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# **BMSTU in PEN- International**

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**Changchun University, China**

**2009**

# BMSTU Today



By RF Presidential Edict # 64 of 24.01.1995  
BMSTU was included into the national corpus of **especially valuable objects**  
of Russian heritage.

By President Medvedev's Edict # 732 of 01.07.2009 BMSTU was granted the  
status of **“a federal university having the right of independently  
establishing standards and requirements for the training programs  
delivered by it including those for the students with special needs”**

# BMSTU Today



- **18,000 undergraduate students**      **Full-time training**
- **1,000 graduate students**

**over 60 majors in all areas of mechanical engineering, instrument making and information technology:**

- **Bachelors – in 26 areas of study**
- **Engineers – in 75 areas**
- **Masters – in 12 areas**
  
- **19 departments including the Center for the Deaf**
  
- **Number of deaf students - 250 (+ 50 students of Pre-entry Department)**
- **Number of majors for the deaf - 11**
- **Number of students with special needs other than deaf – 300**

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**Students with special needs study in the **mainstream**.**

# Training Programs for the Deaf at BMSTU

**1934-** commencement of training the deaf;  
mainstream + sign language interpreting

**1994 -** Leading Training and Research Center for Vocational Rehabilitation of People with Special Needs (LTRC Department) set up at BMSTU (by Order of Russia's State Committee on Education # 1139 of 25.11.1994):

➤ development and implementation of federal university-level standards for training and support programs;

➤ distribution of resources and funds;

➤ coordination of all university departments' activities aimed at implementing training and

rehabilitation programs for the deaf  
(TRP)



ГОСУДАРСТВЕННЫЙ КОМИТЕТ РОССИЙСКОЙ  
ПО ВЫСШЕМУ ОБРАЗОВАНИЮ

ПРИКАЗ

от 25.11.94 № 1139

Об организации головного учебно-исследовательского и методического Центра профессиональной реабилитации лиц с ограниченными возможностями здоровья (инвалидов) МГТУ им. Н.Э. Баумана

Во исполнение Указа Президента Российской Федерации от 25.03.93 N 394 "О мерах по профессиональной реабилитации и обеспечению занятости инвалидов" учитывая обращение Всероссийского общества глухих и на основании решения Ученого совета Московского государственного технического университета им. Н.Э. Баумана (протокол N 2 от 15.06.94)

ПРИКАЗЫВАЮ:

1. Одобрить реорганизации специализированного учебного центра для инвалидов по слуху в головной учебно-исследовательский и методический Центр профессиональной реабилитации лиц с ограниченными возможностями здоровья (инвалидов) Московского государственного университета им. Н.Э. Баумана (далее - Центр) без статуса юридического лица.

2. Возложить на Центр - решение следующих основных задач:

2.1. Подготовку специалистов из числа инвалидов.  
2.2. Координацию деятельности подведомственных высших учебных заведений по разработке и реализации образовательных программ Госкомвуза России для инвалидов.  
2.3. Создание информационной системы по образовательным программам для инвалидов.

2.4. Организацию и обеспечение многоуровневого технического



# Center on Deafness at BMSTU

COORDINATING AND SUPPORTING ROLE OF THE CENTER FOR THE DEAF WITHIN THE UNIVERSITY

BAUMAN MOSCOW STATE TECHNICAL UNIVERSITY

## DEPARTMENTS:

RADIO-ELECTRONICS  
AND LASER TECHNOLOGY

INFORMATICS AND  
CONTROL SYSTEMS

ROBOTICS  
AND INTEGRATED  
AUTOMATION

ENGINEERING BUSINESS  
AND MANAGEMENT

MANUFACTURING  
ENGINEERING

FUNDAMENTAL  
SCIENCES

BIOMEDICAL  
ENGINEERING

## CENTER FOR THE DEAF

PROVIDES:

### Services:

SUPERVISING  
SIGN LANGUAGE  
INTERPRETING  
AUDIOLOGICAL  
MONITORING &  
PROSTHESIS  
SPEECH THERAPY  
TUTORING  
COUNCELING  
NOTETAKING  
PSYCHOLOGICAL  
MONITORING  
CONSULTING  
ADVISING  
TECHNICAL DEVICES  
SUPPORTING



MULTIMEDIA LAB



SELF - INSTRUCTION LAB



DEAF  
STUDENT

### Curricula

SPECIAL

SPECIAL REHABILITATION  
AND EDUCATION COURSES

STANDARD



AUDIOLOGICAL  
MONITORING ROOM



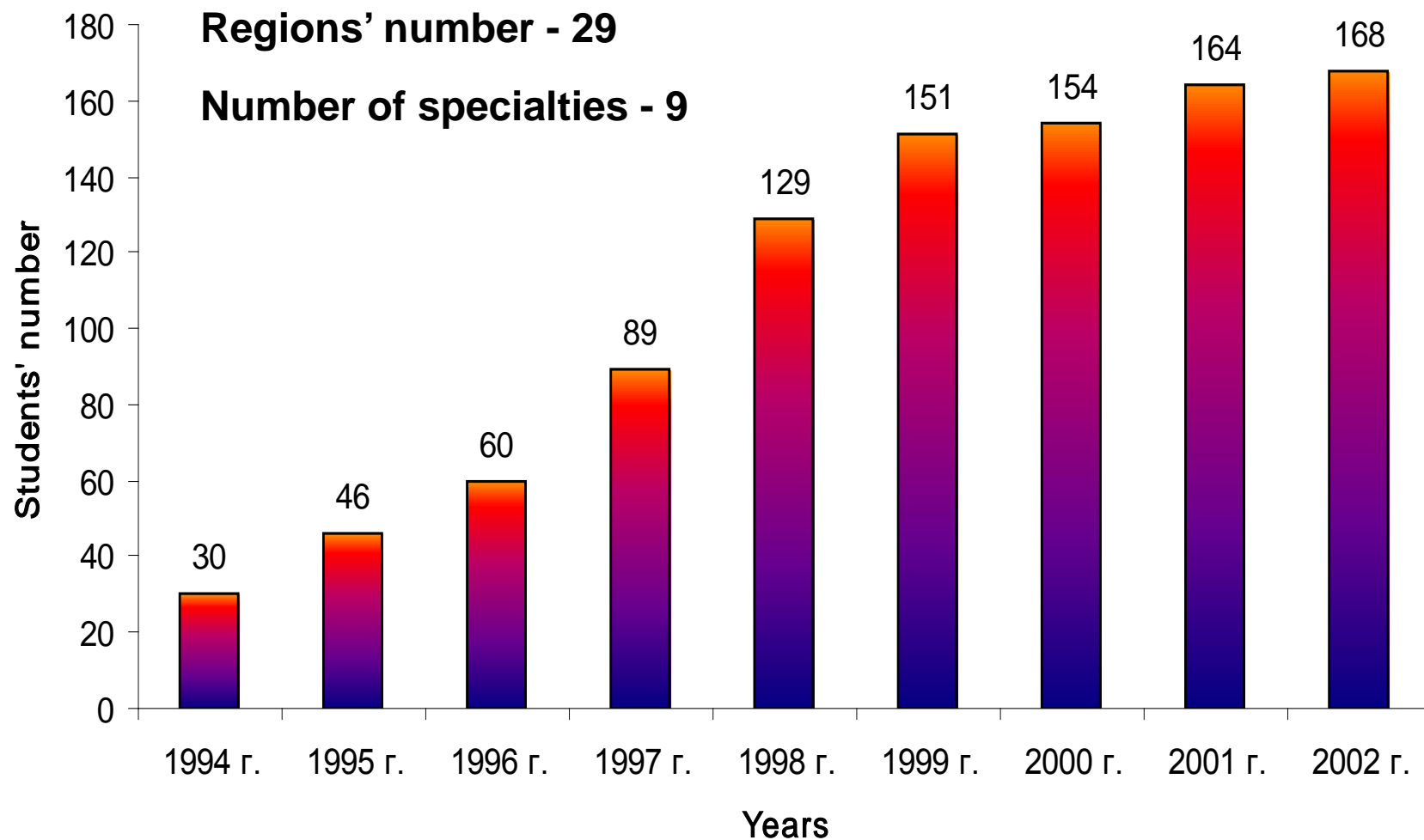
SPEECH CORRECTION  
ROOM

62 staff members;

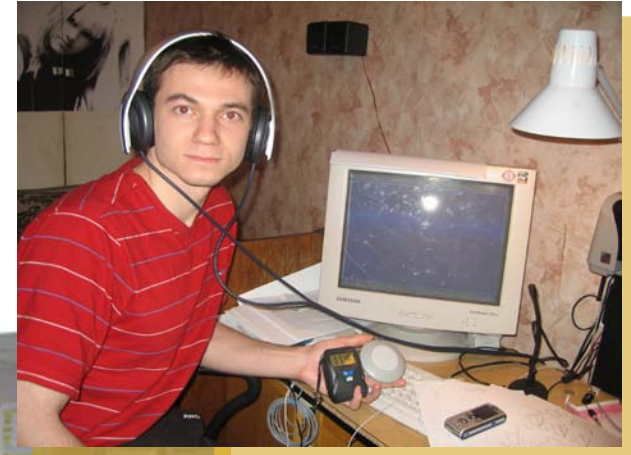
80 faculty members

Preliminary  
courses

## Dynamics of number of the deaf and HH students at BMSTU before PEN



# Pre-PEN Infrastructure of Training and Rehabilitation Environment of the Center for the Deaf at BMSTU





# Starting of PEN-International in Russia

**June, 29, 2001**

**Rochester, USA -**

**Signing of «Protocol of intentions»  
between:**

- Rochester institute of technology, USA
- Tsukuba College of technology at TTU, Japan
- Tianjin University of Technology, China
- BMSTU, Russia



**March, 25, 2002**

**BMSTU, Moscow –signing of  
«Memorandum of  
understanding» between  
BMSTU and NTID at RIT**





# BMSTU as a PEN-International Partner University

## Import of technologies:

**2002 – establishing Multimedia Laboratory 423 as a node of PEN-International at BMSTU, Moscow, Russia**

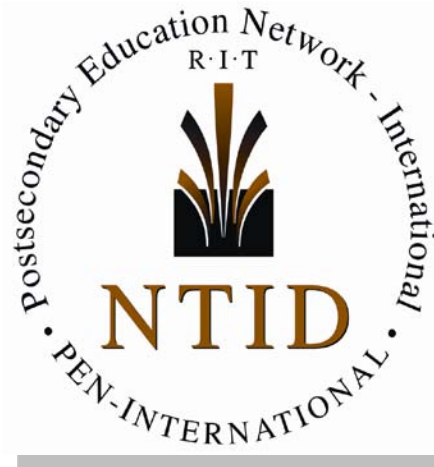
**Joint funding by PEN-International and BMSTU**

**2004 – setting up of Multimedia Classroom Complex based on wireless technologies**

**Joint funding involving PEN-International**



# Import of Knowledge: BMSTU's Participation in Technology Symposia, Conferences and Schools Held by PEN-International



# BMSTU as a PEN Partner: Premises for Setting up a Regional Network (Ripple Effect)

Two meetings of Russian Ministry of Education Collegium held at BMSTU dedicated to the establishing in Russia of a **System of vocational training for people with special needs** (**15 May 2001 and 24 June 2003**).

Organization of a contest among educational institutions throughout Russia (**by Order of Russian Ministry of Education of 12.11.2003**) for gaining a status of a **federal pilot site** for vocational training of people with special needs (inclusion, mainstream):

- ❑ **21 basic vocational training institutions;**
- ❑ **14 postsecondary vocational training institutions;**
- ❑ **7 universities: BMSTU; Vladimir State University (VSU); Novosibirsk State Technical University (NSTU); Chelyabinsk State University (ChSU); TISBI, Kazan; Russian State Pedagogical University, St. Petersburg; Krasnodar State University.**

**BMSTU granted the status of The Federal Leading Center for Training the Deaf** (by Order of Russian Ministry of Education of **09.03.2004**)



# BMSTU as a PEN Partner: through Self-Sufficiency to Technology Transfer

Minister's Order of 24.05.2004 to include articles on setting up infrastructure for training people with disabilities into dedicated federal education development programs:

– commencement of the federal funding of the selected pilot sites (BMSTU, NSTU, VSU, ChSU) for purchasing multimedia labs with configuration and methodological support developed at BMSTU. A total of 12 labs worth 30 million rubles have been delivered to Russian universities.





# Self-Sufficiency: Development of Multimedia Labs at BMSTU

Total number of multimedia labs: **5**

Total number of students' workstations: **77**

Average number of hours per week per lab according to schedule ~

**33**

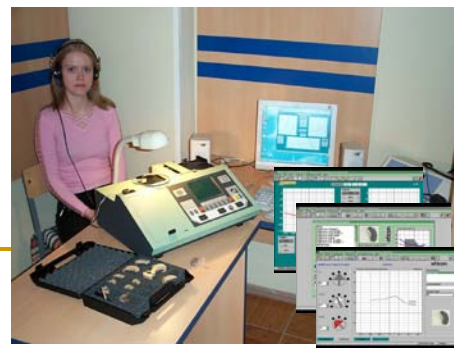
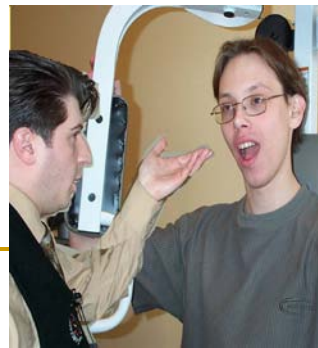
Total number of hours per week for teaching courses: **165**

Average number of hours per week per lab for non-course activities: **24**

Total number of hours per week for non-course activities: **120**



# Self-Sufficiency: Infrastructure of Training and Rehabilitation Environment





# BMSTU: Special-Purpose Pre-University Programs

- Lyceum programs at remedial schools for in-depth study of subject areas;
- BMSTU's occupational base schools;
- Russian national research programs and academic competitions organized by BMSTU for enrollees and school students;
- Pre-entry courses: one- or two-year-long and intensive month-long;
- Career guidance Doors Open Days



# BMSTU: Job Placement Programs

- **Specialist-controlled industry adaptation practical training at field-specific enterprises (3rd to 5th years);**
- **Part-time major-related work at field-specific enterprises (4th to 6th years);**
- **Work on graduation projects at industrial enterprises;**
- **Specialist advising on graduation projects;**
- **Targeted advising and consulting;**
- **Gaining occupational training credits;**
- **Vacancies database and web-site**





# Information and Technology Transfer: Russian National Forums, Leadership Schools, International Conferences



One or two events per year



# PEN-Russia Project

**24 June 2005, Rochester, USA:**

Declaration on Cooperation signed between

**BMSTU, TISBI Academy of Management, Kazan, VSU, NSTU, NTID** (Rochester, USA)

- independent section in PEN-International budget



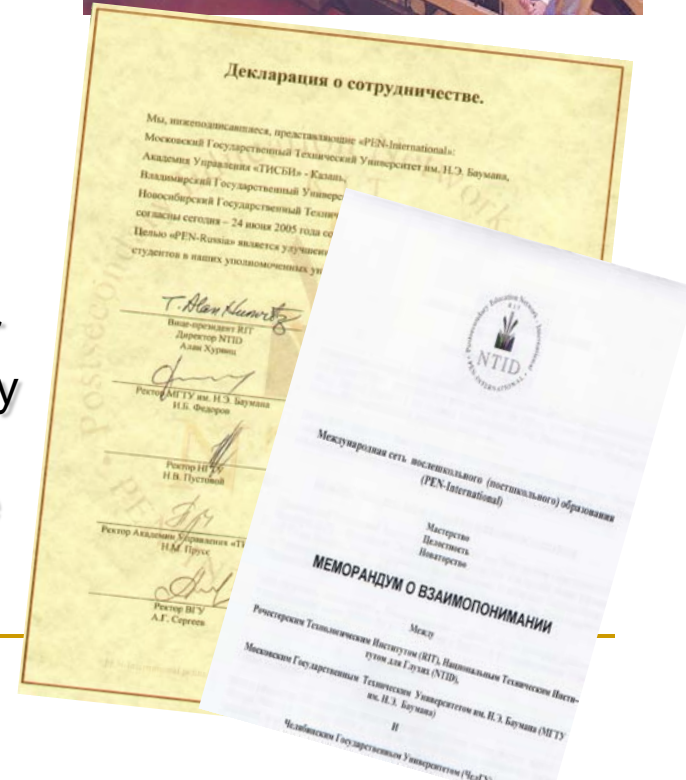
**2006 – Memorandum of Understanding signed**

between

**BMSTU, TISBI, VSU, NSTU, NTID**

Regional network of university vocational training for the deaf as an element of the global network officially launched

**2007 – PEN-Russia expansion: Chelyabinsk State University (ChSU) joins PEN-Russia**





# 2007 Telecommunication Network

Videoconference communication system ensures both point-to-point connection and linkup of up to 16 points.

**Over 10 videoconferences a year** with PEN-Russia and PEN-International partners.

**~ 40 hours Distance learning technologies** are used for instructional purposes per semester, including training programs for faculty and staff.



# Technologies Export: Faculty and Staff Training and Retraining Programs

## Federal, regional and university-based programs

**2004** – federal project with Federal Agency for Education (**76 hours**) – **375** teachers from **5 Russian Federal districts** (including **NSTU, VSU, TISBI** and **ChSU**) trained;

**2006** – Regional Center for the Handicapped, Moscow – **72 hours, 40 persons.**

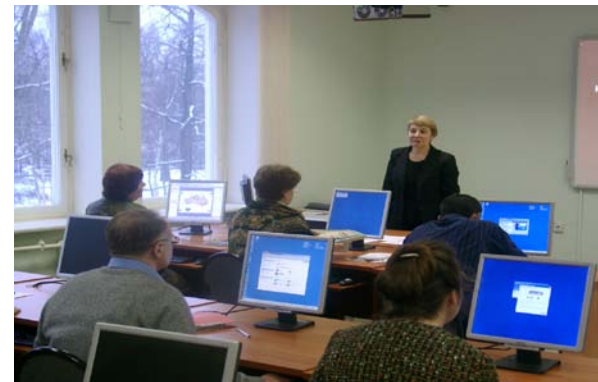
**2007** – **National Education Project:**

**300** BMSTU faculty and **70** persons from Moscow Municipal Psychological and Pedagogical University (**72 hours**)

**Yearly regional (Moscow)** training courses in using IT and special-purpose instructional technologies for teachers of remedial schools under the aegis of BMSTU and educational establishments of basic and secondary vocational training (~**30** persons per year; **36** hours)

**Yearly training courses for university faculty development** – up to **90** persons; **36** hours

**Yearly training courses for parents** ~ **125** persons; **6** - hour program

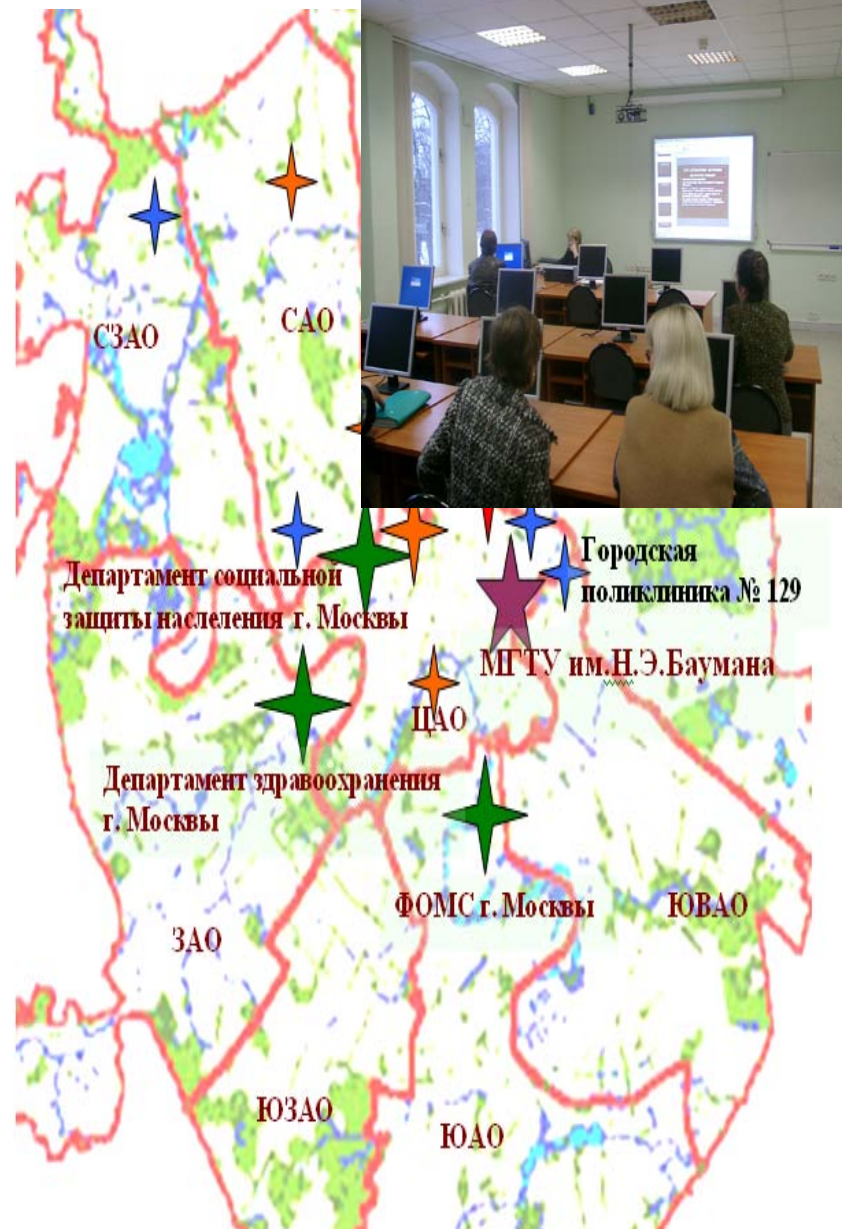




# Knowledge and Technology Export on Regional Level

Resolution of Moscow Government on the development of municipal system of specialized training for people with special needs based on the results obtained by BMSTU

Grant from the Government of Moscow for purchasing MML sets by schools for the deaf – **3**;  
training centers – **1**;  
college – **1**;  
vocational school – **1**;  
rehabilitation center for the handicapped – **12**  
(to the total amount of \$**500.000**)



# Online and Web-Resources for the Deaf at BMSTU

Web-site of BiGOR is on <http://bigor.bmstu.ru> (in Russian)

- Base and generator program of networked instructional resources for hearing-impaired students – **BIGOR** – serves as tools environment for faculty and tutors as well as a training courseware system for students;
- Electronic textbooks and course materials;
- Web portal;
- MSTU Center's Website: <http://guimc.bmstu.ru/>

The collage consists of several overlapping screenshots:

- Top Left:** BiGOR logo and title: "База и Генератор Образовательных Ресурсов".
- Top Center:** Text describing the system: "Автоматизированная обучающая система BiGOR создана в соответствии с технологией разделенных единиц контента..."
- Top Right:** A window titled "База и Генератор Образовательных Ресурсов" showing a list of educational resources like "Computer based", "Electronic textbooks", etc.
- Middle Right:** A dialog box "New educational course" with fields for "Title of educational course:", "Compiler:", and "File name:". A red arrow points to the "File name" field.
- Middle:** A page titled "Преимущества графического метода" (Advantages of the graphical method) showing two graphs. One graph shows a linear function  $y = x + 2$  and a square root function  $y = \sqrt{x+1}$ . The other shows a hyperbola  $y = 1/x$  and a linear function  $y = x + 2$ .
- Bottom Left:** Website of the "Гуимц" (Guimc) center, "Государственный научно-исследовательский и методический центр профессиональной реабилитации лиц с ограниченными возможностями здоровья (инвалидов) МГТУ им. Н.Э. Баумана".
- Bottom Right:** A photo of a computer lab with several workstations.



# Moscow Model of Providing Resources for Specialized Training and Rehabilitation Programs (TRP) in the Mainstream



- Long-term grant from the Government of Moscow for the development of a regional model of resources provision for specialized training and rehabilitation programs for the deaf in mainstream environment;
- resources provision on per capita basis

**1998** - Moscow Training and Methodological Center for Medico-Social and Vocational Rehabilitation of Deaf Students established by the Resolution of Moscow's Government



# Interuniversity International Collaboration: BMSTU – National Tsukuba University of Technology (NTUT), Japan

Reciprocal visits and information exchange;

Videoconferences;

Participation in All-Russian forum of hard-of-hearing students;

Joint poster with BMSTU displayed at 2008 Technology Symposium at NTID;

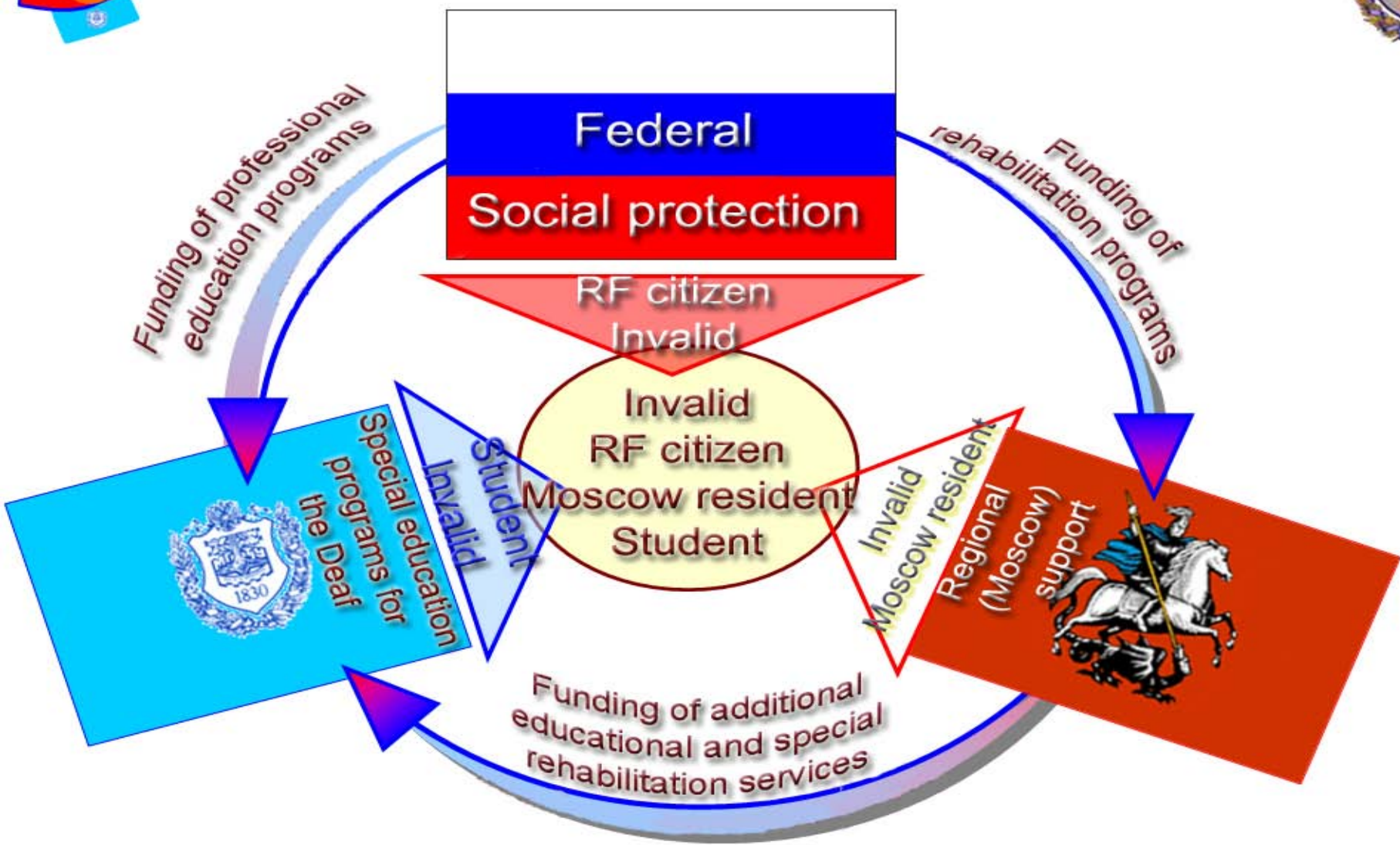
Five-year cooperative educational and research agreement signed in **September, 2008**.

IT is the first of its kind among PEN partner institutions.

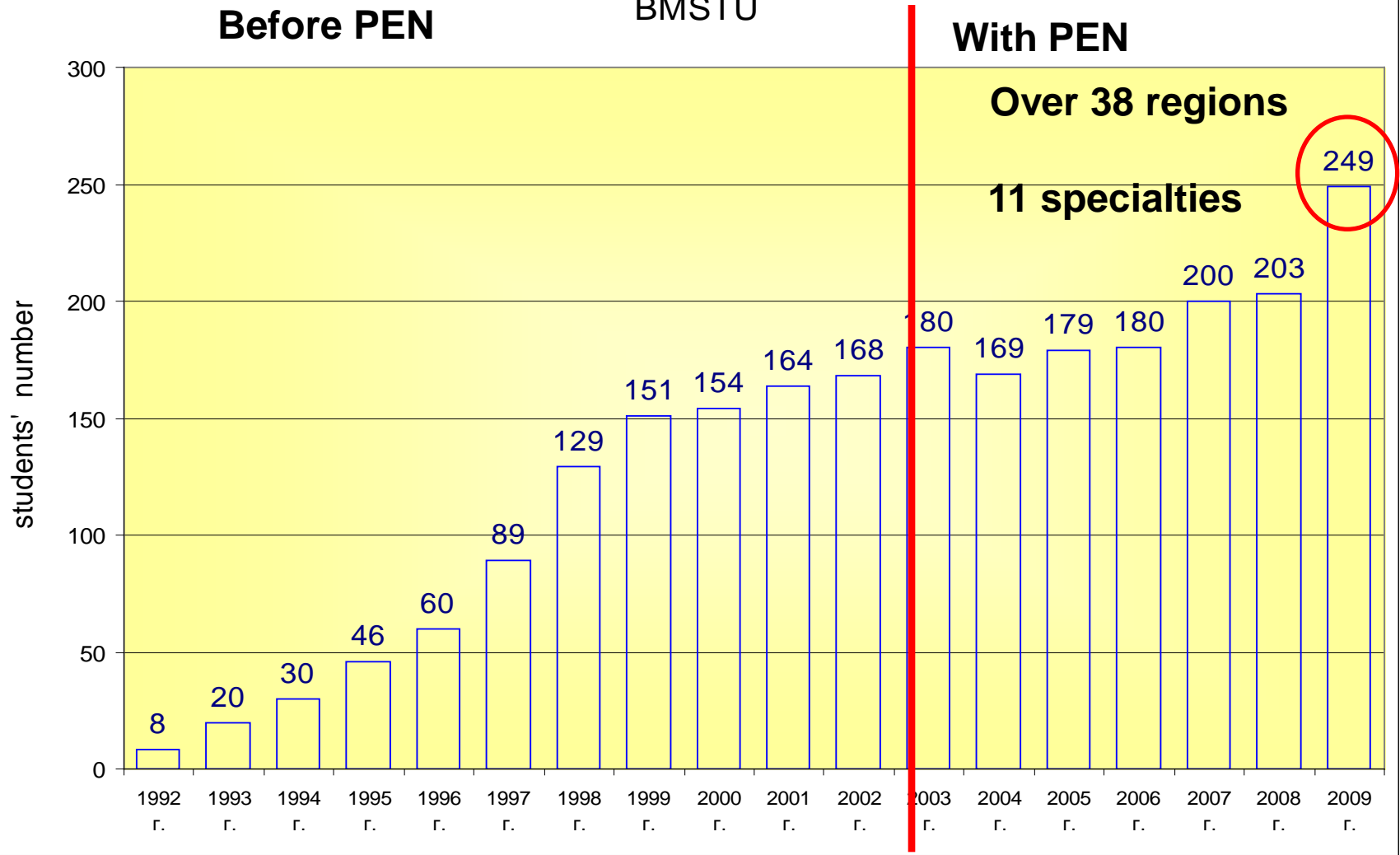




# Resources Provision for Specialized TRP for the Deaf in Mainstream Environment



Dynamics of number of the Deaf and Hard-of-Hearing students at  
BMSTU



**About 30 students graduate every year including ~11% of Bachelors and ~ 89% of specialist-engineers or Masters.**



**Dr. Igor B. Fedorov,**  
Professor, Rector of  
BMSTU  
Corresponding  
Member of the Russian  
Academy of Sciences

***Our mission is to create high-performance systems and complexes providing people with special needs with equal opportunities in getting high-quality vocational education, which will ensure their competitive performance in labor market, their inclusion into productive life of the society and high quality of life. To this end we are relying on our excellence and inexhaustible belief in human powers, innovative high tech, our commitment and reliability.***



**Dr. Alexander G. Stanevskiy,**  
Ph.D, Director of BMSTU  
Center on Deafness,  
Director of PEN-Russia