



# Science and Cultural Diplomacy in BRICS: A Case of the Ural Region, Russia



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## Introduction

The Ural region is one of the scientific centers of Russia. One of the biggest universities of Russia is the Ural Federal University, and the Ural Branch of the Russian Academy of Science is among the premier scientific institutions in the country. All these structures are working on different fundamental and applied aspects of science to develop the region and the country as well as contributing to solve the global challenges. The BRICS was officially established in 2009, when its first summit took place after several years of discussions and negotiations. Today it is a real economic power which influences global decision-making processes in many spheres. The name BRICS is an acronym of the union members: Brazil, Russia, India, China, and South Africa. These countries have developed their cooperation at global and regional levels, with greater attention being given on economic development, science and culture cooperation.

The Ural region has been playing an important role in developing BRICS cooperation. First of all, the first BRICS Summit took place in Ekaterinburg – the capital city of the Ural region, in 2009. So, we can say that the Ural gave official life to the BRICS. Since that time the cooperation among BRICS countries has developed strongly. Ural Federal District is one of the eight federal districts of Russia. Its population was 12,080,523 (79.9 per cent urban) according to the 2010 Census. The district was established on 13 May 2000 by a decree of the President of Russia. It is located at the border of the European and Asian parts of Russia. The administrative centre of the district is the city of Ekaterinburg. The district contributes 18% to Russia's Gross Regional Product (GRP), although its population is only 8.5 per cent of the Russian total (Ural Region, 2019).

This article is devoted to the analysis of the scientific cooperation and cultural diplomacy in the Ural region, which has a strong influence on the BRICS countries decision-making process in the sphere of the global

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problems and sustainable economic development. The key objectives include: 1) to describe shortly what the BRICS project is; 2) to explore Ural Federal University and its international cooperation in the sphere of science; 3) to highlight the international projects of the Ural Branch of RAS with BRICS countries; and 4) to analyze some challenges which the Ural region facing with in its cooperation with the BRICS.

## Ural Federal University

The university consists of two dimensions: classical, academic university and technical university. They were established in 1920. During the reforming of the Russian education system of 2009 they were renamed into Ural Federal University. Today there are 16 institutes covering practically all spheres of

science and humanities. For its 100-year history the UrFU has developed rich networking with the foreign countries. Since 1950s till present students from China, India, Africa, South-East Asia and Near East came for studying here. Today it has 3500 students from more than 90 countries including the BRICS members (Ural Federal University. 2019). There are many possibilities for foreign students to choose the programme. If they know Russian, they can take any course they want; there is a year preparatory course of Russian language, which is useful for everybody from abroad. Also, there are Master programmes in English language. Moreover, every year there are more than 5 Summer schools for international students in the Ural Federal university in topics such as Russian Studies, Engineering, Economy, Human Resources Management, Sport etc. There are more than 30 student societies like

**Table 1: Agreements with International Partners**

Country	#	Institute
India	1	Alliance University Bangalore
	2	Indian Institute of Technology Madras
	3	Jamia Millia Islamia
	4	University of Delhi
China	1	Beijing Normal University
	2	Beihang University
	3	Beijing University of Technology
	4	Changchun University of Science and Technology
	5	China University of Petroleum
	6	Dalian Ocean University
	7	Dalian Polytechnic University
	8	Dalian University of Foreign Languages
	9	Fudan University
	10	Guangdong University of Technology
	11	Tsinghua University
	12	and some other 32 universities.
Argentina		Universidad Nacional del Sur
Brazil	1	Pontifical Catholic University of Minas Gerais
	2	Sao Paulo State University
Columbia	1	Del Rosario University
Mexico	1	Universidad de Monterrey
	2	Universidad Juárez del Estado de Durango
	3	Universidad Internacional Cuernavaca
	4	Universidad Madero
	5	Universidad Popular Autónoma del Estado de Puebla (UPAEP)
Chili	1	Universidad Finis Terrae
Ecuador	1	International University of Ecuador

Source: Author's compilation.

dance clubs, sport teams and others for full-time education students.

One of the important parts of the development of the BRICS science cooperation is that UrFU hosts the BRICS Network University and SCO University along with CIS Network University, University of the Arctic (UArctic), and Association of Technical Universities of Russia and China (ATURK).

Ural Federal University is ranked 58<sup>th</sup> among the universities of the BRICS countries. It is the largest regional venue for international events. In 2014, UrFU hosted the final of the ACM-ICPC world programming championship. The university makes a great contribution to the studying of various cultures and is the place of their meeting. In 2008, a unique center of the Chinese language and culture, the Confucius Institute, was established under the Institute of Social and Political Sciences (now the Ural Institute of Humanities). In 2013, the Thai Cultural Center was officially opened, in 2016, the Center for Iranian Studies (Ural Federal University. 2019). Annually, Ural Federal University is visited by more than 100 foreign delegations representing leading world universities, diplomatic agencies, large companies and enterprises. Ural Federal University has more than 150 agreements with foreign universities and associations, here there is a list of some universities, which present Asia and Latin America (Ural Federal University. 2019).

For instance, the training of highly qualified personnel within the framework of the SCO University is carried out in priority areas of cultural, scientific, educational and economic cooperation of the Organization's member countries (energy, ecology, engineering, metallurgy, materials science, construction, transport, fuel and energy sector, history, linguistics, IT technologies). Cooperation is carried out on the following types of educational programs: preparatory language courses, graduate programme (4 years); Master's programme (2 years); postgraduate school (3 years), provided for by bilateral agreements; doctoral studies (3 years); training programs, professional retraining, distance and part-time education. Universities participating in the SCO University are implementing educational programs in the areas of: "Information Technology", "Nanotechnology", "Pedagogy", "Regional Studies",

"Ecology", "Economics", "Energy". The scheme of studies at the SCO University is that students studying under the SCO University program have the opportunity to continue their education at any foreign university from any semester, which is also a member of the SCO University and implements this educational program. Students must attend a foreign partner university for at least one semester. In accordance with the approved SCO University Concept, the students study in it on a paid and free basis (each SCO state allocates training quotas).

The official languages of instruction at the SCO University are Russian and Chinese. At the same time, many Chinese universities provide the opportunity to study in English. In addition, students have the opportunity to optionally study the state language of the host country (Ural Federal University. 2015).

According to the results of training, the students receive a university diploma in which they began his studies or studied for the longest time (at least 60 per cent of the time) and a certificate of the SCO University. Dual-degree diploma programmes are also being implemented. Upon completion of training at the SCO University, the students will receive two diplomas - from their own university and from a foreign university (if they spent at least 30 per cent of the time in it) (Ural Federal University. 2015).

The Center of the BRICS Studies is also based in Ural Federal University. The work of the centre is mainly focused upon: "analytics, consulting and advanced research in various spheres of BRICS countries collaboration. Some projects are also implemented in the interests of Russian governmental bodies, responsible for certain directions of foreign politics of Russian Federation; providing advanced (MA and PhD) education in BRICS studies and coordinating collaborative and exchange programmes with UrFU partners in different BRICS countries; organizing important scientific, cultural, educational etc. events of common interest for BRICS educational, research and cultural institutions.

In this way BRICS studies centre of the Institute of Social and Political Sciences of Ural Federal University tries to build widest possible

collaboration with other research and educational institutions of the BRICS countries. The main goals of such collaboration are: enhancement of visibility and competitiveness of the educational and research institutions of BRICS countries, especially in the context of world university rankings, including BRICS QS ranking, BRICS and Emerging Economies THE Ranking and other relevant international university rankings; formation of common educational space of the BRICS countries through academic exchanges, joint and network projects as well as via the activity of the relevant Associations and Leagues; creation of common research area through organizing joint studies in the fields of common interest, publishing joint articles, working out projects of joint scientific and scholarly journals as well as via creating wide network of joint post-doctoral fellowships; building shared innovation infrastructure, which would include joint-stock small and medium enterprises, start-up centres, business incubators etc. to influence the development of technologies of interest for BRICS economies; enhancement of understanding and intensification of the cultural contacts between the

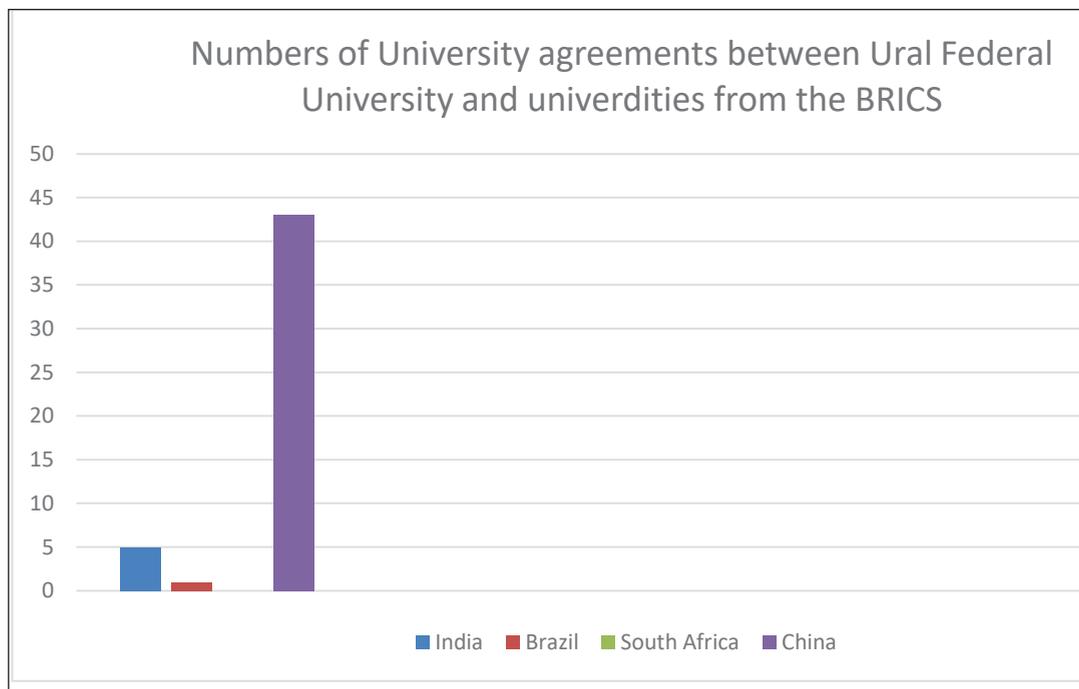
peoples of BRICS countries through organizing various events, short programmes and courses, including promotion of the languages of BRICS countries” (Ural Federal University 2020).

### Russian Academy of Science

The Ural Branch of the Russian Academy of Sciences is a diversified research complex comprising 38 institutes, the largest scientific library in the Urals, design-and-technological and engineering centers, and a network of hospitals. Academic research centers are located in Yekaterinburg, Syktyvkar, Izhevsk, Perm, Chelyabinsk, Arkhangelsk and Orenburg. Over 3,300 scientists work in them, of which 673 are doctors and more than 1,800 candidates of science. Research in the most important scientific areas is led by 31 full members of the Russian Academy of Sciences and 52 corresponding members of the Russian Academy of Sciences. There is a doctoral program; postgraduate studies are underway in 83 specialties.

The main areas of research are related to theoretical and applied mathematics and mechanics,

**Table 2: UrFU Agreements with BRICS Universities**



Source: Author’s compilation

control processes, solid state physics and chemistry, electrical and thermal physics, thermal energy, complex problems of mechanical engineering, the theory of metallurgical processes, high-temperature electrochemistry, synthetic organic chemistry, population ecology, immunology, genetics, a comprehensive study of plant, animal, water and soil resources, the creation of the basics of rational nature management, geological geophysical studying geological province and adjacent regions, a complex of humanities and social sciences. The formation of these areas is due to the features of the historical development of academic science in the Urals and the needs of one of the largest industrial regions.

The most active science cooperation among BRICS and Ural Branch of RAS goes with China. For instance, in 2003, according to the director of the Institute of Solid State Chemistry of Ural Branch of RAS academic Yatsenko, they launched technology at Pin-Guo in China for the recovery of gallium from bauxite processing solutions on alumina. And thanks to that China came to the first place in the world to produce this metal. (Plotnikova 2019).

Every year there is a Russian-British scientific café which has place in the Institute Physics of Metals, Ural Branch of RAS together with the British council in Yekaterinburg (in 2019 there was 8<sup>th</sup> café). In this format, scientists from Great Britain, Germany, Japan and their Russian colleagues from various regions countries discussed the most important issue – behavior materials in extreme conditions. In 2019 there were 13 participants in this event. The first café took place in 2012 and was dedicated to problems of organic chemistry. The following events passed also in the capital of the Urals and in Perm. Their subject was diverse – space magnetic fields, problems of physiology, agricultural technologies, and economic issues. (Panizovkina, 2019). Foreign do their scientific reports at this café along with the Russian. It is a very informative and useful format of scientific diplomacy which allows specialists to communicate and exchange knowledge.

One of the problems which the Institute of Industrial Ecology, Ural Branch of RAS works on is increased radiation. It is important task to be solved because mankind can't live without this technology today. This the Institute of Industrial Ecology, Ural

Branch of RAS, scientists developed the technology for a complete update of the radiation monitoring system which was implemented to every Russian atomic power plants. And as we know India is one of the partners of Russia where Russian specialists build atomic power plants. "Tamil Nadu State, Kudankulam NPP. Block No. 1 of the station began generating electricity in 2013, in the summer of 2016 it was finally transferred to the customer.

In August 2016, unit 2 of the station was first connected to the national energy system of India, and at the end of March 2017 it was put into warranty operation. On October 15, 2016, Russian President Vladimir Putin and Indian Prime Minister Narendra Modi took part in the laying of the second stage of the Kudankulam NPP via videoconference. In June and October 2017, the actual start of construction took place (pouring "first concrete"), respectively, of the third and fourth blocks of this nuclear power plant. Preparations are underway for the start of the construction of the third stage (blocks 5 and 6).

In October 2018, in New Delhi, the State Atomic Energy Corporation Rosatom and the Atomic Energy Commission of India signed a document on cooperation on new projects in the field of nuclear energy. According to the document, the parties intend to develop a project to build six nuclear power plants of Russian design with modern 3-generation WWER reactors at a new site in India. The site for the new NPP units was not called, but it was previously reported that it could be located in the Indian state of Andhra Pradesh" (Novosti. 2019). So, it means that the technologies developed by the Urals scientists will be used there too.

## Challenges for international cooperation in the Ural region

In spite of the fact that Ural region has distinguished impact on the development of science and technology in Russia and the world, there are some challenges, which should be overcome in future. The first is in relation to concerns the BRICS. The statistic data show that the most active science and cultural cooperation Ural region has with China. For instance, *Table 2* demonstrates in numbers which the BRICS countries works with UrFU in the sphere of university education

There are two official schools of Chinese (Confucius Institute, UrFU and Confucius School, Russian State Professional Pedagogical University). There is one Cultural center of India, based in Yekaterinburg Academy of Contemporary Art. There is the same situation is witnessed in the case of the Ural Branch of RAS.

## Conclusion

During 2020 Russia will preside the BRICS. The slogan is “BRICS Partnership for Global Stability, Common Security and Innovation Growth”. According to President Putin, it is important that the BRICS states work closely together to solve global and regional problems, together they stand for strict observance of international law and uphold the central role of the United Nations in world affairs, these countries contribute to increasing the influence of developing states in the global governance system, creating a more equitable world order”. He also noted that the “five” participants are consistently deepening mutually beneficial economic ties, increasing trade and investment approaches, jointly solving such important tasks as modernizing industry, introducing innovative technologies, and improving the welfare of citizens.

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# India and CIS Countries: Cooperation in STI and Role of Science Diplomacy



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## Introduction

Science and technologies are not only a source of economic growth of countries, but also the basis for the realization of the idea of universal prosperity. This explains the desire of many countries to develop science and technology in all possible ways, including international cooperation. The leaders of India recognized the importance of science at the very beginning of the emergence of a new independent power. India had quite productive relations with the USSR in the past, so it is not surprising that after the collapse of the USSR in 1991 the cooperation between India and the post-soviet countries was established and still tends to strengthen it.

Given the worsening international political situation and the narrowing of opportunities for deepening economic cooperation between Russia and the West, a quantitative assessment of the current state and the study of the growth potential of mutual investments of the “four” CIS countries (primarily members of the Customs Union) and South Asian countries are becoming particularly relevant.

## India-CIS Countries Cooperation in STI

India and the CIS countries face similar problems in STI ecosystem: firstly, the training of qualified personnel for work in high-tech industries and, at the same time, the problem of brain drain, and secondly, the creation of a research infrastructure that meets all modern requirements.

### Russia

As partners in many fields, in the sphere of science and technology India also maintains the closest cooperation with Russia. Cooperation between India and Russia intensified in recent years. Russia can help India not only to re-equip the army and navy, and begin to create their own effective military-industrial complex. It was noted, that over the past few years, India has concluded a number of agreements with Russia for the supply of high military technology, as well as the supply

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\* Guide, Museum and Exhibition Complex, Russia My History.

of oil and gas energy. The legal basis of Russian-Indian cooperation in science diplomacy is the intergovernmental Agreement on scientific and technical cooperation of June 30, 1994. In December 2002, the Joint Declaration on strengthening and building up economic, scientific and technical cooperation and the intergovernmental protocol on the protection and use of intellectual property rights, which is the legal basis for enhancing the process of commercialisation and transfer of high technologies<sup>1</sup>. There's an Agreement between the Russian Academy of Sciences and the Indian National Academy of Sciences (2003). Many joint research centers have been established. So, in June 2010, the Russian-Indian Science and Technology Center was opened in Moscow as a structure for effective innovative interaction. Its main goal is the practical embodiment of the results of scientific research. In April 2012, the official opening of the branch of Russian-Indian Scientific & Technological Center in Delhi took place<sup>2</sup>.

Russia and India have a long history of relations, but their potential is far from exhausted, especially in the field of science and technology. Thanks to the support of the governments of both countries, there are good prospects to bring scientific and educational cooperation to a new level, providing not only world leadership in modern industries, but also improving the quality of life of people both in India and in Russia.

### **Belarus**

India and Belarus open a new stage of cooperation now. The focus is on scientific and technical cooperation, innovative and new technologies, where Belarus has gained considerable experience on a number of issues. The possibility of creating a demonstration technology center in India is being considered. Another side is the partnership between India and Belarus in the field of skills development, vocational education. Belarus is an active participant in the Indian program of technical and economic cooperation<sup>3</sup>.

### **Central Asia**

In June 2012, the Indian leadership announced the beginning of the implementation of a new political project aimed at strengthening the position of India in Central Asia and received the name "Connect Central Asia". The new course involves

the development of political relations with Central Asian states; strengthening strategic and military-political interaction and consultations on Afghan issues; active cooperation in the energy sector; increased interaction in the field of medicine and pharmacology, tourism, construction, banking; expansion of cooperation in the field education, providing for the development of academic exchanges, distance education, opening Central Asian University in Bishkek; creation of a Central Asian electronic network; development transport links, including air traffic and the International Transport Corridor "North-South"<sup>4</sup>.

On April 1, 2016, the Protocol on Scientific and Technical Cooperation was signed between the Department of Science and Technology of the Ministry of Science and Technology of the Republic of India and the State Committee for Science of the Ministry of Education and Science of the Republic of Armenia. The protocol is aimed at strengthening the cooperation established by the agreement on cooperation in the field of science and technology between the Government of the Republic of Armenia and the Government of the Republic of India, signed on March 25, 1994 in New Delhi. This protocol will help strengthen existing friendly relations between the two states, as well as deepen cooperation between scientific institutions, universities and research groups of the two states. In accordance with the protocol, the Parties welcome the implementation of joint projects of mutual interest and express their readiness to coordinate bilateral funding of joint research projects in such areas as disaster management, astrophysics, nuclear medicine, high-energy physics and pharmaceuticals.

Gradually moving towards establishing cooperation with Uzbekistan. President of Uzbekistan Shavkat Mirziyoyev and Narendra Modi agreed on cooperation in various fields, including the development of outer space for peaceful purposes. During this meeting 20 documents were signed. A decision was made to cooperate in the field of military education, agriculture, science and technology, health and medical science, and to jointly combat illicit drug trafficking<sup>5</sup>.

## **Conclusion**

The insufficient development of cooperation between India and the CIS countries is due to the fact that the CIS