

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

Ph.D. in Electrical Engineering

Doctoral studies
(level 8)

Technical University of Cluj-Napoca (Romania)

- Electrical engineering (electrical machines and drives)

1980-1985

B.Sc. in Electrical Engineering

Higher education
(level 7)

Polytechnic Institute of Cluj-Napoca (Romania)

- Electrical drives

2012-2013

Modern educational instruments and the use of IT&C in education

Training (level 4)

Technical University of Cluj-Napoca (Romania)

- Lifelong learning and training for higher education teachers in the technical sciences and engineering fields (DidaTec Project)

2010

Project manager

Training (level 4)

S.C. RoMarketing S.R.L. (Romania)

PERSONAL SKILLS

Mother tongue(s)

Hungarian

Other language(s)

Romanian

English

UNDERSTANDING		SPEAKING		WRITING
Listening	Reading	Spoken interaction	Spoken production	
C2-Proficient user	C2-Proficient user	C2-Proficient user	C2-Proficient user	C2-Proficient user
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: Visio, Inkscape, CorelDraw, Corel Photo Paint, IrfanView, SmartDraw
- WEB design: Dreamweaver

Other skills

Driving licence

- Painting
- B Category

ADDITIONAL INFORMATION

Positions held

- Academic:
 - Head of the Department of Electrical Machines, Marketing and Management (Technical University of Cluj-Napoca): 2010-2011
 - Member of the Technical University of Cluj-Napoca Senate: 2010-2012, 2015-2016
 - Member of the Electrical Engineering Faculty Council (Technical University of Cluj-Napoca): 2008-2012, 2014-
- Research:
 - Director of the Centre of Applied Researches in Electrical Engineering and Sustainable Development (CAREESD): 2009-
- At national education and research councils:
 - Member of the Engineering Committee of the National Research Council (CNCS): 2017
 - Member of the Electrical Engineering Committee of the National Council for Attesting Titles, Diplomas and University Certificates (CNATDCU): 2016-

Publications

- 273 publications:
 - 5 books and 3 book chapters;
 - 10 papers in Web of Science indexed journals;
 - 54 papers in other refereed journals;
 - 109 papers in proceedings of international conferences;
 - 57 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);
- Partner team leader of 1 international project;
- Project manager for 1 research project for industry;
- Member in 5 research teams working on international projects;
- Member in research teams of 30 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.

Journal editorial board member

- International Journal of Engineering & Technology - IJET (Science Publishing Corporation, ISSN: 2227-524X)
- Advances in Electrical and Electronic Engineering - AEEE (VŠB-Technical University of Ostrava, Czech Republic, ISSN: 1336-1376)
- International Review of Applied Sciences and Engineering (Akadémiai Kiadó, Budapest, Hungary, ISSN: 2062-0810)
- Journal of Computer Science and Control Systems - JCSCS (Oradea University, Romania, ISSN: 1844-6043)
- Journal of Electrical and Electronics Engineering - JEEE (Oradea University, Romania, ISSN: 1844-6035)
- Electrical and Power Engineering Frontier - EPEF (World Academic Publishing, ISSN: 2306-9368)
- Journal of Energy Optimization and Engineering - JEEOE (IGI Global, ISSN: 2160-9500), 2012-2016
- International Journal of Practical Electronics - IJPE (Science Publishing Corporation), 2013-2014

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), Ocean Energy Panel: 2014, 2015
- European Commission - Education, Audiovisual and Culture Executive Agency (EACEA) – Youth in Action Programme: 2010, 2011, 2013
- European Institute of Innovation and Technology (body of the European Union) – EIT RawMaterials, Regional Innovation Scheme (RIS) and Internationalization Panel: 2018
- 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, 2017, 2018
- Norwegian Centre for International Cooperation in Education (SIU): 2016, 2017, 2018
- 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, 2018
- Technical University of Cluj, Romania - Master Studies Accreditation Program: 2009, 2011
- Technical University of Cluj, Romania - Research Activity Evaluation Program: 2008, 2009, 2010, 2014, 2017, 2018
- 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 (selection)

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 Web of Science indexed journals

- Dubravka P. – Rafajdus P. – Makys P. – Szabó L.: **Control of Switched Reluctance Motor by Current Profiling under Normal and Open Phase Operating Condition**, *IET Electric Power Applications*, vol. 11, no. 4, pp. 548-556, 2017. ISSN: 1751-8660, impact factor 1.865, rank Q2 (2016).
- 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 6.383, rank Q1 (2015).
- 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 0.307, rank Q4 (2014).
- 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 1.213, rank Q3 (2013).
- 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 0.42, rank Q4 (2013).
- 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 1.307, rank Q2 (2013).
- 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, rank Q1 (2011).

- 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 2.642, rank Q1 (2013).
- 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, rank Q1 (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 1.364, rank Q3 (2010).

Papers in other refereed journals

- Ruba M. – Jurca F. – Szabó L.: **Efficiency Improvement of Switched Reluctance Motors by Means of Using Higher Quality Laminations**, *Acta Electrotehnica*, vol. 56, no. 4, pp. 148-151, 2015. ISSN: 1841-3323.
- 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.
- Dubravka 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*, Žilina (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

- Szabó L.: **Advancements in Electrical Machines Design Brought by the Modular Construction**, *Proceedings of 10th International Conference on Electrical Power Drive Systems (ICEPDS '2018)*, Novocherkassk (Russia), pp.35-41, 2018. ISBN: 978-1-5386-4713-4.
- Szabó L.: **Novel Variable Reluctance Generators Used in Small Wind Turbines. The Modular Approach**, *Proceedings of the 19th International Carpathian Control Conference (ICCC '2018)*, Szilvásvárad (Hungary), paper #166, 2018. ISBN 978-1-5386-4762-2.
- Szabó L.: **On the Use of Rotary-Linear Generators in Floating Hybrid Wind and Wave Energy Conversion Systems**, *Proceedings of the 2018 IEEE International Conference on Automation, Quality and Testing, Robotics (AQTR '2018)*, THETA 21, Cluj-Napoca (Romania), paper #105, 2018. ISBN: 978-1-5386-2203-2.
- Szabó L.: **The History of Using Solar Energy**, *Proceedings of the 7th International Conference on Modern Power Systems (MPS '2017)*, Cluj-Napoca (Romania), paper #125, 2017. ISBN: 978-1-5090-6564-6.

- Szabó L.: **Using Maximum Correlated Kurtosis Deconvolution Method in the Bearing Fault Detection of Wind Turbine Generators**, *Proceedings of the 14th International Conference on Engineering of Modern Electric Systems (ICEMES '2017)*, Oradea (Romania), paper #27, 2017. ISBN 978-1-5090-6072-6.
- Szabó L. – Fodorean D. – Vasilache A.: **Bearing Fault Detection of Electrical Machines Used in Automotive Applications**, *Proceedings of the 22nd International Conference on Electrical Machines (ICEM '2016)*, Lausanne (Switzerland), pp. 2186-2192, 2016. ISBN: 978-1-5090-2537-4.
- Dubravka P. – Rafajdus P. – Makys P. – Szabó L.: **Control Techniques for Torque Ripple Minimization in Switched Reluctance Drives under Faults**, *Proceedings of the 2016 International Symposium on Power Electronics, Electrical Drives, Automation and Motion (SPEEDAM '2016)*, Capri (Italy), pp. 625-632, 2016. ISBN: 978-1-5090-4181-7.
- Ruba M. – Martiş C.S. – Jurca F. – Szabó L.: **Analysis of a Switched Reluctance Machine for EV Application with Torque Smoothing Strategy**, *Proceedings of the 2015 International Conference on Electrical Drives and Power Electronics (EDPE '2015)*, Tatranská Lomnica (Slovakia), pp. 266-271, 2015. ISBN: 978-1-4673-9661-5.
- Bîrte O. – Szabó L. – Van der Auweraer, H. – Faria, C. – Popp, Á. – Martiş, 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)*, Bucureşti (Romania), pp. 933-938, 2015. ISBN: 978-1-4673-8093-5.
- Rusu, T. – Pop A.-C. – Szabó L. – Martiş, 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.

- Harlișca 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. - Benția 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. - Benția 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. - Marțiș 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.
- Chindriș 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. - Benția 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.
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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.

Partner team leader of international projects

- **Small Wind Turbines Optimization and Market Promotion (SWTOMP)**, joint research program in the frame of the 2nd ERANet-LAC (Network of the European Union, Latin America and the Caribbean Countries). Local funder: Executive Agency for Higher Education, Research, Development and Innovation Funding (UEFISCDI). 2017-2020.

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

- **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.
- **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), Université Libre de Bruxelles (Belgium) and ICPE-Research Institute for Electrical Engineering (Romania), Project manager: Claudia MARȚIȘ, 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: Claudia MARȚIȘ, 2013-2016.

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

- **Efficient Lightweight Electro-Magnetic Propulsion System for Electric Vehicles (ELIMPUS)**, "Young Team - TE" project no. 30/2015 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: Daniel FODOREAN, 2015-2017.
- **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: Călin MUNTEANU, 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: Claudia MARȚIȘ, 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: Daniel FODOREAN, 2012-2015.

