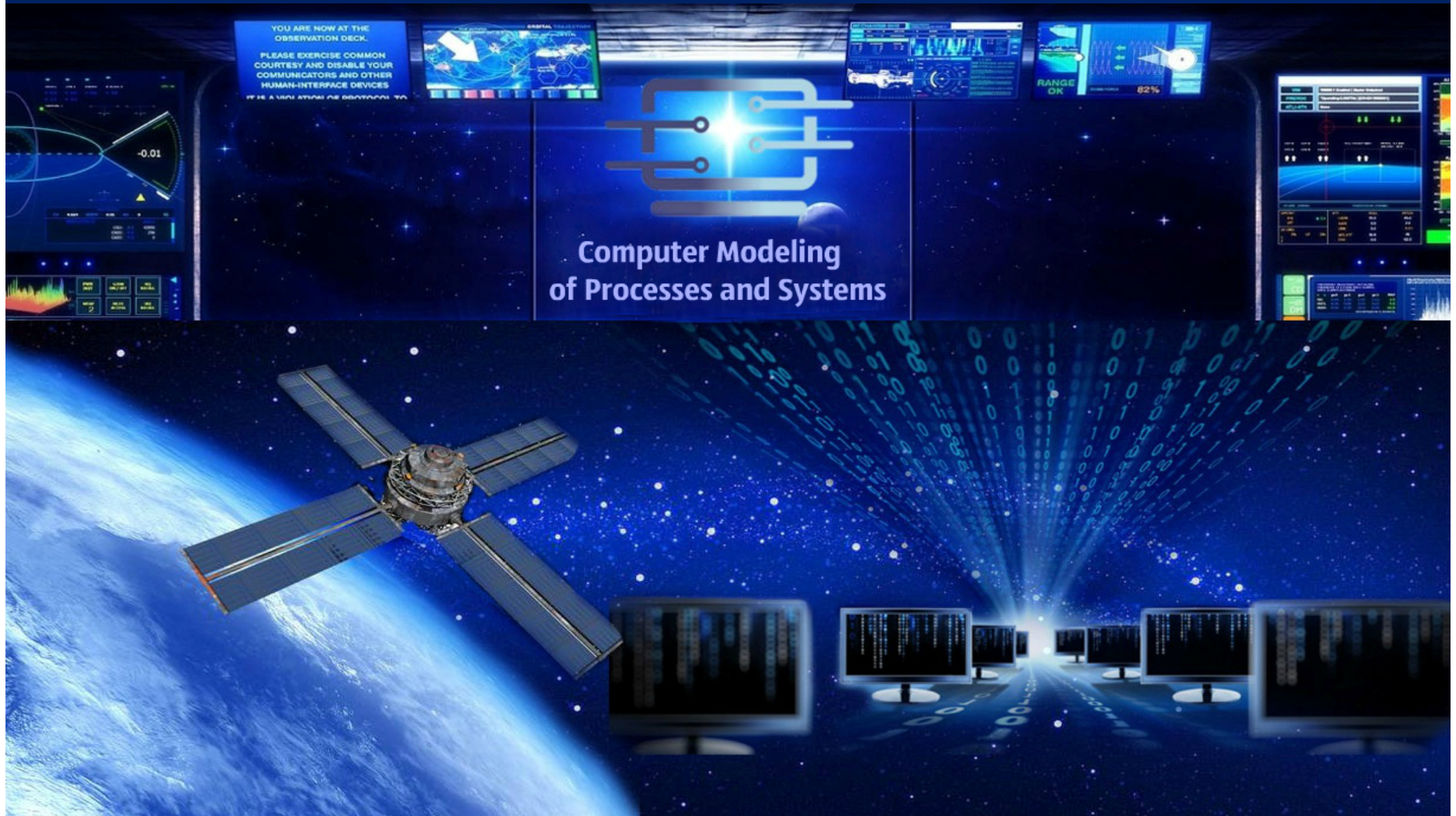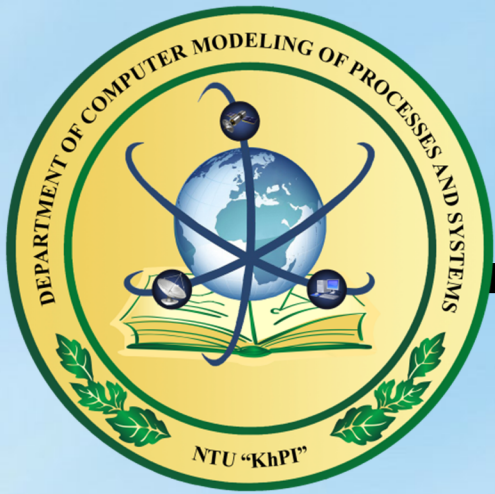# National Technical University "Kharkiv Polytechnic Institute"
Engineering and Physics Institute
Department of Computer Modeling of Processes and Systems

SPECIALTY
"Computer Science"

Our specializations:

✓ **"Design, creation and analysis computer systems"**

The goal of education is to learn how to design and develop new software systems and explore the properties of complex software systems.

✓ **Intellectual and robotic systems**

The goal of education is to learn how to apply and develop and use computer systems that use artificial intelligence, and software and mathematical software for modern robots.

Degree:

- Bachelor of Computer Science
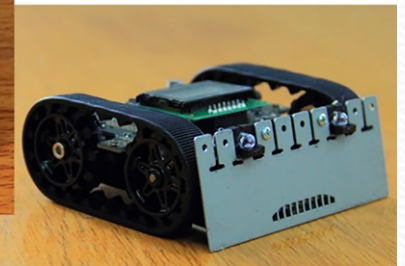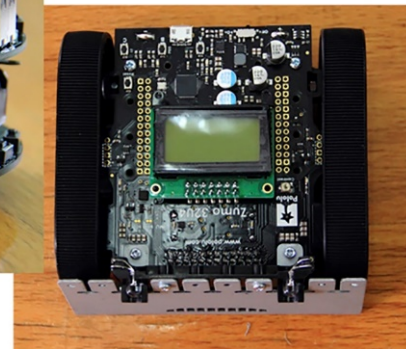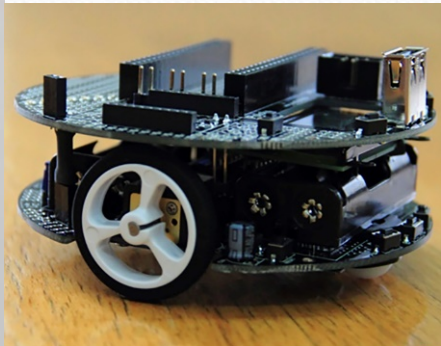- Master of Computer Science

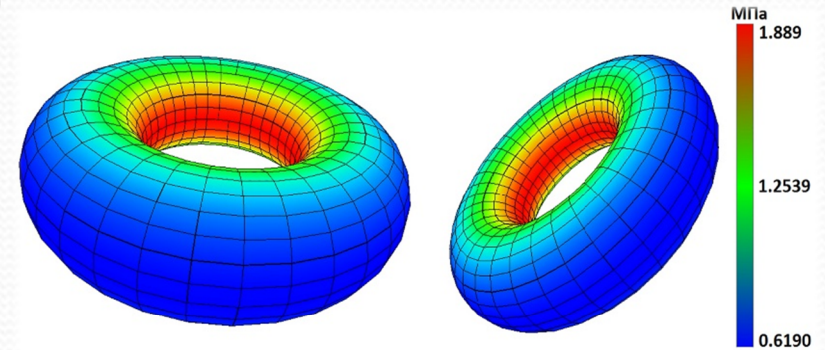# Areas of studying
"Intellectual and robotic systems"

➢ Development of robotic systems requires knowledge of control theory, theoretical and analytical mechanics. The area of studying is organic mix of fundamental base with a deep knowledge of computer science and engineering disciplines. All this enables the graduate to design and create complex intellectual systems, control systems for robots and unmanned aerial vehicles.

Areas of studying
"Design, creation and analysis computer systems"

➢ Designing software and complex computer systems used in business and technology is a complex creative process. Its methods, approaches and stages, along with the basic methodologies and technologies for creating software, form the basis of the educational process of specialization. The use of special mathematical disciplines makes it possible to obtain skills for a comprehensive analysis of software systems and products.

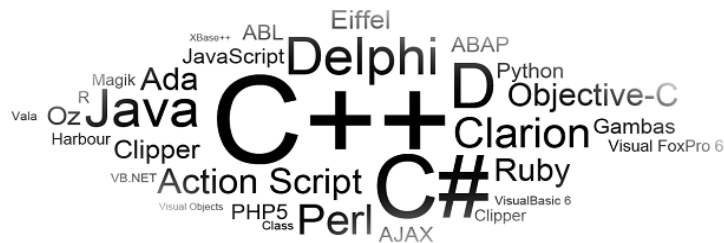
Satellite Navigation CAD system
SANACAD

The software is designed to automate the process of development the embedded program-mathematical software for navigation systems (inertial/integrated) of varios instrument composition.

For a wide range of users without special education SANACAD allows to complete the whole cycle software design for support the on-board real-time information for monitoring and traffic control of various movable objects (unmanned aerial vehicles, mobile robots, land and water vehicles). It can be used for commercial, scientific and educational purposes.

Employment perspectives

- *IT*- companies «INTETICS», «DATA ART», «NIX SOLUTIONS», «GLOBAL LOGIC», «MIRATECH» etc.

- Leading scientific, research and development centers of Ukraine and other countries
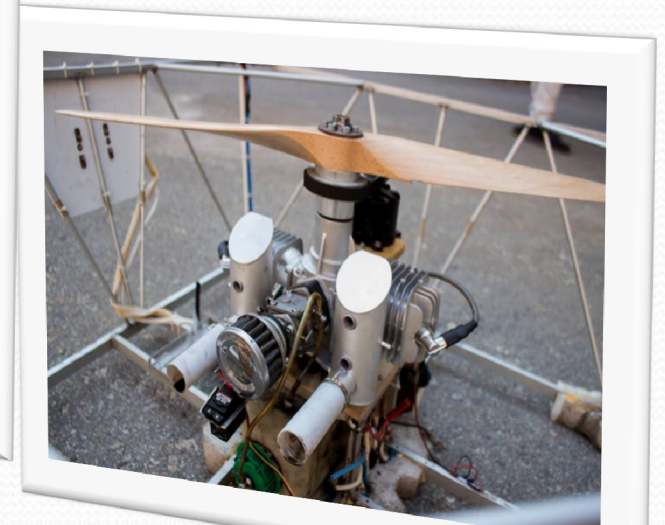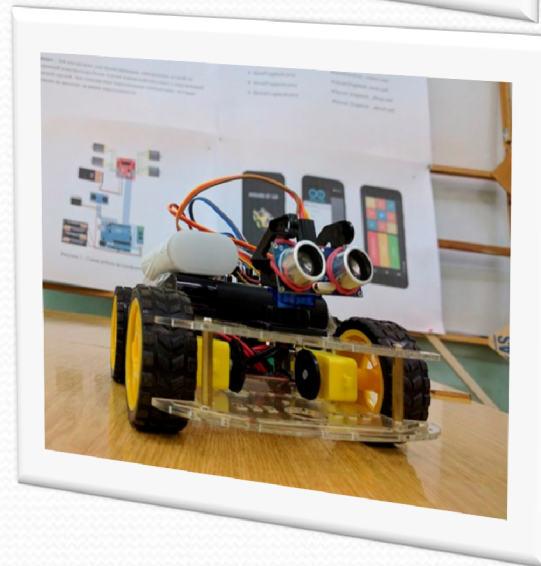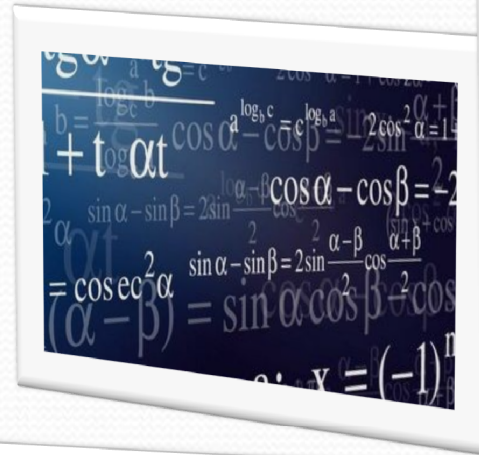
- Data processing centers

General academic disciplines "Intellectual and robotic systems"

Disciplines of specialization

❑ artificial intelligence techniques

❑ machine learning

❑ optimization methods,

❑ operations research,

❑ programming languages C ++, Java, Python, etc .;

❑ algorithms and data structures;
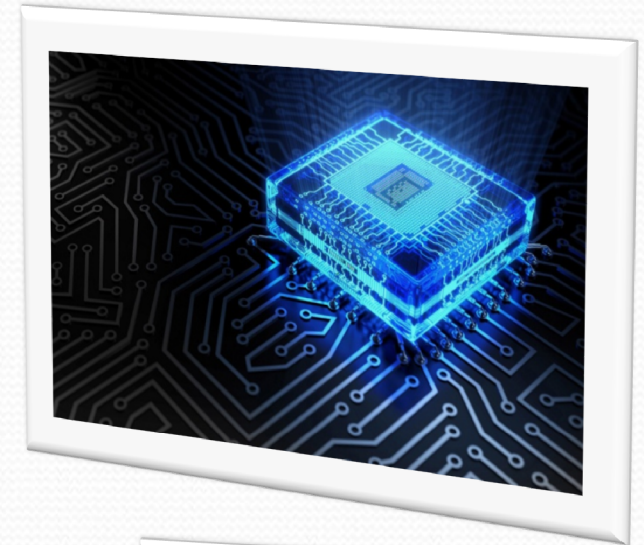
❑ control theory, mechanics of robotic systems,

General academic disciplines specialty "Design, creation and analysis computer systems"

Disciplines of specialization

- ❑ Programming

- ❑ Object-oriented programming

- ❑ Operating systems and system programming

- ❑ Image Processing and Multimedia

- ❑ Information Theory and Coding

- ❑ Data protection

- ❑ Programming 3-D graphics

- ❑ Programming Mobile Devices
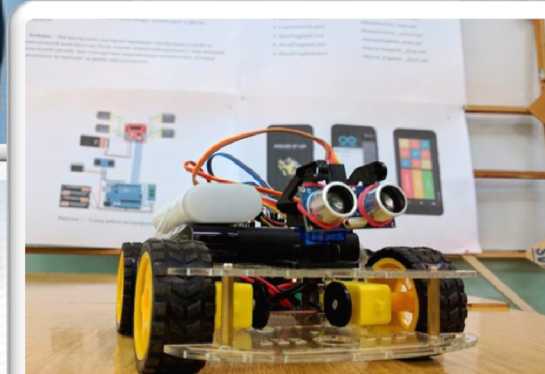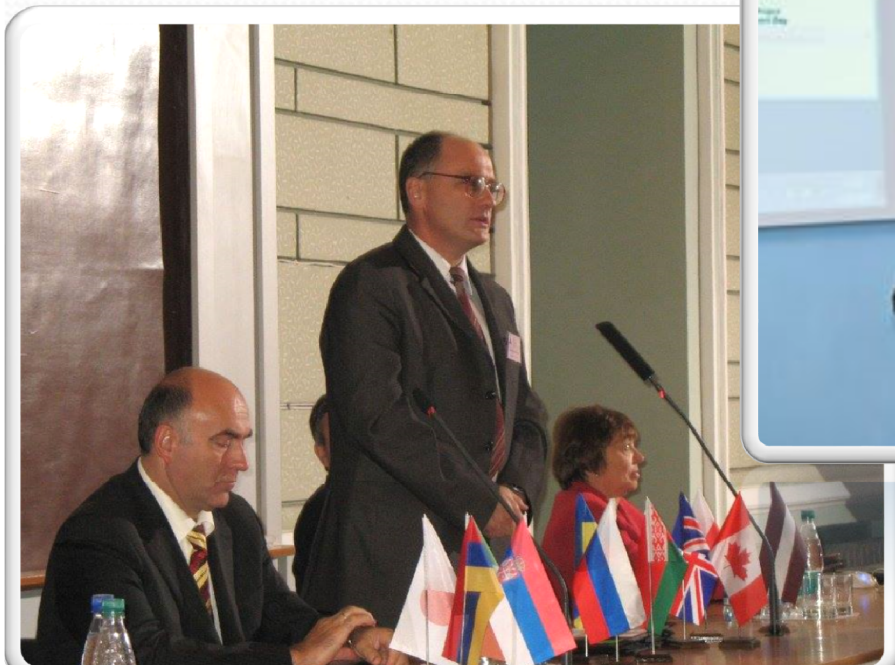
- ❑ WEB-programming technology

Scientific work of the department

The basis of the scientific work of the department is the development of methods, algorithms and software for computer modeling of processes that occur in modern engineering, energy and aerospace structures and systems, primarily navigation and aircraft control systems.

The specialists of the department consider the full range of tasks that arise in this case - from the mathematical formulation of problems, the development of new methods, approaches, algorithms to the development of specialized software.

Department staff

Breslavsky D.
Head of Department
Doctor of Technical Science
Professor

Andrieiev I.
Doctor of Technical Science
Professor

Plaksiy Yu.
PhD
Professor

Uspenskyi V.
Doctor of Technical Science
Professor

Korytko Yu.
PhD
Dozent

Nekrasova M.
Dozent

Tatarinova O.
PhD
Dozent

Bagmut I.
PhD
Dozent

Mietielov V.
PhD

Lecturer

Practicing our students in computer companies

Our students can study and…

funny rest!