



UNESCO Chair on Future Studies



UNESCO CHAIR PROGRESS REPORT

Title of the Chair:	UNESCO Chair on Future Studies
Host Institution:	National Research University Higher School of Economics (HSE)
Date of establishment of Chair:	08.2021
Period of activity under report:	08.2021 – 08.2025
Report established by:	Prof. Alexander Sokolov, Deputy Director of the Institute for Statistical Studies and Economics of Knowledge, Director of International Research and Educational Foresight Centre, Head of UNESCO Chair on Future Studies, National Research University Higher School of Economics

1. Executive Summary

The UNESCO Chair on Future Studies has promoted an integrated system of research, education, information on anticipatory systems and processes in the areas of policy-advice, education and science, technology and innovation (STI) development.

The Chair's evidence-based research focused on the development of foresight methodology, anticipatory systems and processes, the identification of emerging trends and wildcard events in STI, economy and society both at national and global levels.

The findings were integrated into HSE English-language [Master's Programme 'STI Management and Policy'](#), benefiting over 240 students from 33 countries, alongside vocational training and master classes promoting lifelong learning for young people and adults.

Futures Literacy, knowledge, competencies and skills transfer were advanced through training, annual events, publications, [Telegram channel iFORA knows how](#), Chair's [web-site](#).

The Chair organized conferences, workshops and expert discussions on hot topics of futures studies engaging 1,500+ representatives of academic, educational and business sectors from 20+ countries worldwide. The Chair's staff delivered presentations at international events hosted by partner organisations.

To empower diverse beneficiaries with the ability to 'use-the-future' and increase their awareness on emerging trends and opportunities to affecting the negative consequences of the global challenges the Chair has designed publicly accessible [Database On Global Trends](#) and issued [TrendLetters](#) in the areas of Health, Education and Labour, Economy, Ecology and Environment, Politics and Regulation, Society and Values.

The Chair scholars contributed to a number of papers in top journals including *Technological Forecasting and Social Change*, *Foresight*, *Futures*, *European Journal of Futures Research*, etc. In 2024, they edited and authored chapters to a *Springer Nature* book presenting findings of a STI foresight study for South Africa, which provides policy recommendations for STI, societal development and achieving SDGs. International experts in Futures Literacy published articles in HSE quarterly issued peer-reviewed [journal 'Foresight and STI Governance'](#) (Scopus Q1).

2) Activities

During the implementation period 2021-2025, the UNESCO Chair on Future Studies has promoted an integrated system of research, training, information and documentation on anticipatory systems and processes in the areas of policy-advice, education and STI development. It facilitated collaboration between high-level, internationally recognized researchers and teaching staff of the HSE University and partners in Russia, Europe, Africa, Asia, and Latin America.

The Chair's evidence-based research focused on the development of foresight methodology, anticipatory systems and processes, the identification of emerging trends and wildcard events in STI, economy and society both at national and global levels. Findings were integrated into HSE English-language [Master's Programme 'Science, Technology and Innovation Management and Policy'](#), benefiting over 240 students from 33 countries, alongside vocational training and master classes promoting lifelong learning for young people and adults..

The Chair has leveraged Futures Literacy and knowledge transfer via disseminating competencies and skills in futures studies through training sessions, annual events, regular publications, communication channels ([Telegram channel iFORA knows how](#); Chair's [web-site](#)). The Chair has organized conferences, workshops and expert discussions on hot topics of futures studies engaging 1,500+ representatives of academic, educational and business sectors from 20+ countries. The key annual event is International Academic Conference 'Foresight and Science, Technology and Innovation Policy'.

The Chair closely collaborated with UNESCO Chairs and expanded institutional partnerships in Africa, Asia and Latin America including under the Global Futures Literacy Network featuring their specialists to conferences and expert discussions on common problems and alternative development scenarios, and co-publishing papers. New cooperation agreements

were concluded with institutions from South Africa, Malaysia, and Morocco. New Double Degree Master's Programme with University of Campinas (Brazil) providing students exchange was launched in 2024. The Chair's staff delivered presentations at events hosted by UNESCO Chairs.

To empower diverse beneficiaries with ability to 'use-the-future' and increase their awareness on emerging trends and opportunities to affecting the negative consequences of the global challenges, the Chair has designed a publicly accessible [Database On Global Trends](#) and issued [TrendLetters](#) in the areas of Health, Education and Labour, Economy, Ecology and Environment, Politics and Regulation, Society and Values. The methodology of database elaboration combines HSE's big data mining system ([iFORA](#)) and expert methods (Delphi survey, foresight sessions with participation of 400+ leading international and Russian specialists).

The Chair's experts provided policy advice to Russia's authorities at federal and regional levels for future-relevant strategic decision-making.

The Chair scholars contributed to a number of papers in top journals including *Technological Forecasting and Social Change*, *Foresight*, *Futures*, *European Journal of Futures Research*, *Marine Policy*, *Renewable Energy*, etc. In 2024, they edited and authored chapters to a *Springer Nature* book presenting findings of a STI foresight study for South Africa, which provides policy recommendations for STI, societal development and achieving SDGs. International experts in futures studies published articles in HSE's quarterly issued peer-reviewed [journal 'Foresight and STI Governance'](#) (Scopus Q1).

a) Education/Training/Research

The Chair's interdisciplinary evidence-based research focused on:

- development and application of new, more effective approaches to futures studies, including AI-based methodologies;
- monitoring of global challenges;
- identification of major emerging and evolving trends, and wildcard events in STI, economy and society affecting human being both at national and global levels, using interdisciplinary and future-oriented approaches including big data analysis, expert panel discussions, Delphi surveys with participation of leading international and Russian experts.

The Chair integrated education and research. The research outcomes were introduced into educational and vocational training programmes thus contributing to promotion of futures studies culture and inclusive life-long learning. The Chair contributed to raising awareness of policy makers, researchers, business community and society in the field of emerging trends and opportunities. The Chair performed educational activities within HSE English-language [Master's Programme 'Science, Technology and Innovation Management and Policy'](#), elective and vocational trainings, workshops, master classes. Highly skilled experts were recruited for these purposes from Russia, Europe, Africa, Asia, and Latin America. Chair's experts provided policy advice to Russia's authorities at federal and regional levels for future-relevant strategic decision-making.

i) Education (leading	The Chair contributed to the following HSE University educational
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to certificate)	<p>and training programmes:</p> <p>HSE University English-language Master’s Programme ‘Science, Technology and Innovation Management and Policy’</p> <p>Duration – 2 academic years.</p> <p>Besides other courses, students master the following ones: Foresight Theory and Concepts; Applied Foresight; Corporate Foresight.</p> <p>Target group: bachelors, masters and specialists looking for a master’s degree in Science, Technology and Innovation management in academic, public policy and business spheres.</p> <p>Geographical coverage: students from any country around the world.</p> <p>Elective Programme ‘Foresight: Methods, Organisation, Best Practices’</p> <p>Duration - 6 months: September 2023 – March 2024.</p> <p>Target group: any university’s teachers and students of any educational level and field of study as well as any specialists who are interested in mastering long-term forecasting and strategic planning.</p> <p>Geographical coverage: Russia and Russian-speaking countries.</p> <p>Vocational Training Programme ‘Digitalization of HR and Marketing’</p> <p>Duration – 5 weeks. March – April 2024.</p> <p>Target group: university degree entrepreneurs and HR-managers seeking to advance their competences in HR management through innovative approaches based on modern foresight tools for successful adaptation under a changing digital environment.</p> <p>Geographical coverage: Russia and Russian-speaking countries.</p>
ii) Training (short term)	<p>Training ‘Foresight: Methods, Best Practices, Application of Results’, May 18-20, 2022.</p> <p>Target group: specialists who are interested in mastering foresight methods for strategic planning.</p> <p>Geographical coverage: Russia and Russian-speaking countries.</p> <p>Master classes:</p> <p>Target group: specialists who are interested in mastering big data mining and other foresight methods for strategic planning.</p> <p>Geographical coverage: any country.</p> <ul style="list-style-type: none"> – ‘Semantic analysis of big data for an interactive Atlas of promising professions of the labor market on the horizon until

	<p>2023', November 9, 2021 (online);</p> <ul style="list-style-type: none"> – 'Using data mining to study global trends related to development of human potential', November 11, 2021 (online); – 'Digital technologies today and tomorrow: the results of big data mining', November 17, 2021 (online); – 'iFORA big data mining system: research possibilities for human potential studies', March 30, 2022 (online); – 'Identification of medium and long-term global and Russian trends in the development of science and technology in areas related to human potential development', June 22, 2022 (online); – 'New Products Design: Entrepreneurial and Business Practices', September 1 – December 21, 2022, HSE University, Moscow, Russia; – 'New Markets and Products: Foresight and Technology Roadmaps', September 1 – October 24, 2023, HSE University, Moscow, Russia.
<p>iii) Research</p>	<p>The Chair's interdisciplinary evidence-based research in futures studies and anticipatory systems and processes focused on:</p> <ul style="list-style-type: none"> – development and application of new, more efficient approaches to futures studies, including AI-based methodologies; – monitoring of global challenges; – identification of major emerging and evolving trends, and wildcard events in STI, economy and society affecting human being both at national and global levels, using interdisciplinary and future-oriented approaches including big data analysis, expert panel discussions, Delphi surveys with participation of leading international and Russian experts. <p>The Chair's team contributed to national research projects on STI and socio-economic foresight, and identification of global trends and grand challenges related to human capital.</p> <p>The Chair specialists elaborated decision-making models and scenarios for Russia development under deep uncertainty conditions, as well as assessed the structural changes of science in the context of socio-economic, institutional, and technological changes. The study includes the long-term assessments of leading scientists and experts on the changes taking place in the world science and the ways of its transformation. Megatrends with strongest impact on global science were identified. The Chair experts designed a publicly accessible Database on Global Trends and issued TrendLetters in the areas of Health, Education and</p>

	<p>Labour, Economy, Ecology and Environment, Politics and Regulation, Society and Values. The research methodology combines HSE's big data mining system (iFORA) and expert methods (Delphi survey, foresight sessions with participation of 400+ leading international and Russian specialists).</p> <p>The Chair's experts performed a foresight-study of new energy technologies and assessed their effects on public health and quality of life in Russia.</p> <p>Big data mining system iFORA elaborated by HSE Institute for Statistical Studies and Economics of Knowledge for the identification and analysis of interrelations between grand challenges, their relationships with key S&T areas and finding the most significant challenges and possible solutions to mitigate their impacts. iFORA database includes over 800 million documents in Russian, English and Chinese languages (scientific publications, patents, regulation documents, market analytics, media, international organisations materials and others).</p> <p>A compilation of the most applicable methods in recent foresight studies, based on the materials of international organizations and world's leading foresight centres experience, as well as bibliometric analysis of this topic publications over the past ten years was prepared and issued in the guidebook 'Foresight: Methods and Practices' (in Russian language).</p> <p>Based on the research results the Chair experts provided policy advice in STI development for the Presidential Administration, the Government of Russia, federal and regional authorities, development institutions, large companies, R&D organisations and universities.</p>
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b) Conferences/Meetings

The Chair organized numerous conferences, workshops and expert discussions on hot topics of futures studies engaging 1,500+ representatives of academic, educational and business sectors from 20+ countries worldwide. Events addressed a broad range of topics in the domain of Foresight and STI policy, including foresight theory, practices and modern methodology; STI prioritization; application of foresight-studies in the areas of human capital, education, digital economy, climate change, Artificial Intelligence. The series of Chair's special workshops were devoted to science and technology foresight in BRICS countries.

i) Key conferences and workshops hosted by the Chair

The key academic conferences hosted by the Chair are the following:

- ❖ XI International Academic Conference 'Foresight and Science, Technology and Innovation Policy', October 15-26, 2021, HSE University, Moscow, Russia (online).
- ❖ International Academic Symposium 'Foresight and Science, Technology and Innovation Policy', April 6 and 8, 2022, HSE University, Moscow, Russia (online).
- ❖ XII International Academic Conference 'Foresight and Science, Technology and Innovation Policy', November 22-25, 2022, HSE University, Moscow, Russia (online).
- ❖ International Round Table 'Economics of Complexity and Hidden Sources of Growth', December 22, 2022, HSE University, Moscow, Russia (online and offline).
- ❖ International Academic Symposium 'Foresight and Science, Technology and Innovation Policy', April 13-14, 2023, HSE University, Moscow, Russia (online).
- ❖ XIII International Academic Conference 'Foresight and Science, Technology and Innovation Policy', November 9 and 16, 2023, HSE University, Moscow, Russia (online and offline).
- ❖ International Round Table 'Bridging the Gap between Technological Complexity and Cognitive Abilities when Dealing with the Future', November 10, 2023, HSE University, Moscow, Russia (online and offline).
- ❖ International Academic Symposium 'Foresight and Science, Technology and Innovation Policy', April 18-19, 2024, HSE University, Moscow, Russia (online).
- ❖ International Round Table 'The Future of Energy: New Technologies and Their Impacts for Human Development', Moscow, Russia, April 25, 2024 (online).
- ❖ International Roundtable 'Human Potential: Beyond Ordinary Capabilities', June 21, 2024, HSE University, Moscow, Russia (online).
- ❖ XIV International Academic Conference 'Foresight and Science, Technology and Innovation Policy', October 28-29, 2024, HSE University, Moscow, Russia (online).

ii) Other conferences/organizational activities undertaken by the Chairholder

- Expert Seminars Series on S&T forecasting models and methods under implementation of Strategic Project 'National Centre of S&T and Socio-Economic Foresight', June 7 and 28, 2022; July 8, 2022, HSE University, Moscow, Russia.
- Joint Scientific Seminar of Strategic Project 'National Centre of S&T and Socio-Economic Foresight', January 23, 2023, HSE University, Moscow, Russia (online).
- Workshop 'New Markets and Products: Foresight and Technology Roadmaps' February 16, 2024, HSE University, Moscow, Russia.
- Expert Foresight Session 'Artificial Intelligence Research Program', April 9, 2024, HSE University, Moscow, Russia.
- Workshop 'New Markets and Products: Foresight and Technology Roadmaps' May 15, 2024, HSE University, Moscow, Russia (online).
- R&D Days and Foresight Session 'Strategic Directions for Digital Markets Development in Russia', May 27-28, 2024, HSE University, Moscow, Russia.

- Workshop ‘System Analysis, Testing and Recommendations Development on New Methods of Foresight-Studies Application’ October 15-16, 2024, HSE University, Moscow, Russia (online).
- Seminar ‘Scenarios for Russian Economy Development in the Geopolitical Turbulence Context’, October 25, 2024, HSE University, Moscow, Russia.
- Foresight Sessions ‘Healthcare System 2036: Technological Priorities of the Drug Supply System’, November 26, 2024, HSE University, Moscow, Russia.

Chair’s experts took part and delivered presentations at recent international events:

- International Conference ‘Africa of Knowledge and Innovation: What Possible Futures?’ Rabat, Morocco, November 12, 2024.
- Panel Report ‘Study of the Future’ within International Symposium ‘Creating the Future’, Moscow, Russia, November 4, 2024.
- 2024-2025 Commission on Science and Technology for Development Intersessional panel, UNCTAD, Geneva, Switzerland, October 22, 2024.
- First International Workshop ‘Technological Sustainability of BRICS: University-Industry Partnerships’, Moscow Region, Russia, September 18-19, 2024.
- Workshop ‘Foresight and Science, Technology and Innovation Policy: Potential Cooperation’ with participation of representatives from Center for Strategic Studies and Management in Science, Technology and Innovation, Brazil; Egyptian Science, Technology and Innovation Observatories, Egypt; Technology Information, Forecasting and Assessment Council, India. HSE University, Moscow, Russia, September 18, 2024.
- V International Oil and Gas Youth Forum, Moscow, Russia, July 10-15 2024. Mentoring the direction ‘Industrial biotechnologies, composite and biodegradable materials. Innovative solutions to increase the sustainability of existing business areas and develop new ones’ under the Hackathon on Fuel and Energy Complex Development 2050.
- Model of the World Water Forum, Moscow, Russia, May 13-15, 2024. Expertizing the track ‘Student youth process’.
- Panel Report at the ‘BRICS Academic Forum’, Addis Ababa, Ethiopia, April 24 2024.
- Academic Workshop of Strategic Project ‘National Centre of S&T and Socio-Economic Foresight’, HSE University, Moscow, Russia, January 26, 2023.

iii) A selection of conference presentations by the Chairholder and other colleagues

The Chair’s experts and other colleagues delivered presentations at international events hosted by partner organisations.

2021

Sokolov A. ‘Science and Technology Foresight: Use of Big Data.’ International Round Table ‘Foresight, Politics and Pandemics’, Sao Paulo, Brazil, 26 August 2021.

Saritas O. ‘Foresight: Designing Smart & Sustainable Futures’, 11th International Conference on Engineering, Project, and Production Management, 19-21 September 2021.

Proskuryakova L. 'The Future of Renewable Energy and a Renewable Energy System in Russia', 7th International Conference on Smart Energy Systems, Aalborg University (Denmark), Horizon 2020 project 'sEEnergies', Innovation Fund Denmark 'ReInvest', Energy Cluster Denmark, Copenhagen, Denmark, 21-22 September 2021.

Proskuryakova L. 'The Interaction of Environmental Systems and Human Development in a Time of Wild Cards. A Big-Data Enhanced Foresight Study', 16th Conference on Sustainable Development of Energy, Water and Environment Systems (16th SDEWES conference), University of Zagreb, Croatia, Dubrovnik, 10-15 October 2021.

Calof J. 'Anticipatory System Model: Canadian UNESCO Chair', XI Annual International Academic Conference 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 15-26 October 2021.

Miles I., Saritas O. 'Pandemonium: What the COVID19 Crisis Can Teach Us about Foresight?' XI Annual International Academic Conference 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 15-26 October 2021.

Saritas O. 'Future Prospects of Big Data: What is Next for Foresight and Science, Technology and Innovation Policy Making', XI Annual International Academic Conference 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 15-26 October 2021.

Ozcan S. 'Social Media Intelligence for Innovation and Product Development', XI Annual International Academic Conference 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 15-26 October 2021.

Vishnevskiy K., Grebenyuk A., Sokolov A., Turovets Yu. 'Identification of S&T Frontiers: Big Data Analysis', XI Annual International Academic Conference 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 15-26 October 2021.

Vishnevskiy K., Privorotskaya S. 'Digital Technologies Today and Tomorrow: Results of Semantic Analysis of Big Data', XI Annual International Academic Conference 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 15-26 October 2021.

Saritas O. 'Foresight for Digital Trust', 5th International Service Management Congress Academic Conference, Ostfalia University, Germany, 24-25 November 2021.

Proskuryakova L. 'Sustainable development in BRICS countries', V BRICS International School, Moscow, Russia (online), 29 November- 3 December 2021.

Sokolov A. 'Science and Technology Foresight at HSE University: Methodologies and Practices', Foresight Seminar, NISTEP, Tokyo, Japan, 9 December 2021.

Sokolov A. 'Science and Technology Collaboration with BRICS+: Future Prospects', International Youth Forum 'BRICS PLUS', India (online), 14-15 December 2021.

2022

Proskuryakova L. 'Energy Technologies for Low-Carbon Development and their Effects on Quality of Life', XXIII Yasin (April) International Academic Conference on Economic and Social

Development, Round table 'Impact of Climate Change on Human Capital, Economy, and Ecosystems', HSE University, Moscow, Russia (online), 7 April 2022.

Calof J. 'Evolution of Foresight in Canada with Emphasis on the Federal Government', International Academic Symposium 'Foresight and Science, Technology and Innovation Policy' within the XXIII Yasin (April) International Academic Conference on Economic and Social Development, HSE University, Moscow, Russia (online), 8 April 2022.

Saritas O. 'The Evolution of Foresight: What Evidence is there in Scientific Publications?', International Academic Symposium 'Foresight and Science, Technology and Innovation Policy' within the XXIII Yasin (April) International Academic Conference on Economic and Social Development, HSE University, Moscow, Russia (online), 8 April 2022.

Saritas O. 'Future Research Avenues at the Nexus of Circular Economy and Digitalization', Seminar series on 'The Implications of Emerging Technologies on Science, Technology and Innovation Policy', Izmir Katip Celebi University, Turkey, 11-14 May 2022.

Sokolov A. 'Science and Technology Foresight at HSE University: Methodology and Practices', First Conference on Organizational Resilience, Corporate Governance, Innovative Entrepreneurship and Sustainable Development During and Beyond the COVID-19 Crisis and associated workshops, Prince Mohammad bin Fahd Centre for Futuristic Studies, Al Khobar, Saudi Arabia, 31 May 2022.

Sokolov A., Saritas O., Cele M. 'Foresight for Science, Technology and Innovation: The Case of South Africa', First Conference on Organizational Resilience, Corporate Governance, Innovative Entrepreneurship and Sustainable Development During and Beyond the COVID-19 Crisis, Prince Mohammad bin Fahd Centre for Futuristic Studies, Al Khobar, Saudi Arabia, 1-2 June 2022.

Sokolov A. 'S&T Development Foresight: Methodology and Best Practices', Workshop 'Methods and Models of S&T Foresight, Current State and Directions of Development', UNESCO Chair on Future Studies, HSE University, Moscow, Russia, 7 June 2022.

Gershman M. 'Science Development in Russia: Main Trends and Risks', Workshop 'Methods and Models of S&T Foresight, Current State and Directions of Development', UNESCO Chair on Future Studies, HSE University, Moscow, Russia, 7 June 2022.

Sokolov A. 'Future Studies: Scientific and Educational Activities within the Framework of the UNITWIN Programme', Conference '30th Anniversary of the UNITWIN/UNESCO Chairs Programme: Contribution to the Development of Education, Science and Culture', St. Petersburg, Russia, 17 June 2022.

Sokolov A. 'Carbon Neutrality in Russia: Technological Solutions International Science, Technology and Innovation', Think Tank Forum, Shanghai, China, 05 August 2022.

Vishnevskiy K., Privorotskaya S. 'Digital Technology Development Trajectories: Drivers and Barriers', XII International Academic Conference 'Foresight and Science, Technology and Innovation Policy', 22-25 November 2022, HSE University, Moscow, Russia (online).

Sokolov A. 'Technology Foresight: Methods, Organisation and Best Global Practices', XII International Academic Conference 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 22-25 November 2022.

Saritas O. 'Evolution of Foresight: Evidence from Scientific Publications', XII International Academic Conference 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 22-25 November 2022.

Chulok A. 'Foresight for Innovation Ecosystems at National, Regional and Corporate Levels: Key Drivers and Tasks', XII International Academic Conference 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 22-25 November 2022.

Milshina Y. 'Wild Cards: an Approach to Taxonomy', XII International Academic Conference 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 22-25 November 2022.

Grebenyuk A. 'Global Prospects of Human Capital', XII International Academic Conference 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 22-25 November 2022.

Calof J. 'Creating Foresight that Impact Senior Managers - Results from a Canadian Study of Government Foresight Leaders', XII International Academic Conference 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 22-25 November 2022.

Radomirova Y. 'The Future of Food: Prospects of Alternative Proteins Market Development', XII International Academic Conference 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 22-25 November 2022.

2023

Sokolov A. 'HSE University Studies on Science, Technology and Innovation', EU Delegation to the Russian Federation, Moscow, Russia, 20 January 2023.

Meissner D. 'International Cooperation in the Field of Science', University of Campinas, Brazil, 3 April 2023.

Chulok A. 'Science and Technology Foresight for Eurasian Economic Union: Goals, Objectives, Methodology', International Academic Symposium 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), April 13-14, 2023.

Calof J. 'Russia Exploring the Relationship between Organizational Agility and Foresight within an Anticipation System', International Academic Symposium 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), April 13-14, 2023.

Milshina Y., Radomirova Y. 'The Future of Science: Key Trends and Structural Changes', International Academic Symposium 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), April 13-14, 2023.

Antasheva M. 'Sentiment Analysis as an Information Agenda and Public Opinion Research Method (on the Example of Chinese Mass Media and Social Networks)', International Academic Symposium 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), April 13-14, 2023.

Gershman M. 'Doing Science in Russia': the Results of the Survey', International Academic Symposium 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), April 13-14, 2023.

Dimov G. 'Opportunities for Intelligent Big Data Analysis for Identifying Trends in High-Tech Industries', XIII International Academic Conference 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online and offline), November 9 and 16, 2023.

Maibakh O. 'Timelines – an Instrument for Identification of Trends in Foresight Studies', XIII International Academic Conference 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online and offline), November 9 and 16, 2023.

Milshina Y. 'Which Megatrend will Define the Future of Global Science?', XIII International Academic Conference 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online and offline), November 9 and 16, 2023.

Saritas O. 'The Future of the Space Economy: Trends & Scenarios', XIII International Academic Conference 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online and offline), November 9 and 16, 2023.

Chulok A., Radomirova Y., Maryann A. 'The Future of Foresight through the Eyes of Stakeholders: Results of Empirical Survey', XIII International Academic Conference 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online and offline), November 9 and 16, 2023.

Calof J. 'Extending the Reach of the UNB-UNESCO Anticipatory Chair Program', XIII International Academic Conference 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online and offline), November 9 and 16, 2023.

Boykova M. 'Novel Instruments for Coping with Complexity', International Round Table 'Bridging the Gap between Technological Complexity and Cognitive Abilities when Dealing with the Future', HSE University, Moscow, Russia (online and offline), November 10, 2023.

2024

Shashkov A. 'The Future of Sustainable Aviation Fuels', International Academic Symposium 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 18-19 April 2024.

Maibakh O. 'Building Timelines of the Future in Foresight Studies', International Academic Symposium 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 18-19 April 2024.

Evseeva M., Kameneva E. 'Assessing the Impact of Science and Technology Policy Measures on Companies', International Academic Symposium 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 18-19 April 2024.

Dementiev V. 'Mapping Efficiency of STI Policy Instruments via Foresight Studies', International Academic Symposium 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 18-19 April 2024.

Saritas O. 'Foresight and its Significance in the 21st Century Complexities and Uncertainties', International Academic Symposium 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 18-19 April 2024.

Veselitskaya N., Radomirova Y. 'Russia Use of Scenario Planning in S&T Foresight', International Academic Symposium 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 18-19 April 2024.

Calof J. 'Big Data and Analytics for International Decisions: Contingency Factors for Use', International Academic Symposium 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 18-19 April 2024.

Veselitskaya N. 'Applying Foresight Methods to Identify New Markets and Products', HSE University, Moscow, Russia (online), 15 May 2024.

Sokolov A. 'Principles of Complex Adaptive Systems (Soft Complexity) for Unlocking Human Potential', International Roundtable 'Human Potential: Beyond Ordinary Capabilities', HSE University, Moscow, Russia (online), 21 June 2024.

Selskiy A. 'Growing the Corporate Human Resources Potential through the Foresight of Innovative Competencies', XIV International Academic Conference 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 28-29 October 2024.

Belova Y., Shmatko N. 'Facing New Challenges in Industrial Robotics: What Technological Competencies Do Engineers Need?', XIV International Academic Conference 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 28-29 October 2024.

Vishnevsky K. 'Foresight of Research Areas in AI', XIV International Academic Conference 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 28-29 October 2024.

Milshina Y., Grebenyuk A. 'Wild Cards: Technology-based Responses', XIV International Academic Conference 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 28-29 October 2024.

Maibakh O. 'Technologies of the Future in Post-1990s Science Fiction: A Case Study', XIV International Academic Conference 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 28-29 October 2024.

Antasheva M. 'Big Data Analysis for White Spots Identification in Business', XIV International Academic Conference 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 28-29 October 2024.

Loginova I., Piekalnits A. 'Generative AI: How LLMs transform analytics. HSE practice', XIV International Academic Conference 'Foresight and Science, Technology and Innovation Policy', HSE University, Moscow, Russia (online), 28-29 October 2024.

c) Interuniversity Exchanges/Partnerships

The Chair closely cooperated with the Global Futures Literacy Network, UNESCO Chairs and partner institutions particularly from Canada, China, South Africa, Saudi Arabia, Morocco,

Malaysia, India, Thailand, Columbia, Venezuela, Ecuador, Iran, Kazakhstan, Vietnam, UAE, Egypt and other partners from 20+ countries worldwide attracting their specialists to conferences, workshops and expert discussions on hot topics of futures studies, and methodology of anticipatory systems for sustainable development.

The Chair's staff took part and delivered presentations at events hosted by UNESCO, Commission of the Russian Federation for UNESCO and UNESCO Chairs held in Ethiopia, France, Switzerland, Saudi Arabia and Russia, including those devoted to 30th Anniversary of the UNESCO UNITWIN Programme. The Chair experts, together with UNESCO Chairs from Canada and South Africa organised Parallel Session 'Science, Technology and Innovation Foresight for Countries in Africa' within the UNESCO Chairs and Partners Forum 'Transforming Knowledge for Africa's Future', took place in Addis Ababa, in 2024.

At the Chair initiative in 2023-2024, new cooperation agreements between HSE University and institutions from South Africa, Malaysia, and Morocco were concluded.

The Chair promoted researchers and teachers exchange and lectures delivering by visiting professors. A new Double Degree Master's Programme with University of Campinas (Brazil) providing students exchange was launched in 2024.

The Chair experts, together with the South African National Advisory Council on Innovation, have published the Springer book '21st Century Foresight: Shaping the Future for Sustainable Social, Economic and Environmental Development in South Africa' based on the results of a jointly conducted foresight-study of South African STI development until 2030 that contributed to the UNESCO priority – Africa.

The Chair experts took part in the events organized by UNESCO Chairs/UNITWIN Networks and other partner institutions:

- Conference '30th Anniversary of the UNESCO UNITWIN Program: Contribution to the Development of Education, Science and Culture, Peter the Great St. Petersburg Polytechnic University, St. Petersburg, Russia, June 17–18, 2022.
- BRICS Symposium, South Africa Academic Forum, Department of Science and Innovation of the Republic of South Africa, Pretoria, December 5-8, 2024.
- Sao Paulo Advanced School on Technology and Innovation Strategies and Policies for Economic Development, Campinas, Brazil, June 24 – July 05, 2024.
- 'The United Nations Ad-hoc Expert Meeting on Technology Foresight and Technology Assessment', Geneva, Switzerland, July 23, 2024.
- 25th World Philosophical Congress, La Sapienza University of Rome, Italian Philosophical Society, Rome, Italy, August 2–7, 2024.
- XI International Forum of Technological Development 'Technoprom-2024', Novosibirsk, Russia, August 27–30, 2024.
- 16th Conference of the European Sociological Association 'Tension, Trust and Transformation', Porto, Portugal, August 27–30, 2024.
- Workshop 'Innovation in Turbulent Times', Foggia University, Italy, September 9–11, 2024.
- UNESCO Chairs and Partners Forum 'Transforming Knowledge for Africa's Future', Parallel Session 'Science, Technology and Innovation Foresight for Countries in Africa'

organized jointly by UNESCO Chairs of HSE University (Russia) and Brunswick University (Canada), Addis Ababa, Ethiopia, September 30 – October 2, 2024.

- United Nations Climate Change 29th Conference of Parties, Baku, Azerbaijan, November 11–22, 2024.
- International Scientific and Practical Conference ‘Russia in an Emerging Multipolar World: Understanding the Future’ within the framework of International Forum ‘Personnel for the Economy - a Factor of a New Technological Order Shaping’, Ufa, Russia, October 10, 2024.
- 4th International Conference on Digital Economy ‘Shaping the Future: Innovation in the Digital Age’, Beijing University of Post and Telecommunications, Beijing, China, 17-21 October 2024.
- 2024-2025 Inter-sessional Panel Commission on Science and Technology for Development, Geneva, Switzerland, October 22, 2024.
- Workshop on Lessons Learned from the UNCTAD Pilot Project on Technology Assessment in Africa, Geneva, Switzerland, October 23, 2024.
- Youth Research Center International Conference ‘Youth Agency and Sustainability in the Era of New Global Challenges’, St. Petersburg, Russia, November 1, 2024.
- 27th SemeAd Conference (Seminars in Administration), University of São Paulo, Brazil, November 5–8, 2024.
- Conference ‘Africa of Knowledge and Innovation: What Possible Futures?’ Rabat, Morocco, November 12, 2024.
- IV Young Scientists Congress, Sirius University of Science and Technology, Sirius Federal Territory, Sochi, Russia, November 27-29, 2024.

The Chair experts took part in UNESCO Chairs events organized by UNESCO Secretariat in 2024:

- An Overview of the Pact for the Future (March 5, 2024)
- Sustainable Development & Financing for Development (April 9, 2024)
- Science, Technology and Innovation and Digital Cooperation (June 5, 2024)
- Youth and Future Generations (June 26, 2024)
- Transforming Global Governance (July 17, 2024).

d) Publications/Multimedia Materials

Knowledge generated by the Chair in cooperation with the project partners was transferred through organization of different activities and dissemination of methodological guides and research findings, particularly through delivery of educational and training programmes as well as external communication channels: Telegram channel ‘[iFORA knows how](#)’, the Chair’s [web-site](#). To discuss and share best practices in the Chair’s research areas with renowned Russian and international experts, Chair bi-annually held international academic events. The Chair scholars contributed to a number of papers in top journals including *Technological Forecasting and Social Change*, *Foresight*, *Futures*, *European Journal of Futures Research*,

Marine Policy, Renewable Energy, etc. In 2024, they edited and authored chapters to a Springer book presenting findings of a STI foresight study for South Africa, which provides policy recommendations for STI, societal development and achieving SDGs. International experts in Futures Literacy published articles in HSE's quarterly issued peer-reviewed journal '[Foresight and STI Governance](#)' (Scopus Q1).

i) Publications

The key publications of Chair holder are:

Books:

A.Sokolov, Mlungisi C., et al. [21st Century Foresight: Shaping the Future for Sustainable Social, Economic and Environmental Development in South Africa](#). Cham: Springer, 2024.

A.Grebenyuk, Ya.Radomirova, et al. [Будущее мировой науки](#) (The Future of World Science) //HSE Publishing House, 2024.

Sokolov A., Shashnov S., Kotsemir M. [Intra-BRICS Research Collaboration: Status and Prospects](#), in : The Innovation Competitiveness of BRICS countries. / Ed. by X. Zhao, A. Sokolov, J. E. Cassiolato, M. Li. Springer, 2024. Ch. 5. (in press)

A.Grebenyuk, Ya.Radomirova, A.Sokolov et al. [Форсайт: методы и практики](#) (Foresight: Methods and Practices), //HSE Publishing House, 2023.

L.Gokhberg, et al. [COVID-19 and Society. Socio-Economic Perspectives on the Impact, Implications, and Challenges](#) Cham: Springer. 2022.

A.Sokolov, et al. [Prospectiva para Ciencia, Tecnologia e Inovacao](#) Rio de Janeiro: EDITORA FIOCRUZ, 2021.

L.Gokhberg, et al. [Russian Federation](#), in: UNESCO Science Report: The race against time for smarter development. //P.: UNESCO, 2021. Ch. 13. P. 347–365

Articles:

Veselitskaya N., Shashnov S. [Stakeholders and Their Participation in Foresight Projects](#) // [Foresight](#). 2024. Vol. 18. № 1. P. 80–91.

Sytnik V., Proskuryakova L. (2024) [Expanding foresight methodology to better understand the unknown future and identify hard-to-predict events](#). *European Journal of Futures Research*, Vol. 12, article 21.

Kilinc-Ata N., Proskuryakova L. (2024) [The contribution of energy policies to green energy transition in the Asia-Pacific region](#). *Renewable Energy*, Vol. 237, Part C, article 121797

O.Saritas, et al. [The theory of technological response and progress in chaos](#) //Foresight. 2023. Vol.25. No.6. P.821–843.

Proskuryakova (2023) [The contribution of low-carbon energy technologies to climate resilience](#). *Climate*, Vol. 11, No. 12, article 231.

O.Saritas, et al. [The evolution of Foresight: What evidence is there in scientific publications?](#) //Futures. 2022. Vol.137. Article 102916.

I.Ivanova [Information exchange, meaning and redundancy generation in anticipatory systems: self-organization of expectations – the case of Covid-19](#) //International Journal of General Systems. 2022. Vol.51. Iss.7. P. 675-690.

L.Gokhberg, et al. What semantic analysis can tell us about long term trends in the global STI policy agenda // *Journal of Technology Transfer*, 2022.

Proskuryakova L. (2022) [The interaction of environmental systems and human development in a time of wild cards. A big data enhanced foresight study.](#) *Journal of Environmental Management* Vol. 316, article 115169.

e) Cooperation with UNESCO Headquarters, Field Offices

The Chair experts attended the following events:

- UNESCO-PMU International Symposium 2023 ‘Towards Evaluation Frameworks for Futures and Foresight’, UNESCO Headquarters, Paris, France, June 20-23, 2023.
- International Conference ‘Transforming Knowledge for Just and Sustainable Futures’ held to mark the 30th Anniversary of the UNITWIN/UNESCO Chairs programme, UNESCO Headquarters, Paris, France, November 3-5, 2022.

3. Future Plans and Development Prospects:

The Chair will contribute to 2030 Agenda for Sustainable Development and UNESCO’s priorities outlined in Medium-Term Strategy (2022-2029) and the Approved Programme (2022-2025) through proposed actions aimed at evolving priority areas in education, environment, social cohesion and technological transformation in the digital age.

The Chair will address interrelated areas of education, evidence-based research and knowledge exchange in futures studies and anticipatory systems using modern methodologies to assist policy makers in their addressing socio-economic challenges for sustainable development. The Chair will further strengthen international partnerships with organisations in Africa, Asia and Latin America.

The Chair’s research will be focused on monitoring global challenges and identification of major emerging trends, and wildcard events in STI, economy and society affecting human being both at national and global levels, using interdisciplinary and future-oriented approaches including big data analysis, Artificial Intelligence (AI) based technologies, expert discussions, Delphi surveys with participation of leading international and Russian experts. The findings to be used by diverse beneficiaries to increase the quality of decisions addressing the future opportunities and challenges for sustainable development. Publicly accessible Database of global trends and challenges will be regularly supplemented with new ones.

The Chair scholars in collaboration with international experts will contribute to academic publications in peer-reviewed journals.

The Chair will provide the equal lifelong learning opportunities for young people and adults worldwide through its educational activities delivered inter alia in online format, aimed at evolving skills and competences to study future trends in STI, economy and society, and to elaborate anticipatory systems to response to the complex challenges for sustainable development.

To advance Futures Literacy and foresight culture, disseminate research findings, discuss hot topics of foresight-studies and share best practices on foresight methodology with professional community worldwide, the Chair will organise international conferences,

workshops, with participation of renowned international scholars from different countries and representatives of UNESCO Chairs, Global Futures Literacy Network.

Appendix:

1) Human Resources

The Chair is hosted by the International Research and Educational Foresight Centre, which is a part of the [Institute for Statistical Studies and Economics of Knowledge](#) (ISSEK) of HSE University. While ISSEK is Russia's leading centre of excellence for STI studies, its Foresight Centre is an internationally recognized think-tank that conducts cutting-edge research on S&T Foresight methodology development and performs futures studies covering wide range of areas. The HSE ISSEK team significantly contributed to the implementation of Chair activities.

The core Chair's team includes:

Position	Name	Thematic area of expertise	Role in the Chair
Head of the Chair	Alexander Sokolov	Futures studies in STI, economy and society. Foresight methodology. S&T priorities identification.	Supervision of the whole Chair's activities. Establishing international partnerships. Carrying out research and trainings. Organization of international events. Delivering lectures and presentations. Authorship of publications.
Chief Expert	Anna Grebenyuk	Futures studies. Foresight methodology. S&T priorities identification. Identification of global challenges and trends in economy and society, science, technology and innovation.	Carrying out research and trainings. Development methodology of futures studies. Monitoring of global challenges. Identification of major trends in STI, economy and society. Delivering presentations at conferences. Authorship of publications. Fostering partnerships.
Leading Expert	Yadviga Radomirova	Futures studies. Foresight methodology. S&T priorities	Carrying out research and trainings. Delivering presentations at conferences.

		identification.	Authorship of publications
Expert	Olesya Maibakh	Foresight methodology. Organisation of expert discussions. Identification of global challenges and trends in economy and society, science, technology and innovation.	Organisation of expert discussions and Delphi surveys. Conducting trainings and master-classes. Delivering presentations at conferences. Fostering partnerships.
Leading Expert	Anna Pikalova	International science and technology cooperation.	Organisation of international conferences. Fostering partnerships. Managing of educational activities.