



***ISTU international educational programs and academic mobility in the Bologna Process***

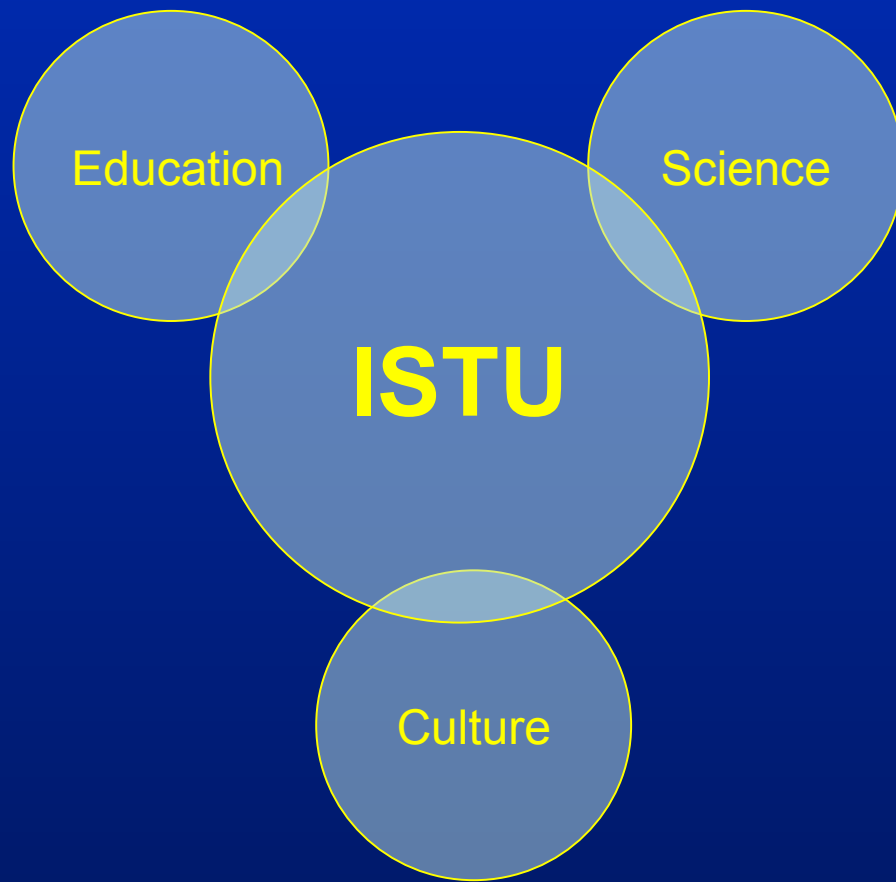
ИРКУТСКИЙ ГОСУДАРСТВЕННЫЙ ТЕХНИЧЕСКИЙ УНИВЕРСИТЕТ

ИРКУТСКИЙ ГОСУДАРСТВЕННЫЙ ТЕХНИЧЕСКИЙ УНИВЕРСИТЕТ

**Prof. D.Sc. REPETSKIY Oleg Vladimirovich**  
Vice-Rector for International Relations

June 05, 2008

**Areas of ISTU international activity are as follows:**



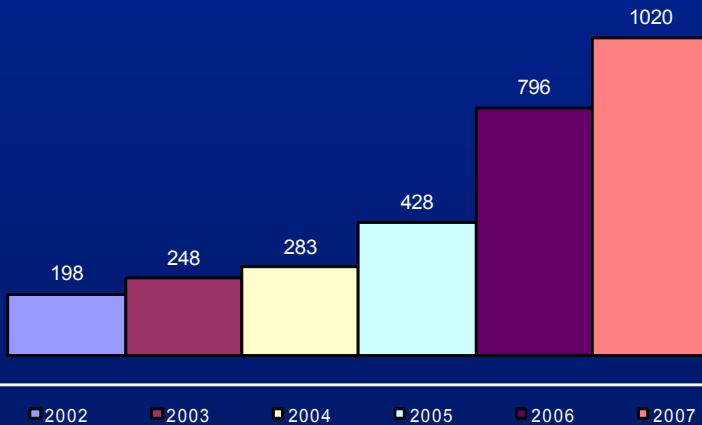
**ISTU enjoys membership in the following international organizations:**

- International Association of Universities (IAU);
- International Association of University Presidents (IAUP);
- European Association for Architectural Education;
- Internationale Gesellschaft für Ingenieurpädagogik (IGIP).
- ...
- ...
- ...

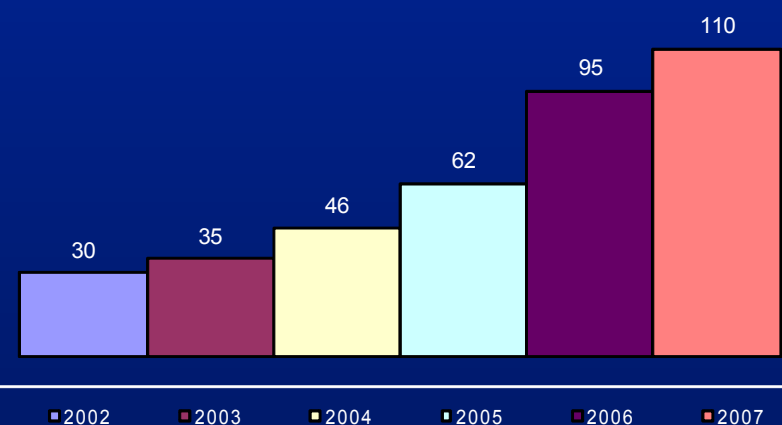
## Principle trends of ISTU international activity include:

- *Educational services for foreign citizens;*
- *Academic mobility, participation in international grant programs;*
- *Intercollegiate collaboration within the framework of cooperative agreements;*
- *Study of foreign languages and cultures.*

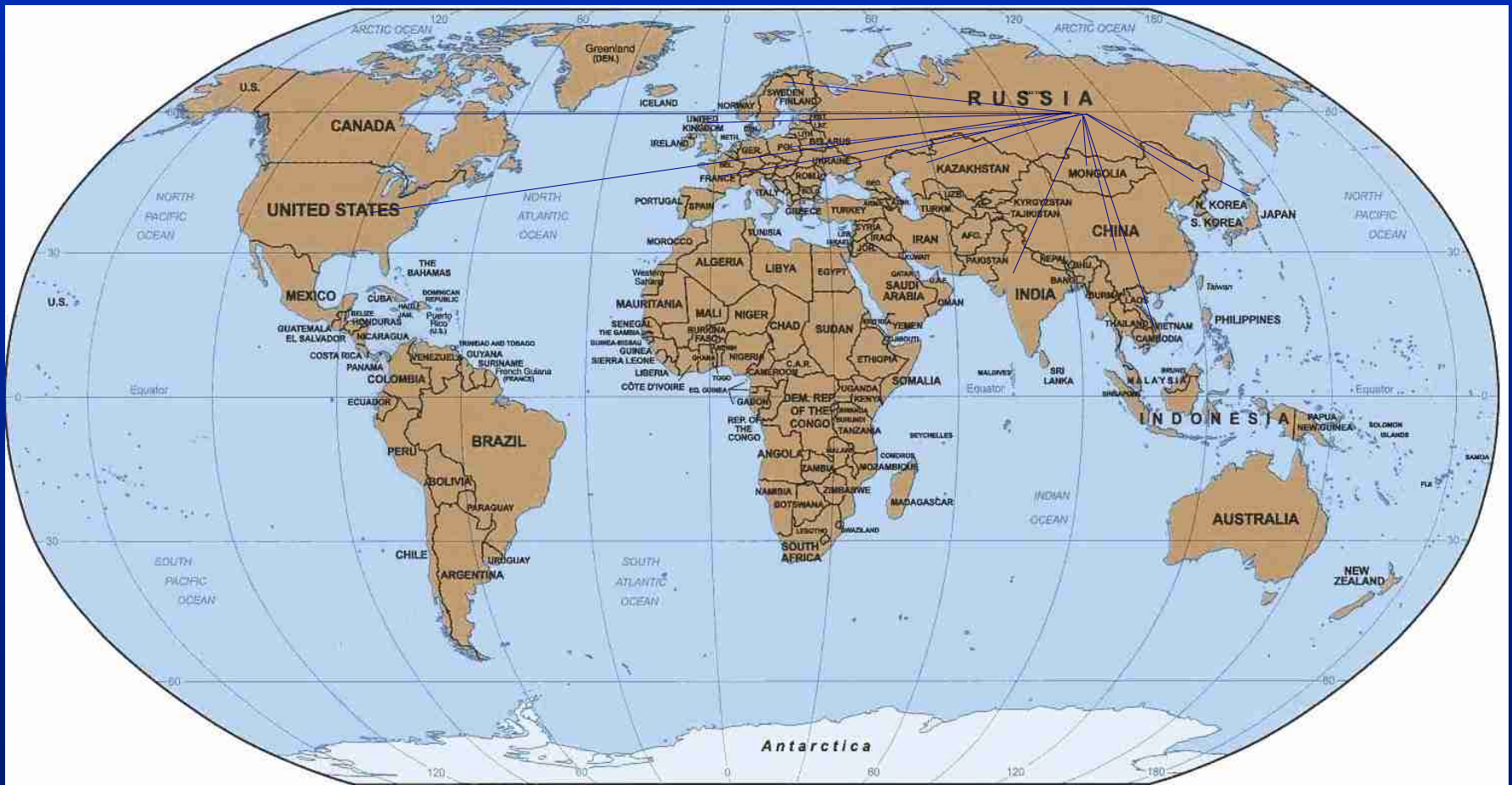
Number of foreign students



Number of cooperative agreements

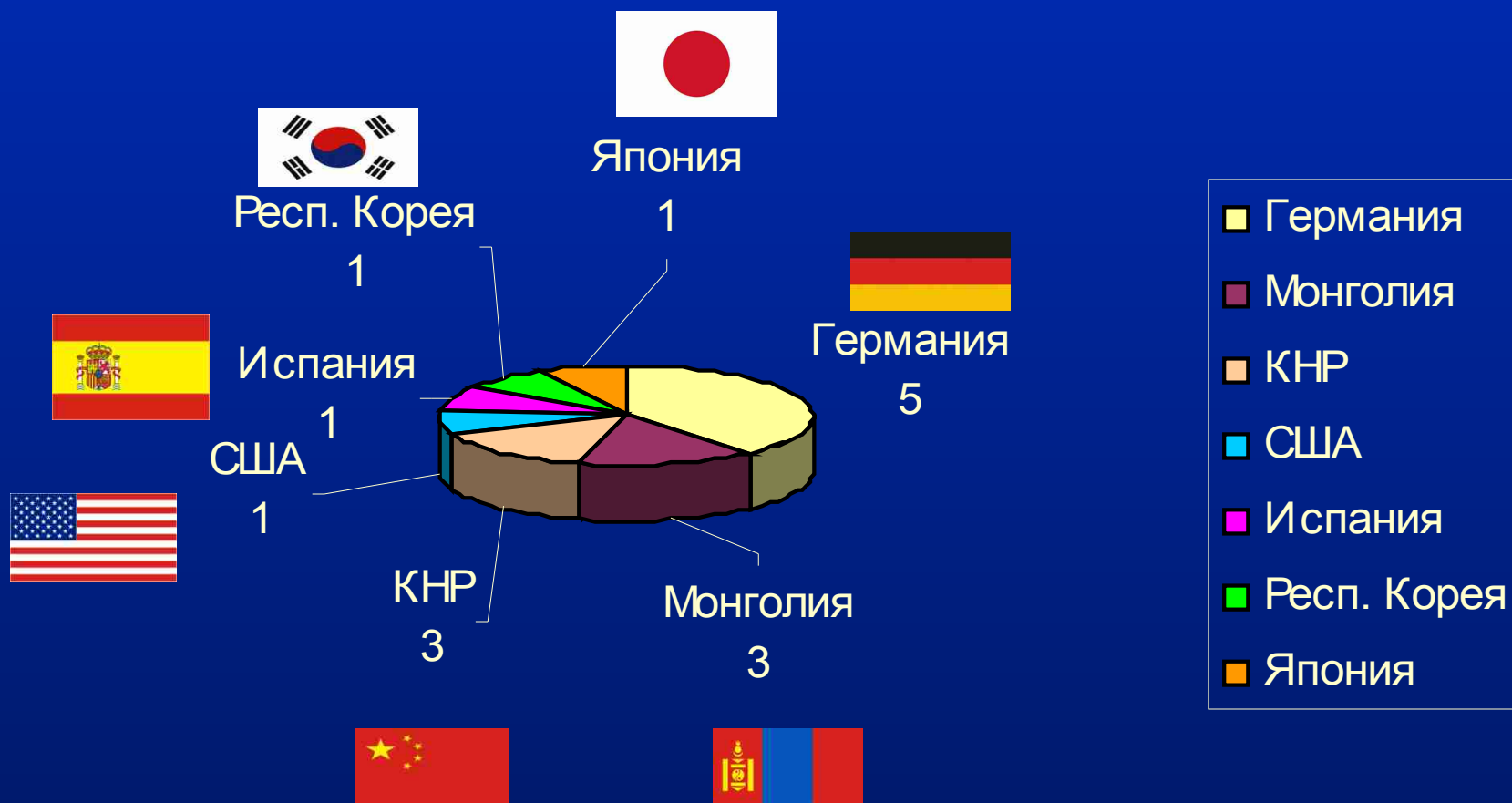


## INTERCOLLEGIATE COOPERATION of ISTU (2008)



115 cooperative agreements with educational institutions and other organizations from 17 countries

## PARTNER COUNTRIES IN 2007



## Differences between the «old» and «new» models of higher education

### «Humboldt»

- ◆ Many specialties;
- ◆ One level of education(5-6 years);
- ◆ Fixed study program «top-down»;
- ◆ Straight education path;
- ◆ «Аудиторный» контроль;
- ◆ «Почасовая» экономика;
- ◆ Аспирантура и докторантура

### «Bologna»

- Relatively few fields of study;
- Two levels of general educational program;
- Flexible study program;
- Студент сам формирует образовательную траекторию;
- Рейтинговый контроль знаний;
- Экономика по «студентам» и «кредитам»;
- «Доктор философии»

## **Background of the Bologna Process in Europe**

### **Reasons of global character:**

- Drastic changes in the economy of all developed countries.
- Competition in the scientific sphere.
- Educational system disregarding the requirements of employers and labor market.

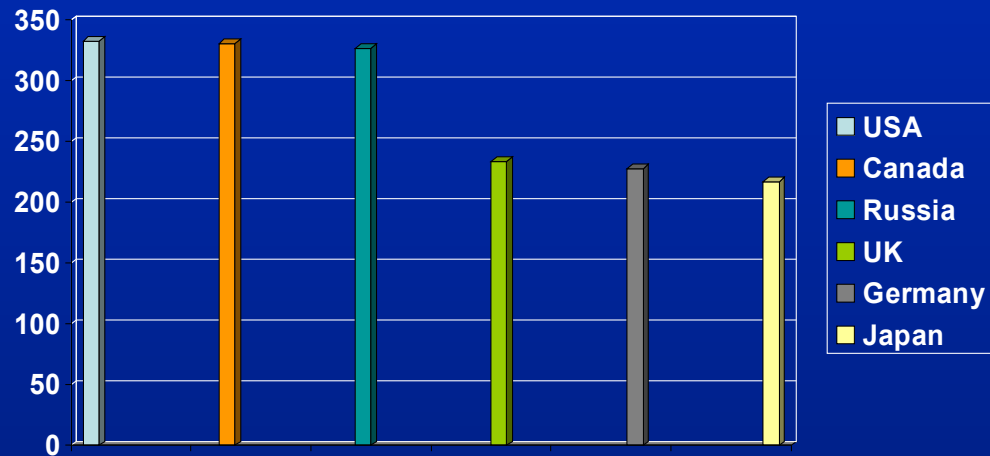
### **Internal European reasons**

(in comparison with the USA):

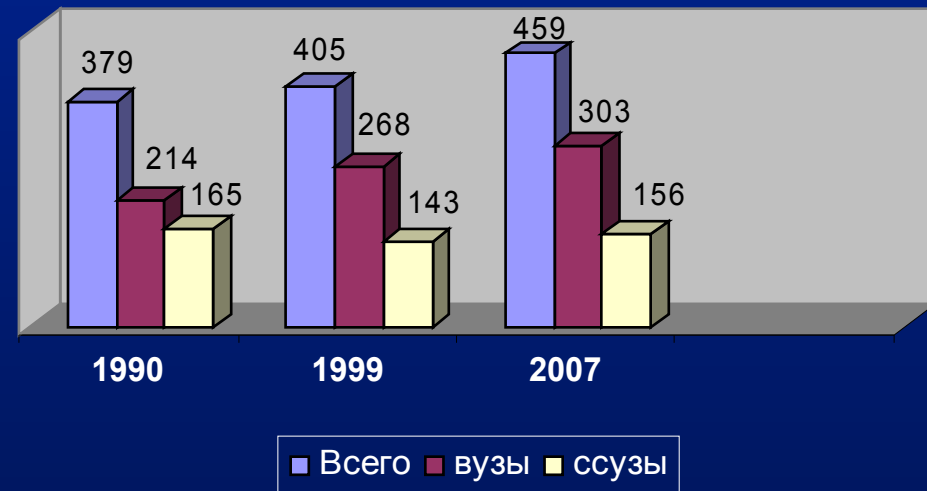
- Number of specialists with higher education (in the USA - 36%, in Europe - 20%).
- Number of foreign students (in the USA - about 600 thousand).
- Tendency to unify EC separate potentials into the common mechanism.

# Number of students per 10 thousand of inhabitants

## Worldwide



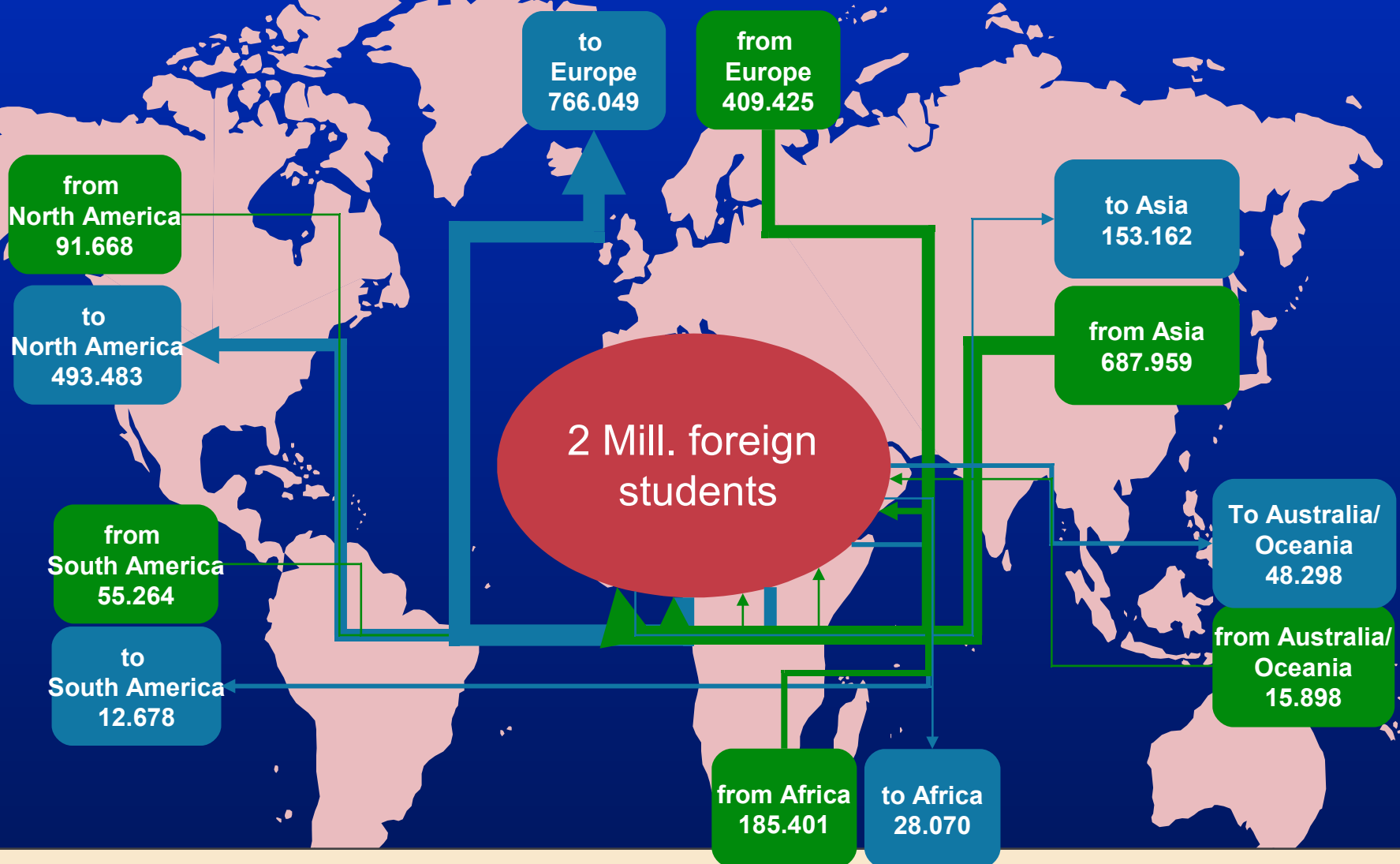
## In Irkutsk



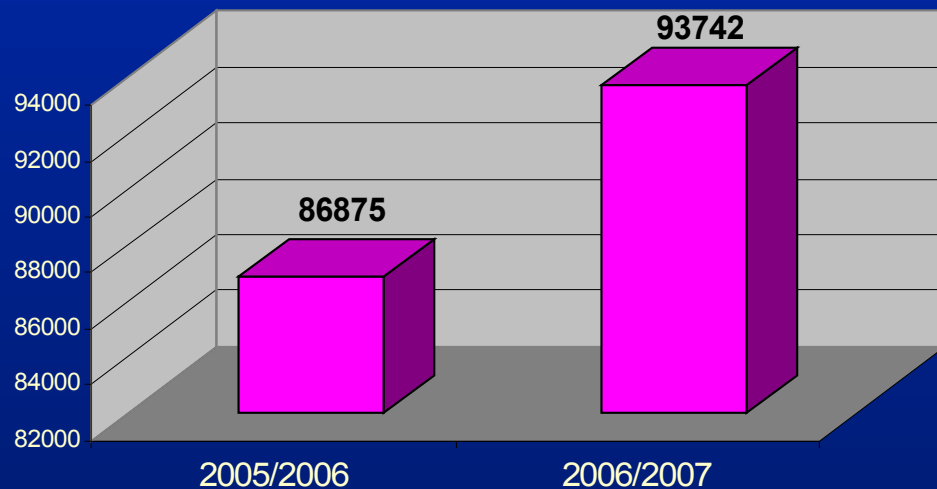
## Key issues of the Bologna declaration (1999)

- Implementation of two-level system of education (Bachelor, Master).
- Implementation of European Credit Transfer System (ECTS) as an all-European mechanism for account of mastered education.
- Creation of conditions for considerable rise of student and faculty mobility.
- Implementation of all-European Supplement to the Diploma on higher education
- Improvement of education quality and ascertainment of compatible (all-European) criteria for its assessment.

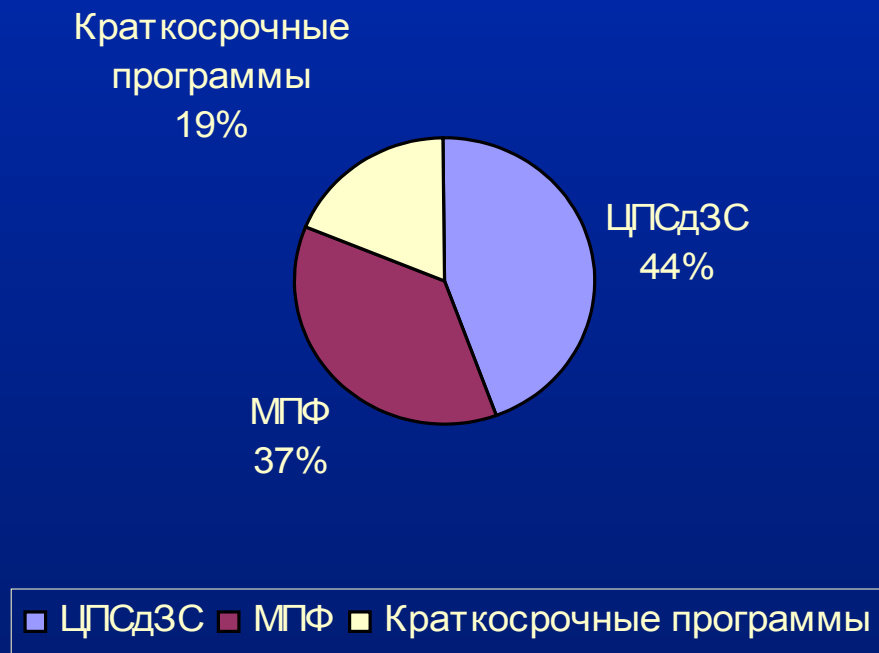
# INTERNATIONAL ACADEMIC MOBILITY OF STUDENTS (2006)



## Number of foreign students in the Russian Federation

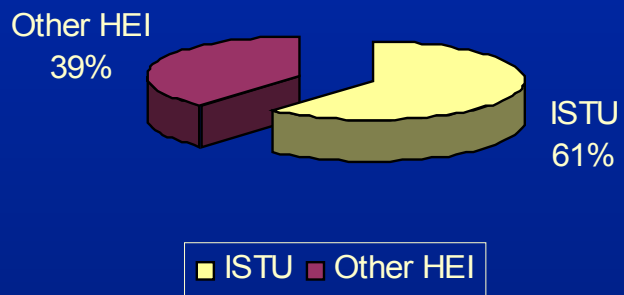


## Modes of foreign citizens training (1020 persons.) at ISTU in 2007

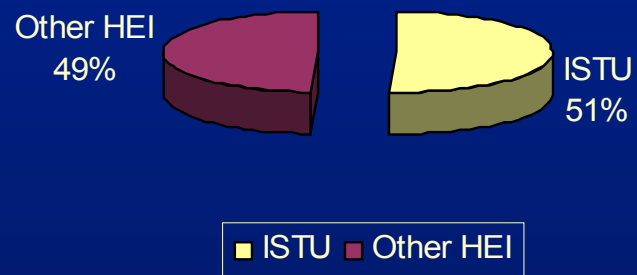


# Recruitment of foreign citizens at higher educational institutions in Irkutsk (data of November 01, 2007)

## Preparatory Course

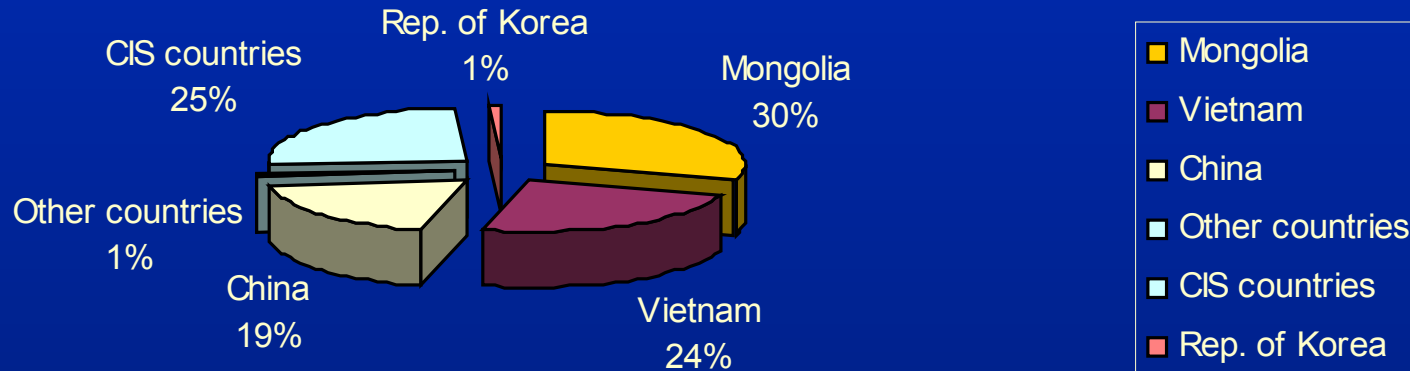


## Degree Courses

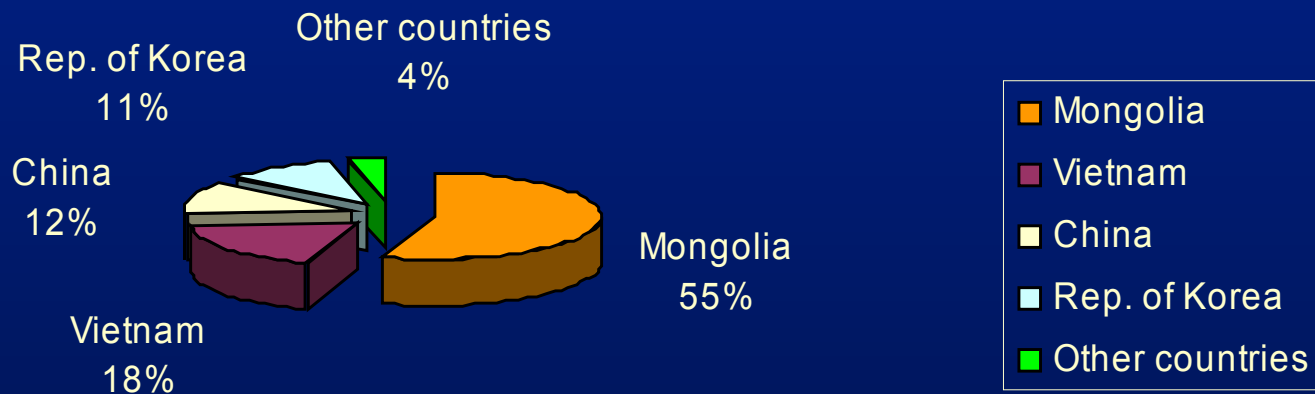


# ISTU foreign student body in 2007 according to the country of origin

## Degree Courses (Center for Training Specialists for foreign countries)



## Preparatory Course (International (Preparatory) Faculty)



## ISTU graduates 2007

Degree	Russian students	Foreign students
Specialist	99,2 %	62 %
Bachelor	0,7 %	36 %
Master	0,1 %	2 %

**Mongolia:** Specialist– 60%,  
Bachelor/Master– 40%

**China:** Specialist– 17,6%,  
Bachelor/Master – 82,4%

## Points on the Bologna Decision Realization

Средние значения по интегральному показателю:

<b>RF</b> 3.11	<b>Germany</b> 4.44	<b>Europe</b> 3.78
<b>Italy</b> 3.39	<b>France</b> 3.78	<b>UK</b> 4.47

## International educational programs of ISTU

1. Joint educational programs Bachelor/Master with European and Asian universities;
3. International Baikal University of Urban Planning;
5. Geological, geophysical and other practical training at ISTU practical bases;
7. Summer / winter language (subject) schools and short-term study visit of students;
9. Professional enhancement of foreign specialists in language and subject training.

## Joint educational programs classification:

- ☐ Double diploma programs
- ☐ Joint scientific degree programs
- ☐ Программы «включенного» обучения
- ☐ Franchise contracts
- ☐ Summer / winter schools programs
- ☐ Practical training programs
- ☐ Программы кадрового сопровождения и повышения квалификации
- ☐ Комбинированные программы

## I . Joint educational programs

**China University of Geosciences**  
**Beijing, Wuhan, China**

Bachelor (2+3 years)

**Langdong Institute of Jilin Province**  
**Changchun, China**

Bachelor (2+3 years; 1+4 years)

**Mongolian University of Science and Technology**  
**Ulan-Bator, Mongolia**

Bachelor (2+3 years; 1+3 years)

**Leibniz University**  
**Hannover, Germany**

«Mechatronics»

Master (1+1 year)

**Technical University**  
**Dresden, Germany**

«Waste management» Master (1+1 year)

**University of Applied Sciences**  
**Konstanz, Germany**

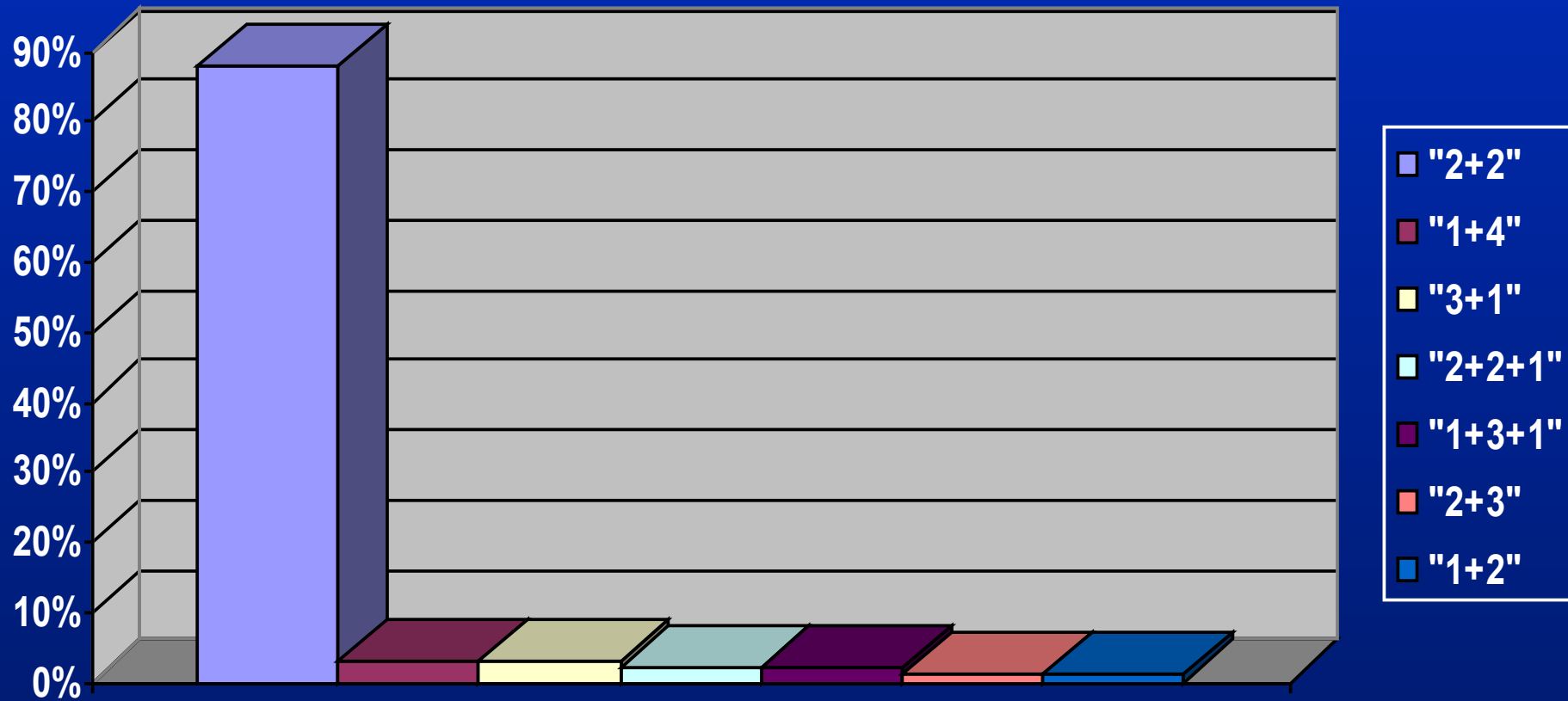
«Mechatronics», «Architecture»  
Master (1+1 year)



In 2007 4 ISTU graduates left for Hannover to complete Master degree course within the framework of Tempus project.



## KINDS OF RUSSIAN-CHINESE JOINT EDUCATIONAL PROGRAMS



## Establishment of Russian-Chinese Institute of Education and cultural exchanges (April, 24, 2008)

Compared to the number of foreign students enrolled to ISTU Chinese citizens rank the third. To increase the quantity of students as well as to advance the cooperation with China the University has made a decision to establish Russian-Chinese Institute. The Director of the Institute from Chinese party became Mr. Qi, Rector of the Langdong Institute of Jilin Province.



High expectations are set on the new Institute, and namely: rise in quantity of Chinese students, professional enhancement of faculty, advance in studying Russian and Chinese languages, cultural exchange.

# Cooperation with Leibniz University Hannover on joint education programs in “Mechatronics”

## Bachelor degree program

Leibniz Universität Hannover  
Irkutsker Staatlichen Technischen Universität

BESTÄTIGTE  
Dekan der Fakultät für Maschinenbau

BESTÄTIGTE  
Prorektor der TU Irkutsk

Prof. \_\_\_\_\_ L. Overmeyer

Prof. \_\_\_\_\_ O. V. Repetskiy

« \_\_\_\_\_ » 2007

« \_\_\_\_\_ » 2007

### ÄQUIVALENT-LEHRPLAN

Bachelorstudium für den Studiengang “Mechatronik”

	Kurs an der Uni Hannover	CP	Kurs an der TU Irkutsk	Arbeits- umfang StACP
1.	Mechatronische Systeme – 4 Sem.	4	Grundlagen der Mechatronik – 136 St., 4 Sem. Informationssysteme in der Mechatronik (Teil I) – 40 St., 7 Sem. Antriebe mechatronischer Systeme (Teil I) – 30 St., 5 Sem.	206/ 6,8
2.	Elektrische Antriebstechnik II – 4 Sem.	4	Elektrotechnik und Elektronik (Teil III) – 108 St., 6 Sem. Antriebe mechatronischer Systeme (Teil II) – 38 St., 5 Sem.	176/ 4,8
3.	Halbleiterelektronik – 4 Sem.	3	Physik (Teil III) – 100 St., 2 Sem. Mikroprozessortechnik (Teil I) – 51 St., 6 Sem.	151/ 5
4.	Technische Schwingungslehre – 4 Sem.	5	Theoretische Mechanik (Teil II) – 3 Sem.	110/ 3,6
5.	Regelungstechnik I – 5 Sem.	4	Theorie der automatischen Steuerung (Teil I) – 102 St., 5 Sem.	102/ 3,5
6.	Automatisierung: Steuerungstechnik – 5 Sem.	4	Computersteuerung mechatronischer Systeme – 7-8 Sem.	204/ 6,8
7.	Planung und Entwicklung mechatronischer Systeme – 5 Sem.	4	Entwicklung mechatronischer Systeme – 204 St., 8-9 Sem. Schutz des intellektuellen Eigentums und Patentrecht – 68 St., 9 Sem.	272/ 9
8.	Mikrotechnologie – 5 Sem.	4	Nanotechnologien – 6 Sem.	100/ 3,3

## Master degree program (international accreditation)



Within the framework of this agreement 4 master students from ISTU are enrolled for the one-year program at Leibniz University. After its completion they will be awarded with the diploma “Master of Mechatronics”.

## Tempus-project

«Adaptation of the training programs “Mechatronics” for two-level European educational system in consideration of ecotechnologies»  
(March 2007)

**EC partners: Leibniz University Hannover (Germany) and Vienna Technical University**

*Tempus-project JEP\_25149\_2004*

Reports:

- «Bologna process in Germany. Status-quo. Hannover University experience»;
- «Transition to two-level educational system in technical specialties in Russia»;
- «Development of credit system in higher educational institutions of Eastern-Siberian region and EC»;
- «Ecotechnologies in mechanical engineering specialties.»;
- «Modernization of curriculum in the field of “Mechatronics” in EC and Russia».



## Tempus-Project

### «Development of master degree course in “WASTE MANAGEMENT”» (April, 5-22, 2008)

In April 5-22, 2008 eight lecturers from 3 Siberian universities participated in professional enhancement course within the framework of EC Tempus project JEP\_27150\_2006 “Development of master degree course “Waste management” at technical universities of Baikal region».



A group of Russian faculty visited Vienna University of Natural Resources and Applied Life Sciences in order to acquire knowledge on Austrian system of education, two-level system of training Bachelor/Master in the field of “Waste Management”.

# International training and information seminar «Evaluation of foreign educational documents»

*Tempus-project JEP\_25149\_2004*

**Partners:** University Pierre Mendes, Grenoble (France),  
Netherlands organization for international cooperation in higher education NUFFIC,  
Hague (Holland)

**Participants:**

35 representatives of Siberian and Far-Eastern universities, 8 representatives of Irkutsk universities



The event resulted in the establishment of Regional expertise Center on recognition of foreign educational documents at ISTU

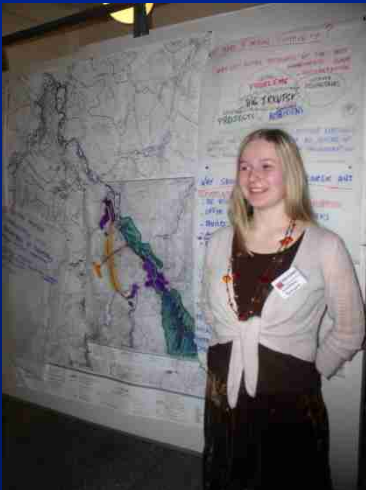
## II. Workshops of international Baikal university of urban planning

About 500 participants from 20 countries took part in 9 workshops of IBUUP



# The 9<sup>th</sup> workshop of international baikal university of urban planning «Strategy of city historical center development by the example of Irkutsk» (February 01 – March 03, 2008)

Young architects from 6 countries represent their projects



International Jury and representatives of Irkutsk Regional Administration assess the projects



### III. Geological and geophysical practical training on Lake Baikal (July - August 2007)

Students and faculty from Institute of Geosciences  
(J.W. Goethe University Frankfurt am Main,  
Germany)



Students of China University of Geosciences  
and Nanjing University at practical base in  
Chernorud settlement.



# International summer ecological practical training on Lake Baikal (June 19 – July 6, 2007)

## Russian-German ecological project “Waste management in the tourist zone of Lake Baikal”

The project is carried out within the framework of the program “Consultation help” of German Federal Environmental Ministry (BMU) and German Federal Ecological Agency (UBA).



# Practical training of students of Mongolian State University of science and technology (September, 3 – 12, 2007)



It was the first practical training in the specialty “Petroleum storage depots exploitation”

Participants were the students of the Institute of Geology and Oil of Mongolian State University of Science and Technology

# Practical training of students

## Liaoning University of Engineering and Technology, China

(September 8 – 22, 2007)



**Participants** were students-surveyors of the Faculty of Geodesy and Information Technologies from ISTU and China

#### IV. Winter Russian-Korean School at ISTU (January 2007)

Participants were 28 Korean and 12 students of Irkutsk State Technical University studying Korean language



In 2007 ISTU admitted more than 20 Korean students for one-year program of study.

## Summer school “EXPLORING SIBERIA 2007” (July 30 – August 12, 2007)



**Participants were** students from faculties of history, Slavonic studies, political sciences, geography of German, Danish, Greek, Czech, South Korean, Polish, Mongolian, Swiss and Finnish universities.

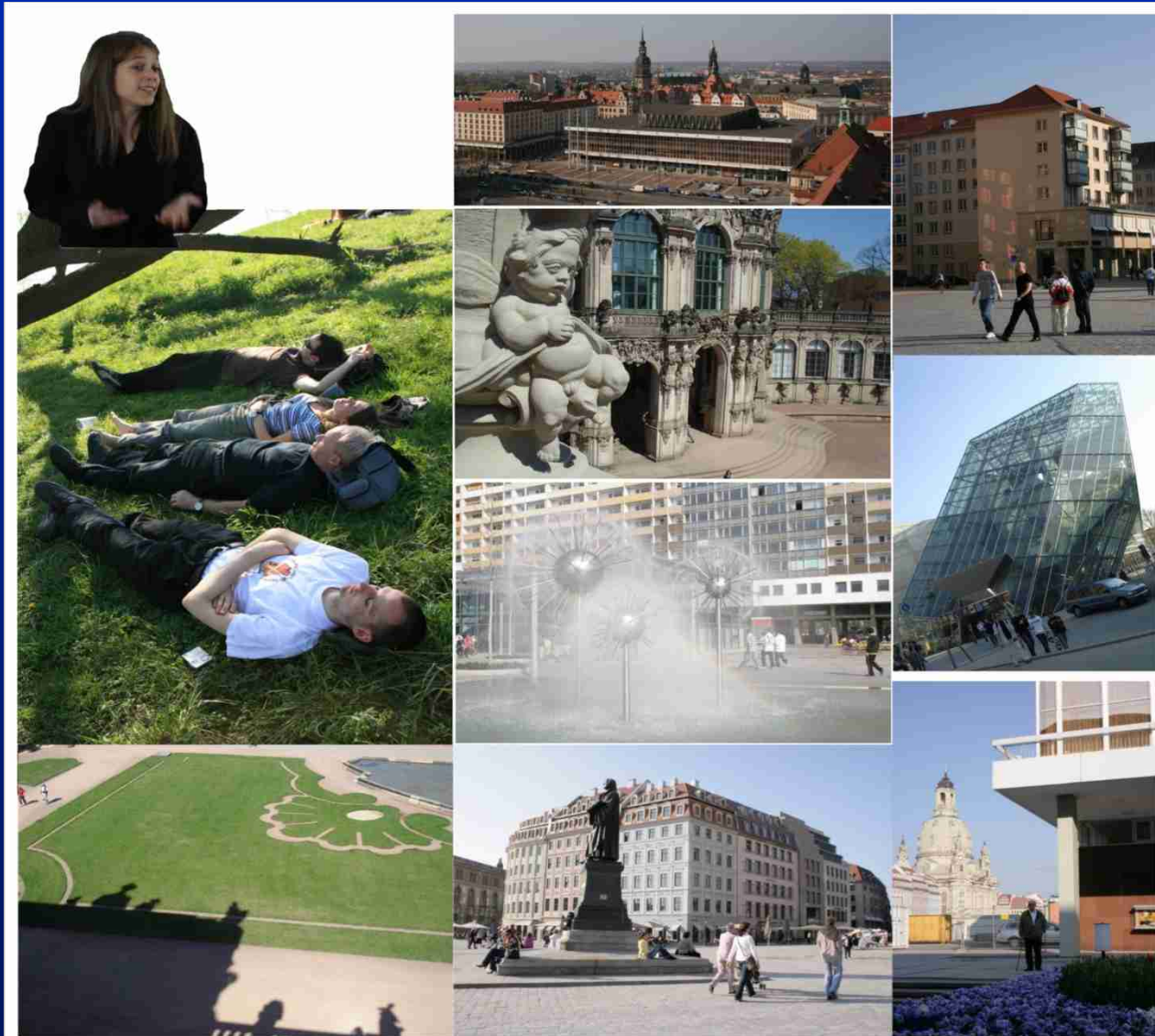


**The goal of the event was** to introduce the participants to the history of Siberia exploration, up-to-date economics and politics of the region, cultural peculiarities of Siberia and modern Russian language.

# Short-term study visit of ISTU students of specialty “Mechatronics” to German Universities (2006)



# Short-term study visit of ISTU students of specialty “Architecture” to German Universities (April 2007)



# International summer schools within the framework of DAAD program «GO EAST» (2006)

## 1. «tourism development and landscape modification (by the example of Lake Baikal)»

## 2. «Application of computer technologies in mechanical engineering»

- Students of architecture from German universities in Dresden, Cottbus, Trier, Stuttgart focused on different aspects (urban planning, economical etc) of tourism development in Irkutsk region, infrastructure development and environmental protection.
- The School “Application of computer technologies in mechanical engineering” was chosen by students studying mechanical engineering in the universities of Chemnitz, Munich, Freiberg, Konstanz and Karlsruhe.



# International summer schools within the framework of DAAD program «GO EAST»



«Computer technologies in mechatronic systems»,  
«Traffic control design and technologies of urban highway design»  
(August 20 – September 09, 2007)



**Participants** were the students of German universities in Chemnitz, Dresden, Brandenburg, Ravensburg-Weingarten, Karlsruhe, Aachen.

# EUROPEAN DIPLOMA SUPPLEMENT

European diploma supplement developed according to UNESCO requirements

DIPLOMA SUPPLEMENT	
 <p>Russian Federation Ministry of Education and Science</p>  <p>IRKUTSK STATE TECHNICAL UNIVERSITY</p> <p>Registration № 00006</p> <p>This Diploma Supplement follows the model developed by the European Commission, Council of Europe and UNESCO/CEPES.</p> <p>The purpose of the supplement is to provide sufficient independent data to improve the international transparency and fair academic and professional recognition of qualifications (diplomas, degrees, certificates, etc.). It is designed to provide a description of the nature, level, context, content and status of the studies that were pursued and successfully completed by the individual named on the original qualification to which this supplement is appended. It should be free from any value judgments, equivalence statements or suggestions about recognition. Information in all six sections should be provided. Where information is not provided, an explanation should be given.</p>	<p>INFORMATION IDENTIFYING THE HOLDER OF THE QUALIFICATION</p> <p><u>GANELES</u> <u>IRINA</u> Family Name First Name</p> <p><u>February 06, 1982</u> <u>not provided</u> Date of Birth Student Number or Code</p> <p>INFORMATION IDENTIFYING THE QUALIFICATION</p> <p>Specialist Name of title and abbreviation are not applicable</p> <p>Name of Qualification, Name of Title (Full, Abbreviated)</p> <p>Field of study: <u>Design of Architectural Environment</u> Specialization: <u>not provided</u></p> <p>Main Field(s) of Study for the Qualification <u>Irkutsk State Technical University</u> Status: <u>State University under jurisdiction of the Russian Federation Ministry of Education and Science</u></p> <p>Name of Institution Awarding Qualification</p> <p><u>Irkutsk State Technical University</u></p> <p>Name of Institution Administering Studies</p> <p><u>Russian</u> Language(s) of Instruction / Examination</p> <p>INFORMATION ON THE LEVEL OF THE QUALIFICATION</p> <p>Second stage tertiary university level education. Specialist degree program is based on Bachelor degree program or 5 or 6 years of full-time study after finishing High School.</p> <p>Level of Qualification</p> <p><u>6 years of full-time study</u></p> <p>Official Length of Programme</p> <p><u>High School Diploma, issued in 1999</u></p> <p>Access Requirements</p>

## V. PROFESSIONAL ENHANCEMENT OF FOREIGN AND RUSSIAN SPECIALISTS

### International conference «Training specialists for Mongolia at Irkutsk higher educational institutions during 80 years»

The conference was carried out within the framework of Baikal Economic Forum. More than 40 representatives of Irkutsk universities and friendly Mongolia took part in the conference.



Damdindorj Baator, the 1000<sup>th</sup> graduate of ISTU



Cultural attache, Embassy of the Russian Federation in Mongolia  
Ivakhin A.Yu.



Tserendash Tsolmon, Deputy Minister for Foreign Affairs of Mongolia

## Establishment of ISTU alumni association in Mongolia



1965 - 2008 – 1400 graduates and about 4000 students of preparatory course

## First meeting of alumni of Russian (Soviet) higher educational institutions, Erdenet city, Mongolia (February 21-25, 2008)



*Official meeting with Rector of MUST Professor B. Damdinsuren and Vice-Rector for External Relations and Cooperation T. Batbayar.*



*In the Ministry of education, culture and science of Mongolia the delegation met the Minister Mrs. N. Bolormaa. Among the range of diverse issues the possibility of establishment of Russian-Mongolian Center for Education and Intercultural Exchanges was discussed.*

On the 24<sup>th</sup> of February 2008 the Representative Office of ISTU in Erdenet city was ceremoniously opened. This is already the second Representative Office of the University in Mongolia officially registered by Mongolian Agency of Foreign Commerce and Investments # 9140697 of February 21, 2008.

**International seminar**  
**«Challenges in transition to the multilevel system of education in technical and natural-scientific specialties in RF and EC».**  
**(June 5-8, 2007)**

**More than 120 university faculty and staff from Irkutsk and Irkutsk region including DAAD fellows participated in the seminar.**



**Participants:**

Head of DAAD representative office in Moscow, representatives of Leibnitz University of Hannover, Brandenburg University of Applied Sciences , Duisburg-Essen University, Stuttgart University, Technical University Dresden, DAAD lector at ISTU, representatives of ISTU, higher educational institutions of Irkutsk region and Republic of Buryatia.

# GERMAN-RUSSIAN FORUM. THE 27<sup>TH</sup> YOUNG LEADERS SEMINAR «COEXISTENCE OF INDUSTRY AND NATURE – BAIKAL AND ITS SIGNIFICANCE FOR THE REGION» (June 19 – 24, 2007)



Irkutsk State Technical University welcomed seminar participants, young leaders from Germany and Russia, headed by Dr. Ernst-Jorg von Studnitz, retired Ambassador of Germany in Russia, GRF president.

**SUR-PLACE COURSE**  
**«Teaching Professionally oriented German language at technical universities»**  
**(September 17 – 30, 2007)**



**Seminar tutors were** instructors of German as a foreign language from Language Center of Leibnitz University of Hannover (Germany) Dr. Siegrun Schrott-Wiechert and Dagmar Schimmel.

**Seminar participant were** 20 German language instructors from higher educational institutions of Irkutsk and Ulan-Ude cities.

# INFORMATION SEMINAR «RESEARCH INTERNSHIPS IN GERMANY: FOR WHAT, WHERE AND HOW TO GO» (October 18, 2007)



**The participants** of the event were representatives of German Academic Exchange Service (DAAD), Association of German Research Center named after Helmholtz (Helmholtz-Gemeinschaft), German Research Association (DFG) and other organizations.

**International theoretical and practical seminar  
«Development of the concept for solid waste management in the tourist  
zone of Lake Baikal» within the framework of Russian-German ecological  
project  
(October 23 – 25, 2007)**

**Project goal** is to develop sustainable waste management and resource-saving in the tourist zone of the Olkhon island, to preserve ecological functions of Lake Baikal.



# PROSPECTS and CHALLENGES of the DEVELOPMENT of JOINT EDUCATIONAL PROGRAMS at ISTU

## *PROSPECTS:*

- II. New master degree programs including double diploma programs with European universities in the following fields:
  - ❖ Electro Power Engineering
  - ❖ Ecology
  - ❖ Mining Engineering and Geology
  - ❖ Economics
  - ❖ Transport
  - ❖ Information/ Computer Sciences
  - ❖ Jurisprudence
- New bachelor degree programs including double diploma programs with Asian universities (Langdong, Anshan, Fuxin Universities and others)
- Programs for postgraduate students on joint training with German Universities.
- Development of delegation exchange on both university and government level.

## *CHALLENGES:*

- 1. Strict standardization of academic curricula in Russia;
- 20. Lack of bachelor and master degree students training in the range of specialties in Russia;
- 21. Lack of foreign language proficiency both by students and faculty.

## **STUDY OF FOREIGN LANGUAGES AND CULTURES AT ISTU**

- 1. Activity of DAAD office at ISTU;**
- 2. Preparatory works towards the establishments of Language Certification Centers at ISTU (test OnDaF and others);**
- 3. Database on University staff lecturing in foreign languages; language certification of faculty according to international requirements;**
- 4. Database on students, participants of the program “Interpreter in the area of professional communication”, with language proficiency in European and Oriental languages;**
- 5. Language training of the target group of ISTU young scientists for further scientific internships in foreign countries;**
- 6. Preparatory works towards the launch of the program “international semester”;**
- 7. Activity of Regional expertise Center for evaluation of foreign educational documents;**
- 8. Activity of Korean cultural and educational Center;**
- 9. Activity of Russian-Chinese Institute of education and cultural exchanges;**
- 10. Joint activity on study of foreign cultures.**

# LUNAR NEW YEAR (February 01, 2007)



# INDEPENDENCE DAY OF MONGOLIA

(November 2007)



## FESTIVALS OF FOREIGN STUDENTS (Tomsk city, 2007)



39 works of ISTU foreign students were awarded with diplomas.

# VISIT OF EXTRAORDINARY AND PLENIPOTENTIARY AMBASSADOR OF GERMANY IN RUSSIA W.J. SCHMID AND DELEGATION OF GERMAN ARCHITECTS TO ISTU

In ISTU conference hall the Ambassador met University students and faculty



W.J. Schmid opened the exhibition of European Network Architecture



# VISIT OF THE DELEGATION OF MINISTRY OF EDUCATION OF VIETNAM AND EMBASSY OF VIETNAM IN RUSSIA (May 15 – 17, 2007)



**Vietnamese students ceremoniously welcomed the delegation from their homeland.**



**Students from Vietnam rank the first in studies among other foreign students. Only 5 persons of 100 studying within the framework of intergovernmental agreements have except “excellent” marks the “good” ones. All freshmen passed the last examinations only with marks “excellent”.**

# ISTU DELEGATION VISIT TO THE REPUBLIC OF KOREA



**Konkuk University welcomes  
ISTU delegation**

**After signing of the Agreement between  
ISTU and Pusan National University**

**Rector of ISTU Golovnykh  
I.M. and President of  
Konkuk University Kil Saeng  
Chung**

# VISIT OF ISTU DELEGATION TO GERMAN UNIVERSITIES (December 2007)



Visit to Dresden Technical University, Stuttgart and Hannover Universities, Pforzheim Higher School.  
4 cooperative agreements were signed.

## **Areas of collaboration with German Universities:**

Exchanges within the framework of «L. Euler» and «M. Lomonosov» programs, international symposia, joint training of postgraduate students, Bachelor and Master degree students.