

Conf. dr. ing. **Szász Csaba**

LISTA LUCRĂRI ȘTIINȚIFICE

În total 121 lucrări publicate, din care:

- 11 cărți de specialitate;
- 1 teză de doctorat;
- 1 brevet național
- 4 lucrări publicate în reviste ISI
- 83 publicații la conferințe internaționale sau naționale (23 indexate în baze de date int.)
- 21 publicații în reviste internaționale sau naționale

A. LISTA CELOR 10 LUCRĂRI CONSIDERATE MAI RELEVANTE

[1] R. Sumi, Z. Néda, A. Tunyagi, Sz. Boda, **Cs. Szász** (2009) – *Nontrivial spontaneous synchronization*, Physical Review E, American Physical Society (APS), Volume 79, E79, PACS nr. 05.45.Xt, 89.75.Fb, ISSN: 056205, pp. 056205-1-9, published 6 May 2009, IDS Number: 451WE. *Impact factor 2009: 2,4.*

[2] **Cs. Szász**, V. Chindriș, G. Husi, (2010)- *Embryonic Systems Implementation with FPGA-based Artificial Cell Network Hardware Architectures*, Asian Journal of Control, Vol 12, No 2, FB-08-020R, pp. 1-8, March, 2010, Published in Wiley InterScience (www.interscience.wiley.com), DOI: 10.1002/asjc 166, IDS Number: 578CL. *Impact factor 2010: 0,56.*

[3] G. Husi, **Cs. Szász**, V. Chindriș (2010) – *Artificial Immune System Implementation upon Embryonic Machine for Hardware Fault-tolerant industrial Control Applications*, Global Journal of Computer Science and Technology, Vol. 10, Issue 4, Version1.0, ISSN: 0975-4172, Print ISSN: 0975-4350, June 2010, pp. 60-66, Winston Univ., USA.

[4] **Szász Cs.**, (2007) - *Fuzzy Strategy-based Position Control of Field-oriented PM-hybrid Stepping Motor*, IEEE International Conference on Fuzzy Systems, FUZZ-IEEE2007, 32-26 July, London, United Kingdom, IEEE Catalog Number: 07CH37904C, ISBN: 1-4244-1210-2, ISSN: 1098-7584, pp. 951-955. Indexat în SCOPUS și IEEE XPLORE.

[5] **Szász Cs.**, (2007) - *Development Strategy of Next Generation Single-chip Smart Inverters for Motor Control Applications*, 15th IEEE Mediterranean Conference on Control and Automation, June 27-29, Athens, Greece, ISBN: 978-96-0254-664-2, Poster Session FrP T-28, pp. 109, (Conference official CD-ROM registration). Indexat în SCOPUS și IEEE XPLORE.

[6] **Szász Cs.**, Chindris V., (2007) - *Development Strategy and Implementation of a Generalized Model for FPGA-based Artificial Cell in Bio-inspired Hardware Systems*, 5th IEEE International

Conference on Industrial Informatics, July 23-27, Vienna, Austria, IEEE Catalog Number: 07EX1642, ISBN: 1-4244-0864-4, ISSN: 1935-4576, Vol. 2, pp. 639-643. Indexat în SCOPUS și IEEE XPLORE.

[7] **Cs. Szász**, V. Chindriș (2010) – *Fault-tolerant embryonic network development for high reliability mechatronic applications*, International Review of Applied Sciences and Engineering, Akadémiai Kiadó, Budapest, Int.Rev.Sci.Eng. 1 (2010) 1-2, pp. 61-66, DOI: 10.1556/IRASE 1.2010.1-2.10, ISSN 2062-0810, www.akademiai.com, Budapest, Hungary.

[8] **Szász Csaba**, (2005) – *Bazele sistemelor digitale*, Editura U.T. PRES, Cluj-Napoca 2005, ISBN 973-662-197-9, 199 pag. Editură recunoscută de CNCSIS.

[9] **Szász Csaba**, (2011) – *Sisteme numerice programabile*, Editura U.T. PRES, Cluj-Napoca 2011, ISBN 978-973-662-612-8, 151 pag. Editură recunoscută de CNCSIS.

[10] **Szász Csaba**, (2012) – *Diagnoza defectelor în sisteme electrice și electronice*, Editura U.T. PRES, Cluj-Napoca 2012, ISBN 978-973-662-689-0, 124 pag. Editură recunoscută de CNCSIS.

B. TEZĂ DE DOCTORAT:

[1] **Szász Cs.**, *Sisteme de comandă vectorială a motoarelor pas cu pas hibride implementate pe calculatoare personale*, Teză de doctorat, Specialitatea: Informatică Aplicată, Cluj-N, 1999.

C. BREVET DE INVENȚIE:

[1] Trifa V., Marschalko R., **Szász Cs.**, Székely A., (2003) - *Procedeu și circuit electronic sursă de curent pentru alimentarea motoarelor pas cu pas*. Brevet de invenție, RO 118512 B1, 10 pagini, 2003.

D. CĂRȚI DE SPECIALITATE:

[1] **Szász Csaba**, (2004) - *Sisteme numerice de comandă și control a motoarelor pas cu pas*, Editura U.T.PRES, Cluj-Napoca 2004, ISBN 973-662-104-9, 202 pag. Editură recunoscută de CNCSIS.

[2] Alexandru Morar, **Szász Csaba**, (2004) – *Motorul pas cu pas în acționari electrice*, Editura Univ. Petru Maior, Târgu-Mureș 2004, ISBN 973-8084-99-7, 312 pag. Editură recunoscută de CNCSIS.

[3] **Szász Csaba**, (2005) – *Bazele sistemelor digitale*, Editura U.T. PRES, Cluj-Napoca 2005, ISBN 973-662-197-9, 199 pag. Editură recunoscută de CNCSIS.

[4] **Szász Csaba**, (2006) – *Sisteme numerice de comandă și control, aplicații*, Editura U.T. PRES, Cluj-Napoca 2006, ISBN(10) 973-662-274-6, ISBN(13) 978-973-662-274-8, 116 pag. Editură recunoscută de CNCSIS.

[5] **Szász Csaba**, Virgil Chindriș, (2009) – *Sisteme digitale de inspirație biologică*, Editura UTPRESS, Cluj-Napoca 2009, ISBN 978-973-662-453-7, 227 pag. Editură recunoscută de CNCSIS.

[6] **Szász Csaba**, Virgil Chindriș, (2010) – *Arhitecturi programabile pentru sisteme numerice de control*, Editura UTPRESS, Cluj-Napoca 2010, ISBN 978-973-662-522-0, 248 pag. Editură recunoscută de CNCSIS.

[7] **Szász Csaba**, (2010) – *Elektrotechnika - Elektronika (I Rész- Elektrotechnika)*, Debreceni Egyetem, Műszaki Kar, 2010, ISBN 978-963-88614-7-4, 199, 140 oldal (Electrotechnics-Electronics - 1st Part – Electrotechnics, Technical Faculty Debrecen, Debrecen University Press, Hungary, 140 pages). Editură recunoscută UE.

[8] **Szász Csaba** (2010) – *Elektrotechnika - Elektronika (II Rész- Elektronika)*, Debreceni Egyetem Műszaki Kar, 2010, ISBN 978-963-88614-9-8, 133 oldal (Electrotechnics-Electronics - 2nd Part – Electronics, Technical Faculty Debrecen, Debrecen University Press, Hungary, 133 pages). Editură recunoscută UE.

[9] **Szász Csaba**, (2011) – *Sisteme numerice programabile*, Editura U.T. PRES, Cluj-Napoca 2011, ISBN 978-973-662-612-8, 151 pag. Editură recunoscută de CNCSIS.

[10] **Szász Csaba**, (2012) – *Diagnoza defectelor în sisteme electrice și electronice*, Editura U.T. PRES, Cluj-Napoca 2012, ISBN 978-973-662-689-0, 124 pag. Editură recunoscută de CNCSIS.

[11] Trifa V., **Szász Cs.**, (1997) *Sisteme microprogramate*, Îndrumător de laborator, Editura UTCN, 1997. 127 pag. Editură recunoscută de CNCSIS.

E. ARTICOLE PUBLICATE ÎN REVISTE DIN FLUXUL ȘTIINȚIFIC INTERNAȚIONAL PRINCIPAL:

[1] R. Sumi, Z. Néda, A. Tunyagi, Sz. Boda, **Cs. Szász** (2009) – *Nontrivial spontaneous synchronization*, Physical Review E, American Physical Society (APS), Volume 79, E79, PACS nr. 05.45.Xt, 89.75.Fb, ISSN: 056205, pp. 056205-1-9, published 6 May 2009, IDS Number: 451WE. *Impact factor 2009: 2,4.*

[2] **Cs. Szász**, V. Chindriș, G. Husi, (2010)- *Embryonic Systems Implementation with FPGA-based Artificial Cell Network Hardware Architectures*, Asian Journal of Control, Vol 12, No 2, FB-08-020R, pp. 1-8, March, 2010, Published in Wiley InterScience (www.interscience.wiley.com), DOI: 10.1002/asjc 166, IDS Number: 578CL. *Impact factor 2010: 0,56.*

[3] É. Dulf, F. Dulf, **Cs. Szász**, (2011) – *Fractional model of the (^{13}C) isotope separation column*, Chemické listy, Rocnik 105 Chlsac 105 (S), 1-L11 s892, s871-s1074 ISSN 0009-2770, <http://www.chemicke-listy.cz>. *Impact factor 2011: 1,58*.

[4] L. Szabó, M. Ruba, **Cs. Szász**, V. Chindriș, G. Husi, (2013) – *Fault Tolerant Bio-inspired System Controlled Modular Switched Reluctance Machine*, Automatika – Journal for Control, Measurement, Electronics, Computing and Communications, Online ISSN: 1848-3380 Print ISSN: 0005-1144, DOI: 10.7305. *Impact Factor 2012: 0.349*.

[5] G. Husi, **Cs. Szász**, V. Chindriș (2010) – *Artificial Immune System Implementation upon Embryonic Machine for Hardware Fault-tolerant industrial Control Applications*, Global Journal of Computer Science and Technology, Vol. 10, Issue 4, Version1.0, ISSN: 0975-4172, Print ISSN: 0975-4350, June 2010, pp. 60-66, Winston Univ., USA.

[6] **Cs. Szász**, V. Chindriș (2010) – *Fault-tolerant Embryonic Network Development for High Reliability Mechatronic Applications*, International Review of Applied Sciences and Engineering, Akadémiai Kiadó, Budapest, Int.Rev.Sci.Eng. 1 (2010) 1-2, pp. 61-66, DOI: 10.1556/IRASE 1.2010.1-2.10, ISSN 2062-0810, www.akademiai.com, Budapest, Hungary.

[7] **Cs. Szász**, G. Husi, P.T. Szemes (2013) – *LabView Software-based Building Supervising and Events Monitor System for Net Zero-energy Strategies Implementation*, International Review of Applied Sciences and Engineering, Akadémiai Kiadó, Budapest, Int.Rev.Sci.Eng. 4 (2013) 2, pp. 171-175, DOI: 10.1556/IRASE 1.2010.1-2.10, ISSN 2062-0810, www.akademiai.com, Budapest, Hungary.

[8] **Cs. Szász** (2014) – *Air-source Heat Pump LabView-based Model Development for NZEB Applications*, International Review of Applied Sciences and Engineering, Akadémiai Kiadó, Budapest, Int.Rev.Sci.Eng. 5 (2014) 1, pp. 59-66, DOI: 10.1556/IRASE.5.2014.1.8, ISSN 2062-0810, www.akademiai.com, Budapest, Hungary.

F. PUBLICAȚII ÎN LUCRĂRI ALE CONFERINȚELOR INTERNAȚIONALE

Indexate în baze de date internaționale (Thomson Reuters, Scopus, IEEE Xplore, etc.)

[1] **Szász Cs.**, Marschalko R., Trifa V., Székely A., (1998) - *Data acquisition and signal processing in vector control of PM-hybrid stepping motor*. Proceedings of 6-th OPTIM'98 International Conference, Brașov, DOI: 10.1109/OPTIM.1998.707973, pp. 447-450.

[2] Trifa V., Marschalko R., Székely A., **Szász Cs.**, Gălătuș R., (1998) - *Investigation of a four phase switched reluctance motor supplied from a PWM inverter*. Proceedings of 6-th OPTIM'98 International Conference, Brașov, DOI: 10.1109/OPTIM.1998.707953, pp. 341-344.

[3] **Szász Cs.**, (2007) - *Fuzzy Strategy-based Position Control of Field-oriented PM-hybrid Stepping Motor*, IEEE International Conference on Fuzzy Systems, FUZZ-IEEE2007, 32-26

July, London, United Kingdom, IEEE Catalog Number: 07CH37904C, ISBN: 1-4244-1210-2, ISSN: 1098-7584, pp. 951-955.

[4] **Szász Cs.**, Chindris V., (2007) - *Artificial Life and Communication Strategy in Bio-inspired Hardware Systems with FPGA-based Cell Networks*, 11th IEEE International Conference on Intelligent Systems, 29 June – 1 July, Budapest Hungary, IEEE Catalog Number: 07EX1751C, ISBN: 1-4244-1148-3, pp. 77-82.

[5] **Szász Cs.**, (2007) - *Development Strategy of Next Generation Single-chip Smart Inverters for Motor Control Applications*, 15th IEEE Mediterranean Conference on Control and Automation, June 27-29, Athens, Greece, ISBN: 978-96-0254-664-2, Poster Session FrP T-28, pp. 109, (Conference official CD-ROM registration).

[6] **Szász Cs.**, Chindris V., (2007) - *Development Strategy and Implementation of a Generalized Model for FPGA-based Artificial Cell in Bio-inspired Hardware Systems*, 5th IEEE International Conference on Industrial Informatics, July 23-27, Vienna, Austria, IEEE Catalog Number: 07EX1642, ISBN: 1-4244-0864-4, ISSN: 1935-4576, Vol. 2, pp. 639-643.

[7] **Szász Cs.**, Chindris V., (2008) - *Bio-inspired Hardware Systems Development and Implementation with FPGA-based Artificial Cell Network*, IEEE international Conference on Automation, Quality and Testing, Robotics AQTR 2008, May 22-25 2008, Cluj/Napoca, Romania, IEEE Catalog Number: CFP08AQT-PRT, Vol. I, ISBN: 978-1-4244-2576-1, Library of the Congress: 2008904446.

[8] **Szász Cs.**, Chindriş V., (2008) - *Communication Strategy and Fault-tolerance Abilities Development in Bio-inspired hardware Systems with FPGA-based Artificial cell network*, IEEE 11th International Conference on Optimization of Electrical and Electronic Equipment, May 22-24, 2008 Brasov, Romania, IEEE Catalog Number: 08EX1966C, Vol. 4, ISBN: 1-4244-1545-4, Library of the Congress: 2007905111.

[9] **Szász Cs.**, Czumbil L. (2008) – *Artificial Molecule Development Model for Genes Implementation in Bio-inspired Hardware Systems*, IEEE 11th International Conference on Optimization of Electrical and Electronic Equipment, May 22-24, 2008 Brasov, Romania, IEEE Catalog Number: 08EX1966C, Vol. 4, ISBN: 1-4244-1545-4, Library of the Congress: 2007905111.

[10] **Szász Cs.**, Chindris V., Czumbil L. (2008) – *Network Communication Strategy in Embryonic Systems with FPGA-based Hardware*, IEEE SMC International Conference on Distributed Human-Machine Systems, March 9-12, 2008 Athens, Greece, ISBN 978-80-01-04028-7, pp. 468-473, 2008.

[11] **Szász Cs.**, Chindriş V. (2009) – *Self-healing and Fault-tolerance Abilities Development in Embryonic systems implemented with FPGA-based hardware*, IEEE 13th International Conference on Intelligent Engineering Systems, April 16-18, 2009 Barbados, IEEE Catalog Number: CFP09IES-CDR, ISBN: 978-1-4244-4113-6, Library of the Congress: 2009901330, pp. 215-220.

[12] **Szász Cs.**, Chindriş V., (2009) – *Fault-tolerance Implementation with Spare Cells in bio-inspired hardware Systems*, The 35th Annual Conference of the IEEE Industrial Electronics Society, 3-5 November, Porto, Portugal, DOI: 10.1109/IECON.2009.5415054, pp. 3329 – 3334.

[13] **Szász Cs.**, Chindriş V., Szabó L., (2009) – *Modeling and Simulation of Embryonic Hardware Structures Designed on FPGA-based Artificial Cell Network Topologies*, 23rd European Conference on Modeling and Simulation, ECMS 2009, June 9th – 12th, Madrid, Spain, ISBN: 0-9553018-8-2, 978-0-9553018-8-9, pp. 613-617.

[14] **Szász Cs.**, Chindriş V., (2009) – *Fault-tolerance Properties and Self-healing Abilities Implementation in FPGA-based Embryonic Systems*, 6th IEEE International Conference on Industrial Informatics, INDIN 2009, 24-26th June 2009, Cardiff, UK, pp. TO7B-1, CF-000051.

[15] **Szász Cs.**, Chindriş V., (2010) – *Development of Hardware Redundant Embryonic Structure for High Reliability Control Applications* 12th International Conference on Optimization of Electrical and Electronic Equipment, May 20-21, OPTIM 2010 Brasov, Romania, ISSN: 1842-0133, ISBN: 978-973-131-080-0, IEEE 978-1-4244-7020-4, pp. 728-733.

[16] **Szász Cs.**, Chindriş V., (2010) – *Self-healing and Artificial Immune Properties implementation upon FPGA-based Embryonic Network*, 17th IEEE international Conference on Automation, Quality and Testing, Robotics AQTR 2010, May 28-30 2010, Cluj-Napoca, Romania, IEEE Catalog Number: CFP10AQT-PRT, ISBN: 978-1-4244-6722-8, pp. 170-175.

[17] **Szász Cs.**, Chindriş V., (2010) – *Self-organizing and Fault-tolerant Behaviors Approach in Bio-inspired Hardware Redundant Network Structures*, IEEE 14th International Conference on Intelligent Engineering Systems, May 5-7, 2009 Las Palmas of Gran Canaria, IEEE Catalog Number: CFP10IES-CDR, ISBN: 978-1-4244-7651-6, pp. 37-42.

[18] Chindriş V., **Szász Cs.**, (2011) – *Artificial Genes Implementation Upon FPGA-Based Embryonic Network*, 25th European Conference on Modeling and Simulation, ECMS-2011, Krakow, Poland, ISBN: 978-0-9564944-2-9, pp. 153-158.

[19] Chindriş V., **Szász Cs.**, (2011) – *Bio-inspired Parallel Computing Structures for High Reliability Servomotor Control Applications*, Proceedings of the 10th International Symposium on Parallel and Distributed Computing (ISPDC'2011), Cluj, pp. 270-273, 2011.

[20] **Szász Cs.** (2013) – *Enhancing the NI-9631 Mobile Robot Abilities with Multimodal Communication Skills*, IEEE 17th International Conference on Intelligent Engineering Systems, June 19-21, 2013 Costa Rica, Print ISBN: 978-1-4799-0828-8, DOI: 10.1109/INES.2013.6632799, pp. 145-150, 2013.

[21] **Szász Cs.**, Cioloca A. (2013) – *Two-layer Coarse-fine-grid Network Model for Bio-inspired Computing Systems Development*, 17th International Conference on System Theory, Control and Computing – ICSTCC 2013, October 11-13, Sinaia, ISBN: 978-1-4799-2228-4/13\$31.00.

[22] Cs. Szász, G, Husi (2013)– *Novel Multimodal Communication Skills Implementation on the NI-9631 Robot*, The 39th Annual Conference of the IEEE industrial Electronics Society, 10-13 of November, Vienna, Austria, SS58-1, ISBN: 978-1-4799-0224-8/13, pp. 7837-7842, 2013.

[23] Cs. Szász, (2014)– *HVAC Elements Modeling and Implementation for Net-zero Energy Building Applications*, 9th IEEE International Symposium on Applied Computational Intelligence and Informatics, May 15-17, 2014, Timisoara, ISBN: 978-1-4799-4694-5/14. pp. 195-200.

Alte conferințe internaționale sau naționale:

[1] Trifa V., Szász Cs., Forrai A., (1991)- *PC-based control of stepping motors using the field-orientation principle*. Proceedings of OPTIM'91 Conference, Brasov, 1991, vol. 2, pp. 79-88.

[2] Trifa V., Szász Cs., Forrai A., (1992) - *Real-time modelling and numerical simulation of vector-controlled PM-hybrid stepping motor*. Proceedings of the 8th National Conference of Electrical Drives, Iasi, 1992, pp. C.14/1-6, vol. 2.

[3] Trifa V., Forrai A., Szász Cs., (1992) - *Mathematical modelling and simulation of self-commutated PM-hybrid stepping motor*. Proceedings of ICEM'92 Conference, Manchester, UK, 1992, pp. 692- 696 (vol. 2).

[4] Trifa V., Szász Cs., Forrai A., (1994)- *Sliding mode controlled robot drive with variable reluctance stepping motor*. Proceedings of Power Electronic and Motion Control Conference (PEMC'94), Warsaw, Poland, Sept. 1994, pp. 389-394.

[5] Trifa V., Szász Cs., Cistelecan Mihaela, Forrai A., (1994) - *Tracking control with switched reluctance motors*. Proceedings of Power Electronic and Motion Control Conference (PEMC'94), Warsaw, Poland, Sept. 1994, pp. 437-441.

[6] Trifa V., Marschalko R., Székely A., Szász Cs., (1994) - *Modelling and experimenting the PWM inverter-fed PM-hybrid stepping motor*. Proceedings of Electrical Drive Design & Applications, Lausanne, Switzerland, Oct. 1994, pp. 513-518.

[7] Trifa V., Szász Cs., Cistelecan Mihaela, Forrai A., (1994) - *Modelling and simulation of switched reluctance motor drive with variable structure control*. Proceedings of 4th OPTIM'94 Conference, Brasov, 1994, vol. 1, pp. 351-356.

[8] Trifa V., Marschalko R., Székely A., Szász Cs., (1994) - *Considerations about PWM inverter-fed PM-hybrid stepping motor*. Proceedings of D&AS Conference, Suceava, vol. 5, pp. 133-138.

[9] Trifa V., Szász Cs., Cistelecan Mihaela, (1994) - *Experimental PC-Driven DSP developing system for electrical drives applications*. Proceedings of D&AS Conference, Suceava, 1994, vol. 5, pp. 139-144.

- [10] Marschalko R., Trifa V., Székely A., **Szász Cs.**, (1994) - *Modelling and simulation of double PWM converter-fed induction motor drives*. Proceedings of D&AS Conference, Suceava, 1994, vol. 5, pp. 67-72.
- [11] Trifa V., Marschalko R., **Szász Cs.**, Vermeşan C., (1996) - *DSP-based control of PWM-inverter fed PM-Hybrid stepping motors*. Proceedings of 5th OPTIM'96 Conference, Brasov, 1996, vol. 3, pp. 1273-1279.
- [12] Marschalko R., **Szász Cs.**, Trifa V., Székely A., (1998) - *Implementing of a vector controlled PM-hybrid stepping motor servodrives*. PEMC'98 International Conference, Praga, 1998 (CD-ROM registration).
- [13] Marschalko R., **Szász Cs.**, Trifa V., Szász I., (1998) - *Simplified vector control of PM-hybrid stepping motor*. International Conference on Automation and Quality Control A&Q'98, Cluj, 1998, pp. 400-407.
- [14] **Szász Cs.**, Trifa V., Marschalko R., (1998) - *Investigations concerning the vector control of PM-hybrid stepping motor*. Proceedings of the 9th National Conference on Electrical Drives, Craiova, 8-9 October 1998, pp. 311-314, ISBN 973-9346-68-5.
- [15] Trifa V., Ramona Galatus, Székely A., **Szász Cs.**, (1999) - *Aspects concerning the commutation of 8/6 switched reluctance motors*. Proceedings of 3rd International Symposium on advanced Electromechanical Motion Systems, Patras, Greece, July 8-9, Paper B-04, pp. 125-130.
- [16] **Szász Cs.**, Marschalko R., Trifa V., Szekely A. (1999) – *Experimenting of a simplified vector control system with PM-hybrid stepping motor*. PCIM'99 International Conference Nuremberg, Germany, June 22-24 1999, pp. 291-294, ISBN 3-928643-23-1.
- [17] **Szász Cs.**, Szemes P.T. (2003) – *Dynamic performances evaluation of simplified vector controlled PM-hybrid stepping motor*, PCIM'2003 International Conference Nuremberg, May 20-22, Germany, 2003, pp. 95-99.
- [18] **Szász Cs.** (2003) – *Dynamic performances of the PM-hybrid stepping motor with simplified vector control strategy*. ENELKO-2003, Conference of Energetics and Electrical Engineering, 4-6 October Cluj-2003, pp. 218-222, ISBN 973-86097-5-5.
- [19] Morar A., **Szász Cs.**, (2003) – *Numerical simulation and experimenting the simplified vector control strategy for PM-hybrid stepping motors*. Inter-Ing 2003, “Interdisciplinarity in Engineering” Scientific Conference With International Participation, Tg. Mures, 6-7 Noiembrie 2003, vol II pp. 175-179, ISBN 973-8084-81-4.
- [20] Fábíán Z., **Szász Cs.** (2004) – *H₂ robust control strategy for the PM-hybrid stepper motor drive*. ENELKO-2004, Conference of Energetics and Electrical Engineering, 8-10 October Cluj-2004, pp. 40-47, ISBN 973-86852-9-X.

- [21] **Szász Cs.** (2004) – *Low-power current-source PWM inverter for stepping motors drive*. ENELKO-2004, Conference of Energetics and Electrical Engineering, 8-10 October Cluj-2004, pp. 179-185, ISBN 973-86852-9-X.
- [22] **Szász Cs.** (2004) – *Computer aided simulation of the PM-hybrid stepping motor vector control systems*. ENELKO-2004, Conference of Energetics and Electrical Engineering, 8-10 October Cluj-2004, pp. 185-190, ISBN 973-86852-9-X.
- [23] **Szász Cs., Morar A.**, (2004) - *Asynchronous PWM inverter for closed-loop PM-hybrid stepper motor drive*. EPE'2004 International Conference Iasi, Buletinul Institutului Politehnic Iasi, Tomul L(LIV), Fasc. 5C, 2004, 8-10 October, pp. 1091-1098.
- [24] **Szász Cs.** (2004) – *Sliding mode robust control strategy for PM-hybrid stepper motor*, ICATE 2004 7th International Conference on Applied and theoretical Electricity, 14-15 October 2004, Baile Herculane, Section 3, pp. 183-188, ISBN 973-8043-554-4.
- [25] **Szász Cs., Korondi P.** (2004) – *Sliding mode simplified vector control strategy for PM-hybrid stepper motor*, 3rd International Conference Inter-Academia, Budapest, 6-9 September 2004, pp.38-46, ISBN 963-420-811-8.
- [26] **Szász Cs.**, (2005) - *Speed control of field-oriented PM-hybrid stepping motor using H_2 robust strategy*, Proceedings of PCIM'2005 International Conference, Nuremberg, 7-9 June Germany, pp. 620-624, ISBN 3-928643-41-X.
- [27] **Szász Cs.**, (2005) - *Fuzzy controller design for field-oriented hybrid stepping motor drive*, Proceedings of 6th Symposium on Advanced Electromechanical Motion Systems, Electromotion 2005, 27-29 September 2005, Lausanne Switzerland (CD-ROM registration).
- [28] **Szász Cs.** (2005) – *Linear synchronous motors application in health service tray systems*. ENELKO-2005, Conference of Energetics and Electrical Engineering, 7-9 October, Cluj-2005, pp. 176-180, ISBN 973-7840-06-2.
- [29] **Szász Cs.**, (2005) – *Computer-aided numerical simulation of the sliding-mode controlled PM-hybrid stepping motor*. Inter-Ing 2005, Proceedings of “Interdisciplinarity in Engineering” Scientific Conference With International Participation, Tg. Mures 10-11 November 2005, pp. 449-452, ISBN 973 7794 41 9.
- [30] **Szász Cs.**, (2005) – *H_2 robust controller design methodology for the field-oriented stepping motor drive*. Inter-Ing 2005, Proceedings of “Interdisciplinarity in Engineering” Scientific Conference With International Participation, Tg. Mures, 10-11 November 2005, pp. 453-456, ISBN 973-7794-41-9.
- [31] Istrate C., **Szász Cs.** (2005) – *PID position control of field-oriented PM-hybrid stepper motor*. 13th International Conference on Electrical Drives and Power Electronics EDPE-2005, September 26-28, 2005, Dubrovnik, Croatia, ISBN-953-6037-43-2.

[32] Cârnat P., **Szász Cs.** (2005) – *Variable structure position controller design for stepping motor drive*. 13th International Conference on Electrical Drives and Power Electronics EDPE-2005, September 26-28, 2005, Dubrovnik, Croatia, ISBN-953-6037-43-2.

[33] **Szász Cs.**, (2006) - *Robustness analysis of the closed-loop stepping motor positioning systems using variable-structure controllers*. Proceedings of 27th PCIM'2006 International Conference, Nuremberg, 30 May – 1 June 2006, Germany (Conference official CD-ROM registration).

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H. PROIECTE DE CERCETARE (naționale sau internaționale)

Director proiecte de cercetare câștigate prin competiție națională:

1. *Cercetări teoretice și experimentale privind implementarea proprietăților de toleranță la defecte și auto-organizare în sistemele digitale și analogice de inspirație biologică.* Proiect de cercetare CNCSIS, Cod CNSIS 1571, Grant de tip A, Fazele 2007-2008, Valoare totală: 49.000 lei, Director de proiect: **Szász Cs.**
2. *Echipamente tolerante la defecte controlate prin arhitecturi electronice de inspirație biologică.* Proiect de cercetare CNMPI2-Parteneriate, Acronim: ElBioArch, Contract Nr. 12121/2008, Fazele 2008-2011, Valoare totală (2008-2011): 1.875.000 lei, Director de proiect: **Szász Cs.**

Membru în alte proiecte de cercetare naționale sau internaționale:

3. *Cercetarea și dezvoltarea unui sistem de poziționare cu motor pas cu pas hibrid modularizat. Faza 1: Proiectarea și execuția motorului pas cu pas.* Proiect de cercetare cu Ministerul Cercetării și Tehnologiei. Contract nr. 907/1995, tema B1.
4. *Cercetarea și dezvoltarea unui sistem de poziționare bazat pe un servomotor cu reluctanță autocomutat. Faza 1: Proiectarea și execuția servomotorului cu reluctanță autocomutat.* Proiect de cercetare CNCSU, tema B21, Contract nr. 4003/1995.
5. *Echipament de comanda și poziționare a sistemului de antena.* Proiect de cercetare Nr. 28/11.04.1995, Beneficiar: Institutul de Marina din Constanta.
6. *Cercetarea, proiectarea și execuția unui echipament de poziționare bazat pe un servomotor cu reluctanță autocomutat. Faza 2: Proiectarea și realizarea invertorului PWM pentru alimentarea servomotorului.* Proiect de cercetare CNCSU, cod 107/1996, Contract nr. 5003/1996. Valoare grant: 3.000.000 lei.
7. *Convertor ecologic ac/cc cu modularea în durată a impulsurilor (0-3kW). Faza 1: Proiectarea și experimentarea modului electronic de putere de 250W.* Proiect de cercetare CNCSU, cod 106, Contract nr. 5003/1996. Valoare grant: 4.000.000 lei.
8. *Cercetarea și implementarea unor preconvertoare de ca/cc cu corectarea factorului de putere și a unor convertoare de cc/cc cu parametrii energetici ridicați.* Faza 1: Cercetări prin modulare, simulare și experimentare privind circuite electronice de putere de conversie noi, cu performanțe energetice ridicate. Proiect de cercetare CNCSIS. Contract 33830/1999, Tema nr. 55, Cod CNCSIS 625, Valoare faza 17.500 mii lei.
9. *HuComTech project – Human-Machine the Theoretical Fundamentals of Human-Computer Interaction Technologies,* Faculty of Engineering, University of Debrecen, Department of Electrical Engineering and Mechatronics. Research supported by the HuComTech TÁMOP 4.2.2-08/1/2008-0009 project, funded by the European Union, the European Regional Development Fund, and the European Social Fund. The granted amount is 282.458.349 HUF supported by the European Union and the Hungarian Government.
10. *Mașini cu reluctanță variabilă de performanțe îmbunătățite destinate aplicațiilor din procese critice.* Contract de colaborare științifică și tehnologică bilaterală româno-slovacă dintre Universitatea din Zilina (Republica Slovacă) și Universitatea Tehnică din Cluj-Napoca. Finanțatori Ministerul Educației din România și Republica Slovacă, 2011-2012, contract integrat în programul Capacități modulul III. Contract nr. 472/07.03.2011.
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