

**AZERBAIJAN NATIONAL ACADEMY OF SCIENCES
MINISTRY OF COMMUNICATIONS AND INFORMATION TECHNOLOGIES OF
AZERBAIJAN REPUBLIC
MINISTRY OF EDUCATION OF AZERBAIJAN REPUBLIC
THE ABDUS SALAM INTERNATIONAL CENTRE FOR THEORETICAL PHYSICS
NATIONAL ACADEMY OF AVIATION
INSTITUTE OF CYBERNETICS OF AZERBAIJAN NATIONAL ACADEMY OF SCIENCES
INSTITUTE OF INFORMATION TECHNOLOGY OF AZERBAIJAN NATIONAL ACADEMY
OF SCIENCES
BAKU STATE UNIVERSITY
AZERBAIJAN STATE OIL ACADEMY
AZERBAIJAN TECHNICAL UNIVERSITY**



THE THIRD INTERNATIONAL CONFERENCE

**«PROBLEMS OF CYBERNETICS AND INFORMATICS»
(PCI'2010)**

PROGRAM

**September 6-8, 2010
Baku, Azerbaijan**

Dear colleagues!

The organizing committee invites you to take part in
the Third International Conference

«Problems of Cybernetics and Informatics»

TIME-TABLE OF THE CONFERENCE

6 September (Monday)

Presidium of ANAS, Istiglaliyyat str., 10

- 10.00 – 10.35 - Opening Ceremony
- 11.00 – 13.00 - Morning Plenary Session
- 14.00 – 16.00 - Afternoon Plenary Session

7 September (Tuesday)

ANAS, F.Agayev Str., 9

- 10.00 – 13.00 - Morning Section Session
- 14.00 – 17.30 - Evening Section Session


8 September (Wednesday)

ANAS, F.Agayev Str., 9


- 10.00 – 13.00 - Morning Section Session
- 13.00 – 14.00 - Closing Ceremony

All questions you can address to: 9, F.Agayev Str., Baku

Institute of Cybernetics of ANAS

 (994-12) 439-27-58

Institute of Information Technology of ANAS

 (994-12) 439-01-67

pci2010az@gmail.com

Program committee of conference

Co- Chairmen:

Minister of Communications and Information Technologies
of Azerbaijan Republic - **Ali Abbasov**
President of Azerbaijan National Academy of Sciences - **Mahmud Karimov**
Minister of Education of Azerbaijan Republic - **Misir Mardanov**

Members:

Ablameyko, Sergey (*Belarus*)
Alguliyev, Rasim (*Azerbaijan*)
Aliyev, Fikret (*Azerbaijan*)
Aliyev, Telman (*Azerbaijan*)
Amirgaliyev, Yedilkhan (*Kazakhstan*)
Andronov, Aleksandr (*Latvia*)
Babayev, Djangir (*USA*)
Bashar, Tamer (*USA*)
Butcher, John (*New Zeland*)
Chen, Louis (*Singapore*)
Chepurin, Yevgeniy (*Russia*)
Chinlar, Erkhana (*USA*)
Formanov, Shakir (*Uzbekistan*)
Garayev, Siyavush (*Azerbaijan*)
Hajiyev, Akif (*Azerbaijan*)
Hajiyev, Asaf (*Azerbaijan*)
Humbatov, Ramiz (*Azerbaijan*)
Ibrahimov, Ismayil (*Azerbaijan*)
Ibrahimov, Vagif (*Azerbaijan*)

Imanov, Gorkhmaz (*Azerbaijan*)
Isgandarov, Asaf (*Azerbaijan*)
Jin, Judi (*USA*)
Kim, Che Soong (*Korea*)
Korolyuk, Vladimir (*Ukraine*)
Mammadov, Khavar (*Azerbaijan*)
Mehdiyeva, Galina (*Azerbaijan*)
Malikov, Agasi (*Azerbaijan*)
Melikov, Telman (*Azerbaijan*)
Moeschlin, Otto (*Switzerland*)
Orsingher, Enzo (*Italy*)
Ozekichi, Suleyman (*Turkey*)
Petkov, Petko (*Bulgaria*)
Prokhorov, Yuri (*Russia*)
Sadykhov, Rauf (*Belarus*)
Singpurwalla, Nozer (*USA*)
Turkman, Feridun (*Portugal*)
Valizada, Elmir (*Azerbaijan*)

PROGRAMM

The Third International Conference

«Problems of Cybernetics and Informatics»

PCI'2010

OPENNING OF THE CONFERENCE

6 September (Monday), 10.00 - 11.00

Main hall of the Presidium of ANAS (3 floor, Istiglaliyyat str., 10)

1. Solemn opening of a conference
2. Welcome Speeches
 - President of ANAS **Mahmud Karimov**
 - Ministry of Communication and Information Technologies **Ali Abbasov**
 - Ministry of Education **Misir Mardanov**
 - The academic secretary of ANAS **Akif Hajiyev**
 - Professor of National University of Singapore **Louis Chen**
 - Professor of The George Washington University **Nozer Singpurwalla**
 - Professor of Koch University **Suleyman Ozekici**
 - Deputy Editor in chief of Journal "Information Technology" **Nikolay Filimonov**
 - The chairman of Problem Council on Cybernetics, Information Technology and Technics **Ismayil Ibragimov**

TENDENCY AND PROSPECT OF CYBERNETICS IN THE MODERN WORLD

PLENARY SESSION

Chairman – Prof. **Ismayil Ibragimov**

Secretary – PhD **Tahir Alizada**

Morning session

6 September (Monday), 11.00 - 13.00

P.1. Ali Abbasov, **Telman Aliev**, Akif Ali-zada, Gurban Etirmishli, Gambar Guluyev, Fahrad Pashayev. Intellectual seismoacoustic telemetric station. (Azerbaijan National Academy of Sciences)

P.2. **John Butcher**. Stability barriers for Padé and generalised Padé approximations. (University of Auckland, Auckland, New Zealand)

P.3. **Louis Chen**. Stein's method, normal approximation and moderate deviations. (National University of Singapore, Singapore)

Afternoon session

6 September (Monday), 14.00 - 16.30

P.4. **Suleyman Ozekici**, Ethem Chanakoglu. Linear HARA frontiers in portfolio optimization. (Koc University, Istanbul, Turkey)

P.5. **Nozer Singpurwalla**. A problem in particle physics and its Bayesian analysis. (The George Washington University, Washington, D.C., USA)

P.6. **Otto Moeschlin**. A constellation-free momentum exchange concept – the uniform distribution hypothesis. (University of Hagen, Hagen, Germany)

P.7. **Anna Maria Gil-Lafuente**, Jaime Gil-Aluja, and Luciano Barcellos de Paula. Homogeneous groupings in portfolio management. (University of Barcelona, Barcelona, Spain)

Section #1

INFORMATION AND COMMUNICATION TECHNOLOGIES

PLENARY SESSION

7 September (Tuesday), 10.00 - 11.30

Chairman – Prof. **Rasim Alguliyev**
Secretary – PhD. **Yadigar Imamverdiyev**

1.1. Bogna Mrówczyńska, Piotr Nowakowski, **Aleksander Śladkowski**. Methods of travel time planning for delivery vans in agglomerations. (Silesian University of Technology, Katowice, Poland)

1.2. **Che Soong Kim**, Agassi Melikov, Mehriban Fattakhova. Approximate method for QoS analysis of wireless cellular networks with impatience calls. (Sangji University, Wonju, Kangwon, Korea)

1.3. Nataliia Shyshkina, **Galina Zorko**, Larisa Lesko. Terminology work and software localization in Ukraine. (V.M. Gluskov Institute of Cybernetics, Kiev, Ukraine)

1.4. **Nikolay Filimonov**. From Cybernetics to Informatics and Mechatronics: evolution of modern conception. (Journal of Information Technology, Moscow, Russia)

Morning session

7 September (Tuesday), 12.00 - 13.00

Chairman – Prof. **Rasim Alguliyev**
Secretary – PhD. **Yadigar Imamverdiyev**

1.5. **Timur Vezirov**, Elvira Saipueva, Zemfira Avdullaeva. Working out and usage of didactic complexes of informational provision of educational disciplines in the training of future teachers. (Pedagogical University of Dagestan, Russia)

1.6. **Natela Archvadze**, Merab Pkhovelishvili, Givi Silagadze, Lia Shetsiruly. Several issues of program verification. (I.Javakhishvili Tbilisi State University, Tbilisi, Georgia)

1.7. Evgeny Wasserman, **Nikolay Kartashev**. Dichotic listening: computer implementation, methodical problems, and modeling prospects. (SPIIRAS, Saint Petersburg, Russia)

1.8. **Jemal Antidze**, Nana Gulua. Software for treatment of natural texts. (Tbilisi State University, Tbilisi, Georgia)

1.9. Nargiza Ibragimova, **Gayrat Rakhimov**, Umida Rihsieva, Munira Rakhimova. On the improvement of control tests in mathematics using computer technology. (Zangiata Handicraft Professional College, Tashkent, Uzbekistan)

1.10. **Sergiy Pogorilyy**, Oleg Vereshchynsky. Methods of forming parallel schemes of algorithms for SMP-architecture. (Taras Shevchenko National university of Kiev, Ukraine)

Evening Session

7 September (Tuesday), 14.00 - 17.30

Chairman – Prof. **Masuma Mammadova**

Secretary – PhD. **Ramiz Aliguliyev**

1.11. **Sedat Akleylek**, Levent Emmungil, and Urfat Nuriyev. Open source UTM alternative: ClearOS. (Ondokuz Mayıs University, Ankara, Turkey)

1.12. **Elshan Rahimov**. Analyses and implementation of security factors for software functioning at the security system of corporate network. (Institute of Information Technology of ANAS, Baku, Azerbaijan)

1.13. **Fuad Aliyev**, Zabit Musayev, and Adilhan Nagiyev. Problems obtaining nanocomposite materials for superdense recording. (Azerbaijan Technical University, Baku, Azerbaijan)

1.14. Ali Abbasov, **Rauf Fatullayev**, Abulfat Fatullayev. HMM-based large vocabulary continuous speech recognition system for Azerbaijani. (Dilmanc project. Baku, Azerbaijan)

1.15. Mahammad Ahmadov, **Valeh Mustafayev**, Malahat Salmanova. Fuzzy models of active elements working in the flexible manufacture system. (Sumgayit State University, Sumgayit, Azerbaijan)

1.16. **Mubariz Khalilov**. Role of multimedia means in teaching computer science. (Baku State University, Baku, Azerbaijan)

1.17. **Ulduz Kengerli**. Electromagnetic communication channel for information transmission on abyssal parameters of the drilling well. (Azerbaijan Technical University, Baku, Azerbaijan)

- 1.18. **Shahrokh Jalilian**, Tofiq Kazimov, Fatemeh Salar. Using reflection for software fault tolerance. (Tehran, Iran)
- 1.19. Famil Mammadov, **Milana Orudjeva**. Likelihood-time characteristics of a wireless local network. (Azerbaijan Technical University, Baku, Azerbaijan)
- 1.20. **Sevinj Mammadova**, Gulnar Azimova, Abulfat Fatullayev. Text corpora and its role in development of the linguistic technologies for the Azerbaijani language. (Dilmanc project, Baku, Azerbaijan)
- 1.21. **Yadigar Imamverdiyev**. Architecture of e-government information security management system. (Institute of Information Technology of ANAS, Baku, Azerbaijan)
- 1.22. Masuma Mammadova, **Zarifa Jabrailova**, Sabina Nobari. Use of information about the importance of the criteria in the solution of personnel management problems. (Institute of Information Technology of ANAS, Baku, Azerbaijan)
- 1.23. **Lyudmila Sukhostat**, Yadigar Imamverdiyev. Decision making in multibiometric systems based on fuzzy integrals. (Institute of Information Technology of ANAS, Baku, Azerbaijan)
- 1.24. **Saxavat Talibov**, Sona Rzayeva. Project of creation system “Electronic University”. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- 1.25. **Masuma Mammadova**, Faig Mammadzada. Fuzzy multicriterion estimation of demand for IT-specialities. (Institute of Information Technology of ANAS, Baku, Azerbaijan)

Morning session

8 September (Wednesday), 10.00 - 13.00

Chairman – PhD. **Qazanfar Orudjov**

Secretary – PhD. **Zarifa Jabrailova**

- 1.26. **Zarifa Guliyeva**, Minara Manafli. Expert support system of machine translation within the frame English-Azerbaijani context. (Institute of Information Technology of ANAS, Baku, Azerbaijan)
- 1.27. **Rahila Abdullayeva**. Modeling quality of information systems. (Ministry of Education of Azerbaijan Republic, Baku, Azerbaijan)
- 1.28. Rasim Alguliyev, Yadigar Imamverdiyev, **Hamid Zargari**, Maryam Bazel. Using root mean square for longitudinal approaches in social networks. (Institute of Information Technology of ANAS, Baku, Azerbaijan)
- 1.29. Abulfat Fatullayev, **Niloufar Sadighian**. Stages of the development of Persian-Azerbaijani MT dictionary. (Zancan, Iran)

1.30. **Isbandiyar Aliyev**. Formalization representation of global information networks for synthesis. (Cybernetics Institute of ANAS, Baku, Azerbaijan)

1.31. **Sadeg Derakshande**, Yadigar Imamverdiyev. Processing of information security risks with ordered weighted averaging operators. (Institute of Information Technology of ANAS, Baku, Azerbaijan)

1.32. **Gulnara Nabibayova**. Development of information model of informational-analytical decision making support system. (Institute of Information Technology of ANAS, Baku, Azerbaijan)

1.33. Ramiz Aliguliyev, **Rahila Hasanova**. The evaluation of the scientific output of researchers. (Institute of Information Technology of ANAS, Baku, Azerbaijan)

1.34. **Afruz Gurbanova**. Conceptual essences of creation of terminological information system in Azerbaijan. (Institute of Information Technology of ANAS, Baku, Azerbaijan)

1.35. **Nail Balayev**. Definition of correlation among flight parameters of the plane for restoration of flight information. (Institute of Information Technology of ANAS, Baku, Azerbaijan)

1.36. **Firudin Agayev**, Gulnara Mammadova. Tasks of development of standards of ICT-education for higher education institutions of Azerbaijan. (Institute of Information Technology of ANAS, Baku, Azerbaijan)

1.37. **Makrufa Hajirahimova**. On intellectualization of management of electronic documents. (Institute of Information Technology of ANAS, Baku, Azerbaijan.)

1.38. **Rena Gasimova**. About development of knowledge base of national domain name system. (Institute of Information Technology of ANAS, Baku, Azerbaijan)

1.39. **Saadat Nazirova**. Mechanism of classification of text spam messages collected in spam pattern bases. (Institute of Information Technology of ANAS, Baku, Azerbaijan)

1.40. **Fadai Ganjaliyev**. Building a heterogeneous social network of academic researchers. (Institute of Information Technology of ANAS, Baku, Azerbaijan)

1.41. Rasim Alguliyev, **Rasim Abdullayev**. Situations created in city transport infrastructure by drivers depending on their awareness level. (Institute of Information Technology of ANAS, Baku, Azerbaijan)

1.42. **Rashid Alakbarov**. Modern condition and development perspectives of cloud computing technology. (Institute of Information Technology of ANAS, Baku, Azerbaijan)

1.43. **Sayyar Abdullayev**, Sudaba Abasova. ICT application in scientific activity: monitoring information system. (Institute of Information Technology of ANAS, Baku, Azerbaijan)

1.44. **Tahmasib Fataliyev**. Condition of application of information technology in scientific activity. (Institute of Information Technology of ANAS, Baku, Azerbaijan)

POSTER PAPERS

- **Geray Kengerlinsky**. Minimizing information duplication in relational databases. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- **Geray Kengerlinsky**. Identification of data interrelation pattern and formation of database organization structure. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- **Richard Megrelishvili**, Malkhaz Chelidze, Gela Besiashvili. Investigation of new matrix-key function for the public cryptosystems. (Iv.Javakhishvili Tbilisi State University, Tbilisi, Georgia)
- **Almaz Aliyeva**. Conceptual model of water resource control system of water reservoirs. (Institute of Information Technology, Baku, Azerbaijan)
- **Bayram Ibrahimov**, Shukur Mammadov. Investigation of methods of calculation signaling load created by services of multiservice telecommunication networks. (Azerbaijan Technical University, Baku, Azerbaijan)
- Gismat Ibrahimov, **Bayram Ibrahimov**, and Goyarchin Guliyeva. Investigation of the quality of functioning of terminal equipment communication networks. (Azerbaijan Technical University, Baku, Azerbaijan)
- Rasim Alguliyev, **Aytan Huseynova**. Development of dynamic allocation system of mail server memory among users of corporate network. (Institute of Information Technology of ANAS, Baku, Azerbaijan)
- **Ramiz Shikhaliyev**. On methods and means of computer network monitoring. (Institute of Information Technology of ANAS, Baku, Azerbaijan)

- **Ramiz Shikhaliyev.** About one dimension reduction method of analyzing features of network traffics used for computer networks monitoring. (Institute of Information Technology of ANAS, Baku, Azerbaijan)
- **Jalil Jabari Lotf,** Seyed Hossein Hosseini Nazhad Ghazani. Quality of service in wireless sensor networks. (Institute of Information Technology of ANAS, Baku, Azerbaijan)
- Natalya Dulina, **Olga Kozhunova.** Information monitoring system: a problem of linguistic resources consistency and verification. (The Institute of Informatics Problems of the RAS, Dorodnicyn Computing Centre of RAS, Moscow, Russia)

Section #2

INTELLECTUAL SYSTEMS

PLENARY SESSION

7 September (Tuesday), 10.00 - 10.30

Chairman – Prof. **Ogtay Nusratov**

Secretary – Dr. **Ramin Rzayev**

2.1. **Victor Borisenko**. Prospects of nanoelectronics for information processing. (University of Informatics and Radioelectronics, Minsk, Belarus)

Morning session

7 September (Tuesday), 10.30 - 13.00

Chairman – Prof. **Ogtay Nusratov**

Secretary – Dr. **Ramin Rzayev**

2.2. Kursat Zuhtuogullari, **Novruz Allahverdi**. Fuzzy expert system approach for determining the cardiological risk factor. (Selcuk University, Konya, Turkey)

2.3. **Konstantin Kolin**. Philosophy of information and the fundamentals of informatics. (Institute of Informatics Problems of RAS, Moscow, Russia)

2.4. **Bahar Pashayeva**. Mathematical model of the fluid catalytic cracking for work in testing control systems for the cracking plant. (Moscow State Technical University n.a. N.E. Bauman, Moscow, Russia)

2.5. Sergey Zolotoy, Sergey Romanov, **Akif Mamedov**. Methodical principles of integrated space monitoring of complex environmental systems. (UE "GeoInformation Systems" NASB, Minsk, Belarus)

2.6. **Eugene Novikov**, Akif Mamedov. Multilevel system for industrial objects status monitoring. (UE "GeoInformation Systems" NASB, Minsk, Belarus)

2.7. **Dmitry Bushenko** and Rauf Sadykhov. Extraction of extended objects from low-contrast images. (Belarusian State University of Informatics and Radioelectronics, Minsk, Belarus)

- 2.8. Kamil Aida-Zade, **Aida Sharifova**. Azerbaijan text-to-speech synthesis system. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- 2.9. **Samir Rustamov**, Elshan Mustafayev. Interactive speech understanding. (Cybernetics Institute of ANAS, Baku, Azerbaijan)

Evening Session
7 September (Tuesday), 14.00 - 17.30

Chairman – Prof. **Rauf Sadykhov**
Secretary – Dr. **Gulchin Abdullayeva**

- 2.10. Maksat Kalimoldaev, **Yedilkhan Amirgaliyev**, Rustam Mussabayev. Method of prosodic modification in the text-to-speech synthesis systems. (Institute of Informatics and Control Problems, Almaty, Kazakhstan)
- 2.11. **Akif Suleymanov**. Calculation algorithm of the semantic distance between texts. (Azerbaijan Technical University, Baku, Azerbaijan)
- 2.12. **Elviz Ismayilov**, Nigar Aliyeva. Hand printed recognition system using a fuzzy neural network. (Azerbaijan State Oil Academy, Baku, Azerbaijan)
- 2.13. **Abdugafur Rahimov** and Vamik Kadimov. Old Turkic script or Orkhon-Yenisey script. (The Tashkent Institute of Railways and Engineering, Tashkent, Uzbekistan)
- 2.14. Tofiq Kazimov, **Shafagat Mahmudova**. Methods of improvement of efficiency in recognition identifications systems. (Institute of Information Technology of ANAS, Baku, Azerbaijan)
- 2.15. **Yelena Gambarova**. Genetic algorithm for neural network parameters optimization. (INTEGRIS Company, Baku, Azerbaijan)
- 2.16. **Shafag Muttalibova**. Estimation the mudflow processes in the mountain areas of Azerbaijan. (National Aerospace Agency, Baku, Azerbaijan)
- 2.17. **Fahrad Pashayev**. Some aspects of on line program development of seismo-acoustic signal receiving and processing. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- 2.18. Firudin Mammadov, **Rena Asadova**, Sayyara Asad-zada. Determination of magnetic field intensities of two-function electromagnetic converters. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- 2.19. **Rahim Mammadov**, Timur Aliyev. Definition of orientation of objects by the systems of technical vision. (Azerbaijan State Oil Academy, Baku, Azerbaijan)

Morning session
8 September (Wednesday), 10.00 - 13.00

Chairman – Prof. **Ogtay Nusratov**
Secretary – Dr. **Ramin Rzayev**

- 2.20. Ogtay Nusratov, **Ramin Rzayev**. Position-binary recognition of cyclic signals by fuzzy timing analysis of information indicators. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- 2.21. Mahammad Ahmadov, Javanshir Mammadov, **Agil Huseynov**. Informing knowledge control of computing design of flexible manufacturing system. (Sumgayit State University, Azerbaijan)
- 2.22. Nadir Kazimov, Sabir Khalilov, **Ulduz Agayev**, Natig Talibov, Afat Huseynova. Intellectual system for measurement pressure. (Sumgayit State University, Sumgayit, Azerbaijan)
- 2.23. **Irada Mirzazada**. Intelligent information system of monitoring, diagnosis and prognosis of diseases in urgent therapy using carbon monoxide poisoning as an example. (Institute of Mathematics and Mechanics of ANAS, Baku, Azerbaijan)
- 2.24. **Rauf Rahimov**. Evaluation of technical objects according space survey. (Institute of Aerospace Information of NASA, Baku, Azerbaijan)
- 2.25. **Shahnaz Shahbazova**, Sevil Zeynalova. Decision-making in definition of knowledge in the conditions of uncertainty of educational process. (Azerbaijan Technical University, Baku, Azerbaijan)
- 2.26. **Sanan Jafarov**, Rauf Nabiyeu. SCADA control of vibration technologic process. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- 2.27. **Rauf Nabiyeu**. Principles of building of intellectual IMS for oil and oil products quantitative account. (Cybernetics Institute of ANAS, Baku, Azerbaijan)

POSTER PAPERS

- Telman Aliev, Gambar Guluyev, **Asif Rzayev**, Fahrhad Pashayev, İltizam Yusifov. Automated group unit for measuring debit of a oil well on basis of piezometric method. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- **Iurii Prokopchuk**. Principle of limiting generalizations. (Institute of Technical Mechanics of NASU, Dnipropetrovsk, Ukraine)

- **Pavel Khrustalev**. Effective method of images segmentation of the objects which are on a non-uniform background. (Kovrov State Technological Academy, Kovrov, Russia)
- **Mazahir Isayev**, Shakir Musayev, Gulbahar Yusufova-Agabalayeva. Conception of an intellectual electoral system. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- **Mazahir Isayev**, Shakir Musayev, Ilgar Huseynov, Teymur Valiyev. Testing analog-to-digital converter for measurement of the target signal sensor controls. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- Mirzoyan Kamilov, Shavkat Fazilov, **Nomaz Mirzaev**, and Sobirjon Radjabov. Algorithm of calculation of estimates in condition of features' correlations. (Institute of Mathematics and Information Technologies, Tashkent, Uzbekistan)
- Telman Aliev, Ogtay Nusratov, Gambar Guluyev, **Asif Rzayev**, Fahrads Pashayev. Complex of monitoring and management for oil wells with rod pump. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- Gambar Guluyev, **Asif Rzayev**, Yavar Aliyev, Mahammad Rizvanov. Asynchronous motors controller on basis of Atmega32 microcontrollers. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- Gambar Guluyev, **Asif Rzayev**, Yavar Aliyev, Mahammad Rizvanov. Intellectual "Trap" operating controller. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- **Vitalii Tukalo**, Valdemar Vitlinskyy, Yuriy Kolyada. Coordinate-wise considering self-restriction of variables in the Lorenz model. (Vadim Getman Kyiv National Economic University, Kiev, Ukraine)

Section #3

MODELING AND IDENTIFICATION

PLENARY SESSION

7 September (Tuesday), 10.00 - 11.00

Chairman – Prof. **Kamil Aida-zade**

Secretary – Dr. **Anar Rahimov**

3.1. **Andres G.Abad**, Jionghua (Judy) Jin. Modeling operator performance conforming quality in manufacturing systems. (University of Michigan, Ann Arbor, MI, USA)

3.2. **Rauf Sadykhov**, Igor Frolov. The design aspects of face identification system with SVMs. (United Institute of Informatics Problems, Minsk, Belarus)

Morning session

7 September (Tuesday), 11.00 - 13.00

Chairman – Prof. **Kamil Aida-zade**

Secretary – Dr. **Anar Rahimov**

3.3. **Telman Aliyev**, Naila Musayeva, Gambar Guluyev, Rauf Gadimov, and Ulkar Sattarova. Noise technologies of identification of change of complex objects from normal to failure state. (Cybernetics Institute of ANAS, Baku, Azerbaijan)

3.4. **Nergiz Kasimbeyli**. Multi-objective mathematical model for one-dimensional assortment problems. (Eskisehir Osmangazi University, Eskisehir, Turkey)

3.5. Teona Dochviri, **Besarion Dochviri**, and Hamlet Meladze. On the modeling of the American option pricing. (I.Javakhishvili Tbilisi State University, Tbilisi, Georgia)

3.6. **Besarion Shanshiashvili**. Identification of nonlinear dynamic systems with positive feedback. (Georgian Technical University, Tbilisi, Georgia)

3.7. Telman Aliyev, Gambar Guluyev, **Abbas Rzayev**, Iltizam Yusifov. Mathematical model of thermochemical oil deemulsation process. (Cybernetics Institute of ANAS, Baku, Azerbaijan)

- 3.8. Telman Aliyev, Gambar Guluyev, **Abbas Rzayev**, Iltizam Yusifov. Identification of nanotechnological processing in the oil debit. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- 3.9. Telman Aliyev, Gambar Guluyev, **Abbas Rzayev**, Fahrads Pashayev. Model of tectonical moving of earth lithosphere which enforces beginning of earthquake. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- 3.10. Kamil Aida-zade, **Marina Khoroshko**. Interactive system for constructing and analysis linear and nonlinear statistical models. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- 3.11. **Samir Guliyev**. On a parametrical identification problem for non-linear equations. (Cybernetics Institute of ANAS, Baku, Azerbaijan)

Evening session

7 September (Tuesday), 14.00 - 17.30

Chairman – Prof. **Mammadkarim Guliyev**

Secretary – Dr. **Samir Guliyev**

- 3.12. Rauf Sadykhov and **Sergei Tulyakov**. Methods and algorithms to create the intellectual face recognition system. (Belarusian State University of Informatics and Radioelectronics, Minsk, Belarus)
- 3.13. **Igor Gurevich**. Information methods of research of laws and properties of the nature. (IPI RAN, Hetnet Consulting Corp., Moscow, Russia)
- 3.14. **Igor Gurevich**. The basic information characteristics of our universe. (IPI RAN, Hetnet Consulting Corp., Moscow, Russia)
- 3.15. **Allahverdi Hasanov**, Yasin Rustamov. Application of mathematical simulation for prognosticating reliability of hydroreclamation systems elements. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- 3.16. Kamran Aliyev, **Kamil Mansimov**. Second order necessary optimality conditions and investigation of singular cases in the problem of optimal control of lauded differential equations with multi-point non-local boundary conditions. (Baku State University, Baku, Azerbaijan)
- 3.17. Rahila Asgarova, **Rahila Ibrahimova**. On one numerical algorithm of oil filtration process simulation with consideration for relaxation effects. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- 3.18. **Turgay Huseynov**. Investigation of low frequency tube resonator lumped inhomogeneity for vibration-frequency densitometer liquid media. (Sumgayit State University, Sumgayit, Azerbaijan)

- 3.19. **Hashim Shimiye**v. Principles of applying mathematical models in conflict theory. (Baku State University, Baku, Azerbaijan)
- 3.20. **Samir Guliyev**. On an inverse problem of the determination of switching conditions in discontinuous systems. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- 3.21. **Ashraf Balametov**, Elman Xalilov. Forecasting of electric power losses in electric networks of power systems with application of artificial neural networks. (Azerbaijan Scientifically Institute of Energetics, Baku, Azerbaijan)
- 3.22. Teygubad Gurbanov, **Vasif Neymatov** and Fidana Hashimova. Modelling of influence of mechanical fluctuations on smoothness of flight of flying machines. (Azerbaijan Technical University, Baku, Azerbaijan)
- 3.23. Teygubad Gurbanov, Togrul Karimli, and **Vusala Mammadova**. Creation of dynamic model of system of stable flight control in planes with the autopilot. (Azerbaijan Technical University, Baku, Azerbaijan)
- 3.24. **Adalat Karimov**, Ulviyya Rzayeva. On the basis of fuzzy logic in a broad sense the choice of supporting subsets in fuzzy cluster analysis. (Azerbaijan State Economic University, Baku, Azerbaijan)

Morning session

8 September (Wednesday), 10.00 - 13.00

Chairman – Prof. **Allahverdi Hasanov**

Secretary – Dr. **Yegana Ashrafova**

- 3.25. **Hidayat Jafarov**. Rational approach to constructing models to control and manage statics of technological processes. (Azerbaijan State Oil Academy)
- 3.26. **Fikrat Feyziyev** and Zamina Samadova. Technique of construction of one class orthogonal binary 3D-sequences. (Sumgayit State University, Sumgayit, Azerbaijan)
- 3.27. **Rustam Ibadov**, Burkhard Kleihaus, and Jutta Kunz. Modelling gravitating dyons, dyonic monopole-antimonopole systems and black holes. (Samarkand State University, Samarkand, Uzbekistan)
- 3.28. Agadadash Aliyev, **Ulviyya Abasova**, Rasim Kasimov, Eldar Mammadov. Methods of calculative experiment for setting the problems of modeling and optimization of chemico-technological processes. (Institute of Chemical Problems of ANAS, Baku, Azerbaijan)

- 3.29. Namig Tagiyev, Rafiq Guliyev, **Farhad Mirzayev**. Analysis of uncertainties in administrative activity and optimizing problems. (Baku State University, Baku, Azerbaijan)
- 3.30. **Agayar Hasanov**. Approaching for setting of atmosphere's putting function. (Institute for Space Research of Natural Resources of NASA, Baku, Azerbaijan)
- 3.31. Nadir Kazimov, **Sabir Khalilov**, Gadir Mansurov, and Rahib Guliyev. Simulation of the refractometer by means of the software LABVIEW 6.1. (Sumgayit State University, Sumgayit, Azerbaijan)
- 3.32. Chingiz Ibrahimov, Fazila Samadova, **Khalig Abbasov**. Extraction-adsorptive method of separation of resinous and aromatic hydrocarbons from oils. (Institute of Chemical Problems of ANAS, Baku, Azerbaijan)
- 3.33. **Rahima Jalilova**. Group analysis of the relaxation parameters of filtration. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- 3.34. **Allahverdi Hasanov**, Peyam Azmun, Ahmad Berzkar, Latafat Efendiyeva. Distribution of non-stationary viscoelastic waves to porous environments. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- 3.35. **Kamran Mehdiyev**, S. Abdullayev. Modern method of increase of accuracy of measurement of parameters of technological processes in the oil and gas industry. (Institute of Chemical Problems ANAS, Azerbaijan Technical University, Baku, Azerbaijan)
- 3.36. **Balemi Ismayilov**, Chichak Najafova. Information investigation of the results of modeling of the system of to be protecting in nets of distributed computer. (Sumgayit State University, Sumgayit, Azerbaijan)
- 3.37. **Arzu Hasanova**, Shamil Babayev. Laplace transform of distribution to system's first overhaul moment. (Cybernetics Institute of ANAS, Baku, Azerbaijan)

Section #4

APPLIED STOCHASTIC ANALYSIS

PLENARY SESSION

7 September (Tuesday), 10.00 - 11.30

Chairman – Prof. **Nozer Singpurwalla**

Secretary – **Hilala Jafarova**

- 4.1. **Enzo Orsingher**, Federico Polito. A brief review on some fractional point processes. (Sapienza University of Rome, Rome, Italy)
- 4.2. **Evgeniy Chepurin**, Innesa Chepurina. On the hypothesis testing concerning the type of the survival function. (Moscow State University, Moscow, Russia)
- 4.3. **Alexander Andronov**. A triangular symmetric copula. (Transport and Telecommunication Institute, Riga, Latvia)

Morning session

7 September (Tuesday), 11.50 - 13.00

Chairman – Prof. **Louis Chen**

Secretary – **Hilala Jafarova**

- 4.4. **Irina Yatskiv**, Nadezda Kolmakova, Vaira Gromule. Public transport service quality estimation on the basis statistical analysis. (Transport and Telecommunication Institute, Riga, Latvia)
- 4.5. Stefan Giebel, **Martin Rainer**. Climate models and commodity pricing with stochastic processes adapted by neural networks exhibiting possible transitions to chaos. (METU, Institute of Applied Mathematics, Ankara, Turkey)
- 4.6. **Anna Gorbatenko**, Svetlana Lopuchova. $SM|M|_\infty$ in special limit conditions. (Tomsk State University, Tomsk, Russia)

4.7. Elshad Agayev, **Sahib Aliyev**. On growth rate of solution of second order nonlinear elliptic equation in unbounded domain. (Institute of Mathematics and Mechanics of ANAS, Baku, Azerbaijan)

4.8. **Omar Purtukhia**, Vakhtang Jaoshvili. Stochastic derivative operator of two-dimensional Poisson functionals. (Tbilisi State University, Tbilisi, Georgia)

Afternoon session

7 September (Tuesday), 14.00 - 15.10

Chairman – Prof. **Suleyman Ozekici**

Secretary – Prof. **Soltan Aliyev**

4.9. **Mirvari Hasratova**. Stochastic simulation of queues described by behavior of moving particles. (Baku State University, Azerbaijan, Baku)

4.10. **Konul Omarova**. Laplace transformation of ergodic distribution of the step process of semi-markov random walk with delaying screen at positive point. (Institute Cybernetics of ANAS, Baku, Azerbaijan)

4.11. **Lela Aleksidze**, Zurabi Zerakidze. On some properties strongly and weakly separable Gaussian homogeneous isotropic statistical structures in Banach space of measures. (Gori University, Gori, Georgia)

4.12. **Omar Glonti**, Zaza Khechinashvili. The models and forecasting of the incomplete after “Disorder” financial markets. (Tbilisi State University, Tbilisi, Georgia)

4.13. **Zurabi Zerakidze**, Gimzer Saatashvili. Construction of stationary statistical structures. (Gori University, Gori, Georgia)

Evening Session

7 September (Tuesday), 15.30 - 17.30

Chairman – Prof. **Suleyman Ozekici**

Secretary – Prof. **Soltan Aliyev**

4.14. Elizbar Nadaraya, **Petre Babilua**, Grigol Sokhadze. On the estimation of distribution function on indirect sample. (I.Javakhishvili Tbilisi State University, Tbilisi, Georgia)

4.15. Elizbar Nadaraya, Petre Babilua, **Grigol Sokhadze**. On the estimation of probability of initial distribution dynamics on sample at the end of interval. (I.Javakhishvili Tbilisi State University, Tbilisi, Georgia)

4.16. **Besarion Dochviri** and Bekar Meladze. On the construction of a homogeneous standard Markov process. (Ivane Javakhishvili Tbilisi State University, Tbilisi, Georgia)

4.17. **Yakubdjani Khusanbaev**. Limit subcritical branching process with immigration. (Institute for Mathematics and Information Technology, Tashkent, Uzbekistan)

4.18. **Olimjon Sharipov** and Martin Wendler. Bootstrap for the sample mean and for u-statistics of weakly dependent observations. (Institute of Mathematics and Information technology, Tashkent, Uzbekistan)

PLENARY SESSION

8 September (Wednesday), 10.00 - 11.30

Chairman – Prof. **Evgeniy Chepurin**

Secretary – Prof. **Fada Rahimov**

4.19. **Asaf Hajiyev**, Turan Mammadov. Analyse of traffic systems by the models of moving particles on a circle. (Cybernetics Institute of ANAS, Baku, Azerbaijan)

4.20. **Shakir Formanov**, Anatoliy Startsev, and Tamara Formanova. On choice of statistical acceptance control by the alternative sign under the Bayesian approach. (Institute of Mathematics and Information Technologies, Tashkent, Uzbekistan)

4.21. Zurab Kvatadze, Tinatin Mumladze, and **Tengiz Shervashidze**. On two simple stochastic models. (A.Razmadze Mathematical Institute, Tbilisi, Georgia)

Morning session

8 September (Wednesday), 11.50 - 13.00

Chairman – Prof. **Shakir Formanov**

Secretary – Prof. **Mirvari Hasratova**

4.23. **Azam Imomov**, Jakhongir Azimov. On one criterion of convergence to the exponential law. (Institute of Mathematics and Information Technologies, Tashkent, Uzbekistan)

4.24. **Azam Imomov**. Locally-differential analogue of the basic lemma of the Galton-Watson processes and the Q-processes. (Karshi State University, Karshi, Uzbekistan)

4.25. **Julia Burkatovskaya**, Sergei Vorobejchikov. Weighted least squares method of guaranteed estimation of ARCH(p) process parameters. (Tomsk Polytechnic University)

4.26. **Anna Kitayeva** and Mihail Kolupaev. Recursive kernel estimation of the intensity function of an inhomogeneous Poisson process. (Tomsk Polytechnic University)

4.27. **Mais Farkhadov**, Nina Petukhova, Dmitry Efrosinin, Olga Semenova. A model to control a queue in a voice self-service portal with fast and slow servers. (Institute of Control Sciences of RAS, Moscow, Russia)

4.28. **Elena Sudyko**. Investigation of system MAP|M|1|RQ by the method of asymptotical semiinvariants to the third order. (Tomsk State University, Tomsk, Russia)

4.28. Anatoly Nazarov, **Inna Semenova**. The research of RQ-system with input MMP process. (Tomsk State University, Tomsk, Russia)

POSTER PAPERS

- **Irina Baranova**. Regression between the polytypic data, describing behavior of complex system. (Siberian Federal University, Krasnoyarsk, Russia)
- **Givi Bolkvadze**. Adaptive system of identification and control nonlinear stochastic dynamic objects in a class of models wiener. (Institute of Cybernetics, Tbilisi, Georgia)
- **Irina Ivanovskaya**, Svetlana Moiseeva. Investigation of the queuing system $MMP^{(2)}|M|\infty$ by method of the moments. (The Branch of Kemerovo State University, Anzhero-Sudzhensk, Russia)

Section #5

CONTROL AND OPTIMIZATION

PLENARY SESSION

- 5.1. Misir Mardanov, **Telman Melikov**. Recurrent optimality conditions of singular controls in delay control systems. (The Ministry of Education of AR, Baku, Azerbaijan)
- 5.2. **Vladimir Emelichev**, Vladimir Korotkov. Investment optimization problem with savage's risk criteria under uncertainties. (Belarusian State University, Minsk, Belarus)

Morning session

7 September (Tuesday), 10.30 - 13.00

Chairman – Prof. **Fikrat Aliyev**

Secretary – Dr. **Hikmat Akhundov**

- 5.1. **Simon Serovajsky**. Optimal control problem for the nonlinear parabolic system with fixed final state. (Al-Farabi Kazakh national University, Almaty, Kazakhstan)
- 5.2. **Surkhay Akbarov**, Ali Mammadov. Stability loss of the micro/nano-fiber in the viscoelastic matrix near the free convex cylindrical surface. (Institute of Mathematics and Mechanics of ANAS, Baku, Azerbaijan)
- 5.3. **Kamil Aida-zade**. On a control problem for heat exchange process. (Azerbaijan State Oil Academy, Baku, Azerbaijan)
- 5.4. **Tamaz Tadumadze**. On the optimization of initial data for delay differential equations. (Tbilisi State University, Tbilisi, Georgia)
- 5.5. Rasmiya Amirova, **Kamil Mansimov**. Investigation of one discrete control problem with inequality type functional constraints. (Baku State University, Baku, Azerbaijan)
- 5.6. Havar Mammadov, **Gazanfar Rustamov**, Vahid Farhadov. Control of initial state of dynamic systems by means of signal input. (Baku Technical University, Baku, Azerbaijan)

5.7. **Mammad Yagubov**, Ruhiya Huseynova. On the sliding regimes in the processes, described by the third order nonlinear equation. (Baku State University, Baku, Azerbaijan)

5.8. **Refaik Kasimbeyli**. Solution approaches based on weak subdifferentials in nonconvex analysis. (Izmir University of Economics, Izmir, Turkiye)

5.9. **Denis Klevetov**. Modeling workspace of planar parallel kinematics machines with 2 degrees of freedom. (The Kovrov State Technological Academy named after V.A. Degtyarev", Kovrov, Russia)

5.10. **Yakup H.Haci** and Kemal Ozen. Bellman equation for optimal processes with nonlinear multi-parametric binary dynamic system. (Canakkale Onsekiz Mart University, Canakkale, Turkey)

Evening Session

7 September (Tuesday), 14.00 - 17.30

Chairman – Prof. **Fikret Aliyev**

Secretary – Dr. **Nailya Valiyeva**

5.11. **Otar Labadze**, Tengiz Labadze, Maia Tsertsvadze. Principles of construction of the adaptive control system of the contactless on-off indicator. (Tbilisi State University of Dzhavahishvili, Tbilisi, Georgia)

5.12. **Michael Dymkov**, Alex Brilevskii and Sjarhei Dymkov. 2D production model with environmental factors. (Belarussian State Economic University, Minsk, Belarus)

5.13. **Temur Rigishbili**, Besarion Shanshiashvili. Increase in the speed of automatic optimizers on sliding modes. (Georgian Technical University, Tbilisi, Georgia)

5.14. **Shahlar Maharramov**, Zeynep Ors, Asli Guler. Optimal control for hybrid system. (Yasar University, Izmir, Turkey)

5.15. Kamil Mansimov, **Agshin Abdullayev**. Necessary optimality condition in the control problem described by the system of Volterra type two-dimensional integral equations. (Baku State University, Baku, Azerbaijan)

5.16. **Hamlet Guliyev**, Tunzala Mustafayeva. Control problem for the hyperbolic equations with phase restriction. (Baku State University, Baku, Azerbaijan)

5.17. **Misraddin Sadigov**. Extreme problem for three-dimensional differential inclusions. (Institute of Applied Mathematics of BSU, Baku, Azerbaijan)

- 5.18. **Kamil Mansimov**, Mehriban Nasiyati. Second order necessary optimality conditions in the discrete two-parameter step control problems. (Baku State University, Baku, Azerbaijan)
- 5.19. Rasmiya Amirova, **Kamil Mansimov**. On one optimal control problem. (Baku State University, Baku, Azerbaijan)
- 5.20. **Saftar Huseynov** and Sevinj Karimova. Solution to an optimal control problem with respect to quasi-linear heat conduction equation. (Azerbaijan State Oil Academy, Baku, Azerbaijan)
- 5.21. **Ilgar Mammadov**. On non-classic statement of Goursat four-dimensional problem for a pseudoparabolic equation. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- 5.22. **Vidadi Musayev**, Natig Huseynov, Kamran Abilov. About one approach to the decision of environmental problems in difficult systems with hierarchical structure of management. (Azerbaijan Technical University, Baku Azerbaijan)
- 5.23. Ali Nagiyev, Fariz Imranov, **Hasan Nagiyev**. Multipage phase stereo a portrait of three-dimensional dynamic system and visualisation of process of the control by movement. (Institute of Mechanic and Mathematic of ANAS, Baku, Azerbaijan)
- 5.24. Gunay Huseynzada, **Kamil Mansimov**. Necessary optimality conditions in one discretely continuous control problem. (Baku State University, Baku, Azerbaijan)

Morning session

8 September (Tuesday), 10.00 - 13.00

Chairman – Prof. **Fikret Aliyev**

Secretary – Dr. **Rakib Efendiyev**

- 5.26. **Ali Ramazanov**. Stability greedy algorithm for one problems discrete optimization. (Baku State University, Baku, Azerbaijan)
- 5.27. **Gurban Abdullayev**. Formalization of the models of the technological processes Gipkih cam borer tubes (BTG BT) on base of the theories fuzzy set. (Sumgait State University, Azerbaijan)
- 5.28. **Yegana Ashrafova**, Sudeyif Musayev. Optimal control by sources in distributed systems on the classes of piece-wise constant and Heaviside functions. (Cybernetics Institute of ANAS, Baku, Azerbaijan)

- 5.29. **Ketevan Kuthashvili**, Neli Kilasonia. On an algorithm for solving the multicriterion optimization problem in scheduling theory. (Institute of Control Systems, Tbilisi, Georgia)
- 5.30. **Feyzullah Ahmetoglu**. On existence of saddle point of Lagrange function for a mathematical programming problem in Banach space. (Giresun University, Giresun, Turkey)
- 5.31. **Yagub Sharifov**. Second order optimality conditions for optimal control problems with non-local conditions. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- 5.32. **Nicolay Kirillov**. Defining the concept 'The functional state of a controlled complex object behaviour'. (St.Petersburg Institute for Informatics and Automation of RAS, St.Petersburg, Russia)
- 5.33. **Alireza Yazdankhah**. Necessary optimality conditions in one non-smooth optimal control problem with variable structure. (Islamic University of Bonab, Bonab, Iran)
- 5.34. **Chimnaz Shabanova**, Rasim Kasimov, Anna Sorokina. Visualization method for processing of the numerical data flow at the chemical-technological processes investigation. (Institute of Chemical Problems of ANAS, Baku, Azerbaijan)
- 5.35. **Vagif Abdullayev**. Feedback control at observed points. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- 5.36. **Anar Rahimov** and Rashad Ismibeyli. Optimization of the number of constancy intervals of piecewise-constant control functions with uncertain information. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- 5.37. **Gazanfar Rustamov**, Aziz Huseynov, Rustam Rustamov. Solution of matrix dynamics equations in control problems in MATLAB /Simulink/. (Baku Technical University, Baku, Azerbaijan)
- 5.38. **Gulnar Aslanli**. Relation between the sets of solutions of initial and salient problems in processes governed by parabolic type equations. (Baku State University, Baku, Azerbaijan)
- 5.39. **Tofiq Rzayev**, Aygun Iskandarova. Bayes diagnosing hydratoformation in gas collection loops at the sufficient aprioristic information. (Azerbaijan Technical University, Baku, Azerbaijan)
- 5.40. **Yegana Ashrafova**. Optimal impulsive control in distributed systems. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- 5.41. **Jamila Asadova**. Optimization of transient processes in oil and gas pipelines. (Cybernetics Institute of ANAS, Baku, Azerbaijan)

POSTER PAPERS

- **Ali Ramazanov.** Greedy algorithms on special convex-ordered sets. (Baku State University, Baku, Azerbaijan)
- **Rasmiya Amirova.** On quasi-singular controls in an optimal control problem described by Volterra's difference equation. (Baku State University, Baku, Azerbaijan)
- **Hijran Mahammadli.** Dynamical production model for control of the flexible manufacture system working. (Sumgayit State University, Sumgayit, Azerbaijan)
- **Fazil Ismailov,** Chingiz Abdurahmanov, and Zakir Zabidov. Method of determining the informativity and rational distribution ground stations remote optical monitoring of urban air. (Institute of Ecology of ANAS, Baku, Azerbaijan)
- Arif Gursoy, **Urfat Nuriyev.** A mathematical model for assembly line balancing problem with lean manufacturing. (Ege University, Izmir, Turkey)
- **Ilaha Nagiyeva.** Investigation of quasi-singular control in the Moiseyev problem. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- **Victor Kubyshkin.** Algorithms of mobile control in the systems with the distributed parameters. (Institute of Control Sciences of RAS, Moscow, Russia)

Section #6

ANALYSIS AND FORECASTING OF SOCIAL-ECONOMIC SYSTEMS

PLENARY SESSION

7 September (Tuesday), 10.00 - 10.30

Chairman – Prof. **Gorkhmaz Imanov**

Secretary – Dr. **Malakhat Murtuzayeva**

6.1. Roman Kachalov, **Georgy Kleiner**. Collective decision making in the enterprise: a theorem of impossibility. (Central Economics and Mathematics Institute of RAS, Moscow, Russia)

Morning session

7 September (Tuesday), 10.30 - 13.00

Chairman – Prof. **Gorkhmaz Imanov**

Secretary – Dr. **Malakhat Murtuzayeva**

6.2. **Elena Goldenok**. Eventological "Chess" model of behavior of market agents. (Krasnoyarsk State Trade Economy Institute, Krasnoyarsk, Russia)

6.3. **Marina Sherykalova**. Related extension of the eventological scoring method. (Siberian Federal University, Krasnoyarsk, Russia)

6.4. **Gia Sirbiladze**, Bezhan Ghvaberidze, Pridon Dvalishvili. On the decreasing of information measures in the information precision process. (Iv.Javakhishvili Tbilisi State University, Tbilisi, Georgia)

6.5. **Daria Semenova**. Distributions of bipartite random vectors and its appendix. (Siberian Federal University, Institute of Mathematics, Krasnoyarsk, Russia)

6.6. Gia Sirbiladze, **Irina Khutsishvili**. Combined decision precising fuzzy technology for credit risk evaluation of bank investments. (Iv.Javakhishvili Tbilisi State University, Tbilisi, Georgia)

6.7. **Murtuzal Murtuzaliev**. Modelling of stability of development of economy. (Dagestan State University, Makhachkala, Russia)

6.8. **Nataly Lukyanova**. Eventology sight at entropy. (Siberian Federal University, Krasnoyarsk, Russia)

Evening Session

7 September (Tuesday), 14.00 - 17.30

Chairman – Prof. **Anna Maria Gil-Lafuente**

Secretary – Dr. **Malakhat Murtuzayeva**

- 6.9. **Gorkhmaz Imanov**, Rashad Yusifzada. Forecasting economical development on the base Fuzzy Logic Type-2. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- 6.10. **Rashad Yusifzada**, Mahammad Ali Asgari. Fuzzy approach in economic development forecasting of the Islamic Republic of Iran. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- 6.11. **Efendi Nasibov**, Melis Bolgen. Alternative fuzzy approach to evaluate the credit risks of companies: case study. (Dokuz Eylul University, Izmir, Turkey)
- 6.12. **Adalat Pashayev**, Svetlana Eyubova, Elkhan Sabziev. On the system of generation of the technological map for agricultural cultivation. (Cybernetics Institute of ANAS, Baku, Azerbaijan)
- 6.13. **Azad Aliyev**. Prospects of development of the software support for the computer simulation of the forecast of economic event using piece wise-linear economic-mathematical models in view of factors of uncertainty in M-dimensional vector space. (Azerbaijan State Oil Academy, Baku)
- 6.14. **Bahram Ismailov**. Recurrence analysis of hydroelectric power station force equipment vibration signals. (Azerbaijan State Oil Academy, Baku, Azerbaijan)
- 6.15. **Shahlar Asgarov**. Correlation between accepted decision and knowledge. (Baku State University, Baku, Azerbaijan)
- 6.16. Ramin Rzayev, **Samir Pur Riza**, Malahat Murtuzayeva. Estimation ecological sustainability index on the base of fuzzy logic. (Cybernetics Institute of ANAS, Baku, Azerbaijan)

POSTER PAPERS

- **Vladimir Zhukovin**. Decision making: the mathematical ground of transitivity formula. (Institute of Cybernetics, Tbilisi, Georgia)
- **Gennady Koshkin**. Estimation of net premiums in collective life insurance. (Tomsk State University, Tomsk, Russia)

Section #7

NUMERICAL METHODS AND COMPUTATIONAL TECHNOLOGY

PLENARY SESSION

7 September (Tuesday), 10.00 - 10.30

Chairman – Prof. **John Butcher**

Secretary – Dr. **Aydin Aliyev**

7.1. **Jemal Sanikidze**, Manana Mirianashvili. On one gauss type quadrature scheme for numerical solution of Lippman-Schwinger equations. (Institute of Computational Mathematics, Tbilisi, Georgia)

Morning session

7 September (Tuesday), 10.30 - 13.00

Chairman – Prof. **John Butcher**

Secretary – Dr. **Aydin Aliyev**

7.2. **Refik Samet** and Serhat Tural. Real-time meteorological data analysis and mapping. (Ankara University, Ankara, Turkey)

7.3. **Amina Jafarova**. On the problem of corrosive attack of metals at a nonstationary variation in potential. (Cybernetics Institute of ANAS, Baku, Azerbaijan)

7.4. **Aydin Aliyev**. Difference scheme of higher accuracy order for solution a nonlocal problem. (Baku State University, Baku, Azerbaijan)

7.5. **Refik Samet**, Muhammed Tanriverdi. Advanced adaptive median filter for impulsive noises. (Ankara University, Ankara, Turkey)

7.6. Ali Ahmadov and **Saad El-Shabrawy**. On the spectrum of a class of a generalized difference operator over the space l_p , $p \geq 1$. (Baku State University, Baku, Azerbaijan)

7.7. **Mehmet Kuruoglu**. Algorithm for interfacing between gis and dynamic site response computing domains. (Dokuz Eylul University, Buca-Izmir, Turkey)

7.8. Knyaz Mammadov, **Sagif Huseynov**, Mehman Yusifov, Irada Bakhshaliyeva. Software for the solution of some practical optimization problems. (Cybernetics Institute of ANAS, Baku, Azerbaijan)

7.9. Knyaz Mammadov, Nazim Mammadov, **Sagif Huseynov**. Construction of the suboptimal solution in the Bul programming problem by on two estimation of the variables. (Cybernetics Institute of ANAS, Baku, Azerbaijan)

7.10. **Mahammad Aliyev**. Effective solution method of the subset sum problem. (Cybernetics Institute of ANAS, Baku, Azerbaijan)

7.11. **Natavan Bayramova**, Galina Mehdiyeva, Vagif Ibrahimov. Construction of a second derivative one-step method of fourth order accuracy and its application to the solution of Volterra integral equation of second kind. (Baku State University, Baku, Azerbaijan)

Evening Session

7 September (Tuesday), 14.00 - 17.30

Chairman – Prof. **Jemal Sanikidze**

Secretary – Dr. **Aydin Aliyev**

7.12. **Shirzat Kahramanli** and Murat Selek. Boolean reasoning approach to feature selection in information systems. (Selcuk University, Konya, Turkey)

7.13. **Iman Askerzade** (Askerbeyli). Numerical study of vortex pattern in two-band superconductors. (Ankara University, Ankara, Turkey)

7.14. **Kanat Shakenov**. Solution of some inverse problem of atmospheric optics. (Al-Farabi Kazakh National University, Almaty, Kazakhstan)

7.15. **Ramil Mirzayev**, Galina Mehdiyeva, Vagif Ibrahimov. Application of hybrid methods to the solution of Volterra integral equations. (Baku State University, Baku, Azerbaijan)

7.16. **Inara Nasirova**, Galina Mehdiyeva, Vagif Ibrahimov. Application of multi step methods to the solving second order ordinary differential equations. (Baku State University, Baku, Azerbaijan)

7.17. Mahammad Guliyev, **Ahmed El-Hdidi**. Multidimensional inverse boundary value problem for the system of hyperbolic equations in the bounded domain. (Baku State University, Baku, Azerbaijan)

7.18. **Taleh Asgarov**, Mahammad Akhundov. Application of the difference method for solution of a nonlinear problem on filtration of compressible liquid in hereditary medium. (Baku State University, Baku, Azerbaijan)

- 7.19. Ali Ahmadov and **Saad El-Shabrawy**. Some spectral properties of a new generalized difference operator. (Baku State University, Baku, Azerbaijan)
- 7.20. Galina Mehdiyeva, Vagif Ibrahimov, **Mehriban Imanova**. On the numerical solution integro-differential equation. (Baku State University, Baku, Azerbaijan)
- 7.21. **Nadir Ibadov**. Construction of integer periodic functions according to given values at given points. (Azerbaijan Technical University, Ganja, Azerbaijan)
- 7.22. **Eldar Mammadov**. Inverse two-parametric problem with permutational compact self-adjoint operators under right definiteness condition. (Azerbaijan Technical University, Ganja, Azerbaijan)
- 7.23. **Tofiq Rzayev**. Probable-statistical analysis and decision-making in the indistinct environment. (Azerbaijan Technical University, Baku, Azerbaijan)
- 7.24. **Kamal Mammadov**. Method of solving mixed-integer programming with only one limit. (Cybernetics Institute of ANAS, Baku, Azerbaijan)

POSTER PAPERS

- **Sergey Baranov**. Identification of two unknown coefficients in parabolic equation. (Siberian Federal University, Krasnoyarsk, Russia)
- **Valentina Bykova**. Asymptotic properties of solutions of a special type of recurrence relations. (Institute of Mathematics, Siberian Federal University, Krasnoyarsk, Russia)