

A.V. Zhirmunsky National Scientific Center of Marine Biology

Far Eastern Branch, Russian Academy of Sciences



Exploring new horizons,
conquering uncharted depths 



↑ Far Eastern Marine Reserve (a branch of the NSCMB FEB RAS until 2021)

A.V. Zhirmunsky National Scientific Center of Marine Biology,
Far Eastern Branch, Russian Academy of Sciences (NSCMB FEB RAS)

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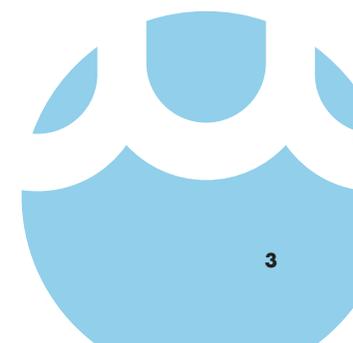




↑ Primorsky Aquarium – Branch of the NSCMB FEB RAS

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The year of **1970** marked the beginning of a long path from the Institute of Marine Biology to the National Scientific Center of Marine Biology.





Our mission

Study marine biology and educate about how to achieve sustainable development and live in harmony with the ocean





Fundamental, exploratory, and applied scientific research into marine biology, biotechnology, and related sciences



Nature conservation and marine environment monitoring



Creation of scientific and educational exhibits to raise environmental awareness with the use of live aquatic organisms and scientific collections



Promotion of ecological public culture, environmental awareness, and development of ecotourism



Biodiversity conservation



Training of highly qualified research personnel

Areas of research



- Studies of flora, fauna, ecology, and productivity of biota in the seas of the Russian Far East and the adjacent waters of the Pacific Ocean;
- Deep-sea research in the world's oceans;
- Development of scientific approach to the conservation, reproduction, and sustainable management of marine biological resources;
- Development of theory and technologies for providing biosafety of marine waters and seafood products;
- Studies on adaptation, ontogenesis, and evolution of marine organisms;
- Molecular genetics, biochemistry, and biotechnology of marine organisms;
- Development of technologies for remote sensing and monitoring the biodiversity and bioresources in protected marine areas;
- Development of a scientific basis for marine biodiversity conservation;
- Studies in medical biology, marine pharmacology, and hyperbaric medicine;
- Development of a scientific basis and novel technologies for the conservation and breeding of rare and endangered marine species;
- Studies on physiology, neurophysiology, and higher nervous activity of marine mammals, and behavior of marine animals;
- Development of technologies for early diagnosis and treatment of diseases in marine animals.

Landmarks in the 50-year history



The Russian Federation is the founder of the NSCMB FEB RAS and the owner of its property.



The Ministry of Science and Higher Education of the Russian Federation is authorized to act on behalf of the founder of the NSCMB FEB RAS.



The Russian Academy of Sciences carries out scientific and methodological management of the NSCMB FEB RAS.



**September 9
1966**

The Presidium of the USSR Academy of Sciences decided to organize the Department of Marine Biology at the Far Eastern Affiliate of the Siberian Branch of the USSR Academy of Sciences, and appointed A.V. Zhirmunsky, Dr. Biol. Sci., as the Department Head and the Organizing Director of the future institute.



**January 1
1970**

The Department of Marine Biology was reorganized into the Institute of Marine Biology, Far Eastern Scientific Center of the USSR Academy of Sciences.



1978

The Far Eastern Marine Reserve of the USSR Academy of Sciences was established in Peter the Great Bay, Sea of Japan (East Sea).



1989

The main part of the Institute of Marine Biology building was constructed on the Amur Bay coast.



A.V. Zhirmunsky Institute of Marine Biology,
Far Eastern Branch, Russian Academy of Sciences



Primorsky Aquarium, Far Eastern Branch,
Russian Academy of Sciences



2009

The Primorsky Aquarium, Far Eastern Branch, Russian Academy of Sciences, was established.

The construction of the Aquarium buildings began on Russky Island.



2014

The construction of the Institute of Marine Biology building was completed.



2016

The Primorsky Aquarium was opened on Russky Island.



2016

The Institute of Marine Biology, the Far Eastern Marine Reserve, and the Primorsky Aquarium were joined into the A.V. Zhirmunsky National Scientific Center of Marine Biology, Far Eastern Branch, Russian Academy of Sciences (NSCMB FEB RAS).

In 2021, the Far Eastern Marine Reserve was detached from the NSCMB FEB RAS.



The year of 2020 marked the 50th anniversary since the creation of the Institute of Marine Biology, subsequently reorganized into the A.V. Zhirmunsky National Scientific Center of Marine Biology FEB RAS.

In 1970, the Institute of Marine Biology, Far Eastern Scientific Center of the USSR Academy of Sciences, was established in Vladivostok. It was a new type of biological institutions, where the traditional laboratory-based biological research was complemented by methods of underwater operations in the high seas. The first team of scientists consisted of biologists who had come to Vladivostok from the European part of the Soviet Union. Passionate about the sea, these people laid the groundwork for marine biology research on the shores of the Pacific Ocean.

In the past 50 years, over a hundred marine expeditions have been launched by the Institute to various areas in the Pacific and Indian Oceans. More than 400 monographs and 5000 articles have been published in Russian and foreign scientific journals. The *Biologiya Morya* scientific journal and its English version entitled *Russian Journal of Marine Biology* have been issued. In 1978, the Far Eastern Marine Reserve was founded on the initiative of the Institute's first Director, Academician Alexey Viktorovich Zhirmunsky. The biological stations have been built in Primorsky Krai, on Sakhalin Island, and the Kamchatka Peninsula. A continuous system of training in marine biology has been implemented, providing the career guidance and academic counseling for students starting from secondary school and up to the junior researcher level. Several state-of-the-art core facilities have been founded. A unique building for the Institute of Marine Biology has been constructed on the shore of Amur Bay, and the magnificent Primorsky Aquarium has appeared on Russky Island.

We have learned to descend to the deepest abyss of the World Ocean, described hundreds of new species, and developed novel technologies for aquaculture and extraction of bioactive compounds. However, even in the 21st century, we still know very little about life in this vast aquatic space. We are looking forward to new amazing discoveries in marine biology, our most favorite science!

At this place, where the Earth's largest continent meets the largest ocean, in 2016 the Institute of Marine Biology, the Far Eastern Marine Reserve, and the Primorsky Aquarium were joined to form a single institution, the National Scientific Center of Marine Biology, which opened up new opportunities for science and education.

Andrey Vladimirovich Adrianov,
Academician of RAS,
President (Scientific Head) of the A.V. Zhirmunsky National Scientific Center
of Marine Biology FEB RAS





Academician of the Russian Academy of Sciences **Alexey Viktorovich Zhirmunsky** (1921–2000)

The organizer and the first Director of the Institute of Marine Biology (1970–1988).

An outstanding scientist who had expertise in marine biology, physiology of marine invertebrates, ecology, and organization of natural systems.

A.V. Zhirmunsky initiated and became the main organizer of the Far Eastern Marine Reserve (a branch of the NSCMB FEB RAS until 2021) in Peter the Great Bay.

He founded the *Biologiya Morya* scientific journal (with its English version entitled *Russian Journal of Marine Biology*).

His name was given to the Institute of Marine Biology and, later, to the National Scientific Center of Marine Biology FEB RAS.



Academician of the Russian Academy of Sciences **Oleg Grigorievich Kussakin** (1930–2001)

One of the organizers of the Institute of Marine Biology.

A famous scientist known for his works in marine hydrobiology and zoology of marine invertebrates and one of the world's best experts in isopod systematics.

The author of a new concept for the formation of deep-sea fauna in the world's oceans.

O.G. Kussakin made a great contribution to the study of intertidal flora and fauna in the Russian Far Eastern seas.



Academician of the Russian Academy of Sciences
Vladimir Leonidovich Kasyanov (1940–2005)

A Director of the Institute of Marine Biology (1989–2005).

The founder and organizer of the school of thought in the reproductive and developmental biology of marine organisms.

A scientist famous for his fundamental works in comparative embryology and reproductive strategy of marine invertebrates, biology and conservation of marine biota, biosphere evolution, and climate change on Earth.

V.L. Kasyanov suggested to build a Russia's largest aquarium in Primorsky Krai. This suggestion was supported by the President of the Russian Federation.



Academician of the Russian Academy of Sciences
Andrey Vladimirovich Adrianov (born in 1964)

A Director of the Institute of Marine Biology (2005–2016).

A Director of the NSCMB FEB RAS (2016–2018).

A Vice President of the Russian Academy of Sciences since 2017.

The Scientific Head of the NSCMB FEB RAS since 2018.

A Vice President of the All-Russian Hydrobiological Society, Russian Academy of Sciences. A well-known expert in marine biodiversity, comparative morphology, and taxonomy of invertebrates. A.V. Adrianov initiated the process of joining the three scientific institutions (the Institute of Marine Biology, the Far Eastern Marine Reserve, and Primorsky Aquarium) into the National Scientific Center of Marine Biology.



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>400 monographs

published since the foundation of the Institute



Biota of the Russian Waters of the Sea of Japan, a series of identification keys

Since 1975, the *Biologiya Morya* scientific journal (with its English version, *Russian Journal of Marine Biology*) has been issued by the Institute. The journal is indexed and abstracted by the international publication databases.

Since 2004, the fundamental multi-volume series of identification keys *Biota of the Russian Waters of the Sea of Japan* has also been issued by the Institute. This issue is unique as it encompasses all groups of marine life, from bacteria to vertebrates, and includes keys to all marine taxa down to the species level. The series is bilingual, in Russian and English. It is scheduled to comprise more than 40 volumes.

>5000 academic papers

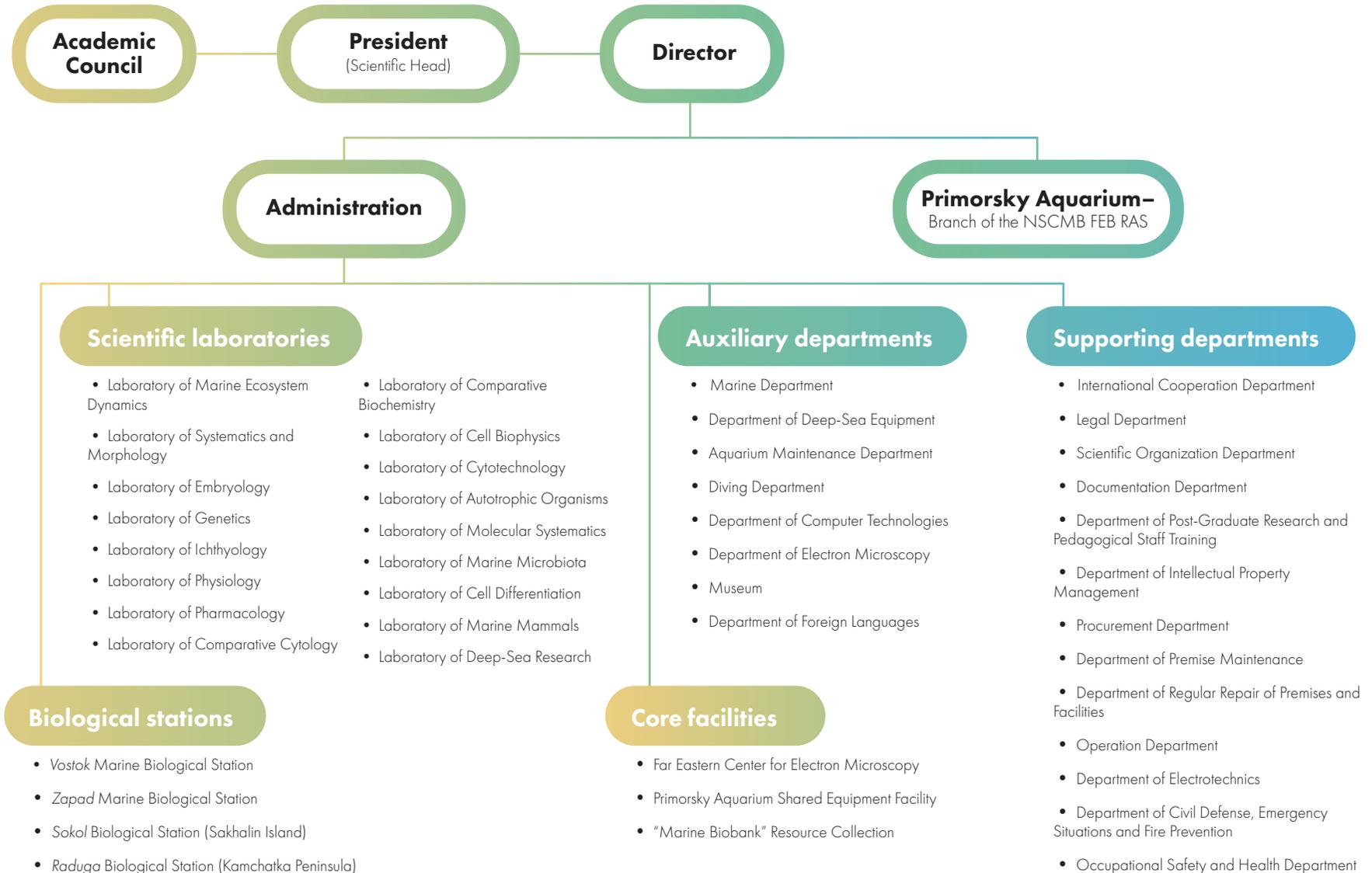
published in journals of Russia and other countries

The NSCMB FEB RAS, as a successor of the A.V. Zhirmunsky Institute of Marine Biology FEB RAS, is holding a leading position in terms of the number of publications on marine biology.

Over 3800 publications by authors with the NSCMB FEB RAS affiliation have been indexed in the Web of Science Core Collection, a global citation database, since 1975. These publications have been cited over 30 000 times in more than 19 500 articles.

The *h*-index of the NSCMB is 57

The structure and organization of the A.V. Zhirmunsky National Scientific Center of Marine Biology,
Far Eastern Branch, Russian Academy of Sciences



 **Almost 1500** staff members
work at the NSCMB FEB RAS,

 **including 200**
researches,

 **173**
of whom have academic degrees

The NSCMB FEB RAS runs educational activities within the framework of the postgraduate Biological Sciences programs for the following specialties:

- Biochemistry
- Ichthyology
- Genetics
- Ecology
- Hydrobiology
- Cell biology, cytology, histology
- Developmental biology, embryology
- Pharmacology, clinical pharmacology

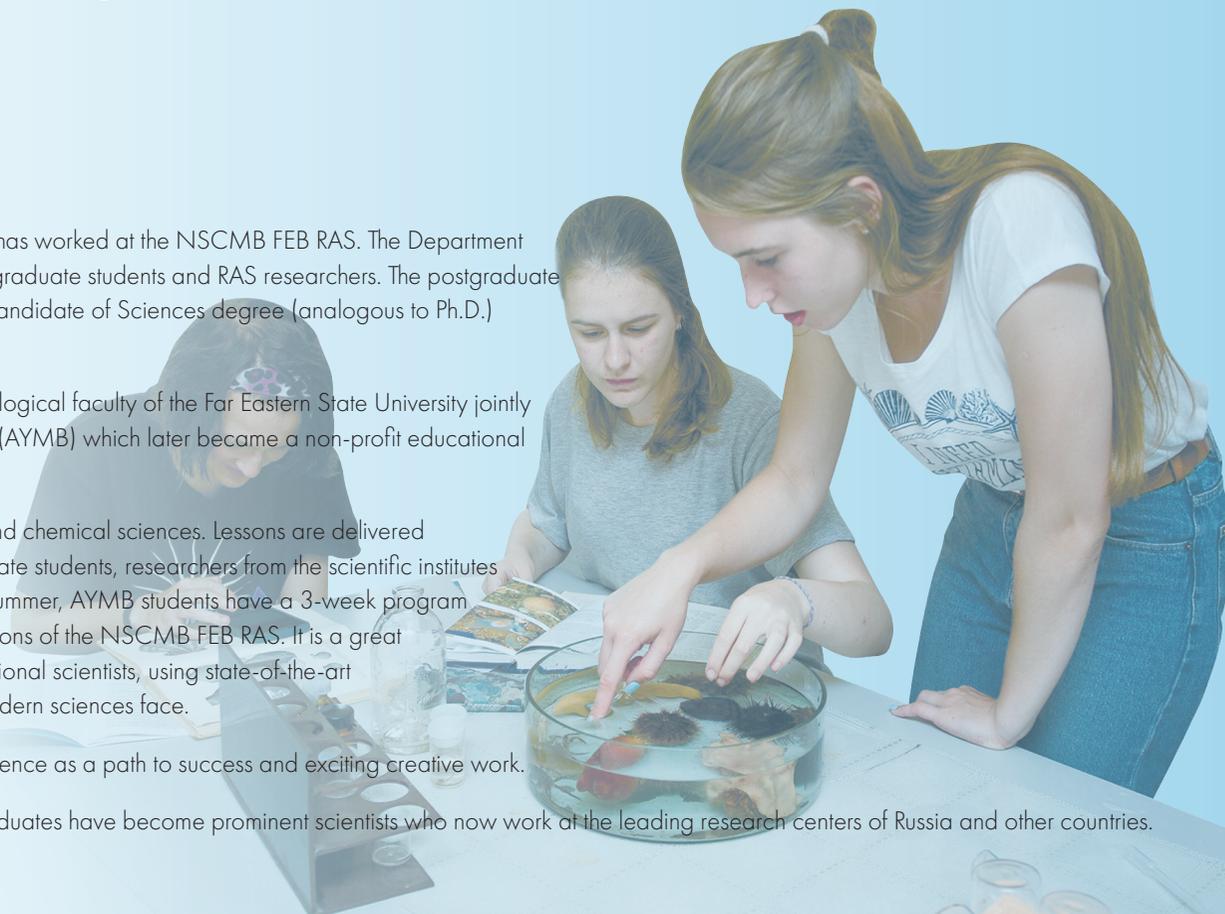
Since 1971, the Department of Foreign Languages has worked at the NSCMB FEB RAS. The Department runs a variety of English language courses for postgraduate students and RAS researchers. The postgraduate entrance exams and the qualifying exams for the Candidate of Sciences degree (analogous to Ph.D.) are offered also in French and German.

In 1978, the Institute of Marine Biology and the biological faculty of the Far Eastern State University jointly founded the Academy of Young Marine Biologists (AYMB) which later became a non-profit educational organization.

The AYMB trains high-school pupils in biological and chemical sciences. Lessons are delivered by Academy teachers, by university and postgraduate students, researchers from the scientific institutes of the FEB RAS, professors, and academicians. In summer, AYMB students have a 3-week program of field training at one of the marine biological stations of the NSCMB FEB RAS. It is a great opportunity for schoolchildren to learn from professional scientists, using state-of-the-art equipment and solving actual problems that the modern sciences face.

The AYMB broadens students' minds and shows science as a path to success and exciting creative work.

In the 40-year history of the AYMB, many of its graduates have become prominent scientists who now work at the leading research centers of Russia and other countries.





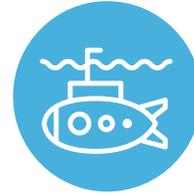
The NSCMB FEB RAS has all facilities and resources required for a wide range of marine biology studies, from laboratory equipment to marine expeditions with deep-sea remotely operated vehicles.



Three core facilities with unique research equipment



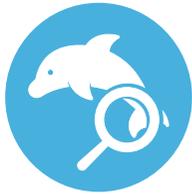
Small-displacement vessels, boatsheds, two piers on Russky Island



Deep-sea submersibles



Diving services



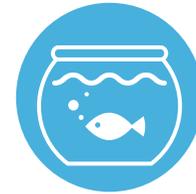
Marine Mammal Research Station with open sea pens for animals (Russky Island)



Field research stations (Primorsky Krai, Sakhalin, Kamchatka)



Library



Research facilities with tanks for experiments on fish and invertebrates



Repository of scientific collections



Two conference halls with 200 seats each (NSCMB FEB RAS, Primorsky Aquarium); one conference room with up to 50 seats (Vostok Marine Biological Station)



Hotel for staff and visiting guests on Russky Island

Biological stations

The NSCMB FEB RAS has biological stations in Primorsky Krai, Kamchatka, and on Sakhalin Island.



Raduga Biological Station

Sokol Biological Station

Vostok Marine Biological Station



Vostok Marine Biological Station

The Vostok station is situated on the coast of Vostok Bay (in Peter the Great Bay) at a distance of 160 km from Vladivostok. The station can support a wide range of marine investigations. It provides laboratories, small-displacement boats, diving service, a facility containing tanks with running sea water for experiments and keeping marine organisms. There is also an opportunity to conduct underwater research using ROVs. A pier can berth boats with up to 2.5 m draft. The station carries out meteorological and hydrological observations.

A conference room can seat up to 50 people.

The station provides board and lodging, and also other amenities that allow living and working here all the year round.

Scientists from Russia and abroad regularly come here to conduct their research.



Sokol Biological Station

The Sokol station is located in the south of Sakhalin Island, in a valley of three rivers where salmon spawn, and near a fish hatchery. It is located almost at the intersection of the railway and the highways and, thus, is easily accessible by transport. The station conducts long-term genetic and physiological studies of Pacific salmon. It offers summer- and winter-type accommodation and laboratory space for researchers.



Raduga Biological Station

The Raduga station is situated at Lake Azabachye, Kamchatka Peninsula, quite far from cities and villages, at the site of an ancient, Neolithic settlement.

The station is used to study the population structure, dynamics, and interspecific interactions in Pacific salmon. The nearest populated place, the Ust-Kamchatsk settlement, is 40 km away. Due to a lack of roads, transportation is possible only by boat along the Kamchatka River and its branches. The station is powered by an electric generator and provides lodging and laboratory premises for scientists in summer.

In 1998 the Far Eastern Center for Electron Microscopy (FECM) was created.

There are now three core facilities at the NSCMB FEB RAS, registered on the website *Science and Technology Infrastructure of the Russian Federation* (<http://ckp-rf.ru>).

Areas of scientific research conducted at FECM



BIOLOGY

(biodiversity, microbiology, virology, genetics, developmental biology, cell biology, immunology, neurobiology, physiology, and aquatic toxicology)



MEDICINE

(histology and cytology)

Services provided by the FECEM



- ✓ Examination of biological and nonbiological specimens by scanning electron microscopy (sample preparation, SEM imaging, and X-ray microanalysis).
- ✓ Examination of biological and nonbiological specimens by transmission electron microscopy (sample preparation, TEM imaging, micro X-ray diffraction analysis).
- ✓ Examination of autofluorescent or fluorescently labeled biological specimens by scanning confocal microscopy. Three-dimensional (3D) reconstruction. Documentation and analysis of dynamic processes in live systems. Spectral analysis.
- ✓ Imaging of surface structures in biological specimens (cells, organelles, and macromolecules) by high-resolution atomic force microscopy. Analysis of surface properties in specimens.

Measurement techniques applied at the FECEM



Atomic force microscopy

High-resolution imaging of surface structures in biological specimens (cells, organelles, and macromolecules). Analysis of local surface properties in specimens (e.g. viscoelastic or adhesive characteristics), which is impossible with other microscopic techniques.

Laser microdissection

Isolation and concentration of biological samples (in live and fixed cell preparations) using a laser microdissection microscope.

Laser scanning confocal microscopy

Examination of autofluorescent or fluorescently labeled structures or specimens by LSCM. 3D reconstruction. Documentation and analysis of dynamic processes in live systems. Spectral analysis.

Light microscopy

Examination of cell and tissue structures by transmitted light and epifluorescence microscopy.

Scanning Electron Microscopy

High-resolution 3D imaging and examination of surfaces of biological and nonbiological specimens sputter-coated with gold or platinum, and also uncoated and wet specimens under low vacuum conditions.

Transmission Electron Microscopy

Examination of ultrastructure of biological and nonbiological specimens. Analysis and mapping of elemental composition of biological and nonbiological samples by energy-dispersive X-Ray spectroscopy. 3D reconstruction by TEM- and STEM-tomography.

Raman spectroscopy

Studies of Raman spectra of biological and nonbiological specimens to identify their chemical composition and molecular structure by laser confocal Raman scattering spectroscopy.

Core facilities:

Primorsky Aquarium Shared Equipment Facility

2019

The Primorsky Aquarium Shared Equipment Facility (SEF) was organized on the basis of laboratories with up-to-date research equipment that provides world's most precise results in a wide range of biological and related sciences.

The safety of marine mammals and the humane treatment of them are the highest priority issues for the NSCMB FEB RAS and the Primorsky Aquarium.



over 30 items

of high-tech and up-to-date cytological, biochemical, and genetic research equipment

24 kinds of services using **39** measurement techniques.

Areas of research conducted at the Primorsky Aquarium SEF



Extraction of biologically active compounds from marine organisms and studies of their effects



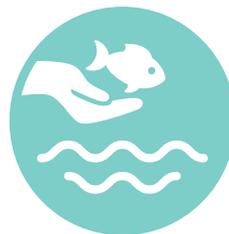
Molecular, cellular, and systemic adaptations of marine animals to captivity and training; neurobiology, immunology, physiology, genetics, reproductive biology, and veterinary of marine mammals



Integrated investigations into the biology and physiology of animals kept at the Primorsky Aquarium



Investigation into the genetic diversity of marine animals, plants, and microorganisms; compilation of genetic databases for rare and commercially valuable aquatic species



Technologies for breeding rare and endangered marine animals and their release in to the wild



Cryopreservation and subsequent recovery of gametes, somatic cells, larvae, and tissues of aquatic organisms



Services provided by the Primorsky Aquarium SEF



Observations and experiments on live organisms kept at the Primorsky Aquarium

More than 9500 individuals of over 400 marine and freshwater species are kept captive in the display tanks and in the tanks of the Scientific Acclimation Facility. The live collection includes animals and plants from all the oceans and climatic zones on Earth. Availability of certain species and details of experiments should be discussed prior to the planned work.

Training of marine mammals and birds for studies of their neurobiology, general physiology and physiology of sensor systems, immunology, reproductive biology, ecology, ethology, and veterinary based on non-invasive methods

A variety of marine mammals and birds live in captivity at the Primorsky Aquarium: bottlenose dolphins, a Pacific white-sided dolphin, beluga whales, northern fur seals, spotted and Baikal seals, a Steller sea lion, a walrus, and Humboldt penguins. The issues of training the animals for specific studies, and also providing their blood, urine, feces, and flush and mucosal swabs samples are to be discussed personally prior to the works.

Next generation sequencing (NGS) on an Illumina MiSeq sequencer

Library preparation; loading of samples and sequencing; data validation and analysis, including sequence assembly, annotation, polymorphisms' detection, gene expression estimation, etc. Please, consult a SEF specialist before ordering the service.



Routine PCR to amplify loci and genes, real-time PCR, testing of PCR results by horizontal agarose gel electrophoresis, and sample preparation for Sanger sequencing

Sample preparation, detection, and quantification of particular DNA sequences in samples, preparation of working gel concentration, loading of samples, application of electric fields to them, estimation of results, running the PCR test, and purification of the products before sequencing.

Extraction of biological sample components, preparatory and analytical chromatographic separation of biopolymers

Making biological sample solutions based on various eluents with possible stages of homogenization, filtration, dialysis, centrifugation, etc.; separation of components of the solutions and suspensions by density gradient centrifugation; selective sedimentation of biopolymers and their fractions; protein fractionation by salting out, etc.; various techniques of gas and liquid chromatography or their combination to analyze the composition of mixture or obtain pure substances or their fractions.

Photometric analysis of solutions and suspensions

Spectrophotometric or colorimetric analysis to determine the concentration of particles and biopolymers in a solution; detection of enzyme activity in solutions; measurements of light absorption spectra in various substances.

Freeze-drying of biological samples

Complete dehydration of samples, with their biological activity preserved and the structure of their biopolymer molecules maintained intact to a maximum possible extent.

Detection and quantification of proteins using enzyme-linked immunosorbent assay (ELISA) and western blot

Identification of analytes in solutions using various ELISA systems; selection and optimization of ELISA conditions, transferring proteins from polyacrylamide gel to an adsorptive membrane of selected material with subsequent staining with nonspecific protein dyes (Ponceau S, Coomassie brilliant blue) or with antibody-based systems.

Vertical gel electrophoresis

A range of protein electrophoresis techniques and their combinations (native and denaturing PAGE, isoelectric focusing, 2-D electrophoresis, etc.); high resolution PAGE of nucleic acids.

Morphological examination of organs and tissues: preparation of temporary or permanent slides (smears, imprints, sections), histological, cytological immuno- and histochemical, morphometric assays, examination of specimens using light, epifluorescence, and confocal microscopy

Sampling and fixation of biological samples, cutting of cryosections of unfixed material; cutting of histological sections from biological material fixed in various media; cutting of thin, semithin, and ultrathin sections on an ultramicrotome, a cryostat, and a rotary microtome; histochemical and immunohistochemical staining of samples; quantitative and qualitative assessment of the chemicals' content of cells and tissues; examination of cell and tissue structure using transmitted light and epifluorescence microscopy; examination of autofluorescent and fluorescently labeled biological objects using laser scanning confocal microscopy.

Microtomographic studies of tissues and whole organisms

High-resolution desktop microtomography allows analysis and visualization of the internal structure of specimens in a non-destructive manner. X-ray shadow images obtained by scanning have a resolution of $14\,456 \times 3240$ pixels. A total of up to 2600 sections can be made per each scan with their 209 MP images reconstructed.

Cell technologies, cell cultivation, and cytophotometric analysis

Laminar flow hoods, incubators for maintaining cultures of cells, tissues, etc.; spectral analysis based on selective absorption for quantitative and qualitative determination of chemical substances in cells.

Determination of cell composition and immune status of organism and cell populations, cell fractionation

Determination of proportions of the cell populations by morphometric and cytochemical (immunocytochemical) staining; determination of erythrocyte sedimentation rate, blood type, and Rh-factor; estimation of coagulability and composing of coagulogram; estimation of cell functional activity by NBT-test and DAB staining; determination of phagocytic activity and viability of cells; haemoagglutination.

Manipulations with cultured microalgae clones

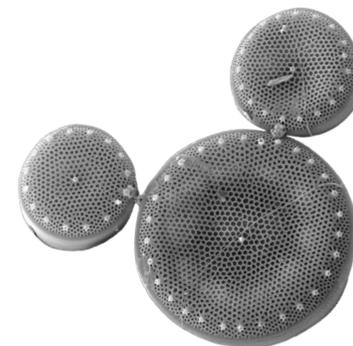
Maintenance, subculturing, and monitoring of microalgae clone cultures; consultations on methods for their isolation; sample preparation for light and electron microscopy.

Consultations and training in laboratory equipment usage and experimental techniques for cell and molecular biology, biochemistry, and morphology studies

Training in SEF equipment usage and handling; training in the techniques used at the SEF; support of research works carried out at the SEF.

Educational services

Guided tours for pupils and students; lectures for university and postgraduate students.



Core facilities:
Resource Collection "Marine Biobank"

The Marine Biobank stores collections of intertidal, shelf, and deep-sea organisms from the Russian Far Eastern seas. A substantial part of specimens were collected from the coastal waters of Vietnam and other regions of the world's oceans (Indian, Atlantic, and Arctic). To date, paratypes and holotypes of more than 300 species of marine animals and plants from different taxonomic groups have been deposited in the museum.

The Resource Collection "Marine Biobank" has been formed on the basis of the following four collections deposited in the laboratories and other departments of the NSCMB FEB RAS, comprising a total of over 2000 items:

- Live cultures of marine heterotrophs
- Live cultures of marine filamentous fungi
- Live cultures of marine microalgae
- Live cultures of brown seaweed gametophytes

The Marine Biobank uses nitrogen cryogenic tanks and other special laboratory equipment, as well as original preservation protocols developed by the NSCMB FEB RAS specialists, to provide various cryopreservation modes and safe storage of the collections.

Our marine microbiota collection is unique because

The marine microbiota in the collection is represented by heterotrophic bacteria, filamentous fungi associated with commercially important marine species, and potentially invasive species introduced in the Russian Far East with ballast water of ships.

- (1) it contains original (native) clones isolated by the NSCMB FEB RAS specialists from coastal waters of the Russian Far Eastern seas;
- (2) it includes organisms producing phytotoxins and the species potentially causing harmful algal blooms.

Services provided by the Resource Collection "Marine Biobank"



- ✔ Material from live collections of marine microorganisms provided for research and education.
- ✔ Measurement of fluorescence, luminescence, absorbance, and cell concentration on a Spark 10M multimode microplate reader (TECAN).
- ✔ Consultations and information on biotoxicity of coastal marine areas and marine-derived products.
- ✔ Organization and running of scientific and educational events concerning biobanking of marine organisms.
- ✔ Reception of material for storage in liquid nitrogen vapor (BIOSAFE 420, at -196°C).
- ✔ Reception of material for storage in a LiCONiC STC automated storage system at -80°C .

Areas of research conducted at the Resource Collection "Marine Biobank"



- Life sciences
- Biomedicine and veterinary
- Cell technologies
- Methods for monitoring and forecasting environmental conditions, pollution prevention and cleanup
- Sustainable nature management.

Handling and storage



- Processing and deposition of specimens
- Cataloging of collection items
- Collection safety monitoring and maintenance

https://ckp-rf.ru/ckp/506171/?sphrase_id=4175493

<http://marbank.dvo.ru/index.php/ru/>





Museum is open
from **10 a.m. to 16 p.m.**
from Monday to Friday

The Museum of the A.V. Zhirmunsky National Scientific Center of Marine Biology FEB RAS exhibits a unique and one of the richest collections of marine organisms gathered by researchers of the NSCMB FEB RAS for 50 years of their work in the world's oceans.

The Museum shows inhabitants of the Russian Far Eastern and tropical seas, the history of marine biological sciences, modern methods for oceanic studies, and human–ocean relationships from ancient times until present.

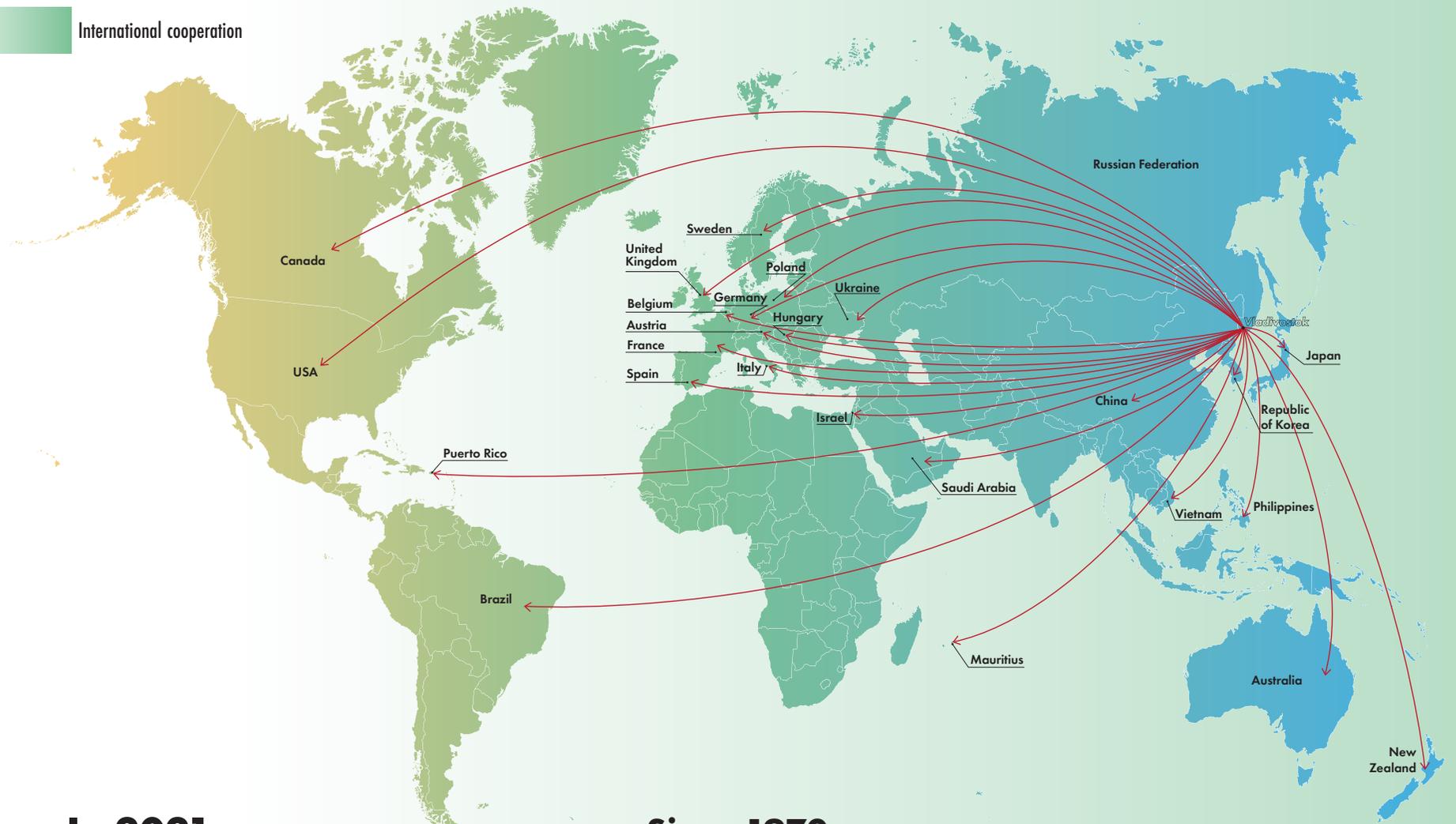
The Museum collections are added to with new items every year, new exhibits and displays opened, and new programs and tours for visitors regularly offered.

 17 Palchevskogo str.
Vladivostok, Russia, 690041

The Museum can also be reached by electric train from Vladivostok to the Chaika station.

 +7 (423) 232 05 43

 www.museumimb.ru



In 2021, the NSCMB FEB RAS implemented **41** international agreements with partners from **10 countries** (China, the Republic of Korea, Vietnam, Japan, the USA, Germany, Belgium, Ukraine, New Zealand, and the Philippines).

Since 1970, more than **900** scientific papers have been published in the Web of Science indexed journals by the researchers of the NSCMB FEB RAS in co-authorship with colleagues from **48 countries** (including over 160 papers published jointly with researchers from the USA, over 130 with researchers from Japan, and over 100 with researchers from Germany). For the same period, more than **800 scientific papers** have been published in the Scopus indexed journals. Several books by E.A. Tityanov (Dr. Sci. Biol.), A.B. Imbs (Dr. Sci. Biol.), and K.A. Lutaenko (Dr. Sci. Biol) with co-authors from Vietnam, China, Japan, Canada, and the Republic of Korea have been published in the last decade.

The NSCMB FEB RAS has a long history of cooperation with academic institutions and universities in Europe and East Asia. This cooperation is aimed to develop international academic exchange, scientific partnership, and cooperation with international associations. It also includes international meetings with scientists, young researchers, and university students from Russia and other countries. The NSCMB FEB RAS promotes the development of international relations based on the principle of equality of all participants, within the framework of multiple agreements on scientific and educational cooperation with governmental and international organizations, and on the basis of joint research laboratories.

Specialists of the Institute of Marine Biology (IMB) and, subsequently, the NSCMB FEB RAS have been developing international relations since the foundation of the Institute. The first Soviet–Japanese symposium on the biology of marine mollusks and echinoderms was held in **1974** in Nakhodka. In **1979**, IMB researchers actively participated and organized several sections at the 14th Pacific Science Congress in Khabarovsk. A series of Soviet–Vietnamese workshops on marine biology, followed by publication of the proceedings, were held in the **1980s**. A number of world’s most famous scientists (Dennis Crisp, Otto Kinne, John Costlow, Thor Heyerdahl, Tadashige Habe, Ruth Turner, J.-M. Peres, et al.) visited the **Vostok** Marine Biological Station during the USSR period.

In the 1990s, the scale of international collaboration increased and became almost global, remaining on a level of personal relations between scientists. The most active inter-institutional cooperation has been established between the NSCMB FEB RAS and research institutions of the Federal Republic of Germany (Senckenberg World of Biodiversity), the Republic of Korea (National Marine Biodiversity Institute of Korea, MABIK; Korea Institute of Ocean Science and Technology, KIOST), the People’s Republic of China (Institute of Oceanology, Chinese Academy of Sciences, IOCAS), and the Socialist Republic of Vietnam (Institute of Oceanography, Vietnam Academy of Science and Technology).

Currently, there are four successfully implemented “open” joint (Russian–Vietnamese and Russian–Korean) laboratories. The NSCMB FEB RAS participates in a number of international organizations. Specialists of the NSCMB FEB RAS have become members of committees and commissions at the Asia-Pacific Network for Global Change Research (APN), the Action Northwest Pacific Plan (NOWPAP) for the Protection, Management and Development of the Marine and Coastal Environment of the Northwest Pacific Region, the North Pacific Marine Science Organization (PICES), UNESCO, etc.

The NSCMB FEB RAS has regularly hosted international conferences and meetings: the Far Eastern Malacological Society organized three international workshops (in 2004, 2014, and 2019); geneticists held 10 international symposiums (*Modern Achievements in Population, Evolutionary, and Ecological Genetics*, MAPEEG); the *Cell Cultures of Marine and Freshwater Animals* conference was held in 2015; a series of international workshops on the problems of global environment and climate changes took place since the 1990s; five joint Russian–Chinese conferences on marine biology and biodiversity were organized in 2007, 2010, 2012, 2017, and 2019; there were also a series of Russian–German meetings on deep-sea biology, an international conference on nematology, and many other scientific events.

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The Primorsky Aquarium is one of
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- * Provide conditions for basic and applied research in marine biology, biotechnology, and related sciences.
- * Promote environmental education and raise public awareness of science.

The Primorsky Aquarium is a branch of the A.V. Zhirmunsky National Scientific Center of Marine Biology, Far Eastern Branch, Russian Academy of Sciences.

In 2019, the Primorsky Aquarium Shared Equipment Facility (SEF) was created on the basis of several laboratories and departments. A wide range of basic and applied research studies have been carried out at the SEF in collaboration with the universities, research institutes of the Russian Academy of Sciences, and other scientific partners.

The Primorsky Aquarium was established on the instruction of the President of the Russian Federation. Its official opening took place on **September 3, 2016**. Russian President Vladimir Putin, Prime Minister of Japan Shindzo Abe, South Korea's President Park Geun-hye, and other top-level officials visited the opening ceremony.

The total interior area is more than **37 000 m²**. The Aquarium's building, designed to resemble a slightly open white shell of a mollusk, can accommodate up to five soccer fields. One wing of the building houses the main tank with a **70 meter** underwater tunnel. A dolphinarium with a pool and **800 seat** viewing stands occupies the other wing.

Inhabitants of the Aquarium represent all the oceans and climatic zones of Earth. The Aquarium has five research and two production laboratories, and also two learning laboratories for pupils. These provide a wide range of opportunities for both basic and applied scientific research and educational activities.

The Primorsky Aquarium offers guided tours through displays, dolphin shows, classes for kids, medium and high school students, and also lectures, exhibits, charity events, and science parties. Special classes for children with disabilities allow them meet the marine inhabitants of the Aquarium.

The nine permanent exhibits comprise a total of
135 tanks and pools

with an overall capacity of
25 000 m³.



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Invitation to research cooperation



The policy of the NSCMB FEB RAS and its branches aims to actively involve graduate and post-graduate students, bachelors of science, young researchers, and foreign specialists into scientific research for the purpose of integrating science and education.

The NSCMB FEB RAS invites to jointly apply for research grant awards from state-owned scientific and public foundations, participate in the federal target programs, and also welcomes researchers to work at the NSCMB FEB RAS core facilities.

Research and accommodation opportunities for visiting scientists



Marine mammals
(available for experiments
and taking biological samples)



Research tools and instruments



Tanks to set up experiments



Biological stations
(in Primorsky Krai, Sakhalin Island,
and Kamchatka Peninsula)



Accommodation
(hotel and dormitory)



Diving service providing
collection of marine samples



Workplaces





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