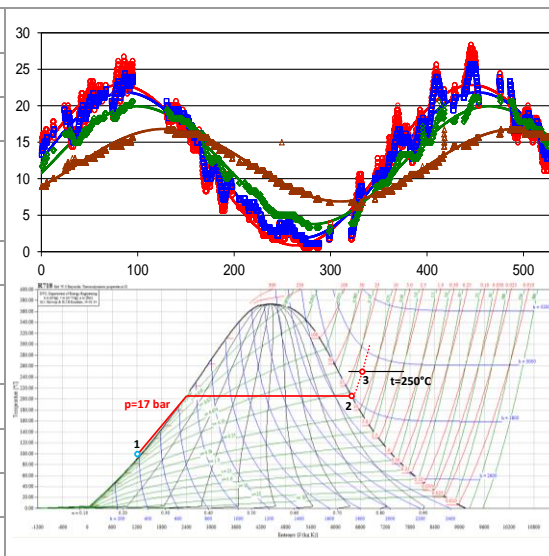


INSTRUMENTAL ANALYSIS

Contact details

Name	Instrumental Analysis
Acronym	IA
Logo	
Site	http://research.utcluj.ro/tl_files/research/Research%20Domain/Mechanical%20Engineering/5_CBalan.pdf
Address	103-105 Bd. Muncii, Cluj-Napoca
Faculty Department	Faculty of Mechanical Engineering Faculty of Materials and Environmental Engineering
Telephone	+40 745 014725
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Director	Prof. Dr. Eng. Mugur Ciprian Balan
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Areas of expertise

Fundamental research fields: Chemistry, Environment and materials science; Biology, Genetics and medicine; Physics and Technological physics; Fields at frontier

Applied research fields: Theoretic computer science; Advanced informatics systems; Sustainable energy systems; Energy security; Pollution reduction; Alimentary safety and security; Biotechnology

Team

Prof. Dr. Eng. Mugur Ciprian Balan, Prof. Dr. Lorentz Jantschi, Assoc. Prof. Dr. Eng. Paula Veronica Ungureșan, Assoc. Prof. Dr. Eng. Florin Bode

Representative projects

“From mathematics to quantum chemistry and medical chemistry”,
http://lori.academicdirect.org/research/grants/ID1051/PCE_ID_1051_Research_Report.pdf
SOLTERM, “WIRE – Weather Intelligence for Renewable Energy”, ES1002, <http://www.wire1002.ch/index.php?id=14>
“Study concerning thermal energy impact of a green roof to a building”,
http://www.martensita.ro/docs/raport_preliminar_iarna.pdf
“Study concerning climate of electronic cabinets with 1500 W capacity”
“Durable valorisation of medical plants and hop with harvesting of bioactive products”,
http://lori.academicdirect.ro/research/grants/Sinteza_Cercetare_M1_104_2008.pdf

Significant results

The most representative publications of the past 5 years:

1. L. Jäntschi, S. D. Bolboacă, R. E. Sestraș, “A Simulation Study for the Distribution Law of Relative Moments of Evolution”, in *Complexity*, vol. 17, no. 6, 2012, pp. 52-63
2. L. Jäntschi, M. V. Diudea, “Centrality of some cubic graphs on 16 vertices”, in *Journal of the Indian Chemical Society*, Indore, India, vol. 87, no. 12, 2010, pp. 1531-1537
3. L. Jäntschi, S. D. Bolboacă, M. Bălan, R. E. Sestraș, M. V. Diudea, “Results of Evolution Supervised by Genetic Algorithms”, in *Notulae Scientia Biologicae*, Cluj-Napoca, Romania, vol. 2, no. 3, 2010, pp. 12-15
4. M. C. Bălan, L. Jäntschi, S. D. Bolboacă, M. Damian, “Thermal Solar Collectors Behaviour in Romania”, in *Polish Journal of Environmental Studies*, 2010, vol. 19, no. 1, 2010, pp. 231-241
5. L. Jäntschi, S. D. Bolboacă, R. E. Sestraș, “A Study of Genetic Algorithm Evolution on the Lipophilicity of Polychlorinated Biphenyls”, in *Chemistry & Biodiversity*, Weinheim, Switzerland, vol. 7, no. 8, 2010, pp. 1978-1989
6. L. Jäntschi, S. D. Bolboacă, R. E. Sestraș, “Meta-heuristics on quantitative structure-activity relationships: study on polychlorinated biphenyls”, in *Journal of Molecular Modeling*, Berlin, Germany, vol. 16, no. 2, 2010, pp. 377-386

7. M. C. Bălan, T. P. Todoran, S. D. Bolboacă, L. Jäntschi, "Assessments about soil temperature variation under censored data and importance for geothermal energy applications. Illustration with Romanian data", in *Journal of Renewable and Sustainable Energy*, 2013, p. 1-13
8. M. C. Bălan, L. Jäntschi, S. D. Bolboacă, M. Damian, "Thermal Solar Collectors Behaviour in Romania", in *Polish Journal of Environmental Studies*, vol. 19, no.1, 2010, pp. 231-241

Patents:

M. C. Bălan, et al. : Patent proposal: Heat pump to provide heating temperature at two different levels. Owner: SC Convergo SRL

The offer addressed to the economic environment

Research & development	R&D in the fields of: Energy efficiency, Renewable energies, Chemistry; Computer science; Mathematics; Physics; Horticulture; Biotechnologies; Experimental design; Data acquisition, Computational fluid dynamics, Cogeneration
Consulting	Consulting in the fields of: Energy efficiency, Renewable energies, Chemistry; Computer science; Mathematics; Physics; Horticulture; Biotechnologies; Experimental design; Data acquisition, Computational fluid dynamics, Cogeneration
Training	Training in the fields of: Energy efficiency, Renewable energies, Chemistry; Computer science; Mathematics; Physics; Horticulture; Biotechnologies; Experimental design; Data acquisition, Computational fluid dynamics, Cogeneration