Industry Alliance](#), AIIA Fellow, elected 2/2024.
24. [International Association for Information and Management Sciences](#) (IMS), vice-president 2010-2013.
25. [International Neural Network Society](#); INNS Board of Governors member, 2003; elected to the [College of Fellows](#) (2013)
26. [International Brain Research Foundation](#), [member of the International Advisory Board](#).
27. [Brain-Mind Institute](#), USA, Program Committee (since 2011)
28. [Lifeboat Foundation](#), member of the [Scientific Advisory Board](#)
29. [Open Systems and Information Dynamics Society](#), initially "Polish-Japanese-Italian Society"; member of the board, 1992-1995 and 1999-2003 (elections are every year); OSID journal now published by World Scientific.
30. Polish Academy of Sciences, Computational Physics Section, Sekcja Nauk Obliczeniowych, Founding member (1997), vice-president (2001-05).
31. Polish Academy of Sciences, Committee on Automata and Robotics, Neural Networks and Fuzzy Logic, Sekcja Automatyki, Robotyki, Sieci Neuronowych i Logiki Rozmytej, member (since 2000).
32. Polish Academy of Sciences, Komitet Informatyki, Sekcja Nauk Obliczeniowych (Computational Science Section), member of the board, 2009-2010.
33. Polish Academy of Sciences, [Committee on Informatics](#), member 2020-2022; [Computational, Bio and Neuro-informatics Subgroup](#).
34. Polish Academy of Sciences, [Komitet Neurobiologii](#) (Committee of Neurobiology), member of the board, 2007-10; 2011-15; 2015-19; 2020-23; 2024-26
35. Polish Academy of Sciences, [Komitet Naukoznawstwa](#) (Committee on Science Studies), 2015-19; 2020-23; 2024-26.
36. Polish Chemical Society; Quantum Chemistry section, Sekcja Chemii Kwantowej, 1980-1990.
37. [Polish Cognitive Science Society](#), Polskie Towarzystwo Kognitywistyczne; founding member, on the executive board 2002-2004.
38. [Polish Academy of Arts and Sciences](#) (Polska Akademia Umiejętności, PAU), Committee on Complex Systems ([Komisja Układów Złożonych](#)); since 2019, .
39. [Polish Neural Network Society](#), Polskie Towarzystwo Sieci Neuronowych; founding member, on the board since 1995, last election in 2019.
40. [Polish Artificial Intelligence Society](#); Polskie Stowarzyszenie Sztucznej Inteligencji, founding member, 2010, Scientific Council (last election in 2020)

41. [Rada Koordynująca Polskiego Porozumienia na Rzecz Rozwoju sztucznej Inteligencji \(PP-RAI\)](#) (Coordination Council of the Polish Initiative for the Advancement of Artificial Intelligence) 2018
42. [Polish Physical Society](#), Polskie Towarzystwo Fizyczne; member since 1977, secretary of the Torun chapter 1989-91; member of the board 1988-1992.
43. Polish Transpersonal Society, Polskie Towarzystwo Transpersonalne; founding member 1993.
44. [Societas Humboldtiana Polonorum](#), member since 1993, president of the Toruń branch 2016-2018
45. Nicolaus Copernicus University, member of the Professor's Club, since 2001, vice-president 2012-16.

Advisory Boards, Scientific Councils

46. [Sapiens Lab](#), member of the International Advisory Board 2018. Mission: to accelerate insights into the spectrum of brain dynamics across the breadth of humanity.
47. [SRM Deemed University](#), Chennai, India, member of the International Advisory Board, 2004-2012.
48. [INEB-Instituto de Engenharia Biomédica](#), Porto, Portugal, external advisory council, 2008-13.
49. [ABM Space Education](#), Chief Creative Officer (2011).
50. [Scientific Committee of the Institute for Child Development](#) in Gdańsk (2018).
51. Nominator: [Nobel Prize in Physics](#)
52. Nominator: [VinFuture Prize](#)
53. Kujawsko-Pomorskie Centrum Badawczo-Technologiczne, sp. z o.o., member of Scientific Council (12/2021).
54. Medical University of Łódź, member of the "Drzewo Pokoleń" competition council, 2016-2018.
55. [Polska Unia Edukacyjna](#), członek Rady Centrum doskonałości dydaktycznej i naukowej (2024).

Awards for inventions:

- Gold medal: Médailles d'Or du [Concours Lépine](#) & Prix Chambre et Sénat – Systeme de soutien au développement perceptivo-cognitif des nourrissons et des jeunes enfants. May 2015
- Gold medal: [INPEX, Pittsburg](#), USA, June 2015, America's largest invention trade show.
- Gold medal and Jury Cup: International Exhibition of Economic and Scientific Innovations [INTARG, Krakow](#), June 2015
- Gold medal: [INNOVA EUREKA](#) 2015, Brussels, November 2015.

Other awards:

Distinction in the Jerzy Konorski Team Award 2020 competition, for the best study in neurobiology conducted in Poland, initiative of the Polish Neuroscience Society and Committee of Neurobiology of the Polish Academy of Sciences. Paper by Karolina Finc, Kamil Bonna, Xiaosong He, David Lydon-Staley, Simone Kühn, Włodzisław Duch and Danielle S. Bassett. [Dynamic reconfiguration of functional brain network during working memory training](#). [Nature Communications](#) 11, 2435 (2020)

Computer experience

Programming:

FORTRAN (Fortran 77 and 90) and WATFIVE interactive, various dialects of PASCAL, LOGO, BASIC; Matlab;
symbolic algebra languages Mathematica, Maple, Reduce, HTML, SPEAKEAZY, dBase IV and older, Lotus 123, Framework IV and older.

Computer systems:

UNIX (Standard, AIX, Sun OS/Solaris), MS Windows 3.1/95/NT/2000, MS-DOS, CP/M, TSO, CMS, IBM 360/370 systems JCL and utilities, CRAY system, VMS.

Applications:

MS Office, Lotus Smartsuite, TeX and LaTeX typesetting systems, various DOS shells, many statistical and other application packages.

Teaching experience

Artificial intelligence, computational intelligence, neural networks, machine learning, fuzzy and rough logic.

Cognitive science, introductory courses, including philosophy of mind, neurobiology, brain and behavior, computational neuropsychology.

Computer science, introductory courses, introductory programming courses in Fortran, Pascal, Logo, applications and networking.

Physics, basic and advanced quantum mechanics, field theory (classical), foundations of physics, elementary and advanced quantum chemistry, atomic and molecular physics, group theory, computer methods in physics.

[List of PhD students.](#)

Popularization of science

About 120 popular articles in many journals.

Two major awards for popularization of science (1983, 1984).

My [YouTube channel](#) and [my blog](#).

Other Major Interests

In no particular order: music of all kinds; musical instruments (collection of flutes, Electronic Wind Instrument AkaiPro EWI400s); scuba diving (holding Advanced Open Water Diver certificate), oriental philosophy (Chinese, Indian, Japanese, Korean), especially meditation schools, frontiers of science and technology, brain research, psychology, artificial intelligence, cognitive science, science-fiction, Hi-Fi and digital sound/video.

Languages:

- Polish - mother language
- English - fluent (written and spoken)
- Russian - used to be fluent, now a bit rusty (written and spoken)
- German - used to be fluent, now a bit rusty (written and spoken)

Research fields, in order of present interest

- Neurocognitive informatics, or algorithms that are inspired by brain functions, including imagination, intuition, insight and creativity; neuroinformatics, analysis of brain signals, neuromodulation.
- Computational cognitive neuroscience, cognitive sciences, behavioral sciences, cognitive robotics, cognitive informatics, cognitive psychology, developmental psychology, large scale simulations of brain functions, human-computer interaction, humanized software interfaces.

- Theory and applications of computational intelligence, including neural networks, similarity-based systems, relations with fuzzy systems, pattern recognition, artificial intelligence, selection of relevant information, visualization of multidimensional data and relations, meta-learning techniques.
- Natural language processing, computer linguistics, information retrieval and extraction, connections with human memory models, word games, medical informatics, semantic internet.
- Informational dynamics: concept of information, brain-mind transition, theory of complex systems.
- Philosophy of mind, foundations of physics, quantum computing, philosophical problems of physics, history of physics.
- Education: infant learning and development, testing cognitive, motor and perceptual functions, new educational programs, application of computers in education, development of computational science educational programs.
- **Older research areas I was working on:** Computer physics, computational methods of quantum chemistry, electron correlation problem, in particular variational methods of the configuration interaction type.
- Group theory, including the symmetric and the unitary group theory, properties of non-abelian symmetry groups; theory of graphs, graphical representations of tensor Hilbert spaces, nuclear physics theory, shell-model methods in nuclear physics; spin functions, construction, properties, spin-dependent problems; Jahn-Teller effect in molecules, vibronic couplings, harmonic oscillators.
- Software engineering tools and methods, object-oriented programming; numerical analysis: partial diagonalization of very large sparse matrices.

Major Grants

Involvement in international projects (see also [professional associations](#)):

- 2006-2014 [EUCog](#) 1, 2, 3 - European Network for the Advancement of Artificial Cognitive Systems, Interaction and Robotic, FP7 coordination action
- 2012 [SINTELNET](#), EU FET Coordination Project in Social Intelligence
- 2012 [Confluence of humans and computers](#), EU FP7 FET Proactive Consultation Panel
- 2010 *CHIST-ERA Consortium "Beyond consciousness"*, EU FET Project consultant, *Consciousness and Creativity in Brain-Inspired Cognitive Architectures*
- 2009-2012 *2nd European Network for the Advancement of Artificial Cognitive Systems, Interaction and Robotics*, FP7 EU Networks Project
- 2008-2012 *COST Action BM0605 "Consciousness: A Transdisciplinary, Integrated Approach"*, EU COST Project
- 2008-2012 *COST Action BM0601 NeuroMath "Advanced Methods For The Estimation Of Human Brain Activity And Connectivity"*, EU COST Project
- 2008-2010 *Argumentation as cognitive process*, UMK - Rutgers University
- 2005-2007 *COST Action B27 Group, "Electric neuronal oscillations and cognition (ENOC)"*, EU COST Project
- 2005 [Beyond the Horizon](#), EU FP7 FET Proactive Consultation Panel
- 1999-2001 *Similarity-based reasoning systems with applications in science and medicine.* IBMBF-KBN POL-040-98, principal investigator on Polish side (IBMBF, Internationale Büro (IB) das Bundesministerium für Bildung und Forschung)
- 1996 Kyushu Institute of Technology, Heiwa Nakajima Foundation Research Award, 3 month, about 18.000 \$.

- 1995 *Development of electron correlation methods based on intermediate hamiltonians.* (principal investigator on the Polish side, with prof. J-P. Malrieu on the French side). Cooperation scientifique entre la France et la Pologne, KBN/Le ministre Francais des affaires etrangeres, No. 114
- 1995 *European Union COST project "Intelligent software for chemistry",* W. Duch, first co-investigator, in collaboration with [Max-Planck-Institut für Astrophysik](#) (Garching b. München, prof. Diercksen, principal investigator), Belfast (Ireland), Bratislava (Slovakia), Groningen (Holland), Leeds (UK) and Espoo (Finland).
- 1994 Rikkyo University, Tokyo, Research Award, 3 month, about 13.000 \$.
- CEC TEMPUS Office, "Computer Based Education", 3 years; budget 196.000 ECU in 1992/3, 279.000 ECU in 1993/4 and 310.000 in 1994/5;
- 1992-1995 coordinator of the program. Participating institutions: Nicolaus Copernicus University (main beneficiary), University of Cambridge and University of Leeds (UK), Paul Sabatiér University and Universite de Champagne in Reims (France), [Max-Planck-Institut für Astrophysik](#) and the Technical University of Munich (Germany)
- Alexander von Humboldt Stiftung, Germany; "Application of symmetric group methods in quantum chemistry",
- 1986-1987 research support for 18 months, additional support (around 20.000 DM) for equipment and books.

National grants:

- 2017-2022 *In the quest of sources of brain cognitive activity* (W poszukiwaniu źródeł aktywności poznawczej mózgu). National Science Centre, Poland, Co-principal investigator, large multidisciplinary collaborative grant (over 1 mln Euro, consortium with Nencki Institute, PAS and World Hearing Center, Warsaw)
- 2013-2019 *Development of phonematic hearing and working memory in infants and children (NeuroPerKog).* NCN, principal investigator, large multidisciplinary collaborative grant (over 1 mln \$)
- 2010-2012 *Autism: comprehensive approach.* MNiSW, principal investigator
- 2010-2013 *Universal meta-learning algorithms in computational intelligence.* MNiSW, PI - N. Jankowski
- 2010-2012 *Prototype-based logical rules with applications for data exploration.* MNiSW, PI - M. Blachnik
- 2010-2012 *Heterarchical methods of information search supported by lexical networks.* MNiSW, PI - J. Szymanski
- 2005-2007 *Selection of information.* KBN, principal investigator, no. T11C-07128
- 2005-2007 *Meta-learning in Computational Intelligence.* KBN, co-principal investigator
- 2000-2002 *Theory and applications of computational intelligence.* KBN, principal investigator, no. 8 T11C 006 19
- 1998-1999 *Adaptive systems in applications to analysis of medical and psychometrical data,* KBN, principal investigator
- 1995-1997 *Neurofuzzy systems,* KBN, 133.000 PLN, principal investigator
- 1995 Grant from KBN to build *Local Area Network* in the Institute of Physics and Department of Informatics building, about 25.000 \$ (with physics).
- 1991-1993 KBN (State Committee for Scientific Research), "Development of configuration interaction method", principal investigator.

- 1989-1990 Resortowy Program Badawczo-Rozwojowy RRI.14: "Budowa systemów oprogramowania profesjonalnego dla potrzeb nauki i dydaktyki: symulacje komputerowe w fizyce" (computer simulations in physics; software development); local coordinator of the program supervising about 10 investigators.
- 1988-1991 Resortowy Program Badawczo-Rozwojowy RRI.14 : "Informatyzacja procesów dydaktycznych i naukowo badawczych w szkołach wyższych" (computer methods in teaching and research); local coordinator of large program, planning and creation of 6 computer laboratories at the Nicolaus Copernicus University.

National grants (minor):

- 2016-2017 *BrainHeart. The influence of HRV-biofeedback training on dynamics of attentional processes and divergent thinking*, NCN Preludium, PhD grant for Ewa Ratajczak
- 2000-2001 *Application of similarity based methods to analysis of medical images*. KBN, PhD grant for Karol Grudziński, no. 8 T11E 042 19
- 2000-2001 *Application of the neurofuzzy FSM system to analysis of experimental data*. KBN, PhD grant for Rafał Adamczak, no. 8 T11F 019 19
- 1998-2000 [Med-Uni project](#), Stefan Batory Foundation, grant director
- 1998-1999 *Sieci ontogeniczne - badania nad kontrolą złożoności sieci neuronowych*, KBN, PhD grant for Norbert Jankowski, 19 750 zł
- 1992-1993 UMK, local grant, *What can you teach neural networks?*, principal investigator.
- 1991-1992 UMK, local grant, *Models of neural networks*", principal investigator.
- 1990-1991 UMK, local grant, *Parallel data processing*, principal investigator.

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- [Publications \(topics\)](#) or [publications \(years\)](#) | old list of [CI Lab projects](#).
 - [Conferences and Schools Attended](#) or [local list](#).
 - [Invited Talks, direct Web link](#) + [local list](#) of talks and [presentations](#).
 - [WD info in Nauka Polska](#) | [in Wikipedia](#).
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