

# Activities of Russian Stockholm Convention Regional Centre in 2021-2022

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# SCRS in Russia based hosted by N.N. Vorozhtsov Novosibirsk Institute of Organic Chemistry SB RAS

The screenshot shows a web browser window displaying the Stockholm Convention website. The top navigation bar includes links for 'Basel Convention', 'Rotterdam Convention', 'Stockholm Convention', and 'Synergies'. The main header features the UN Environment Programme logo and the Stockholm Convention logo with the tagline 'Protecting human health and the environment from persistent organic pollutants'. The breadcrumb trail reads: 'You are here: Stockholm Convention > Partners > Regional Centres > The Centres > ANO-CIP - Moscow, Russian Federation'. The left sidebar contains a 'Regional Centres' section with a list of links: Overview, Decisions, The Centres, Workplans, Activity Reports, Performance evaluation, Selection of Centres, Small Grant Programme, Meetings, Workshops, and Archives. Below this are sections for 'Small Grant Programme' and 'Activities'. The main content area is titled 'Stockholm Convention Regional Centre for Capacity-building and the Transfer of Technology, Russia (SCRC Russia)'. It features the NIOCH SB RAS logo and provides the following information: Location: Novosibirsk, Russian Federation; Date of establishment: May 2017 (nomination); Hosted by: Novosibirsk Institute of Organic Chemistry (NIOCH SB RAS); Parties served: Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyzstan, Mongolia, Russian Federation, Tajikistan, Turkmenistan, Ukraine, Uzbekistan; Expertise: The centre has expertise in environmental quality monitoring including trace and ultra-trace level POPs monitoring in different matrices, undertaking annual scientific expeditions in remote areas of Siberia, Kazakhstan and Mongolia for monitoring POPs level in the waterbodies and works in the prevention and response to chemical emergencies. A link for more information is provided: <http://web.nioch.nsc.ru/en/>. At the bottom, a contact box lists the Coordinator as Prof. Elena Bagryanskaya and the Contact person as Prof. Elena Bagryanskaya/Dmitri Polovyanenko.

<http://chm.pops.int/?tabid=600>

<http://web.nioch.nsc.ru/scregion2018/>

<http://web.nioch.nsc.ru/ncc2018/>

**Coordinator/head of the Center:** Prof. Elena Bagryanskaya – [egbagryanskaya@nioch.nsc.ru](mailto:egbagryanskaya@nioch.nsc.ru)

**Contact person/vice head of the Center:** Dr. Dmitry Polovyanenko – [dpolo@nioch.nsc.ru](mailto:dpolo@nioch.nsc.ru)<sup>2</sup>



# The Stockholm Convention Regional and Subregional centers

**SCRC in Russia, Novosibirsk city**



**North Asia**  
**Central Asia**  
**East Europe**  
Azerbaijan,  
Belarus,  
Georgia,  
Kazakhstan,  
Kyrgyzstan,  
Mongolia,  
Russian Federation,  
Tajikistan,  
Turkmenistan,  
Ukraine,  
Uzbekistan



# Goals and work plan of Regional Centre on Stockholm convention in Russia



**Global aim:** implementation of Stockholm Convention in the region

**The work plan for 2020-2023 includes:**

- 1) recovery the regional capacities in chemical analyses of toxic chemicals including POPs in the modern levels,
- 2) cooperating with European organizations for education of our stuff, knowledge exchange and methodology support,
- 3) consolidating the existing analytical platforms and organizations, necessary infrastructure for information collecting and experience exchange,
- 4) support in implementation of the Global Monitoring Plan to the Stockholm Convention by creating monitoring networks and training experts in sampling,
- 5) data mining and management.



# Analytical capabilities and equipment of SCRC in Russia

## Certified and Multi-access Analytical Centers NIOCH

- Analysis and identification of organic substances and materials;
- Development of physical-chemical methods for the analysis of substances and materials;
- Evaluation of toxicological and pharmacological parameters of substances;
- Identification of persistent organic pollutants
- Effective evaluation, including monitoring of levels of persistent organic pollutants (POP) such as
  - polycyclic aromatic hydrocarbons (PAHs), polychlorinated dibenzo-p-dioxins and furans (PCDDs/Fs), polychlorinated biphenyls (PCBs), organochlorine pesticides (OCPs), and other industrial and agricultural chemicals
- Quantity measurement and properties investigation of microplastics as a pollutant and potential carrier of POPS;
- Adaptation, development of the methods of analysis of POPs and other organic pollutants, microplastics in environmental objects;
- Conducting internships on analysis techniques, measurement methods etc.





# 2020-2022: new Lab with modern equipment for POPs and microplastic pollutants analysis

## New equipment for POPs and microplastic pollutants analysis

- Agilent gas mass-spectrometry system for POPs analysis;
- Agilent gas chromatography system with electron capture detector (ECD) for precise POPs content analysis;
- 2 Agilent liquid chromatography systems;
- Pyrolytic system for mass-spectrometry for analysis of plastic waste/microplastic





# Analytical measurements of POPs content and identification of organic substances

## Recent activities of the analytical laboratory:

1) Analysis of the content of certain groups of persistent organic pollutants including POPs (polychlorinated biphenyls, polycyclic aromatic hydrocarbons etc.) in environmental objects from various sites of industrial enterprises, energy companies in Siberian and Arctic region;

2) Identification of organic substances, including production waste, to determine the composition and possible subsequent disposal;

3) Identification of substances in the atmospheric emissions of industrial enterprises;

4) Analysis of the content of organic pollutants within the framework of the expedition in polar region.





# Measurements of POPs and other organic substances within the framework of the Green Belt of Cities project

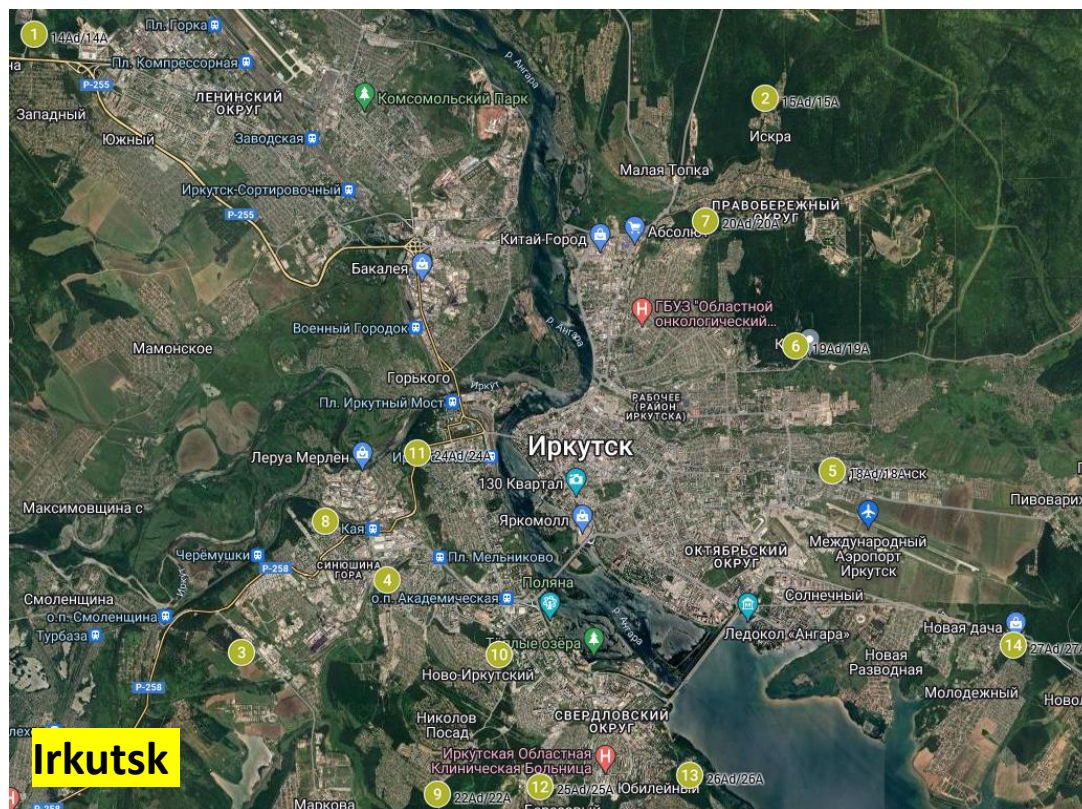
Analysis of the content of persistent organic pollutants and other organic substances in soils and plants near the cities of the Irkutsk region to assess the anthropogenic impact, including as a result of the activities of industrial enterprises;

Sampling points in the territories around the cities of the Irkutsk region: Irkutsk

● - sampling points

Measurement: content of POPs and other organic compounds, incl.

21 individual Polycyclic aromatic hydrocarbons.



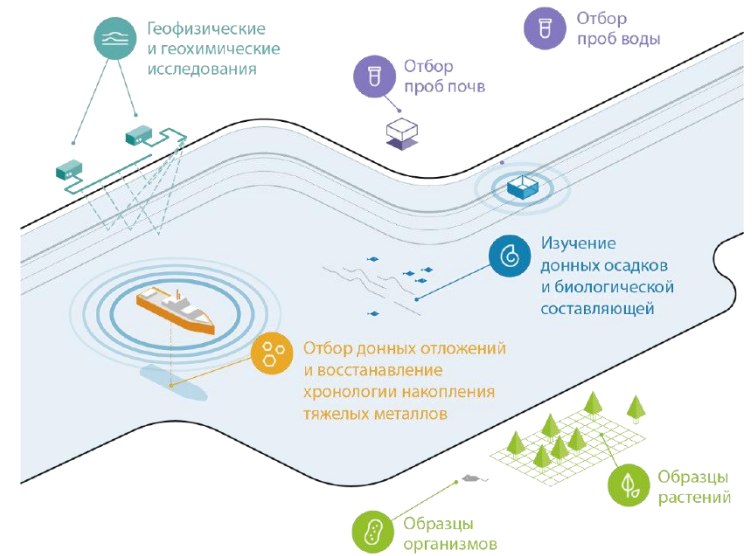




## Arctic expedition 2021, 2022 (Norilsk region)

The Siberian Branch of the Russian Academy of Sciences (SIC "Ecology"), at the invitation of the Industrial company, sent to the Arctic is a group of scientists from 14 research institutes for a comprehensive study of the ecological environment of the territory (<https://norilskexpedition.ru> / and <https://tass.ru> /).

**Dozens of natural points have been surveyed on Pops and other pollutants contamination.**





## Metro train in Novosibirsk, 2021



As part of public promotion of environmental education and the popularization of respect for nature, our center initiated the placement of information on the work of scientists in the field of environmental safety on metro trains in the Novosibirsk metro.



2001-2021





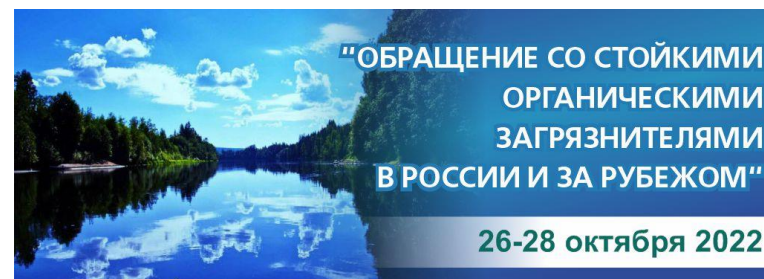
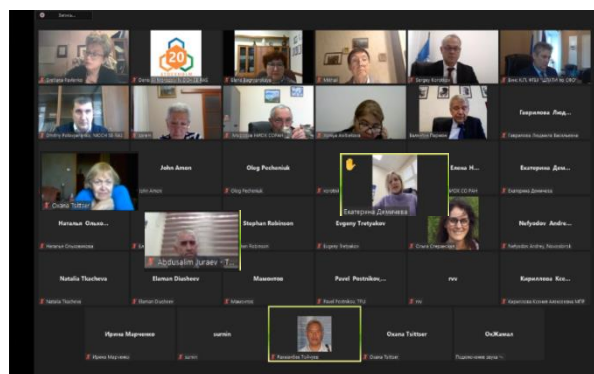
# First and Second Conference “Management of persistent organic pollutants in Russia and abroad”

28-29 October 2021, (Online)  
26-28 October, 2022 (Online)



**Participants:** state authorities and leading specialists of scientific organizations and supervisors in the field of chemical and environmental safety, as well as public environmental organizations

<http://web.nioch.nsc.ru/ecology2022/index.php/en/>



## In 2021 Participants from:

Russia  
Mongolia  
Tadjikistan  
Kyrgyzstan  
Kazakhstan  
Uzbekistan



## In 2022 Participants from:

Russia  
Belarus  
Tadjikistan  
Kazakhstan  
Uzbekistan  
Armenia





# Conference “Management of persistent organic pollutants in Russia and abroad” October 26-28, 2022 (Online)



Experience exchange on activities for implementation of Stockholm Convention in the Countries. It is worth noting the experience of Kazakhstan and Belarus.

## Стокгольмская конвенция о стойких органических загрязнителях

принята в г. Стокгольме (Швеция) 22 мая 2001 года  
вступила в силу для Республики Беларусь 17 мая 2004 года



## Belarus experience

### Переупаковка непригодных пестицидов, находящихся на складах организаций



### Проведение инвентаризации и маркировки оборудования, содержащего ПХБ



С целью предотвращения поступления в окружающую среду и распространения в ней полихлорированных бифенилов - чрезвычайно опасных для окружающей среды и человека химических веществ, разработаны и утверждены

**ПРАВИЛА ОБРАЩЕНИЯ С ОБОРУДОВАНИЕМ И ОТХОДАМИ,  
СОДЕРЖАЩИМИ ПОЛИХЛОРИРОВАННЫЕ БИФЕНИЛЫ**

(постановление Минприроды от 24 июня 2008 г. № 62)



## Video about SCRC in Russia

A video about the work of the National Focal Point and Regional Center for Persistent Organic Pollutants under the Stockholm Convention, N.N. Vorozhtsov Novosibirsk Institute of Organic Chemistry Siberian Branch of Russian Academy of Sciences, Novosibirsk, Russia (NIOCH SB RAS YouTube channel).

<https://www.youtube.com/watch?v=X37xhM2InRw>



NIOCH SB RAS and Stockholm Convention



2011 - 2021

National Focal Point and Regional Center for Persistent Organic Pollutants under the Stockholm Convention  
N.N. Vorozhtsov Novosibirsk Institute of Organic Chemistry  
Siberian Branch of Russian Academy of Sciences, Novosibirsk, Russia





## Accumulation of the data of POPs content in environmental objects

**Review “The State (Inventory) Overview of Persistent Organic Pollutants in Environmental Objects of the Murmansk Region”** [Tkacheva N.I., Morozov S.V., Tretyakov E.V., Tkachev A.V., Environment protection and nature reserve management (in Russian), 2021, No.3-4(4).

**The review provides** information about the current state of environmental pollution and “hot points” in the Murmansk region - *data of the period 2000-2019 on the content of POPs in various environmental objects, including food.*

**Sources of information** - *scientific publications, open reports and reports of Russian and international organizations, official publications on the state of the environment of the Murmansk region and the Arctic zone of the Russian Federation.*



Thank you!



<http://chm.pops.int/?tabid=600>

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