Curriculum vitae

Informaţii personale

Nume/Prenume	Bakó, László
Telefon	0365-403033
E-mail	lbako@ms.sapientia.ro
Cetăţenia	Română
Data şi locul naşterii	1977.01.16. Târnăveni, jud. Mureş
Funcţia şi locul de muncă (universitatea, facultatea, catedra)	**conferenţiar universitar, Universitatea Sapientia, Facultatea de Ştiinţe Inginereşti şi Umaniste Tg-Mureş, Departamentul de Inginerie Electrică**

Educaţie şi formare

- ***Doctorat*** la Universitatea Transilvania din Braşov, Facultatea de Inginerie Electrică şi Ştiinţa Calculatoarelor, Domeniul fundamental : Ştiinţe Inginereşti, Domeniul: Inginerie Electronică şi Telecomunicaţii, Tema tezei de doctorat: Sisteme Adaptive cu Reţele Neurale Artificiale Neuromorfe. Realizări cu Dispozitive Hardware Reconfigurabile, Conducător ştiinţific: Prof.dr.ing. Iuliu SZEKELY, 2010.
- ***Masterat***, Sisteme automate avansate de conducere a proceselor industriale şi energetice, Universitatea "Petru Maior", Târgu Mureş, promoţia 2001
- ***Inginer*** diplomat în profilul ştiinţa sistemelor şi a calculatoarelor, specializarea Automatică şi Informatică Industrială, Universitatea "Petru Maior", Târgu Mureş, promoţia 2000

Experienţa profesională

2022-prezent Universitatea Sapientia, Facultatea de Ştiinţe Inginereşti şi Umaniste Tg-Mures, Catedra de Inginerie Electrică,
conferenţiar universitar

2014-2015 Cercetător postdoctoral la Universitatea „Petru Maior" din Tîrgu-Mureş în cadrul proiectului POSDRU/159/1.5/S/133652

2012-2013 Cercetător ştiinţific cu parte de normă la Universitatea Tehnică din Cluj-Napoca

2006-2022 Universitatea Sapientia, Facultatea de Ştiinţe Inginereşti şi Umaniste Tg-Mures, Catedra de Inginerie Electrică,
lector universitar

2004-2006 Fundaţia Sapientia Universitatea Sapientia, Facultatea de Ştiinţe Inginereşti şi Umaniste Tg-Mures, Catedra de Inginerie Electrică,
asistent universitar

2002-2004 Fundaţia Sapientia Universitatea Sapientia, Facultatea de Ştiinţe Inginereşti şi Umaniste Tg-Mures, Catedra de Inginerie Electrică,
preparator universitar

2001-2002 Fundaţia Sapientia Universitatea Sapientia, Facultatea de Ştiinţe Inginereşti şi Umaniste Tg-Mures, Catedra de Inginerie Electrică,
preparator universitar (plata cu ora)

Alte funcţii deţinute (nedidactice)
2001-2002 AAGES S.R.L. Tg-Mureş, inginer proiectant
2019- prezent Elitengin Labs SRL, Tg-Mureş, Administrator
2023- 2025 Marquardt Schaltsysteme S.C.S., Sibiu, manager proiect informatic

Limbi străine cunoscute
Engleză: avansat scris şi vorbit (Cambridge Certificate in Advanced English)
Germană: mediu scris, începător vorbit
Maghiară: limba maternă

Activitatea didactică (cursuri, seminarii, lucrări practice conduse**)**
1. Analiza asistată de calculator a circuitelor electronice, curs, 2010-2013
2. Sisteme periferice şi interfeţe, curs şi laborator, 2005-prezent
3. Sisteme SCADA şi comunicaţii industriale, curs şi laborator, 2008- prezent
4. Sisteme SCADA şi comunicaţii industriale, laborator, 2004-2007
5. Arhitectura calculatoarelor, curs, 2007- prezent
6. Circuite logice reconfigurabile, curs şi laborator, 2006
7. Microcontrolere II, curs şi laborator, 2006
8. Arhitectura calculatoarelor, laborator, 2003- laborator
9. Teoria sistemelor , laborator, 2003
10. Bazele informaticii, laborator, 2001-2004
11. Introducere în ştiinţa sistemelor de calcul, laborator, 2002-2003
12. Electronică digitală II, laborator, 2010-2012
13. Sisteme incorporate (Masterat), curs 2015-2021

Domeniul de cercetare
Inteligenţă artificială, Implementarea reţelelor neuronale pe sisteme digitale reconfigurabile, Arhitectura sistemelor de calcul cu microprocesoare

Membru în organizaţii ştiinţifice şi profesionale
- Societatea Română de Automatică şi Informatică Tehnică
- Societatea Tehnico Ştiinţifică Maghiară din Transilvania
- Member of the Society of Hungarian Scientists and Scholars

Data: 19. septembrie 2026.

Conf. dr. ing. Bakó László

LISTA LUCRĂRILOR ŞTIINŢIFICE

Numele şi prenumele: BAKÓ László

A. Teza de doctorat.

Universitatea Transilvania din Braşov,
Facultatea de Inginerie Electrică şi Ştiinţa Calculatoarelor,
Domeniul fundamental: Ştiinţe Inginereşti,
Domeniul: Inginerie Electronică şi Telecomunicaţii,
Titlul tezei de doctorat: "Sisteme Adaptive cu Reţele Neuronale Artificiale Neuromorfe. Realizări cu Dispozitive Hardware Reconfigurabile",
Conducător ştiinţific: Prof. dr. ing. Iuliu SZÉKELY

B. Cărţi publicate

1. Bakó László "Sisteme inteligente realizate cu circuite reconfigurabile, ISBN 978-973-53-2868-9, 180 p. "Editura Risoprint, Cluj-Napoca", 2022
2. Bakó László, Hajdu Szabolcs, A processzortervezés alapelvei – Laborgyakorlati útmutató, ISBN 978-973-53-2867-2, 70 p., Editura Risoprint, Cluj-Napoca, 2022

C. Lista lucrări ştiinţifice publicate

C1. Lucrări ştiinţifice publicate în reviste cotate ISI

1) **Bakó László**, *Real-time classification of datasets with hardware embedded neuromorphic neural networks*, Briefings in Bioinformatics, Special Issue: Parallel and Ubiquitous Methods and Tools in Systems Biology: May 2010; Vol. 11, No. 3, p348-363, doi: 10.1093/bib/bbp066, Oxford University Press (**Impact Factor: 7.329**)

** Citări independente:*

- în lucrări cotate ISI sau ISI proceedings:

Cit. 1. Cawley, Seamus; Morgan, Fearghal; McGinley, Brian; Pande, Sandeep; McDaid, Liam; Harkin, Jim; , "The impact of neural model resolution on hardware Spiking Neural Network behaviour," Signals and Systems Conference (ISSC 2010), IET Irish , vol., no., pp.216-221, 23-24 June 2010

Cit. 2. Mohemmed, Ammar; Schlieb, Stefan; Matsuda, Satoshi; Nikola Kasabo. SPAN: Spike Pattern Association Neuron for Learning Spatio-Temporal Sequences, International Journal of Neural Systems, (August, 2011)

Cit. 3. MA Nuno-Maganda, M Arias-Estrada, A Hardware Architecture for Image Clustering Using Spiking Neural Networks, VLSI (ISVLSI), 2012, ieeexplore.ieee.org

Cit. 4. Cawley, Seamus; Morgan, Fearghal; Mcginley, Brian; Pande, Sandeep; Mcdaid, Liam; Carrillo, Snaider and Harkin, Jim. 2011. Hardware spiking neural network prototyping and application. Genetic Programming and Evolvable Machines 12, 3 (September 2011), 257-280. DOI=10.1007/s10710-011-9130-9 http://dx.doi.org/10.1007/s10710-011-9130-9

Cit. 5. Nuno-Maganda, MA; Arias-Estrada, M; Torres-Huitzil, C; Aviles-Arriaga, HH; Hernandez-Mier, Y; Morales-Sandoval, M, A Hardware Architecture for Image Clustering Using Spiking Neural Networks, IEEE COMPUTER SOCIETY ANNUAL SYMPOSIUM ON VLSI (ISVLSI), 261-266; 10.1109/ISVLSI.2012.46 2012.

Cit. 6. Subramaniam, A.; Cantley, K.D.; Bersuker, G.; Gilmer, D.; Vogel, E.M., "Spike-Timing-Dependent Plasticity Using Biologically Realistic Action Potentials and Low-Temperature Materials," Nanotechnology, IEEE Transactions on, vol.12, no.3, pp.450,459, May 2013, doi: 10.1109/TNANO.2013.2256366

Cit. 7. Rumbell, T.; Denham, S.L.; Wennekers, T., "A Spiking Self-Organizing Map Combining STDP, Oscillations, and Continuous Learning," Neural Networks and Learning Systems, IEEE Transactions on , vol.25, no.5, pp.894,907, May 2014

doi: 10.1109/TNNLS.2013.2283140

Cit. 8. C. D. Schuman, J. S. Plank, A. Disney and J. Reynolds, "An evolutionary optimization framework for neural networks and neuromorphic architectures," 2016 International Joint Conference on Neural Networks (IJCNN), Vancouver, BC, 2016, pp. 145-154. doi: 10.1109/IJCNN.2016.7727192

Cit. 9. Catherine D. Schuman, Thomas E. Potok, Robert M. Patton, J. Douglas Birdwell, Mark E. Dean, Garrett S. Rose, James S. Plank, A Survey of Neuromorphic Computing and Neural Networks in Hardware, Neural and Evolutionary Computing, CoRR 1705.06963, 2017.

Cit. 10. Taherkhani, Aboozar, et al. "A Supervised Learning Algorithm for Learning Precise Timing of Multiple Spikes in Multilayer Spiking Neural Networks." IEEE Transactions on Neural Networks and Learning Systems (2018).

Cit. 11. Tang, Wei-Hua, Ho, Wen-Hsien, Chen, Yenming J., "Data assimilation and multisource decision-making in systems biology based on unobtrusive Internet-of-Things devices", BioMedical Engineering OnLine, volume 17, Article number: 147 (2018)

Arena, P., Calí, M., Patané, L. et al., "A CNN-based neuromorphic model for classification and decision control", Nonlinear Dynamics, Volume 95, Issue 3, pp 1999–2017, (2019)

- în lucrări indexate în BDI:

Cit. 12. Wang, Pu; Weise, Thomas; Chiong, Raymond, Novel evolutionary algorithms for supervised classification problems: an experimental study, Evolutionary Intelligence, 2011, Springer Berlin / Heidelberg, ISSN 1864-5909

Cit. 13. Seamus Cawley, Fearghal Morgan, Brian McGinley, Sandeep Pande, Liam McDaid, Snaider Carrillo, Jim Harkin, Hardware spiking neural network prototyping and application, Genetic Programming and Evolvable Machines, September 2011, Volume 12, Issue 3, pp 257-280, 2011 - Springer

Cit. 14. Jing, Gu; Liu, Lu-yang; Yu, Xiao-yang. The Research of Multivariable Fuzzy Neural Network Controller based on FPGA, Journal of Harbin University of Science and Technology, Vol 16. No. 2., April 2011, China.

Cit. 15. Rumbell, Timothy, Self Organisation and Hierarchical Concept Representation in Networks of Spiking Neurons, University of Plymouth, UK, Phd Thesis, 2013.

Cit. 16. Cit. 12. Asmaa Ourdighi and Abdelkader Benyettou, An Efficient Spiking Neural Network Approach based on Spike Response Model for Breast Cancer Diagnostic, The International Arab Journal of Information Technology, Vol.13, No.3, 2014.

Cit. 17. A Ourdighi, A Benyettou, "An Efficient Spiking Neural Network Approach based on Spike Response Model for Breast Cancer Diagnostic", The International Arab Journal of Information Technology Vol. 13, No. 6B, 2016

2) Brassai Sándor Tihamér, **Bakó László,** Hardware Implementation of CMAC Type Neural Network on FPGA for Command Surface Approximation, Acta Polytechnica Hungarica - Journal of Applied Sciences at Budapest Tech Hungary, Vol. 4, No. 3, 2007, pp. 5-16, ISSN 17858860, MATARKA, IEEE.

* *Independent citations:*

- citations in ISI indexed journals or in CPCI indexed proceedings:

Cit. 18. Min-Kuang Wu; Widodo, S., Single input cerebellar model articulation controller (CMAC) based maximum power point tracking for photovoltaic system, Computer Communication Control and Automation (3CA), 2010 International Symposium on, ISBN: 978-1-4244-5565-2, pp. 439 – 442

Cit. 19. A. Taghavipour, M.S. Foumani, M. Boroushaki, Implementation of an optimal control strategy for a hydraulic hybrid vehicle using CMAC and RBF networks, Scientia Iranica, Available online 13 March 2012, ISSN 1026-3098, 10.1016/j.scient.2012.02.019.

Cit. 20. Bo Yang; Ran Bao; Huatao Han, "Robust Hybrid Control Based on PD and Novel CMAC With Improved Architecture and Learning Scheme for Electric Load Simulator," Industrial Electronics, IEEE Transactions on , vol.61, no.10, pp.5271,5279, Oct. 2014 doi: 10.1109/TIE.2014.2301717

- citations in journals and proceedings indexed by other international databases:

Cit. 21. Slamet Widodo, Microcontroller Implementation of Low-Cost Maximum Power Point Tracking Methods for Photovoltaic System, 2009, Master's Thesis, Southern Taiwan University, Department of Mechanical Engineering.

Cit. 22. S.P. Joy Vasantha Rani, K. Aruna Prabha, (2010) "Stochastic logic computation based RBFNN with adaptive hidden layer structure", Journal of Engineering, Design and Technology, Vol. 8 Iss: 2, pp.206 – 220.

Cit. 23. Mehran S. Razzaghi, Alireza Mohebbi. Predicting the Seismic Performance of Cylindrical Steel Tanks Using Artificial Neural Networks (ANN)., Acta Polytechnica Hungarica, Vol. 8, No. 2, 2011.

Cit. 24. Khan, H.A. and Tan, A.C.M. and Xiao, Y. and Sreeram, V. and Iu, H.H.C., An implementation of novel CMAC algorithm for very short term load forecasting, Journal of Ambient Intelligence and Humanized Computing, Springer-Verlag, p. 1-11, issn 1868-5137, 2012, doi= 10.1007/s12652-012-0157-4

***Cit. 25.** Belfiore, N. P., & Rudas, I. J. (2014, November). Applications of computational intelligence to mechanical engineering. In Computational Intelligence and Informatics (CINTI), 2014 IEEE 15th International Symposium on (pp. 351-368). IEEE.*

C2. Lucrări ştiinţifice publicate în reviste indexate în baze de date internaţionale

1) Fearghal Morgan, Arthur Beretta, Ian Gallivan, Joseph Clancy, Frédéric Rousseau, Roshan George, **Laszlo Bako**, Frank Callaly (2022) RISC-V Online Tutor. In: Auer M.E., Bhimavaram K.R., Yue XG. (eds) Online Engineering and Society 4.0. REV 2021. Lecture Notes in Networks and Systems, vol 298. Springer, Cham. https://doi.org/10.1007/978-3-030-82529-4_14
2) **Bakó L**., Brassai, S.T., "Embedded neural controllers based on spiking neuron models,", Pollack Periodica , An International Journal for Engineering and Information Sciences, DOI: 10.1556/Pollack.4.2009.3.13, Vol. 4, No. 3, pp. 143–154 (December 2009), Akadémiai Kiadó, Budapest, Hungary, ISSN 1788-3911, SJR — SCImago Journal & Country Rank: 0,031.

   Cit. 26. Pintér Ádám, Schmuck Balázs Szénási Sándor, "Short text evaluation with neural network", Pollack Periodica , Volume 13, Issue 3, December 2018.
3) Brassai, S.T., **Bakó L**., "Visual Trajectory Control of a Mobile Robot Using FPGA Implemented Neural Network", Pollack Periodica, An International Journal for Engineering and Information Sciences, Pollack.4.2009.3.12, Vol. 4, No. 3, pp. 129–142 (December 2009), Akadémiai Kiadó, Budapest, Hungary, ISSN 1788-3911, SJR — SCImago Journal & Country Rank: 0,031.

   Cit. 27. Kovács Bence, Path planning of autonomous service robots, Pattantyús-Ábrahám Géza Gépészeti Tudományok Doktori Iskola. (2017.), Ph.D. Dissertation, BME, Budapest.
4) **Bakó László**, Brassai Sándor Tihamér, Spiking neural networks built into FPGAs: Fully parallel implementations,WSEAS Transactions on Circuits and Systems, Issue 3, Volume 5, March 2006, pp346-353, ISSN 1109-2734, British Library Direct, SJR — SCImago Journal & Country Rank: 0,033.

   ** Independent citations:*

   - citations in journals and proceedings indexed by other international databases:

   Cit. 28. Yutaka Maeda, Yoshinori Fukuda, and Takashi Matsuoka. 2008. Pulse density recurrent neural network systems with learning capability using FPGA. WSEAS Trans. Cir. and Sys. 7, 5 (May 2008), 321-330.

   Cit. 29. Perez-Peña, Fernando; Morgado-Estevez, Arturo; Linares-Barranco, Alejandro; Jimenez-Fernandez, Angel; Gomez-Rodriguez, Francisco; Jimenez-Moreno, Gabriel; Lopez-Coronado, Juan; Neuro-Inspired Spike-Based Motion: From Dynamic Vision Sensor to Robot Motor Open-Loop Control through Spike-VITE; 2013, Sensors, 1424-8220, Vol. 13, Nr. 11, pp. 15805-15832, doi:10.3390/s131115805, http://www.mdpi.com/1424-8220/13/11/15805.

   Cit. 30. Morgado Estévez, Arturo, Gabriel Jiménez Moreno, Juan López Coronado, Fernando Pérez Peña, Ángel Francisco Jiménez Fernández, Francisco de Asís Gómez Rodríguez, and Alejandro Linares Barranco. "Neuro-Inspired Spike-Based Motion: From Dynamic

Vision Sensor to Robot Motor Open-Loop Control through Spike-VITE." (2013). Sensors 2013, 13, 15805-15832; doi:10.3390/s131115805S.

5) T. Brassai, **L. Bakó**, L. Losonczi Assistive Technologies for Visually Impaired People, Acta Universitatis Sapientiae, Electrical and Mechanical Engineering, 3 (2011) pp. 39−50 (EBSCO databases).

Cit. 31. Periša, Marko, Dragan Peraković, and Slavko Šarić. "Conceptual Model of Providing Traffic Navigation Services to Visually Impaired Persons." PROMET-Traffic&Transportation 26.3 (2014).

Cit. 32. MARKO PERIŠA, Ph D., Ph D. DRAGAN PERAKOVIĆ, and Ph D. SLAVKO ŠARIĆ. "CONCEPTUAL MODEL OF PROVIDING TRAFFIC NAVIGATION SERVICES TO VISUALLY IMPAIRED PERSONS." crossings 8.9: 10.

Cit. 33. Periša, Marko; Jovović, Ivan; Forenbacher, Ivan. A conceptual applicative solution for helping people with reduced mobility // RCITD 2014 Proceedings in Research Conference In Technical Disciplines / Ing. Michal Mokrys; Ing. Stefan Badura, Ph.D., editor(s). Zilina: EDIS - Publishing Institution of the University of Zilina, 2014. 82-85 (lecture,international peer-review,published,scientific).

Cit. 34. Adagale, Vaishali, and Sanjivani Mahajan. "Route Guidance System For Blind People Using GPS And GSM.", Int. Journal of Electrical and Electronic Engineering and Telecommunications, Vol. 4, No. 2, April 2015, ISSN 2319 – 2518, pp. 16-21, http://www.ijeetc.com/ijeetcadmin/upload/IJEETC_5524b75e51773.pdf

Cit. 35. S. Umadevi, S. Sebija,"Electronic Assistive Aid For Blind And Visually Impaired", International Journal of Engineering Trends and Technology (IJETT) – Volume23 Number 5- May 2015, pp. 263-267, http://www.ijettjournal.org/2015/volume-23/number-5/IJETT-V23P249.pdf

Cit. 36. Kamaludin, Muhammad Haziq, Nasrul Humaimi Mahmood, Abd Hamid Ahmad, Camallil Omar, and Masdinah Alauyah Md Yusof. "Sonar Assistive Device for Visually Impaired People." Jurnal Teknologi 73, no. 6 (2015).

Cit. 37. Adagale, Vaishali, and Sanjivani Mahajan. "ROUTE GUIDANCE SYSTEM FOR BLIND PEOPLE USING GPS AND GSM." (2015).

Cit. 38. Jesie, R. Sherline. "Advanced talking navigation cane for visually impaired using capacitive touch keypad." In Circuit, Power and Computing Technologies (ICCPCT), 2015 International Conference on, pp. 1-5. IEEE, 2015.

Cit. 39. Duarte, Karen, José Cecılio, Jorge Sá Silva, and Pedro Furtado. "Information and Assisted Navigation System for Blind People." Proceedings of the 8th International Conference on Sensing Technology, Sep. 2-4, 2014, Liverpool, UK, pp.470-473.

Cit. 40. LAMAS, Amilton Costa; SOUZA, Rafael Isidro. Sistema de apoio à localização para deficientes visuais. Extensio: Revista Eletrônica de Extensão, Florianópolis, v. 13, n. 24, p. 37-48, dez. 2016. ISSN 1807-0221

Cit. 41. Bhowmick, Alexy, and Shyamanta M. Hazarika. "An insight into assistive technology for the visually impaired and blind people: state-of-the-art and future trends." Journal on Multimodal User Interfaces 11.2 (2017): 149-172.

Cit. 42. Zubov, Dmytro. "Building IoT With Arduino." Emerging Trends and Applications of the Internet of Things. IGI Global, 2017. 117-166.

Cit. 43. Gopinath M, Raja MA, LabVIEW BASED BLIND PATH NAVIGATION SYSTEM USING GPS-A NOVEL APPLICATION, 46th ISTE Annual National Convention & National Conference 2017. Gulzar Group of Institutes, Ludhiana, Punjab-141401 (INDIA). International Journal of Advance Research and Innovation (ISSN 2347 – 3258). (2017.)

Cit. 44. Sain, Mohit. Portable Monitoring and Navigation Control System for Helping Visually Impaired People. Diss. Université d'Ottawa/University of Ottawa, PhD Thesis, 2017.

Cit. 45. Ghazali, Nurul Fathiah, et al. "Wearable Device for Malaysian Ringgit Banknotes Recognition Based on Embedded Decision Tree Classifier." Journal of Telecommunication, Electronic and Computer Engineering (JTEC) 10.1 (2018): 129-137.

Cit. 46. Chathurika Sewwandi Silva, Chathurika Sewwandi "Towards Intelligent Sensor Fusion based Visually Impaired Navigation: An Assistive Technology Framework", International Conference on Emerging Trends in Artificial Intelligence (ICETAI 2015), Open University, Sri Lanka, December 2015.

Cit. 47. Dmytro Zubov,"Building IoT With Arduino", Polytechnic University of San Luis Potosí, Mexico, Source Title: Emerging Trends and Applications of the Internet of Things, 2017, Pages: 50, DOI: 10.4018/978-1-5225-2437-3.ch005.

C3. Lucrări ştiinţifice publicate în reviste din străinătate (altele decât cele menţionate anterior).

1. **Bakó L**., Székely I (2009). *Challenges for implementations of delay-coded neuromorphic neural networks on embedded digital hardware*. Frontiers in Neuroinformatics. Conference Abstract: 2nd INCF Congress of Neuroinformatics. DOI:10.3389/conf.neuro. 11.2009.08.050, http://frontiersin.org/neuroinformatics/

C4. Lucrări ştiinţifice publicate în reviste din ţară, recunoscute CNCSIS (altele decât cele din baze de date internaţionale).

1. **Bakó László**, Székely Gyula (Iuliu), Brassai Sándor Tihamér, *Development of Advanced Neural Models. Software And Hardware Implementation*, Timişoara, Transaction on Electronics and communication, Scientific buletin of the „Politehnica" University of Timişoara, 2004, p214-219, ISSN 15833380 **(Cat. B+)**
2. Brassai Sándor Tihamér, Dávid László, **Bakó László**, *Hardware Implementation of CMAC based artificial network with process control application*, Timişoara, Transaction on Electronics and communication, Scientific buletin of the „Politehnica" University of Timisoara, 2004, p209-213, ISSN 1583-3380 **(Cat. B+)**
3. **BAKÓ László**, *Implementarea încorporată a unei metode de extragere a fluxului optic din secvenţe video*, Simpozionul Naţional Studiile Doctorale şi Postdoctorale în Contextul Cercetării Interdisciplinare, Universitatea Petru Maior din Tirgu Mures, 19 MARTIE 2015, Petru Maior University Press, ISBN 978-606-581-134-8, editors Boldea, I. And Sigmirean, C., pp. 74-84.

C5. Lucrări ştiinţifice publicate în volumele manifestărilor ştiinţifice

1. Péter Szigeti, **László Bakó**, An Intelligent Neuro-Phenotyping Information System: Multimodal Data Fusion, EEG Acquisition, And Privacy-Preserving Architecture For Visual Snow Syndrome, 8th International Conference on Artificial Intelligence and Advanced Manufacturing (AIAM 2026), Frankfurt, Germany, October 29–31, 2026. track 1.8: Intelligent Information System.
2. Péter Szigeti, **László Bakó**, Informatikai alapú objektív megközelítés a Vizuális Hó Szindróma és más vizuális eltérések vizsgálatára, EMT SzámOkt 2026 · Szováta, 2026 október
3. Áron Székely, **László Bakó**, PicoIDE: Design and Implementation of a Developer Environment and an In-Circuit Debugger for FPGA Embedded RISC Processors, 12th International Scientific and Expert Conference of the International TEAM Society, September 10 – 12, 2026 | Târgu Mureș, Romania
4. Kolcsár Levente, **Bakó László**, Interdisciplinary AI Research Methodology, Műszaki Tudományos Közlemények vol. 22. (2025) 59–64, https://eme.ro/publication/mtk/mtk22/MTK22-EN-10-Kolcsar.pdf
5. Fearghal Morgan, **László Bakó**, Declan O'loughlin, Roshan George, Arthur Beretta, et al.. Vicilogic: Linking Online Learning, Assessment and Prototyping with Remote FPGA. International Conference on Remote Engineering and Virtual Instrumentation (REV 2023), Mar 2023, Thessaloniki, Greece. ⟨hal-04300735⟩
6. Morgan, Fearghal, Arthur Beretta, Ian Gallivan, Joseph Clancy, Frédéric Rousseau, Roshan George, **László Bakó**, and Frank Callaly. "RISC-V Online Tutor." In Online Engineering and Society 4.0: Proceedings of the 18th International Conference on Remote Engineering and Virtual Instrumentation, pp. 131-143. Springer International Publishing, 2022.
7. Fearghal Morgan, Arthur Beretta, Ian Gallivan, Joseph Clancy, Frédéric Rousseau, Roshan George, **László Bakó**, Frank Callaly, "RISC-V Online Tutor", in Proceedings of the

International Conference on Remote Engineering and Virtual Instrumentation (REV2021), Hong Kong (Virtual Conference), Feb 2021, pp 316-328.

8. **L. Bakó**, G. Csernáth, L. Turos, I. Kiss and B. Csenteri, "Testing and analysis of battery wear characteristics," 2019 IEEE 19th International Symposium on Computational Intelligence and Informatics and 7th IEEE International Conference on Recent Achievements in Mechatronics, Automation, Computer Sciences and Robotics (CINTI-MACRo), Szeged, Hungary, 2019, pp. 000099-000104, doi: 10.1109/CINTI-MACRo49179.2019.9105178.
9. Bakó László, "SoC áramkörök alkalmazása a számítógép architektúrák oktatásában", Enelko-SzámOkt 2019, Timisoara, EMT Cluj-Napoca, 2019.
10. Fearghal Morgan, Declan O'Loughlin, Jeremy Audiger, Yohan Boyer, Niall Timlin-Canning, Krzysztof Kępa, Ian Gallivan, Frank Callaly, **László Bakó**, "viciLogic 2.0: Online learning and prototyping of digital systems using PYNQ-Z1/-Z2 SoCs", 29th International Symposium on Rapid System Prototyping (RSP), October 4-5, 2018, Torino, Italy (*in press by IEEExplore*).
    - *Cit. 48. Rym Skhiri, Virginie Fresse, Jihene Malek, Benoit Suffran, Jean Paul Jamont, "An approach for an efficient sharing of IP as a Service in cloud FPGA", Systems Signals & Devices (SSD) 2021 18th International Multi-Conference on, pp. 784-789, 2021.*
    - *Cit. 49. Rym Skhiri, Virginie Fresse, Virginie Fresse, Jean Paul Jamont, Benoit Suffran, Jihene Malek From FPGA to Support Cloud to Cloud of FPGA: State of the Art December 2019 International Journal of Reconfigurable Computing 2019(12):1-17*
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54. **Bakó László**, Brassai Sándor Tihamér, *Hardware spiking neural networks: parallel implementations using FPGAs,* Proceedings of the 8th WSEAS Int. Conference on Automatic Control, Modeling and Simulation, Prague, Czech Republic, March 12-14, 2006 (pp261-266), ISBN 960-8457-42-4, ISSN 1790-5117.

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56. **Bakó László**, Brassai Sándor Tihamér, *Természetazonos felépítésűmesterséges neurális hálózatok hardvare megvalósítása*, Cluj-Napoca, Számokt 2005 Kolozsvár, EMT, P219-230, ISBN: 973-7840-01-1
57. **Bakó László**, Brassai Sándor Tihamér, *Fejlett neuronmodellek szimulációja és megvalósítása*, Számokt 2004 – Cluj-Napoca, EMT, 2004, ISBN:973-86097-8-X, p98-107
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D. Contracte de cercetare

1. ***Domus senior researcher mobility scholarship*** at the Budapest University of Technology and Economics, Department of Measurement and Information Systems, funded by the Hungarian Academy of Sciences, for six weeks in 2018, 800 EUR.
2. Postdoctoral Research Scholarship, "Petru Maior" University of Tirgu-Mures, European Social Fund under the responsibility of the Managing Authority for the Sectoral Operational Programme for Human Resources Development, as part of the grant POSDRU/159/1.5/S/133652, 2014-2015 (18 months).
3. Research mobility, Host institution: Bio-Inspired and Reconfigurable Computing research group, Electrical & Electronic Engineering, College of Engineering and Informatics, National University of Ireland, Galway, Ireland, (http://birc.nuigalway.ie/), External stage coordinator: Dr. Fearghal Morgan B.Sc., Ph.D., Stage period: 30th of March-26th of April 2015.
4. ***Domus senior researcher mobility scholarship*** at the Budapest University of Technology and Economics, Department of Control Engineering and Information Technology, funded by the Hungarian Academy of Sciences, for six weeks in 2014, 800 EUR.
5. ***Domus senior researcher mobility scholarship*** at the Budapest University of Technology and Economics, Department of Control Engineering and Information Technology, funded by the Hungarian Academy of Sciences, for six weeks in 2013, 800 EUR.
6. ***Research scholarship***, Hungarian Government, Ministry of Human Resources, 2012-2013, 1650 EUR.
7. Proiectarea şi implementarea sistemelor încorporate în timp real cu arhitectură adaptivă, Institutul Programelor de Cercetare – Univ. Sapientia, ***Director proiect,*** 2013.
8. Eljárások és eszközök kutatása, fejlesztése és gyakorlati alkalmazása neuro-biológiai jelekre épülő rendszerek valós idejű szabályozásában, Conducător: Conf. dr. ing. Márton László-Ferenc, Institutul Programelor de Cercetare – Fund. Sapientia, *Membru*, 2011-2012
9. Sisteme adaptive cu reţele neurale artificiale neuromorfe. Realizări cu dispozitive hardware reconfigurabile, CNCSIS-UEFISCSU (Contract tip TD), ***Director proiect***, 2008-2009
10. Implementarea sistemelor neuro-adaptive cu circuite reconfigurabile. Conducător: dr. ing. Brassai S.T., Institutul Programelor de Cercetare – Fund. Sapientia, *Membru*, 2008-2009
11. Implementarea reţelelor neurale cu codarea decalajelor impulsurilor, bazate pe modele neurale hibride de tip RBF-Spiking cu aplicare pentru probleme de clasificare de date, Fundaţia EuroTrans, ***Director proiect***, 2008

12. Metode inteligente pentru prelucrarea digitală şi interpretarea semnalelor EKG bazate pe analiza Wawelet, Conducător: Prof. dr. ing. Székely Iuliu, Institutul Programelor de Cercetare – Fund. Sapientia, Membru, 2005-2006
13. Optimizarea şi aplicarea reţelelor neuronale artificiale neuromorfe în probleme de control Conducător: Prof. dr. ing. Székely Iuliu, Institutul Programelor de Cercetare – Fund. Sapientia, *Membru*, 2004-2005
14. Simularea şi utilizarea reţelelor neuronale artificiale neuromorfice, Conducător: Prof. dr. ing. Székely Iuliu, Institutul Programelor de Cercetare – Fund. Sapientia, *Membru*, 2003-2004
15. Modelarea şi simularea reţelelor neuronale artificiale neuromorfice, Conducător: Prof. dr. ing. Székely Iuliu, Institutul Programelor de Cercetare – Fund. Sapientia, *Membru*, 2002-2003
16. Obţinerea şi caracterizarea micro-structurală a depunerilor nanocompozite TiAlN în structura multistrat gradient de compoziţie realizate prin pulverizarea reactivă în curent continuu tip magnetron, Conducător: Prof. dr. ing. Dávid László, Institutul Programelor de Cercetare – Fund. Sapientia, *Membru*, 2001-2002.

E. Premii, distincţii.

1. Premiul ***"The Best Presenter in Information Technology"*** la Conferinţa The 4th International PhD, DLA Symposium, organizat de University of Pécs, Pollack Mihály Faculty of Engineering, Pécs, Ungaria, 20-21 Octombrie 2008.

2. BEST PAPER AWARD 2021, Full Paper Award Runner-Up, "RISC-V Online Tutor", Authors: Fearghal Morgan, Arthur Beretta, Ian Gallivan, Joseph Clancy, Frederic Rousseau, Roshan George, **László Bakó**, Frank Callaly, 18th International Conference on Remote Engineering and Virtual Instrumentation (REV 2021), 24-26 February 2021.

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Domokos, J., **Bakó, L.**, Szilágyi, L., Forgó, Z. (eds.), *Proceedings of the 3rd International Conference on Recent Achievements in Mechatronics, Automation, Computer Science and Robotics*, Scientia publishing House, Cluj-Napoca, 2011, 378 pag., ISSN 2247 – 0948.

J. Citări independente

Numărul total de lucrări este 74 la care se cunosc un număr total de 220 citări independente.

Data: 19. septembrie 2026.

Conf. dr. ing. Bakó László