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SCIENCE OF THE THIRD MILLENNIUM – A LOOK INTO THE FUTURE



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Library



Maksymovych University library was founded in 1834. Lyceums, institutes, and individuals' private collections made its primary stock. It has been referred to as academic and research library since 1940. Kyiv National University library is now one of the largest and oldest university libraries with a wide network of reading halls and membership, and the total area of more than 6,600 m². It consists of 22 departments, 25 sectors, 17 subscriber halls, and 16 reading rooms. More than 700 thousand readers visit the library every year.

The library stock holds 3.5 million copies of books, periodical press, and other printed materials. Being universal in content, the library stock possesses editions printed in 30 languages. The library stock contains 1.7 million scientific papers and 1.06 million items of academic literature.

It annually receives 35-40 thousand items of new literature, among which 30 thousand are books, including 20 thousand research papers, 17 thousand textbooks and manuals, 5 thousand periodicals, and 500 books written by university teaching staff. New exhibits are weekly displayed for review. The library maintains book exchange with 208 organizations from Ukraine, CIS, Eastern and Western Europe, America, Asia, and Australia. In 1983 there was equipped a rare book room, which contains more than 7,000 unique publications.

"The Collection of Scientific Works", which makes 8,000 items, has held monographs, textbooks, manuals by university authors since the foundation of Saint Volodymyr University. Most of them are books autographed by the alumni of the university, scientists and writers, and other prominent people of the century.

The library provides access to full-text databases of RSC Publishing, IEEE Computer Society Digital Library, EBSCO - Academic Search Premier, Business Source Premier, ERIC, Green FILE, Health Source-Consumer Edition, Health Source: Nursing / Academic Edition, Library, Information Science & Technology Abstracts, Master FILE Premier, Newspaper Source, Regional Business News, Medline, and some full-text journals of American Institute of Physics, American Physical Society, Emerald.

The University library subscribers have access to the book stocks of more than 30 libraries in Ukraine and full-text electronic libraries online.

Taras Shevchenko National University of Kyiv has been issuing 57 series of "Kyiv University Bulletin" and more than 30 journals for over half a century (vydav-poligraph@univ.kiev.ua).





LEONID V. HUBERSKYI

*Hero of Ukraine
Academician of the National Academy
of Sciences of Ukraine
Academician of the National Academy
of Pedagogical Sciences of Ukraine
Honorary Doctor of Lomonosov Moscow State University
Rector of the Univ,
Professor*



For over 175 years, Taras Shevchenko National University of Kyiv, a classical research university founded in 1834, has been educating generations of professional, scientific and cultural elite of Ukraine. University graduates strongly represent Ukraine's education, science, culture, as well as social and political vanguard.

Succeeding generations of students, teachers and scholars have been adding to the greatness and glory of their alma mater.

Year by year the University strengthens its leading role in the educational, scientific and cultural spheres, with Ukraine building up an innovative economy and reforming its education and science.

The University is gaining in popularity; studying and working in it carries steadily rising prestige. A diploma awarded by Taras Shevchenko National University of Kyiv is highly regarded in Ukraine and abroad.

The names of the University professors and scientists are associated with laying the foundation of science, creative ideas and schools recognized by the international scholarly and academic community. Today the University provides for the development of new modern styles of scientific thinking and involves talented creative youth in pioneering research programs.

The University enlists close cooperation of NAS (National Academy of Sciences) of Ukraine, business corporations and other organizations in Ukraine, as well as leading universities in the world, promoting academic mobility of students, lecturers and researchers and holding an important place in the world community.

A successful long-term alliance with the National Academy of Ukraine resulted in a new development in 2011 – together with nine leading institutes and the National University of Food Technologies, the University created the Taras Shevchen-

ko Kyiv University Science Park Corporation – a new integrated form of science, education and business development.

Science Park has a well-developed infrastructure which enables high technologies to be innovatively introduced and brought to the market (technology transfer).


State Prizes of Ukraine for Science and Technology, State Prizes for Education, Taras Shevchenko State Prizes, the prestigious prizes of the National Academy of Sciences of Ukraine, national and foreign awards are given to the University scholars for their educational and scientific achievements.

Every year bachelor and master students, post-graduate students, and young scientists of the University win international competitions and contests.

Science is an integral part of the University's educational process that provides an opportunity to enhance the quality of professional training, students' ability to develop their creative skills, and inspires our talents to new discoveries and accomplishments.

The cohort of Honorary Doctors of the University (over 100 persons) includes internationally known scientists, Nobel laureates (Jean-Marie Lehn (France) and Zhores Ivanovich Alferov (Russian Federation)), explorers (Thor Heyerdahl, Jacques Yves Cousteau), presidents of the countries, academicians of the National Academy of Sciences of Ukraine and Russian Federation and other countries, rectors of higher educational institutions, public and political figures.

Taras Shevchenko National University of Kyiv has two centuries of glorious history, outstanding events, and achievements. The whole experience of the past, the traditions that we carefully preserve, and the golden fund of the university – our employees and generations of graduates – help us in solving new challenging tasks that confront the university today.





Taras Shevchenko
National University
of Kyiv

University in Facts and Figures



1833 – Nikolai I, Russian Emperor, signs a decree on the creation of “St. Volodymyr Imperial University” in Kyiv

June 15, 1834 – the University welcomes its first 62 students at the only faculty of philosophy, which had two Divisions. The First Division included departments of Philosophy, Greek philology, Roman philology, Russian philology, General and Russian history, Statistics.

The Second Division was composed of departments of Mathematics, Geography, Chemistry, Botany, Biology and Physics.

Mikhail Maksymovych, Moscow University professor, eminent historian, linguist, folklorist and a close friend of Nikolai Gogol and Taras Shevchenko, becomes **the first Rector of the University**.

1837-1842 – Vincent Beretti, an outstanding Russian architect, builds the main university building in the Empire style of high Classicism.

1845-1846 – after graduating from St. Petersburg Academy of Arts, Taras Shevchenko returns to Kyiv and works in the Archeographic Commission of Kyiv at Kyiv University.



1935 – the University was awarded the title of the Kiev State University in honor of its 100th anniversary.

March, 1939 – the country celebrates the 125th anniversary of Taras Shevchenko's birth; and the Presidium of the Supreme Council of the USSR names Kyiv University for the great poet.

1834 – 1920 – the institute of the Honoured members and doctors of University of St.Volodymyr was founded and functionated at the University. The metropolitan Eugen (secular name - Euthymius Bolkhovitinov), church leader, historian, writer was elected as the first Honorary doctor of the University of St. Volodymyr (1834). Anton Denikin (1919), military commander, Lieutenant-General and military writer was appointed as the last one. Among the Honoured members and doctors of the University of St.Volodymyr are: Ivan Turgenev(1879), Dmytro Mendeleev(1880), Lev Tolstoy(1884), Mykola II Romanov(1884), Olexandr Ostrovsky(1884), Ilya Mechnykov(1898) and others.

The institute of the Honoured doctors and professors of the Kyev National University of Taras Shevchenko was founded in 60 – 70th of XX century

Among the honorary doctors and professors of the University are: Indira Gandhi (1982), Jacques-Yves Cousteau (1994), Boris Paton (1994), Helmut Kohl (1996) Victor Sadovnychyi (2000) and others.

April 21, 1994 – according to the Decree of President of Ukraine L.M.Kravchuk № 176/94 Kyiv University was awarded the status of ‘National’.

November 25, 1999 – a remarkable moment in the development of the University: President of Ukraine issues a decree “On Taras Shevchenko National University of Kyiv”, which greatly extends the University rights and independence.

May 5, 2008, pursuant to the Decree of the President of Ukraine № 412/2008, the University acquires the status of Taras Shevchenko National Research University of Kyiv and becomes the major educational and scientific center of Ukraine for training highly-qualified educationalists and scientific brainpower.

July 1, 2009 – the Institute of high technology is created.

November 23, 2010 – in close collaboration with the National University of Food Technologies and 9 institutes of NAS of Ukraine, Taras Shevchenko Kyiv University Science Park Corporation is established.

May, 2011 – “Institute of Biology” Research Center is established.

September, 2012 – the University appears among the world top 500 universities, according to QS World University Rankings.

University Structure

8 institutes, 14 faculties, 182 departments, 66 research laboratories, Taras Shevchenko Kyiv University Science Park Corporation, Information Technology Center, Training and Research Center for Information Technology, Astronomical Observatory, the Botanical Gardens, Zoological Museum, Kaniv Nature Reserve, Kyiv University Publishing, University Library and other structural units.

Taras Shevchenko National University of Kyiv is a well-known center for training and certifying scientific and educational staff. For many decades its post-graduate studies efficiency has been as high as 60%.

Full members and corresponding members of the state Academies of Ukraine – 43.

Teaching Staff:

- On the staff: 2 300 persons
- Freelance: 500 persons
- Holding post-graduate and research degrees: 1 800 persons

Fundamental Science and Research Department::

- On the staff: 1 000 persons
- Holding post-graduate and research degrees: 510 persons
- Engineering-technical and administrative staff: 460 persons
- Freelance: 2 300 persons
- Students, post-graduate students: 25 000 persons



UNIVERSITY AWARDS THE FOLLOWING DEGREES:

Bachelor

Number of students in the past academic year:

- Total: 17 580
- Full-time: 15 330
- By correspondence: 2 250

Master

Number of students in the past academic year:

- Total: 8 290
- Full-time: 4 760
- By correspondence: 3 530

PhD

Number of post-graduate students in the past academic year:

- Total: 1 620

Dr.

Number of doctoral students in the past academic year:

- Total: 130

The university has 46 specialized academic councils that award research degrees in 123 scientific specialties.



Taras Shevchenko National University of Kyiv



Serhiy Vyzhva

*Vice-Rector
Professor*

*Academician of Higher School Academy of Sciences of Ukraine,
Honored Worker of Education of Ukraine*

Fundamental Science and Research Department, which has been operating for over 60 years, employs 1 000 persons, including 510 full doctors and PhDs, 460 engineers, technicians, and laboratory technicians, 17 full members and 26 corresponding members of the state academies of the country.

66 research laboratories, 10 research and educational centers:

- chemical and biological
- physics of inhomogeneous materials
- information technology
- physics, mechanics and technology of heterogeneous systems

- economic research
- folklore and ethnography
- Ukrainian studies

16 Language and Information Centers:

Egyptian (Arabic studies); Turkish (research and information); French-Ukrainian for scientific and academic cooperation; the English language and information; the Belarusian language and culture; Hellenistic Studies and Greek culture; Iranian studies; the Spanish language and culture; the Italian language; Chinese literature and teaching the Chinese language; the Korean language and literature; Hindi and Indian literature; German; the Polish language and culture; Slavic Studies; the Japanese language and literature.

Free access to 16 high-tech equipment centers.



The university and its foreign partners support the Franco-Ukrainian association for molecular chemistry studies and the Ukrainian-German department of environmental management and entrepreneurship.

University scientists are developing the priority areas of research, science and technology::

- Fundamental research on the most topical issues covering Ukraine's scientific, technical, socio-economic, socio-political, and human resources to ensure its competitiveness in the world and sustainable development of society and the state;
- information and communication technologies;
- power engineering and its efficiency;
- sustainable nature management;
- life sciences, new technologies of preventing and treating common diseases;
- new substances and materials.

Research areas are represented by 11 comprehensive research programs:

- 1. Innovative resource-saving technologies** (Director – Nakhodkin, M.G., Academician of NAS of Ukraine), e-mail: decanat_rff@univ.kiev.ua
- 2. Mathematical techniques in natural science, economics and finance** (Director – Perestyuk, M.O., Academician of NAS of Ukraine), e-mail: decanat_mmf@univ.kiev.ua



- 3. Condensed matter – physics of new technologies** (Director – Bulavin, L.A., Academician of NAS of Ukraine), e-mail: decanat_phys@univ.kiev.ua
- 4. Information Technologies and Society** (Director – Zakusylo, O.K., Academician of NAPS of Ukraine), e-mail: zakusylo@univ.kiev.ua
- 5. Modernization of the social development of Ukraine and world globalization** (Director – Bazylevych, V.D., Corresponding Member of NAS of Ukraine), e-mail: nauka@econom.univ.kiev.ua
- 6. High-technology interdisciplinary research on objects of natural and artificial origin** (Director – Tretiak, O.V., Academician of NAPS of Ukraine), e-mail: tov@univ.kiev.ua
- 7. Sustainable regional nature management** (Director – Oliynyk, Y.B., Corresponding Member of NAPS of Ukraine), e-mail: oliynik_ea@univ.kiev.ua
- 8. Biological, biomedical and bioecological aspects of human life activity** (Director – Ostapchenko, L.I., Professor), e-mail: l_ostap@univ.kiev.ua
- 9. Earth's Interior** (Director – Vyzhva, S.A., Academician of Higher School Academy of Sciences of Ukraine), e-mail: vsa@univ.net.ua
- 10. New substances and materials** (Director – Volovenko, Y.M., Professor), e-mail: tavolov@univ.kiev.ua
- 11. Astronomy and Space Physics** (Director – Ivchenko, V.N., Professor), e-mail: ivchenko_v@univ.kiev.ua



International Cooperation

The University has concluded 160 partnership agreements with 145 leading academic institutions in 51 countries.

Within the framework of inter-university partnership the University has launched and is currently running two joint research programs in chemistry with Paul Sabatier University (Toulouse) and the University of Angers (France), which gave 12 post-graduate chemistry students an opportunity to take a joint post-graduate course (Program Director – Voitenko, Z.V., Professor). There is a joint research program set up together with the University of Strasbourg (France) for physicists and chemists majoring in “Condensed matter in nanophysics” and “Tools and methods in physical chemistry” (Program Directors – L.A. Bulavin, Academician, N.V. Kutsevol, senior researcher). A joint research program in German (“German as a second language”) with the Herder Institute of Leipzig University has been developed (Program Directors – R.Y. Pylypenko, PhD. and I.V. Soyko, PhD.). Post-graduate students of the Institute of High Technology, Faculty of Cybernetics, Mechanics and Mathematics Department and the Institute of Philology are taking international post-graduate courses.



There are 46 international research grants – INTS, NATO, TEMPUS-TACIS, CRDF, Marie Curie, Fulbright, “Zavtra.UA”, etc. International student programs are as follows: DFG, CRDF, EGIDE, VISBY Programme Swedish Institute, FP7-People 2009-IRES, SPIE and others.

In 2011 1 168 people enrolled on overseas training and internship programs at leading universities and research institutions (686 teachers and researchers and 482 students and post-graduate students) in Austria, Spain, Russia, Germany, Poland, France Czech Republic, China, USA, Serbia, Turkey, Belarus, Bulgaria, Hungary, Norway and other countries.



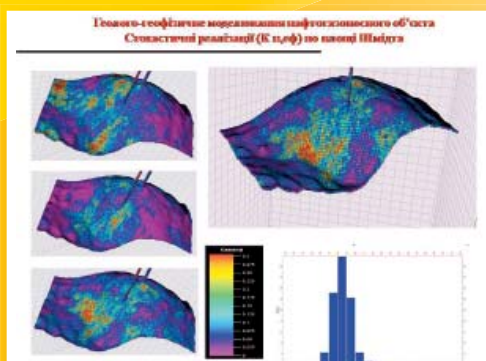
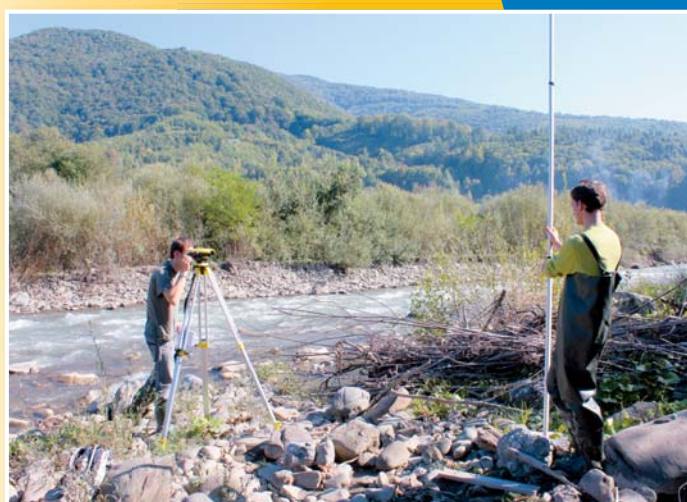


GEOLOGY:

- stratigraphic and formational aspects of mineral occurrence,
- mineralogy and geochemistry of rocks and minerals
- geological and environmental aspects of construction and reconstruction projects evaluation,
- theoretical and applied projects in geophysics,
- mathematical modeling of physical parameters in studying and forecasting oil reservoirs and non-conventional shale gas,
- principles and methods of geological and economic evaluation of mineral deposits,
- structure and tectonics of the Precambrian Ukrainian Shield.

GEOGRAPHY:

- social and geographical aspects of nature management,
- development of tourism in Ukraine: principles and strategies,
- landscape ecology and sustainability,
- comprehensive mapping, principles and methods of sustainable environmental management,
- methodology of ecological and hydrological analysis of river water bodies,
- impact of current climate change on water resources.





Scientific Research

ECONOMY:

- history of economics,
- development of Ukraine: structural, innovation and investment, institutional, financial and external factors,
- economic security and risk management in the national economy,
- institutional management and commercialization of intellectual property,
- business organization,
- statistical studies and economic modeling of socio-economic processes,
- accounting, analysis and audit,
- genesis and characteristics of international economic relations and business,
- international integration processes in the world economy,
- innovation in investment policy, management systems and economic mechanisms for financing education.



BIOLOGY:

- Molecular, cellular and system mechanisms of adaptive responses in human and animals in the development of various pathologies and upon action of chemical and physical factors;
- Biodiversity conservation and adaptive strategies of phyto-, zoo- and virobiota based on bioinformatics technology.
- Introduction and preserve the gene pool of plants and adaptive strategies in anthropogenic impact and climate change.
- Ecosystem monitoring and development of activities on endangered species.





Scientific Research

CYBERNETICS:

- modeling and optimization of information systems,
- mathematical modeling and the theory of optimal resolutions,
- programming science and its application,
- mathematical information science,
- developing and introducing computer technology in the educational process,
- theory of stochastic systems and applied statistics.



MATHEMATICS AND MECHANICS:

- differential and integral equations,
- probability theory and mathematical statistics,
- algebra and number theory,
- mechanics.





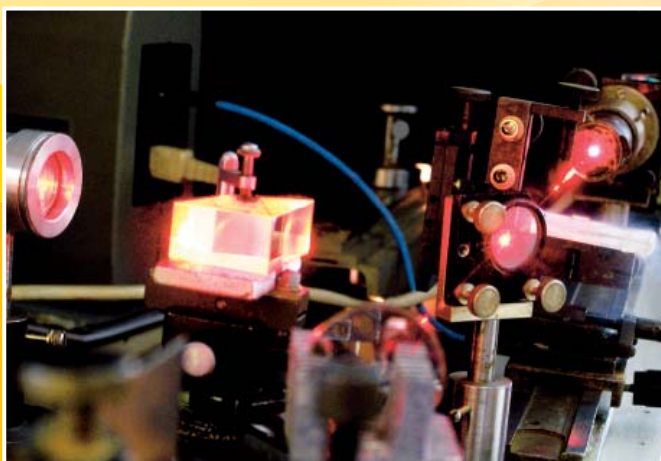
INTERNATIONAL RELATIONS:

- theory of international relations and foreign policy,
- country studies in the international relations research system,
- origin and structure of international law,
- Ukraine in the modern processes of international economic integration,
- international business: basic mechanisms and development trends,
- transformation of the global information space.



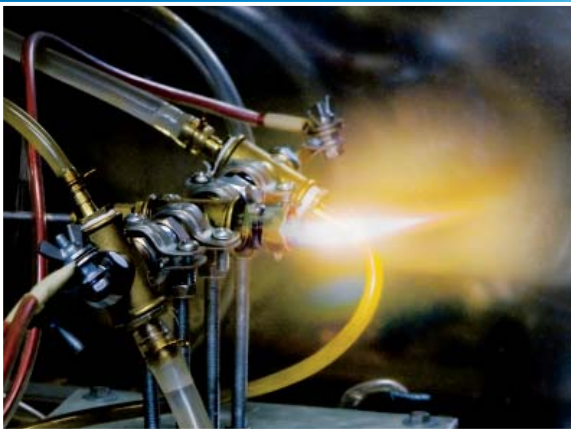
PHYSICS AND ASTRONOMY:

- condensed matter physics, physical engineering fluid systems, nanostructures, polymers, biomedical objects, organic and inorganic semiconductors, metals and alloys, composite materials, ceramic systems, functional layers,
- physics of nuclei and elementary particles, high-energy physics,
- astronomy, astrophysics.



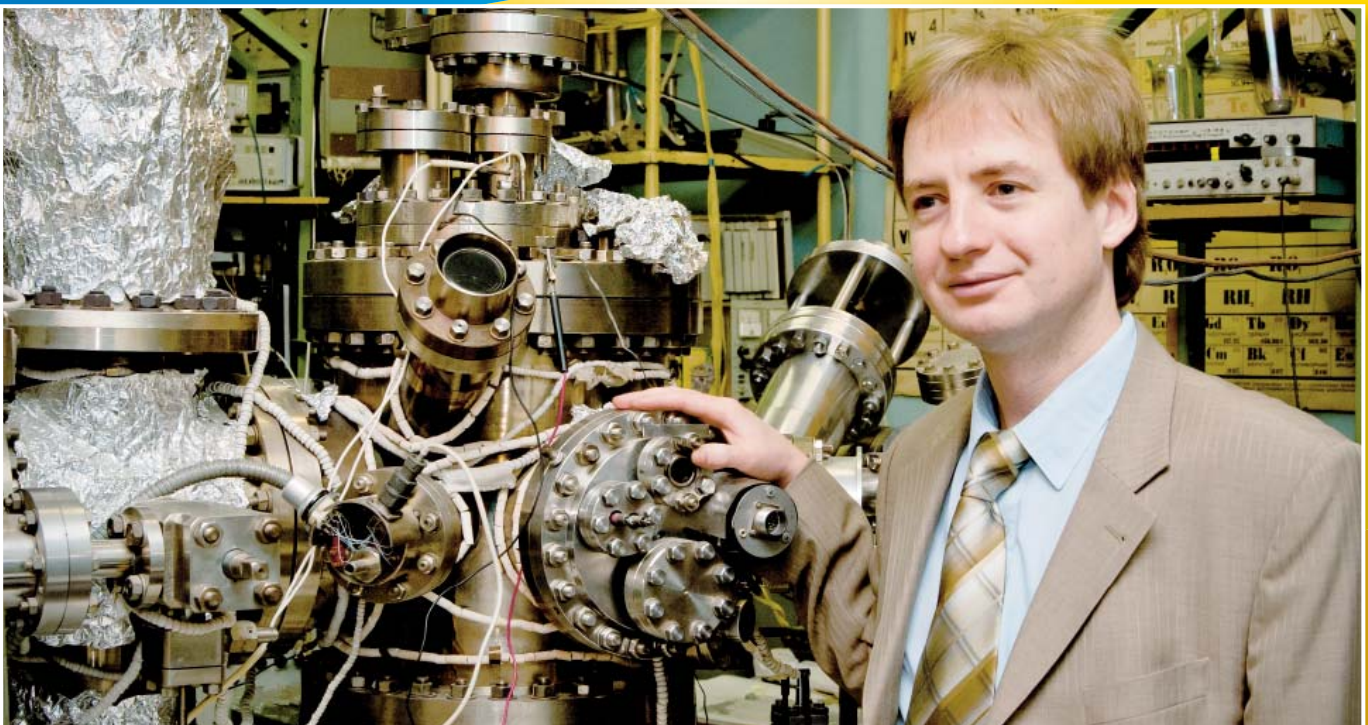


Scientific Research



RADIOPHYSICS AND ELECTRONICS:

- radiophysics and functional electronics,
- physics, electronics and surface physics,
- physics of semiconductors,
- nanophysics and nanoelectronics, nanomaterials,
- laser polarimetry, plasma physics, plasma chemistry, medical instrument engineering,
- magnetic resonance imaging, computed tomography and ultrasound,
- radio engineering and radio-electronic systems,
- spindependent transport and charge recombination in nanoobjects and semiconductor structures,
- nuclear probing in studying nano-objects properties and manufacturing.





SOCIOLOGY:

- new paradigms of theoretical sociology,
- social inequality and social mobility in modern societies,
- methodology and methods of comparative social research,
- sociology of communication.



JOURNALISM:

- social communication,
- monitoring systems of mass communication,
- history of journalism,
- editing,
- publishing,
- modern Ukrainian mass media discourse,
- advertising and public relations.





Scientific Research

PHILOSOPHY:

- Philosophical and worldview and political science aspects of humanitarian development of modern society;
- Logical and methodology of science, theoretical and practical philosophy;
- Theoretical and methodological problems of historic-philosophical cogniti
- Academic religious studies and philosophy of religion
- Theoretical and applied political science;
- Theory and history of public administration;





LAW:

- land, environmental law and environmental security,
- civil legal regulation of personal (non-property) and property relations in Ukraine,
- international law,
- legal and political systems under globalization,
- theoretical and practical aspects of law in Ukraine.

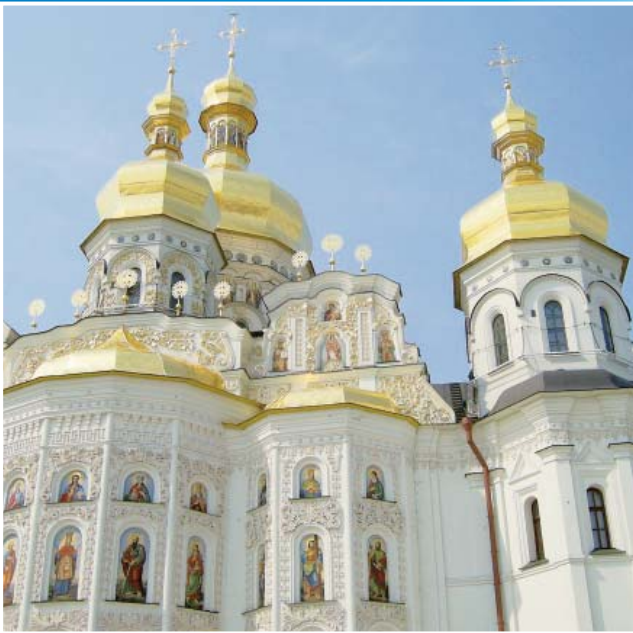


PSYCHOLOGY:

- history of psychology,
- psychodiagnostics,
- psychology of social work,
- social psychology,
- general psychology,
- environmental education.



Scientific Research



HISTORY:

- history of formation and development of the Ukrainian state,
- study of primitive society in Ukraine,
- study of ethnological aspects of Ukrainian history,
- research on the history of the Slavic peoples via modern Ukrainian-European relations,
- historiography in Ukraine,
- history of church,
- specific and theoretical sources,
- European ethnic history.



PHILOLOGY:

- theory and methodology of literary criticism;
- Ukrainian: modern language tendencies;
- problems of language contacts in the historical and present-day paradigm as viewed through modern translation;
- folklore and folklore studies in Ukraine; inter-semiotic aspect, comparative discourse, folklore hermeneutics;
- Shevchenko studies.



CHEMISTRY:

- chemical compounds as analyzed through technological processes;
- synthesis, structure, and properties of heterocyclic compounds;
- coordination chemistry;
- polymers and compositions with special sets of properties;
- physical and chemical properties of catalysts, sorbents, and alloys;
- supramolecular chemistry;
- synthesis and study of modified peptides as potential drugs.



Scientific Achievements

- The University houses 68 research laboratories equipped with modern devices, such as multiprobe microscopes, powerful nuclear microscopes, X-ray diffractometers, etc.
- Research is done on 11 complex research programs.
- In 2012 there were run over 150 research projects, of which 56 were carried out at the expense of the general fund of the state budget for public programs; 46 were funded by international grants; 36 were supported by surplus funds.
- There have been established new principles of cartography to draw up a new series of specialized maps.
- There have been developed new methods of mathematical modeling of efficient thermoelastic properties, efficient conductivity and methods for producing multi-component medium that absorbs liquids at geological faults of the internal steam pressure; there has also been designed software for laboratory simulation of large neutron nests ($\approx 100,000$ neurons) through which the phenomenon of synchronization characteristic of Parkinson's disease was analyzed.
- There has been investigated the phenomenon of xero-ferritic resonator mode splitting under the influence of external magnetic fields in the range of 75-100 GHz.
- There has been built unique equipment to investigate the methods of matches in the study of direct radiation in nuclear reactions. The equipment consists of "Vector" and modules designed by university scientists.
- There have been devised several methods for solving urgent problems of social and economic development of Ukraine.
- There has been set up a sociological database of social inequalities and value orientations in Ukrainian society, which is a means for studying regularities and patterns of social relationships.
- There has been compiled a multilingual glossary of military field conversion and management.
- There have been laid down methodological and theoretical principles of geophysical tomography.
- New types of fluorescent labels have been systemized, studied, and brought to research. They form radiometric response to polarity change and hydration of the environment.



Scientific Achievements

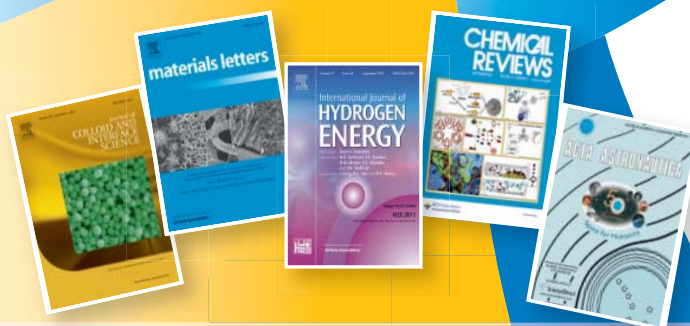


- There have been developed methods for the synthesis of new sulfolan derivatives containing modified maleinimides.
- With sol-gel technology employed, semiconductor oxides materials have been obtained and optimized as to the synthesis of gas sensitive nanoscale materials layer of semiconductor sensor absorption which contains tin dioxides and antimony components.
- There have been obtained numerous solid phase analytical reagents that contain silica and organic dyes or heteropolicomplexes for determining barbiturates in urine, labile forms of Cu (II), Zn (II), Ni (II) in soils, and for quantitative removal of Pt (II) and Pd (II) from dilute solutions.
- There have been optimized manufacturing processes of fireproof porous silicon and porous silicon.
- There have been devised methods of structural bioinformatics to develop new drugs.
- There has been experimented obtaining nanocomposite films that contain nanocluster Si in diametric matrix SiO₂ by inno-plasma decay.
- There has been defined artistic and aesthetic nature of Shevchenko's skill; there has also been analyzed verbalization of sensor prototypes in the poetic language of the writer.
- There has been studied the current state of "Ukraine-Europe" language contacts, and the prospects of their development have been outlined.

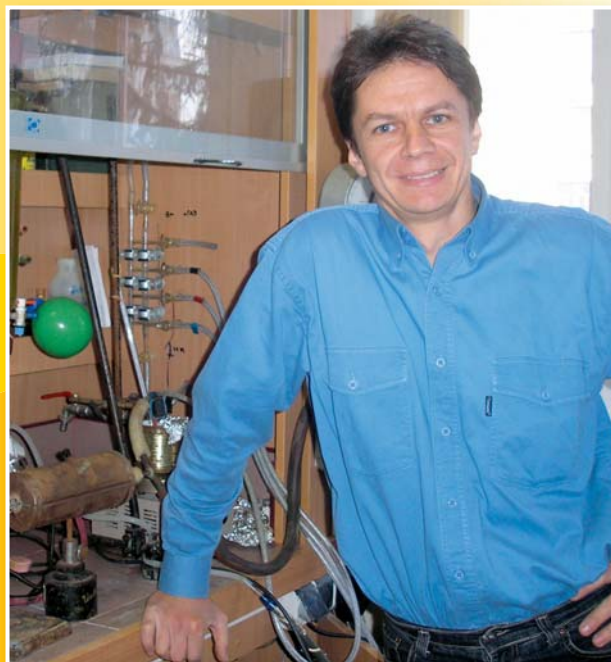
University scientists' research work is represented at annual scientific congresses, conferences, and round table talks, which made over 150 events in 2011 along with 36 international, 10 national conferences, and 8 conferences of young scientists.

Scientists and university teachers publish over 250 monographs, 400 manuals, and 7 500 research papers annually.

University scholar publication index makes over 1 000 scientific papers a year in foreign journals.



- Litvinenko, S., Garrone, E., Barbier, D., Alekseev, S., Lysenko, V., Venturello, A., Geobaldo, F., Skryshevsky, V. Hydrogen production from nano-porous Si powder formed by stain etching, (2011), *International Journal of Hydrogen Energy*, 35 (13), pp. 6773-6778. **(Impact= 4,4)**
- Serdiuk, T., Lysenko, V., Alekseev, S., Skryshevsky, V.A. Size tuning of luminescent silicon nanoparticles with meso-porous silicon membranes, (2011) *Journal of Colloid and Interface Science*, 364 (1), pp. 65-70. **(Impact= 3,27)**
- Serdiuk, T., Skryshevsky, V.A., Ivanov, I.I., Lysenko, V. Storage of luminescent nanoparticles in porous silicon: Toward a solid state "golden fleece", (2011) *Materials Letters*, 65 (15-16), pp. 2514-2517. **(Impact= 2,3)**
- Oleksandr O. Grygorenko, Dmytro S. Radchenko, Dmitriy M. Volochnyuk, Andrey A. Tolmachev, and Igor V. Komarov. Bicyclic Conformationally Restricted Diamines. *Chem. Rev.*, 2011, 111 (9), pp 5506-5568 **(Impact= 40.197)**
- Vladimir S. Yarmolchuk, Ivan L. Mukan, Oleksandr O. Grygorenko, Andrey A. Tolmachev, Svitlana V. Shishkina, Oleg V. Shishkin, and Igor V. Komarov An Entry into Hexahydro-2H-thieno[2,3-c]pyrrole 1,1-Dioxide Derivatives. *J. Org. Chem.*, 2011, 76 (17), pp 7010-7016. **(Impact= 4.45)**
- Pavel K. Mykhailiuk, Svetlana V. Shishkina, Oleg V. Shishkin, Olga A. Zaporozhets, Igor V. Komarov. Exploiting morph-DAST mediated ring-expansion of substituted cyclic β -amino alcohols for the preparation of cyclic fluorinated amino acids. Synthesis of 5-fluoromethylproline and 5-fluoropipecolic acid. *Tetrahedron* 2011, 67, 3091-3097. **(Impact= 3.06)**
- Oleksii M. Kharytonov, Boris M. Kiforenko. Finite-thrust optimization of interplanetary transfers of space vehicle with bimodal nuclear thermal propulsion, (2011), *Acta Astronautica* 69 223-233





Young people in the Science

The university prides in its 490 young scientists, including 14 doctors, 1 620 post-graduates and adjuncts, 120 doctoral candidates, and 180 applicants for a research degree.

Taras Shevchenko National University of Kyiv is a major and world-known academic and research centre for training highly qualified teaching staff, who specialize in public administration, international relations, law, economics, political science, physics, mathematics, chemistry, biology, philology, history, etc. The effectiveness of postgraduate, doctoral, and adjuncture training proves highest in Ukraine (60%).

Students and postgraduates have been running a scientific society since Saint Volodymyr University times (SPSS). It is a scientific youth self-governing organization that promotes science and academic interests among the University youth. Among the projects run by the organization there are debate and discussion clubs, public lectures, academic studies groups, "KNU SPSS Bulletin" journal, polls, scientific conferences, including "Shevchenko Spring", one of the largest annual conferences, which brings together over 1, 000 participants from Kyiv National University, other Ukrainian and foreign universities.

SPSS promotes students, masters, postgraduates, and doctoral candidates' mobility worldwide and actively encourages international cooperation.



Taras Shevchenko National University of Kyiv undergraduates and postgraduates participated in "Youth from Russia and the US – the potential for innovative cooperation", the forum held 11-18 September 2011 and had a chance to draw up a common platform of cultural and business exchange, which is the basis for international knowledge and understanding.

Young people participate annually in Ukrainian and international research projects and win over 120 awards. In particular, Danylo Radchenko became this year IMC (International Mathematics Competition for University Students) overall winner and received the Grand Prix, followed by Kyrilo Maliarchuk and Vitaliy Senin, who shared the lead. The University team won third place in team placing among 316 participants from almost 100 leading universities representing 42 countries. University team supervisors are I. Yurchenko and A. Bondarenko, Assistant Professors of Mathematical Analysis Department.

