

# United Nations/Azerbaijan/United States of America/ European Space Agency Workshop on the Applications of GNSS

Baku, May 11-15, 2009

**Kyrgyz State University of Construction,  
Transportation and Architecture (KSUCTA)**



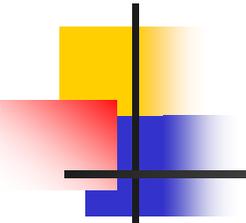
**Development of GPS technology in Kyrgyzstan**



<http://www.ksucta.kg>

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**GPS technology in Kyrgyzstan;**

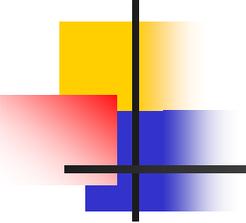
**Brief information about KSUCTA;**

**“Geodesy and Geoinformatics” department's activity;**

**GPS technology in education process;**

**Perspective cooperation;**

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## **GPS Technology in Kyrgyzstan**

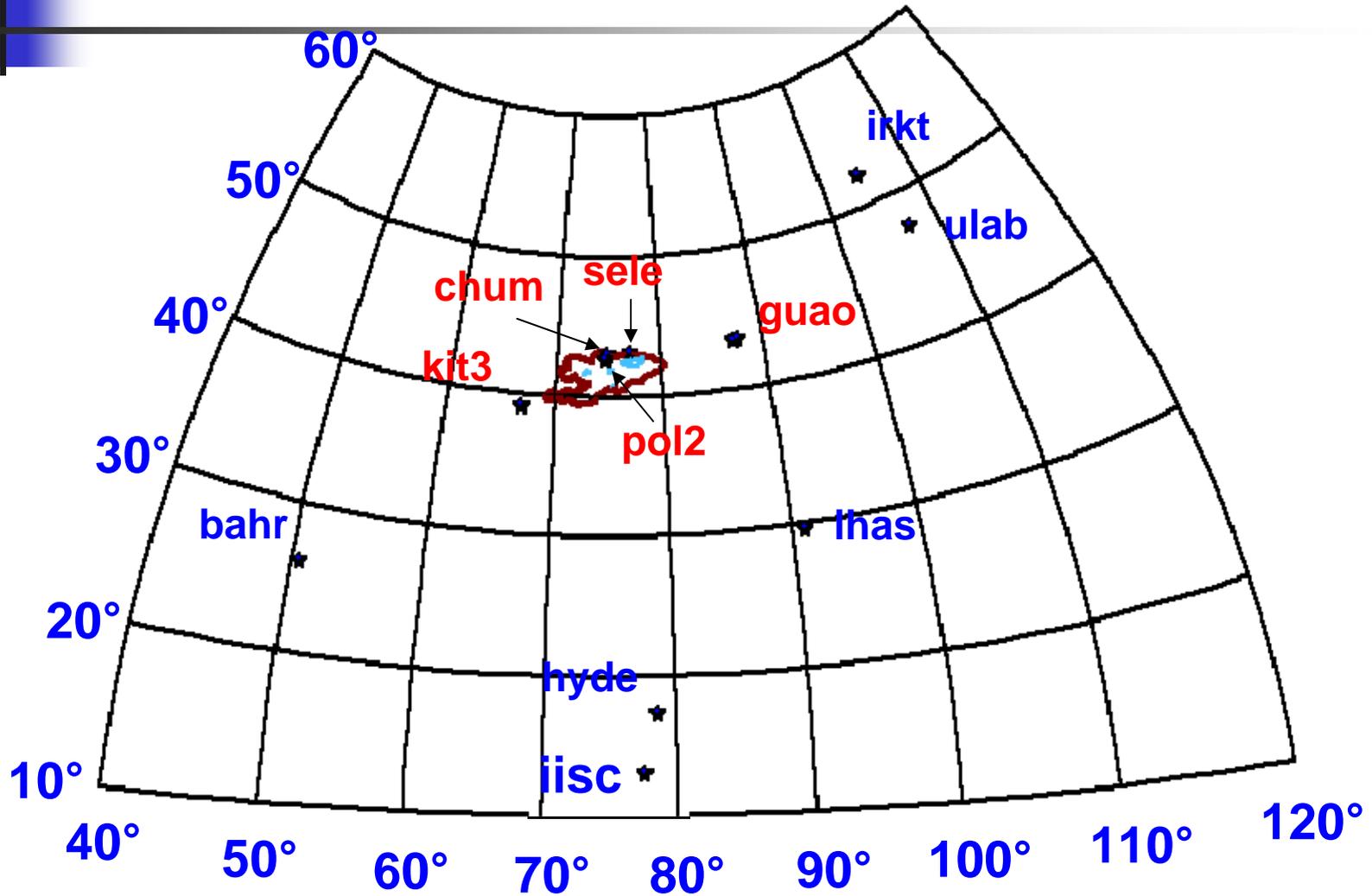
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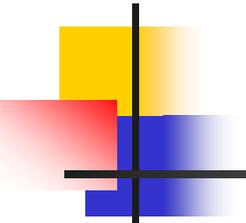
**Kyrgyzstan is on the preparation process for the application of GNSS**

**The use of GPS Technology in Kyrgyzstan has been started from 2005 within framework of different international projects.**

**Gosregistry and Cartographia had already measured a zero and first order GPS-network for the territory of the Kyrgyz Republic within framework of Swedesurvey project.**

# IGS stations

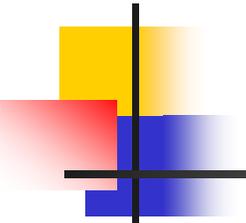




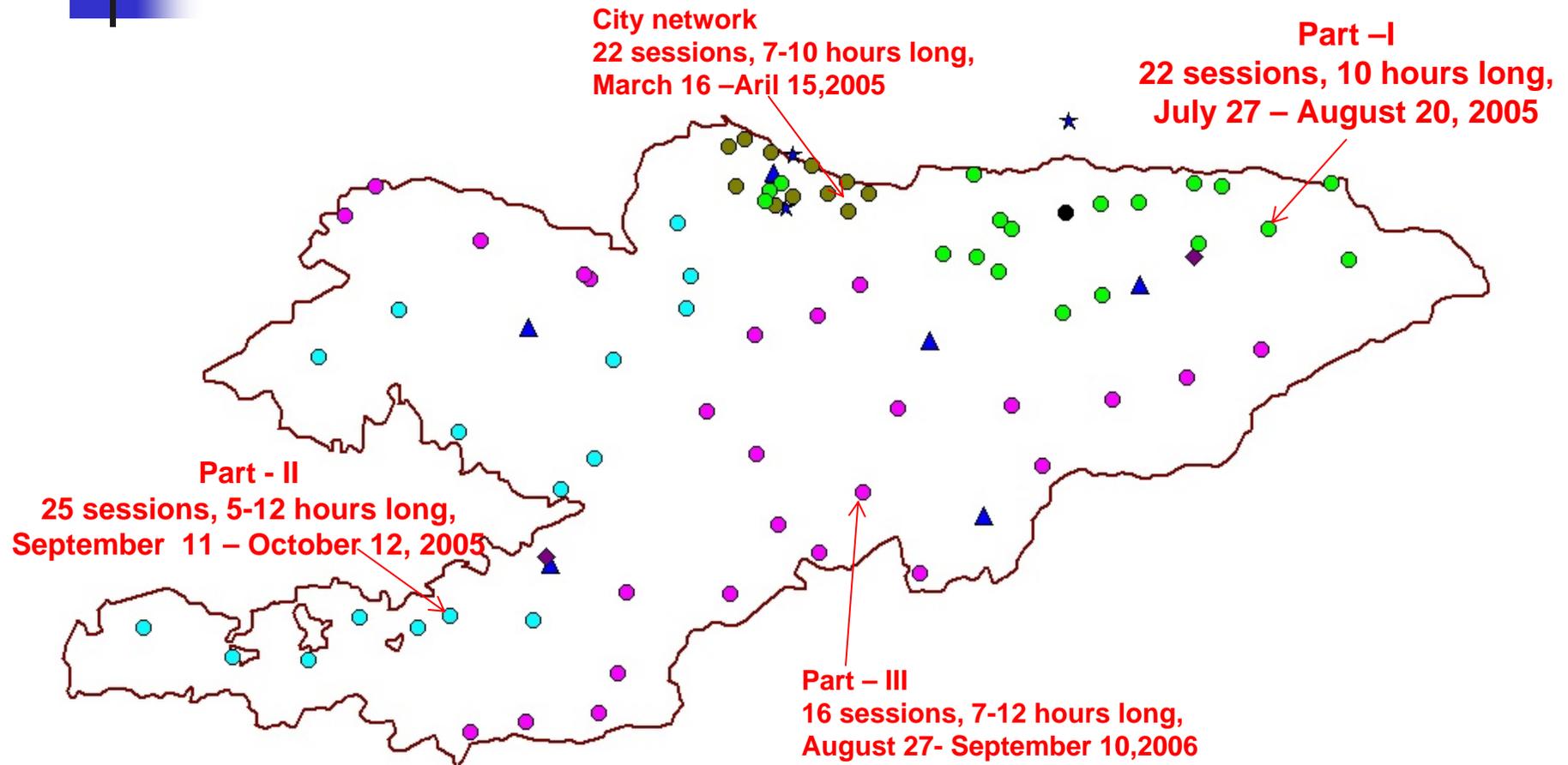
## *Zero order network stations*

24 hour sessions, September 2006

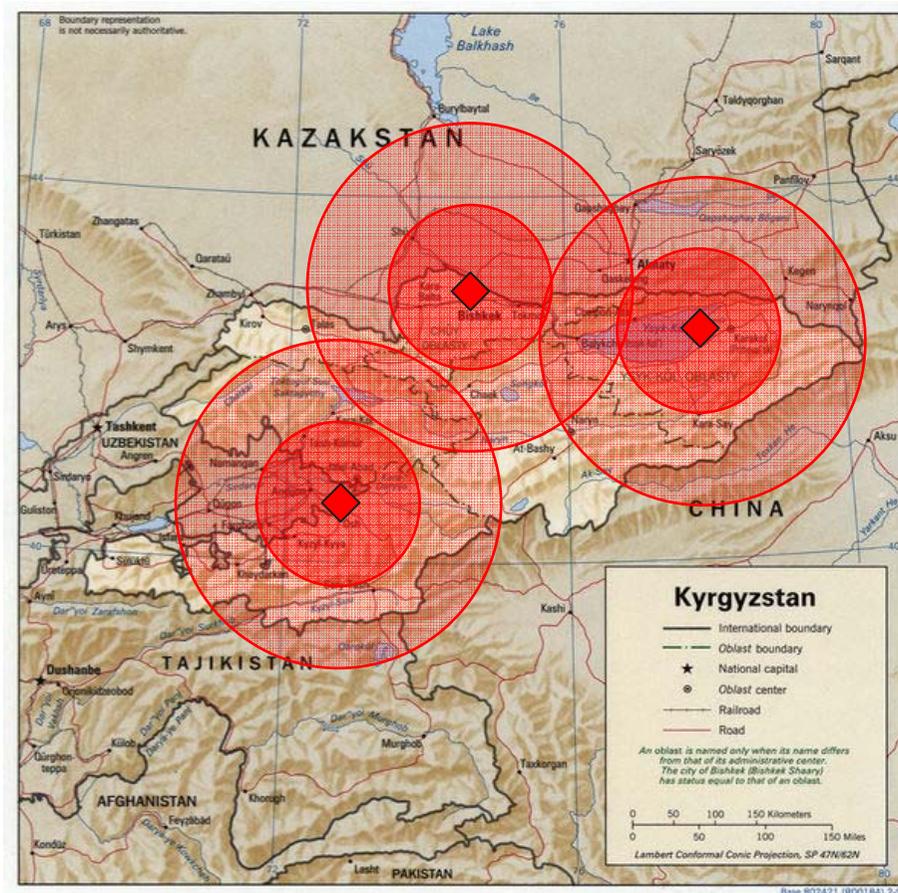




# *First order network stations*

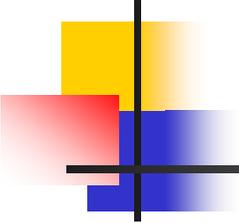


# Permanent stations



## Bishkek, Osh and Kysyl-Suuu

- In radius of 200 km, the accuracy: 0.3 - 0.4 m.
- Permanent stations can be used to make corrections over the territory of Kyrgyzstan.



## Kyrgyz State University of Construction, Transportation and Architecture

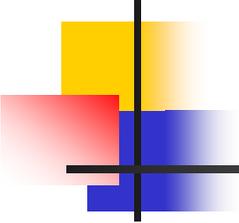


The Kyrgyz State University of Construction, Transport and Architecture (KSUCTA) has been training specialists in a wide range of fields for more than 55 years. The university is one of the largest in Kyrgyzstan with over 14,000 students.

KSUCTA offers a broad range of academic programs:

- Bachelor Degrees
- Diploma of Higher Education
- Masters Degrees (MEng., MSc, MBA)
- Candidate of Technical Sciences Degrees (Ph. D.)
- Doctoral Degrees (DTechSc., DArch.)





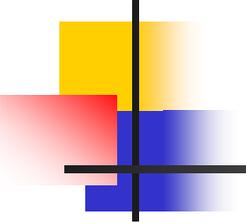
## Kyrgyz State University of Construction, Transportation and Architecture



Presently KSUCTA includes 6 institutes and 4 colleges:



- Institute of Architecture and Design;
  - Institute of Construction, Economics and Management;
  - Institute of New Information Technologies;
  - Institute of Ecology and Energy Saving;
  - Institute of Transport and Communication;
  - Institute of Innovative Professions.
- 
- Kyrgyz State Fine Arts College named after S. A. Chuykov;
  - Bishkek College of Architecture and Construction;
  - Balykchy Industrial College;
  - Computing Systems and Technology College.



## Department “Geodesy and Geoinformatics”



Department “Geodesy and Geoinformatics” is established in 2005 on the basis of KSUCTA .

### Pedagogical staff:

Geodesy and Geoinformatics Teachers;

Honorable Professors of KSUCTA (New Zealand, Austria, Sweden);

Candidate of Sciences (PhD.), Master of Science;

Senior Lecturers, Lectures and Administrators of Laboratories.

Students: Applied Geodesy and Applied Geoinformatics.

The first students graduation of these specializations are expecting in next year.

## Department's International Projects



TEMPUS-TACIS JEP-25129-2004

«Education on Geodesy and Geo-informatics»

*Project realisation 2005-2007*



Curriculums for Bachelor and Master Programs in Geodesy and Geo-informatics have been developed; also teaching staff have undertaken training courses in European universities.

The international conference on Geodesy and Geo-informatics was organised at KSUCTA in October 18-19, 2007 where participated scientist and GIS specialists were from 10 countries.

Modern equipments, hardware and literatures on geodesy, geoinformatics and photogrammetry have been purchased <http://gis.org.kg/projects/tempus/>

## Department's International Projects



### Civilian and Research Development Foundation Project «The Establishment of the Kyrgyz Consortium for GIS Excellence» *Project realisation 2007-2008.*



The Kyrgyz Consortium for GIS Excellence (KCGE) has been established at KSUCTA and equipped with powerful server and computers including license GIS software

<http://gis.org.kg/>

KCGE has organised web conferences, seminars and training courses.

**Have been carried out a training courses on the applications of GIS in medicine from the countries Azerbaijan, Armenia and Ukraine.**

## Department's International Projects



### Austrian-Kyrgyz Project

#### «The Establishment of the Austria-Central Asia Centre for GIScience»

*Project realisation 2008-2010*

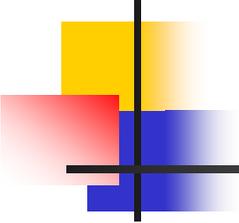


The basis of the project has been to establish the Austrian-Central Asia Centre for GIScience at KSUCTA <http://www.aca-giscience.org/home>

The Second Central Asia GIS Conference - GISCA'08 "GIS for the Future of Central Asia" was carried out at KSUCTA in May 15-17, 2008 jointly with the Centre for Geoinformatics (Z\_GIS), Salzburg University, Austria.

The Centre is undertaking GIS education, training and scientific projects, and carries out distant education for the Master of Science Programs in Geoscience for Central Asian students according to European universities programs.

**Project is financing by the Eurasia-Pacific UNINET**



## Department's Facilities

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**GIS computer classes;**

**Photogrammetric laboratory;**

**Geodesy laboratory;**

**Geodesy and GIS library including E-library;**

**Modern Geodetic equipments:**

**GPS receiver –Leica SR530,**

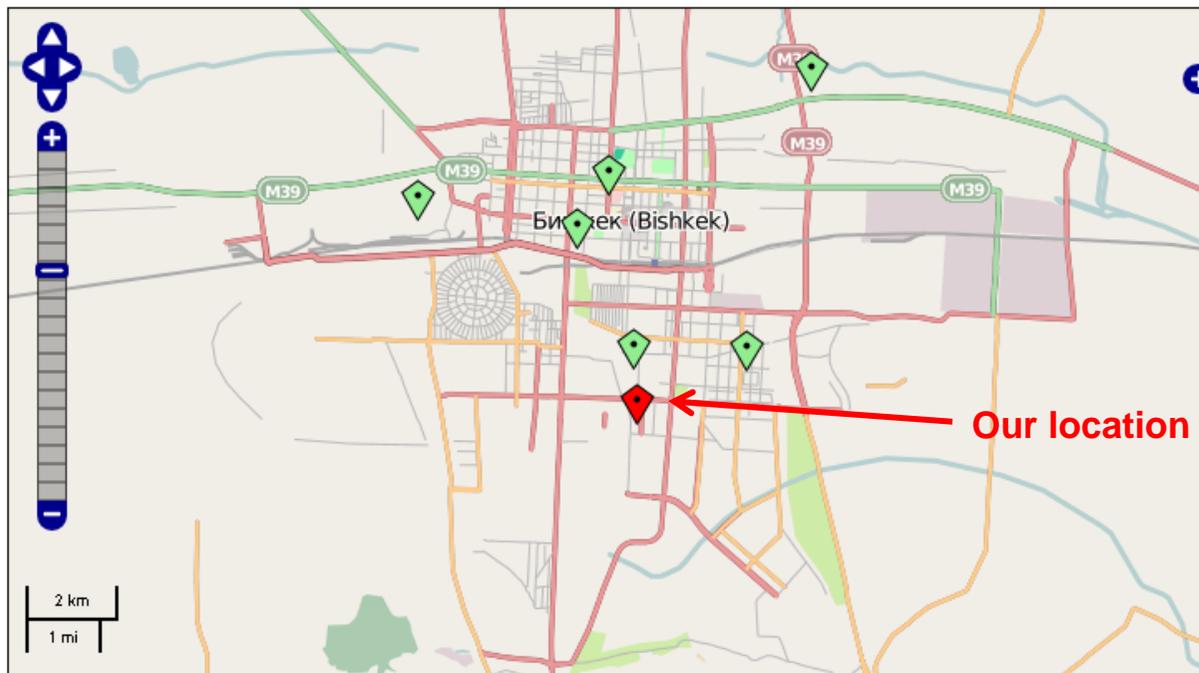
**GPS handle devices – Garmin.**

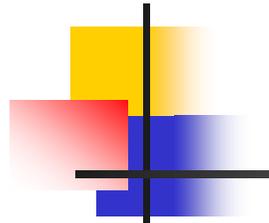
# GPS Technology in Education Process



With our students are working to update of spatial data for Bishkek city in the open source web page [www.openstreetmap.net](http://www.openstreetmap.net)

Nearby users:



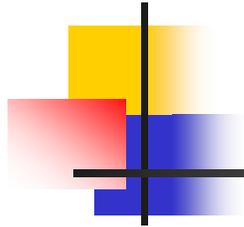


# GPS Technology in Education Process



One of the results of GPS track and measured points.

The screenshot displays the OpenStreetMap web interface. At the top, there are navigation tabs: View, Edit, History, Export, GPS Traces, and User Diaries. A user greeting reads "Welcome, A Smith | home | inbox (0) | logout". The main map area shows a satellite view of a residential area with a red line representing a GPS track and several green dots representing measured points. The left sidebar contains the OpenStreetMap logo, a search bar with the text "Where am I?", and a "Make a Donation" button. The bottom of the map area includes copyright information: "© 2006 Yahoo! Inc." and "Imagery © 2006 Yahoo! Inc. Editing map".



## Welcome to Conference

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### Third Central Asia GIS Conference GISCA'09

“GIScience for Environmental and Emergency Management in Central Asia”

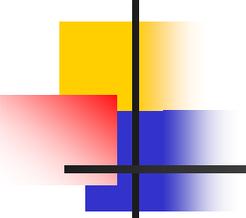
August 27-28, 2009, KSUCTA, BISHKEK, KYRGYZSTAN

The main objectives of this conference are to bring together GIS academics, researchers and practitioners in the Central Asian countries and encourage international cooperation and knowledge exchange in GIS education.

Organizing committee: KSUCTA and Salzburg University, Austria

Supported by: Eurasia-Pacific Uninet

Conference web page: [www.aca-giscience.org/gisca09](http://www.aca-giscience.org/gisca09)



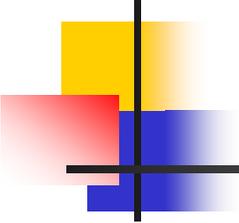
## Department's proposed projects cooperation



We are looking for partners  
and funding in:

- setting up of permanent station at KSUCTA;
- creation of GPS network;
- Support Geodetic equipments and software;
- Scientific research works in City 3D-modeing.

Above mentioned is needed not only to prepare a high qualified specialists for our country but also increases international cooperation.

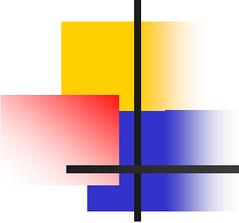


# Kyrgyz State University of Construction, Transportation and Architecture



## Perspective research and education projects:

- Earthquake Engineering and Seismic-Resistant Construction;
- New building materials, articles and structures;
- Architecture and design;
- Information technology;
- Geographic-information systems and technologies (GIS);
- Geodesy and GPS technology;
- Distance education and e-learning methodologies
- Transportation and safety traffic;
- Energy saving and application of non-conventional energy sources;
- Ecology and rational use of natural resources;
- Economics and international relations;
- Social and the humanity sciences, etc.



**Kyrgyz State University of Construction,  
Transportation and Architecture**

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**Thank you !**