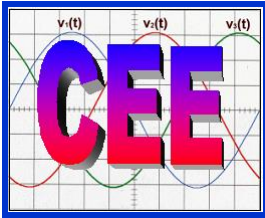
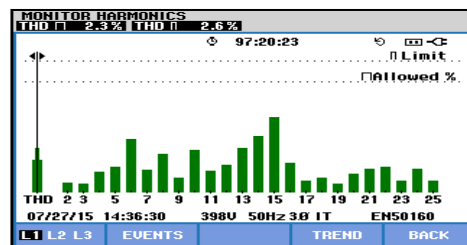
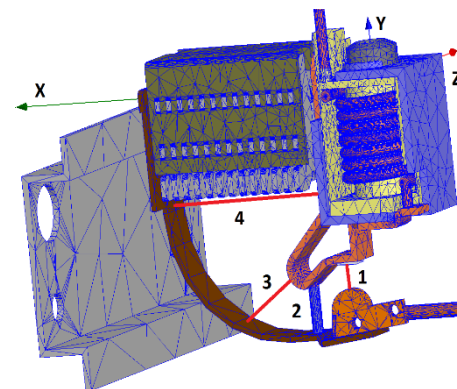


POWER QUALITY AND ENERGY EFFICIENCY

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Areas of expertise

Modern computer aided design, analysis and optimization of electrical equipment, based on Finite Element Method.
 Energy efficiency through power circulation improvement, enhanced technologies and renewable energies integration;
 Photovoltaic potential estimation;
 Monitoring, analysis and improvement of power quality;
 Measurement, testing and diagnosis in electrical installations;
 Measurement of non-ionising electromagnetic radiation in order to assess electromagnetic fields for the purpose of comparison against limits for human exposure

Team

Assoc. Prof. Dr. Eng. Liviu Neamt, Assoc. Prof. Dr. Eng. Olivian Chiver, Assoc. Prof. Dr. Eng. Mircea Horgos, Prof. Dr. Eng. Liviu Emil Petrean, Assoc. Prof. Dr. Eng. Zoltan Erdei, Assist. Prof. Dr. Eng. Eleonora Pop, Assist. Prof. Dr. Eng. Mihaela Stet, Assist. Prof. Dr. Eng. Cristian Barz.

Representative projects

“Assisted technology for electrical installation testing” - PN-III-P2-2.1-CI-2018-1296, 2018
 “Assisted technology for designing, building and verifying earthing installations” - PN-III-P2-2.1-CI-2018-1293, 2018
 “Electromagnetic field simulation of capacitive touch sensors”. Electrolux, Italy, 2015;
 “Investigation of the circumstances and causes of the LV electrical equipment failure due to HV commutation at CEFD Solaris 56 MWp Ciuperceni”, Bester Generacion, Spain, 2015;
 “Consulting services and earthing system testing on overhead power line 400 KV Gădălin – Cluj Est”, Emsens, 2014;
 “Technical analysis of the power quality at UACE Dumbrăvița”, 2014.

Significant results

The most representative publications of the past 5 years:

- Chiver, Olivian; Neamt, Liviu; Cristian, Barz; et al; *Study on the End Winding Inductance of Three-Phase Windings in Two Layers*, Tehnički vjesnik 26 (5), 1510-1514, 2019.
- A. V. Hotea, R. Adrian Timovan and L. Neamt, *The Effects of Short Circuits at Medium Voltage Transformers*, 54th International Universities Power Engineering Conference (UPEC), Bucharest, Romania, pp. 1-3, 2019.
- L. Neamt, H. Balan, O. Chiver and A. Hotea, *Considerations about Fault Loop Impedance Measurement in TN Low-*

Voltage Network, 8th International Conference on Modern Power Systems (MPS), Cluj Napoca, Romania, pp. 1-4, 2019.

4. L. Neamt, H. Balan, O. Chiver and A. Hotea, *Considerations about Substation Grounding System Design*, 8th International Conference on Modern Power Systems (MPS), Cluj Napoca, Romania, pp. 1-4, 2019.
5. Neamt, Liviu; Petrean, Liviu; Chiver, Olivian; et al; *Some Considerations about Overvoltages During and After the Disconnection of a Photovoltaic Park*, 24th IEEE International Symposium on Design and Technology in Electronic Packaging (SIITME, Iasi, 239-242, 2018.
6. Chiver, Olivian; Neamt, Liviu; Cristian, Barz; et al., *Study on the Autonomous Asynchronous Generator*, 2018 International Conference and Exposition on Electrical and Power Engineering, EPE Iasi, 863-866, 2018.
7. Chiver, Olivian; Neamt, Liviu; Matei, Oliviu; et al., *Utilization of Finite Elements Programs and Matlab Simulink in the Study of a Special Electrical Motor*, International Journal of Advanced Computer Science and Applications, 8(4), 317-323, 2017,
8. Neamt, Liviu; Matei, Oliviu; Chiver, Olivian, *Finite Element Method Combined with Neural Networks for Power System Grounding Investigation*, International Journal of Advanced Computer Science and Applications, 8(2), 187-192, 2017,
9. Chiver, O.; Neamt, L.; Pop, E.; et al., *Single-phase PM synchronous motor simulation with Matlab/Simulink*, International Conference on Applied Sciences (ICAS2016), Book Series: IOP Conference Series-Materials Science and Engineering, Volume: 163, 2017.
10. Neamt, Liviu; Chiver, Olivian; Erdei, Zoltan; et al, *Considerations about Medium Voltage SF6 Switch Disconnecter Framework Design based on 3D Electrostatic FEA*, IEEE 16th International Conference on Environment and Electrical Engineering (EEEIC), Florence, 2016.
11. Chiver, Olivian; Neamt, Liviu; Pop, Eleonora; et al, *Identification of parameters of single-phase PM synchronous Motor*, IEEE 16th International Conference on Environment and Electrical Engineering (EEEIC, Florence, 2016.
12. Balan, H.; Neamt, L.; Buzdugan, M. I.; et al., *Fault current limiter with solid-state circuit breakers*, Conference: International Conference on Innovative Ideas in Science (IIS), Baia Mare, 2015, Book Series: IOP Conference Series-Materials Science and Engineering, Volume: 144, 2016.
13. Neamt, Liviu; Matei, Oliviu; Chiver, Olivian, "Optimised Methodology for Stepper Motor Simulation", *IEEE 15th International Conference on Environment and Electrical Engineering Rome*, pp: 1078-1082, 2015,
14. Neamt Liviu; Chiver Olivian; Bartis Madalin, "Capacitive Touch Sensors Sensibility For Different Ground Hatch And Shield Electrode Structures", *The 9th International Symposium on Advanced Topics in Electrical Engineering*, Bucharest, pp. 123-127, 2015.
15. Chiver, Olivian; Neamt, Liviu; Matei, Oliviu, "Comparative study on sudden short-circuit currents of a synchronous generator", *IEEE 15th International Conference on Environment and Electrical Engineering Rome*, pp: 1688-1693, 2015.

The offer addressed to the economic environment

Research & development	Electrical equipment analysis and optimization, based on Finite Element Method; Energy efficiency and better power quality trough power circulation improvement, based on computer assisted simulation; Development of enhanced technologies in energy conversion; Development of new testing and diagnosis methods in electrical installations.
Consulting	Audit, energy efficiency and power quality; Renewable sources potential estimation for feasibility studies; Renewable energy conversion systems integration; Measurement, testing and diagnosis in electrical installations, data processing and results interpreting. Measurement of non-ionising electromagnetic radiation in order to assess electromagnetic fields for the purpose of comparison against limits for human exposure.
Training	Romanian Energy Regulatory Authority certified courses for electricians, project supervising, experts, Romanian Energy Regulatory Authority certified courses for: energy auditors and managers; Measurement, testing and diagnosis in electrical installations using modern equipment and techniques; Renewable energies integration. Energy efficiency and power quality at consumers.