

**BRICS STI FRAMEWORK PROGRAMME**  
**3<sup>RD</sup> BRICS CALL 2019**

**Provisional List of scientifically recommended Projects for  
BRICS CALL 2019 under BRICS STI Cooperation**

S. No.	Registration No. and Acronym	Full title	Country	PI Name and Organisation
<b>Material Science including nanotechnology</b>				
1.	<b>BRICS2019-083 LDMHWBEATAI LED</b>	Low-dimensional metal halides with broadband emission and their application in light-emitting diodes	INDIA	Angshuman Nag , Indian Institute of Science Education and Research, Pune
			RUSSIA	Maxim Molokeev, Kirensky Institute of Physics
			CHINA	Prof. Zhiguo Xia, South China University of Technology
2.	<b>BRICS2019-123 GPTNOM</b>	Green Printing Technology for Novel Optical Metadevies	INDIA	Prof. Dr. Ashok K Ganguli, Department of Chemistry, Indian Institute of Technology, Delhi
			RUSSIA	Prof. Dr. Pavel Alexandrovich Belov, International Research Center for Nanophotonics and Metamaterials, ITMO University
			CHINA	Prof. Dr. Yanlin Song, Institute of Chemistry, Chinese Academy of Sciences
3.	<b>BRICS2019-134 Ga2O3: Galium Oxide</b>	Ga2O3-based nanomaterials with controlled defect and impurity composition for advanced electronic devices	INDIA	Dr. Mahesh Kumar, Indian Institute of Technology Jodhpur
			BRAZIL	Dr. Pedro Luis Grande, Institute of Physics - Federal University of Rio Grande do Sul
			RUSSIA	Prof. David Tetelbaum, Lobachevsky University
4.	<b>BRICS2019-198 F3DNCFMTERM</b>	Fabrication of three-dimensional nanocellulose-based multifunctional materials for tissue engineering and regenerative medicine applications	INDIA	Prof. Sabu Thomas, Mahatma Gandhi University, Kottayam, Kerala
			RUSSIA	Prof. RevinVictor Vasilievich, Ogarev Mordovia State University, Saransk, Russia
			CHINA	Prof. Guang Yang, Huazhong University of Science and Technology
5.	<b>BRICS2019-224 Alkaline membrane fuel cells (AMFCs); anion exchange membranes (AEMs), membrane electrode assembly (MEA).</b>	The fundamental research and key materials development in the novel high performance alkaline membrane fuel cells	INDIA	Dr. K.Ramya, International Advanced Research Centre for Powder Metallurgy and New Materials( ARCI), Chennai
			RUSSIA	Prof. Bulanova Andzhela Samara National Research University
			CHINA	Prof. Zhongming Wang Beijing University of Chemical Technology
6.	<b>BRICS2019-228 GaO-Nitrides</b>	Wide Bandgap Semiconductor (Al)GaO/Nitrides Heterostructures for High Power Electronic and Optoelectronic Devices	INDIA	Prof. Rajendra Singh, Indian Institute of Technology, Delhi
			RUSSIA	Prof. Wsevolod Lundin, Ioffe Institute, Center of Nanoheterostructure Physics, Russia
			CHINA	Prof. Shibing Long, University of Science and Technology, Beijing, China

7.	<b>BRICS2019-240 NanoDrug</b>	Polymeric Nanostructures for Treatment of Microbial Infections	INDIA	Amit K. Goyal, National Institute of Animal Biotechnology, Hyderabad
			BRAZIL	Pedro Henrique Hermes de Araujo, Federal University of Santa Catarina
			CHINA	Xiaoyu Huang, National Engineering Research Center for Nanotechnology
8.	<b>BRICS2019-286 PORMAT</b>	Natural and artificial porous materials filled with liquid and solid dielectrics	INDIA	Dr. Ravi Kumar, N V, Indian Institute of Technology Madras (IIT Madras)
			RUSSIA	Prof. Sergey Vakhrushev, Saint Petersburg State Polytechnical University
			SOUTH AFRICA	Dr. Georges-Ivo Ekosse, University of Venda Thohoyandou
9.	<b>BRICS2019-374 FunTiSurf</b>	Functionalization of New Titanium Alloys after Ecap Processing and Surface Treatment	INDIA	Dr. Murugan Ramalingam, Vellore Institute of Technology, Vellore, Tamil Nadu
			BRAZIL	Dr. Paulo Noronha Lisboa Filho, Universidade Estadual Paulista (UNESP)
			RUSSIA	Dr. Dmitry V. Gunderov, Ufa State Aviation Technical University
10.	<b>BRICS2019-444</b>	Stimuli responsive photothermal nanoparticles in cancer therapy	INDIA	Prof. Kaushik Pal, Indian Institute of Technology Roorkee
			CHINA	Prof. Yucui Wang, University of Science and Technology of China (USTC), China
			SOUTH AFRICA	Prof. Moganavelli Singh, University of KwaZuluNatal (Westville)
11.	<b>BRICS2019-447 BioTheraBubble</b>	Bioactive ultrasound-driven microbubbles for theranostics	INDIA	Dr. Krishna Kanti Dey, Indian Institute of Technology Gandhinagar, Gujarat
			RUSSIA	Prof. Dmitry Gorin, Skolkovo Institute of Science and Technology Moscow
			CHINA	Prof. Yongfeng Mei Materials Science Department, Fudan University, Shanghai,

### New and Renewable Energy

12.	<b>BRICS2019-032 MHSSHP</b>	Modelling of the hydrogen storage and supply systems with output hydrogen pressure in wide range of pressures (up to 80MPa) using low-potential heat-transfer agent	INDIA	Dr. Bhogilla Satya Sekhar, Indian Institute Of Information Technology Design And Manufacturing, Kurnool
			RUSSIA	Dr. Mitrokhin Sergey, Moscow State University
			CHINA	Dr. Yan Huizhong, BRIRE Rare Earth Functional Materials Engineering Technology Research Center
13.	<b>BRICS2019-040 TCLB/WBBUICE</b>	Thermochemical conversions of lignocellulosic biomass/wastes into bioenergy and biofuels and its utilization in internal combustion engine	INDIA	K.A.Subramanian, Indian Institute of Technology Delhi
			BRAZIL	Prof. Electo Eduardo Silva Lora, Federal University of Itajubá, Mechanical Engineering Institute
			RUSSIA	Alexander N. Kozlov, Melentiev Energy Systems Institute, Russia
			CHINA	Shu Zhang, Nanjing Forestry University, China
			SOUTH AFRICA	Yusuf Isa, Durban University of Technology
14.	<b>BRICS2019-154 CO<sub>2</sub> - Carbon dioxide</b>	Life cycle assessment of CO <sub>2</sub> reduction by energy efficient hybrid biomass pyrolysis and gasification	INDIA	Dr. Anand Ramanathan, National Institute of Technology, Tiruchirappalli
			BRAZIL	Dr. Amaro Pereira, Universidade Federal Rio de Janeiro (UFRJ), Rio de Janeiro

			RUSSIA	Dr. P.A. Strizhak, National Research Tomsk Polytechnic University, Tomsk
Biotechnology and Biomedicine				
15.	BRICS2019-122 BIO-OCD	Biosignatures as predictors of response to SSRIs in OCD: Developing a successful paradigm of personalized medicine	INDIA	Prof. Y.C. Janardhan Reddy, National Institute of Mental Health and Neurosciences (NIMHANS) Bangalore
			BRAZIL	Dr. Roseli G. Shavitt, Department of Psychiatry, University of São Paulo
			SOUTH AFRICA	Prof. Christine Lochner, Stellenbosch University
16.	BRICS2019-470 Designing novel inhibitors for HIV protease	An integrative approach for understanding the structure, function and dynamics of HIV protease: applications to design novel inhibitors	INDIA	Prof. M. Michael Gromiha, Indian Institute of Technology (IIT) Madras, Chennai
			BRAZIL	Prof. Vasco Azevedo , Federal University of Minas Gerais Brazil
			SOUTH AFRICA	Prof. Yasien Sayed, University of the Witwatersrand, South Africa
ICT				
17.	BRICS2019-124 CRIAP	Characterizing Risk Indicators to cause Anaemia Prevalence among young Children and Adolescents in BRICS countries using Artificial Intelligence	INDIA	Rishemjit Kaur, CSIR-Central Scientific Instruments Organisation, Chandigarh
			RUSSIA	Mashkova Aleksandra, Central Economics and Mathematics Institute Russian Academy of science (CEMI RAS), Moscow
			SOUTH AFRICA	Dr. Natisha Dukhi, Population Health, Health Systems and Innovation (PHHSI) Human Sciences Research Council Cape Town
Photonics				
18.	BRICS2019-252 ERSPIC	Energy-efficient reconfigurable silicon photonic integrated devices and circuits for optical interconnects	INDIA	Prof. Rajesh Kumar, Indian Institute of Technology Roorkee, Utrakhand
			BRAZIL	Dr. Roberto Panepucci, Centro de Tecnologia da Informação Renato Archer, Brazil
			CHINA	Prof. Dr. Daoxin Dai, Zhejiang University, China
19.	BRICS2019-314 QuSaF	Quantum Satellite and Fibre Communication	INDIA	Prof. Manish Tiwari, Manipal University Jaipur
			RUSSIA	Prof. Anton V. Bourdine, Povolzhskiy State University of Tele. and Informatics (PSUTI), Samara, Russia
			CHINA	Prof. Jaun Yin, University of Science and Technology of China, Shanghai
			SOUTH AFRICA	Prof. Francesco Petruccione, University of KwaZulu-Natal, Durban
Water Resources and Pollution Treatment				
20.	BRICS2019-210 SIMRO	Sustainable and Integrated Solutions for Monitoring and Remediation of Emerging Contaminants (Organo-chlorine) from Non-point Source	INDIA	Dr. S. Venkata Mohan, CSIR-Indian Institute of Chemical Technology (CSIR-IICT), Hyderabad
			RUSSIA	Dr. Inna P Solyanikova Institute of biochemistry and physiology of microorganisms, Russian Academy of Sciences, IBPM,
			CHINA	Dr. Yonghong Wu Institute of Soil Science, Chinese Academy of Sciences

21.	<b>BRICS2019-439 Climate change and flow regimes in the plateaus of Asia</b>	Detect and predict the impacts of climate change on the flow regimes of rivers originated from plateaus in Asia	INDIA	J. Indu, Indian Institute of Technology Bombay
			RUSSIA	Olga Makarieva, Melnikov Permafrost Institute
			CHINA	Lei Cheng, Wuhan University, China

### **Ocean and Polar Science**

22.	<b>BRICS2019-70 Vibrios as biosensors</b>	Vibrios as biosensors of global/local changes	INDIA	Neelam Taneja Department of Medical Microbiology, Postgraduate Institute of Medical Education and Research, Chandigarh
			BRAZIL	Fabiano Lopes Thompson Marine Biology Department, Universidade Federal do Rio de Janeiro, Brazil
			CHINA	Xiao-Hua Zhang, College of Marine Life Sciences, Ocean University of China

### **Geospatial**

23.	<b>BRICS2019-174 JVRIS</b>	Joint validation of multi-source remote sensing information and sharing in BRICS countries	INDIA	Prof. R.B. Singh, Professor Department of Geography, Delhi School of Economics, University of Delhi, Delhi
			RUSSIA	Professor Bondur V.G., ISR“ AEROCOSMOS” Department of Remote Sensing, Russia
			CHINA	Professor Xiang Zhou Institute of Remote Sensing and Digital Earth Research, Chinese Academy of Sciences, Beijing, China

### **Astronomy**

24.	<b>BRICS2019-191 PRISE</b>	Precision Radio Imaging In The SKA Era	INDIA	DharamVir Lal, National Centre for Radio Astrophysics, Tata Institute of Fundamental Research, Pune
			CHINA	Feng Wang, Center For Astrophysics Guangzhou University
			SOUTH AFRICA	Oleg Smirnov, Rhodes University

### **Prevention and monitoring of natural disasters**

25.	<b>BRICS2019-142 CESSW</b>	Comprehensive experimental and simulation study on wildfire of BRICS countries: Fire occurrence, spread and suppression	INDIA	Prof. Amit Kumar, Indian Institute of Technology Madras, Chennai
			BRAZIL	Prof. Guenther Carlos Krieger Filho University of Sao Paulo, Brazil
			RUSSIA	Prof. Oleg Korobeinichev, Institute of Chemical Kinetics and Combustion, Novosibirsk, 630090, Russia
			CHINA	Prof. Naian Liu Professor, University of Science and Technology of China