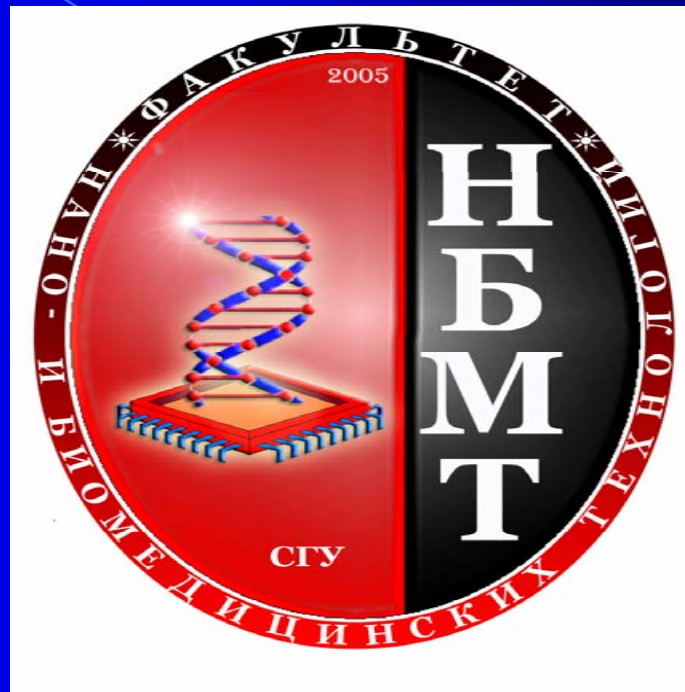


**N.G. Tchernyshevsky Saratov State
University**

**The Department of Nano - and
Biomedical Technologies**



founded in 2005

At present there are 5 chairs involved in the structure of the department

- solid state physics**
- semiconductor physics**
- material science, material engineering
and quality management**
- medical physics**
- dynamic modeling and
biomedical engineering**

Educational programs

- microelectronics and semiconductor devices**
- microelectronics and solid state electronics**
- electronics and microelectronics (bachelors and masters)**
- nanotechnology in electronics**
- material science and new material engineering**
- medical physics**
- biomedical engineering (bachelors)**
- quality management**

Postgraduate school

- physics of semiconductors
- radio physics
- biophysics

Today

438 students and 20 postgraduate students are studying at the department; 17 master's degree

40 PhD, including 17 professors, are working in staff of the department



The prior scientific research directions are:

- Research of physical characteristics of Nano- and Microsystems;



- Development of multi parameter methods of structure research with submicron and nano-meter layers both after production and particularly in reactors;



- Research aiming to get monomolecular and polyionic layers of organic substances (Langmuir-Blodgett's method);

- Creating and research of characteristics of radiation proof photo sensible elements;

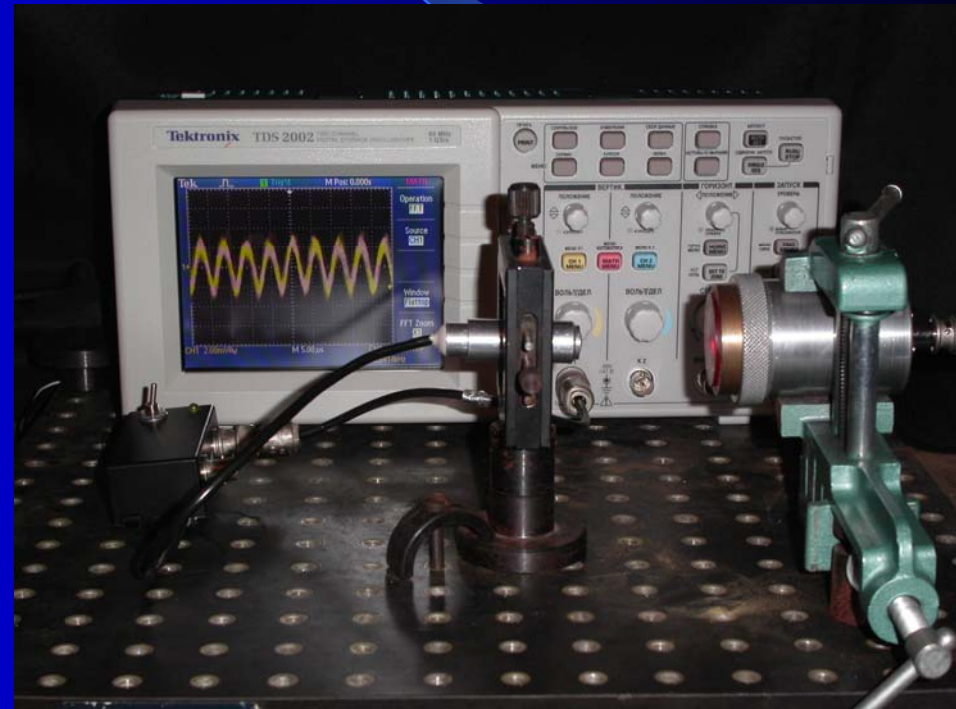


- **Development of research methods and creating microcapsules;**

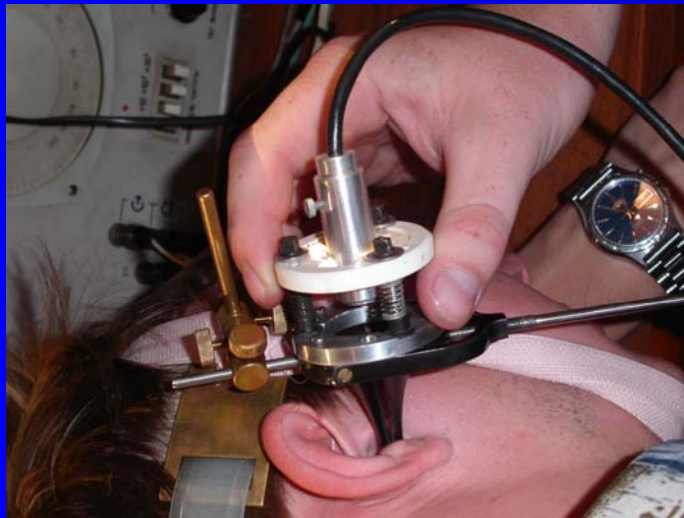
- **Microwave electrodynamics;**

- **Acoustic electronics;**

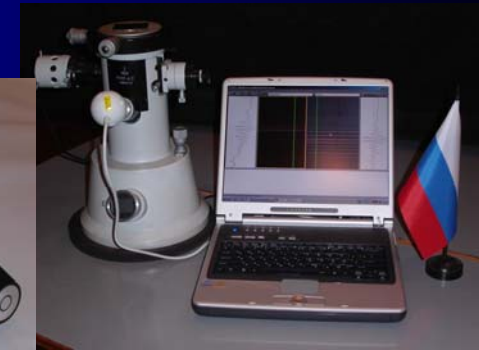
- **Solid state microwave electronics;**



- **Working out the methods and means of biological objects' diagnostics;**
- **Mathematical modeling of electronic devices and biological processes and systems;**
- **Editing methods of biomedical signals and data.**



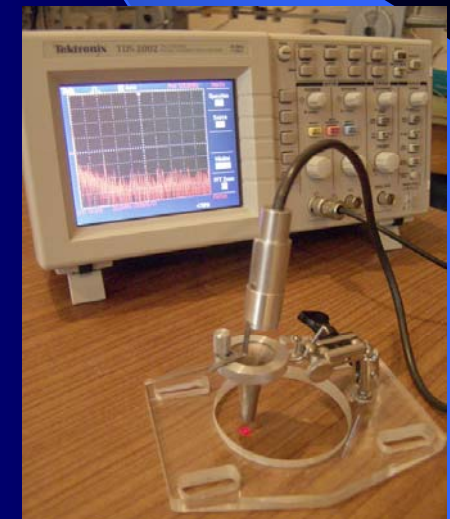
Numerous invented devices were awarded with medals at different international exhibitions



The laser autodyne is designed for contactless measuring of parameters of nanovibrations and nanoshifts,



Nystagmus correction by the external light influence of variable amplitude and frequency



International cooperation

- **2004 Research Fellowship (Dr. Dmitry Gorin) in Max Planck Institute of Colloids and Interfaces ((2.10.04 - 22.12.04) Potsdam/Golm, Germany)** by supporting Michail Lomonosov's program founded by DAAD (Germany) and the Russian Ministry of Education and Science (Referat 325, Number A/04/38409) "Influence of microwave irradiation on composite polymer/nanoparticle microcapsules"
- **2005-2007 Remote (microwave) activated release from composite nanoparticle/polymer microcapsules. German-Russian cooperation project DFG 436 RUS 113/844/0-1 and RFBR (06-02-04009). DFG - Deutsche Forschung Gemeinschaft**
- **2007 «Fabrication and exploration of multifunctional microcontainers with remote controlling properties» BRIDGE Research Co-operation project - RC10 between Queen Mary University of London (Prof. Gleb Sukhorukov is UK Principal Researcher) and Saratov State University (Dr. Dmitry Gorin is Russia Principal Researcher) given by British Council.**
- **2008 «Formation of radiation stable structures with controlled properties on the basis of the magnetosensitive nanoclusters and magnetic thin films» The Scientific and Technological Research Council of Turkey (TÜBİTAK) (Prof. Dr. Yalçın ELERMAN) - The Russian Foundation for Basic Research (RFBR) (Prof. Dr. Sergey Borisovich VENIG)**

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