



**Proceedings of the  
3<sup>rd</sup> International Conference on  
Applied Innovations in IT**

Eduard Siemens (editor in chief) et al.

# Proceedings of the 3<sup>rd</sup> International Conference on Applied Innovations in IT

Eduard Siemens (editor in chief) et al.

---

This volume contains publications of the 3rd International Conference on Applied Innovations in IT (ICAIIIT), which took place in Koethen March 19th 2015. The conference is devoted to problems of applied research in the fields of automation and communications. The research results can be of interest for researchers and development engineers, who deal with theoretical base and the application of the knowledge in the respective areas.

Proceedings of the 3<sup>rd</sup> International Conference on Applied Innovations in IT,  
2015.

editors: Prof. Dr. Eduard Siemens\* (editor in chief),  
Dr. Bernd Krause\*, Dr. Leonid Mylnikov\*\*

(\*Anhalt University of Applied Sciences, \*\* Perm National Research Polytechnic University)

ISBN 978-3-86011-094-2 (Online)

# Content

## Section 1. Automation and algorithms

*Anton Petrochenkov:*

Practical Aspects of Genetic Algorithms Implementation for Life Cycle Management System of Electrotechnical Equipment..... 1

*Ivan Luzyanin, Anton Petrochenkov:*

Information Systems Dependability Analysis ..... 7

*Leonid Mylnikov:*

Conceptual Foundations of Modelling of Innovative Production Projects in Industrial Systems ..... 13

*Andrey Bachurin:*

City Outdoor Lighting System Control. Problems and Prospects ..... 19

*Yuriy Babich:*

Long-term Forecasting of Frame Alignment Losses for Circuit Emulation Implementation .....25

*Irina Strelkovskaya, Olena Lysiuk, Roman Zolotukhin:*

Comparative Analysis of Signals Restoration by Different Kinds of Approximation ..... 29

## Section 2. Communication Technic

*Goce Dokoski, Danijela Efnusheva, Aristotel Tentov, Marija Kalendar:*

Software for Explicity Parallel Memory-Centric Processor Architecture ..... 37

*Alena Okhorzina, Norbert Bernhard2, Alexey Yurchenko:*

Double-Exponential Model of PV with Temperature Depence..... 41

*Danijela Efnusheva, Goce Dokoski, Aristotel Tentov, Marija Kalendar:*

A Novel Memory-centric Architecture and Organisation of Processors and Computers.... 47