



N.Isanov Kyrgyz State University of Construction, Transport and Architecture (KSUCTA)



Academic programs, GeoTAK team and project work



Dr. Akylbek Chymyrov

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Monitoring of the Erasmus+ CBHE Project:

Developing Interdisciplinary Postgraduate Programmes and Strengthening Research Networks in Geoinformation Technologies in Armenia and Kyrgyzstan" (GeoTAK), March 30, 2021



ABOUT THE KYRGYZ STATE UNIVERSITY OF CONSTRUCTION, TRANSPORT AND ARCHITECTURE (KSUCTA) named after N.ISANOV



The university has been training more than 6 thousand students, undergraduates, Master and PhD students on 62 profiles and 25 fields. Areas of research excellence extend from Engineering, Architecture, Information Technologies, and Ecology to the Humanities and Social Sciences. It consists of 7 institutes, 6 international joint centres, 42 academic departments and a college with .



- Institute of Architecture and Design
- Institute of Construction and Technology
- Institute of Transport and Ecology
- Institute of Innovative Professions
- Institute of New Information Technologies
- Institute of Economics and Management
- Scientific-Research Institute for Seismic Resistant Construction"
- Institute of Master programs
- Department of PhD/Doctoral Programs



GeoTAK PROJECT TEAM of KSUCTA





Dr. Akylbek Chymyrov



Dr. Erkin Boronbaev



Dr. Mirlan Dyldaev



Dr. Muratbek Koshoev



MSc. Tatygul Urmambetova



MSc. Nursultan Ismailov





GEODESY AND GEOINFORMATICS DEPARTMENT

- The Department dates back to the founding of the "Engineering Geodesy" Department based in the Civil engineering faculty of Frunze politechnic institute (FPI) in 1961. Recent history of department begins from July 2006 under the new name "Geodesy and Geoinformatics".
- Creation of the new department was made possible by the EC TEMPUS Project "Education in Geodesy and Geoinformatics", realized at KSUCTA within the European Commission TEMPUS project in 2005-2007, coordinated by Dr. Huaan Fan from the Royal Institute of Technology (KTH), Sweden.







ACADEMIC PROGRAMS OF KSUCTA ON GEOSCIENCES



Secondary professional education (college):

- Applied Geodesy, since 2017

Undergraduate program: Geodesy and Remote Sensing, since 2005

Master programs:

- Geodesy and Remote Sensing, since 2011
- Geoinformatics, since 2012

PhD program: Geodesy and Geoinformation Technologies

(planned to start within E+ GeoTAK)





SECONDARY PROFESSIONAL AND UNDERGRADUATE STUDENTS OF THE GEODESY PROGRAMS

Programme	2018	2019	202 0
College of KSUCTA	24	30	30
Undergraduate	129	115	141









MASTER STUDENTS OF THE GEODESY AND GEOINFORMATICS DEPARTMENT

Programme	2018	2019	2020
Geodesy MSc	20	11	15
Geoinformatics MSc	5	7	5









DEVELOPMENT OF THE PHD PROGRAM "GEODESY AND GEOINFORMATION TECHNOLOGIES"

KSUCTA is planning to develop and implement PhD program in "Geodesy and Geoinformation Technologies" within the GeoTAK project in 2021-2024. The expected academic and scientific support from the European universities in the frame of Erasmus+ GeoTAK project will be very appreciated because of the strong expertise and

rich experience of European partners.

There are no existing PhD programs on Geodesy, GIS and Remote Sensing in Kyrgyzstan and existing demand for the highly qualified researchers in these fields is very high. The local stakeholders will be actively involved in the realization of Erasmus+ GeTAK Project.







NATIONAL REGULATION OF TRAINING OF THE DOCTOR OF PHILOSOPHY (PHD) / DOCTOR BY PROFILE

In order to regulate the issues of the postgraduate Doctoral Education (PhD) / Doctor by Profile the Government of the Kyrgyz Republic has approved the next legal acts (Decree No. 601 from December 11, 2020):

- □ Regulations on the procedure for organizing postgraduate Doctoral Education (PhD) / Doctor by Profile and awarding the qualifications of a Doctor of Philosophy (PhD) / Doctor by Profile;
- □ The minimum requirements for accredited educational programs for the training of a Doctor of Philosophy (PhD) / Doctor by Profile.

The Ministry of Education and Science of the Kyrgyz Republic has approved the next legal documents to regulate the Doctoral Education Programs (Order No. 219/1 from March 4, 2021):

- □ Provisions of the Examination Commissions for Entrance Examination for the Doctor of Philosophy (PhD) / Doctor by Profile Programs.
- The list of Doctor of Philosophy (PhD) / Doctor by Profile Programs.





CURRICULUM DEVELOPMENT MEETING ON MARCH 2, 2021 (KSUCTA PHD PROGRAM)

- Presentation of the PhD Curriculum draft designed by the KSUCTA team
- Presentation of the curricula of existing "Geodesy" and "Geoinformatics" Master programs of KSUCTA.
- PhD course suggested as a compulsory general (10 ECTS): Geospatial data science.
- PhD courses suggested as elective general (15 ECTS): History of science and philosophy (KSUCTA component), Applied mathematics and statistics, Introduction to Geospatial Programming.
- PhD courses suggested as compulsory specialization (15 ECTS): Geodetic reference systems, Advanced Geoinformation technologies.
- PhD courses suggested as elective specialization (20 ECTS): Integrated positioning and navigation, Physical Geodesy, Advanced GNSS technology, Applications of Remote Sensing in land use and environmental engineering, Spatial data infrastructure and other courses.
- The drafts of KSUCTA PhD Curriculum "Geodesy and Geoinformation Technologies" are circulated between partner universities for modification.





KSUCTA PHD CURRICULUM "GEODESY AND GEOINFORMATION TECHNOLOGIES" - 1

КЫРГЫЗСКИЙ ГОСУДАРСТВЕННЫЙ УНИВЕРСИТЕТ СТРОИТЕЛЬСТВА, ТРАНСПОРТА И АРХИТЕКТУРЫ им. Н.ИСАНОВА

УЧЕБНЫЙ ПЛАН

Направление: 620100 - ГЕОДЕЗИЯ И ДИСТАНЦИОННОЕ ЗОНДИРОВАНИЕ

Образовательная программа РhD: ГЕОДЕЗИЯ И ГЕОИНФОРМАЦИОННЫЕ ТЕХНОЛОГИИ

Квалификация: ДОКТОР ПО ПРОФИЛЮ (PhD)

Нормативный срок: 3 года Форма обучения: ОЧНАЯ "УТВЕРЖДАЮ" РЕКТОР КРУСТА им. Н. ИСАНОВА

д.т.н., проф. А.А. АБДЫКАЛЫКОВ

Наотокол № <u>6</u> Ученого совета КГУСТА

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KSUCTA PHD CURRICULUM "GEODESY AND GEOINFORMATION TECHNOLOGIES" - 2

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D.1.3.3	ВВЕДЕНИЕ В ГЕОПРОСТРАНСТВЕННОЕ ПРОГРАММИРОВАНИЕ / ПРИКЛАДНАЯ МАТЕМАТИКА И СТАТИСТИКА	Š	150	45	15	30		105	1	15	30									ГыГ	8 уровень НР
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KSUCTA PHD CURRICULUM "GEODESY AND GEOINFORMATION TECHNOLOGIES" - 3

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OTHER GeoTAK PROJECT ACTIVITIES



WP1. PREPARATION: IDENTIFICATION OF SOCIAL NEEDS

1.1 Survey for identification of research & development needs: An analysis for identification of research and development needs and opportunities at local and regional levels will be done. Generation of report on month 6.

1.2 Two workshops on Research & Innovation: to disseminate the results of the survey and analysis of local and national research and development needs in the field of GIT. Months 5 and 6, one per partner country.





GEOTAK WP2. DEVELOPMENT OF RESEARCH NETWORKS

- 2.1 Creation of National Research Nodes (NRN-GIT): One per partner country. NRN are non-physical research centres to promote the collaboration between partner universities in research and development in GIT. Delivered in month 6.
- 2.2 Creation of advisory boards for NRN-GIT: The boards will be composed of representatives with management tasks from government bodies, agencies, GIT industry and higher education partner institutions. Created on month 8.





GEOTAK WP3. DEVELOPMENT OF RESEARCH CAPACITIES

- 3.1 Analysis of needs and equipment acquisition: Finished in month 10.
- 3.2 Create/update research and innovation labs in GIT: Preparing rooms, installation of equipment, training and opening ceremonies. Finished by month 13.
- 3.3 Delivering GIT training courses: The following specialised technical training courses in GIT will be delivered (1 week per course):
- 3.3.1 LAND: Land management, Land use / Land cover mapping, marginal lands, etc. (ANAU, Yerevan, April, 2021)
- 3.3.2 Natural resources: Sustainable use and exploitation of agricultural and forest resources (OshTU, Osh, Dec., 2021)





GEOTAK WP4. QUALITY CONTROL AND RISK ASSESSMENT

- 4.1 Quality plan creation and development: The quality plan will be created at the beginning of the project. During the project, all partners will participate in quality control activities and surveys. Finished by month 36.
- 4.2 Monitoring visits to PC: coordinator will visit partner countries when necessary to monitor the development of project activities (3 visits distributed along the project).



GEOTAK WP5. PROJECT MANAGEMENT



5.1 Project kick-off meeting is held in **Feb 10-12**, **2021 (online-onsite)**: review of the project, technical, financial and management meetings





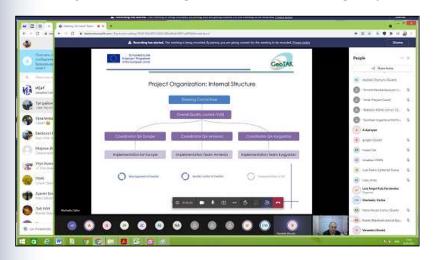
- Official opening session (KSUCTA-Bishkek, Erevan, Osh, EU)
- Presentation of the GeoTAK Project
- Presentations of partners and postgraduate programs
- Technical aspects, quality plan, quality assurance
- Financial rules and justification
- Project image and dissemination





GEOTAK WP5. PROJECT MANAGEMENT

5.2 Daily project management along the duration of the project. Monthly project management meetings (PMM-2: March 26, 2021)





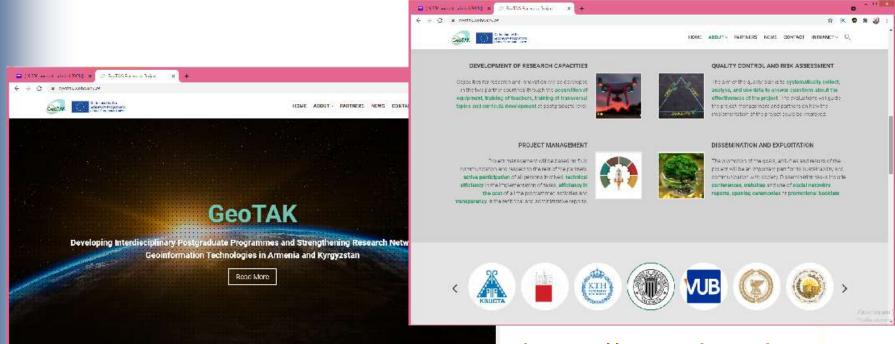
- 5.3 Project management committee meetings: 5 meetings of the project management committee to present the reports of the work done and plan activities of the next period. Distributed along the project.
- 5.4 One-on-one meetings by videoconference: One-on-one videoconference meetings will be organised among partners as a complement to the annual meetings. Distributed along the project duration.







6.1 Project website and social networks: Three project websites will be created: one by KSUCTA for Kyrgyzstan, a second one for Armenia by NUACA, and a third one for management of documentation by UPV, all using own staff costs. Finished by month 5.



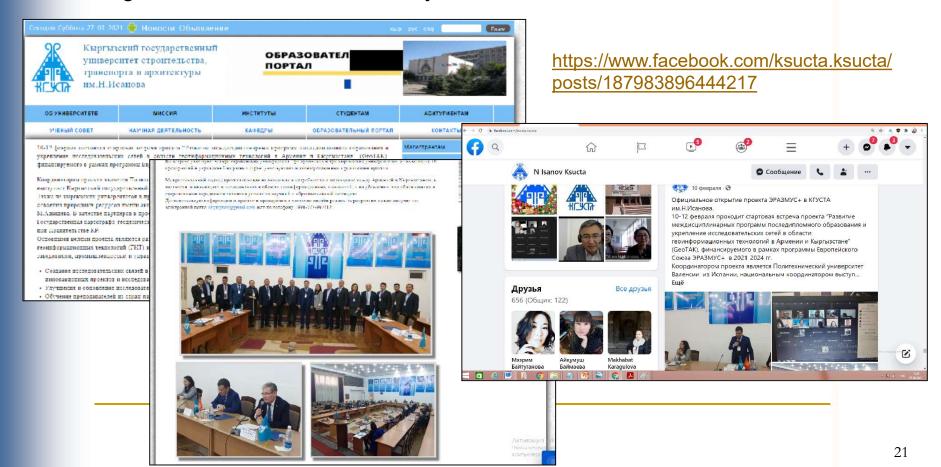
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GEOTAK WP6. DISSEMINATION AND EXPLOITATION - 2

6.1 Project website and social networks: Three project websites will be created: one by KSUCTA for Kyrgyzstan, a second one for Armenia by NUACA, and a third one for management of documentation by UPV, all using own staff costs. Finished by month 5.







GEOTAK WP6. DISSEMINATION AND EXPLOITATION - 3

6.1 Project website and social networks: GeoTAK Kick-Off meeting and project information are published in the KSUCTA Newspaper USTA-Media





GEOTAK WP6. DISSEMINATION AND EXPLOITATION



- 6.2 Promotion of NRC-GIT: digital and printed material, events, reports, opening ceremonies, etc. Along the whole duration of the project.
- 6.3 Final dissemination conference: it will be held in Yerevan, organised by NUACA and open to students, teachers, companies and society in general. During the last month of the project.
- 6.4 Actions to ensure project sustainability: focused on promoting the maintenance of the achievements and philosophy of the project in a long-term basis, involving the Advisory Board, Higher education institutions, students and society. Signature of interuniversity agreements. From the beginning to the end of the project.







Thank you for your attention!

