

2009 International Conference on Application of Information and Communication Technologies

(AICT 2009)

**Baku, Azerbaijan
14 – 16 October 2009**



**IEEE Catalog Number: CFP0956H-PRT
ISBN: 978-1-4244-4739-8**

TABLE OF CONTENTS

1 – ICT IN GOVERNANCE AND GOVERNMENT POLICY MAKING

The Role of e-Government in Improvement of State Governance Efficiency.....	1
<i>R. H. Gulmammadov</i>	
Azərbaycanda İnformasiya Texnologiyaları Mütəxəssisləri Sayının Hesablanması Metodikası	5
<i>Z. Q. Cəbrayilova, M. H. Məmmədova</i>	
e-Government Information Security Management Research Challenges.....	9
<i>R. M. Alguliev, Y. Imamverdiyev</i>	
Стратегический SWOT-анализ государственного бюджета. Динамический подход	14
<i>P. A. Kapaev, P. X. Гюльмамедов, Дж. Ф. Терезулова</i>	
İnformasiya Cəmiyyətində İnsan Hüquqlarının Təmin Olunması və Qarşıya Çıxan Problemlər	19
<i>Aygün Əhmədova, Rasim Əliquliyev</i>	
Gömrük Nəzarətinin Avtomatlaşdırılmış Sistemi və Risklərin İdarə Olunması İnformasiya Sisteminin İntegrasiya Məsələsi	24
<i>Üzeyir Qurbanlı</i>	
İnternet Xidməti Provayderlərinin Məsuliyyətinin Müəyyən Edilməsi	29
<i>Rasim Mahmudov</i>	
Thesis for Concepts of Forming the Population and Migration Segment of National Information Space	31
<i>R. Alguliyev, Y. Imamverdiyev, Elçin Əliyev</i>	
Evaluation of Electronic Public Procurement Solution for the FYR of Macedonia.....	34
<i>Josimovski Saso, Trenevski-Blagoeva Kalina, Mihajlov Martin</i>	
E-inclusion for Bridging the Digital Divide in Turkey	39
<i>Mustafa Bayrakci</i>	

2 – ICT IN MEDICINE AND HEALTH CARE

Səhiyyə Sferasında Müasir İnformasiya Sistemlərinin İşlənməsi və Tətbiqi Məsələləri	44
<i>Ə. Q. Əliyev, S. I. Agazadə</i>	
Mədəni Proseslərin İnkişafına İKT və İS-in Təsirinin Öyrənilməsi və Onun Vasitəsilə Həmin Sahələrdə İdarəetmənin Səmərəliliyinin Artırılması Məsələləri.....	47
<i>Ə. Q. Əliyev, Ə. B. Nadiri</i>	
Using of Extract Mixture from Red Vine Grape Seed and Selenium Content Plant for Human Welfare in Conditions of Chronic Irradiation.....	50
<i>Rashydov Namik</i>	
Protez EL Tasarimi – Bölüm II: EMG İşaretinin Destek Vektör Makinesi ile Sınıflandırılması ve Sanal Protez Elin Sürülmesi	53
<i>Hanife Usta, Ilyas Eminoglu, Sefa Geylani, Nurettin Senyer, Gökhan Kayhan, Ali Ekber Özdemir</i>	
Prosthesis Hand Design – Part I: Virtual Hand Simulator	58
<i>Nurettin Senyer, Sefa Geylani, Recai Oktas</i>	
Data Mining Cardiovascular Risk Factors.....	62
<i>Alireza Kajibadi, Mohamad Hosein Saraee, Sedighe Asgari</i>	
A BioHashing Method for Fingerprint Templates Protection	67
<i>Y. Imamverdiyev</i>	

3 – ICT IN EDUCATION, RESEARCH AND SCIENCE

3.1 – SECTION

Using of Information and Communication Technologies in Learning and Teaching of Physics in Universities.....	71
<i>N. M. Qodjaye, B. M. Qasimov</i>	
Study of Structures of Biomolecules of Drostatin Family by Means of Computer Modelling	74
<i>L. I. Veliyeva</i>	

The Spatial Structure and Electron Properties of the Gly-Glu-His-Phe-Pro-Gly-Pro Molecule	77
<i>T. I. Ismailova, R. M. Abbasli, L. I. Ismailova</i>	
Computational Approaches to the Description of the Nitrogen Oxide Production from Various Compounds	81
<i>Ilqam Gurbanov</i>	
Komputer Modelling of Spatial Structure of the Opioid Peptides.....	84
<i>G. A. Akverdieva</i>	
Role of Computer Modelling in Spectroscopic and Quantum-chemical Investigations of the Structure and Properties of Polyatomic Molecules	88
<i>S. D. Demukhamedova</i>	
Effect of the Transition Metals on the Carnosine Coordination Complexes Structure	94
<i>S. D. Demukhamedova, I. N. Alieva, N. M. Gojayev</i>	
Высота потенциального барьера диода шоттки Al-Ni/n-Si с аморфным металлическим сплавом	98
<i>И.М. Эфендиева, Ш.Г. Аскеров, Л.К. Абдуллаева, Ш.М. Годжаева, Т.З. Кулиева</i>	
Software Package for “ab initio” Microscopic Modeling of Electronic Subsystem of Multiatomic Crystals.....	103
<i>B. M. Qasimov</i>	
Simulation by Computer Spatial Structure of the Phe-Gly-Leu-NH₂ Molecule.....	106
<i>U. T. Agayeva</i>	

3.2 – SECTION

The Spatial Structure of the Cardio Active Peptides.....	109
<i>N. A. Akhmedov, R. M. Abbasli, L. I. Ismailova</i>	
Conformational Aspects of the Structure-function Relationships in the Biologically Active Peptides.....	114
<i>G. A. Agaeva</i>	
Research on Improving Learning Interests for Elementary Students Based-on Mental Mode by Using Mathematics Animations	118
<i>Fang Haiguang, Li Xuemei, Helge Høivik</i>	
Türk Yüksek Öğretiminde 4 Yıllık Lisans Programları için Harmanlanmış e-Öğrenme Modeli	123
<i>A. Goksu, M. C. Karacadag, M. Yılmaz, Z. Parlak, N. Tasbasi</i>	
The Standards of the Contents in a Subject of Informatics for General Education Schools.....	129
<i>Firudin Agayev</i>	
Digital School	133
<i>Fatma Khanım Bunyatova , Aynur Bunyatova</i>	
Təhsil Sferasında İntellektual İnformasiya Sistemlərinin İşlənilməsi və Tətbiqi	138
<i>Ə. Q. Əliyev, M. H. Sultani</i>	
Comparative Study of the Electron-dimensional Structures and Spectroscopic Characteristics of Polymer-semiconductor Nanocomposites with the Computer Modeling	141
<i>N. S. Nabiyev, M. A. Ramazanov, F. V. Hajiyeva</i>	
Role of Overlap Integrals in Study of Electronic Structure of Atoms and Molecules.....	144
<i>F. G. Pashaev, A. G. Gasanov</i>	
Conformational and Dynamical Properties of the CREKA Molecule.....	146
<i>I. N. Alieva, G. D. Abbasova, N. M. Gojayev</i>	

3.3 – SECTION

(IS) Computer and Communication Technology Against the Use of Social Pedagogy (?).....	151
<i>Ejder Agayev</i>	
Distance Education: A Flexible Teaching and Learning Delivery Method.....	154
<i>Erkan Taskin</i>	
Academic Document Sharing at IAU Members and Distance Education Tools (Samples of Turkish Language).....	157
<i>Mehmet A. Eroglu</i>	
Research on Interactive Interests of Pupil-oriented Mathematics Learning Using Game-based Animation.....	162
<i>Fang Hai-Guang, Wang Gui-Hua, Helge Høivik</i>	
Preparation of Computer Instructional Programs with Open System and Its Usage Steps.....	167
<i>Etibar Seyidzade Vagif</i>	

ZPD Incidence Development Strategy for Demand of ICTs in Higher Education Institutes of Pakistan	172
<i>Zaffar Ahmed Shaikh</i>	
Usability of the Genetic Algorithms for Solving Lectures Schedule Task.....	176
<i>Alexandre Ediberidze, Michael Kantaria</i>	
Research on Adaptive Mobile Learning Resources Platform Based on Learning Object Model	179
<i>Haiguang Fang, Jing Liu, Ronghuai Huang, Yushun Li</i>	
Logical Integrity, Fuzzy Logic and Modeling Content of Education	185
<i>Fatma Khanim Bunyatova, Aynur Bunyatova</i>	
Информационная Система Оценки Качества Научной Деятельности	189
<i>А.Г. Гаджиев, С.А. Шабанов, Ф.М. Салманов</i>	

3.4 – SECTION

Predictive Simulation Models in Decision Support Systems	193
<i>F. Pashchenko</i>	
Interactive Web Based Learning: Image Processing	197
<i>Poonam S. Toke, S. G. Bhirud</i>	
NI LabView Data Acquisition System Design Using Hydrogen Fuel Cell.....	201
<i>Kenan Baltaci, Faruk Yildiz</i>	
A New Secret Image Sharing Technique Based on Asmuth Bloom`s Scheme	207
<i>Mustafa Ulutas, Vasif V. Nabyev, Guzin Ulutas</i>	
Founding National Impact-factor of Azerbaijan Scientific Journals	212
<i>R. Sh. Hasanova</i>	
A New Future Technology in Rural and Remote Education: IEEE 802.22 Cognitive Radio Based Wireless Regional Access Network (WRAN)	216
<i>Cebraill Ciflikli, A. Turgut Tuncer, A. Tuncay Özsahin</i>	
An Analysis of the Realization Rate of Affective Objectives of Science and Technology Curriculum	221
<i>Murat Demirbas, Rahmi Yagbasan</i>	
Automatic Language Identification of Bilingual English and Farsi Scripts	226
<i>Hamideh Rezaee, Masoud Geravanchizadeh, Farbod Razzazi</i>	
Relation Extraction among Learning Concepts in Intelligent Tutoring Systems.....	230
<i>Urfat Nuriyev, Korhan Gunel</i>	

4 – ICT IN HUMANITIES AND SOCIAL SCIENCES

Face Recognition Using Partitioned Iterated Function System	235
<i>Amol Potgantwar, S. G. Bhirud</i>	
Delineation of Landscapes of Emerging Sciences through Publication Data: A Case of Nanoscience in Canada.....	241
<i>M. Fatih Yegul, Mustafa Yavuz, Bonwoo Koo, Paul Guild</i>	
Development of a Software System with the View of Automation of Traffic Flow Management	246
<i>N. I. Nugumanov, L. Naizabayeva, D. Nurlanov</i>	
Multi-touch Sensing Using Frustrated Total Internal Reflection	250
<i>Demir Yeliussizov, A. Tuyakbayev, A. Akshabayev</i>	
Regionların Sosial-iqtisadi İnkişafının Təminində Texnoparkların Formalaşması Vasitələri və Mexanizmləri	254
<i>Roza Shahverdiyeva</i>	
Multi-camera Based Human Tracking with Non-overlapping Fields of View	257
<i>Muhammad Owais Mehmood</i>	

5 – APPLICATIONS

5.1 – SECTION

A Novel Object Recognition Method Based on Improved Edge Tracing for Binary Images	263
<i>M. Fatih Talu, I. Türkoglu</i>	
Human/Social Factors Influencing Usability of E-commerce Websites and Systems	268
<i>Roshanak Safavi</i>	
The Truth About Cloud Computing as New Paradigm in IT	273
<i>Abzetdin Adamov, Murat Erguvan</i>	

Perl Input-Output Files	276
<i>Mustafa Simsek</i>	
Application of ANN and RULES-3 to DNA Sequence Analysis	281
<i>Ahmet Nayır, Günay Karlı</i>	
Parallelization of Render Engine for Global Illumination of Graphics Scenes	287
<i>Suleyman Tosun, Yusuf Yavuz</i>	
Improving R-peak Detection in ECG Based On Polynomial Curve Fitting	292
<i>Cengiz Tepe, Nurettin Senyer</i>	
Profile Silhouette Recognition and Ear Biometry	296
<i>Vasif V. Nabyev, Telman G. Melikov</i>	
Research on Internet-based Open Remote Fault Diagnosis Expert System	301
<i>Huang Yi</i>	
Service Quality Evaluation by Fuzzy Delphi Method	305
<i>S. N. Imanova</i>	
An Algorithmic Incremental and Iterative Development Method to Parallelize Dusty-deck Fortran HPC Codes in GPGPUs Using CUDA.....	308
<i>Mohsen Sharifi, Nima Ghaemian, Behrouz Minaei, Ramin Orujov</i>	

5.2 – SECTION

A Region-based Edge Detection Technique for Noisy Images	315
<i>Mohammad Bagher, Akbari Haghighat, Masoud Geravanchizadeh, Ehsan Namjoo</i>	
Fingerprint Recognition on the Bases of Graph Model	320
<i>Vasif V. Nabyev</i>	
Some Applications of Fuzzy Logic in Medical Area	324
<i>Novruz Allahverdi</i>	
Defining Metrics to Automate the Quantitative Analysis of Textual Information within a Web Page	329
<i>Vasile Avram</i>	
Race Recognition with Local Binary Pattern	334
<i>Vasif V. Nabyev, Fuat Bölükbas</i>	
Protez EL Tasarımı – Bölüm III: Elektro-Mekanik Elin EMG Isaretiyle Gerçek Zamanlı Denetimi	338
<i>Gökhan Kayhan, Ali Ekber Özdemir, Hanife Usta, Nurettin Senyer, Ilyas Eminoglu</i>	
Pure and Cued Recall-based Graphical User Authentication	343
<i>Maslin Masrom, Farnaz Towhidi, Arash Habibi Lashkari</i>	
Electronic Health Card System	349
<i>S. Habibullayev, K. Ibadullayev, R. Hasanov</i>	

6 – ICT IN BUSINESS, FINANCE AND ECONOMY

The Role of Information Technology in Increasing the Effects of the Monetary Policy	353
<i>Mayis Azizov</i>	
Early Warning Fuzzy System of the Financial Stability	358
<i>G. C. Imanov</i>	
The Electronic Government of the Service State	363
<i>F. Pashchenko, D. S. Zernov</i>	
Cognitive Technologies of Support of Innovative Management of the Enterprises	365
<i>R. H. Gulmammadov, R. A. Karayev, M. A. Nagiyev</i>	
A Socio-economic Analysis of Wimax	370
<i>N/A</i>	
Revealing the Significance of Using E-commerce in the Organizations of the Electric Sector in Turkey	376
<i>Nesrin Nayır, Ali Okatan, Ahmet Nayır</i>	
Elektron Kommersiya Texnologiyalarının Səciyyəvi Xüsusiyyətləri	381
<i>Ə. Q. Əliyev</i>	
Inovasyon, Bilgi Toplumu ve Türkiye	386
<i>Eyüp Zengin</i>	
Elektronik Ticaret ve Azerbaycan Ekonomisine Beklenen Etkileri	391
<i>Elçin Süleymanov</i>	
Electronic Governance as Transformation Technology of Public Management	396
<i>F. F. Yusifov, R. M. Alguliev</i>	

Structurally-conceptual Formalization of Cognitive Models by Methods of Experimental Psycho Semantics.....	401
<i>T. F. Abduragimov</i>	
Information Technology Approach in Economic Development of Developing Countries	406
<i>Altay Ismayilov Huseyn</i>	
Fuzzy Markov Model on Evaluating and Forecasting of the Composite Index of Social Environment Sustainability in Azerbaijan	411
<i>N. A. Abdullayeva</i>	

7 – COMMUNICATION, NETWORKS, AND HARDWARE

7.1 – SECTION

An Effective Candidate List Strategy for Tabu Search Based QoS Multicast Routing	416
<i>Mahsa Armaghan, Abolfazl T. Haghighat, Mohammadreza Armaghan</i>	
Construction of Virtual Backbone to Support Mobility in Manet – A Less Overhead Approach	421
<i>S. Smy, Jennifer S. Raj, G. Josemin Bala</i>	
A Tunable Active MMIC Recursive Filter for Communication Systems in SiGe BiCMOS.....	425
<i>Pejman Langari, M. Dousti</i>	
Беспроводная Оптическая Связь и Мобильные Сети Следующих Поколений.....	429
<i>Р.Р. Ибраимов, Т.Б. Сатиболдиев</i>	
QoS Multicast Routing Algorithms Based on Tabu Search with Elite Candidate List.....	434
<i>Mahsa Armaghan, Abolfazl T. Haghighat, Mohammadreza Armaghan</i>	
MIMO Minimum Leakage - Physically Secure Wireless Data Transmission.....	439
<i>M. S. Mohammadi</i>	
Dynamic System of Proactive Security	444
<i>A. A. Yevdokimov</i>	
Implementation of Skipjack Cryptology Algorithm for WSNs Using FPGA	448
<i>Ergin Eryilmaz, Dsmail Ertürk, Sedat Atmaca</i>	
Information Security Risk Assessment Using Bayesian Networks	453
<i>R. M. Alguliev, S. Derakshandeh, Y. N. Imamverdiyev</i>	
An MMIC Receiver Front-end Design for 2.4 GHz Frequency Band Applications in 0.2µm GaAs Pseudomorphic HEMT Process.....	457
<i>F. Eshghabadi, M. Dousti, M. Yazdizadeh</i>	
An Efficient Reputation-based Mechanism to Enforce Cooperation in MANETS	462
<i>Zahra Safaei, Masoud Sabaei, Fatemeh Torgheh</i>	
Programmable Embedded System Design: A Study on Sniffer	468
<i>Taner Tuncer, Yetkin Tatar</i>	
Semiconductor Laser Modeling with ANFIS.....	473
<i>F. V. Çelebi, T. Altındag, R. Yıldırım, L. Gökrem</i>	
Universal Vehicular Ad-hoc Network Design: The Case for Dynamic Addressing and Relative Positioning System.....	477
<i>Safa Rahimi Movaghar</i>	
Alternative Intermodulation Frequency Components.....	482
<i>F. V. Çelebi, R. Yıldırım, B. Gergerli, L. Gökrem</i>	
Trust Routing Protocol Based on Congestion Control in MANET	485
<i>Rahim Rashidi, Mohammad Ali Jebraeil Jamali, Ali Salmasi, Reza Tati</i>	

7.2 – SECTION

Implementation of a Call System with Power Line Communication.....	490
<i>Güngör Bal, Nihat Daldal, Nihat Öztürk</i>	
Novel Nonlinear Fast Locking PLLs Based on Mathematical Models	494
<i>Mariam Zabihi, Hossein Miar Naimi</i>	
Finding the Optimal Strategy for Switching Reserve Channels in Multi-rate Systems with Losses.....	498
<i>Vasif Feyziyev, Vaqif Feyziyev</i>	
Securing Fingerprint Template by Watermarking.....	503
<i>R. Alguliyev, Y. N. Imamverdiyev, V. Y. Musayev</i>	
Development of Security Metrics for a Distributed Messaging System	507
<i>Reijo Savola, Habtamu Abie</i>	

Increasing Performance of Authentication in Universal Mobile Telecommunication System	513
<i>Maryam Mohammadi Avarzaman, Ahmad Salahi</i>	
A New Method for Improving the Performance of Network on Chip Using DAMQ Buffer Schemes	518
<i>Mohammad Ali Jabraeil Jamali, Ahmad Khademzadeh</i>	
An ILP Formulation for Application Mapping onto Network-on-Chips	524
<i>Suleyman Tosun, Ozcan Ozturk, Meltem Ozen</i>	
TopGen: A New Algorithm for Automatic Topology Generation for Network on Chip Architectures to Reduce Power Consumption	529
<i>Yilmaz Ar, Suleyman Tosun, Hasan Kaplan</i>	
Performance Analysis of Optical Network Based on OADM by Using Different Filters	534
<i>M. Irfan Anis, Naveed Ahmed, Usman Ahmed</i>	
Advanced Power Calibration for Random Access in the IEEE 802.16 System	539
<i>Xuan Nie, Chengfu Wu, Huaimin Chen</i>	
Asymmetric Condition Computed from the Four Tone Input GaN HEMT	545
<i>R. Yildirim, F. V. Çelebi, H. Güçlü Yavuzcan, L. Gökrem</i>	
Comparison of Bittorrent Packet Traffic Characteristics over IPv6 and IPv4	549
<i>Cebrail Çiflikli , Ali Gezer, A. Tuncay Özşahin, Öznur Özkasap</i>	
Investigating the Effect of Processor Affinity on Uniform Parallel Machine Scheduling	554
<i>Narges Khatib-Astaneh, Vahid Salmani, Hamid Tabatabaee Yazdi, Mahdi Salmani</i>	
Modeling Quantum Cascade Lasers by Multi-layer Perceptrons	559
<i>F. V. Çelebi, S. Tankiz, R. Yildirim, L. Gökrem</i>	

7.3 – SECTION

Performance Evaluation of ID Based Authentication Methods in the SIP Protocol	562
<i>H. Hakan Kilinc, Yolguly Allaberdiyev, Tugrul Yanik</i>	
A Teaching Demo Application of Convolutional Coding Techniques for Wireless Communications	568
<i>Ali Çalhan, Celal Çeken, Dsmaail Ertürk</i>	
AHRED: A Robust AQM Algorithm for Wireless Ad hoc Networks	573
<i>Babek Abbasov</i>	
Manipulation the Electrical Model for Social Network as Social Circuit for Detection the Generating and Leaking Nodes	577
<i>Hamid Zargari Asl, Saeid Bairami, Namat Janani</i>	
Using Telecommunication Traffic Parameters in Social Network Approaches	581
<i>Hamid Zargari Asl, Saeid Bairami, Namat Janani</i>	
Wireless Controller Area Network Based Cross Channel Data Link	586
<i>Harish Chincholi</i>	
An Integrated Approach for Analytical Modeling of WSNs	591
<i>Süleyman Çakici, İsmail Ertürk, Alper Karahan, Sedat Atmaca</i>	
A 2.4-GHz SiGe BICMOS MMIC Active Tunable Band-pass Filter Design Using Artificial Neural Network	596
<i>M. Dousti, M. Yazdizadeh, F. Eshghabadi</i>	
A Novel Algorithm to Reduce Insertion Loss and Triple Transit Echo in SAW Filter to Improve the Performance of Communication Systems	600
<i>Ameneh Habibzadeh, M. Dousti, H. Hajghassem</i>	
Granular Location-based Cluster in Wireless Sensor Networks	604
<i>Maznah Kamat, Abdul Samad Ismail, Stephan Olariu</i>	
Increasing the Reliability of Security Protocols for WSNs	609
<i>Necla Bandirmali, İsmail Ertürk</i>	
A Reward Based Method to Wireless Sensor Network Clustering	614
<i>Majid Samad Zamini, Leila Zare</i>	
MIGT: Novel Method for Interference Aware CDS Construction in Wireless Sensor Networks	621
<i>Ali Salmasi, Mohammad Ali Jabraeil Jamali, Rahim Rashidi</i>	
Designing and Simulation of a Distributed Algorithm for Quality of Service in Wireless Sensor Networks	626
<i>Reza Tati, Fariborz Ahmadi, Rahim Rashidy, Farooq Ashkoti</i>	
Author Index	