

PERSONAL INFORMATION

**Elena HELEREA**



✉ helerea@unitbv.ro

POSITION  
IOSUD UTBv

PhD Coordinator  
Doctoral studies field: Electrical Engineering.  
Since 2004

EXPERTISE FIELD AND  
RESEARCH INTEREST AREAS

Methods and techniques for monitoring the energy quality and reducing losses in distributed generation networks  
Development of methods and tools to increase the immunity of electrical equipment to the action of electromagnetic fields - Electromagnetic shielding  
Fault diagnosis and lifetime prognosis for electrical components and equipment

WORK EXPERIENCE

From 1976- to present

**Full Professor (since 1999), Assoc. Prof. (since 1992), Lecturer (since 1988), Assistant (since 1976)**

Transilvania University of Brasov, [www.unitbv.ro](http://www.unitbv.ro)

Main activities and responsibilities:

- Course development: Materials for Electrical and Electronic Engineering, Passive Components, Energy Quality, Electromagnetic Compatibility, Stability of Electric Systems, Evolution of Technology'
- Responsible of Research Department Advanced Electrical Systems, within the Faculty of Electrical Engineering and Computer Science (2010-2015).
- Library Director of the Transilvania University of Brasov (2008-2012).
- Vice-Rector with Didactical Activities within Transilvania University of Brasov (2004-2008).
- Coordinator of PhD students in Electrical Engineering, (since 2004).
- Director of the University Technical College (1992-1995).

From 1975- to 1976

**Research Engineer**

Chemical Company Nitramonia of Fagaras

**Sector** Measurements and Automation in Chemical Engineering

From 1970 – to 1975

**Teacher Engineer**

Chemical High School of Fagaras

**Discipline** Electrotechnics, Measurements, Automation

EDUCATION AND TRAINING

From 1978 - 1987

**Doctor Engineer**

Polytechnic Institute of Bucharest

PhD Thesis: Quality of electroinsulation plastics used in automotive and aviation

From 1965 – to 1970

**Engineer**

Polytechnic Institute of Braşov

Skills acquired: design and maintenance in electrical engineering equipment

**PERSONAL SKILLS**

Mother tongue(s) Romanian language

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2
	Replace with name of language certificate. Enter level if known.				
French	B2	B2	B2	B2	B2
	Replace with name of language certificate. Enter level if known.				
Russian	B2	B2	B1	B1	B2
	Replace with name of language certificate. Enter level if known.				

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user  
[Common European Framework of Reference for Languages](#)

Communication skills

Good communication skills gained through my experience as teacher

Digital skills

SELF-ASSESSMENT				
Information processing	Communication	Content creation	Safety	Problem solving
Independent user	Independent user	Independent user	Independent user	Good Command of Office

Levels: Basic user - Independent user - Proficient user  
[Digital competences - Self-assessment grid](#)

**ADDITIONAL INFORMATION**

Main supervisor for PhD students

- Lungoci Carmen, Utilization of supercapacitors in the supply/ recovery of energy in terrestrial transportation, September 2009.
- Filip Melania, Optimizing the manufacturing technologies of the induction machines for increasing their efficiency and efficacy, December 2010.
- Mațoi Adrian Marian, Modern solutions for measurement and control of electromagnetic parameters of environment in automotive, July 2011.
- Mușat Radu, Improving the thermal comfort inside vehicles, October 2011
- Călin Daniel, Researches on optimal utilization of magnetic materials in electric machines for transportation, October 2011
- Măriuț Larisa, Monitoring and prognosis for underground power lines, October 2012
- Ciobanu Anca, Contributions to faults diagnosis in asynchronous motors, September 2013
- Mihai Nicolae Cătălin, Study on energy quality improvement in distribution electric networks, November 2013
- Lepadat Ionel, Contributions to improving power quality and efficiency in the consumer supplying system, October 2014
- Serban Mariana, Studies on improving the quality of transformer oils, February 2015
- Ursachi Corneliu, Electromagnetic immunity assessment of electric and electronic equipment to conducted disturbances, February 2015
- Moasa Beatrice Costela, Contributions on immunity assessment of equipment to electrostatic discharges, October 2015
- Abagiu Sorin, Optimization of power systems with photovoltaic power plants, March 2016.

Opponent for Ph.D. defences

25 of analyses for PhD theses – University Politehnica of Bucharest (15), University of Craiova (2), Technical University of Cluj-Napoca (2), Gheorghe Asachi Technical University of Iassy (2), Transilvania University of Brasov

Paper review (selection)-	<p>Journals: IEEE Transactions on Electromagnetic Compatibility; Applied Energy; International Journal of Electrical Power and Energy Systems; Journal of Magnetism and Magnetic Materials, since 2017</p> <ul style="list-style-type: none"> <li>- Revue Roumaine des Sciences Techniques, Bucharest, since 2009</li> <li>- Revue Polak Periodica, Budapest, since 2010</li> <li>- Scientific Bulletin of Transilvania University of Brasov, since 2008</li> <li>- IEEE Conferences: OPTIM Conference, since 2008, ICATE Conference, since 2012, ATEE, since 2010,</li> <li>- SNET Conference (about 80 papers).</li> </ul>
Memberships	<ul style="list-style-type: none"> <li>- IEEE - Institute of Electrical and Electronic Engineering (Dielectrics, Magnetics, CEM, Education, Measurements &amp; Instrumentation) since 2001,</li> <li>- ACER - Romanian Association of Electromagnetic Compatibility, since 2001,</li> <li>- AGIR - General Association of Engineers from Romania, since 2010,</li> <li>- ICOHTEC - International Committee of History of Technology, since 1997.</li> <li>- CRIFST – Committee for History and Philosophy of Science and Technique of Romanian Academy, since 2000.</li> </ul>
National and international recognition	<p>2018- present: President of CRIFST of the Romanian Academy, Brasov Branch.            2018-present: President of Women in Engineering Affinity Group of IEEE Romania Chapter.            2017: Senior member of IEEE.            2017-2018: Secretary of IEEE Instrumentation and Measurement Society Romania Chapter.            2014 - 2017: Member of Executive Committee of the IEEE Romania Section, as Historian.            2011- Honorary Professor of the University of Pecs, Hungary.            2008 – 2017: Member of ICOHTEC Coordination Committee.            2011 – 2014: Member of the Steering Committee of Romanian Association of Electromagnetic Compatibility.            2004 – 2018: Secretary of CRIFST of the Romanian Academy, Brasov Branch.</p>
Achievements and Refereeing	<ul style="list-style-type: none"> <li>• 20 academic and monographic books published within Printing Houses of Transilvania University of Braşov, Lux Libris Brasov, Matrix Bucuresti, Lap Lambert, Editura AGIR, as author or coordinator.</li> <li>• 13 didactical materials published at the Transilvania University Publishing House of Braşov.</li> <li>• 42 contracts of scientific research</li> <li>• Up to 150 scientific papers published in the international journals and proceedings</li> </ul>
Hirsch Index	5

#### LIST OF RELEVANT PUBLICATIONS /RESEARCH (selection)

1.

##### Near and Far Field Measurements in Industrial Environment of Passive UHF RFID Tags

By: [Moraru, Aurelian](#); [Ursachi, Corneliu](#); [Helerea, Elena](#)

Conference: 11th International Symposium on Advanced Topics in Electrical Engineering (ATEE) Location: Bucharest, ROMANIA Date: MAR 28-30, 2019,

2019 11TH INTERNATIONAL SYMPOSIUM ON ADVANCED TOPICS IN ELECTRICAL ENGINEERING (ATEE) Book

Series: International Symposium on Advanced Topics in Electrical Engineering Published: 2019

2.

##### Statistical and Physical Approaches on the Initial Failure Rate of High Voltage Power Transformers

By: [Pierrat, Lambert](#); [Helerea, Elena](#); [Sangeorzan, Livia](#)

Conference: International Conference on Applied and Theoretical Electricity (ICATE) Location: Craiova, ROMANIA Date: OCT 04-06, 2018

Sponsor(s): Univ Craiova, Fac Elect Engn; Inst Elect & Elect Engineers; IEEE, Romanian Sect CS Chapter; IEEE, Romanian Sect EMB Chapter; IEEE, Romanian Sect EMC Chapter; Minist Res & Innovat; Assoc Support Engn Educ

2018 INTERNATIONAL CONFERENCE ON APPLIED AND THEORETICAL ELECTRICITY (ICATE) Book Series: International Conference on Applied and Theoretical Electricity Published: 2018

3.

##### Passive RFID Tags for Textile Items - Requirements and Solutions

By: [Moraru, A.](#); [Helerea, E.](#); [Ursachi, C.](#)

Conference: International Symposium on Fundamentals of Electrical Engineering (ISFEE) Location: Univ Politehnica Bucharest, Fac

Elect Engr, Elect Engr Dept, Bucharest, ROMANIA Date: NOV 01-03, 2018

Sponsor(s): Assoc Romanian Elect Elect Engineers; IEEE Romania Sect CAS CS Chapter; IEEE

2018 INTERNATIONAL SYMPOSIUM ON FUNDAMENTALS OF ELECTRICAL ENGINEERING (ISFEE) Published: 2018

4.

#### **Visual Solutions Developed With Graph 4.3 Software Based on a Mathematical Model for Determining the Coordinates of Brocard Points in Euclidean Geometry**

By: [Anghel, Gheorghe](#); [Anghel, Iulia Andreea](#); [Helerea, Elena](#)

Conference: 14th International Scientific Conference on eLearning and Software for Education - eLearning Challenges and New Horizons Location: Bucharest, ROMANIA Date: APR 19-20, 2018

Sponsor(s): Romanian Adv Distributed Learning Assoc; Univ Natl Aparare Carol I; European Secur & Def Coll; Romania Partnership Ctr

ELEARNING CHALLENGES AND NEW HORIZONS, VOL 1 Book Series: eLearning and Software for Education Pages: 333-342 Published: 2018

5.

#### **Magnetics Tutorial. Modelling Permanent Magnets Using the Electromagnetic Software FEMM 4.2**

By: [Anghel, Gheorghe](#); [Anghel, Iulia Andreea](#); [Calin, Marius Daniel](#); et al.

Conference: 14th International Scientific Conference on eLearning and Software for Education - eLearning Challenges and New Horizons Location: Bucharest, ROMANIA Date: APR 19-20, 2018

Sponsor(s): Romanian Adv Distributed Learning Assoc; Univ Natl Aparare Carol I; European Secur & Def Coll; Romania Partnership Ctr

ELEARNING CHALLENGES AND NEW HORIZONS, VOL 4 Book Series: eLearning and Software for Education Pages: 267-274 Published: 2018

6.

#### **Temperature Influence and Measurement Uncertainty on NdFeB Magnetic Characteristics**

By: [Calin, Marius Daniel](#); [Helerea, Elena](#); [Anghel, Gheorghe](#)

Conference: 5th International Symposium on Electrical and Electronics Engineering (ISEEE) Location: Galati, ROMANIA Date: OCT 20-22, 2017

Sponsor(s): IEEE; Dunarea Jos Univ Galati, Fac Automat Comp Sci Elect & Elect Engr; Minist Res & Innovat; Adv Technol Inst; IEEE Romania Sect CAS CS Joint Chapter; IEEE Power Elect Romania Chapter

2017 5TH INTERNATIONAL SYMPOSIUM ON ELECTRICAL AND ELECTRONICS ENGINEERING (ISEEE) Book Series: International Symposium on Electrical and Electronics Engineering Published: 2017

7.

#### **Losses in Power Supply System of Industrial Consumers - A Technical and Economic Issue**

By: [Lepadat, Ionel](#); [Helerea, Elena](#); [Abagiu, Sorin](#); et al.

Conference: 5th International Symposium on Electrical and Electronics Engineering (ISEEE) Location: Galati, ROMANIA Date: OCT 20-22, 2017

Sponsor(s): IEEE; Dunarea Jos Univ Galati, Fac Automat Comp Sci Elect & Elect Engr; Minist Res & Innovat; Adv Technol Inst; IEEE Romania Sect CAS CS Joint Chapter; IEEE Power Elect Romania Chapter

2017 5TH INTERNATIONAL SYMPOSIUM ON ELECTRICAL AND ELECTRONICS ENGINEERING (ISEEE) Book Series: International Symposium on Electrical and Electronics Engineering Published: 2017

8.

#### **Load forecasting using artificial neural networks for industrial consumer**

By: [Mihai, Catalin](#); [Helerea, Elena](#)

Conference: 7th International Conference on Modern Power Systems (MPS) Location: Cluj Napoca, ROMANIA Date: JUN 06-09, 2017

Sponsor(s): IEEE; Tech Univ Cluj Napoca; SDEE Transilvania Nord SA; Transelectica SA; IEEE Romanian Sect 2017 7TH INTERNATIONAL CONFERENCE ON MODERN POWER SYSTEMS (MPS) Published: 2017

9.

#### **Impact of Distributed Generation on Voltage Profile and Power Losses in a Test Power Grid**

By: [Lepadat, Ionel](#); [Helerea, Elena](#); [Abagiu, Sorin](#); et al.

Conference: International Conference on Optimization of Electrical and Electronic Equipment (OPTIM) / Intl Aegean Conference on Electrical Machines and Power Electronics (ACEMP) Location: Transilvania Univ Brasov, Brasov, ROMANIA Date: MAY 25-27, 2017

Sponsor(s): Univ Politehnica Timisoara; Tech Univ Cluj Napoca; Middle E Tech Univ Ankara; Inst Elec & Elect Engineers; IEEE Ind Elect Soc; IEEE Ind Applicat Soc; IEEE Power Elect Soc; Inst Elect Engineers Japan; Korean Inst Power Elect

2017 INTERNATIONAL CONFERENCE ON OPTIMIZATION OF ELECTRICAL AND ELECTRONIC EQUIPMENT (OPTIM) & 2017 INTL AEGEAN CONFERENCE ON ELECTRICAL MACHINES AND POWER ELECTRONICS (ACEMP) Pages: 128-

133 Published: 2017

10.

#### **Balancing a Three-Phase Induction Motor Supplied from a Single-Phase Source with Two SVCs**

By: [Wang, Yaw-Juen](#); [Pierrat, Lambert](#); [Helerea, Elena](#)

Conference: International Conference on Optimization of Electrical and Electronic Equipment (OPTIM) / Intl Aegean Conference on Electrical Machines and Power Electronics (ACEMP) Location: Transilvania Univ Brasov, Brasov, ROMANIA Date: MAY 25-27, 2017

Sponsor(s): Univ Politehnica Timisoara; Tech Univ Cluj Napoca; Middle E Tech Univ Ankara; Inst Elec & Elect Engineers; IEEE Ind Elect Soc; IEEE Ind Applicat Soc; IEEE Power Elect Soc; Inst Elect Engineers Japan; Korean Inst Power Elect  
2017 INTERNATIONAL CONFERENCE ON OPTIMIZATION OF ELECTRICAL AND ELECTRONIC EQUIPMENT (OPTIM) & 2017 INTL AEGEAN CONFERENCE ON ELECTRICAL MACHINES AND POWER ELECTRONICS (ACEMP) Pages: 268-274 Published: 2017.

11.

#### **RFID System with Passive RFID Tags for Textiles**

By: [Moraru, Aurelian](#); [Helerea, Elena](#); [Ursachi, Corneliu](#); et al.

Conference: 10th International Symposium on Advanced Topics in Electrical Engineering (ATEE) Location: Bucharest, ROMANIA Date: MAR 23-25, 2017

Sponsor(s): Univ Politehnica Bucharest, Fac Elect Engr; IEEE

2017 10TH INTERNATIONAL SYMPOSIUM ON ADVANCED TOPICS IN ELECTRICAL ENGINEERING (ATEE) Book

Series: International Symposium on Advanced Topics in Electrical Engineering Pages: 410-415 Published: 2017

12.

#### **New Stochastic Criterion of Restoration Time after Collapse of a Large Power Network**

By: [Pierrat, Lambert](#); [Helerea, Elena](#)

Conference: International Symposium on Fundamentals of Electrical Engineering (ISFEE) Location: ROMANIA Date: JUN 30-JUL 02, 2016

Sponsor(s): Univ Politehnica Bucharest, Fac Elect Engr, Elect Engr Dept; Assoc Romanian Elect Elect Engineers; IEEE Romania Sect CAS CS Chapter; IEEE; Minist Natl Educ

2016 INTERNATIONAL SYMPOSIUM ON FUNDAMENTALS OF ELECTRICAL ENGINEERING (ISFEE) Published: 2016

13.

#### **On Adequacy of Electrical Engineering and Computers Curriculum to Current and Future Technological Challenges - A Case Study**

By: [Helerea, Elena](#); [Ilea, Danut](#); [Moasa, Beatrice](#)

Conference: 17th IEEE International Power Electronics and Motion Control Conference (PEMC) Location: Varna, BULGARIA Date: SEP 25-30, 2016

Sponsor(s): IEEE Ind Elect Soc; IEEE Ind Applicat Soc; IEEE; Tech Univ Sofia; New Univ Lisbon

2016 IEEE INTERNATIONAL POWER ELECTRONICS AND MOTION CONTROL CONFERENCE (PEMC) Book Series: IEEE

International Power Electronics and Motion Control Conference IPEMC Pages: 977-982 Published: 2016

14.

#### **Qualification of Polymeric Compounds for Electrostatic Discharge Protection**

By: [Ghita, Beatrice](#); [Helerea, Elena](#)

Conference: International Conference on Applied and Theoretical Electricity (ICATE) Location: Craiova, ROMANIA Date: OCT 06-08, 2016

Sponsor(s): Univ Craiova, Fac Elect Engr; Inst Elect & Elect Engineers USA; IEEE Romanian Sect CS Chapter; IEEE Romanian Sect EMB Chapter; IEEE Romanian Sect EMC Chapter; Minist Natl Educ & Res; Assoc Support Engr Educ; IEEE

2016 INTERNATIONAL CONFERENCE ON APPLIED AND THEORETICAL ELECTRICITY (ICATE) Book Series: International Conference on Applied and Theoretical Electricity Published: 2016

15.

#### **Multidisciplinary method to apply system theory in electrical circuit analysis**

By: [Lungoci, Carmen](#); [Helerea, Elena](#); [Sorea, Dan](#)

Conference: 13th International Conference on Development and Application Systems (DAS) Location: Suceava, ROMANIA Date: MAY 19-21, 2016

Sponsor(s): Stefan cel Mare Univ Suceava, Fac Elect Engr & Comp Sci Romania; IEEE Ind Applicat Soc, Romania Sect

2016 13TH INTERNATIONAL CONFERENCE ON DEVELOPMENT AND APPLICATION SYSTEMS (DAS 2016) Pages: 219-224 Published: 2016

16.

#### **Variation of Tower Footing Resistance on the Lightning Surge Propagation through Overhead Power Distribution Lines**

By: [Mariut, Elena Larisa](#); [Helerea, Elena](#)

[ADVANCES IN ELECTRICAL AND COMPUTER ENGINEERING](#) Volume: 16 Issue: 1 Pages: 99-106 Published: 2016

17.

#### **Solutions for Energy Losses Reduction in Power Networks with Renewable Energy Sources**

By: [Abagiu, Sorin](#); [Lepadat, Ionel](#); [Helerea, Elena](#)

Conference: International Conference on Applied and Theoretical Electricity (ICATE) Location: Craiova, ROMANIA Date: OCT 06-08, 2016

Sponsor(s): Univ Craiova, Fac Elect Engr; Inst Elect & Elect Engineers USA; IEEE Romanian Sect CS Chapter; IEEE Romanian Sect EMB Chapter; IEEE Romanian Sect EMC Chapter; Minist Natl Educ & Res; Assoc Support Engr Educ; IEEE

2016 INTERNATIONAL CONFERENCE ON APPLIED AND THEORETICAL ELECTRICITY (ICATE) Book Series: International Conference on Applied and Theoretical Electricity Published: 2016

18.

**Influence of Alloy Elements on Magnetic Properties of Electrical Steels**By: [Pricop, Valentin](#); [Helerea, Elena](#); [Calin, Marius Daniel](#)

Conference: International Conference on Applied and Theoretical Electricity (ICATE) Location: Craiova, ROMANIA Date: OCT 06-08, 2016

Sponsor(s): Univ Craiova, Fac Elect Engrn; Inst Elect &amp; Elect Engineers USA; IEEE Romanian Sect CS Chapter; IEEE Romanian Sect EMB Chapter; IEEE Romanian Sect EMC Chapter; Minist Natl Educ &amp; Res; Assoc Support Engrn Educ; IEEE 2016 INTERNATIONAL CONFERENCE ON APPLIED AND THEORETICAL ELECTRICITY (ICATE) Book Series: International Conference on Applied and Theoretical Electricity Published: 2016

19.

**Electric potential assessment near distribution power lines caused by lightning surge wave propagation**By: [Mariut, Elena Larisa](#); [Helerea, Elena](#); [Ursachi, Corneliu](#)

Conference: Int Aegean Conference on Electrical Machines and Power Electronics (ACEMP) / Int Conference on Optimization of Electrical and Electronic Equipment (OPTIM) / Int Symposium on Advanced Electromechanical Motion Systems (ELECTROMOTION) Location: Side, TURKEY Date: SEP 02-04, 2015

Sponsor(s): IEEE; IEEE Ind Elect Soc; IEEE Power Elect Soc; IEEE Power &amp; Energy Soc; Middle E Tech Univ; Transilvania Univ Brasov; Univ Politehnica Timisoara; Tech Univ Cluj Napoca; IEEE Ind Applicat Soc 2015 INTL AEGEAN CONFERENCE ON ELECTRICAL MACHINES &amp; POWER ELECTRONICS (ACEMP), 2015 INTL CONFERENCE ON OPTIMIZATION OF ELECTRICAL &amp; ELECTRONIC EQUIPMENT (OPTIM) &amp; 2015 INTL SYMPOSIUM ON ADVANCED ELECTROMECHANICAL MOTION SYSTEMS (ELECTROMOTION) Pages: 693-698 Published: 2015

20.

**Selection of Soft Magnetic Materials for Particle Accelerator Magnets**By: [Pricop, Valentin](#); [Helerea, Elena](#); [Cernat, Mihai](#)

Conference: Int Aegean Conference on Electrical Machines and Power Electronics (ACEMP) / Int Conference on Optimization of Electrical and Electronic Equipment (OPTIM) / Int Symposium on Advanced Electromechanical Motion Systems (ELECTROMOTION) Location: Side, TURKEY Date: SEP 02-04, 2015

Sponsor(s): IEEE; IEEE Ind Elect Soc; IEEE Power Elect Soc; IEEE Power &amp; Energy Soc; Middle E Tech Univ; Transilvania Univ Brasov; Univ Politehnica Timisoara; Tech Univ Cluj Napoca; IEEE Ind Applicat Soc 2015 INTL AEGEAN CONFERENCE ON ELECTRICAL MACHINES &amp; POWER ELECTRONICS (ACEMP), 2015 INTL CONFERENCE ON OPTIMIZATION OF ELECTRICAL &amp; ELECTRONIC EQUIPMENT (OPTIM) &amp; 2015 INTL SYMPOSIUM ON ADVANCED ELECTROMECHANICAL MOTION SYSTEMS (ELECTROMOTION) Published: 2015

21.

**Mathematical Expression of Electromagnetic Pulse in Immunity Standards**By: [Ursachi, Corneliu](#); [Helerea, Elena](#); [Mariut, Elena Larisa](#); et al.

Conference: Joint IEEE International Symposium on Electromagnetic Compatibility (EMC) and EMC Europe Location: Dresden, GERMANY Date: AUG 16-22, 2015

Sponsor(s): IEEE; EMC Soc; EMC Europe; VDE; Wurth Elektronik; Rohde &amp; Schwarz; Huawei; EMCoS; Altair; AMETEK; ETS LINDGREN; Albatross Projects; Nolato; Airbus; Thales; ANDRO; ThyssenKrupp; AR 2015 IEEE INTERNATIONAL SYMPOSIUM ON ELECTROMAGNETIC COMPATIBILITY (EMC) Book Series: IEEE International Symposium on Electromagnetic Compatibility Pages: 1357-1362 Published: 2015