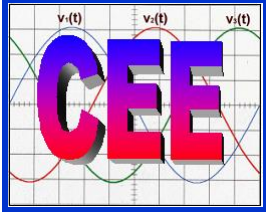
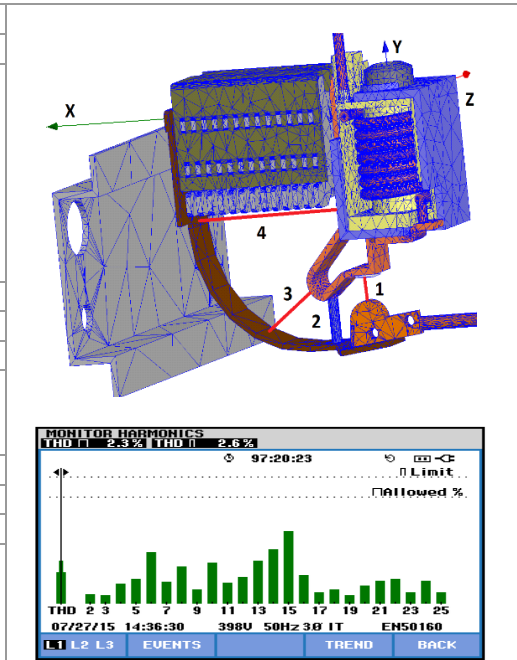


POWER QUALITY AND ENERGY EFFICIENCY

Contact details

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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, Assoc. Prof. Dr. Eng. Cristian Barz.

Infrastructure

- Fluke 435 Power Quality Analyzer (three-phase) with Logger Function;
- Spectrum analyzer Pro Bundle 3 (incl. NF-5030 & HF-60100 V4) (1Hz -1MHz / 1MHz - 9,4GHz)
- Chauvin Arnoux CA6547 10TΩ, 5kV Megohmmeter;
- Installation Tester Unilap 100 XE; Fluke 1653B Multi-Function Installation Tester;
- Fluke 1625 GEO Earth Ground Testers;
- Electrical Safety Tester, GPT-9803, 5kV c.a. 6 kV c.c.
- Megger TDR 1000/3 Time Domain Reflectometer
- Pure 3 Phase BlackBox Power Quality Analyzer
- Thermal imaging camera THT 200 with 160x120 pxl Pip and 650°C temperature
- SMC PTE-100-V Single Phase Relay Test Set, up to 300V or 8A AC
- SMC PTE-100-C Current and Voltage Relay Test Set up to 250 A, a variable AC Voltage output up to 250 V and a variable DC Voltage output up to 350 V

Representative projects

„Cross border Network of Energy Sustainable Universities”, HUSKROUA/1702/6.1/0075, 2019-2022
 “Regional Center for Training and Monitoring of the Environmental Impact of Electrical Installations” CRIMIGE - HUSKROUA/1702/6.1/0022, 2020-2022
 “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 Ciuperceeni”, Bester Generacion, Spain, 2015;

Significant results

The most representative publications of the past 5 years:

1. O. Chiver, L. Neamt, M. Horgos, *Study of Electric Vehicles with Advisor*, Carpathian Journal of Electrical Engineering, vol. 16, no. 1, pp. 127-138, 2022.
2. Chiver O., Neamt L., Barz C., *Analysis of the Performances of Battery Electric Vehicles using ADVISOR*, Proceedings of International Conference and Exposition on Electrical And Power Engineering (EPE), Iasi, Romania, 2022, pp. 264-268, 2022.
3. Chiver, O; Burnete, N.; Sugar, I.R.; Neamt, L. Pop Eleonora, *Study on Gear Ratio of Battery Electric Vehicles*, INGINERIA AUTOMOBILULUI, Issue: 59, Page11-16, June 2021.
4. L. Neamt and O. Chiver, *A Simple Design Method of Unequal Spacing Arrangement for Substation Grounding Grid*, in IEEE Access, doi: 10.1109/ACCESS.2021.3119941.
5. Neamt, Liviu; Neamt, Alina; Chiver, Olivian, *Improved Procedure for Earth Fault Loop Impedance Measurement in TN Low-Voltage Network*, Energies, Volume: 14, Issue: 1, Article Number: 205, 2021.
6. 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.
7. A. V. Hotea, R. Adrian Tirnovan 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.
8. 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.
9. 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.
10. 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.

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, Ministry of Energy 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.