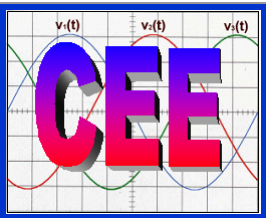
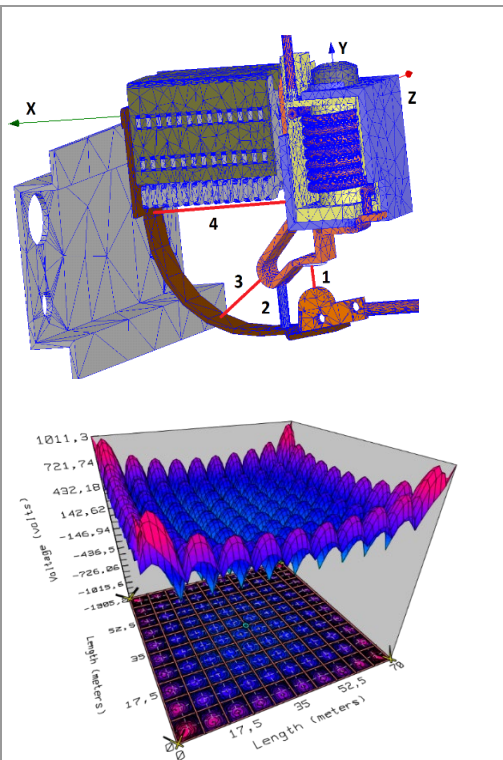


POWER QUALITY AND ENERGY EFFICIENCY

Contact details

Name	Power Quality and Energy Efficiency
Acronym	CEE
Logo	
Site	http://cee.utcluj.ro/cee/
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Areas of expertise

- Design, analysis and optimization of electrical equipment and machines, based on FEM.
- Modeling, simulation and optimization of power system.
- Smart grid and distributed generation.
- Electrical Vehicles.

Team

Prof. Dr. Eng. Dan Calin Peter, Assoc. Prof. Dr. Eng. Liviu Neamt, Assoc. Prof. Dr. Eng. Olivian Chiver, Assoc. Prof. Dr. Eng. Mircea Horgos, Assoc. Prof. Dr. Eng. Zoltan Erdei, Assoc. Prof. Dr. Eng. Cristian Barz, Assist. Prof. Dr. Eng. Eleonora Pop, Assist. Prof. Dr. Eng. Mihaela Stet, Assistant Dr. Eng. Alexandru Grib

Infrastructure

- Pure 3 Phase BlackBox Power Quality Analyzer
- Fluke 435 Power Quality Analyzer with Logger Function;
- Spectrum analyzer Pro Bundle 3 (incl. NF-5030 & HF-60100 V4) (1Hz -1MHz / 1MHz - 9,4GHz)
- Chauvin Arnoux CA6547 10TQ, 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
- Thermal imaging camera THT 200
- SMC PTE-100-V Single Phase Relay Test Set,
- SMC PTE-100-C Current and Voltage Relay Test Set
- Professional Pressure-Difference & Air Flow Meter
- Testo 340 flue gas analyser, O₂, CO, CO_{low}, NO, NO_{low}, NO₂ and SO₂

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.

Significant results

The most representative publications of the past 5 years:

- M. Grib, M. Iordache, D. Niculae, M. Stanculescu, L. Bobaru, A. Grib, *Using the Smith Diagram in the Analysis of High-Frequency Analog Circuits*, Revue Roumaine des Sciences Techniques-Serie Electrotechnique et Energetique, vol. 70, issue 3, pp. 361-366, 2025.
- O. Chiver, R. Sugar, L. Neamt, *Study on the Selection of Electric Motor/Engine on the Performance of Hybrid Vehicles*, Energies, vol. 17, no. 14, pp. 3529, 2024.
- 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.
- 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.
- L. Neamt and O. Chiver, *A Simple Design Method of Unequal Spacing Arrangement for Substation Grounding Grid*, IEEE Access, vol. 9, pp. 141339-141346.
- 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.

The offer addressed to the economic environment

Research & development	Electrical equipment and machines 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.

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