

# Contents

## Invited Paper

- The Internet of Things – Technical Challenges for Interoperability . . . . . 3  
*Sandra Stinčić Clarke, John Davies, and Mike Fisher*

## Advances in ICT Research

- Architecting for Adaptive Resource Management in Mobile Augmented Reality Systems: Models, Metrics and Prototype Software Solutions . . . . . 17  
*Mykola Tkachuk, Oleksii Vekshyn, and Rustam Gamzayev*
- Intelligent Cyber Defense System Using Artificial Neural Network and Immune System Techniques . . . . . 36  
*Myroslav Komar, Anatoliy Sachenko, Sergei Bezobrazov, and Vladimir Golovko*
- Application of Ordered Fuzzy Decision Trees in Construction of Structure Function of Multi-State System. . . . . 56  
*Elena Zaitseva, Vitaly Levashenko, Miroslav Kvassay, and Jan Rabcan*
- Using Choreography of Actors and Rewriting Rules to Adapt Legacy Fortran Programs to Cloud Computing. . . . . 76  
*Eugene Tulika, Anatoliy Doroshenko, and Kostiantyn Zhreb*
- Descriptive Models of System Dynamics . . . . . 97  
*G.N. Zholtkevych, K.V. Nosov, Yu. G. Bespalov, L.I. Rak, E.V. Vysotskaya, Y.B. Balkova, and V.K. Kolomiychenko*

## ICT in Education

- Implementation of an ICT Curriculum: Tips and Pitfalls of New Learning Concepts. . . . . 117  
*Leo van Moergestel, Ander de Keijzer, and Esther van der Stappen*
- Robotics and Prosthetics at Cleveland State University: Modern Information, Communication, and Modeling Technologies . . . . . 133  
*Yuriy Kondratenko, Gholamreza Khademi, Vahid Azimi, Donald Ebeigbe, Mohamed Abdelhady, Seyed Abolfazl Fakoorian, Taylor Barto, Arash Roshanineshat, Igor Atamanyuk, and Dan Simon*

The Cloud-Based Learning Component with Maxima System and Its Evaluation . . . . .	156
<i>Mariya Shyshkina</i>	
Mobile Learning Technologies in English Learning . . . . .	169
<i>Nataliya Osipova, Olga Gnedkova, and Denis Ushakov</i>	
The Experience of the Master Classes as a Means of Formation of Readiness of Teachers to Implement Innovation . . . . .	184
<i>Nataliya Kushnir, Nataliya Osipova, Nataliya Valko, and Olena Litvinenko</i>	
<b>Author Index</b> . . . . .	201

Information and Communication Technologies in  
Education, Research, and Industrial Applications  
12th International Conference, ICTERI 2016, Kyiv,  
Ukraine, June 21-24, 2016, Revised Selected Papers  
Ginige, A.; Mayr, H.C.; Plexousakis, D.; Ermolayev, V.;  
Nikitchenko, M.; Zholtkevych, G.; Spivakovsky, A. (Eds.)  
2017, XII, 201 p. 80 illus., Softcover  
ISBN: 978-3-319-69964-6