

TABLE OF CONTENTS

Committees	3
Table of Contents	7
Proto-cluster: A Parallel Computer Architecture Based on Prototyping Boards.....	15
N. Ádám, M. Hulič, E. Chovancová, E. Pietriková, T. Gergely	
IT Academy project: Model of class focused on informatics.....	21
N. Adamko, G. Andrejková, J. Guniš, R. Hrušecký, A. Hrušecká, Ľ. Jašková, J. Sekerák, M. Spišáková, Ľ. Šnajder, M. Varga	
Innovation of University Subjects in Data Science Area within IT Academy Project.....	31
Ľ. Antoni, E. Bruoth, J. Guniš, P. Gurský, S. Krajčí, O. Krídlo, R. Navrátil, Ľ. Šnajder, G. Andrejková, D. Šveda	
New trends in mobile technologies education in Slovakia: an empirical study	37
F. Babič, V. Gašpar, P. Šatala	
Use of Computer Technologies in Development of Mathematical Thinking	43
K. Bachratá, H. Bachratý, K. Kovalčíková	
Experiences of Using Real-Time Classroom Response Systems	51
V. H. Bakonyi, Z. Illés	
Simulation Tool for Tuning of the Speed Servo Drive	57
I. Bélai, V. Goga	
Analysis of the Influence of Electronic Word-of-Mouth on University Choice by Slovakian Grammar School Students	63
M. Beno	
Disturbance Analysis Virtual Laboratory for PID Controllers with Higher Derivative Degrees	69
P. Bisták	
Fuzzy Rule Miner: A Software Library Used in Project Based Teaching of Topics Related to Knowledge Discovery in Databases	75
J. Bohacik, M. Zabovsky	
Audience Response Systems: The power of academic personal presentation.....	81
P. Čech, E. Pietriková, A. Baláž	
Development, tendency, testing and success of marketing communications	87
P. Červenka, J. Naščáková, L. Bednárová, N. Daneshjo, E. Dudáš-Pajerská	
The new directions of research in the application of effective marketing communication.....	93
P. Červenka, J. Naščáková, L. Bednárová, N. Daneshjo, E. Dudáš-Pajerská	

Automated Evaluation of a Network Device Configuration.....	99
Z. Csengődy, D. Macko, K. Jelemenská	
Enhanced Interoperability with New Collaborative and Streaming Functions Implemented in Slovak National Telepresence Infrastructure (NTI).....	105
D. Cymbalak, F. Jakab, R. Vápeník, M. Michalko, J. Turňa, Ľ. Bilský, J. Kováčová	
Development of Human Resources - Learning in Clouds	111
A. Czaja, A. Grabowska	
Online Questionnaires – Collection and Analysis of Student’s Views on Operating Systems Course	117
A. Deák, Z. Bilanová, M. Vrábel, J. Genči	
Methods of traffic load balancing in high-speed optical systems.....	123
I. Dolnák, J. Litvik	
Using Mathematical Software with Support for Students with Visual Impairments	127
E. Draženská, D. Šimšík, A. Galajdová	
Improved process of running tasks in the high performance computing system.....	133
A. Dudáš, P. Voštinár, J. Škrinárová, J. Siláči	
Issues with the detection of plagiarism in programming courses on a larger scale	141
M. Ďuračík, E. Kršák, P. Hrkút	
Survey on communication in Internet of Things environment	149
J. Erdelyi, P. Čičák	
Gloffer – Product catalogs building and products comparing in product catalogs, taking into account the multi-currency and multi-linguality of indexed content	157
R. Fasuga, K. Seifriedová, E. Kubanda, V. Pilík, J. Rýdel, M. Kuchařík	
Teaching module of mathematical methods in Reliability Engineering	163
A. Forgac, P. Rusnak	
Issues of adaptive interfaces and their use in educational systems	173
D. Gabriska, M. Ölvecký	
Improving the user experience of electronic university enrollment	179
L. Galko, J. Porubän, J. Senko	
The Past Seven Years of Development of the Framework for Teaching Programming and the Students’ Results	185
R. Horváth	

Serious game in science education: How we can develop mathematical education	191
M. Hostovecký, I. Šalgovič, R. Virágh	
Step by Step to the World of Science and Technology	197
J. Hrbacek, L. Stuchlikova	
An Implementation of Efficient Hierarchical Access Control Method for VR/AR Platform	205
T.-C. Hsiao, K.-Y. Tai, Y.-M. Huang, Y.-F. Chung, Y.-C. Wu, T. Kurniati, T.-S. Chen	
Gesture control for cognitive training based on VR Technologies	209
M. Hudák, B. Sobota, Š. Korečko	
Case Study of Ransomware Malware Hiding Using Obfuscation Methods	215
J. Hurtuk, M. Chovanec, M. Kičina, R. Billík,	
Scaffolding Mathematical Prerequisites to STEM Students by Solving Non-Traditional Problems	221
J. Hvorecký	
FRIskill Knowledge Base Management System	229
O. Chovancova, T. Postek, J. Bohacik	
The basis for choosing MicroLearning within the terms of e-Learning in the context of student preferences	237
T. Javorcik, R. Polasek	
Continual Improvement Process in Scientific Publishing	245
G. Juhás, L. Molnár, A. Juhásová, M. Ondrišová, M. Mladoniczky, J. Mažári	
The Learning Styles of the Generation Group Z and Their Influence on Learning Results in the Learning Process	251
R. Jurenka, A. Stareček, N. Vraňaková, D. Cagáňová	
The eSEC Portal as a Tool for the Concept of Corporate Social Responsibility	261
K. Kampova, K. Makka, Z. Zvakova, W. Pellowksi	
EEG Based Voice Activity Detection	267
M. Koctúrová, J. Juhár	
ChipDE – A Development Environment for SystemVerilog-based Digital IC Design	273
L. Kohútka, V. Stopjaková	
A Country Benefits Related to Education Sector using the Data for Input-Output Analysis	279
G. Kořveková, D. Palaščáková	
Active learning in data science education	285
V. Konkořová, J. Paralič	

Testing of the current open-source EIGRP implementations	291
M. Kontšek, P. Segeč	
A survey of the EIGRP standard and following open-source implementations	297
M. Kontšek, P. Segeč, M. Moravčík, J. Uramová	
Application of Modern Technologies in the Creation of an Interactive Education Portal	305
J. Kostolny, J. Bohacik, T. Hianik, P. Vestenicky, T. Pecenkar, M. Lapin	
Interactive tools of computer support in the learning of construction processes technology – case study.....	311
M. Kozlovska, J. Cabala, M. Spisakova	
Approach for Hierarchical Global All-In Classification with application of Convolutional Neural Networks	317
M. Krendzelak, F. Jakab	
Personal coaching of students in real-life programming theses	323
T. Lenger, E. Pietriková, N. Ádám	
High-capacity wavelength division multiplexing optical transmission systems	329
J. Litvik, I. Dolnák, M. Dado	
Implementation of SCRUM methodology in programming courses.....	333
M. Madeja, M. Biňas	
Biofeedback as part of pedagogical self-reflection	341
M. Malcik, M. Miklosikova	
Improved smart gateway in IoT.....	349
L. Mastilak, M. Galinski, I. Kotuliak, M. Ries	
Online Tool for Creating Simple Models of Mechanical Systems	355
J. Matišák, K. Žáková	
Spreadnig High Performance Computing Skills with E-Learning Support.....	361
M. Melicherčík, V. Siládi, M. Svítek, L. Huraj	
Applications of knowledge technology in construction industry.....	367
P. Mesároš, T. Mandičák, M. Behún, J. Smetanková	
An overview of Building Information Modeling Libraries.....	373
P. Mesároš, J.Smetanková, A. Behúnová, J. Talian	
Comparison of BIM education process in construction management field at Technical University of Košice and University of Zagreb.....	379
P. Mesároš, T. Mandičák, M. Vukomanović, S. Kolarić	
Draft of Firefighter Education Process through Distance Learning.....	385
B. Mikula, A. Tobisová, D. Blaško, I. Vajdová, E. Jenčová, L. Melníková, S. Szabo jr., S. Szabo, V. Němec	

Scaling and structuring of digital literacy	389
L. Molnár, G. Juhás, M. Ondrišová, A. Juhásová, J. Mažári, M. Mladoniczky	
Overview of Cloud Computing standards	395
M. Moravcik, P. Segec, M. Kontsek	
Relationships between game attributes and cognitive abilities	403
M. Ölvecký, D. Gabriska	
Analysis of turn-taking in the Slovak interview corpus	411
S. Ondáš, J. Juhár	
Overview of IP Fast Reroute solutions	417
J. Papán, P. Segeč, M. Moravčík, M. Konštek, Ľ. Mikuš, J. Uramová	
Convergence of routing protocols in real and simulated environments	425
R. Petija, M. Michalko, F. Jakab, P. Fecil'ak	
Engaging Students at a Distance: Advantages and Pitfalls of Video-conference Use in Teaching	431
K. Pisutova, R.C. Rogers, J. Mercer	
Challenging the Education in the Open Laboratory	439
J. Porubän	
Interactivity in learning materials for the teaching	445
I. Pšenáková, T. Szabó	
Network Tester: A Generation and Evaluation of Diagnostic Communication in IP Networks	451
J. Pullmann, D. Macko	
Ball Levitation Using EEG Headset via Bluetooth	457
M. Rábek, K. Žáková	
Key Indicators for Student Performance at the E-Learning Platform: An SNA Approach	463
S. Rakic, S. Softic, M. Vilkas, B. Lalic, U. Marjanovic	
Estimation of the Wall Thickness and Relative Permittivity by Radar System	469
M. Repko, J. Gamec, P. Kurdel, M. Gamcová	
Software Tool for Manipulation with Decision Diagrams Used in Reliability Analysis	475
P. Rusnak, L. Cajka, M. Kvassay	
Tool for supporting Education process in Information technology	483
P. Sedlacek, M. Vaclavkova	
Entrepreneurial University as Innovation Hub in Transitional Economy: New Digital Platform for SME Globalization	489
Y. V. Seniuk	

Possibilities of Utilization Chaos for the Cognitive Tests Using Virtual Reality Technologies	499
B. Sobota, M. Guzan	
Digital Calibration of Low-Voltage and Low-Power Analog ICs.....	505
M. Šovčík, V. Stopjaková, D. Arbet, M. Kováč	
The Level of Cognitive Abilities of Generational Group Y and Educational Process.....	511
A. Stareček, M. Bednářiková, K. Koltnerová, N. Vraňaková, Z. G. Babel'ová, D. Cagaňová, A. Chlpeková	
Impact of Motivational and Training Activities on Awareness of Building Information Modeling.....	519
Z. Struková, R. Bašková, K. Krajníková	
Support of Student Motivation as Key Condition for Successful University Graduates in Engineering Education	527
L. Stuchlíková	
Design of a Training System for Mobile E-learning with the Application of E-technology	533
P. Šufaj, R. Haluška, P. Galajda, Ľ. Ovseník, S. Marchevský	
A Mobile Game to Teach AVL Trees.....	541
D. Šuníková, Z. Kubincová, M. Byrtus	
UWB-PerLoc-MAT: MATLAB App for Person Localization by UWB Sensor	545
M. Švecová, D. Kocur, M. Švingál	
Cloud Computing and Numerical Mathematics.....	551
P. Szabó, V. Moucha, M. Ferencová	
Quadcopter control.....	557
P. Ťapák	
IoT plant watering.....	563
P. Ťapák, M. Csiba	
Usability of an Open Space Class Location and Schedule Application	569
T. Tarkanič, M. Madeja, L. Galko, J. Porubán	
The Other Kind of Machine Learning: Modeling Worker State for Optimal Training of Novices in Complex Industrial Processes	577
C. Thomay, B. Gollan, M. Haslgrübler, A. Ferscha, J. Heftberger	
Application of Laser Scanning Technology for Information Modeling of Existing Buildings	583
M. Tkáč, P. Mesároš, T. Mandičák	
From App Inventor to Java: A Strategy for Mediating the Transition	591
T. Tóth, V. Michaličková	

Virtual Reality Applications in STEM Education	597
P. Truchly, M. Medvecký, P. Podhradský, M. Vančo	
Infrastructure for generating new IDS dataset	603
J. Uramová, P. Segeč, M. Moravčík, J. Papán, M. Kontšek, J. Hrabovský	
Creation of a Software Tool in Project Based Teaching for the Recruitment of Employees into Security Companies	611
M. Vaclavkova, J. Bohacik	
Safety as necessary aspect of automated systems.....	617
M. Vagaš, D. Šimšík, A. Galajdová, D. Onofrejová	
Exploration of the LoRa Technology Utilization Possibilities in Healthcare IoT Devices	623
A. Valach, D. Macko	
Concept of Intelligent Space in Education of IoT Applications in Robotics.....	629
J. Vaščák, E. Kajáti, I. Zolotová	
STEM Experiences in Primary and Lower Secondary Schools	635
P. Voštinár, N. Klimová	
Generational Groups of Employees and the Importance of their Education in the Context of the Age Management Concept	641
N. Vraňaková, A. Stareček, K. Koltnerová, A. Chlpeková, D. Cagáňová	
ADDITIONAL PAPER:	
Education and Research in the e-mobility and PEM Fuel Cells.....	647
M. Huba, V. Ferencey, M. Stromko	
Author Index	655