

8th IEEE International Conference



APPLICATION of INFORMATION and COMMUNICATION TECHNOLOGIES - AICT 2014

Kazakhstan, Astana, 15-17 October 2014
www.aict.info/2014

CONFERENCE SUMMARY REPORT



THOMSON REUTERS™



MIKRO Information Handling and Distribution FZE



EMC² where information lives™



ABOUT AICT2014 INTERNATIONAL CONFERENCE



AICT2014 – Astana, 15-17 Oct 2014



AICT2013 – Baku, 23-25 Oct 2013



AICT2012 – Tbilisi, 17-19 Oct 2012



AICT2011 – Baku, 12-14 Oct 2011



AICT2010 – Tashkent, 12-14 Oct 2010



AICT2009 – Baku, 14-16 Oct 2009

The 8th IEEE International Conference on Application of Information and Communication Technologies (AICT2014) has concluded its work successfully this time in Astana, Kazakhstan.

The AICT2014 was co-organized by Gumilyov Eurasian National University, Qafqaz University, Lomonosov Moscow State University, Nazarbayev University Research and Innovation System (NURIS), Institute of Information Security and Cryptography with support of IEEE Azerbaijan Joint Chapter and technically sponsored by Institute of Electrical and Electronics Engineers (IEEE).

AICT2014 International Conference is a forum to bring together business people, researchers, scientists, software architects, and industry professionals to discuss innovative ideas and diverse topics on next generation of information technologies and services. In the previous years AICT was joined by hundreds of participants from about 50 countries including Australia, Azerbaijan, China, Finland, Georgia, Germany, India, Iran, Italy, Japan, Kazakhstan, Korea, Latvia, Malaysia, Pakistan, Philippines, Portugal, Romania, Russia, Slovakia, Spain, Sweden, Senegal, Thailand, Turkey, Ukraine, United Kingdom, United States, Uzbekistan, etc.

Building on the success of previous conferences which were held in Baku, Tashkent, and Tbilisi AICT2014 has become the most widescale, extensive, spectacular event in ICT-related conference history hosted by Kazakhstan for its high level and the large size of participation. Three days conference is held in two different hosting universities: Nazarbayev University and Gumilyov Eurasian National University.

Hundreds of attendees, paper presenters, keynote and tutorial participants, students have benefited in many ways from this conference. More than 100 scientific papers were presented by authors from 18 countries. Ten Invited, Keynote and Tutorial Speakers from different countries addressed to audience and shared knowledge and rich experience of application of ICT in their companies and countries.

CONFERENCE SCOPE

AICT2014 topics include, but are not limited to, the following research and development areas/fields (more than 80 topics) classified into 9 sessions:

- Cyber Security Issues
- Latest Trends in ICT Application
- Big Data Management and Application
- Data Mining and Data Engineering
- Communication, network and hardware
- ICT in Business Administration, Finance and Economy
- ICT in Governance and Government Policy Making
- ICT in Education, Humanities, Social Sciences and Research
- ICT in Medicine and Health Care

As a result many Keynote, Tutorial and Technical Sessions have been prepared in accordance with conference scope to discuss the Challenges, Opportunities and Problems of Application of ICT in various fields.

WELCOMING AND OPENING CEREMONY



The first day of conference started with Welcoming and Opening Ceremony at the Nazarbayev University. The following representatives of the Ministry of Education and Science of the Republic of Kazakhstan, coorganizing and hosting universities and supporting organizations addressed to participants with short welcoming speeches.

Prof. Kanat Baigarin,
Vice President for Innovation, Nazarbayev University, Kazakhstan

Sansyzbay Zholdasbayev,
Chairman of the Committee of Science, Ministry of Education and Science of the Republic of Kazakhstan

Assoc.Prof. Abzetdin Adamov,
AICT2014 General Chair, Qafqaz University, Azerbaijan

Professor Yerlan Sydykov,
Gumilyov Eurasian National University Rector, Kazakhstan

Akzhunus Urazalina,
Director of Center for training of information security specialists,
Prime Minister Office, Kazakhstan

Nurlan Isin,
President of Association of IT Companies of Kazakhstan

Mehmet Haseki,
Representative of Institute of Electrical and Electronics Engineers (IEEE), Turkey

Leila Aitmukhanova,
Chevron Corporation, Kazakhstan

Philip Purnell,
Thomson Reuters, United Arab Emirates

Dr. Gennady Smorodin,
EMC Corporation, Russia



KEYNOTE and TUTORIAL SPEECHES



Next Generation User Oriented Cyber-attacks and Emerging Solutions.

Assoc. Prof. Arnur G Tokhtabayev, Founder and CEO of T&T Security, Kazakhstan.

Abstract: The keynote speech is devoted to the stated problem from the point of view of practical experience and research. A theoretical insight to malware detection task will be discussed. The following topics will be covered: reasons for modern AV technologies failure, promising approaches to mitigate the abovementioned threats, peculiarities of user-oriented attacks in Kazakhstan and emerging national solutions.



Modern Trends in Research Evaluation.

Philip Purnell, Customer Education Manager, Thomson Reuters, UK

Abstract: On a large scale it is much more appropriate to include macro indicators including output and impact indicators and these are widely in use today. However, observations and studies show that the use of such indicators is far from appropriate in most cases and basic misconceptions are leading to erroneous results and misleading conclusions. The use of such methods in research evaluation is therefore subject to criticism and would benefit from a set of simple rules to provide recommendations for bibliometrics in evaluating impact and performance.



Actual problems of international information security.

Professor Vladislav Sherstyuk, Advisers to the Secretary of the Security Council of the Russian Federation. Director of Information Security Institute of Moscow State University, Russia

Abstract: The danger of these so-called cyber threats has been gaining weight in the past decade. When we look at the scale and transnational format of such threats, we see that fighting these threats requires broader and stronger international cooperation. The problem of international information security is now included in the agenda of many international forums and conferences, represents the subject matter of bilateral and multilateral talks and treaties, and is discussed at the UN General Assembly.



Why Formal Specification and Verification in Computer Security?

Professor Mehmet Ufuk Caglayan, Department of Computer Engineering, Bogazici University, Turkey

Abstract: Importance of large/complex/critical computer hardware/software systems in our daily life. Current approaches for correctness of hardware/software systems not sufficient, therefore formal specification and verification is very, very important for correctness. Formal specification and verification of security aspects only, hopefully easier than formal specification and verification of general hardware/software systems.



Ontological Maintenance of Conceptual Experimenting in Design of Software Intensive Systems.

Professor Petr Sosnin, Ulyanovsk State Technical University, Russia

Abstract:



Transfer yourself - join to EMC Academic community.

Dr. Gennady Smorodin, EMC Corporation (EMC St Petersburg Development Center LLC), Russia.

Abstract: *To be in line with academic community EMC Corporation runs EMC Academic Partnership (EAA) EAA is focus on preparing the next generation of IT professionals for careers in virtualized and cloud environments. EMC collaborates with colleges and universities worldwide to help prepare students for successful careers in a transforming IT industry.*



Programmable Systems-on-Chip for Information Processing.

Prof. Valery Sklyarov, Iouliia Skliarova, University of Aveiro, IEETA, Portugal

Abstract: *Information processing is a very broad area in which many problems are computationally intensive and thus, they require parallelization and acceleration based on new technologies. Recent field-configurable micro-chips combine the capabilities of software and hardware by incorporating multi-core processors and reconfigurable logic appended with a number of frequently used devices such as digital signal processing slices and block memories.*



The vulnerability of Protection.

Vitaly Bugaev, CIO, Head of Support, "Doctor Web – Central Asia" LLC, Kazakhstan

Abstract: *Why do despite the funds, professionals and the desire to protect the systems, new viruses appear in the network?*

CONCURRENT TECHNICAL SESSIONS



Hundreds of attendees, paper presenters, keynote and tutorial participants, students have benefited in many ways from this conference. More than 100 scientific papers were presented by authors from 18 countries in Technical Sessions that were held in Nazarbayev University and Gumilyov Eurasian National University. All accepted papers had been categorized into the following six sessions:



- CYBER SECURITY ISSUES
- LATEST TRENDS IN ICT APPLICATION
- BIG DATA, DATA MINING AND DATA ENGINEERING
- COMMUNICATION, NETWORK AND HARDWARE
- ICT IN GOVERNANCE, BUSINESS ADMINISTRATION, FINANCE AND ECONOMY
- ICT IN EDUCATION, HUMANITIES, SOCIAL SCIENCES AND RESEARCH

ACKNOWLEDGEMENTS



The General Chair of the AICT2014 Assoc.Prof. Abzetdin Adamov expressed deep gratitude on behalf of Organizing and Steering Committees to the Administration of co-organizing and hosting universities: Nazarbayev University, Gumilyov Eurasian National University, Qafqaz University, the Institute of Information Security Issues of the Lomonosov Moscow State University, the Institute of Information Security and Cryptology. Special thanks were extended to the staff of the Nazarbayev University Research and Innovation System (NURIS) which worked all together and extremely hard to prepare an outstanding conference. Tender thanks were expressed to students the members of Nazarbayev University Volunteering Club, who did impressive and dedicated work.

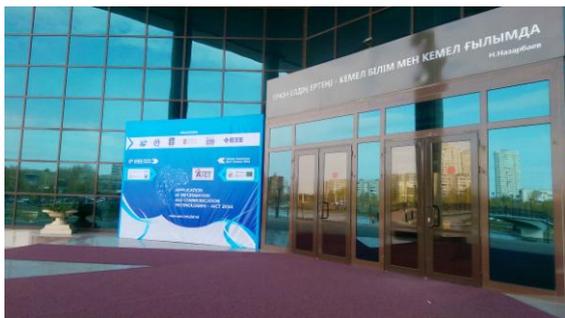


Finally, sponsors of AICT2014 were handed with honor plaques: Thomson Reuters, Mikro Information Handling and Distribution FZE, Chevron Corporation, EMC Corporation, Association of IT Companies of Kazakhstan, Faktor, TAMUR and Doctor Web.

SOCIAL PROGRAM and BANQUET DINNER



CLOSING CEREMONY



AICT2014 Closing Ceremony was held in one of the co-organizing and hosting universities Gumilyov Eurasian National University.

(Abridged version of a Closing address by General Chair)

Ladies and gentlemen,

The 8th International Conference on "Application of Information and Communication Technologies AICT2014" is now drawing to a close. I would like to take this opportunity to extend our sincere gratitude and appreciation to all of you, for your invaluable contributions in making this event a great success.

We hope the past three days have been fruitful and that you will be able to make the most from the sessions you attended. Through a wide range of keynote speeches, tutorials, and discussions, we have been presented with new ways to deal with some of the challenges in Application of ICT. We hope that you shared your experiences and expertise with other participants from near and far, and that a cordial relationship established among us during the AICT2014 Conference will further strengthen.....



But, of course, the real measure of this conference success lies in how it will affect you - our participants, or more precisely, how it will affect the actions you will take after you leave Astana. We look forward to further building partnerships with you and your organizations. I hope that all of us will continue what we have started here these days.

Before I conclude, I would like to invite all of you for the next 9th AICT2015 International Conference the location of which will announced later.

Thank you for being here in great capital city Astana with us and have a safe journey home.

Assoc.Prof. Abzetdin Adamov
AICT2014 General Chair

