



PROGRAM

GIS in Central Asia – GISCA 2022 and Geoinformatics – GI 2022

ANNUAL INTERNATIONAL SCIENTIFIC CONFERENCES on "Designing the geospatial ecosystem"

INTERNATIONAL SYMPOSIUM on "Principal areas of land reform strategy: problems and solutions"

23-24 May, 2022

National Research University “Tashkent Institute of Irrigation and Agricultural
Mechanization Engineers” (NRU “TIAME”), Tashkent, Uzbekistan.

ONLINE/ONSITE

Address: Academic Council Hall, NRU “TIAME”, str.Kari Niyaziy, 39, Tashkent

Conference languages: English, Uzbek, Russian (with simultaneous translation)

Conference platform (for online participants):

Zoom <https://us06web.zoom.us/j/81484518875>

ID: 814 8451 8875, password: 122454





May 23, Monday

9:00 **Registration**

OPENING CEREMONY

10:00-11:40

Venue: Academic Council Hall, NRU "TIAME"

Moderator: **Bakhadir MIRZAEV**, Rector of NRU "TIAME", Uzbekistan

Welcome Speeches:

- 10:00 **Bakhadir Suyunovich MIRZAEV**, Rector of NRU "TIAME", Uzbekistan
Shavkat Rakhimovich KHAMRAEV, Minister of Water Resources of the Republic of Uzbekistan
Jamshid Abdulkhakovich KHODJAEV, Minister of Agriculture of the Republic of Uzbekistan
Ulugbek Negmatovich TASHKENBAEV, Head of the State Inspectorate for supervision of quality in education, Uzbekistan
Abdushukur Khamidovich ABDULLAEV, Director of the State Unitary Enterprise "Geoinnovation Center", Vice-Director of the Cadastre Agency under the State Tax Committee of the Republic of Uzbekistan
Francois BEGEOT, Head of cooperation department, EU delegation to Uzbekistan
Aziza Karimovna ABDURAKHMANOVA, Coordinator of the National Erasmus+ Office, Uzbekistan
Shukhrat Ummatalievich YAKUBOV, Director of the Centre for the Development of Higher and Secondary Special Vocational Education under the Ministry of Higher and Secondary Specialized Education of the Republic of Uzbekistan
Muratbay Shimbergenovich GANIEV, Chief Specialist of the Department of Coordination of Scientific Organizations and Innovation, State Committee for Forestry of the Republic Of Uzbekistan
Ilhom Isakovich ABDURAHMANOV, Erasmus+ NICoPA Project Local Coordinator at NRU "TIAME", Uzbekistan
Erasmus+ CBHE Project "NICoPA: New and Innovative courses for Precision Agriculture"

Honorable speakers:

- 11:00 **Joseph STROBL**, Academician, University of Salzburg, Austria
Topic: A point went for a walk... analysis of mobility patterns
- 11:20 **Alishir KURBAN**, Professor, Xinjiang Institute of Ecology and Geography, Chinese Academy of Sciences
Topic: "Challenges and opportunities for application of Geo-Information on Riparian Ecosystem Restoration and Management: A case study in Tarim River (Northwestern China)"

KEYNOTES

11:40-13:00

Venue: Academic Council Hall, NRU "TIAME"

Moderator: **Lorant FOLDVARY**, Professor, Budapest University of Technology and Economics, Hungary

- 11:40 **Keynote I: Gravimetry: from Eötvös pendulum to Quantum Technology**
Speaker: **Lorant FOLDVARY**, Professor, Budapest University of Technology and Economics, Hungary



11:50	Keynote II: <i>Entropy using for spatial assessment of population change of Andijan region in Uzbekistan</i> Speaker: Lola GULYAMOVA , Professor, Tashkent state technical university
12:10	Keynote III: <i>Land degradation in Central Asia: a review of papers from the Scopus database published in English for the period of 2000-2020</i> Speaker: Mukhiddin JULIEV , Post-Doctoral Researcher, NRU "TIAME", Uzbekistan
12:30	Keynote IV: <i>Using Google Earth Engine to Assess Spatiotemporal Changes in Urban Vegetation Cover</i> Speaker: Shukhrat SHOKIROV , Associate Professor, NRU "TIAME", Uzbekistan
12:50	Group photo
13:00	Lunch break

CONFERENCE SESSIONS

Session I: Geoinformatics in Agriculture and Water Resources

Date and time: 14:30-18:00, May 23, 2022

Venue: Academic Council Hall, NRU "TIAME", str.Kari Niyaziy, 39, Tashkent

Moderator: **Shukhrat SHOKIROV**, Associate Professor, NRU "TIAME", Uzbekistan

Session II: Geoinformatics in Agriculture and Water Resources, Mechanization

Date and time: 14:30-18:00, May 23, 2022

Venue: Joint Research Center for Geoinformatics, room №508, floor №5, block №11, NRU "TIAME", str.Kari Niyaziy, 39, Tashkent

Moderator: **Zokhid MAMATKULOV**, Assistant teacher, NRU "TIAME", Uzbekistan

Session III: GIS and Remote Sensing

Date and time: 14:00-16:00, May 24, 2022

Venue: Academic Council Hall, NRU "TIAME", str.Kari Niyaziy, 39, Tashkent

Moderator: **Lorant FOLDVARY**, Professor, Budapest University of Technology and Economics, Hungary

Session IV: GISCA22 Tashkent Session №III

Date and time: 16:00-18:00, May 24, 2022

Venue: Academic Council Hall, NRU "TIAME", str.Kari Niyaziy, 39, Tashkent

Moderator: **Ilhom ABDURAHMANOV**, Project Coordinator, NRU "TIAME", Uzbekistan

Session I: Geoinformatics in Agriculture and Water Resources

14:30-18:00, May 23, Monday

Venue: Academic Council Hall, NRU "TIAME"

Moderator: **Shukhrat SHOKIROV**, Associate Professor, NRU "TIAME", Uzbekistan

14:30	<i>Water conservation in reclamation of saline irrigated lands of Uzbekistan</i> Yu.I.Shirokova, F.F.Sadiev, G.Q.Paluashova Speaker: Yuliya SHIROKOVA , Irrigation and Water Problems Research Institute, Uzbekistan
14:45	<i>Vegetation monitoring in the South Aral Sea region by remote sensing and GIS</i> R.Jaksibaev, O.Sultashova, S.Gabbarov, I.Abdurahmanov Speaker: Rashid JAKSIBAEV , "TIAME" NRU, Uzbekistan

- 15:00 *Using GIS technologies to determine the weediness of agricultural crops in the example of the Akmola region*
G.Yeszhanov, I.Mizanbekov, G.Essyrkep, S.Uzbergenova, L.Konkayeva, A.Shunekeyeva
Speaker: Alma SHUNEKEYEVA, Sh. Ualikhanov Kokshetau University, Kazakhstan
- 15:15 *The driving forces of changes in land use of a Peri-urban area: the case of Tselinograd district, Kazakhstan*
O.Alipbeki, Ch.Alipbekova, G.Mussaif, N.Mineyev, M.Aliyev, B.Akhmetov, R.Turegeldiyeva
Speaker: Onggarbek ALIPBEKI, Kazakh Agrarian University named after S.Seifullin
- 15:30 *Use of remote sensing Landsat-EVI in the assessment of landscape degradation (On the example of the Aydar-Arnasay lake systems)*
Speaker: Nilufar SABIROVA, Samarkand State University, Uzbekistan
- 15:45 *Study of climate change patterns in the conditions of the Kashkadarya river basin based on GIS technologies*
A.Salokhiddinov, M.Radkevich, J.Mirzakobulov, Z.Alibayeva, B.Ismailkhodjaev and E.Abdumajidov
Speaker: Jahongir MIRZAKOBULOV, "TIAME" NRU, Uzbekistan
- 16:00 *Integrated management of water and land resources of the Kyrgyz Republic and characteristics of their use at the present stage*
A.Batykova, T.Tuleev, B.Tuleev, A.Asanaliev, V.Denisov, A.Babajanov, V.Sultanbaeva, S.Hegay
Speaker: Ainura BATYKOVA, Kyrgyz National Agrarian University named after K.I. Skryabin,
- 16:15 *Accuracy of Image Reconstruction by Lifting Filters*
S.Beknazarova, A.Bahromov, M.Jaumitbaeva, O.Abdullayeva
Speaker: Saida BEKNAZAROVA, Tashkent University of Information Technologies named after Muhammad al-Khwarizmi (TUIT), Uzbekistan
- 16:30 *Indices to assess the soil salinity impact over wheat crop*
M.Avliyakov, N.Rajabov, Sh.Kulmamatova
Speaker: Mirzaolim AVLIYAKULOV, Research Institute of Cotton Breeding, Seed Production and Cultivation Agrotechnology, Uzbekistan
- 16:45 *Mapping of soil properties using geographic information systems (on the example of Tashkent)*
Sh.Bobomurodov, N.Abdurakmonov, U.Niyazmetov, Z.Baxodirov, Yo.Normatov
Speaker: Zafar BAXODIROV, Research Institute of Soil Science and Agrochemistry, Uzbekistan
- 17:00 *Classification of seasonal dynamics of soil moisture according to satellite data Sentinel-2, Jizzakh region, Uzbekistan*
S.Rakhmonov, A.Khaidarov, K.Samarkhanov, M.Seidakmatova, U.Komilov, A.Maderbek
Speaker: Sanjar RAKHMONOV, Information-Analytical and Resource Center under the Ministry of Water Resources of the Republic of Uzbekistan
- 17:15 *Microprocessor moisture measuring device of bulk materials based on the capacitance transformer with cylindrical electrodes*
T.Nasirov, Kh.Jabborov
Speaker: Tulkun NASIROV, University of geological sciences, Uzbekistan
- 17:30 *Theoretical basis for developing the content of the tourist map of the Fergana region*
K.Xakimova, B.Abdusalomov, L.Qosimov, A.Abdusalomov, Sh.Yakubov
Speaker: Lazizbek KOSIMOV, Ferghana Polytechnic Institute, Uzbekistan



17:45 *Spatial assessment of natural conditions for recreational tourism in mountains of Tashkent region*
L.Gulyamova, A.Rasulov, R.Nizomova, A.Kazakov, D. Rakhmonov

Speaker: Lola GULYAMOVA, Tashkent state technical university, Uzbekistan

18:00 *Smart system for early detection of agricultural plant diseases in the vegetation period*
R.Baratov, Kh.Valikhanova

Speaker: Kh.VALIKHANOVA, NRU "TIAME", Uzbekistan

Session II: Geoinformatics in Agriculture and Water Resources, Mechanization

14:30-18:00

Venue: Joint Research Center for Geoinformatics, room № 508, floor № 5, block №11

Moderator: Zokhid MAMATKULOV, Assistant teacher, NRU "TIAME", Uzbekistan

14:30 *Determination of irrigation regimes based on geospatial technologies in water scarcity areas*
M.Khamidov, A.Inamov, U.Islamov, Z.Mamatkulov, B.Inamov

Speaker: Zokhid MAMATKULOV, NRU "TIAME", Uzbekistan

14:45 *Management of pasture lands in Akmola region*

Speaker: Maria AUJANOVA, Shokan Ualikhanov Kokshetau State University

15:00 *The relationship between climate variability and wheat yield in Tashkent province*

M.Nasirova, B.Pulatov, and A.Pulatov

Speaker: Makhliyo NASIROVA, NRU "TIAME", Uzbekistan

15:15 *Application of GIS technologies in the study of soil salinity*

I.Abdullaev and N.Abdullaeva

Speaker: Ilkhomjon ABDULLAEV, National University of Uzbekistan

15:30 *Development of criteria for defining lake protect zones using integration of GIS and Remote Sensing. Case study: Aydarkul-Arnasoy-Tuzkon lake system*

Speaker: Barnokhon SAIPOVA, NRU "TIAME", Uzbekistan

15:45 *Application of orthophotolans in land cadastre*

E.Safarov, J.Pirimov, I.Abdullaev and N.Abdullaeva

Speaker: J.PIRIMOV, Bukhara branch of "TIAME"NRU

16:00 *Clustering of agriculture in the Republic of Uzbekistan*

I.Yunusov, U.Sangirova, U.Ahmedov, O.Fayziev, U.Kholiyorov

Speaker: Indira SMANOVA, "TIAME" NRU, Uzbekistan

16:15 *Establishment of additional norms for irrigation water*

Z.Mirkhasilova, M.Yakubov, L.Irmukhamedova, N.Rakhimov, N.Norkuzieva

Speaker: Zulfiya MIRKHASILOVA, "TIAME" NRU, Uzbekistan

16:30 *Scientific and theoretical analysis of the right to use forest land*

Speaker: Olim NAZRULLAEV, Tashkent State University of Law, Uzbekistan

16:45 *Calculation of the stability of earth dams under the basic loads taking into account the data of field observations*

Speaker: Husanboy TURDIKULOV, Fergana Polytechnic Institute, Uzbekistan

17:00 *Formation of highly dispersed droplets with harmless effect on the environment and the results of their mathematical and statistical processing*

Kh.Irisov, M.Khudayorov

Speaker: Khusniddin IRISOV, Tashkent State Technical University, Uzbekistan



- 17:15 *Strip-Till technology of strip farming when sowing re-crops and the choice of working bodies for its implementation*
F.Alimova, B.Primkulov
Speaker: Bekzod PRIMKULOV, Tashkent State Technical University named after Islam Karimov
- 17:30 *To study movement of fertilizers in the fertilizer spreader*
S.Temirov, M.Tukhtabayev, and Z.Turgunov
Speaker: Mirzohid TUKHTABAEV, Namangan Engineering Construction Institute, Uzbekistan
- 17:45 *To investigate the impact of elliptical drum cotton separator on the cotton wrapping in the spindle using computer graphics*
Sh.Ravutov, Sh.Pirnazarov, A.Gulmatov
Speaker: Akmal GULMATOV, Tashkent State Technical University
- 18:00 **Closing of the 1st day of the Conference**

May 24, TUESDAY

9:00 **Registration**

**OPENING CEREMONY OF THE INTERNATIONAL SYMPOSIUM
on "Principal areas of land reform strategy: problems and solutions"
10:00-10:30**

Venue: Academic Council Hall, NRU "TIAME"

Moderator: Bakhadir MIRZAEV, Rector of NRU "TIAME", Uzbekistan

Welcome speeches:

- 10:00 **Bakhadir Suyunovich MIRZAEV**, Rector of NRU "TIAME", Uzbekistan
Bakhadir Sadullaevich TOJIEV, Chairman of the Senate Committee on Agriculture and Water Resources, Uzbekistan
Abdukodir Hamidovich TOSHKULOV, Minister of Higher and Secondary Specialized Education, Uzbekistan
Ihom Ibroximovich NORKULOV, First Deputy Minister of Economic Development and Poverty Reduction, Uzbekistan
Rustam Djuraevich QARSHIEV, Deputy Minister of Water Resources, Uzbekistan
Jusupbek Sdikbaevich KAZBEKOV, Deputy Chairman of the State Committee for Ecology and Environmental Protection, Uzbekistan
Abdushukur Khamidovich ABDULLAEV, Deputy Director of the Cadaster Agency

KEYNOTES

10:30-11:40

- 10:30 *Problems of ensuring the relevance of land law enforcement practices to land reform objectives*
Speaker: Nodir TILLAYEV, Head of the Department for the Study of Law Enforcement Practice, Ministry of Justice, Uzbekistan
- 10:40 *Ways to increase the stability of the productivity of phytocenoses in hayfields and pastures*
Speaker: Aliya BAYTELENOVA, Associate Professor, Kazakh Agrotechnical University. S.Seyfullina, Kazakhstan



10:50	<i>Land reform strategy, its tasks in the socio-economic development of our country</i> Speaker: Diyor ERGASHEV , Deputy Head of the Land Reform Coordination Department, Ministry of Economic development and poverty reduction
11:00	<i>Regional transformations in Bulgaria and challenges for sustainable development</i> Speaker: Mariyana SHISHKOVA , Associate Professor, Agricultural University Plovdiv, Bulgaria
11:10	<i>Priorities for developing land reform in line with the needs of sustainable economic growth</i> Speaker: Abdurashid ALTIEV , Head of the Department of "Land Use", NRU "TIAME"
11:20	<i>Potential applications of remote sensing, GIS tools and data analytics for land and water resources management</i> Speaker: Zafar GAFUROV , Head of the Department, International Water Management Institute (IWMI)
11:30	<i>Soil fertility is the main criterion for the efficiency of land use in the irrigated zone of Uzbekistan</i> Speaker: Abid RAMAZONOV , Professor of the Department of " Soil science and farming", NRU "TIAME"
11:40	Q&A
11:55	<i>The next schedule of the Symposium</i> Sharafatdin NARBAEV , Dean of the Faculty of Land Management, "TIAME" NRU
	Group photo
12:00	Lunch break
Session III: GIS and Remote Sensing 14:00-16:00 Venue: Academic Council Hall, NRU "TIAME" Moderator: Lorant FOLDVARY , Budapest University of Technology and Economics, Hungary	
14:00	<i>Technogenic impact assessment on the environment of Pavlodar region using GIS technologies</i> A.Kakabayev, A.Ermekova, G.Baiknova, B.Sharipova, L.Bermaganbetova, N.Baikenov, A.Zhumabayeva Speaker: Anuarbek KAKABAYEV , Shokan Ualikhanov Kokshetau State University
14:15	<i>Retrospective analysis of forest fires in the Republic of Mari El based-on satellite imagery</i> Speaker: Oleg Nikolaevich VOROBEV , Professor, Volga State University Technology, Russia
14:30	<i>Utilization of Remote Sensing methods in Precision Agriculture Applications in the Czech Republic</i> Speaker: Jelinek ZDENEK , Professor, Czech University of Life Sciences, Prague, Czech Republic
14:45	<i>Yield of elite potato varieties for primary seed production in the conditions of Northern Kazakhstan,</i> Speaker: Miras SURAGANOV , Shokan Ualikhanov Kokshetau State University
15:00	<i>GIS contribution to collection and processing of the data for an architectural and graphic reconstruction of the Timurids' gardens in Samarkand, Uzbekistan</i> S.Sadikova, M.Amindjanova Speaker: Sitora SADIKOVA , Samarkand State Architectural and Civil Engineering Institute, Uzbekistan
15:15	<i>Trend analysis of forest cover MODIS NDVI time series for estimating droughts in the Middle Volga</i> S.A. Lezhnin, O.N. Vorobev, E.A. Kurbanov Speaker: Sergey Anatolevich LEJNIN , Professor, Volga State University of Technology, Russia



- 15:30 *Soil-geobotanical assessment of the condition of land plots on the example of the forest fund of MSI "Sokolovskoye Forestry"*
N.Shogenova, S.Sartin
Speaker: **Sergey SARTIN**, North Kazakhstan University named after Manash Kozybayev
- 15:45 *Training of technical staff in conditions of digitalization of education on the example of "Geoinformatics".*
Speaker: **Nurbol KAKABAEV**, Shokan Ualikhanov Kokshetau State University

Session IV: GISCA22 Tashkent Session №III

16:00-18:00

Venue: Academic Council Hall, NRU "TIAME"

Moderator: **Ilhom ABDURAHMANOV**, Project Coordinator, NRU "TIAME", Uzbekistan

- 16:00 *Analysis of the crustal movements in the Angren-Almalyk mining industrial area according to GNSS data*
D.Fazilova, L.Sichugova, M.Makhmudov
Speaker: **Dilbarkhon FAZILOVA**, Astronomical Institute of Uzbek Academy of Science, Uzbekistan
- 16:15 *How Space Gravimetry can contribute to analyze the desiccation of the Aral Sea?*
L.Foldvary, V.Statov, N.Mamutov, S.Khikmatullaev
Speaker: **Lorant FOLDVARY**, Budapest University of Technology and Economics, Hungary
- 16:30 *Spatial analysis in decision making on agriculture activities*
M.Reimov, Z.Mamatkulov, U.Shermanov, R.Oymatov, A.Khamraliev, and B.Abdurashitov
Speakers: **Mamanbek REIMOV and Zokhid MAMATKULOV**, NRU "TIAME"
- 16:45 *Watershed mapping using digital elevation models and GPS in SWAT: a case study of the Fergana Valley (Uzbekistan)*
L.Sichugova, D.Fazilova
Speaker: **Lola SICHUGOVA**, Astronomical Institute of Uzbek Academy of Science, Uzbekistan
- 17:00 *Mapping weather risk – A multi-indicator analysis of satellite-based weather data for drought monitoring in semi-arid and arid zones of Central Asia*
S.Eltazarov, I.Bobojonov and L.Kuhn
Speaker: **Sarvarbek ELTAZAROV**, Leibniz Institute of Agricultural Development in Transition Economies (IAMO), Halle (Saale), Germany
- 17:15 *Using classification techniques based on long-term Landsat satellite data to identify glacier area in the Hissar-Alay mountains within Uzbekistan*
Speaker: **Eleonora SEMAKOVA**, Astronomical Institute of Uzbek Academy of Science
- 17:30 *A Comparison Analysis of Machine Learning Algorithms for Soil Salinity Classification*
T.Merembayev, Y.Amirgaliyev, A.Tureniyazova, S.Daulbayev
Speaker: **Timur MEREMBAYEV**, Institute of Information and Computational Technologies, Kazakhstan
- 17:45 **Closing ceremony, Certificates**