International scientific and practical conference "BRICS Water Forum" is organized with the support of the Ministry of Education and Science of the Russian Federation.

The aim of the conference is to discuss the sustainable water resources use and related advanced solutions.

The outcomes of the conference are:

- Establishment of a common water resources community of researchers and experts working in BRICS countries
- Identification of existing capacities to undertake joint research and development, as well as technology transfer to address the needs of the water sector and the related sectors

Program of the Conference

29 September, 2016

9.30–10.00	**Registration of participants** *and welcome coffee*
10.00–10.40 *(room 518)*	**Ceremonial Opening of the conference** *Deputy Minister of Education and Science of the Russian Federation* *Representative, Embassy of the Republic of India in Moscow* *Representative, Embassy of the People's Republic of China in Moscow* *Representative, Department of Science and Technology of the Republic of South Africa*
10.40–12.30 *(room 518)*	**Plenary session 1. Water policy and international water cooperation of BRICS countries** **Russian Federation's experience in transboundary water management** *Vadim Nikanorov (Federal Agency for Water Resources, Russia)* **Russian Federation's Water Strategy 2030** *Mikhail Bolgov (Institute of Water Problems of the Russian Academy of Sciences, Russia)* **Water research for evidence based policy-making in South Africa** *Barbara Schreiner (Water Research Commission (2012–2016), Pegasys Institute, South Africa)* **Advancement of water resources management, research, and education in Brazil** *Francisco de Assis de Souza Filho (Federal University of Ceara, Brazil)* **Climate change and water safety: case study in China** *Jun Xia (Research Institute for Water Security, Wuhan University; Key Laboratory of Water Cycle & Related Land Surface Processes, Chinese Academy of Sciences, China)* **The UNECE Water Convention and transboundary water cooperation** *Bo Libert (UN Economic Commission for Europe, Switzerland)* **The BRICS Water Cooperation Quotient (Index)** *Anumita Raj (Strategic Foresight Group, India)*
12.30–13.00 *(room 518)*	**Introduction to "Clean Rivers of BRICS" umbrella program for environmental rehabilitation of water bodies** *Abil Vezirov (Information and Analytical Centre for Water Industry Development, Russia)* **Presentation of BRICS Network University** *Boris Zhelezov (National Research University Higher School of Economics, Russia)*
13.00–14.00 *(cafeteria, 2nd floor)*	*Lunch*
13.00–18.30	**Poster session**
14.00–18.30 *(rooms 423, 424, 426, 429, 430, 431, 432, 508, 518)*	**Thematic sessions (in parallel)** **First meeting of the International Thematic Group "Water Resources" of BRICS Network University** *Moderator: Oleg Savichev (Tomsk Polytechnic University, Russia)*
16.00–16.30 *(room 433)*	*Coffee-break*
16.30–18.00 *(room 508)*	**Round table 1 "Management of water resources for agriculture in the Silk Road Economic Belt. The experience of China and BRICS countries"** *Moderator: Roman Girenko (Agency of System Design, Russia)*

18.30	**End of the first day program**
19.00	**Cultural program for the guests of Moscow**

30 September, 2016

9.30–10.00 *(room 518)*	**Registration of participants**
10.00–11.30 *(rooms 424, 426, 430, 432, 518)*	**Thematic sessions – continued** **Business meetings and negotiations of conference participants (in parallel)**
11.30–12.00 *(room 433)*	*Coffee-break and* **poster session**
12.00–13.30 *(rooms 424, 426, 430, 432, 518)*	**Thematic sessions – continued** **Business meetings and negotiations of conference participants (in parallel)**
13.30–14.30 *(cafeteria, 2nd floor)*	*Lunch*
14.30–16.15 *(room 518)*	**Round table 2 "Programs and financial instruments to support water-related research and innovation projects in BRICS countries"** *Moderator: Dmitry Korotkov (Ministry of Education and Science of the Russian Federation)*
16.15–16.30 *(room 433)*	*Coffee-break*
16.30–17.45 *(room 518)*	**Round table 3 "Foresight and STI policy for water resources"** *Moderator: Alexander Chulok (National Research University Higher School of Economics, Russia)*
16.30–17.45 *(room 508)*	**Round table 4 "Bottled table and mineral water"** *Moderator: Yury Rakhmanin (A.N. Sysin Research Institute of Human Ecology and Environmental Health, Russia)*
17.45–18.15 *(room 518)*	**Plenary session 2. Presentation of the outcomes of thematic sessions and round tables** *Thematic session chairs*
18.15–18.30 *(room 518)*	**Summing up and closure of the conference** *Victor Danilov-Danilyan (RAS Institute of Water Problems, Chairman of the Program Committee of BRICS Water Forum)*
18.30	**End of the conference**

Working languages: English, Russian (simultaneous translation)

Session 1

Use of transboundary water resources

"Water diplomacy" should be a tool for preventing conflicts among countries and strengthening their mutual trust. BRICS countries show examples of best practices in this area. Development of international cooperation mechanisms of BRICS countries is aimed at managing transboundary waterways and basins in a conflict-free fair manner, stepping up information exchanges and collaboration.

BRICS countries face common problems in developing and improving institutional mechanisms and methodologies for integrated management of water resources. A major issue here is adhering to integrated water resources management to ensure sustainable development and environmental protection. Solutions to common problems should be based on the basin management principle, and BRICS countries offer examples of relevant successful practices. Particularly close cooperation is required in monitoring transboundary waters in order to obtain information about water quality, design common standards and indicators for its assessment.

Session Chair

Vadim Nikanorov

Acting Head of the Federal Agency for Water Resources

Vadim Nikanorov graduated from Rostov State University with a degree in «Hydrogeology and Engineering Geology», holds PhD in geological and mineralogical sciences. He is the author of numerous research publications in water management. From 1982 to 1995, he worked in various positions in Kavminvodskoy hydrogeological expedition. From 1995 to 1997, he was Director of Zheleznovodsk branch of JSC "BNF Company". From 1998 to 2011, Vadim Nikanorov was a public servant – at the Committee for Natural Resources of the Rostov region, the Southern region Department of Natural Resources of the Russian Ministry of Natural Resources and Environment, in the Department of State Oversight and Prospective Development of Nature Use and Environmental Protection for the Southern Federal District, and in the Environmental Protection Committee of the Rostov region Administration. From 2004 to 2011, he was head of the Don Basin Water Management unit of the Federal Agency for Water Resources. From 2011 to 2016 – Deputy Head of the Federal Agency for Water Resources. On June 9, 2016, by the order of Prime Minister Dmitry Medvedev, he was appointed Acting Head of the Federal Agency for Water Resources. Vadim Nikanorov is the 3rd class Full State Counsellor of the Russian Federation and Honorary Servant of Water Industry.

Deputy Session Chair

Tatiana Bokova

Deputy Head of the Federal Agency for Water Resources

Tatiana Bokova graduated from the Monetary and Financial Department of the Faculty of World Economy of Moscow State Institute of International Relations (MGIMO) of the Ministry of Foreign Affairs. From 1992 to 2001, Tatiana Bokova worked in international companies and organizations. From 2001 to 2008, she worked in the Administration of the President of Russia. From 2008 to 2012, Tatiana Bokova was Deputy Executive Director of the "Russkiy Mir" foundation, established by the decree of the President of Russia. From 2013 to 2014, she was Director of the "Center for International Education", Vice-President of the "Miloserdie" Foundation. From 2014 to 2015, Tatiana Bokova worked in the Office of Public Service and Staff of the Administration of the President of Russia. She was awarded the letter of acknowledgment signed by the President of the Russian Federation. From January 2015 until present, she is Deputy Head of the Federal Agency for Water Resources. She is the 3rd class State Counsellor of the Russian Federation. Tatiana Bokova is fluent in English and German. She is also a member of Moscow Union of Writers (since 1996), author of over 80 books for children. Winner of the "Crown" award by the Moscow Union of Writers in 2002, winner of All-Russian competition of books for children, "Scarlet Sails" in 2008, awardee of All-Russian National Contest "Book of the Year" in the category "Together with the book we grow" (2010).

Session 1. The use of transboundary water resources

September 29, 2016
Room 431

14.00–14.20	**BRICS countries on the world water management map** *Nikolay Koronkevich, Elena Barabanova, Irina Zaytseva (RAS Institute of Geography, Russia)*
14.20–14.40	**UNECE Water Convention Work Programme** *Bo Libert (UN Economic Commission for Europe, Switzerland)*
14.40–15.00	**Water management problems of cross-border Lake Khanka** *Vladimir Georgievsky, Alexey Shalygin (State Hydrological Institute, Russia), Mikhail Bolgov (RAS Institute of Water Problems, Russia)*
15.00–15.20	**Consequences of realization of Hailar (Argun) river flow transfer to Lake Hulun Nur** *Natalia Frolova (M.V. Lomonosov Moscow State University, Russia)*
15.20–15.40	**Aspects of Irtysh's basin water resources use under transboundary influence** *Lev Ratkovich, Yulia Bovina (K.A. Timiryazev Agricultural Academy, Russia)*
15.40–16.00	**Problems of the transboundary water management in the Amur river basin** *Boris Voronov, Alexey Makhinov (Institute of Water and Environmental Problems, Far Eastern Branch of the Russian Academy of Sciences, Russia)*
16.00–16.30	*Coffee-break*
16.30–16.50	**On a single interstate concept of protection and rational use of water resources in transboundary Selenga river basin** *Igor Bychkov (Irkutsk Research Center, Siberian Branch of RAS, Institute of System Dynamics and Management Theory, Russia), Vyacheslav Nikitin (L.A. Melentyev Institute of Energy Systems, Siberian Branch of RAS, Irkutsk Research Center, Siberian Branch of RAS, Russia)*
16.50–17.10	**Ecological and legal aspects of ensuring the rational use of transboundary water resources of the Samur river** *Magomed Guruev (Precaspian Institute of Biological Resources, Dagestan Scientific Center of RAS, Russia)*
17.10–17.30	**Principles of distribution of underground water resource potential in transboundary areas between neighboring states** *Boris Borevskiy (Hydrogeological and Geoecological Company "HYDEC", Russia), Mikhail Cherepanskiy (Russian State Geological Prospecting University named after S. Ordzhonikidze, Russia), Alexander Yazvin (Hydrogeological and Geoecological Company "HYDEC", Russia)*
17.30–17.50	**Hydrological modelling of possible alteration of inflow into the Lake Baikal from transboundary Selenga river basin during the XXI century** *Vsevolod Moreydo, Andrey Kalugin (RAS Institute of Water Problems, Russia)*
17.50–18.30	**Discussion**

Session 2
Water resources management

Managing complex water systems involves dealing with complex legal, economic and organisational issues, which already today require reviewing and adjusting water flow characteristics, taking into account increased risks of prolonged low water levels and extreme spring floods, revisiting exploitation regimes of water storage reservoirs, hydraulic facilities, and water industry systems. Managing water resources is made significantly more difficult by their increasingly unstable characteristics (as described in hydrological forecasts), due to both natural and anthropogenic reasons, and uncertain socio-economic conditions for their exploitation (demands by water consumers and users, environmental requirements, changing legislation).

Special approaches are required for lake management, including international lakes (transboundary lakes used by Russia, China, India, and Brazil). Other complex systems are cascades of water reservoirs that are primarily important for energy generation (but utilized also for a variety of purposes leading to conflicts of various users' contradictory interests); inter-basin runoff diversion systems; combined water resources systems, etc.

Session Chair

Mikhail Bolgov

Head of Laboratory for Surface Water Modeling, Institute of Water Problems of the Russian Academy of Sciences

Mikhail Bolgov, Doctor of Science (Technology), professor of the Department of Ecology and Integrated Use of Water Resources of the Peoples' Friendship University of Russia.

In 1974, he graduated from Moscow Hydrometeorological Technical School, in 1979 – from Odessa Hydrometeorological Institute. In 1995, Mikhail Bolgov obtained his PhD and in 1995 – Doctor of Sciences degree.

His research interests include stochastic modeling of the wide range of hydrometeorological processes and phenomena, such as long-term and seasonal variations of river runoff, extreme hydrological events (floods and low water levels), long-term variations of inland sea water level, components of the water balance of urbanized territories, etc. He is the author and co-author of more than 120 research and methodological publications, including monographs, papers in research journals and encyclopaedia, federal regulatory and methodological documents in engineering hydrology and strategic water industry management documents.

Mikhail Bolgov is the Academic secretary of Scientific and Technical Councils of the Federal Agency for Water Resources, member of the Reliability Committee of the JSC "RusHydro" Board of Directors, member of the Research and Technical Council of the National Union of Researchers, member of the International Association of Hydrological Sciences, member of PhD and doctoral councils of RAS Institute of Water Problems and M.V. Lomonosov Moscow State University, member of Russia-China Commission on the rational use and protection of transboundary waters, member of the editorial councils of research journals. He is an expert of the Sub-committee on Water Resources of the Committee on Natural Resources of the State Duma (lower chamber of the Russian Parliament). He was awarded the "High Achiever of Water Industry of the Russian Federation" distinction (2011).

Session Chair

Barbara Schreiner

Executive Director,
Pegasys Institute

Barbara Schreiner is Executive Director of Pegasys Institute, Director at Pegasys Consulting, member of the IWMI Board, member of the CGIAR Aquatic Agricultural Systems Programme Oversight Panel, and Deputy Chairperson of the Isimangaliso Wetland Park. She has over 20 years' experience in the water sector. She is an experienced manager and consultant with highly developed strategic leadership and communication skills, and considerable expertise in research, policy, strategy, regulation, financial governance and institutional issues, particularly in the public sector. She has worked in the public, private and NGO sectors. She also has expertise in the translation of policy and legislation into implementation. She has written extensively on issues of water governance and management, gender and poverty. She was a member of the Global Water Partnership Steering Committee for several years, Board member of the Challenge Programme on Water for Food and Chairperson of the Water Research Commission of South Africa. She has been a member of finance and audit committees of various institutions. She is also on the Editorial Board of Frontiers in Environmental Science as a Review Editor for Freshwater Science. She has excellent management, research, communication and strategic expertise, and considerable experience in managing diverse project teams.

Session Chair

Jun Xia

Chair Professor, Director of the Research Institute for Water Security (RIWS), Wuhan University

Jun Xia is a member of Chinese Academy of Sciences (CAS), Chair Professor and Director of the Research Institute for Water Security (RIWS), Wuhan University. He is also Distinguished Professor at the CAS Key Lab of Water Cycle and Related Land Surface Processes. Jun Xia has ample experience on leading eco-hydrology, water resources research, managing and consulting jobs in China and international activities since 1987. He served as the President of the International Water Resources Association (IWRA, 2009-2012), Vice President of the International Association of Hydrological Sciences (IAHS, 2004–2007), Board Governor of World Water Council (WWC, 2009-2015), Co-Chair of the Inter-Academy Council for Water Programme (IAC-WP), Co-Chair of China-Australia Center on Water Resources Research, member of Scientific Steering Committee for Global Water System Project (GWSP-SSC), Associated Editor of the Journal of Hydrologic Engineering, ASCE, and other positions. Recently, he was appointed by IAHS President as Honorary Vice-President of IAHS and Chair of the Working Group on Representation of Developing Countries (WGRDC) for IAHS, 2015–2019. He was awarded with the "International Prize for Outstanding Contributions to Water Management" by the Third World Centre for Water Management on October, 2011, and with the "International Hydrological Prize-Volker Medal" by IAHS, UNESCO and WMO on April 24, 2014.

Deputy Session Chair

Alexey Kosolapov

Director, Don Basin Information and Analytical Centre for Water Industry (Donvodinformcentr)

Alexey Kosolapov, Doctor of Technical Sciences, Professor, Chair of the Department "Use of Water Resources, Hydraulics and Mathematics" at Novocherkassk Engineering and Amelioration Institute named after A.K. Kortunov. In 1975, he graduated from Rostov State University, in 1979 – from the graduate school of the Southern Research Institute of Hydraulic Engineering and Land Reclamation; in 1983, he was awarded PhD degree, in 1996 – Doctoral degree; in 1999, he was awarded the title of professor. Key research areas of Alexey Kosolapov include the development of methodology for planning and management of water resources, restoration, protection and rational use of water bodies, management of complex water industry systems, development of river basin water management systems through the development and use of information technologies by federal and regional water authorities. Alexey Kosolapov is the author of over 200 research and educational papers. He coordinated and participated in the implementation of more than 120 research and development projects commissioned by governmental agencies, research, engineering and business organizations. Alexey Kosolapov is an expert of various international projects in the area of the rational water use and environmental protection (China, Mongolia). He is a member of the Scientific and Technical Council of the Federal Agency for Water Resources and of the Interdepartmental Working Group on the settlement of operating modes of the Tsimlyansk reservoir and reservoirs of the Lower Don basin. Alexey Kosolapov holds many awards.

Session 2. "Water resources management"

September 29, 2016
Room 430

14.00–14.20	**Operational management of water resources of the Volga-Kama cascade during the spring flood on the basis of multi-criteria optimization methods and theories of compromise** *Alexander Buber (All-Russian Research Institute of Hydraulic Engineering and Land Reclamation named after A.N. Kostyakov, Russia), Mikhail Bolgov (RAS Institute of Water Problems, Russia)*
14.20–14.40	**Water spatial allocation through large water transfer project in China: demands and challenges for adaptive management of changing environment** *Jun Xia (Research Institute for Water Security, Wuhan University; Key Laboratory of Water Cycle & Related Land Surface Processes, Chinese Academy of Sciences, China)*
14.40–15.00	**Challenges in water resources management in South Africa** *Barbara Schreiner (Pegasys Institute, South Africa)*
15.00–15.20	**Possible ways of water yield from water reservoirs calculation improvement** *Alexey Aleksandrovskiy (National Research University "Moscow Power Engineering Institute", Russia)*
15.20–15.40	**On the regulation of the level of Lake Baikal** *Igor Bychkov (Irkutsk Research Center, Siberian Branch of RAS; Institute of System Dynamics and Management Theory, Siberian Branch of RAS, Russia), Mikhail Bolgov (RAS Institute of Water Problems, Russia), Vyacheslav Nikitin (Irkutsk Research Center, Siberian Branch of RAS; L.A. Melentyev Institute of Energy Systems, Siberian Branch of RAS, Russia)*
15.40-16.00	**Water resources of lake Baikal and possible strategy of managing its level** *Mikhail Bolgov (RAS Institute of Water Problems, Russia), Alexander Buber (All-Russian Research Institute of Hydraulic Engineering and Land Reclamation named after A.N. Kostyakov, Russia)*
16.00–16.30	*Coffee break*
16.30–16.50	**Requirement of knowledge base for water resources governance** *Gosain Ashvani Kumar (Indian Institute of Technology Delhi, India)*
16.50–17.10	**Assessment of water economy situation in river basins of the Russian Federation** *Alexey Kosolapov, Taras Kalimanov (North-Caucasus branch of Russian Research Institute of Integrated Use and Conservation of Water Resources, Russia)*
17.10–17.30	**Modern problems of quality control of natural waters and protection of water bodies** *Evgeniy Venitsianov (RAS Institute of Water Problems, Russia)*
17.30–17.50	**Drought management in Brazil** *Passos Rodrigues Martins Eduardo Savio (Federal University of Ceara , Research Institute for Meteorology and Water Resources, Brazil)*
17.50–18.10	**The objectives of improving the network of specially protected water areas in order to restore degraded marine ecosystems** *Natalia Mitina, Boris Malashenkov (M.V. Lomonosov Moscow State University, RAS Institute of Water Problems, Russia), Ekaterina Chuprina (RAS Institute of Water Problems, Russia)*
18.10–18.30	**Discussion**

September 30, 2016
(Room 430)

10.00–10.20	**Climate change and water security: exploring management options and adaptation strategies** *Woyessa Yali (Central University of Technology, Free State, South Africa)*
10.20–10.40	**Features of regulation of adjustable wastewater discharges into watercourses receivers** *Anatoliy Lepikhin (Mining Institute, Ural Branch of RAS, Russia), Evgeniy Venitsianov (RAS Institute of Water Problems, Russia), Alexey Bogomolov (Mining Institute, Ural Branch of RAS, Russia), Tatiana Gubernatorova (RAS Institute of Water Problems, Russia)*
10.40–11.00	**Water resources utilization strategies for Chinese arid inland river basins** *Yu Jingjie (Institute of Geographic Science and Natural Resources Research, Chinese Academy of Sciences, China)*
11.30–12.00	*Coffee-break*

Sub-session 2.1
"Forecasting water resources use by water industry"

12.00–12.20	**The forecast of water resources changes in Belarus using the analysis of low-water and high-water series** *Vladimir Loginov (Nature Management Institute of the National Academy of Sciences of Belarus), Alexander Volchek, Sergei Parfomuk (Brest State Technical University, Belarus)*
12.20–12.40	**The ensemble scenarios projecting runoff changes in large Russian river basins** *Alexander Georgiadi, Nikolai Koronkevich, Irina Milyukova, Elena Barabanova (RAS Institute of Geography, Russia)*
12.40–13.00	**Questions of applying the method of statistical tests (Monte-Carlo) to estimate errors of sample estimates of numerical characteristics of data series of hydrological observations** *Vladislav Shelutko, Svetlana Dolinnaya (Russian State Hydrometeorological University, St. Petersburg State University, Russia)*

Session 3

Economic and social aspects of water use, including drinking water supply

A proper account of social and environmental aspects of water use requires hygienic standartisation of the quality of water (drinking water, in particular) supplied by water treatment companies to consumers, as well as the quality of waste water. Economic aspects are linked to identifying efficient mechanisms for funding water supply and sanitation companies, having in mind that they operate under different conditions even within one country (differences are more substantial among BRICS countries). The variety of funding mechanisms is wide and ranges from "full" market self-sufficiency, limited only by the abovementioned standards, to complete dependence on government or municipal budgets (specific funding arrangements depend on the form of ownership).

Regardless of the funding source, the issue of tariffs for the water sector's services remains and becomes especially acute with population's decreasing wellbeing and tough economic situation of corporate water consumers. High drinking water tariffs lead to social tension; low tariffs negatively affect water quality and water supply's reliability, and limit water treatment companies' development plans, including technological modernization. On the one hand, in a volatile economic situation, public funding is unreliable, and the easiest way to address this situation is by establishing specialized public water funds (there are numerous tools and forms for channeling resources in these funds). On the other hand, market pricing of water sector's services does not always provide satisfactory outcomes. In most cases, the best solution is direct or indirect government regulation of tariffs.

Session Chair

Elena Dovlatova

Executive Director, Russian Water and Wastewater Association (RAWW)

Elena Dovlatova, PhD, is an expert in financial and economic activity of enterprises, and a legal expert. She is a member of several working groups at the State Duma (lower chamber of the Russian Parliament), the Russian Government, ministries and agencies; she takes part in non-governmental and professional associations, and supervises research projects. Elena Dovlatova is the author of numerous articles and research publications and a member of editorial boards of water industry journals.

Elena Dovlatova represents and maintains the consolidated position of the professional water supply and water treatment community and sanitation at government agencies. Co-author of industry legislation; she is actively involved in the improvement of the regulatory framework, in the development of technical and educational standards for water supply and sanitation; provides assistance to utility enterprises in judicial matters, property relations, in matters pertaining to tariff setting and attracting investments. She is an active participant of scientific and practical forums, workshops and conferences, as well as international and domestic special events.

Deputy Session Chair

Georgy Sambursky

Deputy Executive Director of Russian Water and Wastewater Association (RAWW)

Georgiy Sambursky is a specialist in water chemistry and technology issues, water treatment technology for drinking, technical and industrial use. Key areas of his research are related to the optimization of water treatment processes, protection of engineering facilities, modeling optimal energy use for water treatment facilities, in particular, for reducing water losses during transportation, decreasing the electricity share in tariffs of water treatment and sanitation organizations, assessing reliability, and ensuring continuity of water supply.

Georgy Sambursky is a member of the technical committees Rosstandart #343 "Water Quality", #113 "Best Available Technologies", member of the Expert Council of the Russian Ministry of Construction and Housing.

He is an editor-in-chief, expert-director of scientific-technical journal "Water treatment. Water purification. Water supply", and a member of the editorial boards of several water industry journals.

Session 3.
Economic and social aspects of water use, including drinking water supply

September 29, 2016
Room 429

14.00–14.20	**Water is not only the primal resource but also the main component of the environment** *Stepan Shvartsev, Natalia Guseva (National Research Tomsk Polytechnic University, Tomsk Branch of A.A. Trofimuk Institute of Petroleum Geology and Geophysics, Siberian Branch of RAS, Russia)*
14.20–14.40	**Quantitative study of the relationship between regional development and water resource protection – core area of the Three Gorges Reservoir area as an example** *Huaili Zheng, Li feng, Chuanliang Zhao, Yuhao Zhou, Li Xiang, Bingzhi Liu, Xinyu Zheng, Chun Zhao (Key Laboratory of the Three Gorges Reservoir Region's Eco-Environment, Ministry of Education, Chongqing University, Chongqing Engineering Research Center of Water Treatment Coagulant, China)*
14.40–15.00	**Assessment of the potential to reduce drinking water consumption in residential buildings by widespread use of water saving strategies** *Erick Brizon Chaib, Felipe Rodrigues, Brenner H. Maia, Nilo de Oliveira Nascimento (Federal University of Minas Gerais, Brazil)*
15.00–15.20	**Water supply management system with remote collection and transmission of the customers' water consumption data** *Dmitriy Serov (SUE «Vodokanal of St. Petersburg», Russia)*
15.20–16.00	**Discussion**
16.00–16.30	*Coffee break*
16.30–16.50	**Efficiency evaluation (benchmarking) of water utilities: international initiative** *Ilya Dolmatov, Vladimir Dvorkin, Igor Maskaev (National Research University Higher School of Economics, Russia)*
16.50–17.10	**Theoretical analysis of water pricing reform scenarios** *Alla Friedman (National Research University Higher School of Economics, Russia)*
17.10–17.30	**Immoral factors of water management in Russia** *Leonid Korytnyi (V.B. Sochava Institute of Geography, Siberian Branch of RAS, Russia)*
17.30–18.30	**Discussion**

Session 4

Water quality in natural water bodies

Maintaining a high quality of water in natural reservoirs is one of the crucial conditions for sustaining life on the planet and thus, becomes a particularly acute present-day problem. High-quality water is necessary for preserving public health, biodiversity, environment's aesthetic and recreational potential, food production and manufacturing. Anthropogenic impact on chemical composition of water in natural reservoirs is comparable with natural geochemical and biologic processes. Transformation of catchment basins, transboundary flows, direct industrial and communal discharges, unorganized drainages lead to disruption of water ecosystems, eutrophication, acidulation, appearance of toxic elements and substances in water environment, resulting in lower water quality. Climatic variations also contribute to changing hydro-chemical regime by changing hydrological cycles, occurrences of droughts or excessive rainfall periods.

Major related issues include the following:

- controlling water quality under the existing anthropogenic load and global warming;
- biogenic pollution of agricultural lands and water reserves' eutrophication;
- acid rains and water acidulation;
- circulation of toxic elements in ground waters and self-purification processes;
- environmental consequences of major rivers, lakes, and transboundary waterways pollution;
- methodology and methods for biological assessment of water quality;
- recovery of water quality and hydroecosystems, following reduced pollution.

Session Chair

Tatiana Moiseenko

Corresponding Member of the Russian Academy of Sciences (RAS), Head of Biogeochemistry and Ecology Section, V.I. Vernadsky Institute of Geochemistry and Analytical Chemistry of RAS

After graduation from the Biological Faculty of Rostov State University in 1971, **Tatiana Moiseenko** was directed to the full-time postgraduate studies at the Kola Research Center, USSR Academy of Sciences. She started as a junior researcher, then was promoted to senior researcher, and finally, appointed as water problems research group leader at the Kola Research Center, USSR Academy of Sciences. The beginning of her research career in the Far North was hard but productive.

In 2010, Tatiana Moiseenko won the public competition for a mega-grant of the Russian Government for the development of basic science at Russian universities. In 2010–2012, she acts as head of the research laboratory "Quality of water, sustainability of ecosystems and ecotoxicology" at Tyumen State University. Tatiana Moiseenko organizes wide scale environmental field studies from fenlands to plains in Western Siberia.

Tatiana Moiseenko is well known as the author of the theory of critical loads on surface waters. Her research interests cover solution of important theoretical tasks in biogeochemistry and water resources: studies of common factors in formation of water quality, the development of the system of diagnostics of aquatic ecosystems and water quality assessment, development of methodology and methods for determining the critical levels of pollution and permissible anthropogenic loads on water resources. The interdisciplinary methodologic approaches to the studies of coherent system of integrated biochemical processes allowed to provide scientifically grounded basis to criteria for assessing anthropogenically determined processes in the water environment.

Session Chair

Peifang Wang

Dean of College of Environment at Hohai University

Peifang Wang graduated in 1994 with BA degree from Hebei Agricultural University, with MA degree in 1999 from Hohai University, where she also received her PhD in 2003. In 2003–2005, she worked as Lecturer, Associate Professor, and Professor in Hohai University. In 2005–2008, Peifang Wang carried post-doctoral research at the State Key Laboratory of Pollution Control and Resource Research at Nanjing University. Since 2010, Dr. Wang occupies the position of Director of the Institute of Water Resource Protection and Ecological Restoration of College of Environment at Hohai University. Since 2013, she is the Dean of College of Environment at Hohai University. Since 2015, Dr. Wang holds the position of Director of the Key Laboratory of Integrated Regulation and Resources Development of Shallow Lakes of the Ministry of Education of the People's Republic of China. Her research interests are mainly related to water environment protection, ecological restoration, transportation and transformation of pollutants and effects of water conservancy project construction on water ecosystem and environment. Dr. Wang has been awarded 14 science and technology honors at the national and provincial level. She also holds 32 nationally authorized invention patents and published 58 SCI-indexed papers, 55 EI-index papers, two books, and one monograph.

Session 4.
Water quality in natural water bodies

September 29, 2016
Room 518

14.00–14.20	**Yangtze river water diversion into Lake Taihu for algal bloom control in China: is it helping or hurting?** *Peifang Wang, Yiping Li (Hohai University, Nanjing, China)*
14.20–14.40	**Water quality and ecosystem health assessment to define environmental management strategies: case study of the Volga river** *Tatyana Moiseenko (V.I. Vernadsky Institute of Geochemistry and Analytical Chemistry of RAS, Russia)*
14.40–15.00	**Water health index for ground water in the Free State, South Africa** *Leana Esterhuizen, Annabel Fossey (Central University of Technology, Free State, South Africa)*
15.00–15.20	**Environmentally integrated basin experiments (EIBEX)** *Otto Correa Rotunno Filho (Laboratory for Water Resources and Environment, Civil Engineering Programme, Alberto Luiz Coimbra Institute for Graduate Studies and Research in Engineering, Federal University of Rio de Janeiro, Brazil)*
15.20–15.40	**Development of regional water quality indicators for the contents of heavy metals of the upper Kama basin water objects** *Evgeniy Venitsianov (RAS Institute of Water Problems, Russia), Anatoliy Lepikhin, Sergey Miroshnichenko (Mining Institute, Ural Branch of RAS, Russia), Tatiana Gubernatorova (RAS Institute of Water Problems, Russia)*
15.40–16.00	**Pharmaceutically Active Compounds (PhACs) in the Yamuna river (Delhi, India)** *Soma Kumari, Pradeep Kumar, Indu Mehrotra (Indian Institute of Technology Roorkee, India)*
16.00–16.30	*Coffee break*
16.30–16.50	**Evaluation of natural waters to recovery: the development of criteria on the example of Western Siberia lakes** *Tatiana Kremleva (Tyumen State University, Russia)*
16.50–17.10	**Quantitative analysis of groundwater dynamics in arid riparian zones: a case study of the lower Heihe river, Northwest China** *Ping Wang (Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, China)*

17.10–17.30	**System-analytical modeling of water quality for mountain river runoff** *Yury Kirsta, Alexander Puzanov (Institute of Water and Environmental Problems, Siberian Branch of RAS, Russia)*
17.30–17.50	**Surface water quality assessment based on testing local mollusks and crustaceans physiological condition** *Sergey Kholodkevich (St. Petersburg Scientific Research Center for Ecological Safety Russian Academy of Sciences, St. Petersburg State University, Russia); Andrey Sharov (St. Petersburg Scientific Research Center for Ecological Safety of RAS, Russia), Tatiana Kuznetsova (St. Petersburg Scientific Research Center for Ecological Safety of RAS, Russia), Feng Yujie (State Key Laboratory of Urban Water Resource and Environment, Harbin Institute of Technology, China), Sun Kai (State key Laboratory of Urban Water Resource and Environment, Harbin Institute of Technology, China)*
17.50–18.10	**Problems of use and protection of water resources of West Siberian wetlands** *Oleg Savichev, Yury Borovikov, Natalia Guseva, Evgeniya Soldatova (National Research Tomsk Polytechnic University, Russia)*
18.10–18.30	**Modeling the effects of external nutrient reductions on algal blooms in hyper-eutrophic Lake Taihu, China** *Peifang Wang, Yiping Li (Hohai University, China)*

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10:00–10.15	**Self-purification processes in contaminated sediments of the Neva Estuary** *Julia Polyak (St. Petersburg Scientific Research Center for Ecological Safety of RAS, Russia)*
10.15–10.30	**Identification of acid-extractable metals and acid-volatile sulfide for prediction of sediment toxicity** *Nadezhda Stepanova, Ekaterina Kaldyaeva, Irina Vibornova (Kazan Federal University, Russia)*
10.30–10.45	**Acetate oxidation enhances difference between isotope signatures in methane and carbon dioxide during cellulose methanization by sediments in tropical lakes** *Vasily Vavilin (RAS Institute of Water Problems, Russia)*
10.45–11.00	**Current state of Karelia's water bodies affected by natural, climatic and anthropogenic factors** *Petr Lozovik, Albina Sabylina, Natalia Galakhina, Irina Kravchenko (Institute of Water Problems of the North Karelian Research Centre of RAS, Russia)*
11.00–11.15	**The anthropogenic impact on the water bodies of the Central ecological zone of the Baikal natural territory** *Olga Gagarinova (V.B. Sochava Institute of Geography, Siberian Branch of RAS, Russia)*
11.15–11.30	**Scientific background bioenergy activity of drinking water** *Anatoly Stekhin, Galina Yakovleva (A.N. Sysin Research Institute of Human Ecology and Environmental Health, Russia)*
11.30–12.00	*Coffee break*
12.00–12.15	**Quality assessment of natural waters with regard to geochemical features of the territory within the boundaries of basin districts** *Valentina Kuzmich (ANO "Research Institute of Industrial Ecology", Russia), Evgeny Yanin, Oleg Ivanitskii (V.I. Vernadsky Institute of Geochemistry and Analytical Chemistry of RAS, Russia)*

12.15–12.30	**Hydrodynamical models of water quality formation in surface water bodies** *Anatoliy Lepikhin (Mining Institute, Ural Branch of RAS, Russia), Tatiana Lyubimova (Institute of Continuous Media Mechanics, Ural Branch of RAS, Russia)*
12.30–12.45	**Evaluation of the extreme levels of chemical pollution for the river network of urban territories** *Vladislav Shelutko (Russian State Hydrometeorological University, St. Petersburg State University, Russia), Elena Urusova (Russian State Hydrometeorological University, Russia)*
12.45–13.00	**Trends observed in plankton of Lake Baikal during monitoring program for 1945–2015** *Eugene Silow, Lyudmila Krashchuk, Konstantin Onuchin, Elena Pislegina, Olga Rusanovskaya, Svetlana Shimaraeva (Institute of Biology, Irkutsk State University, Russia)*
13.00-13.30	**Discussion**

Session 5.

Innovative technologies in water and wastewater treatment

Addressing issues associated with renewable water supply in BRICS countries involves application of innovative water treatment and purification technologies. The following aspects appear to be particularly important in this context: assessing the current state of water treatment and purification facilities' barrier functions and determining the ways to strengthen it; studying global development trends in innovative water treatment and purification technologies; applying cutting-edge technologies for waste water treatment and purification in BRICS countries; deploying advanced equipment required to make full use of innovative water treatment and purification technologies.

BRICS countries would benefit from exchanging practical experience of advanced technologies' application at specific water treatment and purification facilities. Participants of the session will present various new technologies, as well as outcomes of their application in various economic contexts.

Session Chair

Mikhail Kozlov

Head of Innovative Equipment and Technologies Department, JSC "Mosvodokanal"

Mikhail Kozlov, PhD, authored more than 200 research publications on water and wastewater treatment, member of the Technical Working Group №10 on the development of the Guide of the best available technologies "Wastewater treatment using centralized wastewater facilities at settlement and city levels", Head of the section "Water drainage and sewage treatment" at the Technical and Expert Council of Russian Water and Wastewater Association.

Deputy Session Chair

Marina Kevbrina

Head of Section, Engineering and Technology Centre, JSC "Mosvodokanal"

Marina Kevbrina, PhD, author of more than 100 research publications on water treatment and wastewater treatment, member of the Technical Working Group №10 on the development of the Guide of the best available technologies "Wastewater treatment using centralized wastewater facilities at settlement and city levels", member of the Technical and Expert Council of Russian Water and Wastewater Association.

Session 5.
Innovative technologies in water and wastewater treatment

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14.00–14.20 **Hygienic assessment of the effectiveness of generally accepted Russia's water conditioning systems and practical application of innovative technologies to improve their barrier function**
Yury Rakhmanin, Rufina Mikhailova (A.N. Sysin Research Institute of Human Ecology and Environmental Health, Russia)

14.20–14.40 **Photoelectrocatalysis: a powerful tool for wastewater treatment**
Maria Valnice Boldrin Zanoni, Guilherme Garcia Bessegato, Thais Tasso Guaraldo, Barbara A. Souza, Juliano C. Cardoso (Sao Paulo State University, Institute of Chemistry, Brazil)

14.40–15.00 **New technology for nitrogen removal from fermented sludge filtrate via oxidation of ammonia in anoxic condition**
Mikhail Kozlov (JSC "Mosvodokanal", Russia)

15.00–15.20 **Wastewater and sludge treatment technologies to reduce negative impact on the environment in St. Petersburg**
Olga Rublevskaya (SUE "Vodokanal of St. Petersburg", Russia)

15.20–15.40 **Degradation of phenolic compounds in wastewater under solar radiation through advanced oxidation process using hetero-structured TiO_2 nanotubes**
Hirok Chaudhuri, Mrinal Kanti Mandal, Supriya Pal (National Institute of Technology Durgapur, India), Kashyap Dubey (Central University of Haryana, India), Shailesh Pandey, Sumanta Rakshit (National Institute of Technology Durgapur, India)

15.40–16.00 **Discussion**

16.00–16.30 *Coffee break*

16.30–16.50 **UV disinfection of natural and waste water: modern studies and practice**
Sergey Kostyuchenko (Research and Development Company "LIT", Russia)

16.50–17.10 **Role of modern molecular biological techniques in development of innovative wastewater treatment technologies**
Nikolai Pimenov, Anna Kallistova (S.N. Winogradsky Institute of Microbiology, Federal Research Centre "Fundamental Studies of Biotechnology" of RAS, Russia), Yury Nikolaev (S.N. Winogradsky Institute of Microbiology, Federal Research Centre "Fundamental Studies of Biotechnology" of RAS, JSC "Mosvodokanal", Russia), Andrey Mardanov (Institute of Bioengineering, Federal Research Centre "Fundamental Studies of Biotechnology" of RAS, Russia), Marina Kevbrina (JSC "Mosvodokanal", Russia), Nikolay Ravin (Institute of Bioengineering, Federal Research Centre "Fundamental Studies of Biotechnology" of RAS, Russia), Mikhail Kozlov (JSC "Mosvodokanal", Russia)

17.10–17.30 **Optimized preparation of micro block-CPAM by response surface methodology and evaluation of dewatering performance**
Huaili Zheng, Li Xiang (Chongqing University, China)

17.30–17.50 **Biostimulation for treatment of abattoir effluent in a batch bioreactor**
Olga de Smidt, Martin Keller, Edrick van der Merwe, Likeleli Koikoi, Francois le Roux (Central University of Technology, Free State, South Africa)

17.50–18.10	**Creation of global analytical platform of water technologies** *Vladimir Borman, Ivan Kurchatov, Nikolay Laguntsov (National Research Nuclear University MEPhI, Russia), Igor Nechaev (L.Ya. Karpov Scientific Research Institute of Physics and Chemistry (NIFKhl), Rosatom State Nuclear Energy Corporation, Russia)*
18.10–18.30	**Discussion**

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10.00–10.20	**Water management for successful development of industry holding** *Ilya Lychev (JSC "Atomenergomash", Rosatom State Nuclear Energy Corporation, Russia)*
10.20–10.40	**Novel thermally driven membrane processes for water treatment** *Alexey Volkov, Eduard Novitsky, Ilya Borisov, Vladimir Vasilevsky, Vladimir Volkov (A.V. Topchiev Institute of Petrochemical Synthesis of RAS, Russia)*
10.40–11.00	**Membrane methods in water treatment and water purification** *Evgeniy Egorov, Evgeniy Starikov (LLC "Gidrotekh", Russia)*
11.00–11.20	**Early warning systems pollution of drinking water development. Russia and China's cases** *Rufina Mikhailova, Olga Savostikova (A.N. Sysin Research Institute of Human Ecology and Environmental Health, Russia), Cal Liang (Center for Disease Control and Prevention, Hunan Province, China)*
11.20–11.30	**Discussion**
11.30–12.00	*Coffee break*
12.00–12.20	**Water supply technologies development. SUE "Vodokanal of St. Petersburg" experience** *Vladimir Gvozdev (SUE "Vodokanal of St. Petersburg", Russia)*
12.20–12.40	**Avoiding fresh water losses with the right gaskets and the right way to work** *Franck Royer (Klinger GmbH, Germany)*
12.40–13.00	**11 years' experience of successful usage of bioelectronic monitoring systems at the objects of SUE "Vodokanal of St.Petersburg" and marine and freshwater natural water bodies** *Sergey Kholodkevich (Scientific Research Center for Ecological Safety of RAS, Saint-Petersburg State University, Russia)*
13.00–13.30	**Discussion**

Session 6

Flood risk management

More than half a billion people in the world are affected by floods every year. According to the data of Munich Re, in 2015, the total economic damage from flooding in the world amounted to almost $30 billion, i.e. more than 40% of damage incurred by other natural disasters. At the same time, economic, social and environmental damage caused by floods has been growing over the last decades. The reasons are numerous and range from climatic and anthropogenic changes affecting the scale and frequency of floods occurrences to social and economic ones related to the development of flooded areas, the growth of insurance payments, inflation, etc.

Despite the differences in environmental and socio-economic conditions, all five BRICS countries are facing challenges associated with the flood risk management. Reducing these risks requires development of climate change adaptation measures; development of land use and flood risk management methods; increasing the efficiency of interaction with the population; increasing the interrelation of planning and operational activities to identify and counterstand the most critical risks to make them socially, environmentally, economically, and politically acceptable to society.

The session's objective is to discuss and compare new approaches, methodologies, and tools for analyzing temporal and spatial dimensions changes in characteristics of floods in various regions, assessing the impact of these changes on flood risks and management decisions, analyzing major hydrological risk factors, structural and non-structural water sector measures to reduce these risks.

Session Chair

Boris Porfiriev

Corresponding Member of the Russian Academy of Sciences, Deputy Director of RAS Institute of Economic Forecasting

Prof. **Boris Porfiriev** leads the Laboratory of Forecasting and Analysis of Natural and Technogenic Risks in the Economy at the Economic Forecasting Institute of the Russian Academy of Sciences. Graduated cum laude in economic geography from M.V. Lomonosov Moscow State University; later received Doctor of Science in Economics degree and full professor title.

Dr. Porfiriev was the first Vice-President of the International Research Committee on Disasters (2002–2006, 2011–2015) of the International Sociological Association. Within these frameworks, he contributed to a number of major social science projects on disaster risk reduction and crisis management in Russia and internationally. His publications on disaster risk evaluation, disaster and crisis policy, economics and management of natural disasters, including economics of climate change, comprise over 30 monographs and multi-authored volumes and over 300 research papers and reports published in Australia, China, Germany, Italy, Netherlands, Russia, Sweden, UK and USA.

He is a member of editorial boards and editor of many international scientific and professional journals.

Session Chair

Yangbo Chen

Director, Laboratory of Water Disaster Management and Hydroinformatics, Sun Yat-sen University

Yangbo Chen is a Chief Scientist of ESCAP/WMO Typhoon Committee OSUFFIM project, President-elect of International Commission on Remote Sensing (ICRS) of IAHS, Chairman of IAHS Panta Rhei WG on MHPC.

In 1984, he graduated from Wuhan University with Bachelor's degree in Power Engineering; in 1987, he obtained Master's Degree in Hydrology and Water Resources; and in 1998, he earned PhD in the same field.

His research interests include distributed hydrological model, flood forecasting and management, dual impact of climate change and urbanization on water resources, remote sensing hydrology, and watershed water resources management.

He is a member of the International Association of Hydrological Sciences (IAHS), American Geophysical Union (AGU), American Water Resources Association (AWRA), and Chinese Hydraulic Engineering Society (CHES).

Deputy Session Chair

Alexander Gelfan

Deputy Director of RAS Institute of Water Problems, Head of the Laboratory of Hydrology of River Basins

Alexander Gelfan is a specialist in mathematical modeling of hydrological cycle land processes and the formation of river flow. He holds the Doctor of Physical and Mathematical Sciences degree.

His main areas of research are related to the development of dynamic-stochastic models of runoff formation and their use for hydrological calculations and forecasts, including those for the assessment of danger of occurrence and the extent of catastrophic floods, long-term ensemble forecasts of spring floods, estimates of hydrological cycle processes sensitivity to climate change, and anthropogenic impacts on the river catchment.

Alexander Gelfan is Deputy Chairman of the Scientific Council of "Surface Water Resources" at RAS Department of Earth Sciences, member of RAS Bureau of the National Geophysical Committee, member of RAS Presidium Committee on System Analysis, Commission for Hydrology of Snow and Ice of the International Association of Hydrological Sciences, American Geophysical Union, and the European Union of Geophysical Sciences.

Alexander Gelfan is a member of editorial boards of Russian and international research journals; heads international working group "Physics of Hydrological Predictability" established under the auspices of the International Association of Hydrological Sciences.

Session 6. Flood risk management

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6.1 Theories, methods and technologies of hydrological forecasts

14.00–14.20 **The new paradigm in hydrological forecasting (ensemble predictions and their improving based on assimilation of observation data)**
Lev Kuchment, Victor Demidov (RAS Institute of Water Problem, Russia)

14.20–14.40 **The hydrological forecast models of the Siberian rivers water regime**
Dmitry Burakov (Krasnoyarsk State Agrarian University, Krasnoyarsk Center for Hydrometeorology and Monitoring of the Environment, Russia), Evgeniya Karepova (Institute of Computational Modeling, Siberian Branch of RAS, Russia)

14.40–15.00 **Short-term forecasts method of water inflow into Bureyskaya reservoir**
Yury Motovilov (RAS Institute of Water Problems, Russia), Victor Balyberdin (SKM Market Predictor, Russia), Boris Gartsman, Alexander Gelfan (RAS Institute of Water Problems, Russia), Timur Khaziakhmetov (RusHydro Group, Russia), Vsevolod Moreydo (RAS Institute of Water Problems, Russia), Oleg Sokolov (Far Eastern Regional Hydrometeorological Research Institute, Russia)

15.00–15.20 **Forecast of spring floods on the upper Ob river**
Alexander Zinoviev, Vladimir Galakhov, Konstantin Koshelev (Institute of Water and Environmental Problems, Siberian Branch of RAS, Russia)

15.20–15.40 **Regional hydrological model: the infrastructure and framework for hydrological prediction and forecasting**
Andrei Bugaets (RAS Institute of Water Problems, Far Eastern Regional Research Hydrometeorological Institute, Russia), Boris Gartsman (RAS Institute of Water Problems, Russia), Leonid Gonchukov (RAS Institute of Water Problems, Far Eastern Regional Research Hydrometeorological Institute, Russia), Oleg Sokolov (Far Eastern Regional Research Hydrometeorological Institute, Russia), Kwan Tun Lee (National Taiwan Ocean University, Taiwan), Yury Motovilov, Vitaly Belikov, Vsevolod Moreydo, Andrey Kalugin, Andrey Aleksyuk, Inna Krylenko, Alexey Rumyantsev (RAS Institute of Water Problems, Russia)

15.40–16.00 **Risks of short-time flooding in Nizhny Novgorod region due to landslides on the river banks**
Efim Pelinovsky (National Research University Higher School of Economics, Nizhny Novgorod State Technical University, RAS Institute of Applied Physics, Russia), Irina Didenkulova (Nizhny Novgorod State Technical University, Russia), Olga Oshmarina (National Research University Higher School of Economics, Russia)

16.00–16.30 *Coffee break*

6.2 Methods of risk assessment and management of hazardous hydrological phenomena

16.30–16.50 **The development of methods of preventing water's adverse impact based on the analysis of data on extreme precipitation**
Dmitry Klimenko (Perm State National Research University, Russia)

16.50–17.10 **Towards a comprehensive approach to evaluation of loss and damage from floods: identifying missing components**
Ekaterina Makarova (National Research University Higher School of Economics, Russia)

17.10–17.30 **Spatial variability of surface soil moisture at the field scale under the framework of geostatistics and satellite remotely sensed imagery**
Otto Correa Rotunno Filho, Kary de Paiva, Afonso Augusto Magalhaes de Araujo, Vitor Paiva Alcoforado Rebello (Laboratory for Water Resources and Environment, Civil Engineering Programme, Alberto Luiz Coimbra Institute for Graduate Studies and Research in Engineering, Federal University of Rio de Janeiro, Brazil)

17.30–17.50 **Hydrological balance in the large Russian river basins from GRACE satellites**
Leonid Zotov (National Research University Higher School of Economics, Russia), Natalia Frolova (M.V. Lomonosov Moscow State University, Russia), Elena Kyzyngasheva (National Research University Higher School of Economics, Russia)

17.50–18.10 **Flood risks' maps – effective management instruments**
Tatiana Borisova (Baikal Institute of Nature, Siberian Branch of RAS, Russia)

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6.2 Methods of risk assessment and management of hazardous hydrological phenomena (continued)

10.00–10.20 **Urbanization and its impact on watersheds flood responses**
Yangbo Chen (Sun Yat-Sen University, China)

10.20–10.40 **Assessment of hazard of inundations at regional and local levels**
Natalia Frolova, Svetlana Agafonova, Maria Kireeva, Inna Krylenko, Dmitry Magritsky, Alexey Sazonov (M. V. Lomonosov Moscow State University, Russia)

10.40–11.00 **Hydrological extreme projections: modeling and uncertainty issues**
Alexander Gelfan, Yury Motovilov, Inna Krylenko, Andrey Kalugin, Alexander Lavrenov (RAS Institute of Water Problems, Russia)

11.00–11.20	**Adaptation to floods in the Amur river basin: considering the environment** *Oxana Nikitina (World Wildlife Fund (WWF-Russia), Eugene Simonov (Rivers without Boundaries International Coalition, Russia), Peter Osipov (WWF-Russia), Evgeny Egidarev (WWF-Russia), Pacific Institute of Geography, Far East Branch of RAS, Russia), Andrey Shalikovsky (Eastern Branch of Russian Research Institute for Integrated Water Management and Protection, Russia)*
11.30–12.00	*Coffee break*
12.00–12.20	**Hydrodynamic modeling as a tool for flood hazard assessment in river mouths: case study of the White Sea** *Andrei Alabyan, Serafima Lebedeva, Evgenia Panchenko (M.V. Lomonosov Moscow State University, Russia)*
12.20–12.40	**Risk optimization of the NPP flooding** *Vitaly Belikov, Natalia Borisova, Alexey Rumyantsev (RAS Institute of Water Problems, Russia)*
12.40–13.00	**Necessity of considering outburst floods originating in the catchment area for large dams design** *Alexander Strom (Geodynamics Research Center – branch of JSC "Hydroproject Institute", Russia), Anatoly Zhirkevich, Ekaterina Shilina (JSC "Hydroproject Institute", Russia)*
13.00–13.30	**Discussion**

Session 7

Agricultural water use

The session covers issues related to the use and conservation of water in agriculture in the framework of climate change, environmental protection, and water resources management.

In the framework of the session, participants will discuss issues related to water industry in Russia and other BRICS countries in the situation of dynamic climate change, measures for improving water supply, and the prospects for cooperation among BRICS countries in agricultural water use. Moreover, patterns of change in water consumption in agriculture and food production in the current socio-economic and climatic conditions in Asia will be reviewed. An important issue for discussion will be water management in agriculture, operational management of irrigation and irrigation systems with application of mathematical modeling and GIS-technologies, as well as special characteristics of water supply to regions with water scarcity. Environmental issues related to prevention of land runoff causing soil erosion and river pollution will be discussed.

Session Chair

Boris Kizyaev,

Academician of the Russian Academy of Sciences, Director of All-Russian Research Institute of Hydraulic Engineering and Land Reclamation named after A.N. Kostyakov

Boris Kizyaev graduated from Tashkent Institute of Irrigation and Mechanization of Agriculture Engineers (1962). Doctor of Technical Sciences degree (1987), Professor (1992), Academician of the Russian Academy of Agricultural Sciences (1999), and Academician of the Russian Academy of Sciences (2013). Boris Kizyaev is a prominent scientist in technology and integrated mechanization of construction and operation of hydro-reclamation systems. He worked as a senior engineer, chief mechanic of Zapkazvodstroy trust of the Ministry of Water Resources of Kazakh SSR (1962-1963) and as a senior engineer at Glavmosstroy (1963-1964). He consecutively was a postgraduate student, an engineer, a junior and senior researcher, Head of the Laboratory (1964-1975), Deputy Director, and Director (since 1997) of Russian Research Institute of Hydraulic Engineering and Land Reclamation. He was also Director of the Engineering Center for mechanization and reclamation.

He participated in the development of machine systems for integrated mechanization of agriculture and forestry; elaborated the manual for the construction of irrigation canals; designed technical requirements for 63 new machines and systems, as well as a number of other documents. He led the development and application of processes for the construction of land reclamation systems with bucket wheel ditch excavators, bulldozers, drain-laying excavators, machines for the construction of closed irrigation network dredgers and other machinery. Boris Kizyaev pioneered in the substantiation of methods to optimize the construction of melioration canals system on the basis of economic and mathematical methods. He authored about 200 research publications and has 37 patents for inventions.

Deputy Session Chair

Sofia Isaeva,

Chief Research Fellow, Deputy Head of Unit of Ecosystems Water Use at All-Russian Research Institute of Hydraulic Engineering and Land Reclamation named after A.N. Kostyakov

Sofia Isaeva graduated cum laude from M.V. Lomonosov Moscow State University and Moscow Institute of Physics and Technology.

Sofia Isaeva holds Doctor of Technical Sciences degree. Her scientific interests focusing on ameliorative hydrogeology, she is actively involved in research on environmental resilience of geosystems to water industry impact, on the use and conservation of ground and surface waters in agriculture, and on the methodological aspects of water bodies and ameliorated lands monitoring. Sofia Isaeva is the author of 160 research publications.

Session 7.
Agricultural water use

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14.00–14.20	**Prospects of cooperation of BRICS countries in the sphere of development of agricultural water management** *Boris Kizyaev, Sofia Isaeva (All-Russian Research Institute of Hydraulic Engineering and Land Reclamation named after A.N. Kostyakov, Russia)*
14.20–14.40	**Water resources and food security: Russia's partnership with Asia** *Alexander Demin (RAS Institute of Water Problems, Russia)*
14.40–15.00	**Irrigation management for the rational use of water resources in agriculture** *Evgeniy Golovinov (All-Russian Research Institute of Hydraulic Engineering and Land Reclamation named after A.N. Kostyakov, Russia)*
15.00–15.20	**Management of hydrological processes in a river catchment on the basis of modern agrotechnologies application** *Ekaterina Kashutina, Sergey Yassinsky (RAS Institute of Geography, Russia)*
15.20–15.40	**Use of the simulation model of irrigation systems for water management optimization in agricultural production on irrigated lands** *Roman Krotov (All-Russian Research Institute of Hydraulic Engineering and Land Reclamation named after A.N. Kostyakov, Russia)*
15.40–16.00	**Flooding the Western Ilmens located on the border of the steppe and Eastern part of the Volga delta** *Alexander Buber (All-Russian Research Institute of Hydraulic Engineering and Land Reclamation named after A.N. Kostyakov, Russia)*

Session 8

River transport in the 21st century

River transport is the oldest transport mode. For centuries, it played a leading role in the emergence and development of countries. It helped establish relations, promote trade, and deploy troops. Counties have developed infrastructure, improving clearances, building locks and canals to connect rivers.

The following issues will be discussed in the framework of the session: high-speed river transport (hovercrafts, hydrofoils, ground effect vehicles); application of advanced technologies in vessel design and shipbuilding; integrated usage of hydraulic facilities at inland waterways; assessing demand for and feasibility of developing river transport; increasing productivity of inland waterways; application of tubular tongue technology for dock construction; waterways' impact on unregulated tail-water sections; comparative feasibility study for constructing the second line of the Volga-Don 2 and Eurasia Canals; river transport government management structure; staff training system for the industry.

Session Chair

Vladimir Rudomyotkin

General Director,
JSC "Giprorechtrans"

Vladimir Rudomyotkin, PhD, is technical operations specialist and construction engineer. He graduated from Moscow Institute of Transport Engineers (MIIT) in 1985. After graduation, he worked as a foreman, superintendent, and chief of section in the "Tsentro-transstroy" trust of the Ministry of Transport Construction of the USSR. Under his leadership and with his immediate participation, technical re-equipment and construction of industrial and civil sites and facilities were implemented. Since 2001, Vladimir Rudomyotkin works as General Director of JSC "Giprorechtrans", where he leads design and exploration work of transport and hydraulic engineering facilities. He authored 5 inventions and patents, has over 100 publications in national and international journals. Vladimir Rudomyotkin heads the Editorial Board and is a co-author of encyclopaedia "River transport". He is a member of the Board of the Russian Society of Civil Engineers, member of the editorial board of research journals "Industrial and Civil Engineering", "Transport construction" and "River transport". Vladimir Rudomyotkin is the Chairman of "Transport Construction" Department of the Russian Academy of Transport. Vladimir Rudomyotkin is Academician of the Russian Academy of Transport and the Russian Engineering Academy. He is the Kosygin award holder, has Honorary Constructor of Russia, Honorary Constructor of Moscow, Honorary Constructor of Moscow Region, and Honorary Transport Constructor titles. He is the founder of the specialized technology research journal "Bulletin of the Foreign Research and Technical Information". He was awarded the Order of II degree "For Services to the Motherland", medals of the Russian Federation, industrial honors.

Deputy Session Chair

Liana Vashakmadze

Deputy General Director,
JSC "Giprorechtrans", research secretary of "Transport Construction" Department of the Russian Academy of Transport

Liana Vashakmadze graduated from Kiev Institute of Civil Aviation Engineers in 1985. She holds the Doctor of Transport degree.

Since 1985, she worked in Yakutsk united air group, since 1990 – in the "Spetsstroymehanizatsiya" trust of the Ministry of Construction of the East of USSR.

Since 1993, she worked in top management positions in many commercial enterprises of Yakutia region, later – as a deputy director of "Giprorechtrans". She made a significant contribution to the development of the Institute, inter alia, initiated social improvements, enhanced education of students of the "Ports and Waterways" Chair of Moscow State Academy of Water Transport. She also serves as Deputy Head of the branch of chair "Waterways and Ports" of Moscow State Academy of Water Transport.

Liana Vashakmadze is Deputy editor-in-chief of specialized scientific and technical journal "BINTI" (Bulletin of the Foreign Scientific and Technical Information) and spearheaded the development of a dedicated sectoral web-site of design and construction organizations and enterprises "Construction and Transport". She was awarded several sector-specific official honors.

Session 8.
"River transport in the 21st century"

September 29, 2016
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14.00–14.20	**Speed ships of a new generation for the organization of freight and passenger transport on inland waterways** *Igor Kuzmichev, Vladimir Etin, Alexander Malyshkin, Sergey Mitroshin (Volga State University of Water Transport, Russia)*
14.20–14.40	**The experience of the shipping company "Port Kolomna" in shifting freight traffic from land-based transport on inland waterways** *Vladimir Alekseev (JSC "Kolomna port", Russia)*
14.40–15.00	**Opportunities and areas for Russia's scientific cooperation with BRICS countries in the field of inland water transport** *Tatiana Pantina (Admiral Makarov State University of Maritime and Inland Shipping, Russia)*
15.00–15.20	**Free sections of rivers below the waterworks** *Maxim Bondarchuk (JSC "Giprorechtrans", Russia)*
15.20–15.40	**Project Arctic Container line** *Vitaly Zbaraschenko (International Academy of Transport, Russia)*
15.40–16.00	**Innovative sulfur concrete composite materials for hydraulic engineering** *Yury Vasiliev (Moscow Automobile and Road Construction State Technical University, Russia)*
16.00–16.30	*Coffee break*
16.30–16.50	**Influence of river transport on the socio-economic development of regions of Russia** *Svetlana Lipina (Russian Presidential Academy of National Economy and Public Administration, Center for Strategic Management and Spatial Development of the Council for the Study of Productive Forces of the Ministry of Economic Development of the Russian Federation, Russia)*
16.50–17.10	**Application of composite materials in modern shipbuilding** *Yury Gorev (Sredne-Nevsky Shipyard, Russia)*
17.10–17.30	**Advanced designs of fast passenger ships** *Mikhail Smirnov (Krylov State Research Center, Russia)*
17.30-18.30	**Duscussion**

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10.00–10.20	**Exploitation of Russian inland waterways: the case of the Administration of the Volga-Don** *Oleg Shahmardanov (Administration of the Volga-Don State Basin Department of Waterways and Navigation, Russia)*
10.20–10.40	**The extension of navigation on the Northern glaciated rivers through the use of a routing channel in the ice of the ice sheet (on the airbag and displacement) in conjunction with tugs-pushers** *Evgeniy Malov (Krylov State Research Center, Russia)*

10.40–11.00	**Perspectives of international cooperation in the field of training of seafarers in the interest of the BRICS countries** *Sergey Baryshnikov (Admiral Makarov State University of Maritime and Inland Shipping, Russia)*
11.00–11.30	*Coffee break*
11.30–11.50	**BRICS Cont Line** *Vitaly Zbaraschenko (International Academy of Transport, Russia)*
11.50–12.10	**Organization of unloading of oversized and heavy cargo arriving by water transportation** *Vladimir Pismenskiy (JSC "Giprorechtrans", Russia)*
12.10–12.30	**New paradigm of the use of inland water transport in supply chain logistics** *Vladimir Persianov (Honored Scientist of the Russian Federation, Academician of the International and Russian Academies of Transport, Russia), Stanislav Goncharenko (LLC "Eurasian Transport Union", Russia)*
12.30–12.50	**Logistics of cargoes delivery in the BRICS countries using water transportation** *Vladimir Klepikov (National Research University Higher School of Economics, Russia)*
12.50–13.10	**"SIBERIA" – new form of transport** *Dmitry Nazarov (Samara National Research University named after Academician S.P. Korolev, Russia)*
13.10–13.30	**Application of a simulation model of multimodal freight transportation on inland waterways by motor and railway transport** *Anton Lutskevich (Krylov State Research Center, Russia)*

Round tables

Round table 1.
Management of water resources for agriculture in the Silk Road Economic Belt. The experience of China and BRICS countries

The goal of the round table:

The goal of the round table is to form an international community of experts and policy-makers and businesses, aimed at the implementation of comprehensive cross-border agricultural water use projects.

Tasks:

- to analyze the situation with water use management in the context of changes in the division of labor in the macro-region of Siberia, the Far East and North-East China;
- outline the boundaries for the agricultural zone that is being formed on the territory of Russia and China: determine the regions involved, identify possible specialization for Russia and China in agricultural cooperation;
- identify the basic principles regulating the creation of an agricultural zone at the territory of Russia and China that is part of a pool of initiatives aimed at pairing the Economic Belt Silk Road and the EAEC (seasonality, rotation, etc.).

Issues for discussion:

- experience of the BRICS countries comprehensive water use;
- pre-requisites for the implementation of cross-border agricultural projects in North-East Asia;
- scenarios for interaction in water use, agriculture, the accompanying infrastructure and industrial development;
- the role of expertise and experts in water use, agriculture, the accompanying infrastructure and industrial developmen.

Moderator

Roman Girenko

General Director of "Agency of System Design" (Russia)

Roman Girenko is co-director of the program club "Methodological Management Practice" (Moscow, Russia). He is a specialist in regional development and strategic management, creation and implementation of restructuring programs for industrial conglomerates and territorial manufacturing clusters.

His main areas of activity are the development of integrated regional development projects based on the division of labor and organizational design methodology. He specializes in organization of entrepreneurial alliances for the implementation of projects in cross-border infrastructure development, intercontinental logistics, and multilateral markets in the framework of the Eurasian macro-region.

September 29, 2016

16.30–18.00

Room 508

1. **Economic Belt of the Silk Road as an instrument for reorganizing the division of labour in the context of the Eurasian macro-region**
   Oleg Grigoriev (Research Center "Neoconomics", Russia)

2. **Cooperation between the Far-Eastern regions of Russia and the North-Eastern provinces of China in the context of the implementation of the "Silk Road Economic Belt" program**
   Andrey Ostrovsky (RAS Institute of Far Eastern Studies, Russia)

3. **New land grain bridge between Russia and China. Importance for the development of Siberian Federal District, current status and perspectives**
   Alexey Butylsky (Government of the Transbaikal region – Representative office of the Transbaikal region in the Government of the Russian Federation, Russia)

4. **Integrated water management projects aimed at regional development facilitation: cases**
   Timur Valitov (Moscow Pedagogical University, Scientific Research Institute – Federal Research Centre for Projects Evaluation and Consulting Services, Russia)

5. **Integrated water management projects aimed at the development of advanced technological solutions and prospects of their application**
   Yury Dobrachev (All-Russian Research Institute of Hydraulic Engineering and Land Reclamation named after A.N. Kostyakov, Russia)

6. **Importance and current state of transport corridors of the Russian Far East and North-Eastern China as a platform for integration in the macro-region**
   Sergey Sazonov (RAS Institute of Far Eastern Studies, Russia)

7. **Prospects of establishment of the Russian-Chinese agricultural zone in the context of the "Silk Road Economic Belt" mega-project development**
   Roman Girenko (Agency for Systemic Engineering, Russia)

8. **Discussion. Conclusions from the round table. Proposal for the final resolution of BRICS Water Forum**

Round table 2.
Programs and financial instruments to support water-related research and innovation projects in BRICS countries

The goal of the round table:

The goal of the round table is to present and discuss existing programs and financial instruments to support water-related research and innovation projects in BRICS. Representatives of state research and innovation foundations will present their programs for the support of bilateral and multilateral projects for BRICS research teams and small innovation enterprises. Researchers will be able to learn about existing sources to fund their studies, and representatives of funding agencies will be able to exchange their opinions and experiences in supporting water research and technologies in BRICS.

Issues for discussion:

- What are the existing programs for the support of bilateral and multilateral water research and innovation projects in BRICS?
- How efficient are these programs?
- Is there demand for more programs among researchers and innovators?
- What are the lessons learnt from the pilot Call for basic research projects organized by the Russian Foundation for Basic Studies in cooperation with organizations – participates of the BRICS Framework Program for Science, Technology and Innovation?

Moderator

Dmitry Korotkov

Head of Unit, Department of Science and Technology, Ministry of Education and Science of the Russian Federation

Dmitry Korotkov graduated from National Research Nuclear University "MEPhI" as physics engineer and obtained the Candidate of Technical Science degree in superconductivity and information systems. In 2010, he graduated from European Studies Institute at MGIMO University with Master's degree in European law. He was awarded several patents (physics and IT) and certificates of authorship (software). D. Korotkov currently works as Head of Division of International Science and Technology Programmes and Projects at the Department of Science and Technology of the Ministry of Education and Science of the Russian Federation

September 30, 2016

14.30–16.15

Room 518

1. **Support of multilateral and bilateral research projects in the framework of the Federal Targeted Programme "Research & Development in Priority Areas of Development of the Russian Scientific and Technological Complex 2014–2020"**
   Dmitry Korotkov (Ministry of Education and Science of the Russian Federation, Russia)
2. **Experience of wastewater treatment based on biotechnology Anammox process in the framework of the Federal Targeted Program "Research and development on priority directions of scientific-technological complex of Russia for 2014–2020" of the Ministry of Education and Science of the Russian Federation**
   Mikhail Kozlov (JSC "Mosvodokanal", Russia)
3. **India's programs to support international water research projects**
   Abhishek Vaish (Embassy of the Republic of India in Moscow)
4. **Programs to support international innovative water-related projects and examples of such projects supported by the Foundation for Assistance to Small Innovative Enterprises**
   Olga Levchenko (Foundation for Assistance to Small Innovative Enterprises in Science and Technology, Russia)

5. **Call for basic research projects organized by the Russian Foundation for Basic Studies in cooperation with organizations – participants of BRICS Framework Program for Science, Technology and Innovation**
   Alexander Sharov (Russian Foundation for Basic Research, Russia)

6. **Opportunities for international cooperation with BRICS countries in the field of technologies of sustainable ecological development**
   Vadim Sharov (Technology platform "Technologies for Sustainable Ecological Development", Russia)

7. **[TBD] South Africa's programs to support international water research projects**
   Representative, Department of Science and Technology, Republic of South Africa

8. **China's programs to support international water research projects**
   Shimin Zheng, Chen Qian (Embassy of the People's Republic of China in Moscow)

Round table 3.
Foresight and STI policy for water resources

A variety of global trends have multiple affects upon water resources that are difficult to assess. This presents the complexity issue for policy decisions, directed towards sustainable development of water resources. Effective science and technology policy in the sphere of water resources should be based on the outcomes of scientifically grounded foresight studies that preview involvement of key stakeholders and are based on a combination of quantitative and qualitative methods. The aim of the round table is to discuss and exchange experience of planning and implementation of these foresight studies.

Russian experience of the development of science and technology foresight system, with the long-term science and technology foresight as its central element, may be useful for BRICS countries. Of particular importance are global trends identification, future markets analysis of image, identification of key consumer characteristics of products and services and the identification of key technologies that will assure sustainable use and conservation of water resources.

Issues for discussion:

- What global challenges in manufacturing, energy, housing and public utilities, agriculture, environment and climate determine the state of water resources in the medium and long term? Which ones are the most relevant to BRICS countries?
- Which scenarios for sustainable use and conservation water resources are the most probable and desirable?
- What role will universities, companies and research organizations play in addressing key challenges in the sphere of water resources?
- What actions should be taken by decision-makers in the near future?
- What science and technology areas in the water industry may form the basis for mutually beneficial cooperation among BRICS countries?

Moderator

Alexander Chulok,

Deputy Director of the International Research and Educational Foresight Centre, National Research University Higher School of Economics

Alexander Chulok is responsible for coordination of research activities aimed at the development of Russia's science and technology (S&T) foresight (2030 S&T Foresight was approved by the Russian Government in 2014) and specific sectors (including agriculture, rational use of natural resources, medicine, energy, and new materials). Alexander Chulok takes an active part in the development of methodology and practice of foresight studies, development of systemic instruments and approaches for identification of global trends, analysis of future markets, identification of key characteristics of products and services, as well as technological solutions. Alexander Chulok authored over 50 publications on innovation, forecasting, science, technology, and innovation (STI) policy. He annually holds over 20 strategic trainings and sessions for companies, federal and regional policy-makers.

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16.30–17.45

Room 518

1. **Global water resources trends: outcomes of a systemic Foresight study**
   Ozcan Saritas (National Research University Higher School of Economics, Russia)
2. **Russia's Long-term Science and Technology Foresight: opportunities for the sphere of water resources**
   Alexander Chulok (National Research University Higher School of Economics, Russia)
3. **Scenarios for long-term sustainable use of water resources**
   Liliana Proskuryakova (National Research University Higher School of Economics, Russia)
   Sergey Sivaev (Federal Center for Project Finance, VEB Group)

4. **Prospective rational nature use markets: outcomes of text-mining studies**
   Ilya Kouzminov (National Research University Higher School of Economics, Russia)
5. **Threats and opportunities for Russia related to water resources: a view of a technology platform**
   Nina Alexeeva (M.V. Lomonosov Moscow State University, Russia)
6. **Social innovation in the responsible water use: international experience and lessons for Russia**
   Alexandra Moskovskaya, Artem Berendyaev (National Research University Higher School of Economics, Russia)
7. **The Mega-Project "Channel Eurasia"**
   Grigory Melnik, Vladimir Darevsky (Non-commercial partnership "Association of Professional Hydraulic Engineers "Giprorechtrans", Russia)
8. **Mechanism and tools of scientific/analytical support for the water use technical regulation**
   Galina Oboldina (Russian Research Institute for Integrated Water Management and Protection, Russia)

Round table 4.
Bottled table and mineral water

The goal of the round table:

The goal of the round table is to present up-to-date research and practical data on the criteria and standards of quality of bottled drinking and mineral water in order to form common approaches by the international community of experts, policy-makers and businesses.

Tasks:

- to analyze the present day issues related to hygienic requirements to quality of bottled drinking water of various categories;
- to set the physiological significance of bottled drinking and mineral water and its impact on human health;
- to identify the most important criteria and standards of bottled drinking and mineral water.

Issues for discussion:

- experience in the health-promoting use of bottled drinking and mineral water;
- scientific basis for the hygienic standardization of bioactivity of bottled drinking water;
- criteria, categories and quality standards for bottled drinking water.

Moderator

Yury Rakhmanin

Acting Director of A.N. Sysin Research Institute of Human Ecology and Environmental Health of the Ministry of Health of the Russian Federation

Yury Rakhmanin, Dr. of Sciences in Medicine, Professor, Academician of the Russian Academy of Sciences, specialist in the study of patterns and mechanisms of environmental and industrial effects and living conditions on human health and quality of life of the Russian population; leads the development of public policy framework for preventive care, preservation and promotion of public health. In this area, he achieved international recognition, in particular as an expert of the World Health Organization. Yury Rakhmanin is the founder of a new research area – the hygiene of artificially produced desalinated drinking water.

He is Chairman of the Scientific Council of the Russian Federation on Human Ecology and Hygiene of the Environment; President of the International Association "Water - Health - Environment"; member of the Advisory Council on Desalination of Sea Water with the Use of Nuclear Power of CJSC "Rusatom Overseas"; editor-in-chief of "Hygiene and Sanitation" journal, member of the editorial boards of several Russian and international research journals; chair of expert councils of 2 professional catalogues.

September 30, 2016

16.30-17.45

Room 508

1. **Bottled drinking water: modern criteria, categories and the quality standards**
   Yury Rakhmanin, Rufina Mikhailova, Irina Ryzova, Anna Alexeeva (A.N. Sysin Research Institute of Human Ecology and Environmental Health, Russia)
2. **Hygienic requirements for quality of bottled drinking water for baby food**
   Rufina Mihailova, Irina Ryzova, Anna Alexeeva, Daria Kamenetskaya (A.N. Sysin Research Institute of Human Ecology and Environmental Health, Russia), Igor Kon' (Federal Research Center for Nutrition and Biotechnology, Russia)
3. **Scientific assumptions for regulating of drinking water's bioenergetic activity**
   Anatoliy Stehin, Galina Yakovleva (A.N. Sysin Research Institute of Human Ecology and Environmental Health, Russia)
4. **Methodological aspects of life extension due to locally activated drinking water "Сімбирка"**
   Yury Kopnov (LLC "Crystal-Ulyanovsk Water", Russia), Anatoliy Stehin, Galina Yakovleva (A.N. Sysin Research Institute of Human Ecology and Environmental Health, Russia)

5. **Soft water with low content of deuterium: hydrogen and oxygen isotopic composition**
Alexander Timakov (LLC "MTK Iceberg", Russia)

6. **Natural drinking water "Longevity"'s impact on human biological age**
Pavel Babenko, Anatoly Babenko (LLC "NPKF DEKOS", Russia), Boris Kaurov, Mikhail Yakyshin (Russian National Research Medical University named after N.I. Pirogov, Russian Clinical Research Center for Gerontology, Russia)

7. **Micellar calcium carbonate – biological activity regulator in drinking water**
Anatoliy Stehin, Galina Yakovleva (A.N. Sysin Research Institute of Human Ecology and Environmental Health, Russia), Irina Pyanzina (LLC "Sozidatel", Russia)

8. **Aquahomeopathy as a solution to the problems of aging and treatment of chronic diseases**
Vladimir Fedorov (LLC "Thermo-Premier", Russia)

9. **Research of antioxidant activity of drinking and modified waters**
Larisa Nekrasova, Rufina Mikhailova, Irina Ryzova (A.N. Sysin Research Institute of Human Ecology and Environmental Health, Russia)

10. **Biological effects' mechanisms of mineral waters on the health of the population**
Igor Bobrovnitskiy, Sergey Nagornev, Maxim Yakovlev (A.N. Sysin Research Institute of Human Ecology and Environmental Health, Russia), Valery Frolkov (Russian Research Center of Rehabilitation Medicine and Balneology, Russia)

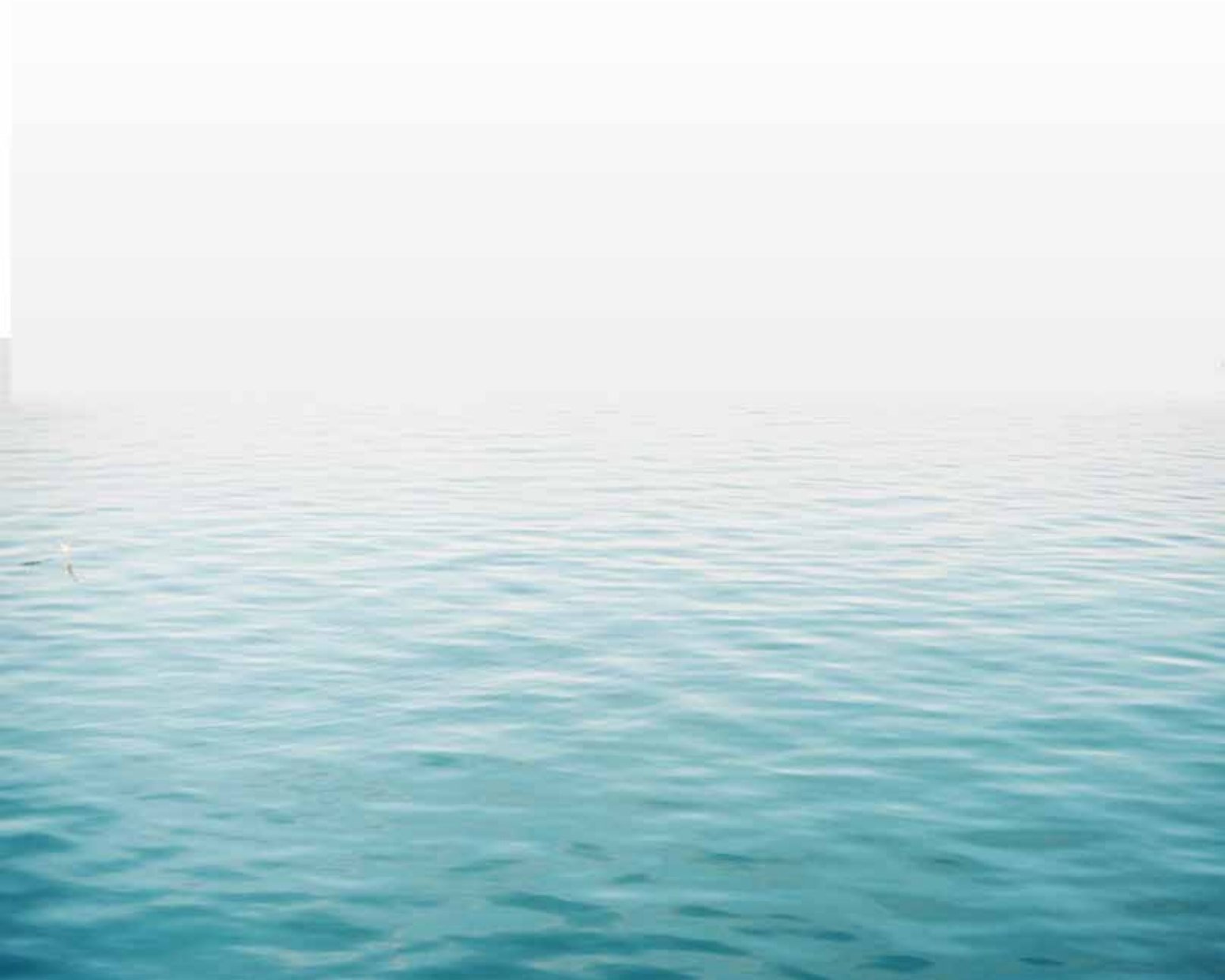
11. **Options and possibilities for macro – and microelement composition correction of "Severyanka" drinking water with mineral additives**
Vladimir Makarov ("Eco-Project", Russia)

12. **Establishment of industry for physiologically useful bottled drinking water**
Yevgeniy Pyatov (JSC "Kokshetaumineralwater", Kazakhstan)

13. **Regarding certain issues in legal regulation of deep Baikal water manufacturers operation**
Maxim Surnin (BAIKALSEA Company, Russia)

14. **Production control system as quality guarantee of bottled mineral and drinking water**
Dmitriy Korobkov (CJSC "Visma Management Company", Russia), Evgenia Anno (Eurasia Alliance of Bottled Waters", Russia)

Poster session



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1. **River and glacier flow of Amudarya river (Pamir) in normal and extreme years**
   Vladimir Konovalov (RAS Institute of Geography, Russia)
2. **Water resources management of a river basin, affected by anthropogenic forcing in the case study of the Nytva river**
   Svetlana Dvinskih (Perm State University, Russia)
3. **Dynamics of the level regime of small and medium-sized Russia's hinterland closed lakes in the conditions of climate change (on the example of lake Krasylovskoe of Altai krai)**
   Vladimir Zuev, Nina Zueva, Sergey Kurakov (Institute of Monitoring of Climatic and Ecological Systems, Siberian branch of RAS, Russia), Igor Sutorikhin (Institute of Water and Environmental Problems, Siberian branch of RAS; Altai State University, Russia), Natalia Kharlamova (Altai State University, Russia), Ustina Yankovskaya (Institute of Water and Environmental Problems, Siberian Branch of RAS, Russia)
4. **Role of the inter-municipal water basin councils of small rivers in ensuring an integrated approach to water resources management**
   Anna Aladyshkina (National Research University Higher School of Economics, Russia), Alexey Krasnov (Department of Ecology and Environmental Management of the Legislative Assembly of the Nizhny Novgorod Region, Russia)
5. **Network design of social and environmental information for the big river basins**
   Anna Aladyskina (National Research University Higher School of Economics, Russia), Alexander Ivanov (Nizhny Novgorod State University of Architecture and Civil Engineering, Russia)
6. **Water security assessment in regions of Western Siberia**
   Irina Rybkina (Institute of Water and Environmental Problems, Siberian Branch of RAS, Russia)
7. **Determination of zones of maximum climate destabilization in the northern hemisphere**
   Yury Kirsta (Institute of Water and Environmental Problems, Siberian branch of RAS, Russia)
8. **Less leakages with better gaskets**
   Franck Royer (Klinger GmbH, Germany)
9. **Assessment of the variability of waste water quality in the system of water disposal – an econometric approach**
   Elena Kopnova (National Research University Higher School of Economics)
10. **Dynamics of water use in natural areas of the Volga basin**
    Sergey Yasinsky, Irina Vishnevskaya (RAS Institute of Geography, Russia)
11. **Allowable acid loads on water bodies based on a hydrogeochemical model**
    Petr Lozovik, Irina Kravchenko (Institute of Water Problems of the North of the Karelian Research Center of RAS, Russia)
12. **The research of conditions and processes of the sewage dilution in the river channels**
    Anna Kurteeva (Udmurt State University, Russia)
13. **Long-term dynamics of metal content in the Belaya river basin affected by natural and anthropogenic factors**
    Tatiana Fashchevskaia, Yutiy Motovilov (RAS Institute of Water Problems, Russia)
14. **Polycyclic aromatic hydrocarbons as an indicator of the environmental state of water bodies**
    Alexander Khaustov, Margarita Redina (Russian Peoples' Friendship University, Russia)
15. **Research of a centrifugal pump effect on the particles size of the oil-water emulsion**
    Anna Morozova (Far Eastern Federal University, Russia)
16. **Ozone-sorption and electrochemical technology**
    Anastasia Gadlevskaya, Anton Mantuzov (JSC Branch of the Order of Red Banner of Labor Research Institute of Physical Chemistry named after L.Ya. Karpov, Russia)

17. **Installation for tap water microfiltration**
Alexander Smolyansky (JSC Branch of the Order of Red Banner of Labor Research Institute of Physical Chemistry named after L.Ya. Karpov, Russia)

18. **Hydrological balance in the large Russian river basins from GRACE satellites**
Leonid Zotov (National Research University Higher School of Economics, Russia), Natalia Frolova (M.V. Lomonosov Moscow State University, Russia), Elena Kyzyngasheva (National Research University Higher School of Economics, Russia)

19. **Flood risks' maps – effective management instruments**
Tatiana Borisova, Andrey Beshentsev (Baikal Institute of Nature, Siberian Branch of RAS, Russia)

20. **Adaptation to floods in the Amur river basin: considering the environment**
Oxana Nikitina (World Wide Fund for Nature (WWF-Russia), Eugene Simonov (Rivers without Boundaries International Coalition, Russia), Peter Osipov (World Wide Fund for Nature (WWF-Russia), Evgeny Egidarev (World Wide Fund for Nature (WWF-Russia), Pacific Institute of Geography, Far East Branch of RAS, Russia), Andrey Shalikovsky (Eastern Branch of Russian Research Institute for Integrated Water Management and Protection, Russia)

21. **Rainfall-runoff regime and NDVI spatial-temporal analysis**
Ligia Maria Nascimento de Araujo, Isela Vazquez, Daniel Medeiros Moreira, Nelson Ferreira Fernandese, Otto Corrка Rotunno Filho (Laboratory for Water Resources and Environment, Civil Engineering Programme, Alberto Luiz Coimbra Institute for Graduate Studies and Research in Engineering, Federal University of Rio de Janeiro, Brazil)

22. **Impacts of moisture on soil carbon and N2O emissions in agricultural soil in Northwest China**
Zhang Fan, Wu Yiping (Xi'an Jiaotong University, Xi'an, China)

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23. **The formation of nitrite composition of the Upper Volga water under Tver anthropogenic loads**
Victor Nikolsky (Tver State University, Russia)

24. **Assessment of environmental state with benthic amphipod biomarker: malformed embryos frequency**
Nadezhda Berezina (Zoological Institute of RAS, Russia)

25. **Ecological and legal aspects of ensuring the rational use of transboundary water resources of the Samur river**
Magomed Guruev (Caspian Institute of Biological Resources of Dagestan Scientific Center of RAS, Russia)

26. **Anthropogenic transformation of influence of chloride ions of atmospheric precipitation on their river runoff in the North of the East European plain**
Dinara Khairullina (Kazan Federal University, Russia)

27. **Water purification without chlorine and UV**
Peter Mikheev, Andrey Kobzev, Igor Jukov (AQUIFR LLC, Russia)

28. **Precipitation in the Amur river basin in summer 2013**
Mikhail Bolgov, Maria Trubetskova, Irina Filippova, Maxim Kharlamov (RAS Institute of Water Problems, Russia)

29. **Managed aquifer recharge on the South of European Russia as a reduction method of the local water scarcity**
Anna Chetverikova (RAS Institute of Water Problems, Russia)

30. **Simulation of pesticide transport in groundwater using model PEARL and Russian standard scenarios**
Viktoria Kolupaeva, Victor Gorbatov (Russian Institute of Phytopathology, Russia)

31. **Probabilistic forecast of the Lake Chany water level**
Elena Korobkina, Mikhail Bolgov (RAS Institute of Water Problems, Russia)

32. **Climate change impact on agricultural water supply and human life in the European part of Russia**
Elena Cherenkova, Daria Bokuchava (RAS Institute of Geography, Russia)

33. **Planning and design of river bank filtration and subsurface iron removal**
Victor Kulakov (Russian Academy of Sciences, Russia), Vladimir Steblevsky (JSC "Mosvodokanal", Russia), Jobst Herlitzius (ARCADIS Deutschland GmbH, Germany), Thomas Grischek (ARCADIS Deutschland GmbH, Dresden University of Applied Sciences, Germany)

34. **Model of runoff formation in the Amur river basin**
Andrey Kalugin (RAS Institute of Water Problems, Russia)

35. **Phytoplankton from the Ob source to its mouth (Western Siberia, Russia)**
Elena Mitrofanova (Institute of Water and Environmental Problems, Siberian branch of RAS, Russia)

36. **Modelling of a regime of Volga-Akhtuba floodplain flowage in the conditions of anthropogenous influence and climatic changes**
Ksenia Shatalova (RAS Institute of Water Problems, Russia)

37. **Features of water quality biological assessment in different sites of large Ob river system**
Liubov Yanygina (Institute of Water and Environmental Problems, Siberian branch of RAS, Russia)

38. **Floods in Siberia: spatial-temporal analysis**
Natalia Kichigina (V.B. Sochava Institute of Geography, Siberian branch of RAS, Russia)

39. **Acoustic doppler profiler "Argo-600"**
LLC "3D-Agro", Russia

40. **Lake Onego and its watershed: geological history, anthropogenic transformation and current state**
Dmitry Subetto, Natalia Belkina, Natalia Kalinkina, Galina Borodulina, Anastasia Sidorova, Alexey Tarasov, Maxim Potakhin, Mikhail Zobkov, Nikolay Filatov, Maria Bogdanova, Vyacheslav Baklagin, Alexander Litvinenko, Tatiana Shelekhova, Yulia Fomina, Nadezhda Lavrova (Institute of Water Problems of the North Karelian Research Centre of RAS, Russia)

41. **Sustainable water resource management in the Tiger Corridor, Rajasthan, India**
Bhanwar Vishvendra Raj Singh, Anjan Sen (Delhi School of Economics, University of Delhi, India)

42. **Wind-wave regime of reservoir: field investigation and numerical modeling**
Georgy Baydakov, Alexandra Kuznetsova, Yuliya Troitskaya, Daniil Sergeev (Institute of Applied Physics of RAS, Russia)

43. **Formation of water quality of the Ivankovo reservoir in the conditions of intensive recreation**
Irina Grigorieva, Alexey Komissarov, Ekaterina Chekmariova (Ivankovo research station of the Water Problems Institute of RAS, Konakovo, Russia)

44. **Methodological basis of accounting and normalization parameters of risk from ice jam floods**
Lyubov Banshchikova (State Hydrological Institute, SPO "Gidrotekhproekt", Russia)