

PERSONAL INFORMATION

Csaba Szász




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 Yahoo, szaszcsaba

Sex Male | Date of birth 16/05/1966 | Nationality Hungarian

JOB APPLIED FOR
POSITION
PREFERRED JOB
STUDIES APPLIED FOR

WORK EXPERIENCE

2013 - present

Associated Professor, Dr. eng.

Technical University of Cluj, Str. Memorandumului, nr 28, Postal code: 400114, Cluj,
phone/fax +4 0264 592 055, utcluj.ro

Main activities and responsibilities: Assoc. Professor, Department of Electrical Machines and Drives,
Electrical Engineering Faculty

1997- 2013

Lecturer, Dr. eng.

Technical University of Cluj, Str. Memorandumului, nr 28, Postal code: 400114, Cluj,
phone/fax +4 0264 592 055, utcluj.ro

Main activities and responsibilities: Lecturer, Department of Electrical Machines and Drives, Electrical
Engineering Faculty

1994-1997

Assistant Professor, Drd. eng.

Technical University of Cluj, Str. Constantin Daicoviciu nr 15, Postal code: 400020, Cluj,
phone/fax +4 0264 592 055, utcluj.ro

Main activities and responsibilities: Assistant Prof. Department of Electrical Drives and Robots,
Electrical Engineering Faculty

EDUCATION AND TRAINING

2000-2002

Mombusho Fellowship, Tokyo University of Technology

Tokyo University of Agriculture and Technology, Graduate School of Bio-applications and Systems
Engineering, Department of Symbiotic Production Systems, Koganei-shi, Tokyo, Japan.

1992-1999

Ph.D. in Applied Informatics

ISCED 6

Technical University of Cluj, Str. Constantin Daicoviciu nr 15, Postal code: 400020, Cluj,
phone/fax +4 0264 592 055, utcluj.ro

1985-1990

Degree in Electrical Engineering

ISCED 5

Technical University of Cluj, Str. Constantin Daicoviciu nr 15, Postal code: 400020, Cluj,
phone/fax +4 0264 592 055, utcluj.ro

- Knowledge and abilities to programming and to use programming technologies and environments.

- Knowledge and abilities to use operating systems and microprogramming.
- Knowledge and abilities to design and develop electrical machines.
- Knowledge and abilities to process identification and to modeling and simulation of electrical drive systems.
- Knowledge and abilities to design and development of electrical drive systems.
- Knowledge and abilities to design and development of digital control systems, experimenting hardware architectures and informatics systems.
- Knowledge and abilities in electronic devices and circuits, respectively, in power electronics.
- Knowledge and abilities to design and implementing digital control systems of electrical machines and industrial processes.
- Knowledge and abilities in applied informatics and industrial processes data acquisition

PERSONAL SKILLS

- abilities in team work gained in several research projects
- communication abilities gained in the teaching process and public presentations, respectively in high number of international conferences

Mother tongue Hungarian

Other language(s)	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	Independent user	Independent user	Proficient user	Independent user	Independent user
Japanese	Basic user	Basic user	Independent user	Basic user	Basic user
Language certificate, Tokyo University of Agriculture and Technology					
German	Basic user	Independent user	Basic user	Basic user	Independent user

Communication skills

- good communication skills gained during the teaching process
- good communication gained in national and international conferences
- good communication skills gained in several international languages gained during the international research fellowship

Organisational / managerial skills

- organizational and managerial skills gained by managing national level research projects: project manager of the CNSCIS 2007-2008 project (10 persons), project manager of the EIBioArch Partnership PNCDI2 2008-2011 project (40 persons)

Job-related skills

- applied informatics (PhD in applied informatics)
- digital systems and microelectronics (teaching activity and research)
- digital control systems of servomotors (teaching activity and research)
- analogical electronics, electronic devices and circuits (teaching activity and research)
- dc/ac power electronic converters operating on the PWM principle for servomotors drive (teaching activity and research)
- microprogramming (assembly language), high-level languages programming (Pascal), programming in VHDL (teaching activity and research)
- modern control strategies of low-power electrical drive systems (research activity)
- bio-inspired digital systems (research activity)

Computer skills	<ul style="list-style-type: none"> ▪ specialized in applied informatics ▪ a good knowledge of Microsoft Office™ instruments ▪ good knowledge of hardware architectures, microprogramming and configuration of digital systems ▪ processing digital documents by using various software toolkits (Microsoft Office, Flash, etc.) ▪ modeling and simulation in various software environments (Matlab/Simulink, Orcad, LabView, TwidoSuite, etc)
Other skills	
Driving license	B
Publication	<ul style="list-style-type: none"> - 11 books; - 1 patent, 1 PhD thesis - 4 ISI journal papers - 83 international conference papers - 19 international and national journal papers
Projects	- 11 national or international research grants;
Honors and awards	National Instruments Co. III award , for the best developments in 2012, for the research work: Multimodal control of the NI SbRIO-9631 robot.

ANEXES **Papers published in ISI journals**

- [1] R. Sumi, Z. Néda, A. Tunyagi, Sz. Boda, **Cs. Szász** – *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, IDS Number: 451WE, (2009). *Impact factor 2009: 2,4*.
- [2] **Cs. Szász**, V. Chindriş, G. Husi - *Embryonic Systems Implementation with FPGA-based Artificial Cell Network Hardware Architectures*, IEEE 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, (2010). *Impact factor 2010: 0,56*.
- [3] É. Dulf, F. Dulf, **Cs. Szász** – *Fractional model of the (¹³C) isotope separation column*, Chemické listy, Rocnik 105 Chlsac 105 (S), 1-L11 s892, s871-s1074 ISSN 0009-2770, <http://www.chemicke-listy.cz>, (2011). *Impact factor 2011: 1,58*.
- [4] L. Szabó, M. Ruba, **Cs. Szász**, V. Chindriş, 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*.

Printed Books (the complete list in the annex: **List of scientific publications**)

- [1] **Szász Csaba** – *Stepping motor control systems*, U.T.PRES, Cluj-Napoca 2004, ISBN 973-662-104-9, 202 pag.
- [2] Alexandru Morar, **Szász Csaba** – *The stepping motor in electrical drives*, Petru Maior Univ. Press, Targu-Mures 2004, ISBN 973-8084-99-7, 312 pag.
- [3] **Szász Csaba** – *Digital system's fundamentals*, U.T. PRES, Cluj-Napoca 2005, ISBN 973-662-197-9, 199 pag.
- [4] **Szász Csaba** – *Digital control systems – Applications*, U.T. PRES, Cluj-Napoca 2006, ISBN(10) 973-662-274-6, ISBN(13) 978-973-662-274-8, 116 pag.
- [5] **Szász Csaba**, Virgil Chindriş – *Bio-inspired hardware systems*, UTPRESS, Cluj-Napoca 2009, ISBN 978-973-662-453-7, 227 pag.
- [6] **Szász Csaba**, Virgil Chindriş – *Programmable hardware architectures*, UTPRESS, Cluj-Napoca 2010, ISBN 978-973-662-522-0, 248 pag.
- [7] **Szász Csaba** – *Programmable hardware systems*, U.T. PRES, Cluj-Napoca 2011, ISBN 978-973-662-612-8, 151 pag.

Papers published in international databases, indexed Thomson Reuters, Scopus, IEEE Xplore, etc. (the complete list in the annex: List of scientific publications)

- [1] **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.
- [2] **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.
- [3] **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).
- [4] **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.
- [5] **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.
- [6] **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.
- [7] **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.
- [8] **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.
- [9] **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.
- [10] **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, ISSN: 1842-0133, ISBN: 978-973-131-080-0, IEEE 978-1-4244-7020-4, pp. 728-733.
- [11] **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.
- [12] 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.

Research projects manager:

- [1] *Theoretical and experimental research regarding the fault tolerance and self-organization properties implementation on digital and analogical bio-inspired systems.* Research project CNCSIS, type A, CNCSIS code: 1571, Project manager: Dr. Szász Csaba, 2007-2008.
- [2] *Fault-tolerant equipment controlled by bio-inspired electronic architectures.* Research project CNMPI2-Partnerships, No: 12121/2008, Project manager: Dr. Szász Csaba, 2008-2011.

Member in other national and international research projects
(the complete list in the annex: **List of scientific publications**)

- [1] *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, founded 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.
- [2] *IMPROVED PERFORMANCE SWITCHED-RELUCTANCE MOTORS FOR APPLICATIONS CRITICAL INDUSTRIAL PROCESSES*. Romanian- Slovakian scientific and technological bilateral agreement, founded by the Romanian Ministry of Education and Slovakian Ministry of Education, 2011-2012, Research project in the frame of Capacities, Module III, project nr. 472/07.03.2011.
- [3] *DENzero (Debrecen University Net Zero-Energy Buildings) project*, Faculty of Engineering, University of Debrecen, Department of Electrical Engineering and Mechatronics, 2013 - TÁMOP-4.2.2.A-11/1/KONV-2012-0041 project. The project is co-financed by the European Union and the European Social Fund, and the Hungarian Government.

Date: 05.06.2014

Assoc. Professor **Szász Csaba**, Ph.D.