

**Instrument Making Department** (head – Dr of Sc., professor M. Geraimchuk) (tel.: +(38)(044) 406-83-80) is training bachelors in direction «Device making», engineers and masters training of specialty «Instruments and systems of precise mechanics» and «Information technologies in instrument making».

**Research have been providing in such directions:**

- multico-ordinate transformers of mechanical values (Dr of Sc., professor M. Geraimchuk);
- generalization and development of theory and experimental bases of creation of gravimetical facilities of measuring (Dr of Sc., professor Y. Bezvesilna, PhD., assistant lecturer S. Tkachenko, graduate student Y. Gura);
- devices and methods of measuring of pressure (PhD, associated professor A. Nikitin, graduate student A. Sihodzynskyy);
- methods and measuring devices in energy saving (PhD, associated professor I. Korobko, PhD., assistant lecturer A. Pysarets, graduate student P. Kuzmenko);
- precise mechanical systems and medical instruments (PhD, associated professor I. Matyash);
- development of integral sensors and components for systems of measurements of mechanic parameters, controls and diagnostics. Increase of accuracy and reliability elements of devices and systems (PhD, associated professor V. Dybinets);
- algorithmic methods in devices and systems (PhD, associated professor L. Zgurovska);
- microprocessor technologies and information systems (PhD, associated professor Y. Andreeva);
- mechanics of springing elements of devices and systems (PhD, associated professor V. Kashpersky);
- modern systems of impact- and vibroprotection for high-fidelity devices of aircrafts (PhD, associated professor Y. Kirichuk);
- gravimetical devices and measuring methods (PhD, associated professor S. Neshay, PhD, associated professor P. Litvinenko).
- CAD/CAE technologies in the development of measuring instruments (PhD, associated professor I. Gryshanova);
- devices and systems for measuring weight (senior lecturer V. Zaytsev).

**Department of devices and systems of attitude and navigation** (head – Dr of Sc., professor N. Bouraou) (tel.: +(38)(044) 454-95-41, 406-85-02) is training bachelors in direction «Device making», engineers and masters training of specialty «Instruments of precision mechanics» (specialization «Instruments and systems of orientation and navigation»).

**Research have been providing in such directions:**

- researching of new types of gyroscopes and accelerometers (PhD, associated professor P. Bondar);
- R&D of magnetic compasses, attitude and heading reference systems, stabilization and inertial navigating systems (PhD, associated professor V. Meleshko);
- software development and creation of modern algorithms for navigation systems (PhD,

## Directions of scientific researches

Written by Administrator

Monday, 22 August 2011 08:24 - Last Updated Tuesday, 02 April 2013 13:20

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associated professor Y. Lazarev);

- R&D of robots with MEMS technology (PhD, associated professor P. Mironenko);
- reliability increasing of heading reference systems and inertial navigation systems (PhD, associated professor V. Avrutov);
- vibration diagnostics of anchor against landslide constructions (Dr of Sc., professor N. Bouraou);
- vibroacoustical diagnosis of the crack-like damages of aircraft engine blades at the steady-state and non-steady-state modes (Dr of Sc., professor N. Bouraou).

**Department of scientific analytical and ecological instruments and systems** (head – Dr of Sc., professor V. Poryev) (tel.: +(38)(044) 406-85-03) is training bachelors in direction «Device making», engineers and masters training of specialty «Devices and systems for ecological monitoring».

**Research have been providing in such directions:**

- theory and practice of the television pyrometry (Dr of Sc., professor V. Poryev);
- television informational and measurement systems as the highly-effective instruments of control in the electron-beam technologies of the materials processing (Dr of Sc., professor V. Poryev);
- development of the multi-functional portable instruments to assess sanitary and ecological conditions of the environment and workplaces (Dr of Sc., professor V. Poryev, PhD, associated professor V. Primisky);
- development of the nano-glue composites and technologies for precise gluing in the device engineering (D.Sc. professor, V. Maslov);
- research into the methods to simulate and optimize the performance of the distributed peer-to-peer networks (PhD, associated professor G. Poryev).

**Device manufacturing department** (head – Dr of Sc., professor G. Tymchyk) (tel. +(38)(044) 454-94-76) is training bachelors in direction «Device making», engineers and masters training of specialty «Technology of device making» and «Medical devices and systems».

**Research have been providing in such directions:**

- creation of specialized methods and laser information-measuring systems for checkup technical condition and parameters of dynamical systems and facilities (Dr of Sc., professor G. Tymchyk);
- monitoring and diagnostics of process equipment performance, automatic control and quality management of manufacturing products (Dr of Sc., professor V. Rumbeshta);
- development of theory and methods of surface engineering, scientific substantiation of formation the topography of functional surfaces, developing approaches to designing wear resistant coatings, increase efficiency of the cutting tool, echnological providing of the quality and performance of machine parts and devices (Dr of Sc., professor V. Antoniuk);
- building of control systems and conduct of machining process on multi-machines (PhD, associated professor I. Maksymchuk);
- control the processing parts of devices based on electromagnetic signals (PhD, associated professor V. Shevchenko);
- mathematical modeling and optimization of technological processes and production systems,

## Directions of scientific researches

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Monday, 22 August 2011 08:24 - Last Updated Tuesday, 02 April 2013 13:20

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automation of design process, narrowing of dimension, grouping and classifying information and pattern recognition in technology of device making (PhD, associated professor S. Vyslouh);

- methods and means of metrological provision of magnetic fields sources, development of new principles of mahnitoterapevtic, ultrasound, X-ray equipment and metrology equipment, development methods of generation of ultrasound, magnetic fields and signals of the set of shapes and configurations, mathematical analysis of ultrasonic vibrations and magnetic fields on biological object, source parameters of ultrasound and magnetic signal with exactly given effect on the biological tissue (PhD, associated professor M. Tereshchenko);
- method and system of adaptive laser therapy (candidate of engineering's sciences M. Bezuglyy);
- development of methods and means for automatic design of the assembly technology of axisymmetric frame-clamping units of optic-mechanical devices (candidate of engineering's sciences M. Filippova);
- informative methods and programmatic facilities of determination of obroblyuval'nosti of construction materials (graduate student O. Voloshko);
- are control and management a microclimate in shopfloors (a graduate student Yu.G. Merezhaniy);
- are methods and backer-ups roughness of surface at treatment of difficult cabinet-type details an eventual milling cutter from an aluminium (graduate student O. Katruk).

**Nondestructive Testing Department** (head - PhD, associate professor A. Protasov) (tel. +(38)(044) 406-85-01) offers preparation for bachelor's degree program «Device making», engineer and master's degree programs «Nondestructive Testing Devices».

**Research have been providing in such directions:**

- testing methods for stress state and fatigue of construction materials (Dr of Sc., professor S. Maevskiy);
- acoustic and eddy current mobile flaw detectors (PhD, associated professor V. Petrik);
- ultrasonic methods and devices for medical diagnostics (PhD, associated professor V. Tsapenko);
- design of precise measuring instruments for magnetic and electric fields (PhD, associated professor V. Bazenov);
- electric methods for fossil prospecting (PhD, associated professor V. Bazenov);
- research and development of thermal methods for nondestructive testing (PhD, associated professor A. Protasov);
- methodology design for preparation improve of specialist in nondestructive testing and technical diagnostics (PhD, associated professor A. Protasov).

**Laser and optical electronic engineering** (head – Dr of Sc., professor V. Kolobrodov) (tel. +(38)(044) 454-94-77) is training bachelors in direction «Optotechnics», engineers and masters training of specialty «Optical and optoelectronic devices» and «Photonics and optoinformatics».

**Research have been providing in such directions:**

- design of on-board space-based opto-electronic systems (Dr of Sc., professor V. Kolobrodov);
- ophthalmologic instrumentation (Dr of Sc., professor I. Czyz);
- the development of opto-electronic devices for noninvasive clinical medicine (PhD., N.

## Directions of scientific researches

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Denisov);

- digital optical microscopy. (PhD., assistant professor V. Borovitsky);
- methods and tools for computer-aided design of optical systems. (Ph.D., assistant professor V.Sokurenko);
- singular optics (PhD., assistant professor G.Bogatyrev);
- development of instrumentation for characterization of optical devices and systems (PhD., assistant professor O.Kucherenko);
- methods, tools and metrology in measuring the energy characteristics of many element radiation detectors (PhD., assistant professor L. Miheenko).