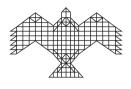


#### NATIONAL INSTITUTE OF ADVANCED STUDIES Bengaluru, India

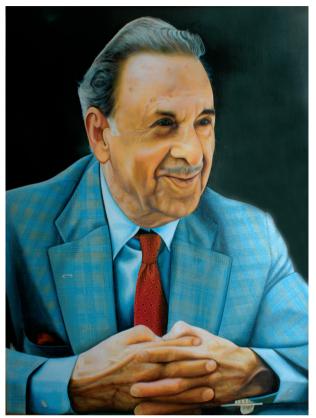
### Annual Report 2022 – 2023





### NATIONAL INSTITUTE OF ADVANCED STUDIES Bengaluru, India

## **ANNUAL REPORT** 2022 - 2023



JRD Tata Founding Chairman

#### The Vision and Mission of NIAS

To integrate the findings of scholarship in the natural and social sciences with technology and the arts through multi-disciplinary research on the complex issues that face Indian and global society.

To assist in the creation of new leadership with broad horizons in all sectors of society by disseminating the conclusions of such research through appropriate publications and courses as well as dialogues with leaders and the public.

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### FROM DIRECTOR'S DESK



This year the institute started normal functioning after two years of pandemic and this was a welcome change. At the same time, online and hybrid discussions/talks/ meetings continued which facilitated and allowed participation of a wider audience.

Many novel and innovative projects were launched by faculty members. Notable among them are: Social network analysis of wild bonnet macaque troops in the Bandipur National Park; Orientation of temples in southern India, and their astronomical associations; Music, brain and creative initiative; Study of interactions between energy security, environment and climate change, etc.

The Animal Behaviour and Cognition Programme focussed on primates, elephants and fish. Based on 20 years of observations (2000-2020), and analysis of data, a detailed assessment of the ecology, social behaviour, demography and cognition of the bonnet macaque in the Bandipur National Park and adjoining the Mudumalai Wildlife Sanctuary was conducted. Studies related to urban macaque populations, and human-wildlife interactions and conflicts were carried out. Behaviour trajectories of hatchery-reared juvenile mahseers and coping strategies exhibited by them are being studied to enhance survival of juvenile mahseers in wild.

The Consciousness Studies Programme focused on the humanistic and health aspects of consciousness along with a critical approach to the empirical theorization of self. Studies on the indigenous healing traditions of tribal communities of Kerala and consciousness and causality in Kashmir Saivism with contributions from AI were completed. A documentary film "KENI: Preserving Indigenous Food Culture" won international awards.

Under Science, Heritage and Society, the lamp-making craft traditions of the southern India were investigated. The material of burial urns of iron age was analysed and found to comprise gold, copper, bronze, and high-tin bronze. The megaliths of peninsular India and their possible connections with astronomy were explored. The influence of megalith culture on temple architecture is under investigation.

Under Energy, Environment and Climate Change, a list of old and inefficient thermal power plants to be retired by 2030 was prepared and provided to NITI Aayog. An approach paper on small and modular reactors (SMR) introduction was prepared and submitted to the Department of Atomic Energy and NITI Aayog. Additionally, potential sites for SMR installation were identified. A strategy for creating a Rare Earth Industrial Ecosystem in India was developed.

Inputs on 'Climate Change Mitigation' and 'Information on Coal' for India's Third National Communication to the UNFCCC were provided. Dr Tejal Kanitkar was a member of the Indian Delegation to 27<sup>th</sup> Conference of Parties (COP), IPCC Conference, for climate change related negotiations.



A conceptual model to predict temporal and spatial evolution of  $CO_{2 in}$  oceans and time evolution of salinities was developed by the Complex Systems programme. It is predicted that the North Atlantic Ocean will evolve into the most saline ocean with increasing temperature.

The dynamics of science communications, especially availability of information during natural disasters, education about climate change, etc.e are being addressed.

Under Education Programme, a study on the vocational skill policy, dropout reduction and employability among adolescent youth in Odisha and Assam was completed based on in depth interactions and personal interviews with school communities, parents, and skill/industry stakeholders. About 80% and 60% in Assam and Odisha aspire for skill training respectively. An approach for identifying and mentoring gifted and talented children was developed. Teachers were trained in the application of this methodology. Advanced Learning Centres (ALC) were established in schools in different learning environments. A national curriculum framework for an early childhood education was developed.

Pathways of mental health and HIV risk through gender identity stigma and Covid-19 stressors among transgender women was been completed, by the Urban and Mobility Studies Programme.

Under Inequality and Human Development Programme, an empirical evaluation of the relationship between rural transformation and voting patterns in India was developed. Study findings also showed how communication and mobility technologies enabled global supply chains to tap technical manpower that India's economic strategies have generated. Based on a study in a Kerala village affected by rising temperature and sea level, it was found that the autonomous adaptation is high is such areas.

One of the major projects carried out under Conflict Resolution and Peace Research, was the study of the social impact of the proposed Kalpasar Dyke at the Gulf of Khambhat, Gujarat. A methodology was developed to assess and analyse social consequences of planned development. The state of various conflicts and peace processes across the world were analysed and short forecasts were provided.

Contemporary developments across the globe, and regional developments, are articulated through briefs and essays, in The World this Week, Africa Weekly, Pakistan Reader, Europe Monitor etc. Research on cyber and AI were initiated as a part of international relations. The maritime study focuses on conflicts, governance, health and economy.

Under International Strategic and Security Studies Programme, studies on critical weapon system technologies and weapon system cyber security vulnerabilities were undertaken and submitted to the Defence Research & Development Organisation (DRDO).

A structured framework to estimate direct contributions of space activities to India's GDP was developed and published. A technical document on 'Space Based Manufacture of Alternative Optical Fibre' was prepared and submitted to TIFAC, DST.

A satellite-derived agricultural primary productivity data for the last 30 years was developed for multiple applications including crop insurance.

The 35<sup>th</sup> Annual Training Programme for Senior Executives on 'Leadership in a World of Uncertainties' was organized. Twenty-nine leaders from diverse fields participated. Four training programmes on 'Science and Technology: Global Developments and Perspectives', Science and Sustainability in India', 'Science, Technology and Innovation Policy', 'Policy for Science and Science for Policies' supported by the Department of Science and Technology, Government of India were conducted. Theme -specific training programmes on 'Sensors, Fusion, and Tracking for Airborne Applications' for BEL Academy, 'Hyperspectral Analysis for Defence Services', 'Space Today – Opportunities, Challenges and Trends', and 'Education for Gifted and Talented for Teachers of Army Welfare Education Society', were organized. The eighth RL Kapur Oration lecture and the sixth CV Sundaram Memorial lecture were organized.



This year 14 students were admitted to the doctoral programme. A total of 73 students are currently pursuing their doctoral research, and four students received their degrees.

The publication of research outcomes in peer-reviewed journals, academic volumes and newspapers was undertaken as a major outreach activity. Policy briefs on asset-based indicators of vulnerability and climatechange and the Indian monsoon were published. Inputs related to Accelerating Growth of SDGs, Wildlife and Heritage Conservation, and Maritime Research were provided as a part of G20 University Connect activities.

Many workshops/seminars related to global greenhouse gas information, Europe Conclave, Vocational Skill Policy, Dropout Reduction and Employability, Capital Punishment, Human Reliability Programme in Industries of National Importance were organised. Lecture Series on India's Neighbourhood, Europe, Global Politics, and Urban Issues were initiated.

Dr S Jaishankar, Honourable Minister for External Affairs, Government of India, Sir Robin Grimes, FRS, Freng., Imperial Collage, London, Mr Thierry Berthelot, Consul General of France were some of the dignitaries who visited NIAS and were appraised about the activities of NIAS.

A collaboration with the Ghent University, Belgium for archaeology and material culture, Indian Maritime University, Institute of Wood Science & Technology, Gujarat National Law University, and Finovista for residential electric cooking were initiated.

The progress on research activities, capacity-building and outreach was outstanding. The financial situation is a matter of concern. Discussions were initiated with funding agencies to support NIAS activities. These efforts are likely to fructify in 2023-24. I congratulate entire NIAS faculty and staff for their excellent work. The guidance and direction provided by the Academic Council and the Council of Management is gratefully acknowledged.

Shailesh Nayak Director, NIAS



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### ACKNOWLEDGEMENTS

The National Institute of Advanced Studies (NIAS) is thankful to its funding agencies, organizations, and institutes for their support in various forms to run the doctoral programme, conduct research activities, and organize training programmes, meetings, workshops, seminars and symposia successfully.

#### We express our gratitude to:

#### **Tata Group**

Sir Dorabji Tata Trust and Allied Trusts, Mumbai Sir Ratan Tata Trust and Allied Trusts, Mumbai TCS Foundation, Mumbai Tata Consultancy Services Limited, Mumbai

#### **Government of India Ministries and Organizations**

Department of Science and Technology, Government of India Department of Space, Government of India Department of Atomic Energy, Government of India Defence Research and Development Organization, Government of India Indian Council of Social Science Research, New Delhi Indian Council of World Affairs, New Delhi Indian National Academy of Engineering, New Delhi Indian National Science Academy, New Delhi Indian Knowledge System (IKS), Ministry of Education, New Delhi Ministry of Earth Sciences, Government of India Ministry of Environment, Forest and Climate Change, Government of India NITI Aayog, New Delhi Office of the Principal Scientific Advisor to the Government of India Reserve Bank of India, Mumbai Science and Engineering Research Board, New Delhi The National Academy of Sciences, India

#### Government of Karnataka

#### Indian Institutes, Organizations and Individuals

Ananth Technologies Limited, Bangalore Army Welfare Education Society, New Delhi Greater Bengaluru Parisara Foundation (GBPF), Bangalore Indira Gandhi Memorial Trust, New Delhi Institute of Wood Science and Technology, Bangalore Mr TV Mohandas Pai, Bengaluru Open Source Pharma Foundation, Bengaluru RG Manudhane Foundation for Excellence, Mumbai



Sheela Kanoria Foundation, New Delhi Shri Brihad Bharatiya Samaj, Mumbai Sundaram Finance Limited, Chennai Transcending Horizons Private Limited, New Delhi

#### **International Institutes and Organizations**

EIT Climate-KIC, Brussels European Research Council, Brussels, European Union Ghent University, Belgium GIST Earth LLC, University of Maryland Humane Society International, USA Konrad-Adenauer-Stiftung e.V. (KAS), Germany National Science Foundation, USA Regional Centre for Strategic Studies, Colombo, Sri Lanka Rufford Foundation, UK Texas A&M University, Texas The International AIDS Vaccine Initiative, USA The Leakey Foundation, San Francisco, USA The Luigi and Laura Dallapiccola Foundation, UK

NIAS looks forward to receiving continued support from our well-wishers, funding agencies and all others towards actualizing our research and academic mandate.

### EXECUTIVE SUMMARY

The activities of NIAS are organized under four schools: Conflict and Security Studies, Humanities, Natural Sciences and Engineering, and Social Sciences. The following is a summary of the major outcomes and achievements of the various programmes and initiatives of the four schools at NIAS.

#### 1. CONFLICT RESOLUTION AND PEACE RESEARCH

On Conflict Resolution, the Programme attempts to pursue evidence-based research on individual conflicts and also aims at a larger conceptualization of conflict. Recently, the programme has started focussing on the socioeconomic impact assessment of development projects using the framework of 'development as a social' process. On Peace Research, the Programme aims to study "peace" as a political process, with an objective to provide policy inputs to the State and society. Supported by KAS, the International Peace Research Initiative continues to publish NIAS-KAS Conflict Weekly, an academic endeavour that tracks, interprets and analyzes conflicts and peace processes across the world, from the Americas to Africa and the Pacific. In 2022-23, the programme began looking at the state of peace and conflict at the global level, aiming to publish a NIAS Annual on the subject.

#### 2. SCIENCE, TECHNOLOGY AND INTERNATIONAL RELATIONS

The Science, Technology and International Relations Programme focuses on area studies. It began with Pakistan, and added Europe, Africa and Maritime during the last year. The programme publishes a weekly 'The World This Week' every Sunday. As a part of capacity building efforts, the programme organizes 'Global Politics, Young Voices', an exclusive platform for young scholars. In 2022, it initiated an exclusive India-Europe dialogue, and organized the first Europe dialogue bringing Indian scholars working on Europe together. The programme continued its networking activities under 'International Studies Network Bangalore (ISNB)' with seven academic institutions from Chennai, Pondicherry, Bengaluru, and Goa. The long-term objective of ISNB is to create a 'Bangalore School of IR'.

#### 3. INTERNATIONAL STRATEGIC AND SECURITY STUDIES

The International Strategic and Security Studies Programme focuses on research studies on contemporary issues of national importance from science and technology, geopolitical, organisational and structural perspectives. The programme has experts with backgrounds in space, atomic energy, aerospace and defence, cyber security, geospatial analysis and remote sensing, international relations, maritime domain awareness and political science which aid in addressing the issues in a holistic manner. Additionally, Adjunct Faculty, comprising retired officers from Government of India S&T establishments, Defence Services and External Affairs, help the programme in its research activities.

#### 4. CONSCIOUSNESS STUDIES

The research, outreach and documentation completed by the Consciousness Studies Programme this academic year pertained largely to the projects funded by the Tata Trusts, DST-CSRI, DST-SATYAM, and the Sheela Kanoria Foundation. The larger goal of the Consciousness Studies Programme is an interdisciplinary and multidisciplinary mandate that tries to connect knowledge, wellbeing and "the beyond" to seek both the manifest and subliminal meanings and experiences of consciousness. The beyond is identified as the unknown space that invokes complex questions and challenges, that are explored using principles of causality, AI, indigenous healing, metaphysics, ethnography, literature and the arts. This academic year, the five funded projects and other studies initiated by the consciousness studies programme strived to place the importance of an interconnected, humanistic yet transpersonal, and grounded nature of consciousness, its reality and experiences.

#### 5. HERITAGE, SCIENCE AND SOCIETY

Several inter-disciplinary publications were brought out by the Heritage, Science and Society Programme. A volume explored how cultural festivals and performance interventions in southern India have tried to



address issues of urban peripheries and marginalization, of performers and musical instrument makers, while also delving into environmental and ecological issues. Recent questions of interest have included conservation and corrosion damages of metal heritage, alignment of temple structures orientation to celestial phenomena, and so on. The work of the programme also covered geospatial explorations into coastal erosion and shoreline modification, and the use of hydrological maps in exploring historical water systems.

#### 6. ANIMAL BEHAVIOUR AND COGNITION

The main focus of the Animal Behaviour and Cognition Programme is to investigate human-animal interactions and behaviour across a range of species and environmental contexts with the larger objective of promoting biodiversity conservation and a more equitable human-wildlife coexistence. The major projects that were engaged in for this purpose include: object recognition and tool manufacture by wild macaques, behavioural adaptations in Deccan mahseer juveniles, patterns characterising wildlife trade in southern India and human-elephant conflict in northeastern India. Other studies on the urban ecologies of wild and feral species, nonhuman representation in monumental sculpture, cultural exchanges in Indian and European classical and popular music during 18<sup>th</sup> to 20<sup>th</sup> century, and human-crocodile conflict were also carried out.

#### 7. COMPLEX SYSTEMS

The Complex Systems Programme carried out frontier, interdisciplinary research based on principles of nonlinear dynamics. Recent work funded by the SERB (POWER) grant was focused on understanding the dynamical mechanisms of changes in the physical environment which manifest changes in living systems. This included (i) proposing a systematic method to predict climatic tipping points, (ii) construction of a mathematical model that enables calculating average salinity and carbon dioxide content of ocean, and predicts location of ocean carbon sinks, (iii) modelling interactions between species in fragmented landscapes. Other work done during this period was on the complex dynamics of simple nonlinear mechanical systems, including investigations into the dynamics of an extensible spring pendulum.

#### 8. ENERGY, ENVIRONMENT AND CLIMATE CHANGE

The Energy, Environment and Climate Change Programme completed two major projects sponsored by the Ministry of Environment, Forest and Climate Change during the year FY 2022-23. A research project supported by Indian Rare Earths was also completed during the year. Programme faculty received a one-year research project from NITI Aayog to develop policies and strategies to enhance coking coal production in India and a 3-year research project on an integrated approach to energy, environment, and climate change from the office of the Principal Scientific Advisor, Government of India.

#### 9. SCIENCE COMMUNICATION

The Science Communication Programme completed a study of the mental models of science communication widespread amongst academicians and research scholars from different states of India. An ethnographic study of 'nature walks', a popular, public-involved science communication and education programme in India was also completed.

#### **10. EDUCATION**

The Education Programme rests on the premise that the education system in India is entrapped in several contradictions. Attempting to match local and national priorities with global regimes, the programme works on connecting research with teaching, advocacy and policy. Identifying critical issues in education, current research priorities are: integrating education for the gifted and talented in formal school education, subject choice and women in STEM, women in leadership in higher education, interlinkages of vocational education, school dropout and livelihoods, education and sustainability and exclusion in education.

#### **11. INEQUALITY AND HUMAN DEVELOPMENT**

The Inequality and Human Development Programme took significant strides towards its larger objective of creating multidisciplinary and empirically consistent conceptualizations of inequality. It generated a wealth of quantitative and qualitative data into questions around the instrumentality of inequality. The information that emerged on being left behind in migration, the experience of technology, autonomous adaptation to



climate change, age-related gender discrimination, and the inequalities built into institutions, was used to develop conceptual frameworks that could be of value to other analyzes. While the bulk of the work was presented to academia through publications, lectures, and conferences in India and abroad, there has also been an influence on public discourse through writings in the popular press.

#### **12. URBAN AND MOBILITY STUDIES**

The Urban and Mobility Studies Programme explores the social and economic reverberations of urbanisation, migration, economic development and related social transformations in India's cities, towns and villages, through an interdisciplinary approach. Recent work examined the socioeconomic consequences of real estate-led urban development in Bengaluru as well as the implementation of a "greenfield city" project in Andhra Pradesh. A study of labour in the readymade apparels industry in Bengaluru highlighted the precarity of work and of the lives of its predominantly female workers. A recently added area of research concerns sexual and gender minority communities in urban spaces and the interconnections between stigma, mental health and health inequities.

#### TRAINING PROGRAMMES

A total of eight training programmes were conducted. These include the 35<sup>th</sup> NIAS Programme for Senior Executives; NIAS-BEL Workshop on Sensors, Fusion and Tracking for Airborne Applications for junior and middle-level executives of Bharat Electronics Limited (BEL); Training programme on Space Today: Opportunities, Challenges and Threats for security establishments, academia and industries; Training Programme on Hyperspectral Analysis Defence Services personnel and four NIAS-DST Programmes on Science and Technology: Global Developments and Perspectives; Science and Sustainability in India; Science, Technology and Innovation Policy; and Policy for Science and Science for Policies.

#### **DOCTORAL PROGRAMME**

NIAS is recognized as a centre for research by Manipal Academy of Higher Education (MAHE), Mysore University and the University of Trans-disciplinary Health Sciences and Technology (TDU) from which students get their PhD degrees. At present there are seventy-three students pursuing interdisciplinary research in natural and engineering sciences, social sciences, humanities and arts. A total of four students were awarded PhD degrees last year.

#### OUTREACH

NIAS has initiated various means of outreach for extending news and updates of the academic achievements of faculty members. The lectures delivered by NIAS faculty and the public programmes organized by NIAS were conducted using the online/offline mode.

## SCHOOL OF CONFLICT AND SECURITY STUDIES

### Programmes

- Conflict Resolution and Peace Research
- Science, Technology and International Relations
- International Strategic and Security Studies



### SCHOOL OF CONFLICT AND SECURITY STUDIES

The School of Conflict and Security Studies, has three programmes – Conflict Resolution and Peace Research (CRPR) Programme, International Strategic and Security Studies Programme (ISSSP), and Science, Technology and International Relations (STIR) Programme. The three programmes of the School complement each other in terms of research focus and activities. While ISSSP looks at larger security issues, CRPR looks at conflict resolution and peace research, and STIR adds value by merging S&T with diplomacy and global politics. The School works closely with various departments of the government, from Defence Research and Development Organisation (DRDO) to Department of Science and Technology (DST). The School also maintains links with several international institutions and scholars.

#### Programmes

- Conflict Resolution and Peace Research
- Science, Technology and International Relations
- International Strategic and Security Studies



### CONFLICT RESOLUTION AND PEACE RESEARCH PROGRAMME

#### Introduction

NIAS's Conflict Resolution and Peace Research Programme works around two broad areas. On 'conflict resolution,' the Programme pursues evidence-based research on individual conflicts and aims at a larger conceptualization of conflict. In 'peace research,' the Programme aims to study 'peace' as a political process, to provide policy inputs.

#### **Research Activities**

Socioeconomic Impact Assessment of Development Projects: The programme conducts socioeconomic impact assessment studies commissioned by the government, PSUs, and private agencies. Employing the lens of 'development as a social' process, the study of socioeconomic impact assessment analyzes, monitors, and manages the (un)intended social consequences (both negative and positive) of planned development interventions and any social change processes invoked by those interventions.

Democracy, Decentralization, and Governance: Studies in this area include Formal and Informal Decentralization in Manipur and Mizoram and Cooperative Federalism and Local Governance in Assam, Nagaland, Odisha, and Chhattisgarh. They investigate crucial interactions between formal and informal institutions in the decentralization process, cooperative federalism and local governance, and ethnic assertion and demands for autonomy in the northeastern states and states affected by the Maoist conflict. A crucial aspect of research is Left-Wing Extremism, that is looked through the immediacy of addressing the grievances of the popular movements independent of the Maoists and the governance and development aspects in the Maoist-affected areas.

Development, Resource Distribution, and Conflict: This study investigates the uneven distribution of resources and the conflicts in India's Scheduled Areas. The demands for fair share and ownership over natural resources take the shape of several people's movements resisting the development interventions of the State. A forthcoming book, 'Negotiating Development at the Margins' covers several aspects of this theme.

Contemporary Conflicts and Peace Building in Africa and South Asia: The primary focus of the project is conflicts and peace processes in Africa and South Asia during 2023-24. Contemporary conflicts in the two regions will be profiled in terms of issues, actors, and trajectories and the findings will be published as a NIAS Conflict Backgrounder.

Why Conflicts Continue: The study aims to analyze the main reasons for the continuation of conflicts across the regions –from Latin America to Southeast Asia. A workshop was held in 2022 on the theme; the final essays will be published as an edited volume in 2023.

Annual on State of Peace and Conflict: The objective of this study is to look at the state of peace processes and conflicts across the globe, major issues, trends, and provide a short forecast. In 2023, the first NIAS Conflict Annual will be brought out.

IPRI Peace Lectures: The International Peace Research Initiative (IPRI) organizes a series of Peace Lectures, inviting scholars and subject experts from across the world to interact with young scholars from partner institutions.

D Suba Chandran, *Professor & Head* Anshuman Behera, *Associate Professor* Amit Mukherjee, *Assistant Professor* Doctoral Students: Aparupa Bhattacherjee, Hrudaya Chandana, David Jangminlien, Zarnain Manzoor Research Associates: Abigail Miriam Fernandez, Anu Maria Joseph, Apoorva Sudhakar



### SCIENCE, TECHNOLOGY, AND INTERNATIONAL RELATIONS PROGRAMME

#### Introduction

The Science, Technology and International Relations (STIR) Programme aims to look at international relations from a S&T perspective, and vice-versa. The programme also attempts to develop area studies at the global level.

#### **Research Activities**

Global Politics: Contemporary World Order: The primary focus of this research is to study contemporary developments, with an objective to trace the big picture, i.e., changes in the world order, global and regional developments. As a part of this process, the programme brings out various briefs and essays, namely 'The World This Week', 'Africa Weekly', 'Pakistan Reader Evening Brief', and 'Europe Monitor'. NIAS Pakistan Reader conducts a course on 'Contemporary Pakistan' with the aim to build a network of young scholars from across India.

Space Research: This study focuses on the growing space industry, new technologies, the norms and behaviour of space powers, and national security. In 2022, the focus was on the Mars missions, China's Space Station, the Artemis Accords, the OEWG on responsible behaviour, Space Sustainability etc.

Arctic Research: This study looks at the following verticals: contemporary developments in the Arctic; institutions dealing with Arctic governance; climate change, Arctic and their interactions and fallouts; the importance of the Arctic for India; and an Arctic strategy for India.

Science, Technology and International Relations (STIR): The current focus of this research is Cyber and AI. A fortnightly – STIR, has been initiated, to focus on International Relations.

Global Climate Governance: The study on climate change follows global developments and politics relating to climate change in order to map the debates on climate finance, and the divide between the developed and the developing countries within the global climate regime.

Area Studies: Europe, Africa, Maritime and China: NIAS Europe Studies monitors, records, and analyzes contemporary developments across Europe; runs a "Europe Lecture Series" and has begun a "Europe Annual Dialogue" in collaboration with the KAS India Office. NIAS Africa Studies focuses on contemporary Africa from an internal prism through multiple verticals - internal politics, peace and conflict issues, civil-military relations, non-traditional security issues, radicalism, regional complexities (Horn of Africa, Sahel and North Africa), geopolitics and external relations. NIAS Maritime Studies focuses on maritime health, pollution, marine biodiversity, maritime conflicts, heritage and governance.

The Indian Neighbourhood Reader (INR) looks beyond politics and security; it aims to comprehensively monitor and analyze developments in the entire Indian neighbourhood. The INR has a larger geographic scope; it includes parts of Southeast Asia and the Middle East, along with maritime developments in the Arabian Sea, the Bay of Bengal and the Indian Ocean

Global Politics: Young Voices: GPYV is a capacity building exercise that provides a platform for young scholars working on contemporary world affairs. Young scholars and faculty from different institutions in Chennai, Pondicherry, Mysore, Manipal, Bangalore, New Delhi and other parts of the country, take part in these discussions.

International Studies Network Bangalore (ISNB): The network now contains the following institutions: CHRIST Deemed to be University (Department of International Studies and History), Kristu Jayanti College (Department of History), Pondicherry University (Centre for Maritime Studies), Goa University (Department



of Political Science), University of Mysore (Department of International Relations), and Stella Maris College (Department of International Studies), Loyola College (Department of History), and Madras University (Department of Strategic and Defence Studies).

D Suba Chandran, Professor & Head

Doctoral Students: Harini Madhusudan, Rashmi Ramesh, Akriti Sharma, Lokendra Sharma, Ankit Singh Research Associates: Padmashree Anandan, Avishka Ashok, Rishma Banerjee, Ashwin Dhanabalan



### INTERNATIONAL STRATEGIC AND SECURITY STUDIES PROGRAMME

#### Introduction

The primary objective of International Strategic and Security Studies Programme (ISSSP) is to study the political, military, technological, economic and security developments in India's immediate and extended neighbourhood, and the world in general. This in turn involves examining issues, challenges and prospects that are of national importance and to provide policy inputs on relevant issues to the policy makers through research, discussion meetings, workshops and conferences. Research studies are generated after gauging the interest of likely sponsors and that are relevant for the country. ISSSP studies have been mainly supported by the defence and security agencies in the country. In addition, members of the Programme conduct research in their own areas of interest and domain expertise.

#### **Research Activities**

The main research domains include Drone Detection; Multi-Function Radars for Tanks; Unmanned Combat Air Vehicles; Critical Weapon Systems Technologies; Deck-based Combat Aircrafts; Cyber Security of Weapon Systems; Geopolitical Dynamics in the Neighbourhood and Indo-Pacific; Maritime Security and Maritime Domain Awareness; Hyperspectral Remote Sensing Applications; Geo-Intelligence Analysis, and Image Interpretation and Modelling for Strategic Studies. Two DRDO funded studies on Critical Weapon System Technologies, and Weapon System Cyber Security Vulnerabilities were successfully completed. The reports on Critical Weapon System Technology were released at the Aero India Seminar on February 14, 2023. The studies on Unmanned Combat Aircraft (UCAV), Deck-based Combat Aircraft (DBCA) and Electronic Warfare (EW) were also completed in 2022.

Infrastructure and Industrial Development in North East India: Exploring the Potential Role of Japan: Funded by Japan Foundation, this study examines potential areas related to the infrastructure developments in northeastern India where Japan can focus on as part of its ODA.



Webinar on Underwater Systems.





NIAS-DRDO CWST Reports Released by Scientific Advisor to Raksha Mantri and Chairman, DRDO in Aero India Seminar, February 14, 2023.



India–Japan Relations in the Emerging Indo-Pacific, NIAS Auditorium, March 27, 2023.

#### **Outreach**

Three webinars on 'Emerging Trends in Underwater Platforms, Weapons and Sensors', 'Technology Challenges in the Design of Unmanned Underwater Vehicles' and 'Challenges in the Development of Future Indian Air Combat Systems', were conducted by programme faculty. Eminent experts the services, research organisations, academia and industry participated in the events and provided valuable inputs for the studies. Dr Amit Mukherjee provided academic consultation on concepts, applications and futuristic options for hyperspectral imagery to the Image Interpretation Team at Eastern Command, Indian Army, during January - February 2023.

PM Soundar Rajan, Visiting Professor & Head D Suba Chandran, Professor S Chandrashekar, JRD Tata Chair Visiting Professor Rajaram Nagappa, Honorary Visiting Professor N Ramani, Visiting Professor M Mayilvaganan, Associate Professor Amit Mukherjee, Assistant Professor Prakash Panneerselvam, Assistant Professor Post-doctoral Associate: Anjani Devi Doctoral Students: Hema Karnam, Varun Mohan Project Associates: Akhil Chandran, Chithra Priya Srinivasan, Nikhita Matti, Surya Swaminathan

## SCHOOL OF HUMANITIES

### Programmes

- Consciousness Studies
- Heritage, Science and Society



### SCHOOL OF HUMANITIES

**The School of Humanities** is engaged in research in the broad areas of philosophy, psychology, literature, archaeology, history, mathematical modelling, fine arts, and culture. The Programmes of the School currently focus on philosophical foundations of sciences; cognitive sciences; scientific and philosophical studies of consciousness; indigenous healing traditions; integrated information theory; history and philosophy of biology; archaeometallurgy and analysis of ancient metals; and translations of literary classics in Kannada into English.

#### Programmes

- Consciousness Studies
- Heritage, Science and Society



### CONSCIOUSNESS STUDIES PROGRAMME

#### Introduction

The research, outreach and documentation completed by the Consciousness Studies Programme (CSP) pertained largely to the projects funded by the Tata Trusts, DST-CSRI, DST-SATYAM, and the Sheela Kanoria Foundation. The interdisciplinary nature of the work carried out by CSP facilitated the development of frameworks that go beyond the mainstream with questions and concepts that are original yet address the marginal. CSP focuses on the humanistic and health aspects of consciousness along with a critical approach to the theorization of the self. The overall goal is to bring to the public and interested students and scholars the importance of health, aesthetic pleasure, and knowledge as a triune reality deeply interconnected with consciousness.

#### **Research Activities**

Kashmir Saivism, Causality and Information: Funded by the Tata Trusts, this project was completed in August 2022. The project comprised six modules on: Investigations into Learning Algorithms in Intelligent Machines; Theoretical Study of Two Ethnic Performances; Onto-Epistemic Enquiry in Kashmir Shaivism; Pratyabhijna Philosophy, Rasa Aesthetics, and Kashmir Kavya Literature; Transcendence and Embodiment in Martin Heidegger and Kashmiri Shaivism; and Aesthetic Consciousness and the Indian Rasa Theory. The main outputs include: 21 Publications; 37 Reports; 34 Lectures and Conference presentations; 1 International Symposium; 16 Academic Courses; 2 Workshops; 32 In-house Lectures; 92 Public Programmes; and an International Lecture series on Sanskrit Language and Its Traditions: A Journey through its History and Contemporaneity.

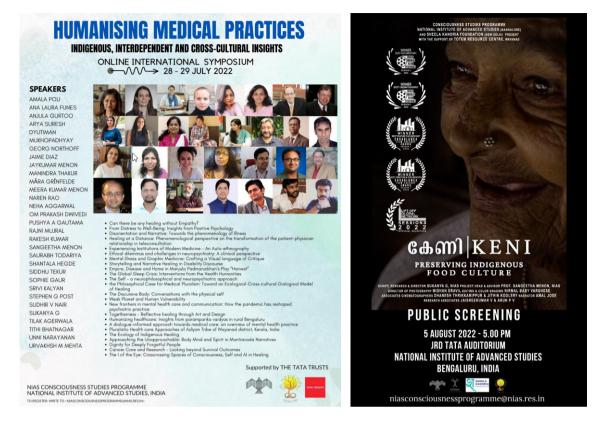
Kerala Indigenous Healing Traditions: Funded by Tata trust, this project also completed in August 2022. This project comprised six modules on: Indigenous Healing Practices among the Adiyan and Mavilan Tribal Communities of Kerala; Consciousness Nexus through Mantravada Narratives from Kerala; Health and Healing Practices of Selected Tribal Communities; Changing Contexts and Approaches to Healing Amongst Paramparika Vaidyas in and Around the Rural Bengaluru District; An Ayurvedic Approach to COVID-19; and Indigenous Healers and Healing Practices. The project outputs are: 1 Publication; 44 Reports; 18 Lectures and Conference Presentations; 16 Academic Courses; An International Symposium; 32 In-House Lectures; and 78 Public Programmes.

Navarang: The Colours, Moods and Voices of the Marginal and Indigenous Communities – Documentaries and Research Narratives Focusing on Tribal Healers, Ritual Arts, Food Culture and Local Ecologies of India: Sponsored by the Sheela Kanoria Foundation, this project curated a series of paintings based on the lives and living of the tribal community in Wayanad. This documentation was the visual ethnography component of the research study on the Health, Ethnomedicine and Indigenous Knowledge Systems among the Adiyan and Mavilan Tribal Communities of Kerala.

Investigation into the Chaotic Dynamics of Neural Networks: A SERB-TARE funded project, this study looks at neural network pruning as a technique to reduce the complexity and size of a network by removing unnecessary connections or weights. Chaotic dynamics of weight updates in artificial neural networks and the role of causality is also being explored.







#### Outreach

An international conference on "Humanising Medical Practices: Indigenous, Interdependent and Crosscultural Insights" was held on July 28 and 29, 2022, bringing together several institutions and speakers from across the world. Programme faculty documented the healing traditions of local health practitioners (Paramparika Vaidyas (PV) in and around rural Bengaluru through a series of 20 videos. The videos are available for public viewing at NIAS CSP YouTube Channel. The documentary film "KENI: Preserving Indigenous Food Culture" produced by NIAS CSP as part of the Navrang project, was selected for the Malayalam Non-competition section of the 14<sup>th</sup> International Documentary and Short Film Festival of Kerala. A painting exhibition 'MUGHATHEZHUTH': A Photo Story of Tirayāțtam, the Ritual Art Performance of North Malabar, through twentyfive unique paintings was held at the JRD Tata Auditorium of NIAS from August 2 to 5, 2022.

Sangeetha Menon, *Professor & Head* Sisir Roy, *Honorary Visiting Professor* Nithin Nagaraj, *Associate Professor* Post-Doctoral Associates: Shankar Rajaraman, Saurabh Todariya Doctoral Students: Pushya Gautama, Meera Kumar Menon, Siddharth S, Niharika Sharma Research Associates: Amrutha MK, Harikrishnan NB, Rakesh Kumar, Sukanya G Junior Research Fellows: Nikita Agarwal, Pranay, Priyanka S Research Assistant: Abhishek Shrivastava Project Assistant: Ashwini G



### HERITAGE, SCIENCE AND SOCIETY PROGRAMME

#### Introduction

The Heritage, Science and Society Programme works on documenting and preserving material culture and tangible and intangible heritage. Research areas include archaeological sciences, archaeo-materials and archaeometallurgy, landscape archaeology and geospatial techniques, monumental architecture, crafts documentation, experimental archaeology, conservation science and performance studies in dance and music. Wide ranging studies are made on archaeological materials heritage not only for insights into history of technology but also to understand the historical, art historical and archaeological trajectories.

#### **Research Activities**

Archaeology, Ethoarcheology and Archaeometallurgy: Work carried out in this area includes a DST-SHRI project on the archaeometallurgy of recently excavated Tamil sites, a TCS Foundation project on the archaeology, ethnoarchaeology and ethnometallurgy of Porunai, Keeladi, Kontagai and other megalithic sites in Krishnagiri district, a Odyssey Grant supported collaborative project on the archaeotechnology and ethnoarchaeology of the Nilgiris, an TCS Foundation project on the archaeotechnological aspects of pyrometallurgical crafts of metal, pottery and glass. Some of the findings of the projects were reported in an invited paper at 2nd International Seminar in Memory of Iravatham Mahadevan in Chennai n March 2023 and in an invited paper at the 50<sup>th</sup> Annual South Asia Conference at the University of Wisconsin-Madison, USA in October 2022.

Vilakku: Lamp Craft: Supported by Dallapiccola Foundation, this study investigates the lamp making craft traditions of southern India. These include the Kuttuvilakku of Nacharkoil and lamp making in Trichur and Nadavarambu areas of Kerala. Apart from publications, two high-definition hour long videos are also being made on these rare crafts.

Performing the Periphery: This study looks at how cultural festivals and artists' interventions may address the issues of the urban margins in southern India. The project resulted in a volume published by Routledge edited by Cathy Turner, Sharada Srinivasan, Jerri Daboo and Anindya Sinha in June 2022.



NIAS Workshop on GIS in Heritage Management, July 2022.



Early Temples and Megalithic Monuments of India: A important goal of this study is to create a database of Indian megaliths, with detailed information about megalith types, measured drawings, extent, and distribution etc. Origins of temple architecture in southern India along with investigations into possible influences of the preceding megalithic monumentbuilding culture on temple architecture, is another objective. Additionally, the orientation of megaliths and temples, as well as their astronomical implications, is another important aspect. A project, funded by the Ministry of Education, investigates the orientation of temples of South India and their astronomical associations.

Geoarchaeology and Geospatial Analysis: Research work in this area includes the ISRO-SAC funded study on four geomorphologically significant areas, MOES funded study on coastal heritage structures and a DST project on historical water systems in the Malaprabha river valley.



Adichanallur Iron Age Pit Burial, Tamil Nadu.

#### **Outreach**

Programme faculty conducted a one-week workshop on ancient iron smelting process at the Netaji Subhash Chandra Bose Government Girls School, Tekkalakote, Bellary in January 2023.

Sharada Srinivasan, Professor & Head Deepti Navaratna, TV Raman Pai Chair Visiting Professor S Ranganathan, Honorary Visiting Professor Srikumar M Menon, Associate Professor MB Rajani, Associate Professor Post-Doctoral Associate: S Udayakumar Doctoral Students: Divya Hoskere, Aishwarya Mhaske, Meera Vishwanath

## SCHOOL OF NATURAL SCIENCES AND ENGINEERING

### Prog<u>rammes</u>

- Animal Behaviour and Cognition
- Complex Systems
- Energy, Environment and Climate Change
- Science Communication



### SCHOOL OF NATURAL SCIENCES AND ENGINEERING

The School carries out original research and policy advocacy in fields as diverse as environmental science, animal behaviour, climate change, nonlinear dynamics, science communication, human-animal interactions, pollution and energy. The school trains a large number of PhD students as well as several young research fellows and project assistants due to the success of its faculty in securing long-term research funding from multiple sources. The faculty is also well-recognized for their policy advocacy and outreach that extends NIAS's standing with the Government and amongst academia. The four Programmes of the School are as follows:

#### Programmes

- Animal Behaviour and Cognition
- Complex Systems
- Energy, Environment and Climate Change
- Science Communication



# ANIMAL BEHAVIOUR AND COGNITION PROGRAMME

#### Introduction

The primary goals of the Animal Behaviour and Cognition Programme are to understand the evolution of social behaviour and communication, the cognitive foundations of behaviour and to study intraspecific variation in the ecology and behaviour of animals. These core areas of research are complemented by other research interests of faculty members in the areas of environmental decision-making, animal personality, human-wildlife conflict, human-animal studies, environmental education and natural resource conservation. Over the past year, programme members were involved in several different studies that underscore the interdisciplinary nature of work carried out in the programme. All projects by programme members were funded by national (SERB-DST) and international (ERC, Leakey, Rufford, HSI) organizations.

#### **Research Activities**

Primate Studies: These included projects on primate cognitive behaviour, and an investigation of illegal wildlife trade events in southern India that focuses on the slender loris. The project on Food Object Recognition in Primates (CSRI-DST grant) studies what characteristics of food drive food choice in monkeys. The findings of the study thus have important implications for the management of conflict between humans and primates related to food procurement. The study on illegal wildlife trade aims to understand the geographic patterns that characterise trade hotspots and focuses on small mammals, particularly species like the nocturnal slender loris. The study is a collaborative project with HSI-India and consults wildlife crime datasets being held by various national agencies.

Fish Studies: The focus of these studies is the Mahseer, a group of freshwater megafishes, and the objective is to document the alternate behavioural trajectories taken by hatchery reared juvenile mahseers and the coping strategies exhibited by them during encounters with the Alien Invasive Fishes (AIF). Popularly known as <tigers of the freshwater>, thousands of hatchery reared young mahseers are released into dams and rivers of India every year in order to replenish their natural population. Unfortunately, such restocked individuals fail to survive and reproduce in their new habitats. Hence findings from these studies will help to develop behaviour-based strategies to enhance the survival of the juvenile mahseers post release. The attitude and behaviours of various stakeholders such as hatchery managers, anglers, government officials, NGOs, general public etc. towards different species of mahseers present in India, were also studied with an aim to develop educational programmes and policy recommendations to reduce human pressure on these fishes.

Urban Ecologies: Governing Nonhuman Life in Global Cities. This four-year project conducted along with Cambridge University and funded by a Horizon 2020 grant from the European Research Council, Brussels focuses on a range of wild, feral and cultivated species in the Indian cities of Delhi and Guwahati and provides insights into what urbanisation might entail for these other than-humans. The data collection and analysis for the study has been completed, and team members were engaged in writing up the main findings of the project for publication.

Additionally, fieldwork was also undertaken for a study on elephant-human relations in North-eastern India. This study is supported by grants from Rufford Foundation, India Inlaks Foundation and Idea Wild.

#### Outreach

Programme members delivered a total of 16 lectures on various aspects of their work and participated in panel discussions in various fora across the country. They also taught, co-taught courses and conducted masterclasses for master's and doctoral students in NIAS, ATREE-TDU, NCF, NCBS, IIT Jodhpur, and the University of Calcutta on the following topics: Social Sciences Beyond the Human, Conservation Psychology, Foundations of Animal Behaviour and Cognition, Philosophy of Science and Conservation, Human-Wildlife Conflict, Animal Behavioural Ecology, Social Cognition, Nonhuman Intentionality and Decision-Making and Philosophy of



Biology. Prof Sindhu Radhakrishna participated in two Roundtable Meetings in NIAS in March 2023, that aimed to bring out policy briefs on Wildlife Conservation and Marine Biodiversity Conservation under the aegis of India's G20-University Connect activities. Prof Anindya Sinha was appointed an International Advisor and Subjury Member for the 33<sup>rd</sup> International Biology Olympiad, held in Yerevan, Armenia in July 2022. Programme members published one edited book, eight research papers, six book chapters and edited a special section in comparative psychology in a leading international journal last year.

Sindhu Radhakrishna, *Professor & Head* Anindya Sinha, *Professor* VV Binoy, *Associate Professor* Post-Doctoral Associate: Arijit Pal Doctoral Students: Athira Balakrishnan, Sayan Banerjee, Anmol Chowdhury, Ashni Kumar Dhawale, Sneha Gutgutia, Shruti Ragavan, Shubhangi Srivastava, Vignesh S, Ashisha Kannadasan, Abhijit Konwar, Ankita Sharma and Zakhiya P C



### COMPLEX SYSTEMS PROGRAMME

#### Introduction

The Complex Systems Programme attempts to help science and environment policy makers make informed decisions through research that is both predictive as well as explanatory. In nature, various systems show diverse nonlinearities in interactions between their constituting elements. These produce very complex behaviour that manifest themselves as an enormous variety of everyday phenomena in nature and in daily life. The Programme's aim is to make useful predictions of how diverse systems behave and thereby determine how some control over their behaviour can be achieved. This is done by applying varied mathematical techniques and physical concepts as appropriate. Example of work carried out that have a meaningful social impact include pest infestation cycles, climate change impact, changes in marine ecosystems, and modelling and predicting pollution growth.

#### **Research Activities**

Dynamics of Complex Systems: Supported by a SERB POWER Grant, this project aims at understanding the dynamical mechanisms which translate changes in the physical environment into the changes manifested in living systems by constructing appropriate mathematical models. Work done under this project include three main aspects: Predicting Climatic Tipping Points; Locating Ocean Carbon Sinks, and Modelling Interactions between Species in Fragmented Landscapes. The proposed model for climatic tipping point suggests that a limit of 10.62 GtC at the start of 2022 is critical to avoid climatic tipping. For ocean carbon sinks, an ocean box model was constructed to capture the evolution of carbon dioxide and salinity of each ocean. For the third aspect, the dynamics of populations living in two patches of a fragmented landscape and dispersing between them was studied by constructing a simple mathematical model.

Complex Dynamics of Simple Nonlinear Mechanical Systems: Supported by a SERB MATRICS grant, the objectives of this project include theoretical studies of simple mechanical systems under different types of forcing and elucidation of the dynamical mechanisms underlying the diverse kinds of nonlinear oscillations observed therein. These studies are expected to potentially help in giving better insights into the dynamics underlying certain physical and biological systems such as models of neurons. As part of this project, certain aspects of the nonlinear extensible spring pendulum not studied earlier in the published literature were investigated.

Janaki Balakrishnan, *Professor & Head* Junior Research Fellow: Abhishek Dodda Project Associates: Eros M Sunny



# ENERGY AND ENVIRONMENT AND CLIMATE CHANGE PROGRAMME

#### Introduction

The Energy, Environment, and Climate Change Programme (EECP) conducts research, outreach, and policy advocacy on critical problems connected to the Sustainable Development Goals, especially, SDG 7 (Affordable and Clean Energy), and SDG 13 (Climate Action).

#### **Research Activities**

The research conducted by the Programme faculty was largely funded by the Ministry of Earth Sciences, the Ministry of Environment, Forest, and Climate Change, the Department of Atomic Energy, and NITI Aayog in the Government of India. This itself indicates that the Programme's contribution to the national policy discourse.

The Programme faculty have successfully completed the following research projects awarded to NIAS to the full satisfaction of the funding agency, the Ministry of Environment, Forest and Climate Change (MoEFCC).

Report containing Information on Coal for India's Third National Communication to the UNFCCC funded by the MoEFCC. This report explains why the energy transition for India will involve a diverse set of low-carbon development strategies which also require transfer of technology and low-cost international finance including from the Green Climate Fund as per the Paris agreement. This report also describes some key measures to ensure the sustainable development of the power sector which is critical for India's energy security and human development.

Draft chapter on Climate Change Mitigation for India's Third National Communication to the UNFCCC. This chapter highlights the following:

- The scale and scope of the extensive steps that India has taken to enhance its contribution to climate change mitigation,
- The challenges before India in meeting its twin goals of development and environmental sustainability,
- The scale of India's mitigation efforts in the context of its responsibility, capability, fair share, and comparison to the efforts of other parties to the UNFCCC.

The Programme faculty are now implementing the following projects funded by the Government of India:

Interaction between Components of Earth and Human Systems: Supported by MoES, this research study investigated five research topics: Power distribution sector reforms; Impact of  $PM_{2.5}$  pollution on public health in Bengaluru; Socioeconomic impacts of meteorological events; Integrated water resource management; Sustainable urban transportation.

Potential Sites for Nuclear Power Plants: Supported by the BRNS, this study has made a significant policy impact on India's nuclear power strategy. At the SMR symposium organized by NITI Aayog and DAE in



NIAS Workshop Report

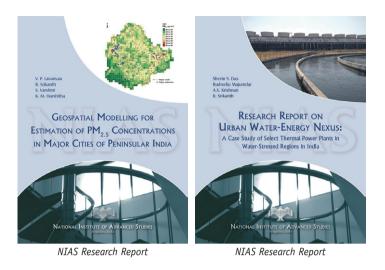
NIAS Research Report



November 2022, NIAS's contribution in identifying specific brownfield sites for installation of SMRs was acknowledged.

A one-year research project from the Environmental Management and Policy Research Institute (EMPRI) of the Government of Karnataka, entitled "Identifying

Emission Hot Spots and Emission Inventory of Major Air Pollutants: Supported by EMPRI, this study aims to identify the emission hot spots of major air pollutants in the Bengaluru Urban district and develop an inventory of particulate matter pollutants ( $PM_{10}$ and  $PM_{2.5}$ ). This project will thus help



pave the way for the development of the first air quality prediction system framework for Bengaluru.

Energy Security, Environment, and Climate Change: Supported by the office of the PSA, GoI, this research study aims to quantify the incremental  $CO_2$  emissions caused by installing FGDs in all TPPs in India, and to develop a GIS-based gridded map of different air sheds in the peninsular India region. The results of the study will thus lead to effective long-term mitigation planning with co-benefits in climate change.

#### **Outreach**

EECP faculty conducted two stakeholder consultation workshops; one on Power Distribution Sector Reforms in India was conducted in April 2022, while another on Energy Transition was conducted in March 2023.

R Srikanth, Professor & Head Gufran Beig, Sir Ashutosh Mukherjee Chair Professor AV Krishnan, Raja Ramanna Chair Professor Sudha Mahalingam, Raja Ramanna Chair Professor (till August 29, 2022) DK Srivastava, Honorary Visiting Professor Tejal Kanitkar, Associate Professor Rudrodip Majumdar, Assistant Professor Harini Santhanam, Assistant Professor Doctoral Students: Aariz Ahmed, Soumya Deep Das, Tanmay Ghosh, Joan Shilpa Kiran, Lavanyaa VP, Rakesh G Nannewar, Ankita Ranjan, Kumar Saurabh



### SCIENCE COMMUNICATION PROGRAMME

#### Introduction

The Science Communication Programme (SCP) studies the dynamics of the science communication ecosystem present in India and develops strategies for the effective dissemination and education of scientific information using conventional methods and social media to promote scientific temper and positive behavioural change in society. SCP is involved in developing and implementing programmes to promote public involvement in research and other science-related activities, make science learning effort free by integrating science communication with science education, and encourage scientific thinking in policy-making in Indian society

#### **Research Activities**

Science thinking in Academia: A survey of the mental model models of science communication popular amongst faculty and research scholars in science and technology institutions in India was completed last year. The report of this study is under preparation.

Risk Communication: This project explores how people make sense of the scientific information broadcasted on different media at the time of natural disasters such as cyclones and landslides and utilize it for making protective action decisions. The project aims to develop effective communication strategies to ensure protective action decision-making during natural disasters.

Climate Change Education: A study was launched last year to understand the interplay between the perceptions and mental models of climate change amongst adolescents from the states of Kerala and Karnataka and how they 'distance' themselves from this inevitable climate phenomena.

Conservation Communication: This project aims to trace the knowledge, attitudes, and behavior of different stakeholders towards mahseers, a group of freshwater megafishes living in India. A YouTube based study of the behaviour of the anglers and the responses it received from the public was completed and the results were presented at national and international conferences

Human Reliability Programme: This NIAS-Texas A&M University collaborative project investigates human reliability in high-hazard installations. A core group of subject matter experts from India and the US was formed, which continued deliberations on this topic.



SERB Karyashala on Science Communication, July 25 to 30, 2022.





Core-Group Meeting on Human Reliability Programme in Industries of National Importance.

#### **Outreach**

Apart from regular student-scientist interactions, faculty organized a SERB Karyashala on Science Communication. This workshop offered intense training in various tools and techniques of science communication to the PG and PhD. students selected from 25 educational institutions located in different geographical regions of India.

VV Binoy, Associate Professor & Programme in Charge M Sai Baba, Honorary Visiting Professor Doctoral Students: Sreshtha Mondal, Anjali Bharati, Hashim Mohammed

# SCHOOL OF SOCIAL SCIENCES

### Programmes

- Education
- Inequality and Human Development
- Urban and Mobility Studies



### SCHOOL OF SOCIAL SCIENCES

The School of Social Sciences is home to programmes that take a transdisciplinary approach to understanding three domains: education, mobility, and inequality. The methodological consistency across the three programmes allows them to address diverse issues and the specific problems they bring. The issues raised by the Education Programme range from the concerns of the gifted in school education to the challenges faced by women in the STEM disciplines. The Urban and Mobility Studies Programme provides insights into the continuing and growing links between village, town, and city, as well as the conditions in each of them. The Inequality and Human Development Programme explores the dynamics of difference, distinguishing between aspirational differences and the responses to inequality. Together, research in the three programmes provide insights into the rapidly changing dynamics of Indian society, even as these ideas influence public discourse through lectures and interventions in the media.

#### Programmes

- Education
- Inequality and Human Development
- Urban and Mobility Studies





#### Introduction

The Education Programme is an interdisciplinary programme that draws on the broad disciplines of Sociology, Psychology and History among others. The research work of the faculty of the programme is built around the concerns for equity, quality and excellence at all levels of education. The challenges are multiple: how to provide equal and quality education to all? What models and practices of education are suitable for a diverse population? How can local and national priorities be matched with the pressures of global regimes? Attempting to address these challenges, the focus is on connecting research with teaching, advocacy and policy.

#### **Research Activities**

Education for the Gifted and Talented: The project will identify the gifted and talented from grade 6 and 7 and provide mentorship to the children during the period of 5 years. Jawaharlal Navodaya schools, Kendriya Vidyalaya, Army Public schools and small budget schools will represent the different school environment. The hybrid model of school partnership of the NIAS Advanced Learning Centres was piloted in 15 Army Welfare Education Society Public schools across India. As part of the next phase of research, the NIAS ALC hybrid model will be rolled out in different school environments and a learning rubric will be developed to capture the progress of the gifted children in the programme.

Vocational Skill Policy, Dropout Reduction and Employability among Adolescent Youth: Built on the premise of NEP 2020, the research project on vocational skill policy, dropout reduction and employability among adolescent youth explored linkages between education, emerging vocational skill opportunities and sustainable livelihoods among disadvantaged adolescent youth in Odisha, Assam and Manipur. Specific recommendations based on the research will be submitted to the state and national governments.

Education for Sustainability: This study focuses on ways to accelerate climate change education as well as understanding the challenges accompanying climate change. This includes strengthening the understanding



State Level Workshop at Mandia High School, Barpeta District, Assam.



of social inequalities and vulnerabilities which are precipitated due to climate change, and research the possibilities to transform educational practices for a sustainable society.

Education and the Urban: The inter-institutional research collaboration on education and the urban was completed. The three year-long engagement involved research, teach-ins and organising of conferences around questions of urban politics, governance, history especially the ways in which they relate to education.

Learning, Livelihoods and Possibilities of Socially Just Pedagogy: This research aimed to understand the lives of students through work and schools. In particular, the work asks these broad questions: What does it mean to be educated in a small, transitioning town? How do students from marginalised backgrounds occupy the worlds of schools and jobs? The first leg of field work has been completed in in Sangli, Maharashtra and the field data is currently being transcribed.

Learning Analytics in Higher Education: During the last year, a national study of a sample of universities (2 Public and 1 Private) and colleges (1 autonomous and 4 affiliated colleges) were carried out to understand the interface of technology with higher education institutions with reference to student learning, pedagogic practices, assessment reforms. The study aims to provide the status of learning analytics in India and it's potential to enhance the overall quality and experience of learning in higher education institutions.

#### **Outreach**

As part of the vocational education study, two workshops were conducted in October 2022 at Gumma High School in Odisha and at the Mandia Girls High School in Assam in November 2022. About 120 participants in Odisha and 250 participants in Assam including teachers, students, and parents attended the workshops.

Anitha Kurup, Professor & Head Shivali Tukdeo, Associate Professor Shalini Dixit, Assistant Professor Jeebanlata Salam, Assistant Professor Malavika Kapur, Visiting Professor Doctoral Students: Aishwarya T, Anjali Anil, Shaima Amatullah, Ashirwad GW, Tirthankar Chakravorty, Subroto Das, Joyeeta Dey, Navaindu Joshi, Surachita Lal, Souri Majumder, Ekasmayi Naresh, Megha Poonia, Sabna ES, Shashank SR, Shruti Shankar, Varun Sudhakaran



### INEQUALITY AND HUMAN DEVELOPMENT PROGRAMME

#### Introduction

The Inequality and Human Development Programme (IHDP) aims to develop policy options based on multidisciplinary and empirically consistent conceptualisations of inequality. The programme conceptualises inequality as differences that are ethically unacceptable and suggests policy interventions to help mitigate the adverse effects of inequality. The programme has been researching methods to improve the effectiveness of interventions, including and especially in the social sector. The interventions it addresses include government policy but extend to the actions of individuals and groups. The programme places interventions within a triad where transformations can be generated by, and lead to, inequalities; the inequalities, in turn, generate responses including interventions; and the interventions and other responses cause further transformation. The programme has received financial support from both government and corporate sources.

#### **Research Activities**

Supported by TCS, the research on inequality currently focuses on five interconnected aspects of India's rural to urban transformation.

The Left Behind: The process of being left behind in a transformation has multiple dimensions. The multiplicity of relations involved in the process of being left behind has led the programme to focus on places rather than individuals. By studying places where many households have individuals left behind in processes of migration, the study hopes to suggest meaningful interventions to increase the benefits of migration, while simultaneously easing the pain of those left behind. The project has completed primary fieldwork involving a survey of 1680 households in sites including five villages in Bihar, Maharashtra, Rajasthan, West Bengal, and Kerala as well as a town in Kerala. In addition, detailed qualitative interviews were carried out with key informants in all the sites.

Experience of Technologies: Technology is at the heart of several socio-economic transformations, such as when it enables migration through communication and mobility products. It can accentuate inequalities when only a few have access to transformational technologies, just as it can mitigate inequalities when the subaltern sections of society are able to innovate. The study seeks to capture this diversity through the experience of technology of subaltern groups at different places in the migration process. The primary data collection for this study is now completed. The detailed ethnographic study of technology of the village in Jharkhand, including a survey of 272 households and 878 individuals, produced some interesting findings which are being pursued, as are as insights from the survey of 142 short-term Jharkhandi migrant workers in Bengaluru, in addition to several workers in small production units.

Autonomous Adaptation to Climate Change: In the midst of the processes of transformation, individuals, groups and communities are often affected by climate change, whether it is in terms of rising land and sea temperatures or that of extreme climatic events. The programme recognizes that the pressure for autonomous adaptation would be greatest in areas most exposed to climate change. A detailed statistical analysis of districts across the country pointed to the two worst affected districts being Cachar in Assam and Kozhikode in Kerala. The programme conducted ethnographic studies in three different terrains of Kozhikode district, studying a village each on the coast, the plains, and the hills.

Intrapersonal Inequalities of Gender Discrimination: The inequalities of transformation are typically understood primarily in terms of interpersonal and intergroup differences. But there can be ethically unacceptable differences in a person's personal experience of a transformation over time. Building on the feminist exploration of discrimination in terms of its association with a woman's body, the study took the argument a step further to contend that the extreme nature of the pressures on a woman's body could be reflected in differing mortality rates between men and women, and hence the sex ratios. The different sex ratios would then reflect changes in the extent of gender discrimination. Having established the macro patterns through Census data, the study

moved on to gain insights into the working of this changing discrimination through a qualitative survey of the Gadiya Lohar, Bishnoi, and Jain communities in Jaipur. The primary survey of women in 360 households spread equally across the three communities, has been completed.

Inequalities of Aggregation: Processes of transformation involve several aggregations. There are the aggregations involved in analyzing the role different groups have played in the transformation, with the aggregation typically being across predefined categories like caste or class. The programme began its exploration of the inequalities built into these institutions with an examination of the bias in favour of national parties in the working of the firstpast-the-post electoral system. It went on to evaluate inequalities that are ignored when the focus is entirely on institutionalized aggregates like GDP or food production or in concepts like that of backward areas. In the last year, the project has made substantial progress in



Technological response to inequality and economic distress in rural Jharkhand, via frugal innovative activity.

conceptualizing the inequalities of aggregation in the line of how aggregation should be done, how it is done in real life, and how do the inequalities of aggregation get institutionalized.

#### **Outreach**

A NIAS Dadabhai Naoroji Conference on Inequality was conducted at NIAS in June 2022. A podcast series was initiated in the last quarter, exploring what inequality does in the country and conveying what it finds to a variety of audiences from academics to the listeners of this podcast. The series will explore three issues related to inequality, i.e., Perspectives on inequality, Farmers' suicides in India, and Inequalities and migration

Narendar Pani, *Professor & Head* Debosree Banerjee, *Assistant Professor* Chetan Choitani, *Assistant Professor* Anant Kamath, *Assistant Professor* Post-Doctoral Associates: Nisar Kannagara, Mahima Upadhyay Doctoral Students: Ajit Kumar Babu, Chandana Rajsekharan Bindu, Shilajit Sengupta Project Associates: Gaurav Deb, Kalaiarasi Ka Sa, Ishita Patil, Paul Thomas



## URBAN AND MOBILITY STUDIES PROGRAMME

#### Introduction

The Urban and Mobility Studies Programme explores the social and economic reverberations of urbanisation, migration, economic development and related social transformations in India's cities, towns and villages. The Programme engages in interdisciplinary research, drawing on diverse social science disciplines including sociology, social anthropology, political science, urban studies, geography, gender and sexuality studies, and migration and transnational studies. Recent research projects have examined the social and economic impacts of real estate-led development in Bengaluru, the politics of a 'new city' project in Andhra Pradesh; and the linkages between skill training, rural-urban migration and employment in Bengaluru's new service economy. A recently added area of research concerns sexual and gender minority communities in urban spaces and ethnographic explorations of kinship practices and gender relations in South and Southeast Asia.

#### **Research Activities**

Labour Supply Chains: Research in this area comprises two projects. Funded by Azim Premji University, one study traces the contracting networks that enable the circular migration of workers from Jharkhand and Bihar in the construction industry in Bengaluru. Several rounds of fieldwork were carried out in 2022-23, and the field research will be completed by end 2023. Another study, funded by STICH (Netherlands) and CIVIDEP (Bengaluru), is part of a multi-country research programme on gender and labour in global supply chains, and surveys women workers in the garments sector in Karnataka.

HIV Risk and Access to Services: Studies in this area include 'Influence of Minority and COVID-19 Stressors on HIV Risk and Access to Services among MSM and Transgender Women'; 'Cervical cancer-related knowledge and health-seeking behaviours among women living with HIV'; and 'Awareness and acceptability of long-acting injectable HIV pre-exposure prophylaxis (PrEP) among Men who have sex with men and Transgender women'. Supported by International AIDS Vaccine Initiative, USA and ICMR, Women's Fund Asia, and the Centre for Sexuality and Health Research and Policy, Chennai, these projects employ offline and online survey methodology to complete data collection.

Speculative Urbanism: Funded by the National Science Foundation (USA) and carried out in collaboration with the University of Minnesota and UCLA (USA), this study was completed in June 2022. The project, a comparative study of changes in land use, property relations, livelihoods and urban ecologies in the context of rapid urban growth and the circulation of finance capital in the real estate sector in Bengaluru and Jakarta, has produced significant publications in international journals and a forthcoming book.

Urban Poor Housing: Field research for this study was carried out in two sites of Mumbai, Manchurd and Govandi, where two of the largest slum relocation projects are located. Interviews and focus group discussions were held with activists of Mahila Milan and National Slum Dwellers' Federation. This research was done in connection with Prof Supriya RoyChoudhury's Senior Fellowship at the Max Weber Stiftung Foundation, New Delhi during April to September 2022.

#### **Outreach**

Programme faculty organized an online NIAS Urban Lecture Series that invited a diverse range of scholars and academicians from institutions in India and abroad to present their work on urban sociology.

Carol Upadhya, Honorary Visiting Professor & Head Supriya RoyChowdhury, Honorary Visiting Professor Aleena Sebastian, Assistant Professor Doctoral Students: Snehashish Mitra, Chaithanya K







### Early Fusion Music: Cross-cultural Musical Exchanges in Colonial India from the Late 18<sup>th</sup> to the Early 20<sup>th</sup> Century

This project, spanning two Schools of NIAS, has been examining cross-cultural exchanges in the domain of classical and popular music in colonial India. It has three distinct components: (1) Examining instances of cross-cultural musicological exchanges in (a) Bengal and northern India, (b) in southern India, and (2) tracing the phylogeny of select compositions through computational analysis of acoustic signals. It also hopes to produce digital inventories of certain compositions, trace the history of these tunes by identifying the original song and include musical samples for illustration through the embedding of links to the best of renditions available in recorded media. An exhaustive literature review and archival studies have already been undertaken under the aegis of the project.

Anindya Sinha, Principal Investigator MB Rajani Nithin Nagaraj Doctoral Student: Preeth Khona



### POLICY BRIEFS

#### Case for an Asset Based Indicator of Vulnerability

Debosree Banerjee and Narendar Pani NIAS Policy Brief No. NIAS/SSc/IHD/U/PB/23/2022

Poverty and vulnerability have been seen by policymakers as two sides of the same coin whereas, in reality, they are not always the same. While consumption-based estimates of poverty capture poverty at a point in time, an index based on assets shows longer-term vulnerability to sudden shocks. Both estimates together capture deprivation in its totality. Therefore, along with a consumption-based indicator of poverty, there is a need to develop an asset-based indicator of vulnerability. This policy brief suggests a specific indicator, but other indicators could also be developed.

#### Climate Change and Indian Monsoon: Implications on Water Cycle

BN Goswami and Shailesh Nayak NIAS Policy Brief No. NIAS/NSE/EECP/U/PB/04/2023

Inadequate climate action guarantees that the present and the next generations must live with the socioeconomic loss associated with increasing threats of climate disasters. Well thought out government adaptation policies could lessen the human loss and mute the pain of economic loss. Based on our findings that climate change is leading to increasing trends of extreme rain events and heat waves and leading to a westward expansion of the mean Indian monsoon rainfall with a potential for converting the semi-arid northwest India to a humid climate, this note suggests a few policy interventions.





NIAS has been conducting training programmes to develop leadership to address various societal issues through multidisciplinary approaches. The Department of Science and Technology supported four training programmes including two, for women scientists.

#### 35<sup>th</sup> NIAS Programme for Senior Executives (January 16 to 21, 2023)



Theme: Leadership in a World of Uncertainties

**Inaugural Address:** Dr S Ramadorai, Former Vice-Chairman, TCS and Chairman, NIAS Council of Management set the tone of the programme with his inspiring inaugural address.

**About the Programme:** The speakers included Mr Anil Swarup, IAS (Retd), Ambassador DB Venkatesh Varma, IFS (Retd), Mr G Mahalingam, Dr Soumya Swaminathan, Prof SS Meenakshisundaram, IAS (Retd), Prof Narendar Pani, Lt Gen SL Narasimhan (Retd), Prof MV Rajeev Gowda, Dr Kajoli K Banerjee, Prof Rishikesha T Krishnan, Dr Shankar M Venugopal, Prof D Suba Chandran and Prof Heribert Dieter. A Public Lecture by Dr Pawan Kumar Goenka Chairman, IN-SPACe, a Cultural Programme by Shree Ramana Maharishi Academy for the Blind, Bengaluru and a visit to UR Rao Satellite Centre, Bengaluru was organized during the programme.

A total of twenty-nine participants from various organizations such as Indian Air Force, Indian Navy, Tata Steel Limited, Indian Space Research Organization, Defence Research and Development Organization, LIC of India, National Environmental Engineering Research Institute, BEML Limited, Aeronautical Development Establishment, Tata Consultancy Services, Mahindra and Mahindra Limited and Aeronautical Development Agency, participated in this flagship programme of NIAS. The valedictory address was delivered by Mr Suresh Prabhu, Chancellor, Rishihood University, Former Minister of Civil Aviation, Railways, Commerce and Industry.

**Coordinators:** The programme was coordinated by Prof R Srikanth and Dr Nithin Nagaraj. Ms V Girija assisted in the coordination of the programme.



Programme on Space Today: Threats, Opportunities and Challenges (February 6 to 11, 2023).



Theme: Space Today: Opportunities, Challenges and Threats.

**Inaugural Address:** Dr AS Kiran Kumar, Vikram Sarabhai Distinguished Professor and Former Chairman, Indian Space Research Organization inaugurated the programme.

**About the Programme:** In the changing scenario of national and international security, there is a paradigm shift occurring in access to space, space applications and space commerce. Increasingly, private players are influencing the space outcomes and this wind of change has brought in structural changes in the Indian space approach too. In addition, space weaponization, space security and policy issues also need to be borne in mind. The course was designed to introduce the participants to space science and space applications and provide an overview of changes in space related policies and technologies in India. Eminent speakers are invited to present their expertise in the related fields and total of nineteen participants from security establishments, academia and industry attended this programme.

**Coordinators:** The programme was coordinated by Dr Amit Mukherjee and Dr BR Guruprasad. Ms JN Sandhya assisted in the coordination of the programme.



NIAS-DST Programme on Science and Technology: Global Developments and Perspectives (November 21 to December 2, 2022).



Theme: Science and Technology: Global Developments and Perspectives.

**Inaugural Address:** The programme was inaugurated by Prof P Balaram, Former Director, Indian Institute of Science, Bengaluru.

**About the Programme:** The objective of this programme was to impart training to mid-level and senior scientists working in various departments to appraise them of scientific and technological advances at the global level, and the opportunities and challenges for India to reap the benefits of these developments. Given that many of the participants in the programme will go on to occupy important positions in science management, administration and policy formulation, the course also sought to promote lateral thinking and leadership qualities. The eminent speakers included former Secretaries in the Government of India like Prof VS Ramamurthy, Dr Shailesh Nayak, Dr PS Goel, Prof SS Meenakshisundaram. Other speakers included Prof Vinay Kumar Dadhwal, Dr Annapurni Subramaniam, Prof Narendar Pani, Prof Deepti Navaratna, Prof PG Diwakar, Dr Ashish Verma, Dr Mrutyunjay Mohapatra, Dr Anil Gupta and many more. A field visit was conducted to archaeological sites of Shravana Belagola, Belur and Halebidu.

The programme was attended by nineteen mid-level to senior scientists from premier institutions of India including DAE, DOS/ISRO, CSIR, MoES. The valedictory address was delivered by Dr Shailesh Nayak, Director, NIAS.

**Coordinators:** The programme was coordinated by Prof VK Dadhwal and Dr Chetan Choithani. Mr KS Rama Krishna assisted in the coordination of the programme.



NIAS-DST Programme for Women Scientists and Technologists on Science and Sustainability in India (October 17 to 21, 2022).



Theme: Science and Sustainability in India.

**Inaugural Address:** The programme was inaugurated by Dr Parvinder Maini, Scientific Secretary at the Office of the Principal Scientific Advisor.

**About the Programme:** The aim of this programme was to encourage an inquiry into the emergence of the discourse on sustainability and the contemporary challenges facing the incorporation of sustainability in our daily lives and livelihoods. Throughout the training, renowned speakers from academia, research organizations, and advocacy groups shared their insights and highlighted the importance of incorporating sustainability into diverse spheres such as academia, policy-making, activism, education, and advocacy. Notable speakers included Dr Jagadish Krishnaswamy, Prof Anindya Sinha, Dr Leena Chandran Wadia, Dr Sabyasachi Chatterjee, Prof Anitha Kurup, Dr Deepti Navaratna, Prof Shreelata Rao Seshadri, Dr Radha Gopalan, Mr Vishwanath Srikantaiah and Prof D Suba Chandran. The programme adopted a daily schedule consisting of three lectures, each lasting 105 minutes, followed by interactive sessions where participants could engage in dialogue, presentations, and group discussions about their own research experiences and reflections on sustainable research development. To provide practical exposure, the participants visited the Centre for Brain Research at the Indian Institute of Science, Bengaluru.

Twenty scientists from the government R&D organizations attended the programme. The valedictory address was given by Dr N Kalaiselvi, Director General, CSIR. and Secretary, DSIR

**Coordinators:** The programme was coordinated by Prof Sindhu Radhakrishna and Dr MB Rajani. Ms JN Sandhya assisted in the coordination of the programme.



### NIAS-BEL Workshop on Sensors, Fusion and Tracking for Airborne Applications (October 11 to 14, 2022).

**Theme:** Sensors, Fusion and Tracking for Airborne Applications

Inaugural Address: Prof PM Soundar Rajan, Visiting Professor, NIAS gave the inaugural address.

**About the Programme:** The workshop was conducted at Nalanda, BAE, Bengaluru and covered the following subjects: Airborne Multi-Function Radar, Radars for Airborne Early Warning and Control Systems, Infrared Search and Track Sensor; Electro-Optic sensors, Electronic Warfare Systems, Airborne radar: AESA Radars; T/R modules; Signal and Data Processing; Electro-optic Sensors: Infrared Search and Track; Electro-Optic sensors; Missile Warning Sensors; Laser Warning Sensors; Airborne Electronic Warfare System: Cognitive EW; Digital Jammers, Sensor Fusion of Radar, EW, Electro-Optic and Inertial Sensors. Twenty-two junior and middle-level executives from BEL participated in the programme.

Coordinators: Dr Prakash Paneerselvam and Prof PM Soundar Rajan coordinated the programme.



NIAS-DST Programme on Science, Technology and Innovation Policy for Scientist-Administrators and Technologists (September 19 to 30, 2022).



Theme: Science, Technology and Innovation Policy

**Inaugural Address:** The training programme was inaugurated by Dr JR Bhatt, Adviser/Scientist G, Ministry of Environment, Forests and Climate Change, Government of India.

**About the Programme:** The objective of the programme was to expose senior personnel in S&T departments of the government, on various facets of S&T and Innovation which will help them in understanding and addressing national policy issues. The speakers included former Secretaries in the Government of India and other eminent speakers such as Prof VS Ramamurthy, Dr Shailesh Nayak, Prof V Bhujanga Rao, Prof VK Dadhwal, Dr DR Pattanaik, Prof Narendar Pani, Amb (Retd) Ravi Neelakantan, Dr Milind Kopikar, Dr VS Hegde, Prof DK Srivastava, Lt Gen (Dr) Prakash Menon, Prof R Sukumar, Prof J Srinivasan, Prof T Jayaraman, and many more. An industrial visit to Master Control Facility of Indian Space Research Organization-ISRO in Hassan was arranged as part of the programme. Additionally, the group visited Shravana Belagola and temples in Belur and Halebidu.

Twenty-one participants from various research institutions participated in this training programme. The programme concluded with the valedictory function with an address by Prof T Jayaraman, Senior Fellow, Climate Change, MS Swaminathan Research Foundation.

**Coordinators:** The programme was coordinated by Dr Tejal Kanitkar and Dr Prakash Pannerselvam. Mr KS Rama Krishna assisted in the coordination of the programme.



Training Programme on Hyperspectral Analysis for Defence Services (September 12 to 14, 2022)



Theme: Hyperspectral Analysis

Inaugural Address: Dr Shailesh Nayak, Director, NIAS delivered the inaugural address.

**About the Programme:** The objective of the course was to provide participants with an overview of the ubiquitous role of remote sensing and GIS in defense and security matters. The various lectures touched upon the basic elements of remote sensing and spectral analysis, the development of remote sensing sensors and their capabilities, the application of hyperspectral imagery in assessing and analysing through remote sensing of snow, glacier, and crysopheric hazards, hyperspectral data analysis for water, snow in mountain regions, special techniques and methods in Hyperspectral remote sensing data/image processing, and change detection and time-series analysis with AI.

The lectures were delivered by renowned scientists and specialists from ISRO, ADRIN, IISc, and the Armed Forces such as Prof VK Dadhwal, Prof PG Diwakar, Mr P Srinivas, Dr Anil Kulkarni, and Col (Retd) Vinayak Bhatt.

Coordinator: The programme was coordinated by Dr Amit Mukherjee.



NIAS-DST Programme on Policy for Science and Science for Policies for Directors/Divisional Heads/Chief Scientists/Senior Scientists (August 22 to 26, 2022).



Theme: Policy for Science and Science for Policies

**Inaugural Address:** The programme was inaugurated by Prof VK Dadhwal, Indira Gandhi Chair Professor for Environmental Sciences, NIAS.

**About the Programme:** The speakers included Prof Anindya Sinha, Prof K Subramaniam, Dr Tejal Kanitkar, Dr Prakash Paneerselvam, Prof Sangeetha Menon, Prof Aromar Revi, Dr Saurabh Todariya, Dr Naren P Rao, Dr Sudhir Nair and Dr Renny Thomas. A visit to ISRO-ISTRAC, Peenya was organized during the programme. Twenty-four senior scientists from the government R&D organizations attended the programme. Twenty-four senior scientists from the government R&D organizations attended the programme. The valedictory address was delivered by Dr M Ravichandran, Secretary, Ministry of Earth Sciences, Government of India.

**Coordinators:** The programme was coordinated by Prof Sangeetha Menon and Dr Anant Kamath. Ms V Girija assisted in the coordination of the programme.



### DOCTORAL PROGRAMME



NIAS is recognized as a research institute and its doctoral students are awarded the doctoral degree by the University of Mysore, Manipal Academy of Higher Education (MAHE), the University of Trans-Disciplinary Health Sciences and Technology (TDU) and the Defence Institute of Advanced Technology (DIAT).

The Institute conducted its online written examination and two sets of online interviews for admission to its Doctoral Programme 2022 in May and June 2022 respectively. NIAS received 305 applications across the four Schools, out of which fourteen candidates were finally selected for the Programme.

The academic year in the Institute began in August 2022 with the first semester of coursework ending in December. All teaching was conducted offline, with the fresh cohort of students attending two mandatory courses: Research Methodology – consisting of two modules, Qualitative Research Methods and Quantitative Research Methods – and Research and Publication Ethics. The other sixteen optional courses, offered by the faculty during this semester, included: Major Pathways to Harness Energy; Animal Behaviour and Cognition; Origins of Astronomy in India; Heritage, Science and Society; Conflict Resolution and Peace Research; Science, Technology and International Relations; GIS for Strategic Studies; Education; Science Communication; Inequality and Human Development; Topics in Artificial Intelligence – Reading the Classics; Urban and Mobility Studies; GIS for Spatial Data Visualisation and Analysis. All courses offered at NIAS were open to students from other institutions as well.

Following the completion of coursework, during which time the students developed their doctoral research proposals, the Qualifying Examination for the cohort was held on February 16, 2022. All fourteen students successfully qualified in this examination enabling them to register for their doctoral degree in the university of their choice. The doctoral research proposals were then presented to the Institute and their methodologies subjected to the scrutiny of the NIAS Research Ethics Committee. The students formed their Doctoral Advisory Committees – including members from within and outside NIAS – and finally submitted their proposals to the respective universities for registration.

The coursework for the second semester, January to April 2023, commenced with the following courses being offered by different faculty:

- Introduction to GIS for Strategic Studies
- Introduction to Maritime Security: Concepts, Principles and Practices



- Advanced Remote Sensing and Image Processing for Cultural Heritage Studies
- Cultural Diplomacy: India's Soft Power Strategies
- Advanced Energy Systems and Futuristic Solutions
- Climate Change and Sustainable Development
- Revisiting Gender from the Global South
- Perspectives on Technology, Urbanization, Development and Exclusion etc.

### The following students presented their respective doctoral research proposals to the Institute.

No	Name	Title of the thesis						
	School of Conflict and Security Studies							
1.	Nitin Rawat	Interrogating Security Situations in Jammu and Kashmir: A Human Security Perspective						
2.	Ramkumar KG	Conceptual Analysis of Maritime Security for India: Increase in Deployment of Naval Assets by Different Nation States in the Indian Ocean Region.						
3.	Virain Mohan	Assessing Chinese Maritime Diplomacy in Southeast Asia from 2012-2022						
		School of Humanities						
4.	Aishwarya Prashant Mhaske	Settlement Archaeology of Kutch Harappan using Geospatial Analysis						
5.	Divya Anupama Hoskere	Deconstructing Choreography in Performances of the Nāṭya Tradition: A Practical Criticism in the Context of Indian Aesthetics						
	Sci	hool of Natural Sciences and Engineering						
6.	Hashim Mohammed	Landslide Risk Perception Communication in Kerala, India: Understanding Public Awareness and Community Response Strategies						
7.	Titir Debnath	The Mountain Primates: Distribution, Ecology and Human - Relationships of the Macaques of the Eastern Himalayas, Arunachal Pradesh, North- eastern India.						
8.	Karshita Bharati	Living with the Enemy? Parasite Networks in Alloprimate Communities in the Lowland Rainforest						
		School of Social Sciences						
9.	Anjali Anil	Examining the Heteronoramtivity in Indian Education: Perspectives from the Transgender Community						
10.	Ekasmayi Naresh	Understanding the Experience of 'Psychotherapy' Among Sexual and Gender Minorities in India						
11.	Joyeeta Dey	Tracing the Digital Transformation of Education Governance: India as a Case Study						
12.	Prakhar Kant Tripathi	Representation in Democracy: A Study on Urban Governance in India						
13.	Апоор М	Social Exclusion and Ghettoisation of Manual Scavengers in Coimbatore city: The Case of Arunthathiyar Community						
14.	Chaithanya K	Transnational Migration and Motherhood: A Study of Experiences of Malayali Nurses in the Gulf Countries Fragments of the Upper Brahmaputra Valley, Assam, India						



The NIAS Annual Students' Colloquium, which was organized from December 13 to 16, 2022, saw fifty doctoral students presenting progress reports of their work to the larger NIAS community. Additionally, fourteen first-year students, presented posters giving an overview of their proposed work, at the Colloquium. The Colloquium, as in every year, allowed the student community to directly interact with, and have discussions on their work with the faculty, postdoctoral researchers, and the other academic staff of the Institute. Several members of the Doctoral Advisory Committees of the respective students also attended the Colloquium and this facilitated critical discussions, not only on the achievements of the researchers, but also on the directions that their work could take in the future.

#### **PhD Thesis Submissions**

Mr S Vignesh (from the School of Natural Sciences and Engineering) submitted his PhD thesis titled "Interactions of Consent: Human–Bovine Relations in Tamil Nadu" on December 7, 2022 to the Manipal Academy of Higher Education (MAHE).

Ms Ashni Kumar Dhawale (from the School of Natural Sciences and Engineering) submitted her PhD thesis titled "Monkey on a Hot Tin Roof: Ecological and Behavioural Adaptations of Lion-Tailed Macaques to a Rainforest-Anthropogenic Habitat Matrix in the Western Ghats Mountains of Southern India", on January 20, 2023 to the University of Trans-Disciplinary Health Sciences and Technology (TDU).

The following students were awarded the doctoral degree between April 1, 2022 and March	
31, 2023.	

No.	Date	Name	Supervisor	School	University
1.	May 19, 2022	Cheshta Arora	Anitha Kurup	Social Sciences	MAHE
2.	May 26, 2022	Surya Sankar Sen	Anshuman Behera	Conflict and Security Studies	TDU
3.	June 29, 2022	Kuili Suganya C Balan	MB Rajani	Humanities	MAHE
4.	July 19, 2022	Meera Sudhakar	Narendar Pani	Social Sciences	MAHE

#### The following students are currently pursuing their doctoral studies at the Institute.

No.	Name	Supervisor	Date of Joining	Title of Thesis	University
1.	Vijay CS	Kshitija A Joshi	August 3, 2015	Electricity System Modelling for Large Scale Renewable Integration in India	MAHE
2.	Subroto Dey	Shivali Tukdeo	August 1, 2016	Mapping Life Paths of Youth in a Backward District: A Case Study of Three Higher Secondary Schools in Mandla, Madhya Pradesh	MAHE
3.	Vijayashree CS	Carol Upadhya	August 1, 2016	Production, Circulation and Consumption of Bhuta Masks and Sculptures: An Ethnographic Study	MAHE
4.	Sherin Ajin Jose	Shivali Tukdeo	August 1, 2016	Spatialising Nation-State through the Discourses of Development and Security at the Borderland: A Case Study of Tawang	MAHE
5.	Sarvajeet K Sinha	R Srikanth	August 1, 2017	Consolidation of Laws Related to Environment Protection in Surface Coal Mining in India: Prospects and Challenges	MAHE



No.	Name	Supervisor	Date of Joining	Title of Thesis	University
6.	Chandana R Bindu	Narendar Pani	August 1, 2017	Patterns of Response to Inequality in Relation to the Development Process: A Study of Two Villages in Gujarat and Kerala	TDU
7.	Shilajit Sengupta	Narendar Pani	August 1, 2017	Political Consequences of Intra-village Inequalities in Rural Transformation: A Study of Two Villages in West Bengal	TDU
8.	Ajit Kumar Babu	Narendar Pani	August 1, 2017	Inequalities in the Process of Former Agriculturists Learning Non-Agricultural Skills	TDU
9.	Lavanyaa VP	R Srikanth	August 1, 2018	Air Quality and Public Health: A Case Study in Bengaluru	MAHE
10.	Soumyadeep Das	R Srikanth	August 1, 2018	Way Forward for the Viability of Power Distribution Sector in India: A Case study in Karnataka	MAHE
11.	Aparupa Bhattacharjee	D Suba Chandran	August 1, 2018	Role of Religion in Contemporary Nation- Building: A Case Study of Sri Lanka, Myanmar, and Thailand	TDU
12.	Sreshtha Mondal	VV Binoy	August 1, 2018	Determinants of the Protective Action Decision Making during Floods and Cyclones: A Study of Kerala	MAHE
13.	Zarnain Manzoor	Anshuman Behera	August 1, 2018	Discourses around the Kashmiri Pandits: Engaging with 'Fractured Identity' and the 'Politics of Deadlock'	TDU
14.	Shaima Amatullah	Shalini Dixit	August 1, 2018	Perceptions of Social Discourses and Identity Negotiations: A Psychological Study of Muslim Community in India	TDU
15.	Hrudaya Chandana K	Anshuman Behera	August 1, 2018	Discursive Formulations of Violence in Ethnic Conflict: Generation and Transmission of Values	MAHE
16.	Meera Kumar	Sangeetha Menon	August 1, 2018	The Secret of the Word and the Theatrics of Faith Healing: Tracing the Language– Consciousness Nexus Through <i>Mantravada</i> Traditions in Kerala	MAHE
17.	Shruti Ragavan	Anindya Sinha	August 1, 2018	<i>Of Cash Cows and Piggy Banks?</i> Natures, Cultures and Politics of the Cultivated Animal in Urban India	TDU
18.	Anmol Chowdhury	Anindya Sinha	August 1, 2018	Rethinking the Urban 'Wild' Animal: Ethnologies and Ethnographies of Nonhuman Primates in Indian Cities	TDU
19.	Sneha Gutgutia	Anindya Sinha	August 1, 2018	Life at the Urban Margins: Human-Animal Relations and Precarity in Indian Cities	TDU
20.	Shubhangi Srivastava	Anindya Sinha	August 1, 2018	A Tail of Two Cities: Ecological, Socioeconomic and Political Dynamics of Human-Dog Relations in Urban India	MAHE



No.	Name	Supervisor	Date of Joining	Title of Thesis	University
21.	Sayan Banerjee	Anindya Sinha	August 1, 2019	Encountering More-than-Human Lifeworlds: Behavioural and Political Ecologies of Human–Elephant Relations in Northeast India	МАНЕ
22.	Preeth Khona	MB Rajani	August 1, 2019	Early Fusion Music: Cross-Cultural Musical Exchanges in Colonial India from the Late 18 <sup>th</sup> to the Early 20 <sup>th</sup> Century	MAHE
23.	Anna George	Smriti Hariharan	August 1, 2019	Reverberations of <i>Cilapatikaram</i> and the Worship of <i>Kannaki</i> in Caste, Gender and Regional Identities of Kerala and Tamilnadu	MAHE
24.	Megha Poonia	Shalini Dixit	August 1, 2019	Collective Memory and Social Identity: A Study of Denotified Tribes in Rajasthan	TDU
25.	Sabna ES	Anitha Kurup	August 1, 2019	Understanding Practices Related to Menstrual Health among Women in Rajasthan	MAHE
26.	Athira Balakrishnan	Sindhu Radhakrishna	August 1, 2019	From Wild to Vermin: A Study on Human– Wild Pig Conflict in India	MAHE
27.	Rakesh G Nannewar	Tejal Kanitkar	August 1, 2019	Assessment of Socio-Economic Impact of Agromet Services in Hyderabad–Karnataka Region	MAHE
28.	Tanmay Ghosh	R Srikanth	August 1, 2019	Assessing Public Transit Integration with Special Focus on First and Last Mile Connectivity	MAHE
29.	Aariz Ahmad	R Srikanth	August 1, 2019	Interlinking of Rivers: Case Study of the Almatti-Pennar Link	MAHE
30.	Rashmi BR	D Suba Chandran	August 1, 2019	Arctic Governance: The Role of Institutions with Special Reference to the Arctic Council, Saami Council and Arctic Circle	TDU
31.	Harini Madhusudan	D Suba Chandran	August 1, 2019	Militarisation in Outer Space: A Case Study of India, Japan, and France	TDU
32.	Shruti Shankar	Shivali Tukdeo	August 1, 2019	The Many Meanings of Work in Bengaluru's Schools: Histories, Cultures and Practices	MAHE
33.	Akriti Sharma	D Suba Chandran	September 1, 2020	Climate Change and the Himalayas: A Case for Regional Governance	TDU
34.	Lokendra Sharma	D Suba Chandran	September 1, 2020	Technology and International Relations: A Case Study of Cyberspace and Artificial Intelligence	TDU
35.	Anand Ganesh	Nithin Nagaraj	September 1, 2020	Recursion, Dynamics and Causality: Topics in Model Analysis	MAHE
36.	Pushya A Gautama	Sangeetha Menon	September 1, 2020	Situating the Correlates of Wellbeing through an <i>Ayurvedic</i> Approach to the Concepts of Consciousness, Self and Life- Purpose	MAHE
37.	Ankita Ranjan	Tejal Kanitkar	September 1, 2020	Exploring the Various Axes of Equity in Climate Change	MAHE

No.	Name	Supervisor	Date of Joining	Title of Thesis	University
38.	Abhijit Konwar	Sindhu Radhakrishna	September 1, 2020	Distribution and Ecology of Scaly Anteaters in India	MAHE
39.	Ashisha K	Sindhu Radhakrishna	September 1, 2020	Ecological Flexibility and Gut Microbial Dynamics in the Gray Slender Loris <i>Loris</i> <i>lydekkerianus</i>	MAHE
40.	Joan Shilpa Kiran	Tejal Kanitkar	September 1, 2020	Energy Dependence and Just Transitions: A Study of Developing and Developed Countries	MAHE
41.	Kumar Saurabh	Rudrodip Majumdar	September 1, 2020	The Potential of Oil and Gas Sector in India's Energy Mix during the Energy Transition Period	MAHE
42.	Vinitha MS	VV Binoy	September 1, 2020	Study on the Determinants of Social Decision Making in Deccan Mahseer ( <i>Tor</i> <i>khudree</i> ), A Megafish	MAHE
43.	Shashank SR	Anitha Kurup	September 1, 2020	Higher Education as a Site of Investments: A Case Study of Institutions run by Lingayat and Veerashaiva <i>Mathas</i> in Karnataka	MAHE
44.	Souri Majumder	Anitha Kurup	September 1, 2020	Role of Mythology in the Learning and Identity Formation among Adolescents: A Study of Two Schools in West Bengal	MAHE
45.	Varun Sudhakaran	Jeebanlata Salam	September 1, 2020	Aspiration and Higher Education among the OBCs: A Study among the Thiyyas and Vannathan	TDU
46.	Ankit Singh	D Suba Chandran	August 2, 2021	Political Economy of External Public Debt of Pakistan	TDU
47.	David Jangminlien	Anshuman Behera	August 2, 2021	Ethnic Conflict in Manipur: A Case of Kuki- Naga Conflict	MAHE
48.	Hema S Karnam	Amit Mukherjee	August 2, 2021	Defending System Integrity	TDU
49.	Varun Mohan	Prakash Panneerselvam	August 2, 2021	Conceptualizing and Assessing Political Salience of the United Nations' Role in Addressing Climate Security Discourse	TDU
50.	Meera Vishwanath	Srikumar Menon	August 2, 2021	The Influence of External Temple-Building Traditions on the Indigenous Laterite- Timber Tradition on the West Coast of India	MAHE
51.	Anjali Bharati	VV Binoy	August 2, 2021	Impact of Citizen Science Engagement on Participants' Scientific Knowledge, Scientific Sensemaking and Trust in Science	MAHE
52.	Ankita Sharma	Anindya Sinha	August 16, 2021	The Arthropod City: Taxonomic and Functional Diversity of Ant and Spider Species Assemblages across an Urban Gradient in Guwahati, Assam, Northeastern India	TDU



No.	Name	Supervisor	Date of Joining	Title of Thesis	University
53.	Zakhiya P C	Anindya Sinha	August 2, 2021	Primate Worlds: Demographic Structure and Dynamics, Social Networks and Life-History Strategies in Wild Bonnet Macaques	TDU
54.	Aiswarya T	Shivali Tukdeo	August 2, 2021	Life and Learning on the Move: A Study of Murshidabad–Perumbavoor Migration Corridor and Family Strategies for Education	МАНЕ
55.	Ashirwad G Wakade	Shivali Tukdeo	August 16, 2021	The Social life of Rural Universities: Institutional Structures, Processes and Politics	MAHE
56.	Navaindu Joshi	Jeebanlata Salam	August 2, 2021	Symbolic Violence in Schools and its Impact on the Social Identity and Aspiration of Students	TDU
57.	Surachita Lal	Anitha Kurup	August 2, 2021	Traveling through the Portals of Engineering Colleges: Experiences of Dalit Girls in India	MAHE
58.	Tirthankar Chakravorty	Jeebanlata Salam	August 2, 2021	The "Self" in Classrooms – Exploring Identities through Narratives from Teaching of Social Sciences	TDU
59.	Vishal George	Anant Kamath	August 2, 2021	Youth, Sport and Urban Spaces	MAHE
60.	Ramkumar KG	Prakash Panneerselvam	August 1, 2022	Conceptual Analysis of Maritime Security for India: Increase in Deployment of Naval Assets by Different Nation States in the Indian Ocean Region.	Yet to Register
61.	Virain Mohan	Prakash Panneerselvam	August 1, 2022	Assessing Chinese Maritime Diplomacy in Southeast Asia from 2012-2022	TDU
62.	Nitin Rawat	Anshuman Behera	August 1, 2022	Interrogating Security Situations in Jammu and Kashmir: A Human Security Perspective	Yet to Register
63.	Aishwarya P Mhaske	MB Rajani	August 1, 2022	Settlement Archaeology of Kutch Harappan using Geospatial Analysis	Yet to Register
64.	Divya Anupama Hoskere	Deepti Navaratna	August 1, 2022	Deconstructing Choreography in Performances of the Na t ya Tradition: A Practical Criticism in the Context of Indian Aesthetics	Yet to Register
65.	Hashim Mohammed	VV Binoy	August 1, 2022	Landslide Risk Percep Communication in Kerala, India: Understanding Public Awareness and Community Response Strategies	Yet to Register
66.	Karshita Bharathi	Rudrodip Majumdar	August 1, 2022	Living with the Enemy? Parasite Networks in Alloprimate Communities in the Lowland Rainforest Fragments of the Upper Brahmaputra Valley, Assam, India	TDU



No.	Name	Supervisor	Date of Joining	Title of Thesis	University
67.	Titir Debnath	MB Rajani	August 1, 2022	The Mountain Primates: Distribution, Ecology and Human – Relationships of the Macaques of the Eastern Himalayas, Arunachal Pradesh, North-eastern India	Yet to Register
68.	Ekasmayi Naresh	Shalini Dixit	August 1, 2022	Understanding the Experience of 'Psychotherapy' Among Sexual and Gender Minorities in India	Yet to Register
69.	Joyeeta Dey	Anant Kamath	August 1, 2022	Tracing the Digital Transformation of Education Governance: India as a Case Study	Yet to Register
70.	Prakhar Kant Tripathi	Chetan Choitani	August 1, 2022	Representation in Democracy: A Study on Urban Governance in India	Yet to Register
71.	Anoop M	Jeebanlata Salam	August 1, 2022	Social Exclusion and Ghettoisation of Manual Scavengers in Coimbatore city: The Case of Arunthathiyar Community	TDU
72.	Chaithanya K	Shalini Dixit	August 1, 2022	Transnational Migration and Motherhood: A Study of Experiences of Malayali Nurses in the Gulf Countries	Yet to Register
73.	Anjali Anil	Shalini Dixit	August 1, 2022	Examining the Heteronoramtivity in Indian Education: Perspectives from the Transgender Community	Yet to Register



### ANNUAL MEMORIAL LECTURES

Two annual memorial lectures were organized in the Institute:

#### The Eighth RL Kapur Oration

#### **Prof BN Goswamy**

Distinguished Art Historian, Professor Emeritus of Art History at the Panjab University, Chandigarh Conversing with The Gods – The 18<sup>th</sup> Century Painter Manaku and His Work June 24, 2022

#### Sixth C V Sundaram Memorial Lecture

#### Dr Annette Schmiedchen

German Indologist and Specialist of Premodern Indian History and Sanskrit Epigraphy *Copper-Plate Inscriptions and the Reconstruction of History* May 12, 2022

Dr MB Rajani is the Coordinator of Annual Memorial Lectures.



### PUBLIC PROGRAMMES

Prof Narendar Pani Dean, School of Social Sciences, NIAS Dr Aparna Chandra Associate Professor of Law, National Law School of India University Ms Preeti Pratishruti Dash Assistant Professor of Law, National Law School of India University Panel Discussion on Perspectives on Capital Punishment – In Observation of the 75<sup>th</sup> Year of the Assassination of Gandhi January 30, 2023 (In Association with National Law School of India University, Bengaluru)

#### Shree Ramana Maharishi Academy for the Blind

JP Nagar, Bengaluru *Bharatanatyam* January 20, 2023

#### Dr Pawan Kumar Goenka

Chairman, IN-SPACe Ready, Steady, Rise: Power of Big Dreams and Self-Belief January 17, 2023

#### Dr Nitasha Kaul

Associate Professor (Reader) in Politics and International Relations Centre for the Study of Democracy, University of Westminster *The Ordering of Political Allegiance in the Villages of North Kerala* December 22, 2022

#### **Prof Michael Grubb**

University College London Economics of Energy Innovation and Transition: Lessons from Principles for Policymaking December 5, 2022

#### Vidwan Sampagodu Vighnaraja

Founder Director, Surya Global Music Academy, Bengaluru *Carnatic Classical Vocal Concert* December 1, 2022

#### **Prof T Jayaraman**

Senior Fellow, MS Swaminathan Research Foundation, Chennai *COP27: New Horizons in Equity and Climate Action* November 29, 2022

Vidwas Tejaswini MK Founder, Music School Naadabindu Carnatic Classical Vocal Concert

NIAS Book Discussion – Urban Undesirables: City Transition and Street-Based Sex Work in Bangalore – Authored by Dr Anant Kamath, NIAS and Dr Neethi P, Indian Institute of Human Settlements August 18, 2022

#### **Prof Amit Chaudhuri**

September 29, 2022

Writer and Musician Infosys Prize Lecture – Invisibility and Freedom: The Modern and Modernist Imagination in the Indian Languages July 1, 2022

#### Dr Pawan Sudhir

Department of Education in Arts and Aesthetics, NCERT, New Delhi *'Art'iculating NEP 2020* April 28, 2022

#### NIAS FOUNDATION DAY LECTURE

#### Prof Gopal Guru

Former Professor, Jawaharlal Nehru University, and Editor, Economic and Political Weekly June 20, 2022

#### NIAS EUROPE LECTURE SERIES

#### HE Ms Ritva Koukku-Ronde

Ambassador of Finland to India European Security and Finland's Entry into NATO November 24, 2022



#### **NIAS AREA STUDIES – AFRICA**

#### Amb Gurjit Singh

Former Ambassador to Germany, Indonesia and ASEAN, Ethiopia and the African Union *The Harambee Factor: India-Africa Economic and Development Partnership - Book Discussion* Discussants: Ms Apoorva Sudhakar and Dr S Shaji January 30, 2023 (In Association with Indian Council of World Affairs)

#### NIAS LECTURE SERIES ON INDIAN NEIGHBORHOOD

#### Dr Anshuman Behera, Dr Sanjay Bhardwaj, Dr Shalini Chawla, Ms Abigail Miriam Fernandez

State of the Neighbourhood in 2023 – Nepal, Bangladesh, Pakistan and Afghanistan March 31, 2023

#### Mr Zou Zhengxin

Director Assistant at the Centre for South Asia-West China Cooperation and Development Studies, Sichuan University and PhD scholar in Political Science, University of Delhi *China's Reforms and Opening Up* January 23, 2023

#### Mr Tilak Devasher

Member, National Security Advisory Board (NSAB) The Pashtuns: A Contested History – Book Discussion December 5, 2022

#### Amb Sharat Sabharwal

Former High Commissioner to Pakistan India's Pakistan Conundrum: Managing a Complex Relationship November 17, 2022

#### MUSIC, BRAIN AND CREATIVITY INITIATIVE

#### **Dr Roger Beaty**

Pennsylvania State University, USA Mapping the Creative Mind: Memory Systems, Cognitive Control, and Brain Dynamics May 17, 2022

### ISSSP LECTURE SERIES ON INTERNATIONAL SECURITY

#### Lt Gen SL Narasimhan

Member, National Security Advisory Board, Government of India Traditional and Non-traditional Threats to India's National Security January 20, 2023

#### Mr Jayadeva Ranade

President, Centre for China Analysis and Strategy (CCAS), New Delhi *China and the Indian Neighborhood* August 24, 2022

#### NIAS URBAN LECTURE SERIES (ONLINE)

#### Dr Ranjana Raghunathan

Assistant Professor, Vidyashilp University, Bengaluru Urban Entanglements in the Global City of Singapore: Negotiating Intimacies and Religious Embodiments Amongst Diasporic Tamil Hindu Women March 28, 2023

#### Dr Anushyama Mukherjee

Assistant Professor of Sociology, St Xavier's College, Kolkata Social Remittances and Ideas of Homeland/s among the Hadramis of Barkas February 23, 2023

#### **Dr Thomas Herzmark**

Brunel University, London Decolonising Salvage Ethnography: Cultural Objectification and Self-Representation in Adivasi Arts Programming in Andhra Pradesh, India January 19, 2023

#### Ms Zainab Javid Patel

Former National Manager, Health and Human Rights, UNDP Country Office, India From Margins to the Mainstream: Realities of Transgender Persons in Contemporary India December 6, 2022

#### **Dr Satish Chennur**

Assistant Professor of Sociology, Centre for Studies in Social Sciences (CSSSC), Kolkata *The Real Estate State: Landed Capitalism in Amaravati, AP* November 14, 2022



#### Prof Sandya Hewamanne

University of Essex, UK Economic Justice in Crisis Time: Pandemic and Female Global Factory Workers October 18, 2022

#### Dr Kumud Ranjan

Visiting Scholar, Department of Sociology, University of Cambridge Homelessness in the World of Thought: WEB Du Bois, BR Ambedkar and Hannah Arendt October 10, 2022

#### Dr Prasad Khanolkar

Department of Humanities and Social Sciences, IIT Guwahati Passages of Play: People, Media, Objects and Spaces in Mumbai's Slum Localities September 27, 2022

#### Dr Lalatendu Keshari Das

Department of Humanities and Social Sciences, IIT Roorkee Sandwiched between the Sea and the City: The Koli Fishers of Mumbai and their Love-Hate Relationships with Plastic September 6, 2022

#### **Prof Catherine Allerton**

Department of Anthropology, London School of Economics and Political Science *Migration, 'Mixed' Belonging and Children's Noncitizenship in Sabah, Malaysia* August 23, 2022

#### Dr Asha L Abeyasekera

Urban Studies Foundation International Fellow, University of London Intimate Evictability: Urban Displacement, Familial Violence, and Women's Claim to Home in Urban Sri Lanka August 8, 2022

#### Dr Vidya Subramanian

Raghunathan Family Fellow, South Asia Institute, Harvard University Does the IPL (Indian Premier League) Have Anything to Do with Cities? July 12, 2022

#### Dr Parul Bhandari

Honorary Fellow, Institute of Social Sciences, New Delhi *Love, Compatibility, and a Suitable Spouse: Marriage in Middle-Class India* June 9, 2022



### WEDNESDAY DISCUSSION MEETINGS

NIAS Wednesday Discussion Meetings is one of the outreach events that has continued since the inception of the Institute. The faculty of the Institute meet every Wednesday for academic discussions after a lecture delivered by a member of the faculty. These Wednesday meetings also serve as a forum for invited guest speakers to deliver lectures on subjects of their choice.

#### Dr Nithin Nagaraj

Associate Professor, Consciousness Studies Programme, NIAS Borders of Consciousness March 29, 2023

#### Mr Posina Venkata Rayudu

Former Researcher, NIAS Mind-Matter Problem Solved! March 15, 2023

#### **Prof Sisir Roy**

Honorary Visiting Professor, NIAS Relevance of Consciousness to Quantum Theory and Possible Insight from Vedanta and Advaita Saivagam of Kashmir March 8, 2023

#### Mr Rajiv K Singh

Independent Researcher The Reality of Information in Nature and Mechanics of Its Processing in the Brain March 1, 2023

#### Dr Meghna Verma

Associate Professor, Ramaiah Institute of Management, Bengaluru Understanding Gender Perspective in Sustainable Urban Mobility February 22, 2023

#### **Prof Heribert Dieter**

Adjunct professor, NIAS The Global Economy in 2023: Back to Normal or New Turmoil? February 15, 2023

#### Prof SS Meenakshisundaram

Visiting Professor, School of Social Sciences, NIAS Do We Need Governors? February 8, 2023

#### **Prof Narendar Pani**

Dean, School of Social Sciences, NIAS *Einstein and the Method of the Social Sciences* February 1, 2023

#### Dr Kusala Rajendran

Honorary Professor, IISc-ISRO Centre of Excellence in Advanced Mechanics and Material **Dr CP Rajendran** Adjunct Professor, NIAS **Dr Shalini Dixit** Assistant Professor, School of Social Sciences, NIAS *Panel Discussion on The Mountains Strike Back at Joshimath: Explanations, Anticipations and Ways Forward* January 25, 2023

#### Dr Aleena Sebastian

Assistant Professor, Urban and Mobility Studies Programme, NIAS Are Women Essentially Peace Seekers? Understanding The Role of Women in Armed Resistance in India January 18, 2023

#### Prof D Suba Chandran

Dean, School of Conflict and Security Studies, NIAS 20 Conflicts to Watch in 2023: What, Where and Why January 11, 2023

#### Dr Shailesh Nayak

Director, NIAS Changing Monsoon and Its Implications on Water Cycle January 4, 2023

#### Dr Tejal Kanitkar

Associate Professor, Energy Environment Programme, NIAS Climate Change Mitigation in COP Decisions and Climate Policy Challenges for the Global South December 21, 2022

#### **Dr Heribert Dieter**

Adjunct Professor, National Institute of Advanced Studies Great Power Conflicts and Domestic Security: The Importance of Critical Supply Chains November 16, 2022

#### **Mr Aariz Ahmed**

Doctoral Scholar, Energy, Environment and Climate Change Programme, NIAS Integrated Approach to Interlinking of Rivers – A Case Study of the Almatti-Pennar ILR Project November 9, 2022

#### Mr Rajesh Parthasarathi

CEO, Talent Factori Private Limited Information Verification and Filtering for Education Sector Using AI and Blockchain November 2, 2022

#### Prof D Suba Chandran

Professor and Dean, School of Conflict and Security Studies, NIAS India's Ring of Fire: The Crisis States in South Asia October 12, 2022

#### **Prof PM Soundar Rajan**

Head, International Strategic and Security Studies Programme, NIAS Drone Warfare – From Reconnaissance to Kamikaze September 14, 2022



#### Mr Soumya Deep Das

Doctoral Scholar, Energy, Environment and Climate Change Programme, NIAS India's Power Sector Needs Structural and Regulatory Reforms to Ensure a Sustainable Turnaround September 7, 2022

#### Ms VP Lavanyaa

PhD Scholar, Energy, Environment and Climate Change Programme, NIAS Background and Baseline Levels of PM<sub>2.5</sub> and PM<sub>10</sub> Pollution in Major Cities of Peninsular India August 17, 2022

#### **Prof AV Krishnan**

Visiting Professor, Energy, Environment and Climate Change Programme, NIAS *Identification of Potential Sites for Nuclear Power Plants for a Sustainable Energy Mix* August 10, 2022

#### Dr Abhisekh Majhi

Inspire Faculty Fellow, Indian Statistical Institute, Kolkata Cauchy's Logico-Linguistic Slip, the Heisenberg Uncertainty Principle and the Unprovability of the First Maxwell's Equation in light of EPR's Completeness Condition July 20, 2022

#### **Dr VV Binoy**

Associate Professor, School of Natural Sciences and Engineering, NIAS The Way of the Warrior Understanding Martial Arts July 13, 2022

#### Dr Jeebanlata Salam

Assistant Professor, School of Social Sciences, NIAS Dropping Out from School –Prevention, Challenges and the Way Forward July 6, 2022

#### Ms Hamsa Kalyani

Library and Information Officer, NIAS The NIAS Repository: A Link from the Past to the Future, and How It Can Be Used June 8, 2022

#### Ms Shaima Amatullah

Doctoral Scholar, NIAS Situatedness of School Choices among Muslim Students in Bangalore June 1, 2022

#### Ms Hema S Karnam

PhD Scholar, NIAS System Integrity – A Cautionary Tale May 25, 2022

#### Dr Chetan Choithani

Assistant Professor, Inequality and Human Development Programme, NIAS In Search of 'Urban' May 18, 2022

#### Dr Tuleshwori Sapam

Postdoctoral Associate, NIAS Computer Aided Drug Design Approaches Against Frameshifting Elements of SARS-CoV2 May 11, 2022



#### **Prof Malavika Kapur** Visiting Professor, School of Social Sciences, NIAS *Three Days in Mongolia-sans Selfies!* May 4, 2022

#### Dr Prakash N Thirumali

Adjunct Professor, NIAS Beach Mining and Environment Management April 27, 2022

**Prof Deepti Navaratna** TV Raman Pai Chair Professor, NIAS *Art'iculating National Education Policy – Music as Cognitive Training in Primary Education* April 20, 2022

#### Dr Prakash Panneerselvam

Assistant Professor, ISSSP, NIAS Russian Invasion of Ukraine and "Inner Nature" of War April 13, 2022

#### Prof Dinesh Kumar Srivastava

Homi Bhabha Chair Professor, Energy, Environment, and Climate Change Programme, NIAS International Collaborations in Basic Research and Conflicts Between Nations April 6, 2022

Dr Anshuman Behera and Mr KS Rama Krishna are the Coordinators of the Wednesday Discussion Meetings.



# LITERARY, ARTS AND HERITAGE FORUM

The Literary, Arts and Heritage Forum aims to be an innovative platform for occasional lectures on diverse topics of cultural interest including literature, the arts and aspects of heritage. Major events and public lectures were held over the past year.

# Mr Rajachandra R Urs

Entrepreneur and Son-in-Law of Maharaja JC Wadiyar Launch of the Book 'Maverick Maharaja', the English Biography by Maharaja Jayachamarajendra Wadiyar, Authored by Dr Deepti Navaratna, TV Raman Pai Chair Professor, NIAS September 1, 2022

Prof Sharada Srinivasan and Prof Sangeetha Menon are the Coordinators of the NIAS Literary, Arts and Heritage Forum.



# LIBRARY



**Prashantha SC** Asst. Library and Information Officer

Room No. Library Tele: 080-22185022 Fax: 080-22185028 Email: prashantha@ nias.res.in

#### Resources

The NIAS library collection includes patron driven acquisitions and donations that support the research needs of scholars. The primary objective of collection development has been to acquire books for immediate needs for research and teaching, strengthen core areas of ongoing research with seminal works and fulfil the broader mission of interdisciplinary research. Acquisition during the year included 103 books and 181 donations. Print resources includes 21311 books (18547 books, 2181 donations, 583 Kannada books), 55 subscriptions and 2733 bound volumes. Electronic subscriptions include American Economic Association journals, Taylor and Francis Special Collection of 1500 journals, Sage Social Science Collection of Indian Journals, JSTOR, MIT Technology Review, Madras Courier, Harvard Business Review, The Economist, EPW India Times Series in 30 modules (27 + 3 new additional modules), indiastat.com. and a few individual journal titles. The library recorded 858 book transactions during the year.

#### **Publications and Website Activities**

The library continued to support publication activity by disseminating faculty and student publications on the website and institutional repository. The library has been responsible for maintaining and updating the NIAS website since 1998. The webpages were updated daily throughout the year.

# **Plagiarism Software**

The library continues to provide plagiarism detection services using *Turnitin*. Faculty and students have also been provided with *Turnitin* accounts.

#### **Institutional Repository**

The Institutional Repository of NIAS is running on Eprints software and has 2475 records. The repository content includes formal and informal publications, doctoral theses and institutional documents. Consent is obtained from graduated students for uploading full text of their theses into the repository. The role of the repository has been extended to preserve and curate digital scholarship in different formats such as archiving audio recordings of talks and performances, in addition to datasets shared by faculty and students.

Joined NIAS on: November 23, 2022



#### Archives

The library has been archiving publications, institutional documents (annual reports, brochures, newsletters, policy documents), newspaper clippings, photographs and audio recordings of lectures since inception. The library introduced a formal arrangement for using the materials from NIAS archives and repository with an archives request form.

#### **Interlibrary Loans and Memberships**

NIAS Library has interlibrary loan arrangements with libraries of Ashoka Trust for Research in Ecology and the Environment (ATREE), Srishti School of Art, Design and Technology, International Centre for Theoretical Sciences-TIFR, Raman Research Institute, Jawaharlal Nehru Centre for Advanced Scientific Research and National Centre for Biological Sciences. In addition, membership arrangements with libraries of Indian Institute of Science, Institute for Social and Economic Change, Indian Institute of Management Bengaluru, National Aerospace Laboratories, Indian Space Research Organization, Headquarters, Bengaluru also help NIAS community to make use of its library.

# Indian Research Information Network System (IRINS): A Library Initiative.

IRINS initiative for the National Institute of Advanced Studies is fully set up, and can be accessed via the link – <u>https://nias.irins.org/</u>



# PROFESSORS EMERITUS



#### Dr K Kasturirangan

Dr K Kasturirangan was the Director of the National Institute of Advanced Studies during 2004-2009. He is presently Chairman, Inter-University Centre for Astronomy and Astrophysics (IUCAA), Chancellor, Central University of Rajasthan, Chairman, Public Affairs Centre, Bengaluru, Chairman, Karnataka Knowledge Commission and Member, Atomic Energy Commission.



# **Prof VS Ramamurthy**

Prof VS Ramamurthy was the Director of the National Institute of Advanced Studies during 2009–2014. His current research interests span the areas of managing public perceptions for public good and public risks associated with emerging technologies, identification and mentoring of children with unusual learning capabilities and science and technology communication.





# SCHOOL OF CONFLICT AND SECURITY STUDIES

# International Strategic and Security Studies Programme



**S Chandrashekar** JRD Tata Chair Visiting Professor

Room No. F 08 Tele: 080-22185084 Fax: 080-22185028 Email: schandra@nias. res.in

#### Joined NIAS on: July 2, 2004

**Research Areas:** Space, Corporate Strategies, Strategic Studies, Missiles, Nuclear Weapons, War and Deterrence, Technology and Development, Technological Competitiveness, Game Theory and Applications, Social Networks and Applications, Innovation, Competitive Benchmarking, Crisis Management in Complex Systems.

#### **Research Contributions**

The book titled 'China's Space Programme : From the Era of Mao Zedong to Xi Jinping' that had been published under the NIAS Springer Agreement has achieved over 5100 accesses from various institutions in India and abroad. Apart from the hard copy it is also available as an e-book. A soft cover version of the book was released in May 2023.

#### Lecture

 Space Capabilities and China's Military Strategy, Institute of Chinese Studies, New Delhi, January 18, 2023.

#### **Other Activities**

Presented a talk at the book release function for the book 'China's Space Programme – From the Era of Mao Zedong to Xi Jinping', at the Chennai Centre for China Studies (C3S) on September 24, 2022.

Participated as an invited member in a closed-door discussion on 'Direct Ascent ASAT Moratorium, Space Situational Awareness, and the Artemis Accords', organized by the Takshashila Institution, January 11, 2023.

Took part in an invited Group Discussion on 'Securing Indian Interests in Outer Space', organized by the Takshashila Institution, November 15, 2022.

#### **Memberships**

- > Member, Board of Trustees, RBANMS Group of Educational Institutions.
- > Member, Board of Governors, MVJ College of Engineering.
- Member, of the Academic Council of the Chennai Centre for China Studies (C3S).



# SCHOOL OF HUMANITIES



**Shailaja D Sharma** S Radhakrishnan Chair Visiting Professor

Room No. F 27 Tele: 080-22185079 Fax: 080-22185028 Email: shailaja@nias. res.in Joined NIAS on: July 1, 2020

Research Areas: History and Philosophy of Mathematics.

#### **Research Contributions**

Conducting a research study on 'Kolam' for the AICTE- funded project 'Indian Knowledge Systems in Mathematics, Computation and Information Science'. Research papers are under preparation for the construction/ simulation of kolam designs and research into applications is ongoing.

A book on Indian contributions to computational thinking is under preparation.

Research paper on the subject of Indian Games of Chance is under preparation. The goal of the study is to identify the probabilistic rationale for the choice of dice in the Indian game of Chausar.

# SCHOOL OF NATURAL SCIENCES AND ENGINEERING



**Vinay Kumar Dadhwal** Indira Gandhi Chair Professor

Tele: 080-22185177 Fax: 080-22185028 Email: vkdadhwal@ nias.res.in Joined NIAS on: March 16, 2020

**Research Areas**: Terrestrial Carbon Cycle of India; Earth Observation Data – Analysis, Techniques and Applications; Agriculture – Crop yield assessment and Crop insurance; Land Science – Land Use, Land Transformations and Land Surface Processes; Space Economy of India.

# **Research Contributions**

The research group works on cross-cutting issues in environment and earth system science with inputs from satellite remote sensing and geospatial technologies. Major research contributions are summarized under five themes below:

- a) Mapping and Monitoring Land Cover and Land Use Change with Remote Sensing at Annual to Decadal Scales.
- b) Assessment, Quantification and Modelling of the Terrestrial Carbon Cycle of India Using EO and Field Data and Geospatial and Process Models.
- c) Measurements of CO<sub>2</sub> and CO<sub>2</sub> Fluxes and Inferences on CO<sub>2</sub> Balance.
- d) Agricultural Monitoring, Crop Mapping and Yield Forecasting and Models for Gross Primary Productivity (GPP).
- e) Other Environmental and Remote Sensing Studies.

#### Lectures

- Space Current Perspectives, Briefing of Military Officers, NIAS, December 16, 2022.
- An Integrated Science Approach for Carbon Cycle Assessment, Modelling and Management, NIAS-DST Training Programme on Science and Technology: Global Developments and Perspectives, November 25, 2022.
- Structural Barriers in S&T and North-South Divide, NIAS-DST Training Programme on Science and Technology: Global Developments and Perspectives, November 22, 2022.
- Earth Observation from Space, National Conference on Akash Tattva, Uttaranchal University Campus, Dehradun, November 6, 2022.
- Earth Observations and Geospatial Applications in Agriculture and Forestry. NIAS-DST Training Programme on Science, Technology and Innovation Policy', September 22, 2022.
- Information Extraction from Hyperspectral Data Generic Principals, Course on Hyperspectral Data Analysis, NIAS, September 15, 2022.
- Earth Observation from Space: Introduction to Remote Sensing, Course on Hyperspectral Data Analysis, NIAS, September 12, 2022.
- Journey in Space Applications, Senior Leadership Executive Development Programme, NAARM, ICAR, Hyderabad, July 4, 2022.
- Understanding the Role of Earth Observations and Geomatics in Disaster Management, Training Workshop, Punjab Remote Sensing Centre, Ludhiana, July 26, 2022.
- Big Earth Data Analytics: Challenges and Indian Carbon Cycle, International Conference (Virtual) 2022 on Geospatial Pathways and Big Data Analytics in Natural Resource Applications and Climate Change. Department of Geo-informatics, Central University Jharkhand, Ranchi, Plenary Talk, June 17, 2022.
- Remote Sensing Technology in Agriculture: Evolution, Challenges and Future, SATSURE, Bengaluru, April 7, 2022.

#### Honours

Honorary Fellowship, Association of Agrometeorologists (Anand), conferred during Annual Convention, TNAU, Coimbatore.

#### **Memberships**

- Chair, Expert group on Use of Technology for PMFBY, Min of Agriculture and Farmer Welfare. Government of India, New Delhi.
- Chair, Expert Committee on National Geospatial Program, Department of Science and Technology (DST), Government of India, New Delhi.



- > Chair, 3<sup>rd</sup> Meeting of PMMC of National Centre of Geodesy, IIT Kanpur (in absence of Prof V Dimri, Chairman).
- > Member of Jury, Geospatial Awards, Association of Geospatial Industry Awards, 2022.
- > Member, International Expert Council, Russia Programme on Carbon Control Technologies, Russia.
- Member, DST Expert Committee on GRACE Networking Program, (June 8, 2022 Online).
- Member, National Organizing Committee for UN World Geospatial Information Congress, DST (June 15, 2022 Online).
- > Member, Expert Evaluation Group, Technology Development Board, ISC.
- > Member, Governing Board, IITM, Ministry of Earth Sciences (MoES), Pune.
- > Member, Research Advisory Committee of IITM, MoES, Pune.
- > Chair, Expert Committee on METFLUX Programme of IITM, Pune.
- Member, International Editorial Advisory Board, Journal of the Indian Society of Remote Sensing, ISRS, Dehradun.

#### **Outreach**

A total of 10 trainee interns (1-4 months) from three universities in MTech/ MSc level were provided research internship-cum training in the use of RS and GIS in land transformation and carbon cycle studies.



**PG Diwakar** ISRO Chair Professor

Room No. F 21 Tele: 080-22185069 Fax: 080-22185028 Email: diwakar@nias. res.in

#### Joined NIAS on: November 4, 2020

**Research Areas:** Digital Image Processing and Geospatial Technology Related Subjects, Geospatial Policy Related Aspects; Time Series Analysis Using Multi-Temporal Satellite Data; Use of IOT, Drone Technologies; Environmental Management, Land Use/Cover, Air and Water Pollution; Urban Sprawl.

# **Research Contributions**

Co-author of the paper 'A Robust Deep Learning Architecture for Change Detection from Bi-Temporal High Resolution Remote Sensing Images', in IEEE Transactions on Emerging Topics in Computational Intelligence.

Integration of Space, ICT and Geospatial Applications, a SPACE+ initiative for our Earth and Future, the research consultancy for UN-ESCAP, Bangkok, was successfully completed. The focus of the project was to use technology to achieve SDGs for the Asia-Pacific Region under the UN stipulated timeframe. A detailed technical document was submitted to UN for implementation.

Designing mechanisms to measure the Status of SDGs Implementation in the Asia and Pacific Region, a research consultancy with UN-ESCAP, Bangkok, was successfully



done. A comprehensive data collection structure, that included specific SDG related parameters from member countries was designed and delivered.

A research project on Dynamics and Time Series Analysis of Nonavinakere Irrigation Tank and Surroundings in Tumkur District, Karnataka, for IIM-Bangalore was completed. A detailed final report was submitted and project findings were presented in a national seminar.

A project on 'Environmental monitoring and modelling for future predictions using space and ground data for Bengaluru' was initiated in collaboration with Greater Bengaluru Parisara Foundation. A 50-year time-series satellite data was processed and analyzed with regard to environmental parameters. Further modelling related works in progress.

A research consultancy from UN-ESCAP to equip the Asia-Pacific countries to process satellite data for Disaster Risk Management as part of Pre-disaster preparedness management strategy was initiated.

#### Lectures

- Keynote Address, National Seminar on Resilient Riverine Ecosystem: Indigenous Knowledge and Modern Approaches, Chanakya University and Sri Ravishankar Ashram, Bengaluru, December 2022.
- The Use of Geospatial Technologies to Improve Agricultural Produce and Towards Sustainable Development, TEDx Talk on the Theme Unfold the Manifold, NMIMS Business School, Bengaluru, December 2022.
- Earth Observation and Societal Application, NIAS-DST Training Programme on Science and Technology: Global Developments and Perspectives, November 24, 2022.
- Keynote Address, The Importance of Science and Technology for Our Future, Science Mela, Alvas Institution, Mangalore, November 2022.
- Series of Talks on The Use of Space Tech for Effective Solar Energy Generation and Providing Services in Rural India, UN ESCAP Workshop, November 2022.
- Keynote Address on Space Technology for Planetary Health Monitoring, National Level Workshop on Various Topics Related to Health, SRM University, November 2022.
- Satellite Data Fusion Tools and Techniques Sensors, Fusion and Tracking Airborne Applications, Bharat Electronics Limited, Bengaluru, October 2022.
- Series of Lead Talks on Bhuvan Geoportal, Propagation of S&T Programme, Alvas Institute of Engineering and Technology, Mudabidri, Mangalore, October 2022.
- Series of Talks, Training on Digital Image Processing, Dayanand Sagar University, Bengaluru, September 2022.
- Two talks on Hyperspectral Sensors and Time Series and Data Processing Elements, Training Programme on Hyperspectral Analysis for Defence Services, NIAS, September 2022
- > Special address on future of Space technology in India and the world, IIT-Mumbai.

#### Memberships

- Member, Editorial Board, Environmental Monitoring and Assessment, Springer Nature, USA.
- > Associate Editor, Journal of the Indian Society of Remote Sensing (JISRS), Springer, India.

#### **Other Activities**

- Leadership role in the review of Indo-German Science and Technology Center, Department of Science and Technology, Government of India.
- Integration of Sahapedia activities on Humanities into NIAS with a view to implement Digital Humanities as a new vertical.



- Advisor for two startups in the space sector in Bengaluru, Cultyvate and Chiplogic.
- Was invited by IIT-Mumbai to participate in "Technology Vision 2023" exercise that was taken up at IIT-Mumbai, and technical workshop was held. I was invited to this workshop to give special address on the future of Space technology in India and the world. Specific inputs were provided in this forum for compilation of final recommendations and submission to TIFAC.
- Lead role in organising 2-day session on Technology Vision 2023, Department of Aerospace, Indian Institute of Science (IISc), Bengaluru.

#### **Energy and Environment Programme**



AV Krishnan Raja Ramanna Chair Professor School of Natural Sciences and Engineering

Room No. S 32 Tele: 080-22185166 Fax: 080-22185028 Email: avkrishnan@ nias.res.in

#### Joined NIAS on: May 15, 2019

**Research Areas:** Nuclear Power Plants, Urban Water-Energy Nexus; Thermal Power Plants.

#### **Research Contributions**

Worked on the BRNS supported project "Identification of potential sites for Nuclear Power Plants for a Sustainable Energy Mix".

Worked on the project "Urban Water-Energy Nexus" that was a case study of select TPPs in Water-Stressed regions in India. The work done has been published as a Research Report NIAS/NSE/EECP/U/RR/01/2023 and submitted to MoES.

#### Academic Courses

- Seven lectures on Advanced Energy Systems and Futuristic Solutions for NIAS doctoral students, January 2023.
- Six lectures on Major Conventional and Non-conventional Pathways to Harness Energy for NIAS doctoral students, August 2022.

#### Lecture

Presentation to BRNS Committee as part of Workshop held in collaboration with DAE in November 2022.

#### Membership

Member, Project Monitoring and Review Committee for Mission Project on Development of Advanced Ultra-Super Critical Power Plant, Office of the PSA, GoI



**Gufran Beig** Ashutosh Mukherjee Chair Professor

Room: S 07 Tele: 080-22185076 Fax: 090-22185028 Email: beig@nias. res.in

#### Joined NIAS on: October 18, 2021

**Research Areas:** Air Quality Management, Policy and Public Outreach; Air pollutants and Human Health; Greenhouse Gases, SLCPs, ODSs; Kigali Amendment and Ozone Hole; Climate Change and Upper Atmosphere.

# **Research Contributions**

Current R&D Focus: Development of National Air Quality Resource Framework; Formation of Science and Policy Consortium of Greenhouse Gases and Ozone-depleting Substances for India. The goal is to work towards building an integrated framework in air quality for a sustainable future by bring together researchers, practitioners, and experts from diverse sectors and disciplines – air quality monitoring, health, and social inclusion, livelihoods, knowledge management and communication, as well as those dealing with open burning, transport sectors, etc. Another objective is to establish a Centre of Excellence for the "Science and Policy Consortium on Greenhouse Gases' (GHGs) and 'Ozone Depleting Substances (ODSs) in India (SPOGO)" by involving lead Indian scientific organisations and researchers who have immensely contributed in India's efforts towards climate change issues. The consortium will deal with all aspects of GHGs and ODSs where the country's needs, capabilities, desires, and societal concerns are well understood and analyzed in this era of climate change

#### Awards

- Shanti Swarup Bhatnagar Award, conferred by Council of Scientific and Industrial Research, Government of India.
- Norbert Gerbier-Mumm Intern Award, by World Meteorological Organization, United Nations.
- Lifetime Achievement Award, Conferred by the India International Air Quality Management Research Consortium.
- Golden and Silver Jubilee Awards, by IITM, Ministry of Earth Sciences, Government of India
- > Certificate of Merit, by Ministry of Earth Sciences, Government of India
- > Maharana Udai Singh Award, by Maharana Mewar Foundation, Rajasthan
- > Young Scientist Award, by MAAS-Association for Advancement in Science, India
- Certificates of Innovation, by Global Atmospheric Watch, World Meteorological Organization, United Nations.
- > Academy Fellow (IAS), conferred by Indian Academy of Sciences, India
- Honorary Professor, conferred by Amity University, India.



#### Lectures

- Air Quality Science and Management: Heal the Void, 7<sup>th</sup> Indian International Conference on Air Quality Management (IICAQM 2022, IIT-Madras, Chennai, December 1, 2022.
- Participated in Strategic Roundtable on the formation of a science and policy consortium for greenhouse gases and ozone-depleting substances in India, September, 2022.
- Galvanising Bengal's Action on Air Pollution, Air Quality Leadership Workshop for West Bengal Media, Press Club, Kolkata, July 13, 2022.
- Panel Discussion on Data Dissemination of Emission Inventory and Source Apportionment, Bengaluru, Karnataka State Pollution Control Board, Bengaluru Mahanagara Palike and C-STEP, Bengaluru, May 2022.
- Integrated Emission Inventory and Air Quality Information System, NIAS-EMPRI Capacity Enhancement Workshop, May 2022.

#### **Memberships/Recognitions**

- Member, Scientific Steering Group of SPARC (Stratospheric Processes And their Role in Climate), World Climate Research Programme, United Nations.
- Member, Programme Advisory Committee on Earth and Atmospheric Sciences (PAC-E&AS Programme), SERB-DST, Government of India.
- Member, Scientific Advisory Committee of ICMR-NIREH (Indian Council of Medical Research -National Institute of Research in Environmental Health, Bhopal).
- Member, Scientific Advisory Committee of ICMR-NIOH (Indian Council of Medical Research -National Institute of Occupational Health, Ahmedabad).
- > Editor, International Journal on Aerosol and Air Quality Research, Taiwan.
- Editor, International Journal on Journal of Atmospheric and Solar Terrestrial Physics, Elsevier, United Kingdom.
- > Editor, Indian Journal of Radio and Space Physics, CSIR, India.
- Associate Editor, Journal of Geophysical Research (Space Science), American Geophysical Union, Washington, DC.\_

# **Other Activities**

- Organized Strategic Roundtable on the Formation of Science and Policy Consortium for Greenhouse Gases and Ozone-Depleting Substances in India, organized by NIAS in collaboration with World Meteorological Organization and SERB-DST, Government of India, December 6 and 7, 2022.
- Organized Brainstorming Workshop on National Air Quality Resource Framework (NARFI) at India International Centre, New Delhi, organized by NIAS in association with the Office of PSA, Government of India, June 22, 2022.



#### **DK Srivastava**

Homi Bhabha Chair Professor *(till August 4, 2022)* Honorary Visiting Professor

Room No. F 23 Tele: 080-22185133 Fax: 080-22185028 Email: dinesh. srivastava@nias.res.in

# Joined NIAS on: August 5, 2019

Research Areas: Electromagnetic and Heavy Flavor Probes of Quark-Gluon Plasma.

# **Research Contributions**

Worked on two publications. One is a volume on the role of international collaboration in the spread and production of knowledge through the ages. Co-authored by Prof VS Ramamurthy, Dr Shailesh Nayak and Prof D Suba Chandran, this volume includes chapters on traditions of knowledge sharing, migration of birds, tea and coffee, paper, green revolution, nuclear energy (IAEA), climate change (IPCC), nuclear fusion (ITER), international space station, CERN, FAIR, etc. The other is an article on 'How Long is the Long Path for Developed India: Science, Technology, and Development – What Can India Do to Become a S&T Superpower (With Prof VS Ramamurthy).

#### Lectures

- Climate Change and Energy Options for a Sustainable Future, Course on Science, Technology, and Innovation Policy, Centre for Nano Science and Engineering, Indian Institute of Science, Bengaluru, June 2022.
- Lead us into Light: Electromagnetic Probes of Quark-Gluon Plasma, International Conference on Micro-cosmos, Macro-cosmos, Accelerators and Philosophy, Tagore Centre for Science and Philosophy, Kolkata, May 2022.

#### Memberships

- Member, Raja Ramanna Fellowship Programme Review Committee, DAE, Mumbai.
- > Editorial Board Member, Scientific Reports, Nature Group of Publications, UK.
- President, Indian Physical Society.
- Member Research Advisory Committee, Indian Institute of Technology, Ropar.
- Member (VC's Nominee), Faculty Council Department of Physics, University of Delhi.
- Member, National Advisory Committee, 66<sup>th</sup> DAE Symposium on Nuclear Physics, Bhabha Atomic Research Centre, Mumbai.
- Member, National Advisory Committee, 67<sup>th</sup> DAE Symposium on Nuclear Physics, Bhabha Atomic Research Centre, Mumbai.
- Member, Council of Indian Science News Association, Kolkata.
- Editorial Board Member, Physics, MDPI Journals.
- Member, International Advisory Committee, International Conference on Physics and Astrophysics of Quark Gluon Plasma, Puri, February 2023.
- Member, Organizing Committee, Workshop on Hardon Physics 2022, Dr BR Ambedkar NIT, Jalandhar, January 2023.
- Member, International Advisory Committee, 4<sup>th</sup> Heavy Flavour Meet, IIT Goa, November 2023.



# SCHOOL OF HUMANITIES



**Deepti Navarathna** TV Raman Pai Chair Professor

Room No. S 06 Tele: 080-22185073 Fax: 080-22185028 Email: deepti. navaratna@nias.res.in **Research Areas:** Cognitive and Educational Neuroscience, Arts in Education, Music Cognition, Neuroscience of Creativity, Cognitive Hermeneutics, Neuroanthropology, Cultural Studies.

#### **Research Contributions**

Music, Brain and Creativity Initiative @NIAS: The Music, Brain and Creativity Initiative is engaged in interdisciplinary research at the intersection of music, culture, neuroscience, neurotheology, cognition and creativity. The programme's research is geared towards applications of music in learning, education, health and cultural diplomacy, such as arts-based strategies in education.

En'chant Study: Cognitive Neuroscience of Chants: In this research study, the cognitive impact of chanting is studied using psychometric testing, EEG imaging and behavioural studies. The findings of this study will thus further the case for using music as a cognitive enabler in early childhood development goals and curricular performance.

#### Award

- Chevening-Clore Fellowship for Extraordinary Scholarship in Culture and Arts by the UK Government for 2022-2023.
- Invited to be part of two Leadership Conclaves @ Clore Leadership Institute, London in February 2023.

#### Academic Courses

- Module on Research Canons in Cultural Heritage, Programme Core Course on Heritage Science and Society for NIAS doctoral students, August to December 2022.
- Basics of Cognitive Neuroscience, Elective course for NIAS doctoral students, August-December 2022.
- Cultural Diplomacy: India's Soft Power Strategies, Elective course for NIAS doctoral students, January to May 2023.

- Science and Society, Delegate, Science 20-G20 Inception Meeting, Pondicherry, January 30, 2023.
- Neuroaesthetics of the Raaga, National Conference on Music and Dance, Performing Arts Department, Jain University, Bengaluru, January 28, 2023.



- > Maharaja and the Mysore Muse, Mysuru Literary Festival, January 22, 2023.
- > Portrait of a Life; Writing on People, Bangalore Literature Festival, December 4, 2022.
- Music as Culture, Researching and Teaching History, Higher Education Academy, Dharwad, November 28, 2022.
- Music, Brain and Technology, NIAS-DST Training Programme on Science and Technology: Global Developments and Perspectives, November 24, 2022.
- Decoding Brain Song: New Directions in Creativity Research', NIAS-DST Training Programme for Women Scientists, October19, 2022.

#### Membership

> Member, International Society for Music in Education.



# FACULTY MEMBERS

# Conflict Resolution and Peace Research Programme



**D Suba Chandran** Professor and Dean School of Conflict and Security Studies

Room No. S 03 Tele: 080-22185142 Fax: 080-22185028 Email: subachandran@ nias.res.in Joined NIAS on: November 18, 2015

#### **Research Areas**

Pakistan, Contemporary Conflicts, Peace and Conflict Forecasts, India and the Neighbourhood, Maritime and Science Diplomacy.

# **Academic Courses**

- NIAS Online Course on Contemporary Pakistan, for post-graduate and PhD students from various institutions in India.
- NIAS Online Course on Global Politics, for post-graduate and PhD students from various institutions in India.
- Theoretical Constructs of Understanding Conflict and Peace (with Dr Anshuman Behera) for NIAS doctoral students, August to December, 2022.

- Ten Issues to Watch in Pakistan During 2023, Indian Council of World Affairs, New Delhi, March 27, 2023.
- Reconnect, Synchronize, Grow: Quest for Enhanced Connectivity, International Conference on Shanghai Cooperation Organization, organized by Indian Council of World Affairs, New Delhi, March 24 and 25, 2023.
- Why G20 Should Pursue Polar Regions as An Integrated Whole, NIAS-IMU Policy Brief Discussion for G20, organized by Indian Maritime University, Chennai, March 17, 2023.
- India, Russia and the Arctic, India-Russia Track-II Dialogue, organized by Indian Council of World Affairs, New Delhi, February 2, 2023.
- India in an Unstable Neighbourhood: The Question of Regional Leadership, 35<sup>th</sup> NIAS Programme for Senior Executives, January 20, 2023.
- Contemporary Pakistan, Central Reserve Police Force, Online Lecture, December 13, 2022.
- Nature of Global Politics and World Order: Technology and a New Era, Keynote Address, organized by St Joseph's University, October 28, 2022.



- Global Peace and Sustainability, NIAS-DST Programme for Women Scientists and Technologists on Science and Sustainability in India, October 20, 2022.
- US, China, Russia and the Global Politics: How Sustainable is the Present World Order?, NIAS-DST Programme for Women Scientists and Technologists on Science and Sustainability in India, October 19, 2022.
- Afghanistan: The Way Forward, International Conference on Afghanistan, Kathmandu, organized by COSATT, October 1, 2022.
- Contemporary Issues in International Relations: With a Special Reference to Technology, NIAS-DST Programme on Science, Technology and Innovation Policy for Scientist-Administrators and Technologists, September 29, 2022.
- Shrinking Civic Space and Democracy in South Asia: Civil Society Perspectives, International Conference, Colombo, organized by GPPAC, September 21, 2022.
- Think Tanks as Vehicle of Social Programme, Panel Discussion, International Conference, Colombo, organized by the University of Carolina, September 19 and 20, 2022.
- Idea of Pakistan, Lecture to Senior Military Officers, organized by Center for Air College, Hyderabad, July 17, 2022.



Anshuman Behera Associate Professor School of Conflict and Security Studies

Room No. F 34 Tele: 080-22185137 Fax: 080-22185028 Email: anshumanbehera@ nias.res.in Joined NIAS on: January 31, 2014

**Research Areas:** Socioeconomic Impact Assessment of Development Projects; Democracy, Decentralization, and Governance; Development, Resource Distribution, and Conflict; Left-Wing Extremism (Maoist Conflict) in India.

#### **Academic Courses**

- Theoretical Constructs of Understanding Conflict and Peace (with Prof D Suba Chandran) for NIAS doctoral students, August to December, 2022.
- Qualitative Research Methodology (with Dr Aleena Sebastian) for NIAS doctoral students, August to December 2022.

- Gandhi in the Twenty-first Century: Ideas and Relevance, Forum for Philosophy, IIT- Mumbai, October 2, 2022.
- Genesis of LWE-Red Corridor Simmering or Shivering, Naval War College, Goa, September 22, 2022.
- India's Internal Security Concerns, National Seminar, Sikkim University, September 28, 2022.
- Social Impact Assessment of Large Infrastructure Projects, NIAS-DST Training Programme on Science, Technology and Innovation Policy, NIAS, Bengaluru, September 21, 2022.



Maoist Conflict, IDPs and Health Vulnerabilities: Cases of Dambas and Gotte Koyas, International Conference on Violence, Conflict and Healthcare in South Asia, jointly organized by Manchester University, Bikas Srota Kendra and OP Jindal University, Kathmandu, September 7 and 8, 2022.



Amit Mukherjee Assistant Professor School of Conflict and Security Studies

Room No. F 35 Tele: 080-22185161 Fax: 080-22185028 Email: amukherjee@ nias.res.in

#### Joined NIAS on: October 3, 2017

**Research Areas:** GIS for Defence Studies and National Security, Geo-computation for Strategic Studies, Weapons Systems Research, Satellite Imagery Analysis for Strategic Security, Geospatial and Remote Sensing Methods for Maritime Studies.

#### **Academic Courses**

- Modules on Theory of War, Modern Warfare, Terrorism and Unconventional War, Generations of Warfare and Future of Warfare, Non-Traditional Security Threats, Modelling in Strategic and Security Studies for NIAS doctoral students, August to December 2022.
- GIS for Strategic Studies: An Introduction, for NIAS doctoral students, January to April 2023
- GIS for Maritime and Security Studies: An Introduction, for NIAS doctoral students, January to April 2023.

#### Lectures

- Tools and Methods for Hyperspectral Imagery Analysis, Training Programme on Hyperspectral Ana3lysis for Defence Services, NIAS, September 14, 2022.
- Terrain Analysis in Multi Domain Operations Modelling with Petrinets, Geointelligence Conference, New Delhi, June 21, 2022.

#### Memberships

- Member, Board of Advisors, Barometer Conflict Report Heidelberg Institute of International Conflict and Security Studies, Heidelberg, Germany, 2018 onwards.
- > NIAS-Institutional Member in OGC Geospatial Consortium India 2018 onwards.
- Member, Indian National Cartographers Association 2018 onwards.
- Member, Editorial Review Board: Electronic Journal of Social and Strategic Studies – Chennai, 2019 onwards.



# International Strategic and Security Studies Programme



Rajaram Nagappa Honorary Visiting Professor School of Conflict and Security Studies

Room No. F 07 Tele: 080-22185087 Fax: 080-22185028 Email: r.nagappa@ nias.res.in Joined NIAS on: February 1, 2007

Research Areas: Weapon Systems and Advances in Weapon Systems.

#### Lectures

- HRP in Space R&D and Operations, NIAS-Texas University Human Reliability Programme, March 2, 2023.
- Space Weapons and Counterspace, Programme on Space Today: Threats, Opportunities and Challenges, NIAS, February 9, 2023.
- Global Developments in the Domain of Space, Third Annual Disarmament and International Security Affairs Fellowship Programme, Sushma Swaraj Institute of Foreign Service, New Delhi, January 19, 2023.
- 'Underwater Domain Awareness', Book discussion, Indian Maritime University and Madras University, July 20, 2022.

# Membership

Expert Member, Doctoral Committee, Department of Technology Management, Defence Institute of Advanced Technology, Pune.

# **Other Activities**

Chaired a review team for selection of optical telescope for Nitte Minakshi College of Engineering Asteria Astronomy Club.





**PM Soundar Rajan** Visiting Professor School of Conflict and Security Studies

Room No. F 27 Tele: 080-22185080 Fax: 080-22185028 Email: pmsdare@nias. res.in

#### Joined NIAS on: May 17, 2017

**Research Areas:** Advanced Weapon Systems; Fifth Generation Avionics Systems; Cyber Security; Defence Applications of AI; Air Power Assessment; Chinese Defence Technology Assessment; Lethal Autonomous Weapon Systems; Science Diplomacy; Hypersonic Weapon System Avionics and Vetronics Systems for Battle Tanks.

#### Lecture

Technology Cooperation for a Sustainable Blue Economy, Peninsula India, Chennai, January 10 and 11, 2023.

# **Other Activities**

- Track-II Interaction 'Autonomous Systems and Artificial Intelligence' with the USbased Center for International Security and Arms Control (CISAC), July 21, 2022.
- Chaired a Session on IAF Aircraft Modernisation Programme, July 18 and 19, 2022.



N Ramani Visiting Professor School of Conflict and Security Studies Joined NIAS on: November 1, 2007

**Research Areas:** Development of Tools for Missile and Space Asset Capability Assessment.

Room No. F 04 Tele: 080-22185093 Fax: 080-22185028 Email: narayan. ramani@nias.res.in



#### **M Mayilvaganan** Associate Professor School of Conflict and Security Studies

Room No. S 12 Tele: 080-22185133 Fax: 080-22185028 Email: mayil@nias. res.in

# Joined NIAS on: November 2, 2010

**Research Areas:** India's Neighbourhood, Indo-Pacific, India's Foreign Policy, Borderlands, and Non-Traditional Security Issues such as Migration, Refugees and Climate Change.

# Academic Course

Modules in Course on Geopolitics, Warfare and the International Relations in the 21<sup>st</sup> Century for NIAS doctoral students, August to December 2022.

#### Lectures

- Conflict, Peace and Societal Security, Plenary Talk, 46<sup>th</sup> Indian Social Science Congress, organized by Indian Social Science Academy and Bharathidasan University, Bharathidasan University, Tiruchirappalli, January 27, 2023.
- Life in the Eastern Himalayan Border(land) in the Age of Globalization: The Case of Tawang, Seminar on Borders and Boundaries, ICSSR-NERC, Shillong, December 1 and 2, 2022.
- India and Indian Ocean Region in the Current Global Scenario, Seminar on India and Indian Ocean Heritage, organized by Centre for Indian Ocean Studies, Tamil University, Thanjavur, India, October 14, 2022.
- Sri Lanka and India-Sri Lanka Relations, Periyar Maniammair University, Thanjavur, October 13, 2022.
- Discussant, ICWA Sapru House Paper on Security Dynamics in India-Sri Lanka Relations: Post-2009 (Online), October 11, 2022.
- Understanding India's Foreign Policy Decision Making, The Central Law College, Salem, September 28, 2022.
- Demigods to Demons: Understanding the Downfall of Rajapakas and the Collapse of Economy in Sri Lanka, International Conference on Socio-economic and Political Dynamics in South Asia, Department of Humanities and Social Science at Saveetha University, Chennai, September 12, 2022.
- Changing Security Dynamics in Southeast Asia and Its Implications, International Conference to Commemorate Thirty Years of India-ASEAN Relations, Geopolitical Shifts and Opportunities: New Horizons in India-Southeast Asia Relations, organized by AIC-RIS and ICWA, July 21, 2022, New Delhi.

# Memberships

- Member, Advisory Committee, Kumaraguru College of Liberal Arts and Science, Coimbatore, 2019 onwards.
- Member, Editorial Board, Journal of Contemporary Politics, Bengaluru, 2022 onwards.



- Member, Association for Asian Studies, Ann Arbor, Michigan, USA, February 2019 onwards.
- > Member, Australia-India Interdisciplinary Research Network, Australia, 2012 onwards.
- Member, Southeast Asia Research Group (SEARG), New Delhi, 2016 onwards.
- > Member and Convener, South Indian Scholars Group of International Studies, 2019 onwards.



#### Prakash Panneerselvam Assistant Professor School of Conflict and Security Studies

Room No. F 34 Tele: 080-22185138 Fax: 080-22185028 Email: prakash.p@ nias.res.in Joined NIAS on: December 1, 2015

**Research Areas:** International Politics (Japanese Studies), Maritime Security, Defence and Strategic Studies.

# Academic Courses

- Modules in Course on Geopolitics, Warfare and the International Relations in the 21<sup>st</sup> Century for NIAS doctoral students, August to December 2022
- Introduction to Maritime Security: Concepts, Principles and Practices, for NIAS doctoral students, January to April 2023.
- Concepts of Maritime Security and the Role of the Nation-State in Combating Security Challenges in the Maritime Domain for NIAS doctoral students, January to April 2023.

- Intangible Elements of National Security, National Policy Colloquium on India's National Security and the Legal Paradigm, CMR University and Institute of Contemporary Studies, Bengaluru, March 24, 2023.
- India-Japan Relations and Maritime Governance in the Indo-Pacific, Vistas for India-Japan Relationship and Cooperation, organized by Centre for Public Policy Research in Collaboration with Consulate-General of Japan in Chennai, Kochi, Kerala, March 17, 2023.
- Panel Discussion on Union Budget 2023-24: Post Budget Analysis, Alva's Institute of Management, Mangalore, February 25, 2023.
- Tamil Diaspora in Japan: A Small Community with Bigger Ambition, International Interdisciplinary Series of Conferences on The Global Indian Diasporas, Central University of Gujarat, Gandhinagar, February 23, 2023.
- Maritime Security Aspect of Seabed Mining, International Conference on Seabed Mining, Gujarat National Law University, February 14, 2023.
- Lethal Autonomous Weapon System, Dayananda Sagar University, Bengaluru, January 24, 2023.
- Emerging Trends in International Relations Research, Faculty Development Programme, Christ University, Bengaluru, December 7, 2022.



- Book Discussion on Underwater Domain Awareness: Case for India, University of Madras, Chennai, November 8, 2022.
- Book Discussion on Underwater Domain Awareness: Case for India, Indian Maritime University, Chennai, November 7, 2022.
- Changing Paradigm of India Japan Maritime Security Cooperation in the 21<sup>st</sup> Century, International Conference on India-Japan Relations at 70, JNU in Collaboration with Japan Foundation, September 22, 2022.
- ➢ Geo-Spatial Surveillance in Maritime and Coastal Security Management, Webinar on India's Maritime Security, organized by Mangalore University and ICSB, June 7 and 8, 2022.



Anjani Devi ICSSR Post-Doctoral Fellow School of Conflict and Security Studies

Room No. A 04 Tele: 080-22185054 Fax: 080-22185028 Email: anjanidevi@ nias.res.in Joined NIAS on: December 21, 2022

**Research Areas:** Sri Lanka's Political Instability: Role of China and Implications for India.



# Consciousness Studies Programme



Sangeetha Menon Professor and Dean School of Humanities

Room No. F 06 Tele: 080-22185090 Fax: 080-22185028 Email: sangeetha. menon@nias.res.in Joined NIAS on: January 8, 1996

**Research Areas:** The broad area of research work is Consciousness Studies, and the specific focus is the experiential self, with: (i) the implications of experience, (ii) the place of emotions, self-identity and self-transformation, and (iii) the possible interdisciplinary dialogues that promote psychological health and deeper well-being.

- Being That Knows and Consciousness That is Mindful, Keynote lecture at the International Conference, Ramakrishnan Mission Institute of Culture, March 3, 2023.
- Being with Advaita Vedanta for Consciousness Conversations, University Extension Lecture, Sree Sankaracharya University, Kalady, Kerala, February 8, 2023.
- Consciousness and the Self: Interdisciplinary Discussions, 4<sup>th</sup> Refresher Course in Philosophy, UGC-HRDC JNU, January 19, 2023.
- The Role of Philosophy in Preserving the Indigenous Food Cultures for a Sustainable Future, Seminar on The Occasion of The World Food Day, The United India Anthropological Forum, October 16, 2022.
- Consciousness and Interdisciplinary Conversations: The Quest for a Self, Department of Philosophy, Sri Sankaracharya University, Kalady, October 12, 2022.
- Preserving Indigenous Food Culture and Its Philosophies, Webinar on World Food Day, organized by United India Anthropological Forum and NIAS Consciousness Studies Programme, October 16, 2022.
- Consciousness and Interdisciplinary Conversations: The Quest for a Self, Keynote Lecture, Workshop on Cognitive Studies and Conceptualization, Department of Philosophy, Sree Sankaracharya University of Sanskrit, Kalady, Kerala, October 12, 2022.
- Consciousness and Self: Interdisciplinary Insights, Keynote Address, International Conference on The Quest for Consciousness: Indian and Western Approaches, Department of Philosophy, Assam University, August 22, 2022.
- AI, LaMDA and Sentience: Can Machines Have a Conscious Self ?, NIAS-DST Programme on Policy for Science and Science for Policies, August 8, 2022.
- Humanising Medical Practices: Indigenous, Interdependent and Cross-cultural Insights, Online International Symposium, organized by NIAS Consciousness Studies Programme, and supported by the Tata Trusts, July 28, 2022.



- The I of the Eye: Crisscrossing Spaces of Consciousness, Self and AI in Healing, Online International Symposium, organized by NIAS Consciousness Studies Programme, and supported by the Tata Trusts, July 29, 2022.
- Building Conversations across Forms and Spaces: To Create and Curate a Conversation Collective", NIAS CSP Initiative, NIAS, July 11, 2022.
- Brain Sciences, Yoga and Its Philosophy Contributions for Creating Wellbeing", Invited Yoga Day Guest Lecture, Amity University Chhattisgarh, June 10, 2022.
- Consciousness, Indian Philosophy, and the Self, Talk Show and Conversation for The Rational View with Dr Al Scott, May 3, 2022.
- Self-Reflection and Unconscious Emotions, Keynote Lecture, International Symposium on Conscious and Unconscious Cognition, University of Hyderabad, April 18, 2022.
- Beyond the Self-narrative How Do We Imagine the Extension of Humanism to Include the Unseen and the Unknown?, Special Lecture, Platinum Jubilee National Seminar, University of Madras, March 29, 2022.

#### **Memberships**

- > Advisor, Board of Studies, School of Liberal Arts, Bennett University.
- Member, National Task Force for Cognitive Science Research Initiative, Department of Science and Technology, Government of India.
- > Member, Institutional Stem Cell Ethics Committee of NCBS, InStem, JNCASR and IISc.
- Member, Board of Studies in Philosophy of Somaiya Vidyavihar University, Mumbai.
- > Advisory Council Member, METI International, San Francisco.
- > Fellow, International Society for Science and Religion, Cambridge.
- Honorary Fellow, College of Humanities, University of Exeter, UK.



**Sisir Roy** Honorary Visiting Professor School of Humanities

Room No. F 25 Tele: 080-22185143 Fax: 080-22185028 Email: sisir.sisirroy@ gmail.com

# Joined NIAS on: November 5, 2014

**Research Areas:** Stages of Meditation and Neuronal Correlates, Role of consciousness in Quantum Theory, Modern Cosmology and Ancient Indian Traditions, Data Analysis for Redshift Periodicity in Astronomy.

- Demystifying the Akasha and Ontology of Space, Time Akash for Life, Azadki Amrit Mahatsov, National Conference and Exhibition, Dehradun, November 5, 2022.
- Consciousness and Quantum Theory: Insights from Vedanta and Kashmir Shaivism, International Conference on Exploring Consciousness: Non-Duality to Non-Locality: A Man-Machine Debate, NIMHANS, Bengaluru, September 24, 2022.



- The Pursuit of Aakash-Tattva, Akash Tattva and Ontology of Space Time, Vijnana Bharati and Mandala (Online), July 24, 2022.
- Contemporary Interfaces of Science and Indic Thought Ontology of Time: Insight from Ancient Wisdom, Vijnana Bharati and Mandala (Online), June 18, 2022.



**Nithin Nagaraj** Associate Professor School of Humanities

Room No. F 32 Tele: 080-22185126 Fax: 080-22185028 Email: nithin@nias. res.in Joined NIAS on: October 15, 2015

**Research Areas:** Scientific Theories of Consciousness, Causality, Brain-inspired Machine Learning, Indic Mathematics and Computation.

#### Academic Course

Artificial Intelligence: Reading the Classics for NIAS doctoral students, August to December 2022.

#### Lectures

- Brain-Inspired Machine Learning and its Applications, Faculty Development Programme, MSRIT (In association with MathWorks), Bengaluru, March 16, 2023.
- Research Methodology, Programme for Research Scholars and Post-doctoral Fellows, UGC-HRDC University of Calicut, March 7, 2023.
- From Turing to Sophia to ChatGPT: Has AI Finally Arrived?, 6<sup>th</sup> Edition Mahindra AFS Technology Symposium, Mahindra Technical Academy, February 18, 2023.
- Are Indian Knowledge Systems Still Relevant in Today's World?, National Seminar on Sanskrit-IKS and ICT organized by Samskriti Foundation, at NIAS, February 18, 2023.
- Research Methodology, Faculty Induction Programme, UGC-HRDC University of Calicut (Online), February 14, 2023.
- Mathematical Foundations of PCA and ICA and applications to Data Science, Faculty Development Programme, RV Institute of Technology and Management, February 8, 2023.
- Is 'Science of Consciousness' in a Crisis? Workshop on Consciousness and Indian Knowledge System, IKSMHA Center, IIT Mandi (Online), December 14, 2022.
- Facets of AI: From Turing to Sophia and Beyond, NIAS-DST Training Programme on Science and Technology, November 28, 2022.
- Can Chaos and Noise help Machine Learning?, Workshop on Reservoir Computing and Neural Networks, Complex Systems and Dynamics, IIT Madras, November 24, 2022.
- The Wonderful World of Chaos and Fractals, University Colloquium, Azim Premji University, November 4, 2022.

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- Research Methodology, Refresher course for Computer Science, UGC-HRDC, University of Calicut, October 24, 2022.
- > Chaos, Noise and Machine Learning, Physics Seminar Series, IIT Tirupati, August 19, 2022.
- An Introduction to Artificial Intelligence, IEEE CASS Expert Talk Series, TKM College of Engineering, Kollam, July 18, 2022.
- > Mathematical Foundations of Support Vector Machines, MSRIT, Bengaluru, July 7, 2022.
- Science of Consciousness, Amrita University, Kerala, May 27, 2022.
- Basics of Machine Learning and Neurochaos Learning, (along with Mr Harikrishnan NB), Amrita University, Kerala, May 26, 2022.
- Science of Consciousness, Student-Scientist interaction, organized by Science Communication Programme, NIAS, May 9, 2022.
- > Basics of Machine Learning, MSRIT, Bengaluru, April 27, 2022.



# Heritage, Science and Society Programme



**Sharada Srinivasan** Professor School of Humanities Joined NIAS on: June 10, 2001

Research Areas: Archaeometallurgy.

#### Award

Distinguished Alumnus Award, Indian Institute of Technology Bombay, September 23, 2022.

#### Academic Course

Module in Archaeology Training Programme, Indian Maritime University, Chennai, November 29, 2022.

#### Lectures

- Early High-tin Bronzes and Metal Finds from Tamil Nadu, 2<sup>nd</sup> International Seminar in Memory of Iravatham Mahadevan, Chennai, March 11, 2023.
- Keynote Address, International Women's Day: Celebration of Women in Science, Technology, Engineering, Mathematics, Medicine, Education, Entrepreneurship, Indian Institute of Science, Bengaluru, March 8, 2023.
- Conservation Science, International Conservation Conclave, Panel Discussion, CSVMS Museum, Mumbai with Metropolitan Museum of Art, New York, February 23 to 25, 2023.
- Plenary Speaker, 4<sup>th</sup> International Conference on Recent Advances in Engineering Sciences, MS Ramaiah Institute of Technology, Bengaluru, October 14, 2022.
- Communication and Dissemination Traditional Knowledge (CDTK-2023), CSIR-NiSCPR Svastik Conference, Delhi, February 15, 2023.
- Wootz/Crucible Steel Production, 50<sup>th</sup> Annual South Asia Conference, University of Wisconsin- Madison, USA (Online), October 21, 2022.
- Metallurgy in Ancient India, All India Radio, September 8, 2022.

#### Memberships

- Committee Member, S20 Science for Culture and Society of INSA.
- Committee Member, CSIR NIScPR Svastik, Dissemination of Scientifically Validated Traditional Knowledge.
- Research Council Member, Central Building Research Institute, CSIR-CBRI, Rourkee.

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nias.res.in



# **Other Activities**

- Interviewed by Sansad TV on Parampara ki Pareeksha on the Aspects of Scientifically Validated Traditional Knowledge such as Aranmula Mirror Making, February 19, 2023.
- Interviewed for the Press Write-up 'How Successful were the Cholas as Empire Builders, Indian Express, September 20, 2022.
- > Cited in BBC Article on Hampi Pillars, India's Spiritual City that Sings.
- Gave interviews and content for two episodes of Natgeo/Hotstar on Wootz steel and Hampi pillar (Episode 7 and Episode 10).



**S Ranganathan** Honorary Visiting Professor School of Humanities

Room No. F 25 Tele: 080-22185073 Fax: 080-22185028 Email: sranganathan@ nias.res.in Joined NIAS on: July 2, 2004

Research Areas: Materials Heritage.



**Srikumar M Menon** Associate Professor School of Humanities

Room No. F 33 Tele: 080-22185134 Fax: 080-22185028 Email: srikumar. menon@nias.res.in

#### Joined NIAS on: March 1, 2016

**Research Areas:** Megalithic Monuments of India, Indian Temple Architecture, Archaeoastronomy

#### **Academic Course**

Origins of Astronomy in the Indian Subcontinent, for NIAS doctoral students, August to November 2022.



# Lectures

- Aspects of Science in Archaeology: Sun-facing Structures in India, NIAS DST Training Programme on Science and Technology, November 23, 2022.
- The Dwarf Legends of Megalithic South India, Seminar on Folklore, Martin Luther Christian University, Shillong, November 15, 2022.
- Stories from Silent Stones, Faculty Development Programme, Council of Architecture TRC, Bhopal, October 17 to 21, 2022.
- Investigations into the Stone Working Techniques of Medieval Artisans, Manipal School of Architecture and Planning, Manipal, October 21, 2022.

# Membership

Member, PhD Committee, Martin Luther Christian University Shillong.



**MB Rajani** Associate Professor School of Humanities

Room No. S 19 Tele: 080-22185176 Fax: 080-22185028 Email: mbrajani@nias. res.in Joined NIAS on: January 1, 2015

**Research Areas:** Cultural Landscape Research; Landscape Archaeology; Geospatial Analysis of Cultural Heritage; Musicology and Music Heritage.

# **Academic Courses**

- Advanced Remote Sensing and Image Processing for Cultural Heritage Studies for NIAS doctoral students, January to May 2023.
- GIS for Spatial Data Visualization and Analysis for NIAS doctoral students, August to December 2022.

- Cultural Heritage Disaster Risk Reduction, organized by National Institute of Disaster Management, Research Center for Cultural Heritage, and Heritage Club, KLE Law College, Bengaluru, March 15, 2023.
- Archaeological Investigations Using Remote Sensing Techniques, National Science Day Popular Talk, February 28, 2023.
- Archeological Investigations Using Remote Sensing Techniques, UGC Refresher Course, Calicut University, February 21, 2023.
- Remote Sensing for Archaeology, Quest: A Society for Human Culture Research, November 19, 2022.
- Remote Sensing in Archaeology, Cambridge University, October 4, 2022.
- Remote Sensing in Archaeology: A Few Case Studies, MAHSA-MAEASaM Workshop, October 4, 2022.
- Discussant, Roundtable Session on Reaching Across the Digital Divide, Computer Applications and Quantitative Methods in Archaeology Conference, Oxford, UK, August 10, 2022.



- Cultural Heritage in South Asia, Workshop at Department of Archaeology, University of Cambridge, August 9 to 11, 2022.
- Future Career Pathways in History and Anthropology, For Students of Beyond 8: Future Career Pathways in History and Anthropology, Bengaluru (Online), August 8, 2022.
- GIS and Its Applications in Social Sciences and Other Related Topics, NMIMS University, Mumbai (Online), July 9, 2022.
- > Live History India Exploring Archaeological Sites of India through Satellite Imagery, July 2, 2022.
- Spatial Analysis in Humanities and Social Sciences: Moving into New Territories, Workshop on GIS Applications in Social Sciences, organized by HSS and ASC, IIT Gandhinagar, May 14, 2022.
- Archaeological Investigations Using Remote Sensing Techniques, Webinar on The Prehistoric Narratives of Human in the Indian Subcontinent, DY Patil International University, May 14, 2022.
- Remote Sensing in Archaeology: Some Case Studies, Archaeological Sciences Centre at IITGN (Hybrid Mode), April 28, 2022.

# Membership

> Core Committee Member, Earth Science Category, Indian National Young Academy of Science (2021-2022)



**S Udayakumar** Post-Doctoral Associate School of Humanities

Room No. A 03 Tele: 080-22185053 Fax: 080-22185028 Email: archaeology1987@ qmail.com Joined NIAS on: January 1, 2018

**Research Areas:** Archaeology, Experimental Archaeology, Archaeometallurgy, Material culture and Ethnoarchaeology

#### Award

> The Tylecote Memorial Award, Historical Metallurgical Society, UK.

#### Lectures

- Understanding Past Technology Through an Experimental Approach, Young Researcher in Archaeometry 5, Organized by Austrian Archaeological Institute (ÖAW), September 5 and 6, 2022.
- Understanding Ancient Technology Through an Experimental Approach, Experimental Archaeology Student Symposium Liverpool 2022, University of Liverpool. June 9, 2022.
- Primary Understanding Ancient Technology Through an Experimental Approach, The Northern Paleolithic and Evolutionary Anthropology (NOPE) EXARC.net., April 9, 2022.

# **Other Activities**

Organized a one-week workshop on Ancient Iron Smelting Process in India, Netaji Subhash Chandra Bose Govt Girls school, Tekkalakote, Bellary, January 9 to 13, 2023.



# Animal Behaviour and Cognition Programme



Sindhu Radhakrishna Professor School of Natural Sciences and Engineering

Room No. S 23 Tele: 080-22185115 Fax: 080-22185028 Email: sindhu@nias. res.in Joined NIAS on: September 1, 2001

**Research Areas:** Animal Behaviour and Cognition, Primate Behavioural Ecology, Human-Animal Studies, Environmental Decision-Making, Human-Wildlife Conflict, Conservation Biology, Environmental Education.

#### Academic and Training Courses

- Module in Course on Conservation Psychology, for ATREE-TDU Postgraduate Students, November 2022.
- Module in Course on Human-Wildlife Conflict, Coordinated by NCF, Mysuru, March 2023.

#### Lectures

- Modifying Human Behaviour to Mitigate Human-Primate Conflict, Workshop on Human-Baboon Conflict Management in Riyadh, KSA, 17 January 2023.
- One Health Approach to Wildlife Conservation. NIAS G20 University Connect Policy Discussions on Conservation, 8 March 2023.
- G20 and Marine Biodiversity, NIAS-IMU G20 University Connect Policy Discussion on One World One Ocean, IMU, 17 March, 2023.

#### Memberships

- > Associate Editor, Frontiers in Conservation Science, 2022 onwards.
- Editorial Board Member, Resonance, 2018 onwards.
- Commission Member, IUCN SSC Primate Specialist Group S. Asia, 2013 onwards.

#### **Other Activities**

Reviewed a PhD thesis for the University of Melbourne.



Anindya Sinha Professor School of Natural Sciences and Engineering

Room No. S 22 Tele: 080-22185117 Fax: 080-22185028 Email: asinha@nias. res.in

#### Joined NIAS on: November 15, 1996

**Research Areas:** Mammalian Behavioural Ecology and Cognitive Psychology, Animal Population and Behavioural Genetics, Evolutionary Biology, Conservation Studies, Urban Ecologies and Human–Nonhuman Relationships, Other-than-Human Studies, Cultural Heritage and Performance Studies and Philosophy of Biology.

#### **Academic Courses**

- Animal Behavioural Ecology for master's degree students, National Centre for Biological Sciences, Bengaluru, March 2023.
- Philosophy of Western Science and Conservation and on Nonhuman Intentionality and Decision-Making for research grantees of the Coexistence Consortium 2022– 2024, TDU, Bengaluru, October 31 and November 29, 2022.
- Foundations of Animal Behaviour and Cognition for NIAS doctoral students, September to December 2022.
- Philosophy of Science, Biology and Conservation for Master's degree students, National Centre for Biological Sciences, Bengaluru, September to December 2022.
- Social Sciences Beyond the Human for NIAS Doctoral Students, February to May 2022 (along with Dr Tarun Menon).

- A Beautiful Mind: Social Cognition in Wild Bonnet Macaques, Masterclass, National Centre for Biological Sciences, Bengaluru, March 30, 2023.
- Nonhuman Individuality: A Much-Neglected Paradigm in Animal Studies, Masterclass, University of Calcutta, Kolkata, February 23, 2023.
- Do We Need a New Philosophy of Biology? Masterclass, Indian Institute of Technology, Jodhpur, January 20, 2023.
- Being Healthy, Ecologically Wealthy and Evolutionarily Wise More-than-Humans, Panel Discussion, Prometeo 2023, Indian Institute of Technology, Jodhpur, January 20, 2023.
- A Beautiful Mind: Social Cognition and Consciousness in Bonnet Macaques, FIASConversations, University of Delhi South Campus, New Delhi, November 30, 2022.
- A Beautiful Mind: Social Cognition and Consciousness in Wild Bonnet Macaques, NIAS-DST Training Programme on Science and Technology, November 25, 2022.
- Changing Ecologies, Transforming Lives: Nonhuman Synurbisation in the Forests of Southern India, Plenary Talk, Symposium on More-than-Human Guwahati, Cotton University, Guwahati, November 8, 2022.



- The Future of Urban Ecological Studies in Guwahati, Panel Discussion, Symposium on More-than-Human Guwahati, Cotton University, Guwahati, November 8, 2022.
- Prof BV Sreekantan and I, Panel Discussion, Remembering Prof BV Sreekantan, Bangalore International Centre, Bengaluru, October 29, 2022.
- Sustainable: Human-Macaque Conflict and the Threatened Primate Populations of India, NIAS-DST Training Programme for Women Scientists on Science and Sustainability in India, October 17, 2022.
- Are Bonnet Macaques Conscious? A Search for the Nonhuman Mind, Valedictory Lecture, Online Refresher Course in Biosciences, UGC Human Resource Development Centre, University of Mumbai and Ramniranjan Jhunjhunwala College, Mumbai, September 24, 2022.
- The Urban Macaque in India, RBS-IBG Annual International Conference 2022, Royal Geographical Society and Institute of British Geographers, Newcastle, UK, September 1, 2022.
- Human-Macaque Conflict and the Unique Primate Populations of India, NIAS-DST Training Programme on Policy for Science and Science for Policy, August 22, 2022.
- Becoming and Being Urban: Reflections on Nonhuman Urbanisation, Invited Lecture, Silver Jubilee Celebrations, Ashoka Trust for Research in Ecology and the Environment, Bengaluru, August 19, 2022.
- > The Monkey in the Mirror, Keynote Lecture, Equinox 2022, Maitreyi College, Delhi, August 12, 2022.
- Precarious Lives: Climate Change and the Antarctic Penguins, Panel Discussion, India International Centre, New Delhi, May 18, 2022.
- Being Macaque: Nonhuman Ethnographies of Urban India, Invited Lecture, Agharkar Research Institute, Pune, May 2, 2022.

#### Memberships/Honorary Appointments

- International Advisor and Member, International Executive Committee, 34<sup>th</sup> International Biology Olympiad, Al Ain, United Arab Emirates, August 2022 to July 2023.
- Nominated External Member, Board of Studies for Environmental Biology and Wildlife Sciences, Cotton University, Guwahati, March 2022 onwards.
- > Member, Governing Board, The Lion-Tailed Macaque Project, Odense, Denmark, November 2021 onwards.
- Member, IUCN/SSC Primate Specialist Group South Asia Section, SSC, International Union for the Conservation of Nature, Gland, Switzerland, March 2013 onwards.
- > Member, Governing Board, Institute of Public Health, Bengaluru, July 2021 onwards.
- Member, Subsections on Urban Primates and Primates in Human Culture, SSC, International Union for the Conservation of Nature, Gland, Switzerland, July 2020 onwards.
- > Affiliate Senior Scientist, Centre for Wildlife Studies, Bengaluru, July 2020 onwards.
- > Adjunct Professor, Cotton University, Guwahati, March 2019 onwards.
- > Member, Conservation Committee, International Primatological Society, January 2019 onwards.
- > Adjunct Faculty, Nature Conservation Foundation, Mysore, July 2017 onwards.
- Honorary Research Fellow, School of Humanities, University of Exeter, Exeter, United Kingdom, August 2015 onwards.
- > Vice President, Association for Teachers in the Biological Sciences, Mumbai, India; May 2015 onwards.
- Scientific Advisor and Research Coordinator, Dhole's Den Research Foundation, Bandipur National Park, October 2012 onwards.
- Adjunct Faculty, Centre for Neuroscience, Indian Institute of Science, Bengaluru, June 2011 onwards.



Adjunct Teaching Faculty, Postgraduate Programme in Wildlife Biology and Conservation, National Centre for Biological Sciences, Bengaluru, August 2010 onwards.

# **Other Activities**

- > Chair, Round Table on World TB Day, NIAS and Open Source Pharma Foundation, March 21, 2023.
- Chair, Screening of a Biographical Documentary and Discussions on the Late BV Sreekantan, NIAS, June 29, 2022.
- Coordinator, Book-Release Programme, Noise and Randomness in Living System by Sisir Roy, NIAS, June 2, 2022.



Arijit Pal Post-Doctoral Associate School of Natural Sciences and Engineering

Room No: A 04 Tele: 080-22185054 Fax: 080-22185028 Email: arijitpal@nias. res.in Joined NIAS on: September 4, 2019

**Research Areas:** Animal Behavioural Ecology, Animal Cognition, Evolutionary Biology, Evolutionary Anthropology, Human-Animal Interactions and Conservation Biology.



# Complex Systems Programme



Janaki Balakrishnan Professor School of Natural Sciences and Engineering

Room No. S 20 Tele: 080-22185122 Fax: 080-22185028 Email: janaki@nias. res.in Joined NIAS on: July 10, 2012

**Research Areas:** Nonlinear Dynamical Systems, Complex Systems, Nonlinear Oscillations, Stochastic Processes, Ecological Modelling.

#### **Academic Course**

Introduction to Dynamical Systems Theory (Course MA 278), Department of Mathematics, Indian Institute of Science, Bengaluru, January to May 2023.

#### **Other Activities**

- Committee Member, PMRF Mid-term Review of the PhD Student Isha Mishra, Department of Chemical Engineering, Indian Institute of Science, Bengaluru.
- External Expert Member in PhD (Physics) Committe for State of the Art Milestone Seminars of Students Riddhika Mahalanabis and Jobin Josey, at IIIT Bangalore.
- Member, Comprehensive Examination Board (Physics) of PhD Students Riddhika Mahalanabis and Jobin Josey, IIIT Bangalore.
- Supervisor and Member, Project Evaluation Committee of 5<sup>th</sup> Year Project on Studies of Nonlinear Phenomena in Sensory Systems of Ayan Biswas, BS-MS Programme, Department of Physics, IISER Pune (May 2021 to November, 2022).
- Suest Faculty, Department of Mathematics, Indian Institute of Science, Bengaluru.
- Reviewer for Physical Review E (published by the American Physical Society), Scientific Reports (Nature Publishing Group), Europhysics Letters (IOP Publishing), Physica D: Nonlinear Phenomena (published by Elsevier), Physics Letters A (published by Elsevier), Chaos (published by the American Institute of Physics), Nonlinear.



# Energy and Environment Programme



**R Srikanth** Professor and Dean School of Natural Sciences and Engineering

Room No. S 11 Tele: 080-22185135 Fax: 080-22185028 Email: rsrikanth@nias. res.in

#### Joined NIAS on: August 22, 2016

**Research Areas:** Energy and Environment, Minerals, Sustainable Development, Public Policy.

#### Lectures

- Role of Small and Modular Reactors in India, NIAS-DST Training Programme on Science and Technology: Global Developments and Perspectives, November 29, 2022.
- Research and Innovation in Clean Energy Technology, Science Technology and Innovation Policy, September 27, 2022.



**Tejal Kanitkar** Associate Professor School of Natural Sciences and Engineering

Tele: 080-22185167 Fax: 080-22185028 Email: tejalk@nias. res.in

#### Joined NIAS on: June 14, 2019

**Research Areas:** Climate Change Mitigation, Climate Policy and Negotiations; Energy Modelling, Renewable Energy Transitions and Energy Policy; Energy-Environment-Economy Linkages; Energy, Irrigation and Agriculture.

#### Academic Courses

- Research Methodology Quantitative Research Methods for NIAS doctoral students, August to December 2022.
- Sustainable Development and Climate Change for NIAS doctoral students, January to April 2023.

- Climate Policy Challenges for the Global South, Indian Institute of Science, February 7, 2023
- Economic Models for Climate-compatible Futures, RV University, Bengaluru, February 6, 2023



- Energy Access and Security Within a Limited Carbon Budget, AKASH Conference, Dehradun, November 5, 2022
- > Future Climate Scenarios, IPCC-WGI Event, Korea Pavilion, COP 27, Sharm Al Sheikh, November 2022.
- Equity Assessment of IPCC AR6 Scenarios, NIAS-MSSRF Event, India Pavilion, COP 27, Sharm Al Sheikh, November 2022.
- > Key Priorities of Developing Countries, TWN-Bolivia Event, COP 27, Sharm Al Sheikh, November 2022.
- Climate Justice in an Unequal World, Inequality Conference, NIAS, June 21, 2022.

#### **Memberships**

- Member, Government of India Delegation to the 58<sup>th</sup> Session of the Subsidiary Bodies under the UNFCCC, Bonn, Germany, June 2023.
- Member, Government of India Delegation to the 58<sup>th</sup> Session of the Intergovernmental Panel on Climate Change (IPCC), February 2023.
- Member, Government of India Delegation to the 27<sup>th</sup> Conference of Parties to the United Nations Framework Convention on Climate Change, November 2022.
- Member, Government of India Delegation to the 56<sup>th</sup> Session of the Intergovernmental Panel on Climate Change, June 2022.
- Member, Government of India Delegation to the 55<sup>th</sup> Session of the Intergovernmental Panel on Climate Change (IPCC), April 2022.
- > Member, Steering Committee, Bengaluru Sustainability Forum.



Rudrodip Majumdar Assistant Professor School of Natural Sciences and Engineering

Room No. S 34 Tele: 080-22185170 Fax: 080-22185028 Email: rudrodip@nias. res.in

#### Joined NIAS on: August 23, 2019

**Research Areas:** Heat Transfer and Fluid Flow-Based Fundamental Modelling of Renewable Energy Systems; Modelling of Energy Transition Trajectory for the Road Transport Sector in India; Water-Energy Nexus; Techno-Economic Analysis for Advanced Energy Systems; Green Energy in India; Plastic Waste Mitigation; Waste-to-Wealth.

#### Academic Courses

- Advanced Energy Systems and Futuristic Solutions for NIAS doctoral students, January to April 2023.
- Major Conventional and Nonconventional Pathways to Harness Energy for NIAS doctoral students, August to November 2022.

#### Lecture

An Approach Towards Energy Transition in Residential Cooking in India, NIAS-MECS Brainstorming Workshop, March 14, 2023.

#### Membership

Review Editor, Frontiers in Energy Research-Energy Storage Section, January 2023 onwards.

# Science Communication Programme



VV Binoy Assistant Professor School of Natural Sciences and Engineering

Room No. Laboratory Tele: 080-22185156 Fax: 080-22185028 Email: vvbinoy@nias. res.in

#### Joined NIAS on: September 2, 2010

Research Areas: Social Cognition, Animal Cognition, Science Communication.

#### Academic Courses

- Analyzing Science Communication through the Lens of Behaviour Science for NIAS doctoral students, August to December 2022.
- Conservation Psychology for MSc and doctoral students, Ecology and Environmental Studies, ATREE and TDU, Bengaluru, September to December 2022.

#### Lectures

- Connecting Disaster Risk Communication with Behavioural Sciences, National Institute of Disaster Management and Department of Teacher Education, Nagaland University, March 14, 2023.
- Living with Invaders: Impact of Alien Invasive Species on the Behaviour and Cognition in Fishes, Tata Institute of Fundamental Research, November 4, 2022.
- Science Communication Under the Lens of Psychology, SERB Karyashala on Science Communication, NIAS, July 26, 2022.
- Science of Science Communication, International Workshop on Science Communication and Film-making, jointly organized by Vigyan Prasar and CSIR-Indian Institute of Toxicology Research, Lucknow, July 22, 2022.

#### Memberships

- Fellow, Intercontinental Academia: University-Based Institutes for Advanced Study.
- External Affiliate, Krasnow Institute of Advanced Study, George Mason University, USA.
- > Representative, UNESCO UniTwin Complex Systems Digital Campus.
- Member, IUCN Freshwater Specialist Group South Asia.
- > Member, IUCN Fish Conservation Network South Asia.
- > Member, Executive Committee, Ethological Society of India.





M Sai Baba Honorary Visiting Professor Room No. S 06 Tele: 080-22185066 Fax: 080-22185028 Email: msaibaba@ nias.res.in

#### Joined NIAS on: October 6, 2017

Research Areas: Science and Risk Communication; Human Reliability Programme.

#### Lectures

- Artificial Intelligence, Society and Possibilities, SERB Sponsored National Seminar on Recent Trends in Biomedical Engineering for Medical Diagnostic Applications, St Joseph's College of Engineering, Chennai, January 20, 2023.
- Graduation Address at BARC Training School at IGCAR, Indira Gandhi Centre for Atomic Research, Kalpakkam, October 26, 2022.
- Vision and Approach for Quality Higher Education: NEP 2020, Faculty Development Programme, Woxsen University, Hyderabad, October 10, 2022.
- Energy Security for India, NTPC Business School, New Delhi, August 9, 2022.
- Educating India: Practice Orientation of Liberal Arts, Social Sciences and Pure Sciences Education, Panel Discussion, Higher Education and Skill Conclave 2022, New Delhi, July 31, 2022.
- Energy Security and Atomic Energy, Observer Research Foundation and Naval Public School, USA, New Delhi, July 28, 2022.

#### **Memberships**

- Reviewer, AWSAR Initiative, Department of Science and Technology, Government of India.
- Reviewer, SATYAM scheme, Department of Science and Technology, Government of India.
- Member, Editorial Board and Advisory Board, Frontiers in Science Technology and Application.
- Member, Editorial and Scientific Committee, International Journal of Nuclear Knowledge Management.
- Member, Advisory Board, Governing Council of Hindustan Institute of Maritime Training Group of Educational Institutions, Chennai
- Member, Research Recognition Committee, School of Sustainability Studies, MIT-World Peace University, Pune, Maharashtra.
- Member, GINSERV's Incubator Seed Management Committee.



V Bhujanga Rao Honorary Visiting Professor

Room No. F 22 Teel: 080-22185074 Fax: 080-22185028 Email: vbhujangarao@ nias.res.in Joined NIAS on: April 20, 2016

**Research Areas:** Medical Implants/Devices; Grassroots Innovation; Defence Manufacturing Technologies; Acoustics, Science, Technology and Innovation.



# Other Members



Ramya Bala Prabhakaran DST-INSPIRE Faculty Fellow School of Natural Sciences and Engineering Room No. S 15 Tel: 080-22185129 Fax: 080-22185028 Email: pramyabala@ nias.res.in Joined NIAS on: August 16, 2021

**Research Areas:** Reconstructing the Complex Interrelationships Among Humans, Fires, Climate, and Vegetation of the Past Using Wetland Sediments.

#### Honour

> Honorary Visiting Scholar, Department of Anthropology, University of Pennsylvania.

#### Lectures

Surface sampling of wetlands in a tropical dry forest after a large fire, American Geophysical Union AGU2022 Conference, December 12, 2022.



# Sapam Tuleshwori Devi

Post-Doctoral Associate (*till December 30, 2022*) School of Natural Sciences and Engineering

Room No. A 04 Tele: 080-22185054 Fax: 080-22185028 Email: tuleshworisapam@ nias.res.in Joined NIAS on: April 22, 2019

**Research Areas:** Genomics, Bioinformatics and Structure-based drug development in Chikungunya Virus and SARS-CoV2 Research.





Kripa MK Post-Doctoral Associate School of Natural Sciences and Engineering

Room No: F 24 Tele: 080-22185178 Fax: 080-22185028 Email: kripamk@nias. res.in



Shaik Vazeed Pasha Post-Doctoral Associate School of Natural Sciences and Engineering

Room No: F 24 Tele: 080-22185178 Fax: 080-22185028 Email: drvazeedpasha@nias. res.in Joined NIAS on: October 1, 2021

**Research Areas:** Terrestrial Carbon Cycle, Remote Sensing, Spatial Modelling, Ecology, Functional Aspects of Plants.

Joined NIAS on: September 16, 2021

**Research Areas:** Spatial Biodiversity, Remote Sensing and Geoinformatics, Biomass-Carbon stocks, Spatial modelling, Vegetation fires and Floristic studies.



# Education Programme



Anitha Kurup Professor School of Social Sciences

Room No. S 05 Tele: 080-22185144 Fax: 080-22185028 Email: bkanitha@nias. res.in Joined NIAS on: January 2, 1995

**Research Areas:** Sociology of Education, Education Leadership, Gender and Science, Education of the Gifted and Talented.

# **Academic Courses**

Two modules in Foundations and Perspectives in Education for NIAS doctoral students, August 30 to September 1, 2022.

- Education Sector Paper in the Conference on 'Karnataka as a 1Trillion Dollar Economy by 2032', organized by FICCI and Karnataka State Council, Bengaluru, March 28, 2023.
- Diversity, Equity, Inclusion, and Accessibility in Science and Technology, First G20-Chief Science Adviser's Roundtable (G20-CSAR), Ramnagar, Uttarakand, March 27, 2023.
- Diversity and Women in Science, Annual Conference on Women in Physics, IIT Roorkee, March 23, 2023.
- Assessment of Higher Order Learning in Higher Education, NAAC Training by Kristu Jayanthi College, Bengaluru, March 13, 2023.
- Challenges of Higher Education in India, International Hybrid Conference on Outcome-Based Education, organized by Mahatma Gandhi University, Beijing University of Chemical Technology, and Wuhan University, February 12, 2023.
- Gender Science and Technology, University Faculty and College Lectures, University of Kashmir, Srinagar, Kashmir, December 23, 2022.
- NIAS Education for the Gifted and Talented, Euro Kids, Mumbai, November 14, 2022.
- Gender, Science and Sustainability, for DST Training Programme on Science and Sustainability in India, October 18, 2022.
- Review of the NIAS Education for Gifted and Talented, National Meeting to Review the Programmes on Education of the Gifted, Office of the PSA, September 23, 2022.
- Subject Choice and STEM Careers for Women in India, Conference on Women and Employment, FICCI, Bengaluru, August 18, 2022.



- > Education for the Gifted and Talented, School Teachers of Qatar, Oxford University Press, August 15, 2022.
- > Inclusive Education for School Teachers of Qatar, Ministry of Education, Qatar, August 14, 2022.

#### **Memberships/Recognitions**

- > Member, Stem Cell Research Committee, Centre for Brain Research, Bengaluru, February 2023 onwards.
- > Education Expert for Karnataka Evaluation Authority, Government of Karnataka.
- > Expert Member, Mahatma Gandhi University for the STRIDE Research Project, 2018 onwards.
- > Advisor, Education Expert, Public Affairs Centre, Bengaluru.
- > Advisor, Research and Innovation Council, Vidyashilp University.
- > Member, Ethics Committee, Centre for Brain Research, Bengaluru, India
- Member, Academic Council, Christ University, Bengaluru, 2013 onwards.
- > Member, Academic Council, Bhagat Phool Singh Mahila Vishwavidyalaya, Sonepet, Haryana, 2014 onwards.
- Member, Expert Committee for Sustainable Development Goals, Planning Department, Government of Karnataka, 2017 onwards.
- > Member, Technical Committee, Karnataka Evaluation Authority, Government of Karnataka.
- Expert, Education Committee, Karnataka Human Development Report, 2015 to 2022.
- > Advisor, Research and Innovation Council, Vidyashilp University, Bengaluru.

#### **Other Activities**

- Conducted Orientation Workshop for Students aspiring to be part of the NIAS Advanced Learning Centres, NIAS, December 21, 2022.
- > Conducted Parents' Workshop for Parents of Gifted Children, NIAS, December 17, 2022.



Shivali Tukdeo Associate Professor *(till February 10, 2023)* School of Social Sciences

Room No. F 35 Tele: 080-22185160 Fax: 080-22185028 Email: shivali@nias. res.in Joined NIAS on: March 10, 2010

**Research Areas:** Sociology of Education Policy, Social Exclusion, Globalisation, and Education and Urban Transformation.





**Shalini Dixit** Assistant Professor School of Social Sciences

Room No. S 19 Tele: 080-22185123 Fax: 080-22185028 Email: shalinidixit3@ nias.res.in

#### Joined NIAS on: December 21, 2015

**Research Areas:** Psychology of Education; Education and Marginalised Identities, Pedagogy and Curriculum; Education and Sustainability.

# **Academic Course**

Introduction to Educational Studies for doctoral students at NIAS, August-December, 2022.

#### Lectures

- History as a Social Science: From Knowledge to Enquiry, UGC Refresher course, Calicut University, February 22, 2023.
- Obliterating Collective Memories and Learning about the Nation, Annual International Conference of Comparative Education Society of India, December 10, 2022.
- The Social Psychology of Pedestrian Behaviour, Workshop on Pedestrian Flow and Risk Modelling, Indian Institute of Science, Bengaluru May 16 to 20, 2022.
- History as a Social Science, Faculty Development Programme, Bhavan's Vivekananda College of Science, Secunderabad, April 4, 2022.

#### Memberships

- Member, Technical Secretariate, National Steering committee for National Curriculum Framework, 2022-23.
- Member, Division of Cultural Psychology, National Academy of Psychology in India.
- > Member, National Academy of Psychology, India.
- Member, Comparative Education Society, India.



Jeebanlata Salam Assistant Professor School of Social Sciences

Room No. S 21 Tele: 080-22185120 Fax: 080-22185028 Email: jeebanlata@ nias.res.in



**Research Areas:** Sociology of Education, Social Exclusion and Education, Education Policies Vocational Skill Education, Ethnicity and Identity.

# Memberships

- Member, Indian Sociological Society.
- Member, Comparative Education Society of India.



**Malavika Kapur** Visiting Professor School of Social Sciences

Room No. F 05 Tele: 080-22185091 Fax: 080-22185028 Email: malavika. kapur@nias.res.in

# Joined NIAS on: May 1, 2003

# Lectures

- Lore of the Honey Gatherers and Other Stories, Book Launch, Bharatiya Vidya Bhavan, March 20, 2023.
- Book Discussion on Growing up Karanth (along with Dr Ullas Karanth and Ms Kshama Rau), Ashoka University, Haryana, March 14, 2023.
- Psychological Aspects of Child Care in the Indigenous Child Care Systems, JSS Medical College, Mysuru, March 5, 2023.
- Mental Health Issues, Interactive Session with 10<sup>th</sup> Graders, Phoenix School, Mysuru, February 6, 2023.
- Book Discussion on Growing Up Karanth, Literacy Society, JSS Physicians, Mysuru, February 5, 2023.
- Digital Technology: Its Impact on Child and Adolescent Mental Health from the Perspective of Evolutionary Psychology, Keynote Address, 48<sup>th</sup> NACIACP, Madurai, May 6, 2022.

# Membership

Member, Steering Committee, SAMA Project, National Institute of Mental Health and Neurosciences, Bengaluru.



# Inequality and Human Development Programme



Narendar Pani Professor and Dean School of Social Sciences

Room No. S 08 Tele: 080-22185145 Fax: 080-22185028 Email: narendar@nias. res.in Joined NIAS on: April 9, 2007

**Research Areas:** The Causes and Consequences of Inequality, A Neo-Gandhian Approach to the Economy as a Process, The Conceptualisation of Sustainability; and Theorisation of Conflict

#### **Academic Courses**

- Inequality and Human Development, for NIAS doctoral students, August to December, 2022.
- Modules in Research and Publication Ethics, for NIAS doctoral students, August to December, 2022.

- The City as Action: Retheorizing Urban Studies, Princeton University, October 5, 2022.
- > Instrumentality of Inequality, Princeton University, October 5, 2022.
- Beyond Horizontal and Vertical Inequalities, The New School, New York, October 4, 2022.
- > Caste as an approach to inequality, Princeton University, October 3, 2022.
- Inequality and the Politics of Victimhood in India, Princeton University, October 3, 2022.



Anant Kamath Assistant Professor School of Social Sciences

Room No. F-32 Tele: 080-22185128 Fax: 080-22185028 Email: anant.kamath@ nias.res.in

# Joined NIAS on: September 1, 2020

**Research Areas:** Technological Change, Political Economy, Development, Economic-Sociology.

# **Academic Courses**

- Modules in Introduction to Inequality, for NIAS doctoral students, August -December 2022.
- > Perspectives on Technology, for NIAS doctoral students, January to May 2023.

- Turbulent Transformations and Urban Undesirables, Workshop on Contested Urban Spaces: Law, Urbanization, Informal Work, by WIEGO and IRGLUS, January 28, 2023.
- Feminist Conceptual and Methodological Approaches, Gender Club, Christ University, Bengaluru, January 25, 2023.
- Vulnerable Populations and their Technological Engagement for Healthcare, St John's Medical College, Bengaluru, January 16, 2023.
- Political Economy Foundations of Labour Informality, Indian Institute for Human Settlements, December 14, 2022.
- Science, Technology, and Democracy, Roundtable Meeting, Centre for Studies on Developing Societies, New Delhi, December 8 and 9, 2022.
- Technology and Society: Concepts and Applications, School of Liberal Studies, IIT Jodhpur, December 6, 2022.
- Discussant on Industrialisation and Employment, Conference on the Indian Economy, Centre for Development Studies, Trivandrum, November 28 and 29, 2022.
- Inaugural Talk of Economics Association, Christ University, Bengaluru, September 16, 2022.
- Book Talk on the co-authored book Urban Undesirables, Centre for Development Studies, Trivandrum, December 2, 2022.
- Book Talk on the co-authored book Urban Undesirables, Shiv Nadar University, New Delhi, September 22, 2022.
- Book Talk on the co-authored book Urban Undesirables, National Law School of India University, Bengaluru, September 21, 2022.
- Book Talk on the co-authored book Urban Undesirables, Ramaiah School of Public Policy, Bengaluru, September 15, 2022.



- Book Talk on the co-authored book Urban Undesirables, Bangalore International Centre, Bengaluru, August 30, 2022.
- Book Talk on the co-authored book Urban Undesirables, Indian Institute for Human Settlements, Bengaluru, August 5, 2022.



**Chetan Choithani** Assistant Professor School of Social Sciences

Room No. S-34 Tele: 080-22185171 Fax: 080-22185028 Email: cchoithani@ nias.res.in Joined NIAS on: October 1, 2020

**Research Areas:** Development; Migration and Urbanization; Food and Nutritional Security; Livelihoods; Social Policy; Population and Health.

#### **Academic Courses**

- Modules in Introduction to Inequality for NIAS doctoral students, August to December 2022.
- Migration, Urbanization and Exclusion, for NIAS doctoral students, January to May 2023.

- From Hunger Prevention to Livelihood Promotion, IIT-Bombay, Mumbai, March 20, 2023.
- Panelist, Panel Discussion on Indian Economy to be the Third Largest Economy by 2027: Platinum Jubilee Conference on Economy @ 75: Roadmap for India at 100, Mount Carmel College, Bengaluru, February 16, 2023.
- Labour Migration, Informality and Development in India, Urban Fellows Programme 2022, Indian Institute of Human Settlements, Bengaluru, December 13, 2022.
- Food Security at Emerging Urban Spaces in India, Second Annual International Migration Conference, Wilfrid Laurier University, Canada and The International Institute of Migration and Development, India, October 28, 2022.
- Beyond The Metropolis: Emerging Urban Geographies of India, Platinum Jubilee Lecture Series, Banaras Hindu University, Banaras, August 3, 2022.



**Debosree Banerjee** Assistant Professor School of Social Sciences

Room No. S-36 Tele: 080-22185162 Fax: 080-22185028 Email: debosree@nias. res.in

# Joined NIAS on: November 2, 2020

Research Areas: Growth, Inequality, Poverty, Human Development.

# **Academic Courses**

- Modules in Quantitative Research Methods for NIAS doctoral students, August to November 2022.
- Modules in Inequality and Human Development, for NIAS doctoral students, August to November 2022.
- Modules in Research and Publication Ethics, for NIAS doctoral students, October 2022.



Nisar Kannangara Post-Doctoral Associate School of Social Sciences

Room No. F 37 Tele: 080-22185164 Fax: 080-22185028 Email: nisar@nias. res.in Joined NIAS on: February 25, 2021

Research Areas: Climate Change, Human Development

# Award

British Academy Knowledge Frontier Symposia Fellowship 2023 with Dr Nitatsha Kaul, Westminister University, London.





Mahima Upadhyay Post-Doctoral Associate School of Social Sciences

Room No. A 04 Tele: 080-22185054 Fax: 080-22185028 Email: mahima@nias. res.in Joined NIAS on: August 1, 2022

**Research Areas:** Public policy and institutions, gender inequalities, local governance and natural resource management

#### Lecture

Local Government, Women Representation and the Management of Natural Resources, National Seminar on Women Leadership, Institute for Social and Economic Change, Bengaluru, November 4, 2022.



**SS Meenakshisundaram** Visiting Professor School of Social Sciences

Room No. F 20 Tele: 080-22185070 Fax: 080-22185028 Email: msundaram@ nias.res.in; meenakshi54@hotmail. com Joined NIAS on: December 10, 2004

- Experience of a Policy Maker with Social Science Research, National Law School of India University, Bengaluru, March 7, 2023.
- Inaugural Address, 46<sup>th</sup> Annual Conference of the Indian Social Science Academy, Bharatidasan University, Tamil Nadu, January 27, 2023.
- Inaugural Address, Seminar on 'PRIs in Karnataka: Problems, Challenges and Prospects', Centre for Multi- Disciplinary Research (CMDR), Dharwad, November 15, 2022.
- > Participatory Governance, Mysore University, October 22, 2022.
- > Aatmanirbhar Bharat, SRM University, Chennai, September 19, 2022.
- Why Join Civil Services in India, Jain University. Bengaluru, September 15, 2022.
- Evolution of Panchayatiraj in India, Azim Premji University, Bengaluru, September 6, 2022.



- Career Opportunities for Post Graduates in Rural Development, Karnataka State Rural Development and Panchayatiraj University, Gadag, August 6, 2022.
- Impact of COVID 19 Pandemic on the Socio-economic Life of Religious Minorities in Karnataka, National Law school of India University, Bengaluru, July 18, 2022.
- > Implications of Community Swaraj for Women, Dhan Foundation, Bengaluru, June 29, 2022.
- Fiscal Federalism in India and the Impact of 15<sup>th</sup> Finance Commission recommendations on Karnataka, Fiscal Policy Institute, Government of Karnataka, Bengaluru, May 24, 2022.
- Social Justice and Gender Equality in Panchayats, Karnataka State Institute for Rural Development, Mysuru, April 30, 2022.

#### **Memberships**

- Chairman, Committee to Review Karnataka State Rural Development and Panchayat Raj University Act 2016, Government of Karnataka.
- > Chairman, Expert Committee for formulation of a Model Rural Transformation Act, Government of India.
- > Chairperson, India Wash Forum, New Delhi.
- Chairperson, MYRADA.
- > Chairperson, Academic Council, Green Skills Academy, Bengaluru.
- Member, Board of Management, Centre for Sustainable Development, Bengaluru.
- Member, Board of Management, Institute of Social Sciences, New Delhi.
- > Member, Board of Management, IIPA, Karnataka Regional Branch, Bengaluru.
- > Member, Board of Management, DHAN Panchayat Development Foundation, Madurai.
- Member, Karnataka State Policy and Planning Commission.
- Member, Academic Council, Karnataka State Rural Development and Panchayat Raj University, Gadag.
- Member, Technical Advisory Group, FPI, Bengaluru.
- Member, Project Advisory Group, Centre for Multi-Disciplinary Research, Karnataka.
- > Member, Social Audit Monitoring Committee, Government of Chhattisgarh, Raipur.
- Member, Guidance Committee, School of Local Governance at NIRD and PR, Hyderabad.
- Member, Interface Committee, Programme on Science, Technology, Research and Applications, Government of India.
- Member, Advisory Group, Nudge Foundation, Government of Karnataka.
- Member, Editorial Advisory Board, The FPI journal of Economics and Governance.





**Carol Upadhya** Honorary Visiting Professor School of Social Sciences

Room No. S 07 Tele: 080-22185141 Fax: 080-22185028 Email: carol. upadhya@nias.res.in Joined NIAS on: September 1, 2003

**Research Areas:** Urbanization, Labour Mobilities, Rural-Urban Transformations, Local Economies, Circular Labour Migration.

#### Awards

- Senior Visiting Fellow, Institute of Social and Cultural Anthropology, Ludwig-Maximilians-Universität, München, Germany, April to June 2022.
- > Visiting Fellow, Swedish Collegium for Advanced Studies, Spring Term 2022-23.

#### Lectures

- Living the Speculative City: Bengaluru as Urban Future?, Institute for Housing and Urban Research, Uppsala University, Sweden, March 28, 2023.
- Panelist in the Panel Discussion on Properties of Rent: Community, Capital and Politics in Globalising Delhi, Bangalore International Centre, Bengaluru, August 13, 2022.
- Assetizing the Future: Fictive Property and Urban Imaginaries in Amaravati, Max Planck Institute for Social Anthropology, Germany, June 2 to 4, 2022.
- Speculative Urbanism: Land, Livelihoods and Finance Capital, Ludwig-Maximilians-Universität Munich, Germany, May 31, 2022.
- Imagined Futures and Fictive Property: Land, Caste and Antinomies of Accumulation in Amaravati, Georg-August-Universität Göttingen, May 18, 2022.

#### Membership

Co-editor, Journal of South Asian Development (SAGE).





Supriya RoyChowdhury Honorary Visiting Professor School of Social Sciences

Room No. S 15 Tel: 080-22185148 Fax: 080-22185028 Email: supriya@nias. res.in

# Joined NIAS on: February 1, 2021

**Research Areas:** Labour, Trade Unions and Social Movements, Informal Work and Workers, Slums, Migration.

#### Honour

Senior Fellow, Max Weber Stiftung Institute (ICAS-MP Fellowship), New Delhi, April to September 2022.

#### Lectures

- Gender and Labour in Karnataka's Garments Industry", Seminar organized by STICH (Netherlands) CIVIDEP (Bengaluru), February 17, 2023.
- Informal Work and Urban Exclusion, Centre for Policy Research, New Delhi, September 27, 2022.
- Democracy and Debates: Urban Poor Housing Movements in Urban India, Centre of Studies in Developing Societies, Delhi, September 21, 2022.
- Panelist, Discussion on Urban Undesirables: City Transition and Street based Sex Work in Bangalore, Bangalore International Centre, Bengaluru, August 30, 2022.



Aleena Sebastian Assistant Professor School of Social Sciences

Room No. F 33 Tel: 080-22185136 Fax: 080-22185028 Email: aleena. sebastian@nias.res.in Joined NIAS on: June 1, 2021

**Research Areas:** Urban Sociology, Migration and Marginality, Gender and Sexuality, Health Policy, Social Anthropology.

#### Academic Courses

- Transnational Migration, Gender and Work, for NIAS doctoral students, August to December 2022.
- Modules in Qualitative Research Methods, for NIAS doctoral students, August to December 2022.



> Revisiting Gender from the Global South, for NIAS doctoral students, January to May 2023.

# Award

Travel grant from the International AIDS Society to present research paper at AIDS 2022 conference, in Montreal, August 2022.

# Lectures

- Re-imagining Family and Kinship in Contemporary India, Mount Carmel College Bengaluru, September 9, 2022.
- > Matrilineal Kinship, Kristu Jayanti College, Bengaluru, August 30, 2022.
- Impact of COVID-19 on Economic Well-being, Mental Health and HIV Risk among MSM: 24<sup>th</sup> International AIDS Conference, Montreal, July 29 to August 2, 2022.

# Memberships

- > Life Member, Indian Sociological Society.
- Member, Scientific Committee, Gender and Sexuality Conference 2022, The International Institute of Knowledge Management, Sri Lanka.

# Director



Shailesh Nayak Director

Room No. F 15 Tele: 080-23601969 Fax: 080-22185076 Email: director@nias. res.in Joined NIAS on: March 19, 2018

**Research Areas:** Earth System Science, Blue Economy, Science Diplomacy, Sustainability.

#### Awards

- Life Time Achievement Award by Geospatial World, Noida, October 15, 2022.
- Prof RC Misra Life Time Achievement Award and Gold Medal, The Palaeontological Society of India, Lucknow, October 16, 2022.

#### Honours/Memberships

- Chancellor, TERI School of Advanced Studies, New Delhi.
- Life Trustee, India International Centre, New Delhi.
- Editor-in-Chief, Journal of the Indian Society of Remote Sensing, Dehradun.
- > Honorary Scientific Consultant, Office of the PSA, Government of India.
- Fellow, Indian National Science Academy, New Delhi.
- Fellow, Indian National Science Academy, Delhi.
- Fellow, National Academy of Sciences, India, Allahabad.
- > Fellow, Indian Academy of Sciences, Bengaluru.
- Fellow, International Society of Photogrammetry, Remote Sensing and Spatial Sciences.
- > Academician, International Academy of Astronautics, Paris.
- President, Indian Geophysical Union, Hyderabad (2020-2022).
- President, Mangrove Society of India, Goa.
- > Chair, Research Council, ESSO-National Centre for Polar and Ocean Research, Goa.
- > Chair, Research Council, ESSO-National Centre for Coastal Research, Chennai.
- Chair, Research Council, Wadia Institute of Himalayan Geology, Dehradun.
- Chair, National Nitrogen Steering Committee, Ministry of Environment and Forests, Government of India.
- Chair, Blue Flag National Jury India.



- > Chair, Screening cum Expert Committee, Facility Creation Projects, CSIR.
- > Chair, Expert Committee, Coastal Regulation Zone.
- > Co-Chair, Monsoon Mission-III, Ministry of Earth Sciences, Government of India.
- Chair, Programme Advisory Committee (PAC)-Koyna Deep Borehole Research, Ministry of Earth Sciences, Delhi.
- Chair, Project Appraisal and Monitories Committee for Collaborative Projects under Deep Ocean Missions, Ministry of Earth Sciences, Government of India.
- Chair, Committee for Review of Recruitment Rules and the Recruitment Process of Scientists in CSIR, CSIR, Delhi.
- > Chair, Committee on Performance Review Mechanism for Directors of CSIR Labs
- > Member, Governing Board, The Energy and Resources Institute, New Delhi.
- > Member, Governing Board, Foundation for Ecological Security, Anand.
- > Member, Governing Council, Indian Council of World, New Delhi.
- > Member, Governing Board, Research and Information System for Developing Countries, New Delhi
- Member, Board of Indian National Space Promotion Authorization Centre, Department of Space, Government of India.
- Member, Space Economy Sector, NITI Aayog, Government of India, October 14, 2022.
- > Member, Search-cum-Selection Committee, Office of Principal Scientific Adviser.
- > Member, Search-cum-Selection Committee, Ministry of Earth Sciences
- > Member, Search-cum-Selection Committee, Department of Science and Technology, Government of India.
- Member, Advisory Committee on National Environment, Forest and Climate Disaster Management Plan, NIDM, New Delhi.
- Regional Member for Asia, International Society of Photogrammetry, Remote Sensing and Spatial Sciences (ISPRS).
- > Member, International Science Advisory Committee, ISPRS.
- > Member, Board of Trustees, the ISPRS Foundation.

- ▶ How G20 can Leverage S&T in the Maritime Domain? G20 Policy Brief Forum, IMU, Chennai, March 17, 2023.
- Space Sector in India Role of Diplomacy and Economy. 63<sup>rd</sup> National Security and Strategic Studies Course, National Defence Collage, New Delhi, February 23, 2023.
- Climate Risks to Wetland Ecosystems and Biodiversity, 3<sup>rd</sup> International Workshop on Biodiversity and Climate Change, IIT-Kharagpur, Kharagpur, February 17, 2023.
- Goals for Earth Science Research for Coming Decades. SAMANVAYA and NCCSD. New Delhi, December 13, 2022.
- India's Strategy for the Polar Region, National Webinar on India's Arctic Policy, University Grants Commission, New Delhi (Online), December 9, 2022.
- Tsunami, Earthquakes and Cyclones, Science Diplomacy Workshop, UNESCO-TWAS Central and South Asia, JNCASR and NIAS, October 20, 2022.
- Blue Economy Development. Engineers Conclave 2022, ISRO and INAE LPSC, Thiruvananthapuram, October 13, 2022.



- A Scientific Drilling in Koyna: An Experiment to Understand Triggered Earthquakes. Keynote Address at the 3<sup>rd</sup> Inter Virtual Workshop on Global Seismology and Tectonics – 2022, CSIR-NEIST, Jorhat, September 20, 2022.
- From Ocean Science to Blue Economy. PRL Platinum Jubilee Year Celebrations, Ahmedabad, September 7, 2022.
- Earth Observation and Geospatial Data Policy of India. 9th International Digital Earth Summit, Anna University, Chennai, September 6, 2022.
- > Arctic Warming and Its Implications. Indian Maritime University, Chennai, September 5, 2022.
- Managing Coastal Zone: Challenges in the 21<sup>st</sup> Century. Applications Meet on EO Based Coastal Studies, SAC-ISRO, Ahmedabad, August 24, 2022.
- The Himalaya in the 21<sup>st</sup> Century Ecology, Environment and Geopolitics. American Chemical Society, Webinar, July 19, 2022.
- Earth System Science: Policy for Societal Benefits. Borehole Geophysics Research Laboratory, Karad, July 5, 2022.
- Managing Public Risks. Geoinformation as Enabler of DRR. Panel at International Data week, CODATA. SciDataCon-IDW Seoul-2022, Seoul (Online), June 21, 2022.
- Mitigating and Adapting to Climate Change What People Can Do? Student-Science Interaction, NIAS, May 9, 2022.

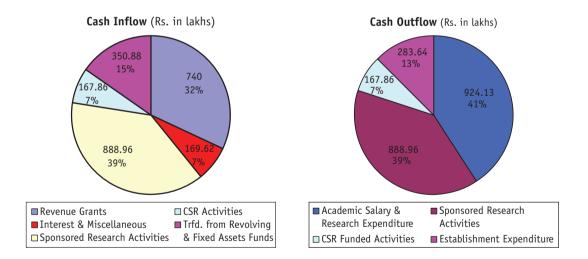


# ADMINISTRATION

As a registered society, NIAS derives its administrative and financial authority through the society, represented by the general body. The Council of Management, which is currently chaired by Shri S Ramadorai, is vested with full power and authority to do all acts, deeds, etc. which are necessary for the promotion and fulfillment of the objectives set out in the Memorandum of Association. The Director, presently Dr Shailesh Nayak is the chief executive and exercises general, administrative, and financial control over the affairs of NIAS. The Director is assisted in the administrative and finance matters by the Head, Admin. & Finance.

Besides management of all resources such as infrastructure, finance, human resources, estates etc., general administrative matters are also handled by Head, Admin. & Finance. Administration enables the recruitment and deployment of staff, servicing their needs and empowering them to effectively contribute to the objectives of NIAS. It services the students' programme in which sixty-eight students work for their Ph.D. degrees. The administration also takes care of the campus, its facilities such as the Auditorium, lecture halls, meeting rooms, classrooms, guesthouse, dining halls, etc. and all other infrastructure of NIAS. The administration also plays a unique role in conducting various programmes including training courses. Procurement of materials and consumables, maintenance of facilities, inventory control, etc. are also done by the Administration. Compliance with various statutory requirements such as Provident Fund, Professional Tax, Income Tax, etc., is also taken care by Administration. The administrative setup consists of, in addition to the Head-Administration, an Office Manager, three Assistant Managers in the area of Administration, Accounts & Finance and IT and other Secretarial / Office / Supporting Staff, in all numbering 30.

Finance management, accounting, auditing (internal and statutory), resource mobilization and expenditure control are carried out systematically. An overview of finances for the year 2022-23 is given below:



NIAS has a specified investment of Rs.1222.10 lakhs (exclusive of project funds) as on 31st March 2023.

During the year, the Institute has received 10 new research projects with a total value of Rs.523.31 lakhs. The total value of projects handled during the year including the projects sanctioned in the earlier years was Rs.3920.43 lakhs. This is inclusive of CSR funded initiatives. The foreign exchange component included in this sum was Rs. 382.47 lakhs.





**P Srinivasa Aithal** Head, Administration and Finance

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Joined NIAS on: November 1, 1995



**B Lalu** Office Manager

Room No. Admin Block Tele: 080-22185029 Fax: 080-22185028 Email: manager@nias.res.in



Joined NIAS on: April 16, 2012

A Deva Raju Coordinator (Admin & Logistics)

Room No. Admin Block Tele: 080-22185027 Fax: 080-22185028 Email: adevaraju@gmail.com

Joined NIAS on: March 27, 1989



**P Satish Bhat** Assistant Manager (Accounts and Finance)

Room No. Admin Block Tele: 080-22185023 Fax: 080-22185028 Email: accounts@nias.res.in

Joined NIAS on: June 22, 2009





#### Ramprasad R Assistant Manager (IT)

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Joined NIAS on: December 27, 2021



V Girija Administrative Coordinator

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**KS Rama Krishna** Administrative Coordinator

Joined NIAS on: March 26, 1992

Room No. Admin Block Tele: 080-22185132 Fax: 080-22185028 Email: ksr@nias.res.in

Joined NIAS on: December 10, 1990



**S Lalitha** Administrative Coordinator

Room No. F 15 Tele: 080-22185075 Fax: 080-22185028 Email: lalitha@nias.res.in

Joined NIAS on: October 1, 1992



**VB Mariyammal** Senior Executive Assistant

Room No: F 15 Tele: 080-22185078 Fax: 080-22185028 Email: nias\_mmu@yahoo.co.in

Joined NIAS on: December 1, 2006





JN Sandhya Senior Executive Assistant

Room No. Admin Block Tele: 080-22185024 Fax: 080-22185028 Email: jnsandhya@nias.res.in

Joined NIAS on: February 11, 1997



**R Vijayalakshmi** Senior Executive Assistant

Room No. Library Tele: 080-22185021 Fax: 080-22185028 Email: vlakshmi@nias.res.in



Joined NIAS on: October 9, 1996

V Ravisha Executive Assistant (Accounts)

Room No. Admin Block Tele: 080-22185030 Fax: 080-22185028 Email: ravisha@nias.res.in

Joined NIAS on: February 3, 2020



**MS Shivakumar** Executive Assistant (Accounts & Admin)

Room No. Admin Block Tele: 080-22185030 Fax: 080-22185028 Email: skumar@nias.res.in

Joined NIAS on: July 7, 2008



AS Mary Stella Executive Assistant

Room No. Reception Tele: 080-22185000 Fax: 080-22185028 Email: stella@nias.res.in

Joined NIAS on: June 23, 1994





**Guruprasanna TS** Junior Executive Assistant (Technical)

Room No. G 10 Tele: 080-22185026 Fax: 080-22185028 Email: gurunias@nias.res.in

Joined NIAS on: May 3, 2021



Rajesh K Junior Executive Assistant (Library)

Room No. Library Tele: 080-22185092 Fax: 080-22185028 Email: rajeshkotappa@nias.res.in

Joined NIAS on: March 1, 2023



VA Ramesh

Junior Executive Assistant (Technical)

Room No. Auditorium Tele: 080-22185057 Fax: 080-22185028 Email: ramesh@nias.res.in

Joined NIAS on: July 1, 2011



# SUPPORT STAFF



Left to Right Row-1: R Harish, N Rajesh, B Shivanandappa, Shivakumar, S Sampath, Mohammed Umar Row-2: SR Rathnam, Chandrashekar, N Ramesh, V Srinivasa, G Nagaraja Row-2: Mujeeb Pasha, G Venugopal, Gajanana S Naik



# NIAS FINANCIAL REPORTS

Deloitte Haskins & Sells LLP Chartered Accountants One International Centre, Tower 3, 27<sup>th</sup> -32<sup>nd</sup> Floor Senapati Bapat Marg, Elphinstone Road (West) Mumbai – 400 013, Maharashtra, India

Tele: + 91 22 6185 4000, Fax: +91 22 6185 4001

#### **INDEPENDENT AUDITORS' REPORT**

#### TO THE MEMBERS OF NATIONAL INSTITUTE OF ADVANCED STUDIES Opinion

We have audited the accompanying financial statements of **NATIONAL INSTITUTE OF ADVANCED STUDIES** ("the Society"), which comprise the Balance Sheet as at March 31, 2023, and the Statement of Income and Expenditure for the year ended and a summary of significant accounting policies and other explanatory information.

In our opinion and to the best of our information and according to the explanations given to us, the aforesaid financial statements give a true and fair view in conformity with the Accounting Standards issued by the Institute of Chartered Accountants of India (ICAI) and accounting principles generally accepted in India, of the state of affairs of the Society as at March 31, 2023, and its excess of expenditure over income for the year ended on that date.

#### **Basis for Opinion**

We conducted our audit of the financial statements in accordance with the Standards on Auditing (SAs) issued by ICAI. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report.

We are independent of the Society in accordance with the Code of Ethics issued by the Institute of Chartered Accountants of India together with the ethical requirements that are relevant to our audit of the financial statements, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the ICAI's Code of Ethics. We believe that the audit evidence obtained by us is sufficient and appropriate to provide a basis for our audit opinion on the financial statements.

#### Management's Responsibility for the Financial Statements

The Society's management is responsible for the preparation of these financial statements that give a true and fair view of the financial position, financial performance of the Society in accordance with the Accounting Standards and other accounting principles generally accepted in India. This responsibility also includes maintenance of adequate accounting records to safeguard the assets of the Society and for preventing and detecting frauds and other irregularities; selection and application of appropriate accounting policies; making judgments and estimates that are reasonable and prudent; and design, implementation and maintenance of adequate internal financial controls, that were operating effectively for ensuring the accuracy and completeness of the accounting records, relevant to the preparation and presentation of the financial statement that give a true and fair view and are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Society's management is responsible for assessing the society's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the entity or to cease operations, or has no realistic alternative but to do so.

The Society's Management is responsible for overseeing the Society's financial reporting process.



#### Auditor's Responsibility for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with SAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit in accordance with SAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal financial control relevant to the audit in order to design audit
  procedures that are appropriate in the circumstances but not for the purpose of expressing an opinion on
  the effectiveness of the Society's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Society's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Society to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

Materiality is the magnitude of misstatements in the financial statements that, individually or in aggregate, makes it probable that the economic decisions of a reasonably knowledgeable user of the financial statements may be influenced. We consider quantitative materiality and qualitative factors in (i) planning the scope of our audit work and in evaluating the results of our work; and (ii) to evaluate the effect of any identified misstatements in the financial statements.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

For **DELOITTE HASKINS & SELLS LLP** Chartered Accountants (Firm Registration No. 117366W/ W-100018)

> **Sd/-**Joe Pretto (Partner) (Membership No. 77491)

MUMBAI, Dated: October 27, 2023.



# BALANCE SHEET AS AT MARCH 31, 2023

Particulars		As at March 31, 2023 (In Rupees)	As at March 31, 2022 (In Rupees)
FUNDS AND LIABILITIES			
Funds			
(a) Corpus Fund		33,500,000	33,500,000
(b) Fixed Assets Fund		60,930,893	65,019,029
(c) Earmarked Funds		103,261,099	67,380,676
(d) Other Funds		88,710,000	119,710,000
(e) Income & Expenditure Account		24,120,833	24,305,997
		310,522,825	309,915,702
Current Liabilities and Provisions			
(a) Current Liabilities		631,779	1,384,327
(b) Provisions		2,301,637	2,336,590
		2,933,416	3,720,917
τα	DTAL	313,456,241	313,636,619
ASSETS			
(a) Fixed assets			
-Tangible Assets		80,434,018	85,891,918
(b) Investments		112,626,500	150,634,600
(c) Loans and advances		9,139,966	9,155,347
(d) Cash and bank balances		111,063,257	67,249,644
(e) Other Receivables		192,500	705,110
т	OTAL	313,456,241	313,636,619

In terms of our report attached. For **Deloitte Haskins & Sells LLP** Chartered Accountants For National Institute of Advanced Studies

Sd/-Joe Pretto Partner

Place : Mumbai Date : October 27, 2023 Sd/-Dr. Shailesh Nayak Director Sd/-P. Srinivasa Aithal Head-Administration

Place : Bengaluru Date : October 27, 2023

Particulars	2022-23 (In Rupees)	2021-22 (In Rupees)
Income		
Grant income	183,770,101	183,731,479
Other income	16,961,638	11,469,551
Total Income	200,731,739	195,201,030
Expenses		
Sponsored Research Expenditure	105,682,032	103,981,219
Research Expenditure	92,413,381	82,913,544
Establishment Expenditure	28,177,937	24,374,737
Depreciation	5,643,553	6,131,428
Total Expenses	231,916,903	217,400,928
Excess of Expenditure over Income for the year carried to Balance Sheet	(31,185,164)	(22,199,898)

# INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED MARCH 31, 2023

In terms of our report attached. For **Deloitte Haskins & Sells LLP** Chartered Accountants

Sd/-Joe Pretto Partner

Place : Mumbai Date : October 27, 2023 Sd/-Dr. Shailesh Nayak Director Sd/-P. Srinivasa Aithal Head-Administration

For National Institute of Advanced Studies

Place : Bengaluru Date : October 27, 2023



#### NATIONAL INSTITUTE OF ADVANCED STUDIES

# SIGNIFICANT ACCOUNTING POLICIES AND NOTES ON ACCOUNTS FORMING PART OF THE FINANCIAL STATEMENTS AS AT MARCH 31, 2023

#### 1) (a) Organization Overview:

The National Institute of Advanced Studies ("Society/Institute") is registered as a Society under the Karnataka Societies Registration Act, 1960, vide No.139/88-89 dated June 20, 1988.

Society is registered under Section 12A (a) of the Income Tax Act, 1961, vide No. Accts/718/10A/ VOL./A II/N-110, dated February 13, 1990.

Society is registered under Foreign Contribution (Regulation) Act, 1976 ("FCRA") vide registration no. 094420614 dated October 1, 1993.

FCRA authorities have renewed FCRA certificate for the period starting from April 1, 2022 to March 31, 2027 vide letter dated January 5, 2022.

#### (b) The main objectives of the Society include:

- I. To establish and develop an Institute of Advanced Studies in order to impart higher knowledge and conduct Research;
- II. To set up and sponsor research groups on problems relating to the development of the country and for identifying problems which require immediate study and resolution; and
- III. To provide programmers of varying duration for executives and officers of Government, Public and Private Enterprises, and Personnel of Universities, Defense services and the Professions, to broaden their cultural and academic background for the successful performance of their duties.

#### 2) Significant Accounting Policies:-

#### A. <u>Basis of Preparation of Financial Statements:</u>

The financial statements have been prepared in accordance with historical accounting convention and on the accrual basis of accounting. The Accounting Policies adopted in preparation of financial statements are consistent with those followed in the previous year.

#### B. Fixed Assets:

Fixed assets are stated at written down values i.e. cost of acquisition less accumulated depreciation. Cost of acquisition of fixed assets includes all direct expenses relating to acquisition of the asset.

#### C. <u>Depreciation</u>:

Depreciation on the fixed assets has been provided on written down value basis, in accordance with the rates prescribed under Income Tax Act, 1961.

#### D. <u>Revenue Recognition:</u>

- a) Donation/Revenue Grants are recognized as income in the Income and Expenditure Account in the period in which the collections are actually received.
- b) Earmarked grants are initially credited to a liability account in the Balance Sheet and are transferred to Income and Expenditure Account in the year in which and to the extent to which the Institute complies with the conditions attached to them.



- c) Interest Income is recognized in the time proportion basis taking into account the amount outstanding.
- d) Income from symposia, seminars and workshops are recognized as income as and when symposia, seminars and workshops are organized and held.

#### E. Foreign Exchange Transactions:

Transactions denominated in foreign currency are accounted at the transacted exchange rates.

#### F. Investments:

Investments are stated at cost less provision for diminution, other than temporary, in the value of such investments.

#### G. Employee Benefits:

Employee benefits include provident fund, gratuity fund and compensated absences.

#### Short Term Benefits:

Short term Employee Benefits are accounted as expenses in the income and expenditure account in the year in which service is rendered. These benefits include compensated absences, which are expected to occur within twelve months after the end of the period in which the employee renders the related service.

#### Post Employment Benefits and Other long term Employee Benefits:

Provident Fund contributions in respect of Employees' is deposited to the Employees' Provident Fund Organisation as per statutory rates.

For defined benefit plans in the form of gratuity fund, the cost of providing benefits is determined using the Projected Unit Credit method, with actuarial valuations being carried out at each Balance Sheet date. Actuarial gains and losses are recognized in the Income & Expenditure Account in the period in which they occur. Past service, cost is recognised immediately to the extent that the benefits are already vested and otherwise is amortised on a straight-line basis over the average period until the benefits become vested.

Compensated absences, which are not expected to occur within twelve months after the end of the period in which the employee renders the related services, are recognised as an actuarially determined liability at the present value of the defined benefit obligation at the balance sheet date, as reduced by the fair value of scheme assets.

#### H. Provisions and Contingent Liabilities:

Provisions are recognized when the society recognizes that it has a present obligation as a result of past events, it is more likely than not that an outflow of resources will be required to settle the obligation and the amount can be reasonably estimated.

Provisions are not discounted to their present value and are determined based on best estimate required to settle the obligation at the balance sheet date. These are reviewed at each balance sheet date and adjusted to reflect the current best estimates.

Contingent liabilities are not recognized but disclosed in the notes to financial statement. Contingent assets are neither recognized nor disclosed in the financial statement.

#### I. <u>Revolving Fund:</u>

Revolving Fund is in the nature of contingency reserve fund. The interest earned on investment made out of the Revolving fund is used to meet the revenue expenditure of the Institute and the fund may be used to meet shortfall, if any, in general fund and replenished back as and when surplus funds



are available, in order to keep the revolving fund intact. During the year the Institute had drawn an amount of Rs.310.00 lakhs (Previous year March 31, 2022, of Rs.210.00 lakhs) to meet the revenue shortfall.

# J. <u>Recognition of Capital Grants:</u>

Capital Grants received towards cost of fixed assets is credited to Fixed Assets Fund. The society has adopted Accounting Standard -12 issued by ICAI, in the case of Capital Grants. Accordingly, an amount equal to the depreciation on the assets created out of such grants is transferred from Fixed Assets Fund to Income and Expenditure Account.

#### 3) Section 12A Registration:

The Society is registered under Section 12A (a) of the Income Tax Act, 1961, vide No. Accts/718/10A/ VOL./A II/N-110, dated February 13, 1990 which entitles it to claim an exemption from Income tax provided certain conditions laid down in the Income Tax Act 1961 are complied with. Provision for tax will be made only in the year in which the Society is unable to establish reasonable certainty of its ability to fulfill these conditions.

# 4) Land Lease:

The NIAS had entered into lease agreement with Indian Institute of Science, Bangalore ("Institute") dated August 28, 1990 for plot of land of 5 acres for establishment of NIAS by way of license to NIAS, for the organisation and functioning of the NIAS at the Institute. The institute will levy a nominal amount of Rs. 1 (Rupee One only) per annum on the NIAS as license fee for the use of Institute ground. The said lease is perpetual in nature till the conditions specified in the agreement is observed. In failure to non-observance of the said conditions the Institute will revoke the licence and enter upon the site and buildings.

- 5) Due to the cash flow deficit, the Council of Management resolved via circular resolution dated 22.09.2022 and 16.03.2023 to authorize the management to withdraw an amount of Rs.150 lakhs and upto Rs.300 lakhs respectively from the revolving fund. During the year, the Institute had drawn an amount of Rs.310 lakhs (Previous year March 31, 2022, of Rs.210 lakhs) to meet the deficit. Since, the revolving fund is to meet temporary funding requirement and needs to be replenished, the amount drawn down has been adjusted with accumulated Income and Expenditure balance.
- 6) Previous years' figures have been regrouped/ reclassified wherever necessary.

#### For and on behalf of National Institute of Advanced Studies

Place: Bengaluru Date: October 27, 2023 Sd/-Dr. Shailesh Nayak Director Sd/-P. Srinivasa Aithal Head-Administration

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# RESEARCH PROGRAMMES AND PROJECTS

Sl. No.	Title of the R&D Project	Funding Agency	Name of the Project Investigator	Duration	Value (Rs. in lakhs)	
	School of Conflict and Security Studies					
1.	KAS Sponsored Project – Study on Armed Conflicts and Peace Process: A Global Primer (IPRI)	KAS	Prof D Suba Chandran	Apr′22 – Mar′23	25.72	
2.	Study on Adopting Sustainability into the Tourism Development	GoK	Dr Anshuman Behera	Jan'19 – Jun'22	23.75	
3.	Study of Weapon System Cyber Security Vulnerabilities	DRDO	Prof PM Soundar Rajan	Jul'20 – Jul'22	38.75	
4.	Critical Weapon System Technologies, Sensors and Platforms for National Security	DRDO	Prof Srikumar Pullat	Dec'20 – Jul'22	203.34	
5.	Hosting of the BRICS YS Forum Secretariat and Implementation of Its Scientific Activities/Events etc.	DST	Prof D Suba Chandran	Apr′21 – Mar′23	66.85	
6.	NIAS-ICWA Research on PR Insights: Weekly Dispatch on Contemporary Pakistan	ICWA	Prof D Suba Chandran	Apr'21 – Mar'23	23.57	
7.	NIAS-ICWA Research on Indian Neighbourhood	ICWA	Prof D Suba Chandran	Apr'21 – Mar'23	2.50	
8.	Preparation of Social Impact Assessment for proposed Kalpasar Dam at Gulf of Khambhat, Gujarat	NCCR – MoES	Dr Anshuman Behera	Dec'21 – May'23	133.58	
9.	Formal and Informal Decentralization: A Study of Manipur and Mizoram	ICSSR	Dr Anshuman Behera	Mar'22 – Mar'24	12.60	
	School of Humanities					
10.	Exploring India's Medieval Coastline Using Geospatial Analysis and Historical Records	MoES	Dr MB Rajani	Mar′18 – Mar′23	52.12	
11.	Casual Structure, Vimarsa and the Pratyabhijna: A Comparative Research Study on Kashmir Saivism and Information Theory	TET	Prof Sangeetha Menon	Mar′18 – Jul′22	161.15	
12.	Documentation and Study of Alternate and Indigenous Psychiatric and Psychological Practices of Healing and Wellness (With a Pilot Project of Model Building Focusing on Kerala)	TET	Prof Sangeetha Menon	Mar'18 – Jul'22	125.91	
13.	Causality Testing in Cognitive Neuroscience with Applications to Measures of Consciousness	DST	Dr Nithin Nagaraj	Jul'18 – Jul'22	22.43	



Sl. No.	Title of the R&D Project	Funding Agency	Name of the Project Investigator	Duration	Value (Rs. in lakhs)
14.	A Study of Consciousness Measures and Synchrony between Brain Cardiovascular Dynamics in Yoga Experience	DST	Dr Nithin Nagaraj	Aug' 18 – Aug' 22	33.08
15.	Historical Water Systems in the Extended Landscape of Malaprabha River Valley	DST	Dr MB Rajani	Aug'19 – Mar'23	36.17
16.	Cultural Landscape Research: Characterising and Managing Built Heritage Sites	ISRO	Dr MB Rajani	Ocť19 – Sepť 23	39.23
17.	Project on Lamp Making, Vilakku: Illuminating the Lamp Making Metal Craft of South India	The Luigi Laura Dallapicola Foundation	Prof Sharada Srinivasan	Jun'20 – May'22	8.93
18.	Understanding the Past: Intervention through Dissemination – Phase-II	SFL	Dr Smriti Haricharan	Nov'20 – Oct'22	15.00
19.	NIAS, Bangalore and SAC, Ahmedabad Joint Work Plan on Geo-Archaeology	SAC, ISRO	Dr MB Rajani	Dec'20 – Mar'24	17.88
20.	Archeometallurgical Insights on Ancient Tamil Sites	TCS	Prof Sharada Srinivasan	Mar′21 – Jun′22	30.00
21.	A Documentational Study on Indigenous Cultures and Art, Craft and Health Traditions of Lesser Known, and Tribal Communities.	SKF	Prof Sangeetha Menon	Apr'21 – Mar'23	15.00
22.	Archaeometallurgical, Ethnometallurgical and Ethnoarchaeological Investigations on Metal Artefacts and Related Tangible Heritage from Early Tamil Sites	DST	Prof Sharada Srinivasan	Sepť21 – Sepť24	119.60
23.	Investigation into the Chaotic Dynamics of Neural Networks	SERB	Dr Nithin Nagaraj	Dec'21 – Dec'24	10.05
24.	The Visual Ethnography of Tribal Culture: An Emic Representation Through a Thematic Painting Series-25 Paintings by Artists from Three Tribal Communities on Their Life and Living	SKF	Prof Sangeetha Menon	Apr'22 – Mar'24	7.00
25.	Material Culture and Experimental Crafts Explorations into Early Tamil and Harappan Metal, Pottery and Bead Finds	TCS	Prof Sharada Srinivasan	Mar'23 – Feb'26	158.24
26.	Orientation of Temples of South India and Their Astronomical Associations	IKS	Dr MB Rajani	Jan'23 – Dec'24	14.66
	School of Na	atural Sciences	and Engineering		
27.	Advanced Epilepsy Research: A Multidisciplinary Approach	OPSA	Dr Madhusoodan Hosur	Apr'18 – May' 22	71.02
28.	To Understand the Interaction between Components of Earth Systems and Human Systems at Various Spatial and Temporal Scales	MoES	Prof R Srikanth	May'18 – May'23	318.00

Sl. No.	Title of the R&D Project	Funding Agency	Name of the Project Investigator	Duration	Value (Rs. in lakhs)
29.	Drug Discovery Research Project on the Selection and Prioritization of Target and Lead Molecules for Neglected Diseases or Diseases of Interest to India such as Tuberculosis and Chikungunya	OSPF	Dr Madhusoodan Hosur	Jun'18 – May'23	86.25
30.	Urban Ecologies: Governing Nonhuman Life in Global Cities	ERC	Prof Anindya Sinha	Aug'18 – Jul'24	184.38
31.	Water Hyacinth: A Resource for Energy, Rural Enterprise and Women Empowerment in Kuttanad Region, Kerala	DST	Dr V Jayasree	Jan'19 – Jun'22	26.38
32.	Frugal Innovation Nurturing Programme (FINP)	INAE	Prof V Bhujanga Rao	Feb'19 – Mar'23	25.00
33.	Complex Dynamics of Simple Nonlinear Mechanical Systems and Their Applications	SERB	Prof Janaki Balakrishnan	May'19 – Apr'22	6.60
34.	Research Project on Affordance Learning: From Object Play to Tool Use	Leakey Foundation	Prof Anindya Sinha	Jul'19 – Mar'23	15.61
35.	Human Reliability Programme	Texas A&M University	Prof M Sai Baba	Aug'19 – Mar'23	32.84
36.	Early Fusion Music: Cross-Cultural Musical Exchanges in Colonial India from the Late 18 <sup>th</sup> to the Early 20 <sup>th</sup> Century	DST	Prof Anindya Sinha	Aug'19 – Mar'23	40.84
37.	Project on Cost of Food Choices in India	HSI	Prof Sindhu Radhakrishna	0cť19 – Apr'22	13.60
38.	Food Object Recognition in Primates: How Do Monkeys Identify Novel Food as Edible Objects	DST	Prof Sindhu Radhakrishna	Mar'20 – Sept'23	24.56
39.	Addressing the Complex Challenges Facing India and Global Society in the Area of Environmental Sciences	IGMT	Prof Vinay Kumar Dadhwal	Sept'20 – Aug'25	300.00
40.	Epilepsy Research – 1) Use Database and Molecular Modeling Techniques to Modify the Presently used AEDs for Better Performance, and 2) Synthesise and Test on Biological Systems the Designed Derivative Drugs	BBST	Dr Madhusoodan Hosur	0cť20 – Mar′24	44.70
41.	Understanding Elephant-human Interaction Patterns in a Human-Wildlife Conflict Landscape in Northern Eastern India	Rufford Foundation	Prof Anindya Sinha	Jan'21 – Jun'22	5.86
42.	SERB-National Post-Doctoral Fellowship Programme for Scientific Social Responsibility (SSR) Activities	SERB	Prof Anindya Sinha	Feb'21 – Feb'23	22.37
43.	Indian Rare Earth Industry-A Status Report	IREL	Dr Rudrodip Majumdar	Jul'21 – Mar'22	28.71



Sl. No.	Title of the R&D Project	Funding Agency	Name of the Project Investigator	Duration	Value (Rs. in lakhs)
44.	Dynamics of Complex Systems: Effect of the Environment on Living Systems	SERB	Prof Janaki Balakrishnan	Jul'21 – Jul'24	29.16
45.	INSPIRE Faculty Fellowship Programme	DST	Dr Ramya B Prabhakaran	Aug'21 – Jul'26	112.40
46.	Preparation of Draft Chapter on Climate Change Mitigation for India's Third National Communication	MOEF & CC	Dr Tejal Kanitkar	Sepť21 – May′23	34.25
47.	Identification of Potential Sites for Nuclear Power Plants for a Sustainable Energy Mix	BRNS-DAE	Prof R Srikanth	Dec'21 – Dec'23	14.85
48.	Coping with an Invader: Understanding the Behavioral Adaptations Exhibited by the Juveniles of Deccan Mahseer in Response to Alien Invasive Fishes	SERB-DST	Dr VV Binoy	Feb'22 – Feb'25	39.89
49.	Assessment of a Multidisciplinary Framework for Human-Wildlife Coexistence in the Indian Western Himalaya	Rufford Foundation	Prof Anindya Sinha	Apr'22 – Jun'23	9.80
50.	Research Study Titled Information on Coal for India's Third National Communication	MOEF & CC	Prof R Srikanth	Jul'22 – Mar'23	8.00
51.	Enhancing Domestic Coking Coal Availability to Reduce the Import of the Coking Coal	NITI Aayog	Prof R Srikanth	Aug'22 – Jul'23	21.18
52.	Study the Interactions between Energy Security, Environment, and Climate Change	OPSA	Prof R Srikanth	Mar'23 – Mar'26	92.95
53.	Joint Research Project in the Area of Forest and Climate Change	IWST	Prof Vinay Kumar Dadhwal	Apr'22 – Mar'23	5.00
	Sci	nool of Social S	iciences		
54.	Interdisciplinary Approaches to Economic Issues	RBI	Prof Narendar Pani	On-going	6.00 (Yearly Interest)
55.	Speculative Urbanism: Land, Livelihoods and Finance Capital	NSF	Prof Carol Upadhya	Jan'17 – Sept'22	60.54
56.	Vocational Skill Policy, Dropout Reduction and Employability Among Adolescent Youth: A Study in Odisha and Assam	TSWT	Dr Jeebanlata Salam	Nov'20 – May'23	106.88
57.	Inequality and Human Development	TCSF	Prof Narendar Pani	Dec'20 – Jul'23	518.50
58.	Labour Supply Chains in the Construction Industry: Circular Migrants, Contracting and Covid	APU-IITH	Prof Carol Upadhya	Ocť21 – Sepť23	7.29
59.	NIAS IKS Centre on Mathematics, Computation and Information Science	IKS	Prof Shailaja Sharma D	Apr'22 – Mar'24	14.05

Sl. No.	Title of the R&D Project	Funding Agency	Name of the Project Investigator	Duration	Value (Rs. in lakhs)
60.	Influence of Minority and COVID-19 Stressors on HIV Risk and Access to Services among MSM and Transgender Women: A Longitudinal Observational Cohort (S3-plus) Study in Chennai	IAVI	Dr Aleena Sebastian	Apr'22 – Jun'23	25.19
61.	NIAS-EGT Programme: Identification and Mentoring Gifted and Talented Children in India – NIAS ALCs School Partnership Projects for Age Group 11-16 years	RGMFE	Prof Anitha Kurup	Mar'23 – Mar'26	170.67



# STAFF

**Director** Shailesh Nayak

#### **Professors Emeritus** K Kasturirangan VS Ramamurthy

#### Professors

Janaki Balakrishnan D Suba Chandran, *Dean (School of Conflict and Security Studies)* Anitha Kurup Sangeetha Menon, *Dean (School of Humanities)* Narendar Pani, *Dean (School of Social Sciences)* Sindhu Radhakrishna Anindya Sinha R Srikanth, *Dean (School of Natural Sciences and Engineering)* Sharada Srinivasan

#### **Visiting Professors**

Gufran Beig, Sir Ashutosh Mukherjee Chair Professor S Chandrashekar, JRD Tata Chair Visiting Professor Vinay Kumar Dadhwal, Indira Gandhi Chair Professor PG Diwakar, ISRO Chair Professor AV Krishnan, Raja Ramanna Chair Professor Sudha Mahalingam, Raja Ramanna Chair Professor (till August 29, 2022) Deepti Navaratna, TV Raman Pai Chair Visiting Professor Shailaja D Sharma, S Radhakrishnan Chair Visiting Professor DK Srivastava, Homi Bhabha Chair Professor (till August 4, 2022) Malavika Kapur SS Meenakshisundaram Srikumar Pullat (till July 29, 2022) PM Soundar Raian N Ramani

#### **Honorary Visiting Professors**

M Sai Baba PS Goel Rajaram Nagappa S Ranganathan V Bhujanga Rao Sisir Roy Supriya RoyChowdhury DK Srivastava Carol Upadhya

#### **Associate Professors**

Anshuman Behera VV Binoy Tejal Kanitkar M Mayilvaganan Srikumar M Menon Nithin Nagaraj MB Rajani Shivali Tukdeo (*till February 10, 2023*)

#### **Assistant Professors**

Debosree Banerjee Chetan Choithani Shalini Dixit Anant Kamath Rudrodip Majumdar Tarun Menon (*till July 29, 2022*) Amit Mukherjee Prakash Panneerselvam Jeebanlata Salam Harini Santhanam (*till July 28, 2022*) Aleena Sebastian

### **DST-INSPIRE Faculty Fellow**

P Ramya Bala

#### **Post-Doctoral Associates**

Anjani Devi Sapam Tuleshwari Devi (*till December 30, 2022*) Nisar Kannangara Kripa MK Abhilash Maryada (*till April 20, 2022*) Arijit Pal (*till February 18, 2023*) Shaik Vazeed Pasha Shankar Rajaraman (*till June 3, 2022*) S Udayakumar Mahima Upadhya

#### Library and Information Officer

Hamsa Kalyani (till November 30, 2022)

#### Asst. Library and Information Officer Prashantha SC

Head (Administration & Finance) P Srinivasa Aithal

Office Manager B Lalu



**Coordinator (Admin & Logistics)** A Deva Raju

Assistant Manager (Accounts & Finance) P Satish Bhat

Assistant Manager (IT) Ramprasad R

#### Administrative Coordinators V Girija

KS Rama Krishna S Lalitha

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#### **Office Assistant** V Srinivasa

### Support Staff

Chandrashekar R Harish G Nagaraja Gajanana S Naik Mujeeb Pasha N Rajesh N Ramesh SR Rathnam S Sampath Shivakumar B Shivanandappa Mohammed Umar G Venugopal



# ADJUNCT PROFESSORS AND ADJUNCT FACULTY

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#### School of Conflict and Security Studies

Prof Ummu Salma Bava Shri Saurabh Dutta Chowdhury Dr Heribert Dieter Dr Mallika Joseph Rear Admiral Monty Khanna Lt Gen Dr Prakash Menon (Retd) Amb TCA Raghavan Shri VVR Sastry Prof Gautam Sen Shri SS Sundaram Prof KP Vijayalakshmi

#### **School of Humanities**

Prof Tilak Agerwala Shri Benoy K Behl Dr Sophie Gaur Prof K Gopinath Prof S Gregory Prof S Siraj Hasan Dr Shantala Hegde Prof Rajalakshmi Iyer Dr Srisrividhiya Kalyanasundaram Prof Ravi Korisettar Dr Urvakhsh Mehta Prof Thomas E Mical Dr Dyutiman Mukhopadhyay Prof LM Patnaik Prof Naren Rao

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Prof S Ayyappan Dr Sunil S Chirayath Dr Shaik Mohamed Zaffar Sadiq Mohamed Ghouse Shri M Gopalakrishnan Prof BN Goswami Dr VS Hegde Prof Venkataraman S Hegde Dr Madhusoodan Hosur Shri K Jairaj Prof Manas K Mandal Prof Shekhar C Mande Dr G Parthasarathy Prof Manoj Kumar Patairiya Dr TN Prakash Dr Xavier Raj Prof CP Rajendran Prof Usha Ramachandra Dr Sandip Singha Roy Shri TN Shorey Prof Dinesh K Srivastava Dr Pradeep K Srivastava Prof MK Surappa Shri Upendra Tripathy Shri Raja Ram Singh Yadav

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Rear Admiral P Ashokan (Retd) Shri V Gopalakrishnan Dr BR Guruprasad Dr Moumita Mandal Dr Ritu Mathur Cmde KG Ramkumar (Retd) Dr V Siddhartha

#### **School of Humanities**

Dr Viraj Kumar Dr Sreedevi Reddy Dr Prabhakar Sangurmath Dr Saurabh Todariya

#### School of Natural Sciences and Engineering

Dr G Umapathy Dr Maan Barua Dr Nicolas Lainé Shri MD Radhakrishna Dr Asmita Sengupta

#### **School of Social Sciences**

Dr Prerna Agarwal Dr Michael Goldman



# PUBLICATIONS

# BOOKS

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Lahiri Nayanjot, M.B. Rajani, Debdutta Sanyal and Samayita Banerjee (2022). Exploring the forest and mapping its archaeology: Bandhavgarh national park and tiger reserve, India. *Current Science* 123(6): 772-780.

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# LIST OF COMMITTEES

Name of the Committee	Chairperson	Members
Faculty Committee	Director, NIAS	Prof Janaki Balakrishnan Prof D Suba Chandran Prof Narendar Pani Prof Sindhu Radhakrishna Prof Anindya Sinha Prof Sharada Srinivasan Prof R Srikanth Prof PM Soundar Rajan Prof Sangeetha Menon Prof Anitha Kurup (Convener)
Appointments Committee	Director, NIAS	Prof Narendar Pani Prof Anindya Sinha Prof Sangeetha Menon Prof D Suba Chandran Prof R Srikanth Respective Programme Head Two Subject Experts
Faculty Renewal/Promotion Committee	Director, NIAS	Prof Narendar Pani Prof Anindya Sinha Prof Sangeetha Menon Prof R Srikanth Prof D Suba Chandran Two Subject Experts
Committee to Oversee PhD Programme	Dr Tejal Kanitkar (Academic Head)	Dr Srikumar Menon Dr M Mayilvaganan Dr Anshuman Behera Dr Aleena Sebastian Dr Chetan Choithani Ms AS Mary Stella (Secretary)
Research Ethics Committee	Prof Sharada Srinivasan	Dr Debosree Banerjee Dr Amit Mukherjee Dr Shalini Dixit Dr VV Binoy
Institutional Academic Integrity Panel	Prof Anindya Sinha	Dr Srikumar Menon Asst. Library and Information Officer, NIAS Prof TA Abinandanan (External Member)
Library and Publications Committee	Prof R Srikanth	Dr Tejal Kanitkar Dr Nithin Nagaraj Dr Jeebanlata Salam Dr Anant Kamath Asst. Library and Information Officer, NIAS (Convener)



Name of the Committee	Chairperson	Members
Grievance Redressal Committee	Prof Anitha Kurup	Dr Prakash Panneerselvam
		Dr Rudrodip Majumdar
		Dr Shalini Dixit
		Dr Debosree Banerjee
		Head-Administration, NIAS (Member Secretary)
Internal Committee for Redressal	Prof Sangeetha Menon	Dr MB Rajani
of Complaints of Sexual		Dr Chetan Choithani
Harassment of Women at NIAS (IC,		Ms VB Mariyammal
NIAS)		Ms Laxmi Murthy (External Member)
Committee to Oversee Website,	Prof D Suba Chandran	Prof N Ramani
Outreach and e-Newsletters		Dr Rudrodip Majumdar
		Dr Prakash Panneerselvam
		Dr Aleena Sebastian
		Asst. Library and Information Officer, NIAS
		(Convener)



# DETAILS OF MEMORANDUM OF UNDERSTANDING (MOU)

Sl. No.	MoU with	Areas of Co-operation
1.	Sahapedia, New Delhi	Collaboration through various programmes in arts and humanities disciplines.
2.	The Institute of Trans- Disciplinary Health Sciences and Technology	PhD Programme.
3.	Kyoto University, Inuyama, Japan	To exchange scientific information in the fields of primatology, wildlife biology, and conservation. Both Institutes will promote the development of joint research projects in the fields of primatology, wildlife biology, and conservation.
4.	Indian Institute of Science	To establish a framework that would guide both the Institutions in establishing a cooperative working relationship for planning and accomplishing mutually beneficial research projects, teaching programmes and other activities, as may be periodically discussed and mutually agreed upon.
5.	Indian Institute of Science	To establish a framework that would guide the students of both parties to credit or audit courses conducted by the other institution.
6.	National Centre for Biological Sciences	To promote joint research and development activities of mutual interest in accordance with their respective needs and objectives, and shall by joint agreement, determine the areas and subject of such collaboration, on the basis of understanding set out in the MoU.
7.	National Institute of Science Technology and Development Studies (NISTADS)	To create value-added policy analysis and policy advocacy for applications of science and technology for sustainable and holistic development at national and global scale.
8.	Open Source Pharma Foundation	Collaborative programme relating to open-source approaches to the development of new affordable therapies and other pharmaceutical products in diseases of interest to India.
9.	NITI Aayog, Government of India	Part of SAMAVESH initiative and work under the S&T cluster group
10.	Institute of Rural Management Anand, Gujarat	Academic collaboration between the Faculty and Staff of both Institutions
11.	Public Health Foundation, New Delhi	Encourage academic collaboration between the faculty, researchers, and students in the area of Energy and Environment, Air Pollution and Health and any other topic or activity of mutual interest.
12.	University of Mysore, Mysore	Recognition as Research Centre for the purpose of PhD Programme.
13.	Southern Regional Load Despatch Centre (SRLDC), POSOCO	For knowledge sharing and capacity building in areas of mutual interest.
14.	Institute of Frontier Science and Application (IFSA)	To create value-added policy advocacy and exploratory science for applications of science and technology for sustainable and holistic development at national and global scale.
15.	Manipal University	NIAS PhD Programme and Collaborative Research to address national challenges and priorities in areas including, but not limited to energy, healthcare, ecology, conservation of natural resources and education.
16.	University of Liverpool	Undertake collaborative, interdisciplinary research activities in Heritage, Conflict resolution and other fields of mutual interest.



Sl. No.	MoU with	Areas of Co-operation
17.	Defence Research and Development Organization	To support and strengthen collaboration and cooperation in identified topics pertaining to national security.
18.	DIAT, Pune	Collaborative Research Programs, Joint events and activities, Collaborative PhD Programme, Exchange of Research and Faculty and Collaborative Projects.
19.	Geospatial Media and Communications	Collaborate in conducting research; Research Publications; Joint Proposals for Research Funding; Co-hosting of Conferences etc.
20.	Karnataka Science and Technology Academy	Collaborate and partner to Promote Science, Technology and Innovation for Societal Welfare.
21.	Indian Council of World Affairs	To organize studies and webinars on mutually agreed topics, mainly on the Indian neighborhood.
22.	Digital Discourse Foundation, Bangalore	To create science-based communication strategy applications of science and technology for sustainable and holistic development at national and global scale.
23.	Indian Institute of Remote Sensing	To encourage academic collaboration between the faculty, researchers and students.
24.	Agastya International Foundation	To work together on programs aimed at identifying and nurturing Highly Able/Gifted children in India, optimally utilizing the experience, strengths and capabilities of both organizations for that goal.
25.	Sanskriti Foundation	Joint research activities such as explorations into Indic Mathematical Heritage, Indic philosophical, computational and astronomical knowledge systems. Visits by and exchange of doctoral students and faculty members for research. Exchange of information including, but not limited to, research publications of faculty members. The Kannada work Siribhoovalaya shall be initially taken up for exploration of mathematical and informatics content.
26.	Kristu Jayanti College	To develop a collaborative academic partnership and to collaborate in the areas of: Research Projects, Internship Programme, Exchange of Faculty/ Senior Scholars, Joint events and workshops, and Academic network on International Relations.
27.	SRM Institute of Science and Technology, TN	Collaborative cooperation through: Research Programmes Student Training Programme Faculty Exchange Programme Sharing of Instrumentation/Library facility/Other facilities Organization of joint meetings and Any other areas of mutual interests.
28.	Pondicherry University	Collaboration on academic and research activities
29.	Maritime Research Centre, Pune	Collaborate in maritime research and studies, academic exchange and interaction to further scholarship, knowledge, and information in the field of underwater domain awareness.
30.	Ghent University, Belgium	To promote international academic, cultural and scientific exchange.
31.	Greater Bengaluru Parisara Foundation (GBPF)	To provide collaborative cooperation through: Collaborative Research Programs and Training Programmes.

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Sl. No.	MoU with	Areas of Co-operation
32.	National Atmospheric Research Laboratory (NARL)	Academic collaboration between the faculty, researchers, and students. To carryout collaborative research activities in the area of atmosphere, weather and climate science and their applications in meteorology, air quality and numerical weather prediction.
33.	SATCOM	To collaborate in specific research studies, policy analysis, training and capacity building and related activities, through mutual acceptance.
34.	Tata Consultancy Limited	To promote cooperation in areas of mutual interest for the benefit of both parties.
35.	Alva's Institute of Engineering and Technology	To promote education and scholarly exchange; collaboration and technical interchange between the parties involved as educational partners.
36.	Environmental Management and Policy Research Institute, Bengaluru (EMPRI)	Sharing knowledge between the Institutes and establish a vibrant research collaboration, by undertaking joint activities in the broad areas of ecology, environmental management, climate change and sustainable development, including associated capacity building.
37.	The Indian Maritime University	Cooperation through academic exchange, collaborative research projects, co-hosting of conference and other mutually beneficial activities in the areas of policy related matters in maritime and allied Fields.
38.	Institute of Wood Science and Technology, Bangalore	To undertake joint research in the area of forest and climate change.
39.	University of Hamburg, Germany EXC 2176 – Understanding Written Artefacts	To provide additional opportunities to exchange ideas, information, skills and researchers, and to support cooperative activities in the field of research between the two countries.
40.	Gujarat National Law University	To develop, promote and organize various academic, research, extension and training programs for the stakeholders.
41.	Loyola College (Autonomous), Chennai	Collaborative academic partnership between Department of History, Loyola College and STIR Programme, School of Conflict and Security Studies, NIAS
42.	Transcending Horizons Private Limited (Finovista)	Collaborative Research and Academic Exchange.



# REPORT ON COUNCIL OF MANAGEMENT

The joint 54<sup>th</sup> Meeting of the Council of Management of the National Institute of Advanced Studies (NIAS) and the 32<sup>nd</sup> Annual General Body Meeting of the Society of NIAS were held in the Council Room of the Institute in Bengaluru on September 19, 2022.

The members of the Council, who attended these important meetings, included Dr S Ramadorai, Nominee of the Tata Trusts and Chairman of the Council; Dr Shailesh Nayak, Director, NIAS; Prof N Balakrishnan, Dr AS Kiran Kumar, Mr B Muthuraman, Prof G Padmanaban, Prof Indira Rajaraman, all Nominees of the Council; Prof Padma Sarangapani, Nominee of the Tata Trusts and Prof Govindan Rangarajan, Director, Indian Institute of Science, Bengaluru. Mr P Srinivasa Aithal, Head–Administration, NIAS, was present at both meetings as Special Invitee.

The annual academic report, financial status of the Institute, audited financial statements and other administrative reports of the Institute were presented by Dr Nayak at both these meetings. The meetings concluded after widespread and in-depth discussions on both, the progress that the Institute has made in the recent past and the trajectories that could be followed in the years to come.

**Prof Anindya Sinha** Secretary, Council of Management of NIAS



# REPORT ON ACADEMIC COUNCIL

The 5<sup>th</sup> meeting of the NIAS Academic Council was held in NIAS via hybrid mode on 2<sup>nd</sup> November 2022. The members of the Council who attended this meeting were: Prof. Ravi B Grover, Prof. Mewa Singh, Prof. N. Jayaram, Prof. Upinder Singh, Prof. Anitha Kurup, Prof. Sangeetha Menon, Prof. P M Soundar Rajan, Prof. Anindya Sinha, Prof. Narendar Pani, Prof. Sindhu Radhakrishna, Prof. Sharada Srinivasan, Prof. Carol Upadhya, Prof. Janaki Balakrishnan, Prof. D Suba Chandran, and Prof. R Srikanth. The meeting was chaired by Dr Shailesh Nayak, Director, NIAS and NIAS faculty, Dr M B Rajani and Dr VV Binoy attended the meeting as Special Invitees. The Director briefed the Council on the research activities of NIAS and six NIAS faculty made presentations on their research. This was followed by a lively discussion on the research carried out in NIAS and the larger implications of the research findings. The meeting concluded with external members expressing their satisfaction at the different streams of research being carried out in the institute.

**Prof Sindhu Radhakrishna** Convener, Academic Council of NIAS



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