

PERSONAL INFORMATION



Loránd SZABÓ

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Sex Male | Date of birth 12/06/1960 | Nationality Romanian

WORK EXPERIENCE

-
- 2009- **Director of Centre of Applied Researches in Electrical Engineering and Sustainable Development (CAREESD)**
Technical University of Cluj-Napoca (Romania)
▪ Research management
Business or sector Research
- 2010-2011 **Head of the Department of Electrical Machines**
Technical University of Cluj-Napoca (Romania)
▪ Higher education management
Business or sector Higher education
- 2006- **Professor**
Technical University of Cluj-Napoca (Romania), Department of Electrical Machines
▪ Teaching and research
Business or sector Higher education
- 2003-2006 **Associated professor**
Technical University of Cluj-Napoca (Romania), Department of Electrical Machines
▪ Teaching and research
Business or sector Higher education
- 1999-2003 **Lecturer**
Technical University of Cluj-Napoca (Romania), Department of Electrical Machines
▪ Teaching and research
Business or sector Higher education
- 1990-1999 **Electrical engineer**
Technical University of Cluj-Napoca (Romania), Practical Training Department
▪ Teaching and research
▪ Design in electrical engineering
Business or sector Higher education
- 1985-1990 **Electrical engineer**
CLA Cement Factory, Aleșd (Romania)
▪ Maintenance engineer for power electronics devices
Business or sector Industry

EDUCATION AND TRAINING

1991-1995	<p>Ph.D. in Electrical Engineering</p> <p>Technical University of Cluj-Napoca (Romania)</p> <ul style="list-style-type: none"> ▪ Electrical engineering (electrical machines and drives) 	<p>Doctoral studies (level 8)</p>
1980-1985	<p>B.Sc. in Electrical Engineering</p> <p>Polytechnic Institute of Cluj-Napoca (Romania)</p> <ul style="list-style-type: none"> ▪ Electrical drives 	<p>Higher education (level 7)</p>
2012-2013	<p>Modern educational instruments and the use of IT&C in education</p> <p>Technical University of Cluj-Napoca (Romania)</p> <ul style="list-style-type: none"> ▪ Lifelong learning and training for higher education teachers in the technical sciences and engineering fields (DidaTec Project) 	<p>Training (level 4)</p>
2010	<p>Project manager</p> <p>S.C. RoMarketing S.R.L. (Romania)</p>	<p>Training (level 4)</p>

PERSONAL SKILLS

Mother tongue(s) Hungarian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
Romanian	C2-Proficient user	C2-Proficient user	C2-Proficient user	C2-Proficient user	C2-Proficient user
English	C1-Advanced	C1-Advanced	C1-Advanced	C1-Advanced	C1-Advanced

Communication skills

- Listening, confidence and empathy
- Clarity and concision
- Open-mindedness

Organisational / managerial skills

- Focus oriented – building a focus on a certain goal to achieve.
- Prioritization – prioritizing activities in a way that synergize the effect in a fruitful manner.
- Timelines driven – marking time-lines to achieve/ complete certain tasks.

Job-related skills

- Organized person
- Good abilities for synthetic and global views over concrete situations
- End-oriented work capacity
- Problem-solving attitude
- Responsibility, self-respect and self-reliance

Computer skills

- General purpose: MS Office (Word, Excel and PowerPoint)
- Internet browser: Internet Explore, Mozilla Firefox, Chrome, Opera
- Programming environments: Matlab, LabVIEW
- Electromagnetic CAD: MagNet, Flux 2D, AnSys
- Simulation environments: SIMULINK, CASPOC, Simplorer
- Programming languages: Turbo PASCAL, BASIC
- CAD: AutoCAD, OrCAD, Protel
- Graphics, image processing: CorelDraw, Corel Photo Paint, IrfanView, SmartDraw, Visio
- WEB design: Dreamweaver

- Other skills
 - Driving licence
- Painting
 - B Category

 ADDITIONAL INFORMATION

- Publications
 - 257 publications:
 - 5 books and 3 book chapters;
 - 9 papers in Web of Science indexed journals;
 - 51 papers in other refereed journals;
 - 100 papers in proceedings of international conferences;
 - 54 papers in proceedings of national and not refereed conferences;
 - 26 papers in university annals;
 - 9 other publications.
 - Patents
 - 1 patent
 - Projects
 - Project manager for 10 research grants (among them 4 in international cooperation);
 - Project manager for 1 research project for industry;
 - Member in 5 research teams working on international projects;
 - Member in research teams of 28 national research projects;
 - Member in 17 research teams working on research projects for industry.
 - Awards
 - IET Electric Power Applications Premium Award (Best Paper) 2015
 - 8 awards in technical exhibitions:
 - Diploma of excellence and Gold medal at the PRO INVENT International Invention Show, Cluj (Romania), 2013;
 - Diploma of excellence from Technical University of Chişinău (Republic of Moldova) obtained at the International Specialized Exhibition INFOINVENT '2013, Chişinău (Republic of Moldova), 2013;
 - Diploma of excellence and Bronze medal at the PRO INVENT International Invention Show, Cluj (Romania), 2012;
 - Silver medal from the European Exhibition of Creativity and Innovation EUROINVENT '2011, Iaşi (Romania), 2011;
 - Diploma of honour from the XVth International Exhibition of Research, Innovation and Technological Transfer INVENTICA '2001, Iaşi (Romania), 2011;
 - Bronze medal at the INVENTIKA International Fair of Inventions, Bucharest (Romania), 2010;
 - Silver medal at the International Warsaw Inventions Show IWIS '2010, Warsaw (Poland), 2010;
 - Gold medal at the PRO INVENT International Invention Show, Cluj (Romania), 2010.
- Performed assessments and evaluations
- European Commission - Horizon 2020 - The EU Framework Programme, "Societal Challenges" section, "Secure, Clean and Efficient Energy" work programme, "Competitive Low Carbon Energy" Call (H2020-LCE-2015): 2014, 2015
 - European Commission - Education, Audiovisual and Culture Executive Agency (EACEA) – Youth in Action Programme: 2010, 2011, 2013
 - National Fund for Scientific Research (NFSR), Belgium: 2012, 2013, 2014, 2015, 2016
 - ERA-NET Smart Cities & Communities, Joint Programming Initiative (JPI) Urban Europe: 2015
 - ERANETMED - Euro-Mediterranean Cooperation Through ERANET Joint Activities and Beyond. Renewable energies, water resources and their connections for the Mediterranean Region: 2015
 - Ministry of Education, Youth and Sports, Operational Programme Research and Development for Innovation Management Section, Check Republic: 2015, 2016
 - Norwegian Centre for International Cooperation in Education (SIU): 2016
 - German-Egyptian Research Fund (GERF), German Federal Ministry of Education and Research (BMBF) and Egyptian Ministry of Scientific Research (MoSR): 2015
 - Shota Rustaveli National Science Foundation (SRNSF) former Georgian National Science Foundation (GNSF), Georgia: 2006, 2007, 2011, 2012, 2013, 2014, 2015
 - Romanian Agency for Quality Assurance in Higher Education (ARACIS): 2007, 2009, 2013
 - Technical University of Cluj, Romania - Master Studies Accreditation Program: 2009, 2011
 - Technical University of Cluj, Romania - Research Activity Evaluation Program: 2008, 2009, 2011, 2014
 - International Association for the promotion of co-operation with scientists from the New Independent States of the former Soviet Union (INTAS), European Community: 2005, 2006
 - Romanian National University Research Council (CNCSIS): 2004, 2005, 2006, 2008
 - Romanian National Authority for Scientific Research (ANCS): 2005, 2006
 - Research Programme Institute of "Sapientia" Foundation, Cluj (Romania): 2004

Evaluation board member or expert

- Interreg CENTRAL EUROPE Programme, 2016-
- FFG - Austrian Research Promotion Agency, 2015-
- COST - European Cooperation in Science and Technology, 2014-
- MARTEC ERA-NET - Maritime Technologies, 2014-
- European Institute of Innovation and Technology (EIT) 2013-
- European Commission Experts Database , 2012-
- ERAfrica project (European Union), 2013-
- Evaluators database for International Cooperation (EVAL-INCO), 2009-
- SEE-ERA.NET PLUS - Integrating and Straightening European Research Area in South East Europe Coordination and Support Action (European Community), 2009-
- Interregional Cooperation Programme INTERREG IVC (European Union's Regional Development Fund), 2008-
- Community Research and Development Information Service - CORDIS (European Commission), 2006-2012

Memberships

- Institute of Electrical and Electronics Engineers (IEEE);
- Transylvanian Hungarian Technical Scientific Society (EMT).

ANNEXES

- A1 - Main publications;
- A2 - Main research projects.

Annexes

A1 - Main publications

Books

- Szabó L. - Fodorean D.: **Simularea ansamblului convertor - mașină utilizat în sisteme electromecanice** (*Simulation of the converter-machine assembly used in electromechanical systems*). U.T. Press Publisher, Cluj-Napoca (Romania), 2009. ISBN: 978-973-662-480-3. 210 pages.
- Bíró K.Á. - Viorel I.A. - Szabó L. - Henneberger G.: **Mașini electrice speciale** (*Special Electrical Machines*), Mediamira Publisher, Cluj-Napoca (Romania), 2005. ISBN: 973-713-055-3. 258 pages.
- Szabó L.: **Medii de programare uzuale în ingineria electrică - MATLAB** (*Wide Used Programming Environments in Electrical Engineering - MATLAB*), Mediamira Publisher, Cluj-Napoca (Romania), 2003. ISBN: 973-9357-23-7. 191 pages.
- Viorel I.A. - Ivan D.M. - Szabó L.: **Metode numerice cu aplicații în ingineria electrică** (*Applications of Numerical Methods in Electrical Engineering*), Publishing House of the Oradea University, Oradea (Romania), 2000. ISBN: 973-8083-29-X. 202 pages.
- Viorel I.A. - Szabó L.: **Hybrid Linear Stepper Motors**, Mediamira Publisher, Cluj-Napoca (Romania), 1998. ISBN: 973-9358-12-8. 85 pages.

Book chapters

- Chindriș V. - Terec R. - Ruba M. - Szabó L.: **Software Environment for Online Simulation of Switched Reluctance Machines**, in: *Advances in Intelligent Modelling and Simulation* (eds.: Byrski, A.; Oplatková, Z.; Carvalho, M.; Kisiel-Dorohinicki, M.), Simulation Tools and Applications Series: Studies in Computational Intelligence, vol. 416, pp. 85-109, Springer, Berlin (Germany), 2012. ISBN: 978-3-642-28887-6.
- Szabó L. - Dobai B.J. - Bíró K.Á.: **Discrete Wavelet Transform Based Rotor Faults Detection Method for Induction Machines**, in: *Intelligent Systems at the Service of Mankind*, vol. 2., (eds: Elmenreich, W., Machado, J.T., Rudas, I.J.), Ubooks, Augsburg (Germany), 2005, pp. 63-74. ISBN: 3-86608-052-2.

Papers in ISI Web of Science indexed journals

- Frosini L. – Harlișca C. – Szabó L.: **Induction machine bearing faults detection by means of statistical processing of the stray flux measurement**, *IEEE Transactions on Industrial Electronics*, vol. 62, no. 3, pp. 1846-1854, 2015. ISSN: 0278-0046, impact factor 6.5 (2013).
- Szabó L. - Ruba M. - Szász Cs. - Chindriș V. - Husi G.: **Fault Tolerant Bio-Inspired System Controlled Modular Switched Reluctance Machine**, *Automatika - Journal for Control, Measurement, Electronics, Computing and Communications*, vol. 55, no. 1, pp. 53-63, 2014. ISSN: 0005-1144, impact factor 0.208 (2012).
- Popa D.C. - Micu D.D. - Miron O.R. - Szabó L.: **Optimized Design of a Novel Modular Tubular Transverse Flux Reluctance Machine**, *IEEE Transactions on Magnetics*, vol. 49, no. 11 (November 2013), pp. 5533-5542, 2013. ISSN: 0018-9464, impact factor 1.363 (2012).
- Hrabovcová V. - Rafajdus P. - Lipták M. - Szabó L.: **Performance of Converters Suitable for Switched Reluctance Generator (SRG) Operation**, *Journal of Electrical Engineering*, vol. 64, no. 3, pp. 201-211, 2013. ISSN: 1335-3632, impact factor 0.37 (2012).
- Ruba M. - Viorel I.A. - Szabó L.: **Modular stator switched reluctance motor for fault tolerant drive systems**, *IET Electric Power Applications*, vol. 7, no. 3 (March 2013), pp. 159-169, 2013, ISSN: 1751-8660, impact factor 1.173 (2012).
- Popa D.C. - Gliga V.I. - Szabó L.: **Theoretical and Experimental Study of a Modular Tubular Transverse Flux Reluctance Machine**, *Progress In Electromagnetics Research (PIER)*, vol. 139, pp. 41-55, 2013. E-ISSN: 1559-8985, impact factor 5.298 (2012).
- Fodorean D. - Idoumghar L. - Szabó L.: **Motorization for Electric Scooter by Using Permanent Magnet Machines Optimized Based on Hybrid Metaheuristic Algorithm**, *IEEE Transactions on Vehicular Technology*, vol. 62, no. 1 (January 2013), pp. 39-49, 2013. ISSN: 0018-9545, impact factor 1.921 (2012).

- Szabó L. - Ruba M.: **Segmental Stator Switched Reluctance Machine for Safety-Critical Applications**, *IEEE Transactions on Industry Applications*, vol. 48, no. 6 (November-December 2012), pp. 2223-2229, 2012, ISSN: 0093-9994, impact factor 1.657 (2012).
- Gaeid K.F. - Ping H.W. - Masood M.K. - Szabó L.: **Survey of Wavelet Fault Diagnosis and Tolerant of Induction Machines with Case Study**, *International Review of Electrical Engineering (I.R.E.E.)*, vol. 7, no. 3 (May-June 2012), pp. 4437-4457. ISSN: 1827-6660, impact factor 0.57 (2012).

Papers in other refereed journals

- Szabó L. – Ruba M. – Fodorean D. – Rafajdus P. – Dúbravka P.: **Torque Smoothing of a Fault Tolerant Segmental Stator Switched Reluctance Motor**, *COMMUNICATIONS*, Scientific Letters of the University of Žilina (Slovakia), vol. 1a, pp. 95-101, 2015. ISSN: 1335-4205.
- Răcășan, A. – Munteanu, C. – Păcurar, C. – Țopa, V. – Hebedean, C. – Szabó L.: **Numerical Modeling of Planar Electromagnetic Devices at High Frequency Using 3D CAD Programs**, *Acta Electrotehnica*, vol. 55, no. 3-4, pp. 158-163, 2014. ISSN: 1841-3323.
- Szabó L. - Terec R. - Ruba M. - Rafajdus P.: **Detecting and Tolerating Faults in Switched Reluctance Motors**, *Universal Journal of Electrical and Electronic Engineering*, vol. 1, no. 2, pp. 16-25, 2013. ISSN: 2332-3280.
- Dúbravka P. - Rafajdus, P. - Makys, P. - Hrabovcova, Valeria - Szabó L.: **Analysis of Switched Reluctance Motor Behavior under Electrical Fault Conditions**, *COMMUNICATIONS*, Scientific Letters of the University of Žilina (Slovakia), vol. 2a, pp. 60-66, 2013, ISSN: 1335-4205.
- Szabó L. - Ruba M.: **Fault Tolerant Switched Reluctance Motor for Safety-Critical Automotive Applications**, *International Journal of Electrical Engineering and Transportation (IJEET)*, vol. 5, no 1, 2009, pp. 23-27, ISSN: 1773-9357.
- Ruba M. - Szabó L.: **Fault Tolerance Study of Switched Reluctance Machines by Means of Advanced Simulation Techniques**, *Pollack Periodica*, Academic Publisher, Budapest (Hungary), vol. 4, no. 2 (August 2009), pp. 107-116. ISSN: 1788-1994.
- Viorel I.A. - Szabó L. - Löwenstein L. - Șteț C.: **Integrated Starter-Generators for Automotive Applications**, *Acta Electrotehnica*, Cluj (Romania), vol. 44, no. 3, 2004, pp. 255-260. ISSN: 1224-2487.
- Viorel I.A. - Szabó L. - Ciorba R.C. - Barz V.: **Intelligent Compact Drive System with a Synchronous Variable Reluctance Motor**, *Advances in Electrical and Electronic Engineering*, Zilina (Slovakia), no. 2, vol. 3, 2004, pp. 47-50. ISSN: 1336-1376.
- Viorel I.A. - Szabó L.: **Permanent-magnet variable-reluctance linear motor control**, *Electromotion*, Cluj (Romania), vol. 1, nr. 1 (1994), pp. 31-38. ISSN: 1223-057X.

Papers in proceedings of international conferences

- Bîrte O. – Szabó L. – Van der Auweraer, H. – Faria, C. – Popp, Á. – Martiș, C.: **Study of Torque Ripple and Noise for Different Rotor Topologies of a Synchronous Reluctance Machine**, *Proceedings of the 9th International Symposium on Advanced Topics in Electrical Engineering (ATEE '2015)*, București (Romania), pp. 933-938, 2015. ISBN: 978-1-4673-8093-5.
- Rusu, T. – Pop A.-C. – Szabó L. – Martiș, C.: **Study of Winding Arrangement and Material Quality Effects on the Core Losses in High Speed Switched Reluctance Machines**, *Proceedings of the 13th International Conference on Engineering of Modern Electric Systems (EMES '2015)*, Oradea (Romania), pp. 243-246, 2015. ISBN: 978-1-4799-7648-5.
- Ruba M. – Szabó L.: **Study of Light Electric Vehicles Propulsion Solutions by Means of Finite Element Method Based Co-Simulations**, *Proceedings of the 15th IEEE International Symposium on Computational Intelligence and Informatics (CINTI '2014)*, Budapest (Hungary), pp. 415-420, 2014. ISBN: 978-1-4799-5338-7.
- Rafajdus P. – Dúbravka P. – Peniak A. – Saitz J. – Szabó L.: **Design Procedure of Switched Reluctance Motor Used for Electric Car Drive**, *Proceedings of the 22nd International Symposium on Power Electronics, Electrical Drives, Automation and Motion (SPEEDAM '2014)*, Ischia (Italy), pp. 112-117, 2014. ISSN: 978-1-4799-4749-2.

- Dúbravka P. – Rafajdus P. – Makyš P. – Peniak A. – Hrabovcová V. – Szabó L. – Ruba M: **Design of Fault Tolerant Control Technique for SRM Drive**, *Proceedings of the 16th European Conference on Power Electronics and Applications (EPE '14-ECCE Europe)*, Lappeenranta (Finland), 2014. ISBN: 978-1-4799-3014-2.
- Fodorean D. – Popa D.C. – Minciunescu P. – Irimia C. – Szabó L.: **Study of a High-Speed Motorization for Electric Vehicle based on PMSM, IM and VRSM**, *Proceedings of the 21th International Conference on Electrical Machines (ICEM '2014)*, Berlin (Germany), pp. 2577-2582, 2014. ISBN: 978-1-4799-4775-1.
- Ruba M. – Szabó L.: **Study of Light Electric Vehicles Propulsion Solutions by Means of Finite Element Method Based Co-Simulations**, *Proceedings of the 15th IEEE International Symposium on Computational Intelligence and Informatics (CINTI '2014)*, Budapest (Hungary), pp. 415-420, 2014. ISBN: 978-1-4799-5338-7.
- Rafajdus P. – Peniak A. – Dubravka P. – Makyš P. – Szabó L.: **Optimization of Switched Reluctance Motor Design Procedure for Electrical Vehicles**, *Proceedings of the 14th International Conference on Optimization of Electrical and Electronic Equipment (OPTIM '2014)*, Braşov (Romania), pp. 397-404, 2014. ISBN: 978-1-4799-5183-3.
- Harlişca C. – Bouchareb I. – Frosini L. – Szabó L.: **Induction Machine Bearing Faults Detection Based on Artificial Neural Network**, *Proceedings of the 14th IEEE International Symposium on Computational Intelligence and Informatics (CINTI '2013)*, Budapest (Hungary), pp. 297-302, 2013. ISBN: 978-1-4799-0197-5.
- Dúbravka P. – Rafajdus, P. – Makys, P. – Hrabovcova, V. – Musak M – Szabó L.: **Analysis and Investigation of SRM as Traction Drive Used in Electric Car**, *Proceedings of the 10th Jubilee International Symposium on Advanced Electromechanical Motion Systems – ELECTROMOTION 2013* in Electromotion, vol. 20, no. 1-4 (January-December 2013), pp. 84-89, 2013. ISSN: 1223-057X.
- Harlişca C. - Szabó L. - Frosini L. - Albini A.: **Bearing Faults Detection in Induction Machines Based on Statistical Processing of the Stray Fluxes Measurements**, *Proceedings of the 9th IEEE International Symposium on Diagnostics for Electric Machines, Power Electronics and Drives (SDEMPED '2013)*, Valencia (Spain), pp. 470-475, 2013. ISBN: 978-1-4799-0023-7.
- Szabó L. - Benţia Ioana - Ruba M.: **A Rotary-Linear Switched Reluctance Motor for Automotive Applications**, *Proceedings of the 20th International Conference on Electrical Machines (ICEM '2012)*, Marseille (France), pp. 2613-2619, 2012, ISBN: 97-1-4673-0141-1 download)
- Fodorean D. - Szabó L.: **Control of a Permanent Magnet Synchronous Motor for Electric Scooter Application**, *Proceedings of the 2012 International Symposium on Power Electronics, Electrical Drives, Automation and Motion (SPEEDAM '2012)*, Sorrento (Italy), pp. 507-510, 2012. ISBN: 978-1-4673-1300-1.
- Terec R. - Benţia Ioana - Ruba M. - Szabó L. - Rafajdus P.: **On the Usefulness of Numeric Field Computations in the Study of the Switched Reluctance Motor's Winding Faults**, *Proceedings of the 5th International Symposium on Computational Intelligence and Intelligent Informatics (ISCIII '2011)*, Floriana (Malta), 2011, pp. 117-120. ISBN: 978-1-4577-1859-5.
- Popa D.C. - Szabó L. - Gliga I.V. - Iancu V.: **Design of a Novel Tubular Transverse Flux Reluctance Machine**, *Proceedings of the Eighth International Symposium on Linear Drives for Industry Applications (LDIA '2011)*, Eindhoven (The Netherlands), on CD: 183.pdf. ISBN: 978-90-386-2524-9.
- Oprea C. - Martiş C. - Fodorean D. - Jurca F. - Szabó L.: **Permanent Magnet Linear Generator for Renewable Energy Applications: Tubular vs. Four-Sided Structures**, *Proceedings of the International Conference on Clean Electrical Power (ICCEP '2011)*, Ischia (Italy), 2011, pp. 588-592. ISBN: 978-1-4244-8927-5X.
- Chindriş V. - Terec R. - Ruba M. - Szabó L. - Rafajdus, P.: **Useful Software Tool for Simulating Switched Reluctance Motors**, *Proceedings of the 25th European Conference on Modelling and Simulation (ECMS '2011)*, Krakow (Poland), 2011, pp. 216-221. ISBN: 978-0-9564944-2-9.
- Ruba M. - Benţia I. - Szabó L.: **Novel Modular Switched Reluctance Machine for Safety-Critical Applications**, *Proceedings of the 19th International Conference on Electrical Machines (ICEM '2010)*, Rome (Italy), on CD: RF-011029.pdf. ISBN: 978-1-4244-4175-4.
- Szabó L. - Ruba M. - Jurca F.: **Fault Tolerant Switched Reluctance Machine for Wind Turbine Blade Pitch Control**, *Proceedings of the International Conference on Clean Electrical Power (ICCEP '2009)*, Capri (Italy), 2009, pp. 721-726. ISBN: 1-4244-0632-3.
- Szabó L. - Ruba M.: **Using Co Simulations In Fault Tolerant Machine's Study**, *Proceedings of the 23rd European Conference on Modelling and Simulation (ECMS '2009)*, Madrid (Spain), 2009, pp. 756-762, ISBN:

978-0-9553018-8-9.

- Ruba M. - Oprea C. - Szabó L.: **Comparative Study on Switched Reluctance Machine Based Fault-Tolerant Electrical Drive Systems**, *Proceedings of the IEEE International Conference on Electrical Machines and Drives (IEMDC '2009)*, Miami (USA), 2009, pp. 1199-1204. ISBN: 978-1-4244-4252-2.
- Szabó L. - Ruba M.: **On Fault Tolerance Increase of Switched Reluctance Machines**, *Proceedings of the IEEE Region 8 EUROCON Conference (EUROCON '2009)*, St. Petersburg (Russia), 2009, pp. 734-739. ISBN: 978-1-4244-3860-0.
- Szabó L. - Oprea C. - Feștilă C. - Dulf Éva: **Study on a Wave Energy Based Power System**, *Proceedings of the 18th International Conference on Electrical Machines (ICEM '2008)*, Vilamoura (Portugal), on CD: Fullpaper_comm_id01199.pdf. ISBN: 978-1-4244-1736-0.
- Szabó L. - Feștilă C. - Dulf Éva - Oprea C.: **Low Power Wave Energy Converters for Sheltered Seas**, *Proceedings of the International Conference on Power Electronics, Intelligent Motion and Power Quality (PCIM '2008)*, Nürnberg (Germany), 2008, on CD: PP46.pdf. ISBN: 978-3-89838-605-0.
- Szabó L. - Viorel I.A. - Ruba M. - Popa D.C.: **Comparative Study on Different Variable Reluctance Linear Machine Structures (With/Without Permanent Magnets)**, *Proceedings of the Sixth International Symposium on Linear Drives for Industrial Applications (LDIA '2007)*, Lille (France), on CD: 173.pdf. ISBN: 978-2-915913-20-0.
- Szabó L. - Viorel I.A. - Oprea C.: **Comparative Study by Means of FEM Based Computations On The Linear Generators To Be Used In Wave Energy Converters**, *Proceedings of the 16th International Conference on the Computation of Electromagnetic Fields (COMPUMAG '2007)*, Aachen (Germany), pp. 369-370.
- Szabó L. - Biró K.Á. - Nicula Cosmina - Jurca F.: **Useful Simulation Tool for Induction Generators Used In Wind Power Plants**, *Proceedings of the International Conference on Clean Electrical Power (ICCEP '2007)*, Capri (Italy), 2007, pp. 574-579 and on CD: B331.pdf. ISBN: 1-4244-0632-3.
- Szabó L. - Oprea C. - Viorel I.A. - Biró K.Á.: **Novel Three-Phase Permanent Magnet Tubular Linear Generator for Wave Energy Converters**, *Proceedings of the IEEE International Conference on Electrical Machines and Drives (IEMDC '2007)*, Antalya (Turkey), vol. 2, pp. 983-987. ISBN: 1-4244-0742-7.
- Viorel I.A. - Munteanu R. - Fodorean D. - Szabó L.: **On The Possibility To Use A Hybrid Synchronous Machine As An Integrated Starter-Generator**, *Proceedings of the IEEE International Conference on Industrial Technology (ICIT '2006)*, Mumbai (India), 2006, pp. 1195-1200, on CD: IF-004243.pdf, ISBN: 1-4244-0726-5.
- Popa D.C. - Iancu V. - Szabó L.: **Linear Transverse Flux Reluctance Machine with Permanent Magnets**, *Proceeding of the International Conference on Transversal Flux Machines (ICTFM '2006)*, Changwon (South Korea), pp. 85-90, ISBN: 89-87898-13-5.
- Szabó L. - Popa D.C. - Iancu V.: **Compact Double Sided Modular Linear Motor for Narrow Industrial Applications**, *Proceedings of the 12th International Power Electronics and Motion Control Conference (EPE-PEMC '2006)*, Portoroz (Slovenia), 2006, pp. 1064-1069. ISBN: 1-4244-0121-6.
- Szabó L. - Viorel I.A. - Dobai B.J. - Szépi I.: **Optimal Trajectory Generation for a Modular Planar Motor Used in Flexible Manufacturing Systems**, *Proceedings of the 11th International Power Electronics and Motion Control Conference (EPE-PEMC '2004)*, Riga (Lithuania), on CD: A53272.pdf. ISBN: 9984-32-070-7.
- Szabó L. - Viorel I.A. - Dobai J.B.: **Multi-Level Modelling of a Modular Double Salient Linear Motor**, *Proceedings of the 4th International Symposium on Mathematical Modelling (MATHMOD '2003)*, Vienna (Austria), pp. 739-745, on CD: 115-Text-Lorand-Szabo.pdf. ISBN: 3-901-608-24-9.
- Szabó L. - Viorel I.A.: **On a High Force Modular Surface Motor**, *Proceedings of the 10th International Power Electronics and Motion Control Conference (PEMC '2002)*, Cavtat & Dubrovnik (Croatia), 2002, on CD: T8-052.pdf. ISBN: 953-184-046-6.
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A2 - Main research projects

Director of international projects

- **Switthed Reluctance Machines for Advanced Automotive Applications (SRMAA)**, Joint Research Project between the Zilina University (Slovak Republic) and Technical University of Cluj-Napoca in the framework of the Bilateral Scientific and Technological Cooperation Romania-Slovak Republic integrated in the "Capacity-Module III" programme in the frame of the National Plan for Research, Development and Innovation (PN II). Funder: Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI), 2013-2014.
- **Improved performance variable reluctance machines for safety-critical industrial process applications**, Joint Research Project between the Zilina University (Slovak Republic) and Technical University of Cluj-Napoca in the framework of the Bilateral Scientific and Technological Cooperation Romania-Slovak Republic integrated in the "Capacity-Module III" programme in the frame of the National Plan for Research, Development and Innovation (PN II). Funder: Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI), 2011-2012.
- **Advanced remote control, condition monitoring and diagnosis of rotational and linear electromechanical actuators used in automated industrial systems**, Joint Research Project between the University of Miskolc (Hungary) and Technical University of Cluj-Napoca in the framework of the Bilateral Scientific and Technological Cooperation Romania-Hungary integrated in the "Capacity-Module III" programme in the frame of the National Plan for Research, Development and Innovation (PN II). Funder: National Agency for Scientific (ANCS), 2008-2009.
- **Condition monitoring of linear and rotational electrical machine drives by means of advanced data processing instruments**, Joint Research Project between the University of Miskolc (Hungary) and Technical University of Cluj-Napoca (Romania) within the framework of the Bilateral Scientific and Technological Cooperation Romania – Hungary, 2006-2007.

Director of national projects

- **Linear generators for wave power converters**, grant type A. Funder: Ministry of Education, Research and Youth, National University Research Council (CNCSIS), 2006-2008.
- **Modular planar motor for flexible manufacturing lines**, grant type A. Funder: Ministry of Education, Research and Youth, National University Research Council (CNCSIS), 2003-2005.
- **Design, modeling and optimization of a surface motor**, grant type AT. Funder: Ministry of Education, Research and Youth, National University Research Council (CNCSIS), 2001.

Team member in international projects (in the last 5 years)

- **Design, Modelling and Testing Tools for Electrical Vehicles Powertrain Drives (DeMoTest-EV)**, FP7-PEOPLE-2012-IAPP (Industry Academia Partnerships and Pathways) Program, Funder: European Commission, Partners: Technical University of Cluj-Napoca (Romania), LMS International NV (Belgium), Universite Libre de Bruxelles (Belgium) and ICPE-Research Institute for Electrical Engineering (Romania), Project manager: MARȚIȘ Claudia, 2013-2016.
- **Optimal Low-Noise Energy-Efficient Electrical Machines and Drives for Automotive Applications (EMDA_LoOp)**, FP7-PEOPLE-2012-IAPP (Industry Academia Partnerships and Pathways) Program, Funder: European Commission, Partners: Technical University of Cluj-Napoca (Romania) and Brose Fahrzeugteile GmbH & Co. (Germany), Project manager: MARȚIȘ Claudia, 2013-2016.
- **Strengthening the Research Potential of CAREESD in the Field of Electromechanical Systems and Power Electronics for Sustainable Applications (ESPESA)**, H2020-TWINN-2015 - Twinning Coordination and support actions, Funder: European Commission, Partners: Technical University of Cluj-Napoca (Romania), Technical University of Eindhoven (the Netherlands), École Nationale Supérieure des Arts et Métiers, Lille (France), Rheinisch-Westfälische Technische Hochschule, Aachen (Germany), German Aerospace Center (DLR) - Institute of Vehicle Concepts, Stuttgart (Germany), Siemens Industry Software NV, Leuven (Belgium), Université de Technologie de Belfort-Montbéliard (France), Project manager: Claudia MARȚIȘ, 2016-2018

Team member in national projects (in the last 5 years)

- **Coupled Electromagnetic Interferences and Vibration Analysis for Safe Automotive Electrical Actuators (CEMIVA)**, Partnerships Programme - Joint Applied Research Projects in the frame of the National Plan for Research, Development and Innovation (PN II). Funder: Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI), project manager: MUNTEANU Călin, 2012-2015.
- **Automotive Low-Noise Electrical Machines and Drives Optimal Design and Development (ALNEMAD)**, Partnerships Programme - Joint Applied Research Projects in the frame of the National Plan for Research, Development and Innovation (PN II), funder: Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI), project manager: MARTIȘ Claudia, 2012-2015.
- **Hardware-in-the-Loop Modular Platform for Testing the Energy Management of Competitive & Highly-Efficient Hybrid-Electric Vehicles (HiTECH-HEV)**, Partnerships Programme - Joint Applied Research Projects in the frame of the National Plan for Research, Development and Innovation (PN II). Funder: Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI), project manager: FODOREAN Daniel, 2012-2015.
- **Fault-Tolerant Equipment Controlled by Bio-Inspired Electronic Architectures**, Partnerships Programme - Joint Applied Research Projects in the frame of the National Plan for Research, Development and Innovation (PN II). Funder: Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI), project manager: SZÁSZ Csaba, 2008-2011.