

СПХФА
с 1919 года на службе
науке и здоровью нации



Санкт-Петербургская
государственная химико-
фармацевтическая академия

The Saint-Petersburg State Chemical-Pharmaceutical Academy

Prof. Igor Narkevich, rector, SPCPA

February, 14, 2017, Tallinn



The Saint-Petersburg State Chemical-Pharmaceutical Academy
– is the first institute of higher pharmaceutical education in Russia,
the leader in training highly qualified specialists for the pharmaceutical and biotech
industries.

The Academy was founded in 1919.



The structure of the Academy: Faculty of Pharmacy; Faculty of Industrial Drug
Technology ; Faculty of foreign students; College of Pharmacy, Center of
professional development, post-graduate department.



Science in SPCPA

Scientific research is conducted on the basis of
27 departments, 3 scientific centers, 2 laboratories

In 2015 on the base of the Academy the following centers were opened

- Center of experimental pharmacology
- Center of pharmaceutical technology

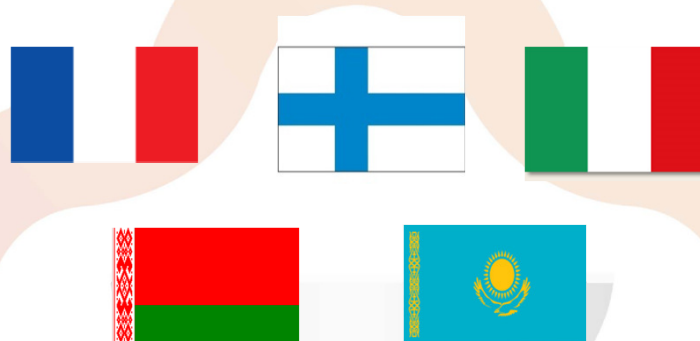
Main directions of scientific research

1. *Synthesis/isolation and study of the pharmacological action of biologically active substances for the creation of innovative drugs*
2. *The development of production technology, methods of analysis, standardization and pharmacological evaluation of new or modified pharmaceutical substances and preparations*
3. *Improvement of drug supply in the public health system*
4. *Research of ways to modernize pharmaceutical education*



International cooperation with countries for the exchange of information and joint research

- Finland
- Italy
- France
- Turkey
- Belarus
- Kazakhstan
- Germany



Interregional cooperation for the realization of projects for the development of drugs, preclinical research and exchange of scientific information

- Kazan
- Pyatigorsk
- Perm
- Yaroslavl
- Volgograd
- Moscow



Researcher internship os students



Internships within the program "BIO :
biotechnology, innovation, discoveries" in
Ludwigshafen am Rhein (Germany)



Internship "Organic Processing and
biomedicine" n NIBRT in Dublin
(Ireland)



Scientific divisions of SPCPA



Laboratory of Organic Synthesis



Center of Pharmaceutical Technology



Center of Experimental Pharmacology



Center of Drug Quality Control



Laboratory of Regular Practice



**Center of Medicinal Plant cultivation
(Nursery-garden of SPCPA)**



Laboratory of Organic Synthesis

The organic synthesis of pharmaceutical substances that have anti-microbial, anti-fungal, anti-ischemic, anti-arrhythmic, anti-inflammatory and other activity.

- Preclinical studies of innovative drugs based on the benzoic acid derivatives have been conducted that show antioxidant and anti-ischemic effects on the myocardium
- Work is conducted under the state contract on "Pre-clinical studies of the drug, based on the thiaziazole derivative having an antifungal activity" (client - Ministry of Education and Science).
- Preclinical studies of a drug based of (2E)-4-[2- (diethylamino)ethoxy]-4-oxobut-2-enoic acid butandioate (2: 1), showing a neuroprotective effect.





Center of Pharmaceutical Technology

Design, research and implementation of innovative drugs with antimicrobial activity, antifungal, anti-inflammatory properties that have an effect on the cardiovascular system:

- Forms with a continuous, delayed and modified release (tablets, coated tablets, matrix, multilayer tablets, hard gelatin capsules, pellets)
- Multicomponent forms containing several active substances,
- Microencapsulated drugs (microcapsules, retard tablets and Rapid retard, etc.)
- Ophthalmic forms (eye drops, ophthalmic films).
- Soft medicinal forms (ointments, gels, suppositories). dosage forms for children (granules, syrups, suspensions for the reception inside).

- Development of formulations and drug coating technology for intravascular stents;

- Development of formulations and drug coating technology for intravascular stents;

- Research on standardization of drugs based on pharmaceutical substances produced by chemical, biotechnological synthesis or of natural origin.





CENTER OF EXPERIMENTAL PHARMACOLOGY

Research Direction:

- Screening studies of pharmacological activity of biologically active substances of synthetic, plant and microbial origin
- Study of specific activity and safety of potential drugs
- Study of the effectiveness and safety of new formulations
- Development of new models of pathological conditions, modification of known models and their testing
- Development of preclinical testing algorithms for drugs of different pharmacological groups and creation of guidelines





CENTER OF DRUG QUALITY CONTROL

During drug clinical trials CDQC performs the following work:

- development of analytical methods to verify the authenticity, purity and the PA
- Validation of the developed techniques
- Selection of methods for the analysis of the PA for PCA, design of PCA projects

As part of the accreditation certificate the center of drug quality control performs a full analysis of the PA on the PCA, including such methods like:

- high performance liquid chromatography
- gas chromatography
- IR, UV spectroscopy
- capillary electrophoresis

Also, tests on toxicity and pyrogenicity, microbiological analysis





Center of Medicinal Plant Cultivation (Nursery Garden of SPCPA)





The departments of the Academy conduct the following enterprising research topics in the field of high biomedical technologies:

- Innovative technologies of drug synthesis (anti-TB, anti-viral, anti-microbial, anti-arrhythmic, anti-diabetic, antihypertensive, anti-allergic, immunomodulators, immunosuppressants, antihypoxants and antioxidants, etc..).
- Creating drugs for young children.
- Development of the technology for matrix carriers for the prolonged drug forms based on plant tissue strains.
- Membrane technology for the production of pharmaceutical substances of microbial origin.
- Renewing the cellular composition of biological tissues through targeted extraction of stem cells by means of laser radiation.



The Academy owns and maintains the collections:

tissue cultures: 18 strains and cell culture lines tissues of medicinal plants for the production of innovative herbal medicines; more than 1,000 cultures of microorganisms:

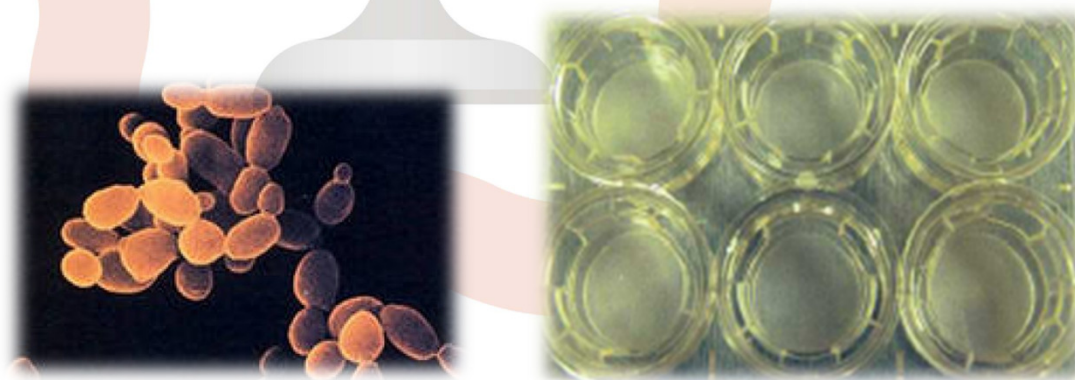
53 – bacterial cultures;

14 – actinomyces cultures;

78 – yeast cultures;

53 – culture of filamentous fungi, many of which are products of biologically active substances;

the nursery of medicinal plants contains of over 200 species of medicinal plants





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Russian-Finnish Technology Transfer Center



Education

Science

Society

Industry



SCIENCE PARK



Turku and Finnish
Universities and
Companies



Russian-Finnish Technology Transfer Center

- Assistance to the preclinical trials
- Assistance to the drug registration process on foreign market
- Assistance to the contract manufacturing
- Assistance to the foreign market orientation and the partners findings

St. Petersburg and
Russian Companies

Turku and Finnish Companies

BIOCAD
Biopharmaceutical Company

gPh
ГЕРОФАРМ
ФАРМАЦЕВТИЧЕСКАЯ КОМПАНИЯ

Цитомед



СПХФА
САНКТ-ПЕТЕРБУРГСКАЯ ГОСУДАРСТВЕННАЯ
ХИМИКО-ФАРМАЦЕВТИЧЕСКАЯ АКАДЕМИЯ

SCIENCE PARK
TURKU





**There are two serious reasons for you to visit
St Petersburg in 2017 :**

**1.VII All-Russian Scientific Conference of Students
and Postgraduates with International Participation
"Young Pharmacy - Potential of the Future",
24-25 April 2017**

2. ScanBalt ExCo meeting in June,2017



**and only one serious reason to visit
Turku in 2017:**

**1.Round Table “St Petersburg-Turku
Universities partnership. Cooperation
with ScanBalt Bio Region, May,23,2017**

**under auspices of the
Russian-Finnish Sister Cities Forum,**

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