13th International Conference on

APPLICATION of INFORMATION and
COMMUNICATION TECHNOLOGIES

CONFERENCE PROGRAM

23-25 October 2019, Baku, Azerbaijan

PROGRAM AT A GLANCE

23 October 2019

Location: ADA University,
11 Ahmadbay Agha-Oglu Street, Baku

09:00 – 16:50	Events at Large Auditorium
09:00 – 10:00	Registration (Reception)
10:00 – 10:20	Welcoming Messages
10:20 – 10:30	Opening Address
10:30 – 11:50	Keynote Session
11:50 – 12:10	Coffee Break / Exhibition on Scientific Information Sources
12:20 – 13:00	Keynote Session
13:00 – 13:50	Panel Session
13:50	Group photo of all participants (location: Main Hall)
13:50 – 14:50	Lunch
14:50 – 16:30	Parallel Tutorial Sessions
16:30 – 16:50	Coffee Break
17:00 – 18:30	ADA University Campus Tour

24 October 2019

Location: ADA University,

09:30 – 10:00	Registration
10:00 – 10:40	Keynote Session (TBD Hall)
10:40 – 11:00	Coffee Break
11:10 – 13:30	Concurrent Technical Sessions
13:30 – 14:30	Lunch
14:30 – 15:50	Concurrent Technical Sessions
15:50 – 16:10	Coffee Break
16:10 – 17:10	Concurrent Technical Sessions
17:20 – 20:00	Baku Tour - Upland park, Venice and Old City sights (ticket)*
20:00	Banquet Dinner (ticket)*

25 October 2019

Location: ADA University,

10:00 – 11:20	Concurrent Technical Sessions
11:20 – 11:40	Coffee Break
11:40 – 13:20	Concurrent Technical Sessions
13:20 – 14:20	Lunch
14:20 – 14:50	Closing Ceremony
15:00 – 18:30	Baku Surrounding Tour - Ateshgah and Yanar dag (ticket)*

* - Please, take your ticket at the registration desk.

AICT2019 International Conference

OCTOBER, 2019

Location:
ADA University
11 Ahmadbay Agha-Oglu Street, Baku

23 October 2019
Location: ADA University – Large Auditorium

09:00–10:00	**Registration**

10:00–10:20	**WELCOMING MESSAGES**

Ambassador Hafiz Pashayev,
Rector, ADA University, Azerbaijan

Professor Rasim Alguliyev,
Vice-president of ANAS / Director of the Institute of Information Technology, Azerbaijan

Associate Professor Dr. Ag. Asri Bin Ag. Ibrahim,
Director, IT & Communication
University Malaysia Sabah, Malaysia

Mr. Vusal Khalilov,
Head of Engineering, Digital Lab, PASHA Bank

Dr. Araz Yusubov,
Dean, School of IT & Engineering,
ADA University, Azerbaijan

10:00–10:30	**OPENING ADDRESS**

Dr. Abzetdin Adamov,
AICT2019 General Chair / IEEE Azerbaijan Chapter / ADA University, Azerbaijan

10:30–11:50	**KEYNOTE SESSION**

10:30-11:10   *Speaker:* **Professor Morteza Gharib**
          Director, Center for Autonomous Systems and Technologies,
          California Institute of Technology, US
       Title: Advanced Wireless Healthcare and Monitoring Systems.

11:10-11:50   *Speaker:* **Professor Hagit Messer**
          Chair in Signal Processing,
          Tel Aviv University, Israel
       Title: From Communication Wireless Networks to the Garden Hose: Advances in Opportunistic Weather Monitoring.

11:50–12:10	**Coffee Break / IEEE Exhibition**

12:20–13:00 **Hall: Main** **Convention**	**Keynote Session**

12:20-13:00	*Speaker:* **Professor Rafik Aliyev** *Azerbaijan State Oil and Industry University,* *Azerbaijan*
	Title: Extension of Fuzzy Set: Z-sets

13:00–13:30 **Hall: Main**	**Panel Session "Current and Future Trends in ICT** **application and its impact on society."**

13:00-13:50	*Moderator:* Dr. Araz Yusubov, *Dean, School of IT &* *Engineering, ADA University*

Speakers:

- Professor Roald Sagdeev, Director Emeritus, Space Research Institute, Russian Academy of Sciences, Azerbaijan;
- Professor Rasim Alguliyev, Vice-President of ANAS / Director of the Institute of Information Technology, Azerbaijan
- Professor Morteza Gharib, California Institute of Technology, US;
- Professor Hagit Messer, Tel Aviv University, Israel;
- Professor Rafik Aliev, Azerbaijan State Oil and Industry University, Azerbaijan;
- Professor Ilham Akhundov, University of Waterloo, Canada.

13:50	**Group photo (location: Large Auditorium)**

13:50–14:50	**Lunch**

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AFTERNOON – 23 October 2019

14:50–16:30   PARALLEL TUTORIAL SESSION

Location:
Hall B301

Speaker: **Professor Netra Pal Singh**
Information Management Area, Management Development Institute, Gurgaon, India
Title: Feature Selection Methods – Data Mining and Machine Learning Algorithms

Hall "Majlis"

Speaker: **Professor Kashif Nisar**
SMIEEE, Faculty of Computing and Informatics, University Malaysia Sabah, Malaysia
Title: Future of Creative Technologies and Industries: Empowering the Fourth Industrial Revolution and Internet of Things

16:30–16:50   Coffee Break

17:00-19:00   ADA University Campus Tour

AICT2019 International Conference

OCTOBER, 2019

Location:
ADA University
11 Ahmadbay Agha-Oglu Street, Baku

24 October 2019
Location: ADA University

09:30–10:00	**Registration**

10:00–10:40	**KEYNOTE SESSION**

Hall: "Majlis"	*Speaker:*	**Professor Witold Pedrycz**
		Canada Research Chair (CRC) in Computational Intelligence, University of Alberta, Edmonton, Canada
	Title:	Granular Artificial Intelligence: A New Avenue of Artificial Intelligence for Modeling Environment

10:40–11:00	**Coffee Break**

11:00–14:00	**CONCURRENT TECHNICAL SESSIONS**

13:30–14:30	**Lunch**

15:00–20:00	**Baku Tour - Upland park, Venice and Old City sights (ticket)***

20:00	**Banquet Dinner (Shirvanshah Museum Restaurant) (ticket)***

* - Take your ticket at the registration desk.

SESSION 1

FUZZY LOGIC AND SOFT-COMPUTING

Session Co-Chairs:

| **Time: 11:10–13:30** | **Hall: B204** |

11:10-11:30	**Automation of Heat Supply in Greenhouse with Usage of the Renewable Heat Sources on the Basis of Fuzzy Logic Simulation Technics** *S.T.Huseynov, Ganja State University (GSU), Ganja, Azerbaijan.*
11:30-11:50	**The Hybrid Deep Learning GMDH-neo-fuzzy Neural Network and Its Applications** *Yuriy Zaychenko, Igor Sikorsky Kyiv Polytechnic Institute, Kyiv, Ukraine; Galib Hamidov, Azerishig, Baku, Azerbaijan*
11:50-12:10	**Adaptive Neuro-Fuzzy System based Color Closeness Evaluation** *Kamil Aida-zade, Institute of Control Systems Azerbaijan National Academy of Sciences, Baku, Azerbaijan; Jamaladdin Hasanov, ADA University, Azerbaijan National Academy of Sciences Baku, Azerbaijan*
12:10-12:30	**Design of Frequency and Voltage Controller for Stability Improvement in a Micro Hydro Power Plant** *Ukagwu K. John, Asinge W. Jack, Musa Nasaaga, Kampala International University, Kampala, Uganda*
12:30-12:50	**Automated Contrast Enhancement of the MRI video imaging** *Shaima Ibraheem Jabbar, Babylon technical Institute, Babylon, Irag; Abathar Qahtan Aladi, Mirjan Teaching Hospital, Babylon, Irag*
12:50-13:10	**Another Generalization of 3x+1 Problem** *Yagub N. Aliyev, ADA University, Baku, Azerbaijan*
13:10-13:30	**An Intelligent Algorithm for Managing Traffic in Continuous Urban Intersections Using a network of fuzzy modules** *Rahim Rashidi, Saeid Usefpour, Islamic Azad University, Boukan, Iran; Edris Khezri, Taher Sharfi, Islamic Azad University, Urmia Medical Science University, Gholipour Hospital, Boukan, Iran*

| **13:30–14:30   Lunch** |

SESSION 2

DATA SCIENCE AND ADVANCED ANALYTICS

Session Co-Chairs:

| Time: 11:10–13:30 | Hall: B205 |

11:10-11:30	**Improved Harris's Hawk Multi-objective Optimizer Using Two-steps Initial Population Generation Method** *Shaymah Akram Yasear, Ku Ruhana Ku-Mahamud, Universiti Utara Malaysia, Kedah, Malaysia*
11:30-11:50	**Impact of feature selection methods on the perfromance of Credit Risk Classification Algorithms** *N P Singh, Management Development Institute, Gurgaon; Devender Singh, AIMA-AMU Ph.D. Program, India*
11:50-12:10	**Geometric fractal index as a tool of the time series analysis** *Repin D.S., Institute of Information Technology "Center for the Implementation of State Educational Policy and Information Technology"; Filaretov G.F., National Research University "Moscow Power Engineering Institute"; Pashchenko F.F., V.A. Trapeznikov Institute of Control Sciences of RAS, Moscow Institute of Physics and Technology (State University); Enikeeva Z.A., Kazan Federal University, Kazan; Chervova A.A., V.A. Trapeznikov Institute of Control Sciences of RAS, Moscow, Russian Federation*
12:10-12:30	**Model selection approach for time series forecasting** *Matskevich us Mariia, Gladil in Peter, ITMO University, Saint-Petersburg, Russian Federation*
12:30-12:50	**Facial Emotion Recognition using Convolutional Neural Networks** *Zeynab Rzayeva, Emin Alasgarov, ADA University, Baku, Azerbaijan*
12:50-13:10	**Sentiment Analysis of Azerbaijani twits Using Logistic Regression, Naive Bayes and SVM** *Huseyn Hasanli, Graduate School of Natural and Applied Science at EGE University, Izmir, Turkey; Samir Rustamov, ADA University, Baku, Azerbaijan*
13:10-13:30	**Vita Search – An Intelligent Multimodal Search And Archive System For Online Media Resources** *Zhandos Yessenbayev, Bagdat Myrzakhmetov, National Laboratory Astana, Astana, Kazakhstan; Zhanibek Kozhirbayev, National Laboratory Astana, L.N. Gumilyov Eurasian National University, Astana, Kazakhstan*

13:30–14:30   Lunch

SESSION 3

HIGH PERFORMANCE COMPUTING AND
MACHINE LEARNING

Session Co-Chairs:

Time: 11:10–13:30   **Hall: B206**

13:30–14:30   Lunch

11:10-11:30	**Smart Clothing for Detecting Pressure-Sensitive Gestures** *Nadine Obwaller, Josef Langer, Florian Eibensteiner, University of Applied Sciences Upper Austria, Hagenberg, Austria*
11:30-11:50	**Consensus clustering by weight optimization of input partitions** *Rasim Alguliyev, Ramiz Aliguliyev, Lyudmila Sukhostat, Institute of Information Technology of Azerbaijan National Academy of Sciences, Baku, Azerbaijan*
11:50-12:10	**Learning the Relationship between Asthma and Meteorological Events by Using Machine Learning Methods** *Alibek Zhakubayev, Adnan Yazici, Nazarbayev University, Nur-Sultan, Kazakhstan*
12:10-12:30	**Performance Comparison of Convolutional Neural Network Models on GPU** *Muhammed Mutlu Yapici, Nurettin Topaloğlu, Gazi University, Ankara, Turkey; Adem Tekerek, Gazi University, Ankara, Turkey*
12:30-12:50	**Enhanced supervised learning approach for target-dependent sentiment classification** *Fawaz S. Al-Anzi, Dia AbuZeina, Kuwait University, Kuwait; Ali Selamat, University Teknologi Malaysia, Malaysia*
12:50-13:10	**Diagnosis of Brain Tumor in MRI Images Using Gray Level Correlation Matrix, Kernel Support Vector Machine, and Fine K-Nearest Neighbor Network** *Taher Sharifi, Bayaneh Amini, Urmia University of Medical Sciences, Urima, Iran; Mohammad Anvar Adibhesami, Iran University of Science and Technology, Tehran, Iran*
13:10-13:30	**The role of Increasing the Number of Iterations for Numerical Methods upon Digital Image** *Fatin E. M. Al-Obaidi, Ali Jassim Mohamed Ali, Khalid Ghalib Al-Rubaye, Mustansiriyah University, Baghdad, Iraq*

13:30–14:30   Lunch

14:30–17:10 **AFTERNOON CONCURRENT TECHNICAL SESSIONS**

SESSION 4
CYBER SECURITY ISSUES
Session Co-Chairs:

Time: 14:30–16:50   **Hall: B204**

14:30-14:50	**Hardware TOTP tokens with time synchronization** *Emin Huseynov, Faculté des Sciences de la Société, University of Geneva, Geneva, Switzerland; Jean-Marc Seigneur, CUI, ISS & Medi@LAB, Faculté des Sciences de la Société, University of Geneva, Geneva, Switzerland*
14:50-15:10	**Securing and hiding the destination of confidential medical information with Domain Fronting** *Gulara Muradova, Mehran Hematyar, Azerbaijan Technical University, Tehran, Iran*
15:10-15:30	**One model of visualization monitoring of computer networks** *Ramiz Shikhaliyev, Institute of Information Technology of Azerbaijan National Academy of Sciences, Baku, Azerbaijan*
15:30-15:50	**A Conceptual Model of an Intelligent Platform for Security Risk Assessment in SMEs** *Laura Arenda, Oliver Popov, Stockholm university, Stockholm, Sweden*

15:50–16:10   **Coffee Break**

16:10-16:30	**Malware Detection in Cloud Computing using an Image Visualization Technique** *Fargana Abdullayeva, Institute of Information Technology of Azerbaijan National Academy of Sciences, Baku, Azerbaijan*
16:30-16:50	**A New Bandwidth Management Model using Software-Defined Networking Security Threats** *Kashif Nisar, Emilia Rosa Jimson, Mohd. Hanafi bin Ahmad Hijazi, Ag. Asri Ag. Ibrahim, Yong Jin Park, University Malaysia Sabah, Malaysia; Ian Welch, Victoria University of Wellington, New Zealand*
16:50-17:10	**ACO-based Intrusion Detection Method in Computer Networks using Fuzzy Association Rules** *H. Ebrahimpour-komleh, S. Miryahyaie, A. M. Nickfarjam, University of Kashan, Kashan, Iran*

SESSION 5

COMMUNICATION, NETWORK AND HARDWARE

Session Co-Chairs:

Time: 14:30–16:50   **Hall: B205**

14:30-14:50	**Study of Architectural-Technological Principles of Cloudlet Based Mobile Cloud Computing** *Rashid Alakbarov, Institute of Information Technology of Azerbaijan National Academy of Sciences, Baku, Azerbaijan*
14:50-15:10	**Simulation of a waveguide with a nonlinear medium** *Islam Islamov, Mehman Hasanov, Azerbaijan Technical University, Baku, Azerbaijan*
15:10-15:30	**Towards a Reliable Modulation and Encoding Scheme for Internet of Things Communications** *Parham Sadeghi, Bardia Safaeiy, Kimia Talaeiz, Alireza Ejlalik, Sharif University of Technology, Tehran, Iran; Amir Mahdi Hosseini Monazzahx Institute for Research in Fundamental Sciences, Tehran, Iran*
15:30-15:50	**Adaptive log-files transmission subsystem in distributed robot network** *Dmitry S. Kalinin, Alexander A. Dyumin, National Research Nuclear University MEPhI, Moscow, Russian Federation*

15:50–16:10   Coffee Break

16:10-16:30	**Performance Analysis of Topology and Destination Based Routing Protocols in Mobile Ad-Hoc Network Using NS2** *Adeyemi A. Ajibesin and Muhammadou M. O. Kah, American University of Nigeria Yola, Nigeria; Ahmed T. Ishaq, Electrical & Electronic AJISAQ Limited; Caleb A. Ajibesin, University of Ilorin, Ilorin, Nigeria*
16:30-16:50	**An Antenna Design Technique Based on Differential Evolution Algorithm Using An Objective Function Designed with Finite Element Method Simulations** *Suad Basbug, Nevsehir Haci Bektas Veli University, Nevsehir, Turkey*
16:50-17:10	**ICTs and Development and the Role of ICT Policy in National Development** *Tinatin Valiyeva, The Ministry of Transport, Communications and High Technologies, Baku, Azerbaijan*

AICT2019 International Conference

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OCTOBER, 2019

Location:
ADA University
11 Ahmadbay Agha-Oglu Street, Baku

25 October 2019
Location: ADA University

10:00–13:20	CONCURRENT TECHNICAL SESSIONS

10:40–11:00	Coffee Break

13:20–14:20	Lunch

SESSION 6.
EMERGING TRENDS AND TECHNOLOGIES IN ICT APPLICATION

Session Co-Chairs:

Time: 10:00–13:30	Hall: B204

10:00-10:20	**A Data-Driven Approach to Problem Assessment, Technology Design, and Sustainable Business Planning for m-Health Delivery** *Ali M S Zalzala, SMIEEE, Community Tracks Ltd, London, UK*
10:20-10:40	**Development of the Indicators System for the Assessment of the Inclusive Development Level of Information Economy** *Alovsat G. Aliyev, Institute of Information Technology of Azerbaijan National Academy of Sciences, Baku, Azerbaijan*
10:40-11:00	**FPGA Based Step Motor Control for Solar Panels** *Güner Tatar, Muhammet Alkan, Fatih Sultan Mehmet Vakıf University, Istanbul, Turkey; Salih Bayar, Marmara University, Istanbul, Turkey*
11:00-11:20	**An Approach to Terrain Trafficability Evaluation Based on a Neural Network for Emergency Decision-Support Systems** *Aleksei Pershutkin, Alexey Dukhanov, Petr Gladilin, ITMO University, St. Petersburg, Russian Federation*

11:20–11:40	Coffee Break

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11:40-12:00	**How to design dialogue scenarios and estimate main dialogue parameters for a voice-controlled man-machine interface** *Mais Farkhadov, Nina Petukhova, Alexander Eliseev, V.A. Trapeznikov Institute of Control Sciences of RAS; Mukhabbat Farkhadova, RUDN University, Moscow, Russian Federation*
12:00-12:20	**Topic modeling in e-government** *Gunay Iskandarli, Institute of Information Technology of Azerbaijan National Academy of Sciences, Baku, Azerbaijan*
12:20-12:40	**A dynamic modular ecosystem approach for risk assessment systems** *Alessandro Lofaro, IEEE Member, Portugal*
12:40-13:00	**Machine Learning and Advanced Analytics in Tax Fraud Detection** *Abzetdin Adamov, Center for Data Analytics Research (CeDAR), ADA University, Azerbaijan*
13:00-13:20	**Distractors of Computerised Creative Knowledge Work** *Aaro Hazak, Tallinn University of Technology, Tallinn, Estonia*
13:20-13:40	**Method for extracting product design characteristics from life cycle management systems of complex technical objects** *N.N. Voit, M.E. Ukhanova, S.I. Brigadnov, S.Yu. Kirillov, S.I. Bochkov, Ulyanovsk State Technical University, Ulyanovsk, Russian Federation*

SESSION 7.
FUZZY LOGIC AND DATA SCIENCE

Session Co-Chairs:

| **Time: 10:00–13:30** | **Hall: B205** |

10:00-10:20	**Fuzzy Logic for Medical Diagnosis of Clinical and Hematological Symptoms** *Indira Uvaliyeva, Saule Belginova, D. Serikbayev East Kazakhstan state technical university, Ust-Kamenogorsk, Kazakhstan; Maksat Kalimoldayev, Institute of Information and Computer Technologies, Almaty, Kazakhstan; Samir Rustamov, ADA University, Baku, Azerbaijan*
10:20-10:40	**Towards recognition of pleural effusion images** *Igor Veselov, Elena Zamyatina, National Research University Higher School of Economics, Perm, Russian Federation; Sergei Plaksin, Liliya Farshatova, E.A. Vagner Perm State Medical University, Perm, Russian Federation*
10:40-11:00	**Algorithm diagnosis of anemia on the basis of the method of the synthesis of the decisive rules** *Indira Uvaliyeva, Saule Belginova, Aigerim Ismukhamedova, D. Serikbayev East Kazakhstan state technical university, Ust-Kamenogorsk, Kazakhstan; Samir Rustamov, ADA University, Baku, Azerbaijan*
11:00-11:20	**Neural Spelling Correction for Azerbaijani Language** *Samir Mammadov, E-gov Development Center, Baku, Azerbaijan*

| **11:20–11:40** | **Coffee Break** |

11:40-12:00	**Social Sentiment Analysis Using Fuzzy Logic Addressing context effect on sentiment analysis by fuzzy lexicon dynamism** *Mohammad Ghiasi, Shaghayegh Gharehgozli, Tehran, Iran*
12:00-12:20	**Storing Multifaceted Ontologies with Natural Language Addressing** *Viacheslav Lanin, Lyudmila Lyadova, Irina Shalyaeva, National Research University Higher School of Economics, Perm, Russia*
12:20-12:40	**The First Azeri (Azerbaijani) Language Next Word Predictor** *Mensur Gulami, Javid Mahmudov, Yusif Aliyev, Rovshan Akberov, Anar Sultani, Khazar University, Baku, Azerbaijan; Ali Pourmohammad, Amirkabir University of Technology, Tehran, Iran*
12:40-13:00	**Use of Decision Tables in Monitoring of Performance Discipline** *Pavel V. Senchenko, Yury P. Ekhlakov, Tomsk State University of Control Systems and Radioelectronics, Tomsk, Russian Federation*
13:00-13:20	**Fuzzy Model for the Expert Evaluation of Projects** *D. M. Nazarov, Ural State University of Economics, Russian Federation*

SESSION 8.
ICT IN EDUCATION AND RESEARCH

Session Co-Chairs:

| **Time: 10:00–13:30** | **Hall: B206** |

10:00-10:20	**Review and Analyzing RFID Technology Tags and Applications** *Ag. Asri Ag. Ibrahim, Kashif Nisar, Yeoh Keng Hzou, Malaysia University Sabah, Malaysia; Ian Welch, Victoria University of Wellington, New Zealand*
10:20-10:40	**Influence of interlingual homonymy on how people mutually understand and visually perceive oral speech** *Myasoedova M.A., Farkhadov M.P., Myasoedova Z.P., V. A. Trapeznikov Institute of Control Sciences of Russian Academy of Sciences, Moscow, Russian Federation*
10:40-11:00	**TangiBoard: A toolkit to reduce the implementation burden of Tangible User Interfaces in education** *Geoffrey Attard, Clifford De Raffaele, Middlesex University Malta Pembroke, Malta; Serengul Smith, Middlesex University London, Hendon, UK*
11:00-11:20	**Multi-model estimation of the dynamics of plant community phytomass** *V. Mikhailov, A. Spesivtsev, V. Sobolevsky, N. Kartashev, Saint Petersburg Institute for Informatics and Automation of Russian Academy of Sciences (SPIIRAS), Saint Petersburg, Russian Federation*

11:20–11:40	**Coffee Break**

11:40-12:00	**WebRTC based platform for video conferencing in an educational environment** *Yury A. Ushakov, Margarita V. Ushakova, Alexander E. Shukhman, Petr N. Polezhaev, Leonid V. Legashev, Orenburg State University, Orenburg, Russian Federation*
12:00-12:20	**Case Study: The challenges and recommendations to interdisciplinary research and educational: A Joint Venture between Electrical Engineering and Biochemistry** *Zeina Al Natour, Mahmoud Al Ahmad, United Arab Emirates University, Al Ain, UAE; Mohamed Al Hemairy, Sharjah University, Sharjah, UAE*
12:20-12:40	**h_t index and A_t index for evaluating scientific performance of researchers** *Ramiz Aliguliyev, Narmin Adigozalova, Institute of Information*

	Technology of Azerbaijan National Academy of Sciences, Baku, Azerbaijan
12:40-13:00	**E-government implementation challenges: case studies and views** *Aysan Farajova, Institute of Information Technology of Azerbaijan National Academy of Sciences, Baku, Azerbaijan*
13:00-13:20	**E-education as a New Education Paradigm: Case of Azerbaijan** Tarana Aliyeva, Ulviyya Rzayeva, Azerbaijan State University of Economics, Baku, Azerbaijan

13:20–14:20   Lunch

14:20–14:50 Hall: "Majlis"   **CLOSING CEREMONY**

15:00–18:30   Baku Surrounding Tour - Ateshgah and Yanar dag