«...All that a man could win in the game with plague and life was knowledge and memory...»

Albert Camus

January 11, 1897 by decree of the Emperor of Russia Nicholas II was formed "The Highest approved Commission on measures to prevent and combat the plague infection" ("Komochum")

At the origins of the anti-plague system

In 1898, the "Special Laboratory for the Preparation of Anti-Plague Drugs" of the Imperial Institute of Experimental Medicine was organized in the fort "Alexander I" (Kronstadt) (St. Petersburg)

In 1901-1915 10 anti-plague laboratories and 45 anti-plague stations and warehouses were established
At the origins of the anti-plague system
Establishment of the Institute "Microbe"

Main tasks:
1. Fighting epidemics
2. Scientific and methodological support of anti-plague laboratories
3. Production of therapeutic and prophylactic drugs
4. Personnel training
5. Creating a collection of strains

In the early years about 30 people worked at the institute.
Formation and development of the institute in the first decade

- 1918-1927 - 178 outbreaks of plague and other infections were eliminated.
- 1924 - 50 therapeutic and prophylactic drugs had been established (cholera, typhoid, anti-plague preventive vaccines, etc.), organization of training courses for epidemiologists;
- By 1927 - an anti-plague laboratory car, 6 cars, boats and an airplane appeared in the Institute's equipment
1930s - the formation of a complete anti-plague service of the USSR:
- the creation of anti-plague institutions RAPI of Rostov, RAPI of Irkutsk (1934);
- structural organization of the regional anti-plague network of the North Caucasus, Central Asia, Siberia and the Far East;
- “Microbe” Institute - methodological center.

1930s - 1940s - based on the D.K. Zabolotny's theory of the endemicity of plague, the E.N. Pavlovsky's doctrine of the natural foci of vector-borne diseases, there was a transition from the elimination of outbreaks to their prevention. "The method of continuous cleansing" in the Caspian North-Western natural foci of plague.

1936-1938
Development, testing and production of live plague vaccine

N. N. Zhukov-Verezhnikov
Korobkova E.I.
Pokrovskaya M.P.
Institute during the World War II

- 70 employees fought on the fronts - seven of them did not return
- Outbreaks of cholera were localized and eliminated in the Volga region, Kazakhstan, Turkmenistan, Bashkoria;
- Measures to combat dysentery, typhoid and typhus in the Volga region, in the Caucasus, Ukraine;
- Vaccine production increased 4 times compared with the pre-war years;
- 1942 - opening of the dissertation council;
- 129 employees had been awarded medals "For Valiant Labor in the War"
The activities of the institute after the WWII period (1945-1970)

Sanitation of the Caspian North-Western natural plague focus. Aviation-bait method of fighting plague carriers (60-70s of the twentieth century)

- Streptomycin is proposed for plague treatment. The beginning of the formation of schemes for emergency prevention and treatment of plague with antibacterial drugs;
- Creation of the specialized anti-epidemic teams (SAET), 1963
- Improving the production of cholera vaccine. 1962-1964 - released more than 27000 liters of cholera vaccine;
- Carry out fundamental research on the epidemiology and prevention of plague
The structure of the system of anti-plague institutions of the USSR:
- State Department of quarantine infections of the USSR Ministry of Health
- 6 institutions
- 29 stations in 11 Soviet republics

1962 - All-Union Research Anti-Plague Institute "Microbe"
The 70s - the fight against cholera. More than 30 outbreaks of cholera have been localized and successfully eliminated.


Certification of natural plague foci over the entire enzootic territory of the USSR was carried out using large-scale cartography (2,092,409 km).

Formation and development of molecular genetic methods in the study of pathogens of especially dangerous infections.

A new cholera chemical vaccine - choleragen anatoxin + O-antigen - has been developed and put into practice for parenteral use, received gold Medal at the All-Union Exhibition of Achievements of National Economy (1974).

P.I. Anisimov
O.A. Protsenko
M.N. Japaridze
The “Microbe” Institute during the years of social and economic transformation of the country (1991–1999)

The Coordinating Scientific Council for the Sanitary and Epidemiological Protection of the Territory of the Russian Federation (1993) was established. Association of specialists from specialized scientific and practical institutions of Rospotrebnadzor, Russian Academy of Sciences and other departments

- Anti-epidemic measures to eliminate the cholera epidemic in the Republic of Dagestan (1994) were held jointly with other anti-plague institutions.

- Foundations for molecular diagnosis of pathogens of especially dangerous infections

- A unique bivalent cholera vaccine (1995) was developed and put into practice.
Russian RAPI «Microbe» - research, organizational and methodological center on the problems of especially dangerous infectious diseases, sanitary protection of the territory and biological security

Scientific research

Anti-epidemic preparedness

Biosecurity

State collection of pathogenic bacteria

Production of diagnostic and preventive drugs

Trainings for specialists

The concept of functioning of the anti-plague system of the Federal Service for Surveillance on Consumer Rights Protection and Human Wellbeing until 2020.
New threats and challenges - the driving force behind the evolution of the rapid response system.
SAET of Rospotrebnadzor - a system of rapid response to emergencies of sanitary and epidemiological nature in the Russian Federation and abroad

1. Mobility
2. Autonomy
3. Multitasking
4. Modularity
5. Biosafety (BSLIII-IV)
6. Tropic and frost resistance
7. Modern diagnostic (including sequencing) and digital technologies
8. Ergonomics
9. Improved performance characteristics
New format - ensuring sanitary and epidemiological well-being during mass events with international participation

Since 2013, the institute has participated in the preparation and provision of 7 major mass events in the Russian Federation.

Experience is in demand in the CIS countries - World Nomad Games (Bishkek, 2018)

Model and methodology of its implementation to ensure sanitary and epidemic well-being during mass events with international participation.
Participation in carrying out anti-epidemic and preventive measures in the territory of the Russian Federation, countries of near and far abroad

1918-2018 - participation in the elimination of 324 outbreaks and epidemics
2014-2018 - international cooperation - participation in accordance with the decrees of the Government of the Russian Federation in 10 programs
Russian experience in the fight against plague

Improving information exchange on the plague between neighboring countries

Introduction of common algorithms and joint monitoring (expeditions) of transboundary natural plague foci

Refinement of geographic boundaries of transboundary natural plague foci based on GIS technology

Risk assessment, development of short-term and long-term forecasts of the epizootic and epidemiological situation

Interaction with the Republic of Armenia, the Kyrgyz Republic, the Republic of Kazakhstan, Mongolia, Vietnam, China, Madagascar

Synchronization of preventive measures based on the forecasts
Production of drugs and medical devices for in vitro diagnostics

The “Microbe” institute is the only producer in the Russian Federation of two registered immunobiological drugs against cholera and rabies.

- Cholera bivalent chemical vaccine (tablets)
- Anti-rabies immunoglobulin (from horse serum)

The "Microbe" institute produces more than 30 registered drugs for diagnostics of plague, cholera, anthrax, tularemia, brucellosis, pseudotuberculosis.

Medical immunobiological preparations manufactured by the “Microbe” are supplied to all 85 regions of the Russian Federation.
The staff of the institute is about 600 people; 35% are specialists up to 39 years old.

The uniqueness of the educational process is the wide range of tasks and maximum level of biosafety.

Over the past 15 years more than 3,000 Russian specialists and more than 800 specialists from the near and far abroad countries have past trainings.

Two dissertation councils - from 1942 to 2018 more than 1,300 dissertations.

7 employees of the Institute headed leading scientific centers and anti-plague institutions of Rospotrebnadzor.

Since 1968, the journal “Problems of Especially Dangerous Infections” has been published, 25 monographs have been published over the past 15 years, 130 patents for inventions and utility models have been received.
To the 100th anniversary the "Microbe" has approached a modernized, multidisciplinary, dynamically developing center for counteracting biological threats.
Interaction with the Government of Saratov region and relevant institutions of Rospotrebnadzor to ensure sanitary and epidemiological well-being, laboratory diagnosis of infectious diseases for medical institutions and the public.

Interaction with the State Medical University named after V.I. Razumovsky, SSU named after N.G. Chernyshevsky, N.I. Vavilova SSAU and other educational institutions.
Dedicated to all generations of employees of the Institute "Microbe"
«...The dreadful plague, that gruesome queen,
Now comes upon us, yet unseen,
And boasts a harvest rich, increasing.
Upon our windows day and night
It knocks with graveyard spades, unceasing!..
What can we do to help our plight?
...»

A.S. Pushkin “A Feast in time of Plague”,
1830.
HAPPY ANNIVERSARY, DEAR COLLEAGUES!