

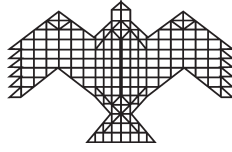


NATIONAL INSTITUTE OF ADVANCED STUDIES

Bengaluru, India

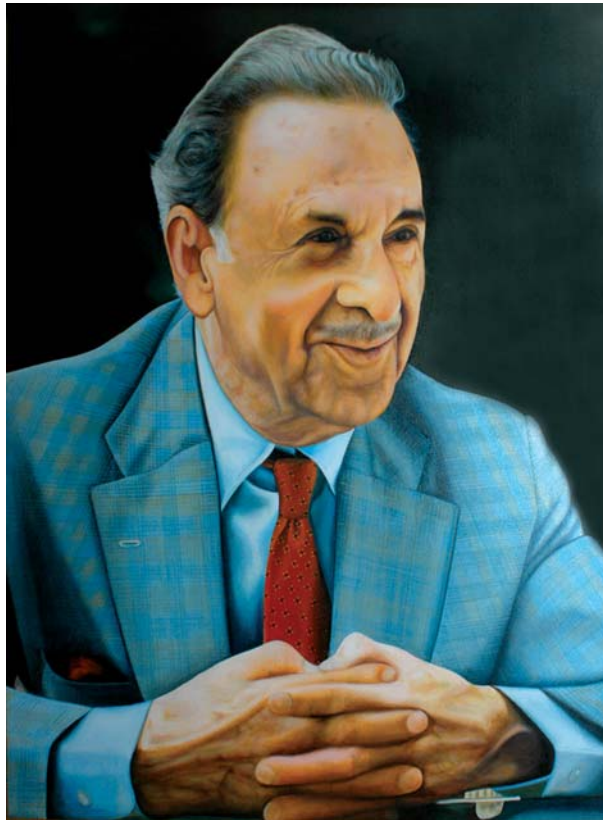
ANNUAL REPORT 2018 – 2019





NATIONAL INSTITUTE OF ADVANCED STUDIES
Bengaluru, India

ANNUAL REPORT
2018 - 2019



JRD Tata
Founding Chairman

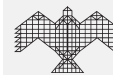
The Vision and Mission of NIAS

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 THE DIRECTOR



The National Institute of Advanced Studies (NIAS) has been very active in exploring new and innovative ways to address various societal issues using multi-disciplinary and trans-disciplinary approaches. During last year, significant achievements were made in all programmes. The highlights of the programmes are given below.

The Education Programme focused on mentoring of the gifted and talented children and vocational education. Based on the study undertaken in Mysuru and Chamarajanagar districts, detailed protocols for the identification of such children, mentoring them as well as training of teachers have been established. The issue is how such scheme can be scaled up at the national level. The need for a national policy for the education of the gifted and talented children is required. The study on vocational education resulted in comprehensive assessment about policies, structure and management of institutions. The key finding is, how to make vocational education an integral part of higher education system.

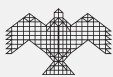
The Energy and Environment Programme provided significant inputs towards developing strategy towards improving the policy environment for increased contributions of private entrepreneurs for achieving goals of New India 2022, essentially the "Vision for India@75." Significant contributions were made towards a preparation of the report on "Nuclear Power: India's Development Initiative" and submitted to the Govt. of India. Another major achievement was to initiate PhD fellowships supported by the International Solar Alliance (ISA).

The Inequality and Human Development Programme focused on the inequalities and demand for non-farm occupations and its relationship to farmers' suicides. The study highlighted the differences between farmers' suicides for cultivators and agricultural labourers.

The Programme on Interdisciplinary approaches to Economic Issues uses both ethnographic and quantitative methods derived from social anthropology and Economics to understand farmer suicides and transition out of agriculture. The other set of studies, assess the risk management strategies deployed by foreign and domestic venture capitalists in negotiating the information risks encountered by them.

Under the Conflict Resolution Programme, the theoretical perspective of historical traditions of volunteer work in India and Germany was explained through classical psychological and neo-Gandhian approach.

Considering the novel and innovative contributions, the NITI Aayog has recognized NIAS as "The Institute of Exceptional Repute", this year. Only thirty-two such institutions have been identified in the country.



The Urban and Mobility Programme explored the social transformation that is being witnessed by urbanisation, changing patterns of work and employment and rural-urban and circular migration. An edited volume on “Provincial Globalisation in India: Transregional Mobilities and Development Politics” has been published.

The Consciousness Studies Programme focused on human and health aspect of consciousness. One of the important findings is the methodologies to understand the outer body sense and cognitive capabilities are insufficient to understand inner-self and its experimental quality. A book on “Space, Time and Causality in Modern Physics and Ancient Indian Traditions” has been completed. A novel mathematical framework for causality testing using compression-complexity has been developed.

Under the Heritage, Science and Society Programme, a monograph on the “Vanishing Heritage of the Vishwakarma and Kammalar”, the metal craft people of the Southern India was completed for the Indira Gandhi National Centre for Arts, New Delhi. An interesting study has been undertaken on the visual reconstruction of an unfinished Early Chalukan monument from the 6th century. An experiment of iron smelting technology of the earlier times was successfully demonstrated.

As a part of the Animal behaviour and Cognition programme, a special issue on research methods in ethanoprmatogy of the International Journal of Primatology was brought out. An investigative study on the nature of human-urban animal interactions, largely involving macaques, street dogs and cows in Delhi and Chennai has been undertaken.

The Complex Systems Programme undertakes studies to explain natural phenomena by constructing dynamical models. The paths of hornbills in the Pakke Tiger Reserve in Arunachal Pradesh were successfully simulated. The impact of pollutants on vegetation has been undertaken in coal mining areas.

The International Strategic and Securities Studies Programme (ISSSP) has provided critical inputs on various aspects concerning India’s strategic issues. The critical role of missile, space and naval forces, given China’s geographic and historic settings was identified. The assessment of the Pakistan’s nuclear weapon arsenal was carried out through uranium demand and supply scenario in an integrated way.

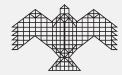
The Science Communications Programme focused on development of effective and innovative insights on managing public perceptions and public acceptance of public risks associated with new and emerging technologies, such as artificial intelligence and exposure to low level radiation as well as disaster management. The roundtable meetings were on various aspects of science communication – the role of scientists as science communicators, communicating environmental hazards and technological risks to the public and the growing role of Artificial Intelligence in society.

The Philosophy in Action Programme created a platform for philosophical discourse which is public and open. A Theatre play, “Two Fathers” was staged.

The cultural aspects have been introduced and memorandum of understanding has been signed with the Bangalore Little Theatre and Junoon, Mumbai to develop specific events on various societal themes.

The Doctoral Programme has performed extremely well. Currently fifty-nine students are pursuing their research. Four students have been awarded their degrees. The funding from ISRO was enhanced to Rs.40 lakhs per year. Discussions are underway with the International Solar Alliance to support students from foreign countries.

The training programmes on Leadership, Science and Technology: Global Developments and many others were successfully organized. An innovative programme on Leadership in Defence Manufacturing Technology has been conceptualised along with Cranfield University, UK.

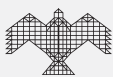


Prof Sharada Srinivasan was awarded “Padma Shri” for her outstanding contributions in the field of archaeology. This was a very significant recognition of contributions made in the field of archeo-metallurgy and its relationship to society. The ISSSP was awarded ML Sondhi Prize for International Politics.

The concept of sustainability studies has been under development. NIAS is partnering with the IISc to design a Masters Course on ‘Sustainable Technologies’ to be offered from 2020. Major inputs were provided towards developing coastal zone regulations by the Ministry of Environment and Forest. Significant contributions were made towards developing a strategy paper on “Blue Economy”.

The coming years, efforts need to focus on developing newer areas as well as developing policy inputs.

Shailesh Nayak
Director, NIAS



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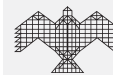
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ACKNOWLEDGEMENT

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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 have been 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 through various programmes and initiatives of the various schools at NIAS.

- 1. CONFLICT RESOLUTION PROGRAMME** tries to achieve its objectives by being sensitive to the interface between the understanding of individual conflicts and the larger conceptualization of conflict. The twin purpose of identifying those elements can be used to resolve them, as well as to further develop the overall understanding of conflicts and their resolution. The programme also disseminates knowledge about conflicts in a way that influences both popular perceptions and policies aimed at conflict resolution. The breadth of the knowledge base is built through developing backgrounders on individual conflicts. The depth is provided by research into both individual conflicts and the conceptualization of social conflict and its resolution. The programme thus seeks to intervene in the knowledge about conflict in three major ways: research, teaching, and interventions in popular discourse.

A major highlight of the Conflict Resolution Programme in NIAS is a study on 'Vulnerabilities and Political Aspects of Civil Society: Vulnerabilities and Volunteerism'. As part of this study, the programme has come out with a research paper on 'Understanding volunteerism in Civil Safety and Security: An International Perspective' in collaboration with Friedrich-Schiller-University, Jena, Germany. The study also carries out research on the aspects of volunteerism in both extreme and routine vulnerable areas.

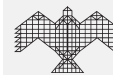
A second highlight of the programme is a study on 'Natural Resources, Conflict and Consciousness: Dissecting the People's Movements in Odisha'. This study investigates the people's movements around the issue of natural resource distribution in Odisha.

Another major highlight of the programme is its academic engagement with the subject of Indian Political Philosophy. An edited volume on this theme titled 'Reasoning Indian Politics: Philosopher Politicians to Politicians Seeking Philosophy' has been published. The programme also conducted a panel discussion on 'Is there Reason in Indian Politics'.

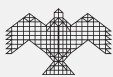
A course on Philosophical Foundations of Understanding Conflict is another highlight of the programme. This course teaches both theoretical and empirical aspects of social conflicts.

- 2. INTERNATIONAL STRATEGIC AND SECURITY STUDIES PROGRAMME** specializes in examining contemporary issues having a bearing on national security from a S&T perspective; and where essential expands the narrative by including the geopolitical, military and organizational elements. Technology and technology applications lead the field while regulatory and legal trends follow much behind. The programme takes the lead in some key technologies like Unmanned Air Systems in advocating policy and regulatory mechanisms to minimize such lags. One key feature of the programme is development and application of software and analysis tools for assessment of issues independently. Space, Maritime Domain and Defence Applications of GIS are areas of interest in the Programme. The Programme has taken up two new initiatives – one on Science and Diplomacy and the other on Peace research. The Science and Diplomacy study is taken up in association with Research and Information System for Developing Countries (RIS), New Delhi.

Focus during the year was on space related activities. Space security, space situational awareness and space in India's foreign policy were much discussed topics. The final event was an address on the history, geography and occupation of space by the Research Director of CNRS, France.



- 3. CONSCIOUSNESS STUDIES PROGRAMME** is the only academic programme in India that focuses on the humanistic and health aspects of consciousness along with a critical approach to the empirical theorization of the self in humans and animals. The Consciousness Studies Programme currently has groups working on human communication examining behavioural decision-making, communication and social cognition, information theory, conceptual mathematics, and quantum approaches to consciousness. In the past academic year, the programme initiated a few significant projects funded by DST CSRI, DST SATYAM, ICPR and the Tata Trusts. The programme initiated novel outreach and in-house discussion forum on pertinent interdisciplinary issues connecting literature, psychology, data science, complexity studies and Philosophy. These fora are called "The Reading Glass" and "Savastya Rasa Bodhini". The 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. We are hoping these lectures will provide the listeners "knowledge of health and aesthetics", and the "essence" (Rasa) of health: We describe this series goal thus: "Svasthya is the state of being in oneself. According to Indian aesthetics, Rasa is experienced when the connoisseur is in direct contact with his/her Self. Hence Rasa experience is also an experience of Svasthya."
- 4. HERITAGE, SCIENCE AND SOCIETY PROGRAMME** aims to explore new perspectives in the study of history and archaeology by exploring the linkages of science and technology with culture, society and civilization, engaging with issues of the documentation and preservation of heritage and material culture. The programme has expanded considerably in recent times in terms of faculty strength which numerous national and international collaborations. A major project "Exploring India's Medieval Coastline Using Geospatial Analysis and Historical Records", funded by MoES, is underway. Colonial records of sea charts and coastal maps with respect cultural heritage and geomorphology along the Indian coast, are being studied.
- 5. ANIMAL BEHAVIOUR AND COGNITION PROGRAMME** conducts research on the ecology, behaviour, cognition, genetics and conservation status of several wildlife species across the country, chiefly primates, elephants and fishes. Established in 1996, the Programme is one of the oldest in IAS, and one of a handful of such research groups in the country. Research carried out under the aegis of the programme is not only synergistic in nature, with collaborators from other disciplines both within the institute and outside, it is also essentially transdisciplinary, in its seamless incorporation of methodologies and theoretical frameworks from fields of research such as cognitive psychology, sociology, education, environmental philosophy, animal geography and science communication. Over the past year, programme members were involved in several different studies that underscore the interdisciplinary nature of work carried out in the programme. An international, interdisciplinary grants was received – from the European Research Council (in collaboration with Cambridge University) to examine urban ecologies. The ethno-primateology showed that the literary lens can be a useful methodological tool to understand how the ecologies of humans and primates have mutually impacted both groups over the long history of their interaction.
- 6. COMPLEX SYSTEMS PROGRAMME** focuses on interdisciplinary, path-breaking research based on principles of nonlinear dynamics. Work has recently focused on topics such as climate change impact on ecosystems (terrestrial and marine), predicting climatic tipping points, modelling animal movement and interaction between species, modelling effects of anthropogenic activities like coal-mining etc. Other topics include multi-phase flows and cavitation, dynamics of neuronal firing, nonlinear effects in sensory systems, to name a few. Outreach activities range from off-campus seminars to offering a carefully tailored course at IISc open to students from IAS, IISc and several institutions to encourage research in complex systems. Several new research directions were initiated by the programme under the SERB, DST-funded (IRHPA) project "Modelling nonlinear complex phenomena: from climate change, environmental effects to interacting species". These included modelling animal movement using radio telemetry data obtained from scientists at NCF (Mysore), studying pollution and meteorological data from collieries, predicting climate change impact on marine ecosystems through studies of fisheries data and sea surface-temperature observations, etc. Other research in various areas like neuron dynamics, multi-phase flows, sensory systems, etc. yielded path-breaking results. Outreach research initiatives for students from other institutions through regular classroom lectures and projects and summer internships were continued.



7. ENERGY AND ENVIRONMENT PROGRAMME has reoriented its focus on the major challenges faced by India in the fields of Energy, Natural Resources, Environment and Public Health, primarily through Government-funded projects. EEP's research encompasses all forms of commercial energy: coal, hydro, nuclear, gas, and renewables as well as their environmental and societal implications. All research projects being implemented by EEP are interlinked through the Sustainable Development Goals. In addition to their research, teaching, institutional responsibilities, and outreach activities, key faculty members of EEP are also engaged in task forces and working groups constituted by Government of India on key aspects of National mineral and coal policies. Some of these recommendations have been incorporated in Government of India's recent policy announcements. EEP was also honored with the award of two prestigious multi-year Projects from the Ministry of Earth Sciences and the Department of Science and Technology, in addition to the ongoing research on Energy Sustainability as a key part of an ongoing project funded by the Science and Engineering Research Board of the Government of India.

8. UNDER THE EDUCATION PROGRAMME the National Gifted Mentoring Education Programme is being recognized at the national and international levels. The programme conducted the first mentoring workshop for 100 children identified as gifted from Chamarajanagar and Mysore districts of Karnataka. The NIAS MAIYA PRODIGY Fellowship Programme identified 22 students from rural and urban Karnataka this year.

The women in STEM project generated interesting data with regard to early schooling, institutional factors, mentoring and leadership. The data was used to present a paper on 25 September 2018, in the Indo French Seminar on Women in Science in CNRS, Paris, France.

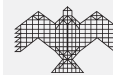
The Education Programme has forged a National Alliance with key institutions within and outside the government of India to undertake serious research on vocational and higher education in India. The University of Groningen, Netherlands is our international partner. The programme forged collaboration with the Ministry of Skill development, Government of India, Skill Development Ministry, Government of Karnataka and University of Groningen on Vocational and Higher Education in India.

9. INEQUALITY AND HUMAN DEVELOPMENT PROGRAMME was set up to develop policy options based on multi-disciplinary and empirically consistent conceptualization of inequality. It aims to conceptualize inequality in a manner that helps explore the processes that generate these differences and the consequences of these processes. The initial efforts in this direction have been supported by Tata Consultancy Services through two projects, one on 'Inequalities and Farmers' suicides' and the other on 'Inequalities and the Demand for Non-farm Jobs'.

10. INTERDISCIPLINARY APPROACHES TO ECONOMIC ISSUES PROGRAMME seeks to bring the approaches and theories of multiple disciplines to economic issues. In contrast to most approaches to interdisciplinary economics which take economic methods to other disciplines, the effort here has been to strengthen economic analysis with the help of methods borrowed from other disciplines. This approach has been effective in the past with the resultant policy prescriptions for the Mahatma Gandhi National Rural Employment Guarantee Schemes being considered by the then Planning Commission as well as the Government of Karnataka. More recently, the mixed methods were also used to gain a better understanding of the demand for finance in rural Karnataka leading to specific recommendations to the nationalized bank that had supported the study. The programme has taken further steps in this direction with the mixed methods being used to develop strategies for Sustainable Development Goals for the Government of Karnataka.

11. URBAN, TRANSNATIONAL AND MOBILITY PROGRAMME explores diverse processes and forms of urbanisation, mobility, capital accumulation and labour in contemporary India, mainly through grounded ethnographic fieldwork. Three major funded research projects are on track for completion in 2019, and two new projects are in the pipeline. Several lectures and events were organized throughout the past year, under the banners of the Changing India, City at its Limits, and Public Feminisms series.

Work in the programme has been targeted to inequality and farmers' suicides, and inequality and the demand for non-farm jobs. A series of working papers on a number of issues related to these differences, from the conceptualization of inequality to the impact of spatial inequalities on land, caste and power in a



village in Bihar have been prepared. A Working Paper by Dr Debosree Banerjee and Mr Viswesh Rammohan revisited Durkheim's work on suicides to develop macro indicators of the causes for farmers' suicides. The paper went on to evaluate the indicators that it is associated with each of Durkheim's four types of suicide. The second Working Paper went into a long-neglected aspect of farmers' suicides, the difference between the suicides of agricultural labour and that of cultivators. In a Working Paper titled "Ignored in Life, Forgotten in Death: The Nature of agricultural labour suicides", looked at the experience of a village in Kerala that had witnessed a series of agricultural labour suicides. The paper went on to trace the entire processes that culminated in the suicides, bringing out the links between the pressure on farmers and that on other groups including housewives.

A model of circuits that helped recognize the divisiveness of global circuits with its effects on inclusiveness and sustainability, model has been developed.

The programme ran three popular outreach series of lectures and events: 'City at its Limits', Public Feminisms, and Changing India. Lectures, film screenings and workshops attracted large audiences and prompted spirited debate and discussion.

An edited volume entitled 'Provincial Globalization in India: Transregional Mobilities and Development Politics' (Routledge, London: Edinburgh South Asian Studies Series, 2018) has been published.

TRAINING PROGRAMMES conducted include:

33rd NIAS Programme for Senior Executives; NIAS-DST Programme on Science and Technology: Global Developments and Perspectives; NIAS-DST Programme on Science, Technology and Innovation Policy; NIAS-DST Programme for Directors/Divisional Heads/Chief Scientists/Senior Scientists; NIAS-DST Programme for Women Scientists on Science and Sustainability in India; and Programme on Leadership in Defence Manufacturing Technology.

Annual Memorial Lectures were given by Dr Rohini Godbole, Dr R Chidambaram, Dr RB Grover, Prof Amita Baviskar, Dr A Sivathanu Pillai and Prof Vijay Padaki.

The Institute is recognized as a center 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 fifty nine students pursuing interdisciplinary research in natural and engineering sciences, social sciences, humanities and arts.

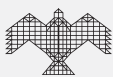
MAJOR RECOGNITIONS received by faculty members include:

Prof Sharada Srinivasan, Padma Shri from the Government of India for her contributions to archaeology; Prof S Settar, Dr MM Kalburgi award instituted by the Kannada Book Authority; Dr S Udayakumar, RF Tylecote Award from The Historical Metallurgy Society, UK, March 26, 2019.

The Prof ML Sondhi Prize for International Politics for the year 2017 to International Strategic and Security Studies Programme.

Dr Shankar Rajaraman received the Presidential Award – "Maharshi Badrayan Vyas Samman for Sanskrit", 2019.

NIAS has initiated various measures of outreach and extending the news and updates of academic achievements through several modes such as monthly reports, quarterly newsletters, social media and website.



SCHOOLS

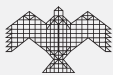
All activities of the institute have been organized under four schools.

1. **THE SCHOOL OF CONFLICT AND SECURITY STUDIES** was created in May 2016 to bring together the Programmes in a domain and build further synergy within and across disciplines. The Conflict Resolution Programme and the International Strategic and Security Studies Programme form part of this School. The focus areas of the School include a) conflicts influencing certain outcomes in/for the country, examining empirical evidence leading to conflicts and recommendations towards their resolution and b) security and strategy concerns relevant to the country including technological, doctrinal and structural issues.
2. **THE SCHOOL OF HUMANITIES** is engaged in research in the broad areas of philosophy, psychology, literature, fine arts, and culture. Various programmes of the School currently focuses on philosophical foundations of sciences; cognitive sciences; scientific and philosophical studies of consciousness; Indian psychology and philosophy; history and philosophy of biology; archaeometallurgy and analysis of ancient metals; archaeology, and translations of literary classics in Kannada into English.
3. **THE SCHOOL OF NATURAL SCIENCES AND ENGINEERING** covers research in the field of engineering and mathematics, biosecurity, ecology, energy, environment and conservation biology. Current research interest of the faculty members includes various aspects of signal and image processing; cryptography; number theory; mathematical modelling of complex chaotic systems; studies on agro-ecology and plant and animal biosecurity; conservation of wildlife; primate behaviour; energy and environment policy.
4. **THE SCHOOL OF SOCIAL SCIENCES** consolidates its efforts to research problems facing India's economy, polity and society, and to disseminate the results to the bureaucracy, industry and civil society. In keeping with the overall thrust of the institute towards programmes, the School played a leading role in four programmes: education; urban and mobility studies; interdisciplinary approaches to economic issues; policy research initiative on inequality and human development.

SCHOOL OF CONFLICT AND SECURITY STUDIES

Programmes

- Conflict Resolution
- International Strategic and Security Studies



I. SCHOOL OF CONFLICT AND SECURITY STUDIES

The School activities during 2018-19 could be classified under the following four categories: Research, Dialogues, Capacity Building and Creating Network.

As a part of the above, the School undertook the following activities during 2018-19:

School Course on Conflict and Security Studies for NIAS PhD Scholars:

The Course was led by Prof D Suba Chandran, and included Prof Narendar Pani, Prof Rajaram Nagappa and Dr Prakash Pannerselvam providing lectures on various themes.

School Events on Contemporary Issues

The School organized the following two events during 2019:

Positive Trends to Watch in 2019: Panelists include Prof Narendar Pani, Prof Rajaram Nagappa, Dr Anshuman Behera, Prof Srikumar Pullat, Prof PM Soundar Rajan, Prof D Suba Chandran and Dr Kshitija A Joshi.

The Great Indian Elections 2019: Panelists include Prof Narendar Pani and Dr Anshuman Behera.

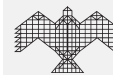
Capacity Building and Creating Network

The School created a network of Institutions in Bengaluru working on Political Science and International Relations. Referred as the Quad, the network includes the Department of Political Science in St Joseph's College, Department of History and International Relations in Christ University and the Department of Political Science in Bangalore University.

The network met every quarter and organized panel discussions on contemporary issues with leading scholars making initial presentations. The Speakers included the following: Amb PS Raghavan, Lt Gen Prakash Menon, Prof Narendar Pani and others.

A Road Map for 2019-20

The School intends to continue the above activities. Besides, it is also exploring an exclusive NIAS Course on "Conflict and Security" aimed at a weeklong workshop for practitioners.



CONFLICT RESOLUTION PROGRAMME

Introduction

The Conflict Resolution Programme was set up in 2009 with the objectives of developing inclusive knowledge base that would help effectively address major conflicts that affect India or have the potential to do so. The objectives are broadly achieved through three important activities that the programme carries out: research, teaching and dissemination of knowledge through interventions in popular discourses. At the research level the programme adopts both multi-disciplinary and interdisciplinary approach to engage with the individual conflicts. The process of engagement with conflicts takes a conceptual route to identify the issues and contenders of the conflict which otherwise remain inadequately addressed in most other platforms. The series of backgrounders ranging from conflicts in Northeast to the Maoist conflicts in India, on the issues of Cauvery water conflict and the human-elephant conflict that the Programme has produced offer substantial and critical knowledge on each of these conflicts. The classroom teaching activities that the programme offers are mostly on the theoretical and philosophical aspects of understanding conflict. The Programme also has online videos containing lectures on ethnic conflict by Prof Ashutosh Varshney for the larger audience. Interventions in the popular discourse are mainly done through writings in popular media and delivering lectures on the various platforms.

Research Activities

A major research study that the programme is carrying out is on the issue of 'Vulnerabilities and Political Aspects of Civil Society: Vulnerabilities and Volunteerism'. Funded by the Department of Science and Technology, this is a collaborative study between NIAS, Friedrich-Schiller University, Jena and Disaster Research Unit, University of Berlin, Germany. This study attempts to investigate an important aspect of conflict that has not been adequately understood in the Indian context: volunteerism. Volunteers can work both to reduce the pains of conflict as well as to enhance conflict. It is thus necessary to understand what prompts individuals to volunteer. In order to understand the aspects of vulnerability and volunteerism the programme has carried out survey in two distinct areas: one affected by extreme natural vulnerabilities, a village in the state of Uttarakhand and the second affected by low scale repeated natural vulnerabilities, a village in the state of Karnataka.

While the final report based on the observations from the two villages are being written, the programme has come out with a research paper in collaboration with Friedrich-Schiller-University on 'Understanding Volunteerism in Civil Safety and Security: An International Perspective'. The paper is a theoretical attempt towards an explanation of volunteering in an international perspective. The paper takes a comparative perspective of historical traditions of volunteer work in two countries; India and Germany. A critical aspect of the paper is to explain volunteerism which combines classical psychological approaches, based on values and motivation, with a Neo-Gandhian approach that puts the voluntary action into focus.

Along with this the principal investigator of the project, Prof Narendar Pani presented the observations of the study at the Indo-German Conference at Indian Institute of Technology (IIT)-Delhi on December 5, 2018. Prof Pani presented on 'Understanding Spontaneous Volunteerism in India' and 'Vulnerabilities and Volunteerism: The Indian Picture'. The Programme has also submitted a detailed report on the initial findings with the German collaborators.

The major research contribution by Prof Narendar Pani in the area of Conflict Resolution was his development of a Gandhian approach to volunteerism. Across the world there has been a divergence between organized volunteerism and spontaneous volunteerism. Countries like Germany have very well-developed systems of organized volunteerism while in India there is still considerable dependence on spontaneous volunteerism. The organized system in Germany, which is built around relatively stable jobs, has been coming under stress with growing job attrition. There is thus a growing interest in spontaneous volunteerism. As a part of a larger Indo-German collaborative project Prof Pani used Gandhi's concept of action to develop an approach that allows for spontaneous volunteerism while reducing its unpredictability.



A second major research project of the programme is on 'Natural resources, Conflict, and Consciousness: Dissecting People's Movements in Odisha'. Funded by the Indian Council of Social Science Research, this project investigates the peoples' movements in Odisha on the issue of natural resource distribution. So far conducted field surveys in three districts of Odisha and a research paper on 'Local Movements under a Revolutionary Brand' has been communicated for publication. The final report of the project is under preparation.

A research article on 'Emerging Trends of Terrorism: A Critical Analysis' has been accepted for publication in Journal of Liberal Studies. Another article on 'Politics of Good Governance and Development in Maoist Affected Scheduled Areas in India: A Critical Engagement' has also been accepted for publication in Studies of Indian Politics Journal.



Outreach

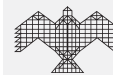
Panel discussion on 'Is There Reason in Indian Politics', Bangalore International Centre, April 23, 2018. The panellists of the discussion were Prof Narendar Pani, Prof Surinder Singh Jodhka, Prof Shiv Vishwanathan, and Prof Rajeev Gowda. Lecture on 'Maoist Politics in Nepal: Past and Present' by Prof Anjoo Sharn Upadhyaya at NIAS, May 23, 2018. Public lecture on 'Shooting the Messenger: What Does the Killing of Journalists Mean' for Indian Media, Ideas and Politics by Prof Narendar Pani at NIAS, June 21, 2018. Public Event: Screening – 'At the Altar of India's Freedom' – INA Veterans of Malaysia, at NIAS, August 9, 2018.

Prof Narendar Pani, *Head*

Anshuman Behera

Research Assistant: Rakshitu MU

Doctoral Students: Shyam Hari P, Surya Shankar Sen, Zarnain Manzoor, Hruday Chandana



INTERNATIONAL STRATEGIC AND SECURITY STUDIES PROGRAMME

Introduction

The primary objectives of International Strategic and Security Studies Programme (ISSSP) are 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 prospects and the policy challenges, study the impact of technology on security and provide policy inputs on relevant issues through research, discussion meetings, workshops and conferences. Research proposals on these lines were generated after gauging the interest of likely sponsors. Studies have been mainly sponsored by the defence and security agencies in the country. In addition, members of the programme have taken up research in their own areas of interest and domain expertise. One such study taken up at the programme level involves preparation of a database of important countries of SE Asia. The programme coordinates the BRICS Young Scientist Forum (YSF) and has organized event in Durban, South Africa as well as a meeting in Bengaluru involving the YSF faculty from India. During the year, Science Diplomacy Initiative and the International Peace Research Initiative were launched. The Peace Research Initiative is supported by the German Konrad Adenauer Foundation.

Research Activities

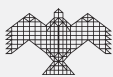
Prof D Suba Chandran was responsible for major thrust and outreach initiatives, which included NIAS-Science Diplomacy Initiative (NIAS-SDI) with the aim of utilizing India's Science and Technology capabilities as a tool for diplomacy and also use diplomacy for better cooperation in the field of science globally; and International Peace Research Initiative (IPRI) is supported by the German Foundation – Konrad Adenauer Stiftung (KAS) and aims to study armed conflicts and peace processes at the global level; IPRI plans to bring out publications, hold capacity building workshops and hold 'peace lectures'. ISSSP also coordinates the BRICS Young Scientists Forum (BRICS-YSF) supported by the Department of Science and Technology. During the reporting year BRICS-YSF coordinated the conclave at Durban, South Africa. Climate change and security is another multi-disciplinary activity being pursued with focus on energy security in the region.

The IPRI looks at Peace Research as an exclusive domain. An authors workshop was organized under the Initiative, aimed to start a new annual series on contemporary peace processes at the global level. IPRI also has a Capacity Building component, whereby young scholars are trained to pursue Peace Research; two workshops were held in Chennai and Bangalore. IPRI also launched a "Peace Lecture Series" with five renowned scholars (from India and abroad) providing lectures during 2018-19.

The NIAS-SDI aims at two specific areas: Science for Diplomacy and Diplomacy for Science. A series of workshops and publications have been carried out as a part of this initiative during 2018-19. The Online Portal – www.globalpolitics.in is exclusively for young scholars who are pursuing the NIAS Course on Global Politics. More than 100 hundred commentaries have been written and published by the Course scholars during 2018-19.

DRDO-ISSSP NIAS project on Tawang Borderland. The research study project on the remote location in the eastern Himalaya attempted to assess the changes taking place in the Tawang borderland as well among the border community called 'Monpas', which is one of the strategic borderlands in India-China frontiers. The completed research study adds value to the existing limited literature and understanding on the ignored region. Besides, contributed to expand our group's research work on Indo-Pacific apart from analysis the issues such as the insurgency in Thailand, Sri Lanka and India's relations with ASEAN by contributing research articles and papers on these subjects. The Indo-Pacific region where the rise of China and its aid diplomacy has altered the power equation demands close monitoring and analysis.

The primary research area focuses on Geospatial Analysis for DRDO sponsored project on Tawang – "Borderland and the Strategic Challenges: Towards Better Understanding of the Social Behaviour and Socio-Cultural, Religious and Economic Profile of Border People in Tawang". GIS based analytical work for studies in counter terrorism is under way. Use of GIS for Defence, homeland security, maritime security, warfare, military affairs and strategy, border security are other areas of work. Under the concurrent (honorary) fellowship in India-Israel strategic cooperation with University of Haifa – NSSC, the continuation of work is being carried out based on the past and current research work.



A major study on “Weapon Systems and War Deterrence Strategies in India’s Neighbourhood” was completed. The study focuses on China’s Rise and its Evolving Anti-Access Area Denial (A2AD) military strategy. The critical role of its missile, space and naval forces given China’s geographic and historic setting are specially addressed through a number of US-China confrontation scenarios. The study also examines the role of the newly formed *Strategic Support Force* combining the space, cyber and electronic warfare in its fold. The study breaks new ground on approaches to assessing the internal and external vulnerabilities of nation states that combines geography, history and societies using an evolutionary framework. These vulnerabilities are assessed along with the actual deployment of China’s forces on the Land, Sea, Air, Space and Cyber domains to make inferences about China’s military strategy. The final report has been submitted to the sponsor. Prof S Chandrashekar was the Principal Investigator for this study.

The earlier report on China’s Space Programme is being updated to cover events and happenings up to the end of 2018. Weapon systems help in formulating both development and defence strategies. Keeping this in mind five advanced weapon systems pertaining to a) aerial weapons, b) space weapons, c) submarine-based weapons, d) Directed Energy Weapons and e) 5th Generation Aircraft. In the initial phase of work study on aerial weapons, space weapons and directed weapon (DEW) systems were prioritized. As part of the DRDO sponsored project “Advanced Weapon Systems” Technologies for Fifth Generation Fighter Aircraft were being researched. Directed Energy weapons such as High Energy Laser (HEL) weapons and High-Power Microwave (HPM) weapons were researched and an Interim Report was submitted. The project will continue into the next year. Prof Rajaram Nagappa is the PI with Prof Srikumar Pullat and Prof PM Soundar Rajan as Co-PIs.

There has been demand for the in house developed missile trajectory analysis software Quo Vadis. Documentation and training were provided to the staff of the user agencies. Similar demands for the in house developed Space Situational Awareness software Veni, Vidi, Vici are being met. Prof N Ramani has developed the required software tools and integration with the GUI. Some user-specific requirements are being examined.

Most researchers from the West use data provided by the International Panel of Fissile Materials (IPFM) and similar sources to arrive the number of nuclear weapons possessed by nuclear weapon states. The methodology employed to make these assessments are not clear and in the case of Pakistan, they do not take into account that country’s uranium constraints. Examination of the issues of shortages in domestic supply or increase in demand will help in obtaining better estimates. An integrated approach that looks at uranium Demand-Supply situations in Pakistan from the start of its mining operations till 2014 leads to estimates of nuclear weapons arsenal that are lower than that proposed by other authors. This study was carried out by Prof Lalitha Sundaresan and Ms Kaveri Ashok and the findings have been published in *Current Science* (September 2018).

The Gwadar port, a linchpin in China’s new maritime silk route, plays an important role in connecting landlocked Xinjiang province in China with Indian Ocean. This has opened up new set of political debate in global forum concerning Chinese growing influence in the sub-continent. In parallel, the port development in Gwadar has sharpened the focus of Pakistan Navy in expanding its role in Makran Coast. The expansion of naval and air station in Ormara, Pasni, Jiwani and in Turbat region has raised serious question over Chinese and Pakistan’s politico-military role in the Indian Ocean Region (IOR). The study used geospatial tools and satellite imagery to gain an analytical understanding of the growing significance of Makran coast in Indian Ocean Region. The preliminary finding of the “Geospatial analysis of Port Development in Makran Coast” shows that China-Pakistan Economic Cooperation (CPEC) project has enhanced coastal and maritime defence of Pakistan. India is skeptical about CPEC views the latest development in the Makran Coast pose a major challenge to India’s strategic interest in the region.

Survey of worldwide trends in the Development and Deployment Unmanned Aerial Systems and Technologies. Study of issues involved, in the deployment of Drones and Unmanned Aerial Vehicles (UAV) in National Air Space (NAS) in various countries. The study looks at how the various stakeholder agencies across the world are gearing up for accommodation of UAVs in NAS in the near future, and integrating them into the NAS in the medium to long term.

Two important studies pertaining to *Borderland and Strategic Challenges* and *Advance Weapons and Deterrence Strategies* were completed during the year. *Borderland and Strategic Challenges* is an in-depth



study of the people in Tawang Borderland in Arunachal Pradesh. The study includes historical/ethno-political background, detailed profiling of the border people, the infrastructure – status and needs, internal and external dynamics. The project team led by Dr M Mayilvaganan (PI) spent extended time in Tawang for researching on these points and draw inferences from them.

Highlights of the Year

Focus during the year was on space related activities. Space security, space situational awareness and space in India's foreign policy were much discussed topics. The final event was an address on the history, geography and occupation of space by the Research Director of CNRS, France. The other event was the Awards Ceremony in connection with the Prof ML Sondhi Prize for International Politics on October 5, 2018 in New Delhi. Prof Rajaram Nagappa received the award on behalf of ISSSP and gave an acceptance speech.



Contemporary Gilgit-Baltistan (GB), March 20, 2019. Two scholars belonging to GB area but resident in UK and USA participated in the event.



Special lecture by Mr Takayuki Kitagawa, Consul-General, Consulate-General of Japan, Bengaluru, India, on Importance of Karnataka in Indo-Japan Relationship, September 20, 2018.



*NIAS-Secure World Foundation (SWF) jointly organised a workshop titled *The Space Situational Awareness- Strategic Challenges for India*, June 14 and 15, 2018.*



NIAS-CISAC Dialogue 2018, May 2 and 4, 2018 addressed issues of nuclear safety, space security and cyber security.



Outreach

The programme arranged many discussion meetings and lectures by specialists. The members of the Programme were also invited for delivering special lectures and participation in events. List of major events and meetings arranged by the programme are listed below:

NIAS-CISAC Dialogue on Strategic Threats of the 21st Century, May 2 to 4, 2018.

Panel Discussion Commemorating 20 years of Pokhran-II on May 11, 2018. Prof VS Ramamurthy, Emeritus Professor, NIAS, Lt Gen (Retd) Prakash Menon and Prof Rajaram Nagappa, Head ISSSP formed the Panel.

Discussion meeting with members from Albright Stonebridge Group, USA relating to commercial opportunities with small satellites, June 2, 2018.

International Workshop on Space Situational Awareness jointly conducted by NIAS and Secure World Foundation, June 14 to 16, 2018.

Interaction with Dr Joseph Felter, Dy Asst Secretary for S/SE Asia, DoD, USA, August 8, 2018.

Discussion meeting with President and members of European Space Policy Institute (ESPI), Vienna, September 5, 2018. Collaboration possibilities between ISSSP and ESPI were discussed.

Lecture on The Role of Offsets within Defence Economics, September 10, 2018. The speaker was Prof Ron Mathews, Chair, Defence Economics, Cranfield University, UK.

Discussion meeting with members of the Tibet Policy Institute, September 19, 2018.

Talk on Importance of Karnataka in Indo-Japan Relations by Mr Takayuki Kitagawa, Consul General of Japan, September 20, 2018.

Panel Discussion on Indo-Pacific, January 11, 2019. Prof SD Muni, Distinguished Fellow IDSA, Vice Admiral (Retd) RN Ganesh and Prof Rajaram Nagappa were members of the panel.

Dr Richard Danzig, Director, Centre for New American Security (CNAS) and former Secretary for US Navy gave a talk on Artificial Intelligence and Cyber Security, January 22, 2019.

Dr Isabelle Sourbes-Verger, Senior Researcher CNRS, France gave a talk on Small Satellites and Small Launchers, A Paradigm Shift in the Occupation of Space, March 7, 2019.

In addition, members of ISSSP gave talks related to Chinese Space Capabilities, Maritime security, use of GIS for defence, science diplomacy. Prof Suba Chandran took part in international dialogue meetings as a member of the ICWA delegation of Indian think tanks.

Rajaram Nagappa, *Head*

D Suba Chandran

S Chandrashekar

Srikumar Pullat

PM Soundar Rajan

N Ramani

Lalitha Sundaresan

M Mayilvaganan

Amit Mukherjee

Prakash Panneerselvam

Senior Research Fellows: Mrunalini Deshpande, Riffath Khaji

Junior Research Fellows: Sourina Bej, Nasima Khatoon, Avinash Pushparaj, Harini Madhusudhan, Seetha Lakshmi

Dinesh Iyer

Doctoral Students: Murali Murti, BR Guruprasad, Sherin Ajin, Aparupa Bhattacharjee

SCHOOL OF HUMANITIES

Programmes

- Consciousness Studies
- Heritage, Science and Society
- Philosophy in Action



CONSCIOUSNESS STUDIES PROGRAMME

Introduction

The Consciousness Studies Programme is the only academic programme in India that focuses on the humanistic and health aspects of consciousness along with a critical approach to the empirical theorization of the self in humans and animals. The Consciousness Studies Programme currently has groups working on human communication examining behavioural decision-making, communication and social cognition, information theory, conceptual mathematics, and quantum approaches to consciousness.

Research Activities

The broad area of Prof Sangeetha Menon's 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. Prof Sangeetha Menon's work for the last five years suggests that the qualitative nature of consciousness is best understood by examining the brain-self interrelations and the challenges that the brain and self give each other. In this process, the methodologies to understand the outer body-sense and cognitive capabilities are insufficient to understand the inner self and its experiential quality.

Working for the project titled 'Indigenous Healing and Ritual Arts Traditions of Kerala'. The research focus is on the "Healing Narratives of the Tribal Communities in Kerala". The research will be looking mainly at the life and the healing practices of the tribal practitioners in Kerala. It will include the documentation of the medicinal practices of the tribal healing for the mental/physical illness, associated belief, customs and customary/ritual practices, the relation with their environment and land and also their day to day life. Currently, the study is developing a research framework in the sustainability aspect. The study has already reviewed about hundreds of articles and selected six districts to document the case studies. For proceeding to the field, relevant documents were submitted to the Head Quarters of Forest and Tribal Departments in Kerala.

Translation of the Sanskrit epic poem, Shrikanthacharita, by the 12th century Kashmiri poet Mankha forms an important part of work at NIAS. This work has not been translated into English or any of the Indian languages till date. On a weekly basis, translating and annotating verses from the vast corpus of primary literature on Kashmir Monistic Shaivism. A great majority of the verses taken up for translation are from hitherto untranslated texts. The translation of primary texts is the first step towards the larger goal, namely, understanding the nature of Consciousness in its various dimensions – metaphysical, aesthetic, literary, theological, and mundane – with Kashmir Monistic Shaivism as the common backdrop.

In the process to consolidate the work in the field of Consciousness Studies over the past few years, Prof BV Sreekantan and Prof Sisir Roy have written a book with the title "Space, Time and Causality in Modern Physics





and Ancient Indian Traditions” which is under publication by Routledge (England). Prof Sreekantan and Prof Sisir Roy propose to follow up this book with another in which they will examine the impact on philosophy of science, the most recent trend and demand among some scientists for a re-examination of the methodology of science itself in the context of many negative experimental results concerning many of the scientific predictions particularly in the area of physical sciences and also many unexpected astrophysical discoveries.

Dr Nithin Nagaraj and Ms Aditi Kathpalia have developed a novel mathematical framework for causality testing using compression-complexity. The proposed method gives state-of-the-art performance and overcomes several limitations of existing methods. This has applications in causality-based measures of consciousness and network neuroscience. Dr Nithin Nagaraj and Mr Hari Krishnan NB are developing a novel brain inspired artificial neural network architecture for learning and classification. The team is also exploring relations between principles of causality, learning and information theory. Dr Nithin Nagaraj and Mr Mohit Virmani have proposed a new perturbation-based complexity measure for brain networks which has direct relevance to Integrated Information Theory of Consciousness.

Outreach

Various lectures were organized under the banner of The Reading Glass, and Svastya Rasa Bodhini. NIAS CSP FB page with info on the upcoming lectures and discussions. <https://www.facebook.com/NIASConsciousnessStudies/>

Sangeetha Menon, *Head*

BV Sreekantan

Sisir Roy

Anindya Sinha

VV Binoy

Nithin Nagaraj

Post-doctoral Associates: VK Deepa, Shankar Rajaraman

Doctoral Students: Siddharth S, Niharika Sharma, Meera Menon

Research Associates: Amrutha MK, Rakesh Kumar, Hari Krishnan NB



HERITAGE, SCIENCE AND SOCIETY PROGRAMME

Introduction

The Heritage, Science and Society Programme addresses the study of archaeological artefacts, art objects, archaeological monuments and sites, not only from traditional historical approaches but also from innovative perspectives that aim to explore the technological dimensions, encompassing heritage sciences. Such areas include archaeological sciences, archaeometallurgy and archaeomaterials, materials characterization and materials heritage, crafts ethnoarchaeology, landscape archaeology, geospatial applications and digital approaches in the study and documentation of heritage ranging from art objects and artefacts to archaeological and archaeometallurgical sites. The programme has made impactful contributions to the historical study of languages, classics, inscriptions and epigraphy, art history, craft traditions, architecture and archaeology and history of technology of southern India and other parts of India and Asia. The issues of preservation of tangible and intangible heritage, including crafts traditions, theatre and performance traditions are also explored.

Research Activities

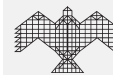
Prof Sharada Srinivasan completed the writing of a comprehensive monograph on 'Vanishing Heritage of the Vishwakarma and Kammalar', the metal crafts people of southern India, commissioned by the Indira Gandhi National Centre for Arts (250 pages with 250 photographs) and also collated the TCS report related to metal crafts heritage. She also contributed in the archaeomaterials study of Tipu rockets for the Shimoga Museum as cited in Nayak and Olikara, Journal of Arms and Armoury Society (JAAS), UK, which attracted international attention. Prof Sharada Srinivasan is a co-recipient of an INSIGHT with McGill University on the archaeometallurgical landscapes of the Maski region of north Karnataka and a preliminary field trip was undertaken by her in July 2018.

The field survey included training of students from Madras University and Christ University. Continued researching the perceptions of metal craft production as a part of the 'Metal Craft Heritage in the Cauvery Region' project anchored by Prof Sharada Srinivasan.

Carried out fieldwork on metal technology working process in South India and other parts of countries under the TCS project, along with Prof Sharada Srinivasan, could identify almost 25 metal artisans from different parts of the country such as Pune, Solapur, Udaipur, etc. The fieldwork covers to understand and document the technological process of ancient metal craft and heritage. Published the paper in national and International journal entitled Art and Architecture of Avudayar Kovil, Tamil Nadu in the Art/Craft Style International magazine and Iron technology of Southeast Rajasthan in, History Today (Journal of History and Historical Archaeology).

Dr Srikumar Menon undertook a study on the virtual reconstruction of an unfinished Early Chalukyan monument from the 6th century consisting of the open mantapas at Badami which also provided insights into the intent of the ancient architects who began the structure, and also undertook studies on the toolmarks of artisans from the Chalukyan and Vijayanagara period and uncovered a new rock art site. Continues to work on ancient architecture – ranging from prehistoric monuments like megaliths to early temples and stupas. Major contributions are the development of a graphical diagnostic tool to distinguish between the stone-craft of Early Chalukyan and Vijayanagara artisans; the virtual reconstruction of an unfinished Early Chalukyan monument from the 6th century at Badami; and the announcement of a new rock art site discovered near Aihole. The former tool enables researchers to distinguish the architecture of various periods by observing tool marks and is an important new development. The virtual reconstruction of the open mantapas at Badami also provided insights into the intent of the ancient architects who began the structure. The new rock art site, though originally from prehistoric periods, showed re-use in Early Chalukyan period. All three research findings mentioned above were published as journal papers. A project on Oral Histories of Megaliths was completed with Dr Samira Agnihotri and a paper submitted to INTACH.

Performing the Periphery Initiative is a collaborative research network of NIAS and Exeter University supported by an Arts and Humanities Research Council UK grant which aims to explore the role of performance (human and non-human) in relation to social and economic change at the urban periphery. The NIAS PIs included Prof Sharada Srinivasan and Prof Anindya Sinha and other members including Dr Smriti Haricharan, Ms Sumitra Sundar, Mr Sreedhar Vijayakrishnan and Ms Aparna Mahariya, NIAS-Exeter PhD student co-supervised by Dr



Shivali Tukdeo. The themes ranged from marginalized artisans making musical instruments such as cymbal making, to temple elephants and mahouts and transgender performers of the Jogappas from north Karnataka. Dr Smriti Haricharan made a field visit to the metal crafts workshops in Moradabad.

The research of Dr MB Rajani included exploring sea charts and coastal maps made in colonial period to study cultural heritage and geomorphology along the Indian coast, funded by Ministry of Earth Sciences for four years from April 2018; identifying archaeological mounds in large Buddhist sites in Ganga valley like Nalanda, Bodhgaya and Vikramasila using stereoscopic satellite images and photogrammetric techniques, funded by SERB, Department of Science and Technology for four years from January 2016, and carbon dating (using AMS techniques) bricks collected from unprotected mounds (preliminary findings reported in Das et al. accepted *PINSA* 2019); worked on reviewing research paper on orientation of sacred structures of few Buddhist sites and their astronomical association; analyzes of underground water supply system used in Bengaluru in 19th and early 20th century (Suganya and Rajani, *Water History*, January 2019); working on a paper that analyzes spatial transformations in the city of Agra in the last 300 years.

Prof Sinha is also in the final stage of a collaborative research network (with Prof Sharada Srinivasan, School of Humanities, NIAS and with Dr Cathy Turner and Dr Jerri Daboo, Exeter University, UK) that has explored traditional performances, in theatre, music or the fine arts, as representative of the increasing marginalisation of human societies and their associated nonhuman communities at the urban periphery across southern India.

Outreach

As part of the outreach of the important international exhibition at the National Museum, New Delhi, with collections also from British Museum, members of the Heritage team were invited to conduct a Traditional Bronze Casting Workshop between June 1 and 3, 2018. The aim was to disseminate awareness of the traditional methods of making metal icons through the lost wax casting methods used in making South Indian bronze and drawing from the traditional knowledge of Sthapatis or icon makers in Thanjavur area. Curated by Prof Sharada Srinivasan, and conducted by Dr S Udayakumar, with the support of Maniganda, the workshop saw enthusiastic participation by the general public and students, while the Secretary for Culture and DG-National Museum also spent time.

A photo-exhibition on bronzes, technology, art and dance by Prof Sharada Srinivasan was also on display. Experimental metalworking techniques were coordinated at NIAS as outreach to understand traditional technologies and exchanges with craftspeople through the TCS project. Prof Sharada Srinivasan and Dr Udayakumar coordinated the second phase of experimental iron smelting technology in April-May 2018.





Dr Smriti Haricharan organized an International Research Conference titled 'The relevance of Archaeology for 21st century India' from July 24 and 25, 2018 and a coinciding Exhibition 'Field Experiences', which was an innovative and artistic way of bringing alive numerous fascinating facets of archaeological and field research through multi-media installations, videos, photography as well as actual samples collected from fieldwork. Participants included archaeologists, landscape architects and artists who exhibited works related to their experience of the field. The exhibits touched upon materials in heritage and image casting by master craftsmen at Swamimalai and studies on resonant rocks at monuments and archaeological sites by Prof Sharada Srinivasan and materials related to the iron and steel making smelting experiment by Prof Sharada Srinivasan and Dr Udayakumar, while Dr Smriti Haricharan had an exhibit retracing the photographic memories of her master's dissertation and Ms Vijayashree Kashyap on the Bhuta Cult of Karnataka.



The Materials Heritage Exhibit was on display at the IISc Open Day curated by Prof Sharada Srinivasan, Dr Udayakumar, Prof S Ranganathan and Prof Satyam Suwas which also featured a video of the iron smelting experiment and some of the debris as well as a model of the Agaria furnace along with other artefacts of metals and stone tool heritage.

Organized a series of events funded by Sundaram Finance under the project titled 'Disseminating Archaeology'. These events included an Art and Archaeology Exhibition, a research workshop titled 'Relevance of Indian Archaeology' as well as a student workshop between July 24 and 26, 2018. The art exhibition was co-curated along with Ms Vijayashree CS and Mr Srivats. Also organized a screening of film "Merku Thodarchi Malai" by Lenin Bharati was organized on September 25, 2018, which was well attended and received.

Sharada Srinivasan, *Head*

S Ranganathan

S Settar

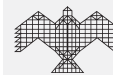
Srikumar M Menon

Smriti Haricharan

MB Rajani

Post-doctoral Associates: S Udayakumar, Asmita Mohanty

Doctoral Students: Ekta Gupta, Krupa Rajangam, Kuili Suganya, K Venkatesh



PHILOSOPHY IN ACTION PROGRAMME

Introduction

In the first year, the Philosophy in Action Programme was able to successfully create a platform for philosophical discourse that is truly public and open. The website has been live since February 2019. With the completion of the website and the creation of a network of individuals, across different walks of life, interested in philosophy we have been able to meet our core goals for the project. Vichaara Dhaara (a series of talks organized by barefoot philosophers), public lectures, reading groups and workshops have been organized throughout the country. These events have been instrumental in building a network for philosophical discourse. Newsletters have been put out and articles compiled and showcased on the barefoot philosophers website.

Research Activities

Online Platform: The creation of an online repository for open access resources in philosophy was one of the core aims of the project starting out. Through the creation of this online resource, we were able to showcase the writings of scholars and students alike. Moving forward, the website (www.barefootphilosophers.org) will be a vital tool for the activities of the project.

Launch of “Barefoot Philosophers”: An Online Resource for Philosophy in India: The barefoot philosophers website was launched at the second edition of Vichaara Dhaara. The website showcases philosophical writings compiled from a diverse array of authors, from students and scholars in philosophy and other disciplines to school children. The launch of the website was one of the most important steps towards creating a lasting platform for a public and open discourse on philosophy in India. The digital platform will serve as the Open Access platform to Philosophical resources.

Publication and Compilation of Resources on Philosophy: One of the long-term goals of the project is to compile and publish philosophical resources from sources across disciplinary boundaries. In bringing together people from different backgrounds, we hope to improve the discourse surrounding philosophy in India. In addition to creating traditional resources, the project also plans to create more innovative themes and platforms that can bring philosophy to the masses.

Philosophy for Children Series: Philosophy for Children is a series of books aimed at introducing philosophy to young minds. Authors for the series have been identified and work on the series is underway.

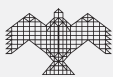
First Issue of the Barefoot Philosophers Newsletter: The first issue of the barefoot philosophers newsletter was released in the end of January to an international audience. The newsletter is a frequent way and approach to connect with the audience over a digital platform providing them with a new theme of writings and discussions in each issue.

Essay Competition: An essay competition for children and adults was organized under the project. Selected essays from the submissions received have been published on the barefoot philosophers website.

Online Encyclopaedia: Leading academicians, scholars, activists and thinkers have been commissioned to curate and write for this online repository. Their submissions are expected in the coming months. These essays will be available to the public through the the scholarly section of the barefoot philosophers website and will create a strong foundation for furthering the discipline of philosophy in India.

Philosophy and Art in Public Spaces: One of the initiatives under the project was the collaboration with artists, filmmakers and thinkers to combine and promote philosophy and art through organizing public events intended to foster a fruitful relationship between the two.

Theatre Play “Two Fathers”: A public screening of a play, ‘Two Fathers’, penned by Prof Sundar Sarukkai was organized in 2018.



Collaboration with Attakkalari: In February 2019, the project in collaboration with Attakkalari, played a role in expanding the social media presence for their annual performance. The annual showcase of Attakkalari and their Incubation Centre for the Arts and Media was an immersive and intensive training module for artists, movement professional, media and creative specialists to offer a transdisciplinary approach to performance arts. The collaboration extended into interviews and discussions with various performing artists and every performance at Rangashankara was followed by a discussion between the audience and the artists chaired by Prof Sundar Sarukkai. This was executed in the first week of February with their final showcase on February 8 and 9, 2019.

"We Have Not Come Here to Die: A screening of the documentary, "We have not come here to die", about the inequities of caste discrimination in higher education, was organized under the third edition of Vichaara Dhaara. The screening was followed by a lively public discussion on the topic of Education and the idea of justice. The documentary was directed by award winning filmmaker, Ms Deepa Dhanraj.

Outreach

The project has organized and conducted several public events and lectures throughout the year aimed at encouraging public conversations about philosophy and igniting interest about the discipline and its value to the day to day lives of ordinary citizens.

Vichaara Dhaara is a series of public lectures/talks on philosophy aimed at creating an open platform for philosophical discourse in India.

Vichaara Dhaara I – Reading Philosophical texts by Professor Sundar Sarukkai, January 12, 2019.

Vichaara Dhaara 2 – Feminism and Philosophy with Dr Devaki Jain, February 16, 2019.

Vichaara Dhaara 3 – Education and the Idea of Justice with Dr Suma BU and Ms Deepa Dhanraj, March 23, 2019.

Reading Groups in the City: The first informal Reading Group was implemented on February 3, 2019 by Ms Mansi Rathour and Mr Siddharth at Cubbon Park, Bengaluru. The reading group was intended to nurture philosophical interest in people across the city working in different fields. The group mobilized people across disciplines to get together and discuss some common contemporary issues and themes. The Reading Group is a small informal circle focused on synthesizing and analyzing texts on contemporary issues with the help of philosophical tools of argumentation and writing. The topic for the February Group was Identity and it saw a lot of participation and engagement by people from various fields. Based on interaction from the participants, further reading sessions are being planned across different locations in the city.

Doing with Philosophy: Doing with Philosophy is a series of interviews and conversations that explore everyday life through philosophy. These interactions will be made available to the public through the barefoot philosophers online resource.

Contribution to Op-eds in Prominent Platforms: Prof Sundar Sarukkai periodically engages with social and political issues through Op-eds in prominent newspapers and platforms like The Hindu.

Through organizing of philosophy workshops in collaborating with various educational institutions, the project has been able to reach out to individuals from different backgrounds and introduce philosophy to them. The project has focussed on conducting these workshops for students that would not otherwise have access to philosophy and philosophical resources.

Taking Philosophy to Rural India: The project has organized various events and philosophy camps in rural India, intended to introduce philosophy to people in rural areas in the country who may not otherwise have access to it.

Philosophy Workshops for Children, the first Annual Summer-Camp for Kids was organized at NIAS from May 21 to 23, 2018.

Sundar Sarukkai, *Head*

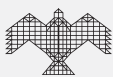
Research Associates: Ms Mansi Rathour, Mr Vijay G Nath

Doctoral Students: Mr Varun S Bhatta, Mr Nitesh Anchan

SCHOOL OF NATURAL SCIENCES AND ENGINEERING

Programmes

- Animal Behaviour and Cognition
- Complex Systems
- Energy and Environment
- 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 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. The Animal Behaviour and Cognition programme is the only research group in the country working in the area of social cognition, communication and culture in any animal species, the only group that has been monitoring a primate population and tracking the life-history strategies of more than 1,500 individually identified animals continuously over fifteen years and one of the few groups in the world working on the behavioral ecology of nocturnal primates in the wild. The programme carries out research both at the fundamental as well as applied levels, and this work has not only produced tangible outcomes for government policies related to wildlife management and conservation but has also made significant contributions to the fields of community ecology, evolutionary biology and cognitive neuropsychology.

Research Activities

The principal projects conducted by the programme over the last year were in the areas of primate behavioural ecology, human-wildlife interactions, urban ecologies, science communication and public risk perception.

In Science Communication activities, Dr VV Binoy collaborated with colleagues from St Louis University, USA, University of Koblenz-Landau, Germany and Charles Darwin University to publish a study on using smartphone geospatial applications for disease control and education. Dr Binoy was also involved in studies on science communication and public risk perception, indigenous psychiatric and psychological practices and human-primate conflict. Research focused on understanding the role of cultural variation in the cognitive abilities of people in determining trust in scientific information and emerging technologies, exploring effective strategies for communicating science with various stakeholders in multicultural societies and developing ICT integrated modules for teaching environmental science in schools of India. He studied biological basis of behavioural flexibility in endangered fish species and its application in their conservation. His team established a facility to study the behaviour and physiology of Deccan Mahseer, a mega-fish endemic to peninsular India. He was one of the major contributors to a multi-institutional project which came out with smart phone based geospatial apps for dengue control, prevention, prediction and education, based on Mosquito Perception Index. His team started studying the efficacy of traditional folk theatres in communicating climate change with the rural population in North-east India last academic year.

The populations of an important freshwater mega fish in India, the Deccan Mahseer (*Tor khudree*) have been declining drastically in the natural water bodies. Understanding behaviour and coping strategies followed by the individuals of different populations of this species in response to natural and anthropogenic changes happening in their environment could help in devising effective conservation strategies. We have undertaken studies on behavioural flexibility, personality traits, social cognition, behavioural adaptation toward alien invasive piscine species etc. in *T. khudree*, which constitute pioneering work on the behaviour and cognition of this species.

Prof Sindhu Radhakrishna continued her studies on human-primate interactions and conflict mitigation strategies. She also collaborated with Erin Riley of San Diego University to bring out a special issue on research methods in ethnoprimateology in the *International Journal of Primatology* Co-edited a special issue of the *International Journal of Primatology* on the topic 'Ethnoprimateology in the 21st Century'. The research articles in this issue focused on advances in theoretical and research methodologies in the emergent field of Ethnoprimateology. The issue was very well received by the international primatological community as it laid very clearly the progress of thought in this area.

Human-primate conflict is the main form of human-wildlife conflict in India with large-scale negative consequences for well-being of communities as well as the long-term survival of primate species. Yet, our understanding of ecological drivers of this form of conflict is limited. Prof Anindya Sinha's research work has



focused on investigation of spatial and temporal patterns of human-primate conflict and ecological factors that work as determinants of conflict intensity. His current research work is focused on the investigation of landscape-level drivers of human-primate conflict in different eco-regions of India using macaque behavioural observations, vegetation characterization and geospatial analysis.

In addition to his continuing projects on the demography, behavioural ecology and management of synurbized primates and elephants in southern India, Prof Anindya Sinha and his colleagues investigated the nature of human-urban animal interactions, largely involving macaques, street dogs and cows, in Delhi and Chennai. In association with his various colleagues and collaborators, Anindya Sinha published five peer-reviewed research papers and eight conference papers and posters during this period, while three book chapters are in press.

Prof Anindya Sinha (with Dr MB Rajani and Dr Nithin Nagaraj of the School of Humanities, NIAS) received an interdisciplinary grant in the past year; one from the European Research Council on 'early fusion music', which proposes to explore cross-cultural musical exchanges in colonial India from the late 18th to the early 20th century.

Outreach

Prof Anindya Sinha participated in a workshop on Urban Ecologies: Feral, Cultivated, Wild, which was organized to launch an ERC Horizon 2020 project on Urban Ecologies, in the University of Cambridge, and spoke on compassionate bioethics for the future at a panel discussion on Science and Society: The Future, which he organized in NIAS on the occasion of National Science Day in February 2019. He also delivered six lectures on primate ecology, behaviour, cognition and evolution, as well as on the philosophy of biology at various institutions across the country over the last year.

Dr VV Binoy delivered the plenary talk at the 42nd Annual Conference of the Ethological Society of India in the University of Calicut, Kerala. He also delivered four other talks on behaviour and cognition in fishes, and social cognition and policy at various institutions in Bengaluru and organized two workshops and three roundtable meetings. While the two workshops were aimed at introducing conservation psychology and animal cognition to students.

Prof Sindhu Radhakrishna delivered a lecture on the science of ethology at a DST-INSPIRE workshop conducted by the Mar Ephraem College of Engineering and Technology in Marthandam. She also published three articles in *Resonance*, a science education journal describing the contributions of Tinbergen, a well-known ethologist and on human-animal relations.

Sindhu Radhakrishna, *Head*

Anindya Sinha

VV Binoy

Post-doctoral Associates: Paula A Pebsworth (*till October 31, 2018*), Vishwanath Varma

Doctoral Students: Nishant M Srinivasaiah, Shaurabh Anand, Sridhar Vijayakrishnan, S Vignesh, Ashni Dhawale and Debanjan Mitra (NIAS-Exeter University Collaborative Programme)





COMPLEX SYSTEMS PROGRAMME

Introduction

The enormous variety of phenomena we see around us in nature and in daily life arises because of different kinds of nonlinearities occurring in the interactions between elements constituting various systems, producing complex behaviour. The Complex Systems Programme makes use of appropriate physical concepts and mathematical techniques to make useful predictions in diverse systems and to determine how one could achieve some control over their behaviour.

The programme studies cover a wide range of subjects and are by nature, interdisciplinary, multidisciplinary, cross-disciplinary and trans-disciplinary. Examples range from geodynamics, ecological systems, social systems, econodynamics, study of structural stability of buildings, to other areas such as fluid dynamics, neuroscience, sensory systems, cellular processes, morphogenesis, electronic systems, climate dynamics, etc.

Since its inception in July, 2012, the programme has made leading and pioneering contributions to subjects as varied as climate impact on ecological systems and prediction of insect pest outbreak cycles, dynamics and acoustic cavitation of charged microbubbles, novel nonlinear oscillations in coupled Josephson junction models, coupled neuron dynamics, novel bursting mechanisms in neurons, secure encryption and transmission of messages using q-deformations, aspects of hearing research, studies on the role of fluctuations in ecological dynamics, etc.

Research Activities

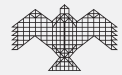
Research studies done in the programme are related to the two funded projects from SERB, Department of Science and Technology, Government of India.

1. "Nonlinear Oscillatory Phenomena in Sensory Systems" (under the EMR scheme). This project includes work on single and coupled neuronal firing patterns.
2. "Modelling Nonlinear Complex Phenomena: From Climate Change, Environmental Effects to Interacting Species" which forms one component (Part-C) of the NIAS interdisciplinary project "Interdisciplinary forays into human-environment interactions: an integrative research initiative in energy, ecology and nonlinear modelling" (under the IRHPA scheme. Under this project theoretical investigations of the impact of PM_{2.5} and PM₁₀ pollutants around the Singareni coal mining region in Telangana, including on vegetation cover. Funding from SERB, DST, for a third project proposal which has been approved under the MATRICS scheme is awaited.

Another significant achievement is the work done in collaboration with Prof Juergen Kurths, Potsdam Institute of Climate Impact Research on modelling growth of carbon dioxide from fossil fuels in the atmosphere and prediction of climatic tipping points.

Other important problems tackled by the programme include modelling climate change effects seen in marine ecosystems, understanding the unexplained jellyfish population boom seen in different parts of the world including in India through a mathematical model, and explaining the regime shift seen in fish populations along the Malabar coast after 1985. Prof Janaki Balakrishnan was involved in modeling the effects of rising sea surface temperature on two ecological niches. Her research found that the first food chain considered is that of jellyfish, its predators and its prey; effect of temperature at all the trophic levels is considered; the mathematical model is able to mimic the observed jellyfish blooms that have been observed all over the world. The effect of increasing Sea Surface Temperature on Sardine and Mackerel fisheries around the Indian peninsula is considered. It has been noted that there is a sudden increase in the Sardine and Mackerel catches in the Arabian sea higher latitudes and the same is mathematically modeled.

In a distinct publication by the programme, a method was proposed for secure encryption and transmission of messages.



The research focus of the programme during the past year has been on understanding the impact of human interventions and anthropogenic activities on the environment and natural ecosystems by constructing suitable predictive mathematical models. A model was successfully built to simulate animal movement path in the presence of man-made landscape features. A collaboration was established with scientists at the Nature Conservation Foundation, Mysore, who provided radio telemetry data of hornbill movement in the Pakke Tiger Reserve Region of Arunachal Pradesh. Using this in the model constructed, movement paths of hornbills were simulated, in good agreement with observational data. This work would be useful in understanding behaviour of animals in situations calling for conservation efforts, and also has potential in helping to avoid human-wildlife conflict situations.

Outreach

Prof Janaki Balakrishnan was an invited speaker at the 2nd Thought works Engineering for Research Symposium, Pune, in January 2019, where she spoke on Modelling Complex Interactions in Natural Systems. Other speakers were from IIT Mumbai, IMSc Chennai, ISRO, Delhi University, IIM Ahmedabad and TCS Research.

The programme's pioneering contributions to the study of pressure and charge thresholds and the dynamics of a charged microbubble in a fluid under ultrasonic forcing was presented as a poster at the 15th Experimental Chaos Conference, held at Madrid, Spain (June 4 to 7, 2018), an important biennial conference attracting researchers working in nonlinear dynamics.

An important activity of the Programme is carried out by Prof Janaki Balakrishnan as a Guest Faculty of Indian Institute of Science by teaching course on "Introduction to Dynamical Systems Theory" (MA 278), in the Mathematics Department.

Each year, Prof Janaki Balakrishnan mentors students from all over India for their summer research projects. The Programme has a considerable impact, attracting students from premier institutions like IISc, IISER Kolkata, IISER Pune, etc. to NIAS for training in techniques of Complex Systems research.

Janaki Balakrishnan, *Head*

Post-doctoral Associate: Sudharsana V Iyengar

Junior Research Fellows: Bhavna Kandra, Ankit Vikrant, Vaddi Meher



ENERGY AND ENVIRONMENT PROGRAMME

Introduction

India's Power Sector is undergoing a multi-faceted transition in terms of more stringent environmental standards while faced with a growing demand due to the aspirations of Indians for a better standard of living and accelerating industrial growth in the country. India's current position is unique in this respect since the power sector must meet all these challenges while lowering the tariffs to enhance affordability without unduly increasing the subsidy burden of the utilities. Therefore, in accordance with JRD Tata's vision for NIAS to carry out in-depth, policy-relevant research from a multi-disciplinary perspective, the Energy and Environment Programme (EEP) seeks to bring in the much-needed integration to Energy, Environment, Natural Resources, and Climate Change Studies at a time when India's Power Sector is undergoing a multi-faceted transition.

Research Activities

Prof R Srikanth was a member of one of the Working Groups constituted by NITI Aayog to develop a *Vision for India @75*. The overarching focus of this Task Force was to prepare a strategy document to further improve the policy environment in which private investors and other stakeholders can contribute their fullest towards achieving the goals set out for New India 2022 and propel India towards a USD 5 trillion economy by 2030. Prof Srikanth was also a member of the Working Group on Minerals and had recommended certain key enablers for facilitating scientific mining in India in the interest of Sustainable Development. NITI Aayog has accepted these suggestions and has included them in the report submitted to the Government for consideration on December 19, 2018.

Prof Srikanth was also invited to be a member of a task force on nuclear power constituted by the Vivekananda International Foundation chaired by Dr Anil Kakodkar. The report submitted by this task force entitled "Nuclear Power: India's Development Imperative" was formally released by Union Cabinet Minister Mr Suresh Prabhu on February 12, 2019 and submitted to the Government of India soon after.

Published a paper in the prestigious "Energy Policy" journal which was the Agenda paper for the Workshop on "Optimal Electricity Mix for India" chaired by Dr VK Saraswat, Member of NITI Aayog on November 20, 2018.

In May-June 2018, EEP was also awarded two prestigious multi-year projects from the Ministry of Earth Sciences (MOES) and the Department of Science and Technology (DST) respectively, in addition to the ongoing research on Energy Sustainability as one of the three components of ongoing SERB-funded project. The status of these three Projects is as follows:

SERB-funded Project entitled "Interdisciplinary Forays into Human-Environment Interactions": Prof Srikanth is also continuing with the project on "Sustainable Pathways to Energy Utilization," funded by the Science and Engineering Research Board (SERB) of Government of India. This project was reviewed by DST's Expert Committee in December 2018 and an article has already been published in an international journal as one of the important outcomes of this project.

MOES-funded project entitled "Understanding the Interaction between Components of the Earth and Human Systems at Various Spatial and Temporal Scales": While this project was "kicked off" with a major one-day workshop held on August 14, 2018, recruitment of PhD students and other project personnel and data collection are underway to expedite the progress in this important 5-year project. MOES officials are not only reviewing this project closely but are also working in close collaboration with EEP researchers on this project.

Department of Science and Technology funded project entitled "An Integrated Approach to Development and Environment in the Power Sector". The over-arching goal of this project (sanctioned on June 30, 2018) is to find optimal technology and policy interventions to be implemented at the State and Central levels to meet the Southern Region's growing needs for reliable, low cost energy while mitigating the environmental impacts of coal utilization. The final report of this Project will detail the State-wise, time-bound, transition plans in



relation to the electricity sector, which will help achieve an optimal electricity mix for the Southern Region during various time horizons (2022, 2027, and 2030).

As can be seen from the above brief description of EEP's major projects, the research carried out by this programme have trans-disciplinary characteristics as their intrinsic feature.

Outreach

EEP organized three policy-focused workshops at NIAS to bring together diverse experts and other stakeholders for brainstorming on various issues related to Energy, Environment, and Sustainability.

On July 5, 2018, EEP organized an international workshop on Coal Sustainability which attracted diverse participation from research institutions, Government-owned mining companies, civil society, and students from Indian Institute of Science (IISc) as well as the Institute of Social and Economic Change. During this Workshop, renowned academics like Dr Ruth Kattumuri from the London School of Economics and Political Science and Prof MK Ramesh of NLSUI, Coal Sector experts like Mr DN Prasad (ex-Advisor in the Ministry of Coal, Government of India) and Mr Kaushik Chakraborty (GM-Environment of Western Coalfields Limited and environmentalists like Dr Sharachandra Lele (Distinguished Fellow in ATREE and member of an MOEF&CC Expert Committee) and Dr Ravi (Karnataka State Pollution Control Board) presented their views on the sustainability and regulatory aspects related to the Coal Sector. In addition, distinguished faculty members like Prof SK Satheesh from IISc, Prof Pu Yongjian and Dr Wang Rui from Chongqing Jiaotong University, China, and Dr Lakshmikanth Hari from the Centre for Sustainable Development, KJ Somaiya Institute of Management Studies and Research, Mumbai also participated.

On August 14, 2018, EEP organized a national workshop on various inter-disciplinary topics to understand the interaction between components of the Earth and Human Systems at various spatial and temporal scales. The main aim of this Workshop was to bring together leading experts in the fields of climate and weather modelling, environmental and energy sciences, and the energy sector to share their knowledge and experience with one another and also inspire the young researchers who have recently started their research as part of a five-year project that NIAS has been awarded by the Ministry of Earth Sciences (MOES) in May 2018.

In addition to Dr Shailesh Nayak who had earlier served as the Secretary of MOES before joining NIAS as Director, the list of eminent scientists and policy analysts, the list of speakers included Dr Ramesh, Dr Gopal Iyengar, Dr Gufran Beig, Dr Ramadass from MOES, Profs Nagaraj Narappa and Ashish Verma from Academia, Dr





Prabhakaran, Mr RK Mishra, Dr Tayal, Dr Vaibhav Chaturvedi, Dr Ashima Singh and Mr Nandikesh Sivalingam from Civil Society and Mr Naveen Munjal from Industry.

On November 20, 2018, EEP organized the NITI Aayog – NIAS Workshop on India's power sector, which was chaired by Dr VK Saraswat, Member of NITI Aayog. In addition to Dr Saraswat, the key speakers during this workshop were Prof PS Goel, Raja Ramanna Chair Professor and Ex-Secretary MOES, Mr Sreenivasa Murthy IAS (Retd), ex-Chairman of KERC, Prof RB Grover, Member of Atomic Energy Commission, Mr Pankaj Batra, ex-Chairman of CEA, Mr SK Soonee, Advisor to POSOCO, Mr Vikas Agarwal, Director (Distribution) of UPERC, Mr R Balasubramanian Executive Director and Company Secretary of KPCL, Mr Venkatakrishnan, ex-COO of Raichur Power Corporation, Mr Nagamanikam, General Manager of BHEL, Dr LV Krishnan (ex IGCAR, Kalpakkam), and Dr Rahul Tongia, Fellow Brookings India. This workshop was conducted in three interactive sessions culminating in a panel discussion to finalize the workshop recommendations which have since been submitted to NITI Aayog.

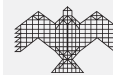
R Srikanth, *Head*

M Sai Baba (*till May 31, 2018*)

Sheela K Ramasesha

Post-doctoral Associate: Chanchal Chauhan

Doctoral Students: Sashi Kumar, CS Vijay, Jahnvi Sharma, Sarvajeet Kumar Sinha



SCIENCE COMMUNICATION PROGRAMME

Introduction

The research centred around “Science Communication” with the focus on obtaining effective and informative insights about managing perceptions and acceptance by public of the risks associated with new and emerging technologies. AI and Exposure to low-level radiation, have been selected for the detailed study. Analysis of the conflicts that happened due to S&T developments in the past decade in India was carried out to understand the anatomy of the conflict and develop science communication strategies to combat future conflicts. Making use of the newer platforms becoming available for interacting with public and to reach people more effectively. An online survey on AI was commissioned. Two Facebook pages on ‘NIAS-SciComm-AI’ and “NIAS-Comm” were created. A website on “Science Communication” was created. A short video series (Let us talk) has been commenced to use the visual media for communicating research. As the perception of the public is guided by the information that is being provided a study has been carried out to ascertain the type of information and tone of the information (framing effect) on AI that is being provided.

Science Communication Initiative

Two topics namely Artificial Intelligence and Exposure to Radiation especially the low-level radiation, have been selected for the detailed study. Analysis of the conflicts that happened in the Indian society, relating to science and technology in the past decade was carried out to understand the anatomy of the conflict and develop science communication strategies to avoid such conflicts in future. The research activities are centered around “Science Communication”. The focus of the work is to obtain effective and informative insights on the topic of managing public perceptions and public acceptance of public risks associated with new and emerging technologies, through science and technology communications. The very nature of the work is interdisciplinary in nature and the essence to combine the developments in the domains of S&T and social sciences.

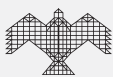
Outreach

The following meetings were organized:

Artificial Intelligence (AI) and Society: Artificial Intelligence (AI) is identified as one of the emerging technologies which would have bearing in the coming years on the lives of the people and society at large. Government and Media have started extensive discussions on the impact of AI on our Society. In its nascent stage, AI evokes mixed responses and there is a need for addressing them to enable society to take informed decisions. A meeting was organized on April 11, 2018, to discuss the status of the application of AI, the progress it is likely to make in the immediate future and the implications it is likely to have on various strata of the society. The meeting aimed at discussing effective strategies for communicating a realistic picture of the impact of AI to various stakeholders of the culturally diverse Indian society.

Exposure to Radiation, how low it should be? Risk of Radiation and Communicating the Reality: Exposure to the radiation always evoked fear and apprehension in the public due to the possibility of the exposure leading to cancer and causing genetic modifications. The dilemma continued about how low the radiation exposure should be, lead to intense scientific debate. The doctrine of no threshold of radiation exposure for causing any effects of consequence and the guideline of ALARA (as low as reasonably achievable) by the Regulatory bodies, lead to stringent controls to be implemented by the operators of the nuclear facilities. It has also lead to worry and enhanced fear of radiation in the minds of the public. A meeting was organized on May 17, 2018 at NIAS, with the aim of converging perspectives on the real risk from low-level radiation, hazard perceived by various stakeholders of the society, the communication strategies effective in mitigating the fear etc.

Discussion Meeting – Private Funding for Basic Research in India: A discussion meeting on ‘Private funding for basic research in India’ was held on September 6, 2018. The meeting was chaired by Prof S Ranganathan. Prof G Baskaran, SERB Distinguished Fellow, IMSc, Chennai and Distinguished Visiting Research Chair Perimeter Institute for Theoretical Physics Waterloo, Ontario, Canada, was the lead speaker of the event. Prof M Sai Baba was the other speaker in the meeting. Science and its twin brother technology have been transforming our society, in ways unprecedented. It is increasingly recognized that support for this must be sought, from beyond governments. The discussions centered around, science philanthropy, leading to starting of institutes like



Perimeter Institute, in USA. Some of the premier research institutions like IISc and TIFR in India were started with funding from Tatas. One of the important discussion points was about raising funds for research with no strings attached being one of the challenges lying ahead as basic research has long term goals for the society.

Roundtable on Recent Floods at Kerala and Kodagu Region of Karnataka: NIAS has organized Roundtable meeting on “Recent Floods at Kerala and Kodagu Region of Karnataka” on September 18, 2018. Experts from various agencies participated in the meeting. The daylong meeting had participation from various agencies, which included: Dr Shailesh Naik, Prof VS Ramamurthy, NIAS, Prof Vinod Kumar Gaur, CSIR Centre for Mathematical Modelling and Computer Simulation, Bengaluru, Dr MV Ramanamurthy and Dr T Usha, National Center for Coastal Research, Chennai, Dr M Mohapatra, RCMC, IMD, New Delhi, Dr EN Rajagopal, NCMRWF, Noida, Dr N Purnachandra Rao, National Centre for Earth Science Studies, Thiruvananthapuram, Dr GS Srinivasa Reddy, Karnataka State Natural Disaster Monitoring Centre, Bengaluru, Prof GL Sivakumar Babu, Indian Institute of Science.

The summary of the discussions: The need for improvement in communication system, response of the government to the information made available and its ability to judge the situation and take appropriate decisions was emphasised. Need for developing flood modelling systems like the one developed for Chennai for other states was pointed out. The current situation of rainfall and flood status in Karnataka was presented and the excellent data collection system has been put in place was described. The capability that exists in our country of the deterministic forecast system with 12 km radius horizontal resolution and 1-10-day forecast, was brought out. The cyclonic systems that emerged prior to monsoon has led to the conditions resulting in heavy rain fall.

Dialogue with the Scientist-Communicators, NIAS-Swissnex Workshop: NIAS and Swissnex India, Consulate General of Switzerland jointly organized a one-day workshop titled ‘Dialogue with the Scientist-Communicators’ on September 28, 2018 at NIAS. This workshop introduced the modern tools of science communication to the participants and provided a platform to discuss their ideas and activities with the experienced scientist-communicators from both India and Switzerland. Dr Adria C LeBoeuf, researcher at Weizmann Institute, Israel, Dr Luc Henry, Scientific Advisor to the President of École Polytechnique Fédérale de Lausanne (EPFL), Prof M Sai Baba and Dr VV Binoy were the faculty in the meeting. A session titled ‘power of play for community building and science communication’ formed part of the meeting.

National Workshop on Changing Paradigm in Public Policy Education and Research in India: NIAS along with Chinmaya Vishwavidyapeeth, Veliyanad, Ernakulam, organized two-day workshop and was held at Kochi, Kerala, during January 28 and 29, 2019. Public policies play a crucial role in the development of society in any democratic state. A well-trained human resource in the multiple domains of public policy is of paramount importance for development. Training of think tanks, consultants, preparing policy personnel and experts specific to India and to furnish direction on diverse spheres of the development of our society is the priority. In the two-day workshop, discussions were held to take stock of and identify the gaps in the higher education system and further, to devise the necessary changes required to prepare professionals in public policy in India.

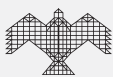
Roundtable on Communicating Science for Diplomacy: NIAS and DST-CPR, IISc, jointly organized a roundtable on “Communicating Science for Diplomacy” at NIAS on March 8, 2019. The roundtable was aimed at discussing various aspects of communicating science for diplomacy, the raising role of science diplomats and existing avenues to practice science diplomacy. Perspectives of internationally accomplished science diplomacy practitioners from diverse fields were presented. Mr Sebastien Hug, CEO and Consul General of Swissnex India, Dr Jerome Bove, Attaché for scientific and academic collaborations at the Consulate General of France in Bengaluru, Prof M Sai Baba, Shri TV Raman Pai Chair Professor at the NIAS were the panel members and discussion was curated and moderated by Dr B Chagun Basha, DST-Science, Technology and Innovation Policy Fellow at the DST-CPR, IISc, Bengaluru.

M Sai Baba, *Head*

SCHOOL OF SOCIAL SCIENCES

Programmes

- Education
- Inequality and Human Development
- Inter-Disciplinary Approaches to
Economic Issues
- Urban and Mobility Studies



EDUCATION PROGRAMME

Introduction

The Education Programme focused on “Reaching the Unreached” by building on three verticals- Platform for Policy, Curriculum Initiatives, and Research in Critical Areas. The programme is active in the areas of education research, teaching, advocacy and outreach. Though independent research was undertaken by a number of faculties since 1998, the Programme was formalised at NIAS in 2004. Over the years, the work has found audience in diverse forums including academic journals, national and international conferences, teach-ins, government committee experts, governing boards of educational institutions among others. In addition to the scholars from around the world, the programme has actively collaborated with students, teachers, administrators, government officials, policy makers, and civil society organisations.

Research Activities

Prof Anitha Kurup was a member of the National Committee on “Improving the quality of MPhil and PhD in India”. The committee was chaired by Prof P Balaram, formerly the director of Indian Institute of Science.

Prof Anitha Kurup continues to serve as an expert in education with the Government of Karnataka on the Sustainability Goal 4 coordinated by the Planning Department, Government of Karnataka.

The National Programme on Education of the Gifted and Talented has for the first time developed multiple protocols for identification of children (3 to 18 years) for mainstream urban children; children from marginalized communities and children in rural areas. The research work over the past few years has been recognized nationally, and for the first time Education for gifted and talented has been included as part of the proposed 4-year integrated pre-service training curriculum in the special education stream.

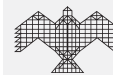
Working on the cultural appropriation of tools for identification of Gifted and Talented students, Dr Shalini Dixit along with her team, worked in the two districts namely, Mysuru and Chamarajanagar. Two taluks from each of these districts were chosen for intervention to identify and mentor gifted students. After training 913 teachers in Mysuru and Chamarajanagar and thus, reaching 94,868 students, selected about 100 children for providing academic enrichment support to these students through workshops and mentorship. In this way generated rich set of data and are currently analyzing it. Further, to materialize the mentorship initiative Dr Shalini organized three residential workshops in the districts of Mysuru and Chamarajanagar from July 2 to 4, 2018 and July 11 to 13, 2018 respectively. These workshops included working closely with the Department of State Education Research and Training, Government of Karnataka. Keeping in mind the convenience of participating children, we arranged venues in their neighbourhood. Observing children from close quarters during the workshops gave us insight about the ways in which rural talent is manifested and can be fostered.

NIAS conducted the first mentoring workshop in Mysore and Chamarajanagar covering over 100 children who were identified as ‘gifted’ through the collaborative project with government of Karnataka. These children were selected from the districts of Mysore and Chamarajanagar of Karnataka state.

Dr Shivali Tukdeo worked on four distinct research themes: (a) Social Exclusion and Education (b) Sociology of Education Policy (c) Youth, Mobility and Education (d) Education and the Urban. While some of the areas have been a continuation of previous work, others, especially the work on education and the urban is new for the group. As part of the long-term engagements with social exclusion, completed and submitted the draft on the work with Ashram schools in Maharashtra.

The report is divided into six chapters, each focusing on specific set of questions related to Ashram schools. One of the main contributions of this project is filling out the considerable void that exists today regarding available research and interventions on residential schools. A summary of the projects is given below:

Started by interrogating the idea of residential schools, their uniqueness and history in India. As formal schooling became prevalent in the 20th century, the idea of residential schools that combines learning and



residing also thrived as an experiment. While there has been a strong practice and culture of residential learning centers in India, the introduction of formal schools with the mix of residential education presents a unique institutional structure. The second chapter of the report pays attention to education of Adivasi communities in India and the role of Ashram school as an institution therein. In particular, the questions of different knowledge systems, colonial history, postcolonial reforms and Adivasi perspectives are discussed at length, leading to an extremely complex landscape, fraught with unresolved issues. The third chapter includes a systematic review of schemes and reports from last decade, their provisions and our observations from field. The fourth chapter is structured around our field work in Adivasi districts of Maharashtra and presents in detail teachers' narratives. This chapter focuses on the actors that work in Ashram schools—teachers, support staff, administrative staff, primary health care professional, among others. Our work with Learning Experience Survey (LES) is presented in the next chapter, which presents an analysis of our work with 5,000 students studying in Ashram schools. The final chapter 6 views in depth the structural issues associated with Ashram schools such as adequate nutrition, possibilities for bilingual education, accountability practices, teacher anxiety, grievance redressal mechanisms and synchrony between various agencies involved in running Ashram schools. Also briefly suggest possible steps that need to be taken and directions for future research and interventions.

Dr Shivali Tukdeo received an invitation to participate in the knowledge-sharing meet on 'Elementary Education of Adivasi Children in India' at Azim Premji University (APU), Bengaluru.

The research study on the skill gaps and potential for career growth in vocational education in the manufacturing sector in Karnataka was an important study undertaken in collaboration with the Karnataka Government and a sample of the public and private industry in Karnataka.

Dr Jeebanlata Salam conducted the research study, 'Emerging Concerns of Vocational and Higher Education in India'. The study resulted in 1) A comprehensive assessment of vocational and technical education; and its policy trajectories in India and 2) A critical evaluation of the relationship between vocational education and employment choice of employees in manufacturing industries, Bengaluru. The study also identified research gaps and challenges in several areas of vocational education for critical policy interventions.

Dr Jeebanlata Salam published a research study, 'Violence, Schooling and Mediating Institutions' (book chapter) in the edited volume "Education and the Public Sphere: Exploring the Structures of Mediation in Post-Colonial India". 2019. Routledge Research in International and Comparative Education, London and New York.

India has vocational and training education system that represents the single most significant area in which educational policy has to make a breakthrough. In this direction, NIAS organized a two-day National Consultation to discuss Vocational and Higher Education in India on October 15 and 16, 2018. The speakers included: Dr KP Krishnan, Secretary, MSDE, Government of India, New Delhi, Dr Anup Pujari, Skill Development, Government of Karnataka, Prof Zeelen Jacques, University of Groningen, Mr N Regu Raj, Managing Director, NTTF, Mr Venugopal K, NTTF, Mr Madan Padaki, Global Alliance for Mass Entrepreneurship, Mr Subrato Bagchi, Chairman, Orissa Skill Development Authority and Mr MK Gupta, Director, Skill Development and Employment, Niti Aayog, Government of India, Ms Maha Laxmi Bhobe, doctoral student, University of Groningen, the Netherlands and Dr Jeebanlata Salam, NIAS.

The National Level Consultation on Research Directions on Vocational and Higher Education in India", broadly covered the perspectives from the training institutions, apprenticeship programmes in the public and private industries, best practices among training institutes, an exemplar state initiative- skilled in Odisha, and a comprehensive programme of LABOURNET a successful social enterprise. On the other hand, the policies and programmes undertaken by the government to strengthen the vocational and skill education have been witnessed in several parts of the country that presents a fragmented and isolated efforts struggling to be able to reach scale and thereby falling short of impact.





Women in STEM: Last year saw the completion of a major research project on Women in the STEM disciplines. The research covered over 120 women scientists from different institutions spread across the country. Through the generation of narratives, the study has been able to point out factors related to early schooling, institutional factors like entry and progress in career within the workspace and broad patterns of mentoring and leadership among the women scientists in India.

Two important platforms provided us an opportunity to share the current research findings of women in STEM disciplines. They are: A National Seminar on 'Increasing Participation of Women in Science and Technology' organized by Centre for Women's Studies and Research at University of Kashmir, in collaboration with National Commission for Women, New Delhi held on March 29, 2019.

The 11th Young Investigators' Meeting (YIM) was held in Guwahati, Assam, from March 6 to 10, 2019.



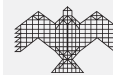
Outreach

NIAS-MAIYA PRODIGY Fellowship Award Ceremony: NIAS MAIYA PRODIGY Fellowship Programme organized the Award Ceremony of the Third Talent Search Programme 2019 at NIAS on January 4, 2019. The programme was presided by Padma Shri Dr AS Kiran Kumar, Formerly Chairman, ISRO. The programme this year was dedicated to Late Prof Baldev Raj, formerly Director of NIAS, who played a significant role in launching this programme as part of the National Programme on the Education of the Gifted and Talented, initiated by NIAS in 2010. This year the award was given to 22 students.

Radio Talk: Understanding the need to educate different stakeholders for nurturing the gifted students, Prof Kurup has reached out to various platforms and the team has been an active social media buzz. Reaching out through Radio talk has been one such effort. All India Radio, hosted national programme that aired a 15 minute talk by Prof Anitha Kurup, the PI of NIAS EGT Programme. The talk provided an overview of the need for a national programme for the education of the Gifted and Talented in India. The talk highlighted the need of this special population under the umbrella of inclusion in the fundamental right to education. Highlighting the efforts of NIAS to address this need, she provided a brief of the several programmes being developed at NIAS as a prototype for India. The challenge of scale is imperative and can be addressed only through a National Policy for the Education of the Gifted and talented

Development of Math Curriculum: NIAS Education of the Gifted and Talented team has been developing alternative pedagogies and resources for parents and children. A Mathematics curriculum has been recently been developed with objective of turning around the behavioral challenges in the classroom into stimulating intellectual material for students. The curriculum went thru several rounds of reiteration and expert screening before being approved. The expert committee for the Math curriculum consisted of Emeritus Prof HS Mani from Mathematical Institute, Chennai. Post the expert review and feedback the curricular is tested on the pool of children in a workshop mode.

Initiation of Math Circle- Collaboration with ICTS, Bengaluru: Math Circle is an initiative of NIAS EGT Team in collaboration with International Centre for Theoretical Sciences (ICTS). It is a forum for math enthusiasts to meet



and solve challenging problems. There are no regular tests or exams and the challenges include atypical math problem. It was decided that a core Group of mathematicians at ICTS will select math problems and challenges and facilitate the workshops. The EGT Math Circle organized in Bengaluru will be piloted at NIAS in 2019. The participants will be children entering grades 7th and 8th, with a keen interest in math. The enrolment procedure for the circle involves filling a short application form, along with strong recommendation by the math teacher.

ALChemY 2019: NIAS organized ALChemY 2019 – A product of the Programme for the Education of the Gifted and Talented on March 23, 2019. 13 unique products prepared by the children trained in the NIAS supported Advanced Learning Centres were exhibited in the NIAS Faculty Atrium on the same day of the IISc. Open day. The exhibits included, a Stick for the Blind, Prototype to reduce vehicular pollution, detection of Fog intensity and an app to explore the archaeological sites in India. The event attracted over 1000 parents and students. The event was widely publicized in the media and covered by the press, in Kannada, Telugu and English dailies.



Third Batch of NIAS MAIYA PRODIGY Fellowship Awardees, January 2019



Eshwar Demonstrating His Project: Voice Controlled Car



Hawkeye- Agriculture Drone

Anitha Kurup, *Head*

Shivali Tukdeo

Shalini Dixit

Jeebanlata Salam

Malavika Kapur

Post-doctoral Associate: Leya Mathew (*till May15, 2018*)

Doctoral Students: Anupama Mahajan, Savitha Suresh Babu, Subroto Dey, Shaima Amatullah



INEQUALITY AND HUMAN DEVELOPMENT PROGRAMME

Introduction

Inequality and Human Development Programme aims to develop policy options based on multidisciplinary and empirically consistent conceptualization of inequality and to contribute towards public discourse to enable more informed policy choices. The immediate task the initiative has set for itself is to address the lacunae in the policy discourse on the process of transformation of the Indian economy from an agrarian one to a non-agrarian one. This transition has been known to have massive social and economic consequences when it occurred in other parts of the world, going all the way back to the distress of the industrial revolution. And no other large country has made this transition in a democracy. It thus becomes imperative to understand both the costs and consequence of this process if we are to manage the strains such transitions inevitably cause. As a step towards such an understanding the programme has with the financial support of TCS launched two specific projects, one to understand the nature of the transformation from a rural economy to an urban one; and another to understand one of the most discussed possible consequences of this process, farmers' suicides.

Research Activities

Prof Pani's major research contribution during the year has been the development of the concept of the cycle of adversity in which the worst affected in the process of rural transformation can be trapped. This cycle begins with farming becoming unviable for a growing number of farmers, leading them to seek non-farm occupations. In some cases these options can be tapped while continuing to reside in the village. Those who cannot find the options they desire while residing in the village may choose to leave the village altogether. Not everyone would however have the capital to migrate permanently. They may then resort to circular migration, where they continue to maintain their household in the village even as they seek to earn their livelihoods in the city. If they fail to find work in the city they may return to a village seeking to become agricultural labour. In poorer backward regions this may result in workers going back to the poverty of their villages. In relatively more advanced rural conditions large farmers may be able to grow by tapping the abundance of agricultural labour. A person who is trapped in this cycle of adversity would first find herself under pressure to become an agricultural labour. If she cannot escape to a non-farm occupation either while continuing to reside in her village, or by migrating to urban areas, or by circular migration, she would be forced remain in a marginalized agriculture. If she has tried to get out she would return to being agricultural labour, where she initially started out.

He is also involved in writing chapters for the two-volume report of the projects within Inequality programme. This draft report was submitted to the funding agency – TCS. Also submitted a paper titled 'Regional Variation in Rural Transition in India' which is in advanced stages of review in an international peer review journal. The most important contribution in this year was participating in an Expert Group Meeting Meeting on "Addressing Inequalities and Challenges to Social Inclusion through Fiscal, Wage and Social Protection Policies" which took place at the United Nations Headquarters in New York during June 25 to 27, 2018. Dr Sumedha Bajar made a presentation on "The Impact of Infrastructure Provisioning on Inequality" which included results from the project and it was well received.



The Review Workshop conducted on April 23 and 24, 2018 at NIAS



Dr Sumedha Bajar participating in Expert Group Meeting on "Addressing Inequalities and Challenges to Social Inclusion through Fiscal, Wage and Social Protection Policies", United Nations Headquarters, New York, June 25 to 27, 2018.



The work on inequality was reviewed by a panel of six leading academics belonging to multiple disciplines in the social sciences from across the country. A two-volume draft report for the projects was completed and sent to the sponsors, Tata Consultancy Services. The first report explores the issue of farmers' suicides in detail, starting with the making of farm distress and the individualization of the burden of distress on the farmer. It then goes on to highlight the differences in farmers' suicides for cultivators and agricultural labour and presents separate village studies for cultivator and agricultural labour suicides. The second report begins with nature of demand for work in India in context of transition out of agriculture and then discusses the various process of transformation that are underway in the country. The report then deals with different personalised experiences of inequality by asking questions like what is to be poor and ends with understanding the various distance and knowledge gaps that emerge in the process of leaving agriculture and seeking work outside. This includes dealing with issues of Non-permanent migration both at the source of migration and the destination or where the jobs are located.



Dr Shashi Tharoor addressing a well-attended lecture meeting at NIAS

While finishing these reports, it was felt that to fully justify the work that has been done two volumes were not enough and there was a need for a three-volume report. Work has begun on these three volumes which will be submitted to TCS as part of the final report.

Outreach

The two review workshops were conducted on April 23 and 24, 2018 at NIAS. The workshop on April 23, 2018 focused on the project pertaining to 'Inequality and the Demand for Non-Farm Jobs', while the workshop on April 24, 2018 focused on the project on 'Inequality and Farmers' Suicides'. The workshops were designed to review the work done so far and the proposed future directions for the Policy Research Initiative. The external academics who attended the workshops were Prof Venkatesh Athreya, Rajiv Gandhi National Institute of Youth Development; Prof Achin Chakraborty, Institute of Development Studies Kolkata; Prof Surinder Jodhka, Centre for Study of Social Systems, Jawaharlal Nehru University; Prof N Jayaram, National Law School of India University; Prof Santosh Mehrotra, Centre for Informal Sector and Labor Studies, Jawaharlal Nehru University; and Prof Shiv Visvanathan, Jindal Global Law School.

NIAS-UNDP Policy Research Initiative on Inequality and Human Development organized a lecture by Dr Shashi Tharoor (Member of Parliament) on the topic "The Role of Reason in Indian Politics" on May 5, 2018. The lecture was attended by several hundred students of Bengaluru and its coverage went viral on social media.

Lecture on Farmers Matter in New India's Political Settlement: Discontinuous Agrarian Policy and New Class Formations" by Dr Sejuti Dasgupta, Former Faculty, Tata Institute of Social Sciences, Mumbai.

Narendar Pani, *Head*

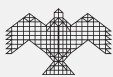
Sumedha Bajar

Abha S Rao (*till April 30, 2018*)

Post-doctoral Associates: Sindhuja CV

Research Associates: Priya MN, Viswesh Rammohan, Shihabudin, Ankit Saswade, Ubaid Mushtaq, Megha Poonia, Vara Lakshmi

Doctoral Students: Chandana Rajasekharan Bindu, Ajit Kumar Babu, Shilajit Sengupta



INTER-DISCIPLINARY APPROACHES TO ECONOMIC ISSUES PROGRAMME

Introduction

The Programme has been partially supported by the Reserve Bank of India, while its projects have been funded by other institutions. These projects have typically used mixed methods, ranging from ethnography to primary surveys, to gain deeper insights into specific economic phenomena. This research has produced books, several reports, PhD theses and journal articles. During the year the programme has taken several important initiatives in sustainability working closely with the Government of Karnataka. It has developed an approach that presents an alternative unit of macroeconomic analysis under globalization. It has also built on earlier work on venture capital. In addition, it has contributed to the work of the sister programme on inequality and human development by developing an asset-based indicator of poverty.

Prof Narendar Pani's major research contribution in the programme on Interdisciplinary Approaches to Economic Issues has centered around the need to develop an unit of analysis that can capture local divisions created by international linkages. He has extended the concept of circuits to capture linkages that emerge from a reduction in the effects of distance both across national borders as well as within nations. Growth can then be analyzed in terms of individual circuits and the distribution of the earnings from the circuit can then be traced to individual nations and the sectors of the economy within them. This process brings to the forefront the divisions both between and within circuits. These divisions have consequences for the economic, social, political and environmental domains.

Research Activities

Prof Narendar Pani worked on a paper on the need to reconsider the unit of analysis of the macro economy. At present, the nation is taken as the macroeconomic unit. But with the coming of globalization cross border circuits have tended to have an overwhelming influence on the national economy. The paper argues that it would be more accurate to treat economic circuits as the unit of analysis of economic processes. The claims of each nation on different parts of the circuits would then give us a more meaningful sense of the national economy.

Dr Kshitija A Joshi focused on the area of risk management in the context of Venture Capital industry in India. The risks assessed here were mainly the ones that arose out of the information asymmetry between the two parties to the contract. She published three papers on peer-reviewed international journals on the same. Additionally, she also published a paper on high-tech start-up clusters in India which focuses on the economies of agglomeration. A book proposal titled "Economics of Venture Capital Industry in India: An Analysis of the Macro Ecosystem and Micro Decision-Making" has been accepted for publication by the Cambridge University Press.

Dr Kshitija Joshi also explored the relationship between the forms of rural transformation in India and poverty. This study undertaken for the Inequality and Human Development Programme at NIAS developed alternative asset-based indicators of absolute and relative poverty.

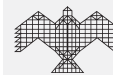
Outreach

Dr Kshitija Joshi collaborated with the Department of Management Studies, Indian Institute of Science, Bengaluru and participated in a joint seminar under ICSSR (India) – JSPS (Japan) on "Ecosystems for Technology Start-ups in India and Japan: Gaining Deeper Insights". This workshop was held at the Toyohashi Institute of Technology, Japan between August 20 and 25, 2018.

Narendar Pani, *Head*
Kshitija A Joshi
Doctoral Students: Meera Sudhakar



Prof Arun Kumar speaking at NIAS



URBAN AND MOBILITY STUDIES PROGRAMME

Introduction

The Urban and Mobility Studies Programme (UMS) uses interdisciplinary lenses to understand the social and economic reverberations of urbanisation and migration, and the impacts of policy and urban governance frameworks on social transformation in India's cities, towns and villages. Researchers and students in Programme collaborate across disciplines and interdisciplinary areas of research, which include sociology and social anthropology, gender studies, geography, urban studies, heritage studies and art history, conservation, and migration and transnational studies. Building on our core methodological strengths in ethnography and qualitative methods, these research projects examine the linkages between rural-urban mobility and changing urban economies and forms of labour, and the social consequences of the current pattern of urban development led by real estate developers for local communities and political ecologies.

Research Activities

Prof Carol Upadhyia heads the programme, which is carrying out original and relevant research on urbanisation and urban settlements. Current research projects focus on new patterns of rural-urban migration, skill acquisition and employment in the urban service economy, the reconstitution of rural land economies by urbanisation, and the impacts of financialization on livelihoods and ecologies in metropolitan and greenfield cities of India and Indonesia. A highlight of the year was the publication of *Provincial Globalization in India: Transregional Mobilities and Development Politics*, a collection of studies from the Provincial Globalisation project co-edited with co-Director Dr Mario Rutten and Postdoc Dr Leah Koskimaki. The volume, which includes contributions by all the project members and doctoral students, presents research on diasporic engagements with development in four regions of India.

The programme continued the implementation of three major funded research projects, all of which will close in 2019: a transnational research project on the changing nature of land, livelihoods, ecology and finance in metropolitan India and Jakarta; a study of migration, skilling, and labour in Bangalore's new service economy, and a project tracing the development of the new 'greenfield' capital city of Andhra Pradesh.

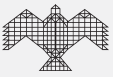
The research project entitled *Speculative Urbanism: Land, Livelihoods, and Finance Capital*, funded by the National Science Foundation (USA), is a collaboration with the University of Minnesota and UCLA (USA). This project is a comparative study of changes in land use, property relations, livelihoods and urban ecologies in the context of rapid urban growth and the circulation of finance capital into the real estate sector. Substantial progress on fieldwork and other research activities was made during the year with the addition of a Postdoctoral Associate and through the work of several interns.

The second project, *India's Changing Cityscapes: Work, Migration and Livelihoods*, funded by the ICSSR, is being carried out in collaboration with the Institute for Social and Economic Change (ISEC), Bengaluru. The study examines the linkages between migration, skilling, livelihoods and social mobility among construction and low-end service sector workers in two cities of Karnataka. Fieldwork at skill training centres and worksites was initiated during the year and has progressed well.

The third project, ongoing since July 2016, is entitled 'World-City' Planning in Andhra Pradesh: A New Model for Urbanisation? This three-year research project, supported by the Azim Premji Foundation, tracks the socio-economic transformations in the new capital region of Andhra Pradesh. The project produced two publications during the year by Carol Upadhyia.

Carol Upadhyia also undertook research for a background paper on India – EU Mobility, submitted to the Public Affairs Centre, Bengaluru for their ILO-sponsored study on developing an India – EU mobility partnership.

Two new collaborations with scholars at Heidelberg University and Humboldt University, Berlin, and Eindhoven University of Technology and Utrecht University, have been initiated, which (if funded) will develop into major research projects on Urban Futures in Asia and Inequalities in Global Bio-oil Value Chains.



Outreach

The UMS Programme has initiated three series of lectures and events: City at Its Limits, Public Feminisms, and Changing India. During the past year, hosted scholars from the University of Maryland, University of Pennsylvania, University of California at San Diego, the University of Edinburgh and other institutions. These events included:

City at Its Limits (Funded by NSF Grant): Mr Naresh Narasimhan (Architect, Bengaluru): 'Contrapuntal View: Tactical Urbanism in Bengaluru'. June 13, 2018.

Dr TV Ramachandra (IISc): 'Lessons of Unplanned Urbanization: Bengaluru, A Dying City (With Burning and Frothing Lakes)'. October 12, 2018.

Dr Nikhil Anand (Anthropology, University of Pennsylvania): 'City of Waters: On Leaks, Sewage and the Uncertain Sea'. December 20, 2018.

Public Feminisms Series: Dr Ashwini Tambe (University of Maryland): 'Academic Feminism, Public Feminism, and #MeToo', July 4, 2018.

Ms Radhika Govinda (Edinburgh University): 'Towards a Renewal of Feminist Politics? "Bad Girls", Everyday Sexism and Activist Campaigns in Millennial India', January 8, 2019.

Ms V Geetha (Feminist Writer and Activist, Chennai): 'Speaking of Assault: Expressions and Their Histories', March 20, 2019.

Changing India Series (supported by Pratiksha Trust): Mr Arvind Narrain (Alternative Law Forum, Bengaluru): 'Transformative Constitutionalism and the Decriminalisation of the Right to Love', September 24, 2018.

Prof Rahamath Tarikere (Kannada University Hampi): ಕರ್ನಾಟಕದ ಅನುಭಾವಿ ಪಂಥಗಳು: ಜನತಾ ಧರ್ಮಗಳು (Mystic Cults as Peoples' Religion), October 11, 2018.

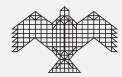
Mr Ashish Kothari (Kalpavriksh): 'Development, environment and human rights: Towards sustainability and equity', October 30, 2018.



Waiting for Water Amidst Rapid Urban Growth in Bengaluru



New Forms of Class and Consumption in the World City of Bengaluru



Mr Mukul Sharma (Indian Institute of Mass Communication, New Delhi): “Green and Blue”: Caste, Dalits and Indian Environmentalism’, November 16, 2019.

Ms V Geetha (Feminist Writer and Activist, Chennai): ‘Speaking of Assault: Expressions and Their Histories’, March 20, 2019.

Under this series, a workshop on “Languages of Caste: Assertion, Denial and Resistance” was organized on February 12, 2019, with invited speakers from across south India. The workshop, which was attended by nearly one hundred people, helped start an important conversation on the relationship between language and caste. The objective was to explore the role of language in the assertion, denial and resistance of caste. The workshop was led by a group of NIAS PhD scholars across Schools, who were mentored and supported by Prof Carol Upadhyia in conceptualising and organizing the workshop. Speakers included Ms Gogu Shyamala (Hyderabad), Prof Satyanarayana (EFLU, Hyderabad), Prof S Anandhi (MIDS, Chennai), Mr Hulikunte Murthy from Bayalu Balaga, Ms Shilpa Mudbi Kothakota from the Urban Folk Project, Ms Malavika Priyadarshini, NIAS-Exeter PhD Student, Mr Asim Siddiqui, Ms A Manasa and Mr M Hemanth Kumar from Azim Premji University and Ms Gowri, a social justice activist.

Dissemination: Researchers and doctoral students of the Programme participated in dissemination various conferences and seminars, including at Christ University, Bengaluru; National University of Singapore; Tezpur University; University of Delhi; the National Museum Institute, New Delhi; the Centre for Heritage Management, and Ahmedabad University. The Speculative Urbanism project team shared their research at NIAS on two occasions, and also presented their work at Universitas Tarumanagara, Jakarta and the Indian Institute of Human Settlements, Bengaluru.

Carol Upadhyia, *Head*

Post-doctoral Associate: Hemangini Gupta

Research Associates: Juwairia Mehkri, Harpreet Kaur

Doctoral Students: Rashmi M, Keya Bardalai, Snehashish Mitra, Vijayashree Kashyap, Priya Gupta



Changing Cityscapes in Bengaluru



Variegated Urbanism of Slums and Gated Communities in Bengaluru



POLICY INSIGHTS AND INTERVENTIONS

Coastal Zone Management

A notification on the “Coastal Zone Regulation” was issued in January 2019 based on the recommendations provided by the Committee Chaired by Dr Shailesh Nayak. Ministry of Environment and Forest and Climate Change, Government of India [Gazette of India, Extraordinary, Part II, Section 3, Sub-section (i)].

National Geospatial Policy

Geospatial Policy of the “National Geospatial Policy”, Dr Shailesh Nayak as a Chairman of the Committee for the Department of Science and Technology, Government of India, has been finalized.

Blue Economy

Dr Shailesh Nayak contributed towards preparation of the “Strategy Paper on the Blue Economy and Evolving a Sustainable Ocean Policy for India” for the Economic Advisory Council to the Prime Minister. Major contributions were on “Coastal and Deep-Sea Mining and Offshore Energy” as a Chairman of the Working Group.

Inequality and Human Development

The Inequality and Human Development Programme aims to develop policy options based on a multidisciplinary and empirically consistent conceptualization of inequality and to contribute towards public discourse to enable more informed policy choices.

International Strategic and Security Studies

The International Strategic and Security Studies Programme, was started at NIAS in 1996 with the broad objective of conducting academic and policy research related to national and international security issues. The emphasis of research is towards integrating complex elements of science and technology with policy, organizational and institutional arrangements.

Conflict Resolution

The Conflict Resolution Programme tries to achieve its objectives by being sensitive to the interface between the understanding of individual conflicts and the larger conceptualization of conflict. It studies individual conflicts in depth with the twin purpose of identifying elements that can be used to resolve them, as well as to further develop the overall understanding of conflicts and their resolution. The programme thus aims to build an inclusive knowledge base and then disseminate that knowledge in a way that influences both popular perceptions and policies aimed at conflict resolution.

Education

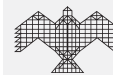
The Education Programme attempts to address challenges by drawing on the institutional mandate of inter/multi-disciplinary research. The Education Programme focuses on connecting research with teaching, advocacy and policy in the areas of education of the gifted and talented, the Adivasis, vocational and skill education and women in STEM.

Energy and Environment

The Energy and Environment Programme is committed to exploring energy policies that simultaneously help mitigate climate change and ease India's vexing energy problems. The Programme would focus on policy-relevant research useful for decision-making.

Urban and Mobility Studies

The Urban and Mobility Studies Programme explores the diverse social transformations that have been set in motion in contemporary India by rapid economic growth, growing urbanisation, globalisation, and changing patterns of work, livelihoods and migration related issues and policies.



TRAINING PROGRAMMES



Senior Executives Programme

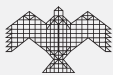
Theme: The 33rd NIAS Annual Programme for Senior Executives was held from January 7 to 12, 2019. The theme of the programme was 'India in 2047: A Global Leader – Influencing the World through an Inclusive Rise'. The twenty-five participants included senior executives from various government organisations as well as from private industries. The programme included lectures and discussions on a range of subjects.

Keynote Speaker: Dr AS Kiran Kumar, Former Chairman, ISRO set the tone of the programme with his inspiring addresses in the inaugural session.

Speakers: The sessions were addressed by well-known personalities including Dr Sudhir Kumar Mishra, Prof PS Goel, Dr Usha Kim, Prof Vijayalakshmi Ravindranath, Prof Narendar Pani, Mr Yashwant Sinha, Prof SS Meenakshisundaram, Mr DR Kaarthikeyan, Prof Muchkund Dubey, Mr G Padmanabhan, Mr Anil Swarup, Prof SD Muni, Lt Gen (Dr) Prakash Menon, Ms Rohini Nilekani, Dr Sharachchandra Lele, Mr B Muthuraman and Justice N Santosh Hegde, all of whom brought in their valuable experience and learnings into the discussions. The evening public lectures by leading lights such as Mr Ricky Kej and Prof Rajmohan Gandhi were very well received by the participants as well as by the members of the citizenry of Bengaluru. The Fourteenth Raja Ramanna Memorial Lecture by Prof Ravi Grover was part of the programme. A highlight of the programme this year was the Odissi Dance Performance by Nrityagram Dance Ensemble. The valedictory address was given by Amb Shyam Saran.

Coordinators: The programme was coordinated by Prof D Suba Chandran and Prof R Srikanth. Ms V Girija assisted in the coordination of the programme.

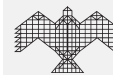
Feedback: The participants found the content to be motivating and inspirational. The sessions provided adequate information on the challenges that lay ahead.



Leadership in Defence Manufacturing Technology

Theme: A unique programme for the first time at NIAS was undertaken to train 22 DRDO senior scientists at NIAS and at Cranfield University, UK in “Leadership in Defence Manufacturing Technology” at a cost of Rs.1.36 crores towards achieving self-reliance defence projects. The first module was held at NIAS during March 4 to 8, 2019.

Coordinators: The programme was coordinated by Prof V Bhujanga Rao and Prof Amaresh Chakrabarti (Indian Institute of Science, Bengaluru). Mr KS Rama Krishna assisted in the coordination of the programme.



NIAS-DST Training Programme on Science and Technology: Global Developments and Perspectives

Theme: The programme was organized during January 21 to February 1, 2019. The programme had the emphasis on the development of leadership qualities through the integration of multidisciplinary knowledge and the current developments and their scientific, social and policy dimensions. The participants of the programme included from ISOR, DAE, CSIR, DoT, DoE and academic institutes.

Keynote Speaker: In his inaugural address, Mr KM Chandrasekhar, former Cabinet Secretary, Government of India, emphasised the need to bring about much stronger ties between industry, including private sector, market and R&D institutions and the role NIAS can play in bringing together all the stakeholders.

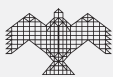
Speakers: In all, there were 32 lectures that included, three public lectures. Dr R Chidambaram, former PSA, Government of India and former Chairman, AEC, delivered Second Dr Baldev Raj Memorial Lecture on Global Sustainable Development: Role of Science, Technology and Innovation. Dr Pradeep K Srivastava made a lucid presentation on Scintoon and Scinetonics. The public lecture by Dr Ananda Shankar Jayanth, was on the theme Art, Culture. Markers for Development, and she appealed to tap into the abundant resources in our culture and contribute for embracing and strengthening our traditional arts and culture.

Very senior and eminent people delivered the talks and there was active participation from the participants. Morning yoga sessions and weekend visit to Shravanabelagola and Master Control Facility at Hasan formed part of the programme. A music concert titled Peace is My Dream by Dr Nirupama Menon Rao, former Indian Foreign Secretary and Ambassador.

Prof Vijay Raghavan, in his valedictory address, emphasised the importance of the role of scientific agencies and need for connecting to the people.

Coordinators: The programme was coordinated by Prof M Sai Baba and Dr Anshuman Behera. Mr KS Rama Krishna assisted in the coordination of the programme.

Feedback: The participants complimented the design of the course and the diversity of participants. The recommendations included gender balance in selection of resource persons, diversity of domain areas, and institutional and regional representations.



NIAS-DST Training Programme on Science, Technology and Innovation Policy

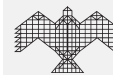
Theme: The programme was conducted during November 19 to 30, 2018. Consistent with the mission of NIAS, the courses offered here emphasize the development of leadership qualities through the integration of multidisciplinary knowledge.

The theme chosen this year was on ‘Science , Technology and Innovation Policy’ and it offered an excellent opportunity for multidisciplinary engagement given its connection the topics including Origin, evolution and history of science policy; Role of government in regulating, promoting and financing science; Science and Ethics; Science and IPR; S&T in advancement of national goals; Science and Diplomacy; Science and gender; Influence of social, cultural and political forces on the production of scientific knowledge; Science Policy and Security; Science Policy, Education and Culture; Advocacy, Special interest or Action Groups in influencing science policies; Science policy in global context; India’s Nuclear Programme; India’s Space Programme: Moon Mission, Mars Programme, S&T in Defence and Security and Science and Agriculture were made part of the course. Additionally, we including topics related to the arena of Science Entrepreneurship, Academic Entrepreneurs and Start-up Ecosystem and Funding of Innovations as a part of this year’s course.

The programme also featured CV Sundaram Memorial Lecture on the topic Technological Innovations and Creative Leadership by Prof AS Pillai. A concert by Vidushi Sangeeta Katti Kulkarni, visit to Hassan, Shravanabelagola, Belur and Halebidu was also organized as a part of the programme. Another highlight of the programme was a visit to CeNSE Laboratory at Indian Institute of Science, Bengaluru.

Coordinators: The programme was coordinated by Prof V Bhujanga Rao and Dr Kshitija A Joshi. Ms JN Sandhya assisted in the coordination of the programme.

Feedback: The participants were happy with the quality of the sessions and in-depth knowledge presented in the relevant domains. There were some general suggestions to include more lectures on wider range of S&T aspects.



NIAS-DST Training Programme for Directors/Divisional Heads/Chief Scientists/ Senior Scientists

Theme: The programme was held between, October 1 to 5, 2018. The theme chosen this year was “Policy for Science and Science for Policies” and it offered an excellent opportunity for multidisciplinary engagements given its connection to Science and Technology Policies, Artificial Intelligence, Technology and Society, Science Policy and Security, Mental Health and Science Policy, Self-Reliance and Defence Policy.

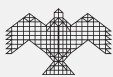
The programme covered talks on a wide range of topics related to science and science policy such as - enabling evidence-based policy making using modeling, simulation and predictive analytics, clever ways of communicating science and policy, thought processes guiding emergence of Indian space programme, science and communication, psychiatry and mental health policy, cognition, and science of consciousness. There was an evening music concert titled "Raaga in Films" and a visit to the Centre for Nano Science and Engineering (CeNSE), Indian Institute of Science.

Keynote Speaker: The programme was inaugurated by Prof Rahul Pandit and the valedictory address was given by Prof Shailesh Nayak.

Speakers: The other speakers were Prof LM Patnaik, Mr Pallava Bagla, Dr AS Kiran Kumar, Dr VV Binoy, Prof PM Soundar Rajan, Dr Shantala Hegde, Mr Manoj Srivastava, IAS, Prof John P John, Dr Srikumar M Menon and Dr Nithin Nagaraj.

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

Feedback: The participants found the quality of individual lectures excellent. The participants further suggested the scope for enhancing the content relevance of the training.



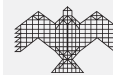
NIAS-DST Training Programme for Women Scientists on Science and Sustainability in India

Theme: For the seventh successive time, NIAS conducted NIAS–DST Training Programme for Women Scientists (under DISHA Scheme) from September 3 to 7, 2018. The theme of sustainability was chosen as it offered an excellent opportunity for multidisciplinary engagements. The week-long training programme was meant for mid-career women scientists and technologists from across India.

Speakers: The programme had talks on different scientific and personal development topics and included a combination of invited and in-house lectures by scientists, administrators, scholars, teachers, social scientists and artists. The schedule of the programme included yoga every morning for an hour; lecture Sessions, and presentation by participants. The course also involved a public lecture by Dr Bindeshwar Pathak, founder of Sulabh International and a play performance by Bangalore little theater on the scientist Rosalind Franklin, “Photograph 51”. In addition, the course involved a visit to National Gallery of Modern Art, Bengaluru.

Coordinators: The programme was coordinated by Prof Sheela K Ramasesha and Dr Shalini Dixit. Ms S Lalitha assisted in the coordination of the programme.

Feedback: The programme was valued as it gave opportunity for the participants to understand the latest developments on many topics of social and scientific importance. This programme also gave networking opportunity for the women leaders in several scientific organizations to initiate cross-discipline collaborative dialogues.



DOCTORAL PROGRAMME



Doctoral Committee

Prof Anitha Kurup, *Chairperson and Academic Head*

Prof Sindhu Radhakrishna, *Member*

Prof Sharada Srinivasan, *Member*

Dr M Mayilvaganan, *Member*

Dr Srikumar M Menon, *Member*

Dr Anshuman Behera, *Member*

Dr Kshitija A Joshi, *Member*

National Institute of Advanced Studies (NIAS) motivates exceptional students who are interested in pursuing interdisciplinary research in natural and engineering sciences, social sciences, humanities and the arts. Unencumbered by the constraints of traditional disciplinary PhD programmes, NIAS PhD students have a unique opportunity to broaden their intellectual horizons beyond their narrow training during their thesis research. NIAS not only values such cross-pollination of ideas but encourages and provides the necessary support to its students to develop interdisciplinary orientation to problem-solving. This interdisciplinary ethos is also reflected in the work of its faculty and research scholars.

Four Schools of NIAS offered various courses for the PhD students in a range of sub-disciplines and specialized areas keeping in view the specific requirement in the second semester during January to April 2018. The PhD Committee of NIAS has successfully completed the entrance examination and interviews for selection of PhD students for the year 2018-19 batch. The national level entrance exam and interviews for admission to the NIAS Doctoral Programme was held during June 18 and 19, 2018. Of the 128 shortlisted candidates, 86 candidates attended the test and 15 were selected for the year 2018. A total of fourteen students spread across the four schools joined the NIAS Doctoral Programme on August 1, 2018. The current batch includes the following students: Ms Aparupa Bhattacharjee, Ms Sreshtha Mondal, Ms Zarnain Manzoor, Ms Shaima Amatullah, Ms Hrudaya Chandana K (UGC). The following students work under project mode: Ms Meera Kumar, Ms Niharika Sharma, Ms Shruti Ragavan, Mr Anmol Chowdhury, Ms Sneha Gutgutia, Ms Shubhangi Srivastava, Mr Sanjeev Kumar Mittal, Ms Lavanyaa VP and Mr Soumya Deep Das. This batch will be the fifteenth batch since the beginning of the NIAS PhD programme.

The academic year began from August 1, 2018 and NIAS faculty offered various courses in a wide range of areas to the new students. These courses were open to continuing students, students from other institutions and the general public. The NIAS PhD course work includes mandatory courses – Foundation Course (FC), Research Methodology (RM) and a Proposal Course. The aim of the Foundation Course is to introduce the students to the idea of multi-disciplinarily not through disciplinary lens but through the world of ideas in different disciplines. The Research Methodology



Course was designed to give foundational training in research methods in the different disciplines. This is a focused, coherent course that will cover the basic training in research methodologies in different disciplines. The Proposal course was a course where the output is a well-crafted research proposal. This course is offered by the guide(s) with added inputs by the other faculty and Student Advisory Committee.

The courses taught in the August-December semester were: Introduction to Information Theory, Learning and Causal Inference, Early Monumental Architecture in the Indian Subcontinent, Theoretical Constructs of Conflict, Contemporary Indian Economy-Issues and Debates, Power Generation Technologies-Pros and Cons, Geospatial Technology for Strategic Studies, Trade Networks in Indian Ocean, 1500-1800, Paradigms of Research and the Research Process, Global Politics: Contemporary World Affairs, Thinking Experiences, and Experiencing Thoughts: Foundations of Philosophy in Framing Our Minds, Beliefs and Actions, Measuring Development, Science Communication, Cognition and Learning in Context, An Introduction to Conflict and Security Studies, Kashmir Saivism, Causality and the Search for the Self, Traditional Textiles, Tracing the Self-local Phenomenology and Indigenous Healing Traditions of Kerala, Trade Networks in Indian Ocean.

The qualifier exams for the 2018 batch were held on December 26, 2018. Qualifying Examination is an important milestone for the students in the PhD journey. The Student Advisory Committee (SAC) was set up after completion of the qualifier exam. The SAC is responsible for recommending further coursework, assessing the student's performance periodically, discussing and evaluating the research and monitoring their progress.

NIAS has a Research Ethics Policy working under the chairperson Prof Carol Upadhyaya. The other members of the committee are Prof Malavika Kapur, Prof Sundar Sarukkai, Prof Janaki Balakrishnan and Dr Smriti Haricharan. A research ethics statement or protocol is essential for every students' research proposal involving human/or animals subject and proposal must be reviewed and approved by the Ethics Committee.

The Doctoral Programme offered second semester courses for students during January to April 2019. The courses offered in the current semester are Learning in the Presence of Noise, CFD Modelling of Pollutants, The craft of Ethnography, Global Politics: Contemporary World Affairs, CFD Modelling of Pollutants, Coastal Geomorphology, CFD Modelling of Pollutants, Energy and Environment Policy, GIS for Spatial Data Visualization and Analysis, CFD Modelling of Pollutants and Ontology of Indian Development etc.

Advertisement calling for applications during March 2019 to NIAS PhD Programme for the 2019-20 batch in various disciplines was released. The announcement was sent to various institutions/universities inviting applications for the various disciplines. This year the applications are solicited through online.

Degree Awarded

Date	Name	Supervisor	Title
September 10, 2018	Hema Thakur	Sharada Srinivasan	Emergence of Urban Settlements in North Karnataka –c.300 BC-c.300 AD with Particular Reference to Sannati
October 23, 2018	NS Nalini	Narendra Pani	First Nature and Urbanisation: Terrain and Urban Development of Bangalore, 1971-2011
December 26, 2018	Chetan B Singai	Anitha Kurup	Higher Education and University Governance in India: A Case Study of two Universities in Karnataka
January 3, 2019	HR Meera	Rajesh Kasturirangan	Language Game and Role of Suggestion (Vyanga) Therein
February 26, 2019	Shaurabh Anand	Sindhu Radhakrishna	Patterns and Determinants of Human - rhesus Macaque Conflict



Current Research Scholars

Name	Guide	Date of Joining	Thesis Title	University
Naresh Keerthi	Rajesh Kasturirangan	1 Jul'10	Cognitive tropes – Beyond the Cognitive Metaphor	Manipal (Thesis submitted)
Samiksha Bajpai	Rajesh Kasturirangan	2 Aug'10	A Cognitive Analysis of the Compound Verb in Hindi. Language: English	Mysore (Thesis submitted)
Neesha Dutt	Dilip R Ahuja	2 Aug'10	Urban Greens - Ecological Impacts and Socio-Economic Drivers of Turfgrass Ecosystems	Manipal (Thesis submitted)
Shatarupa Bhattacharyya	Narendar Pani	1 Aug'11	Interaction between Development and Festival: Durga, Kali and Bonbibi-Dakhinray in the Sundarbans	Mysore (Thesis submitted)
Priyam Laxmi Borgohain	Dilip R Ahuja	1 Aug'11	Downstream Environmental and Socio-Economic Impacts of the Ranganadi Hydel Projects in Northeast India	Manipal (Thesis submitted)
Priya Gupta	Carol Upadhya	1 Aug'11	Interface of Exclusionary Conservation Policies and Rights of Communities: Case Study of a Protected Area	Manipal
Murali Murti	Arun Vishwanathan	1 Aug'11	Knowledge process and their role in Innovation -A comparison of selected Chinese and Indian practices	Manipal
BR Guruprasad	M Mayilvaganan	1 Aug'11	Contribution of External and Indigenous Technological Elements to India's Space Capabilities: An Appraisal	Mysore
Nimisha Agarwal	Anindya Sinha	1 Aug'12	Assessment of Farmers' Perception of Climate Change and Local Adaptation Strategies in Uttar Pradesh	Manipal (Thesis submitted)
Rashmi M	Carol Upadhya	1 Aug'12	Mobile Phones and Changing Media Consumption Practices in Bangalore	Manipal (Thesis submitted)
Sumithra S	Sharada Srinivasan	1 Aug'12	Creative Collectives: A Case Study of Collaborative Practices in Karnataka	Manipal
Shankar R	Sangeetha Menon	1 Aug'12	A Qualitative Approach to the Psychology of three Self-conscious Emotions from Sanskrit Poetics	Mysore (Thesis submitted)
Venkatesh KN	Sharada Srinivasan	1 Aug'13	Evaluation of Mysore Painting: Exploring the Role of Royal Patrons in the Emergence of Styles in the 18 th and 19 th Centuries	Manipal
Nishant Srinivasaiah	Anindya Sinha	1 Aug'13	Grabbing the Bull by the Tusks: Behavioural Ecology of the Male Asian Elephant in a Human-Dominated Landscape	Manipal (Thesis submitted)
Ankita Rathi	Narendar Pani	1 Aug'13	Transition from Village to Town: A Study of Two Settlements in Punjab	Manipal



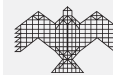
Name	Guide	Date of Joining	Thesis Title	University
Anamika Ajay	Narendar Pani	1 Aug'13	The Impact of Development on Social Conflicts: Case studies of Intra-Family and Inter-Group Strife in two villages in Kerala	Manipal
Krupa Rajangam	Sharada Srinivasan	11 Aug'14	Study on Resident Communities and Conservation Practice: Case of Hampi World Heritage Site	Manipal
Savitha Suresh Babu	Shivali Tukdeo	11 Aug'14	Welfare hostels in higher education: Understanding the experiences of Dalit and Adivasi women students	Manipal
Keya Bardalai	Carol Upadhya	11 Aug'14	Northeast Women Migrants in Delhi: Aesthetic Labour in the New Consumer Economy	Manipal
Anupama Mahajan	Anitha Kurup	11 Aug'14	Contours of lived experiences of children identified as gifted in India	Manipal
S Siddharth	Sangeetha Menon	3 Aug'15	A Study on the Metaphysics of Conscious Experience	TDU
Sashi Kiran C	Kshitija A Joshi	3 Aug'15	Understanding and modeling residential electricity demand in India	Manipal
Shyam Hari P	Anshuman B	3 Aug'15	Understanding Political Conflict and Alliance Formation: A Case Study of two Assembly Elections in Kerala (2006 and 2011)	TDU
Meera Sudhakar	Narendar Pani	3 Aug'15	Development policy as a social process- A case study of Niranthara Jyothi Program in Karnataka	Manipal
Sreedhar Vijayakrishnan	Anindya Sinha	3 Aug'15	Seeing the Elephant: Socioecology and Physiology of the Female Asian Elephant <i>Elephas Maximus</i> in an Anthropogenic Landscape in Southern India	Manipal
Vijay CS	Kshitija A Joshi	3 Aug'15	Electricity System Modeling for Large Scale Renewable Integration in India	Manipal
Aditi Kathpalia	Nithin Nagaraj	1 Aug'16	Theoretical and Experimental Investigations into Causality, Its Measures and Applications	Manipal
Ekta Gupta	MB Rajani	1 Aug'16	Advancing Archaeological and Geomorphological Understanding of the Indian Coast using Old Cartographic and Visual Records	Manipal
Kuili Suganya	MB Rajani	1 Aug'16	Geospatial Analysis of Ancient Water Features in the Archaeological Landscape of Malaprabha River Valley	Manipal
Vijayashree CS	Carol Upadhya	1 Aug'16	Production, Circulation and Consumption of Bhuta Masks and Sculptures: An Ethnographic Study	Manipal
Subroto Dey	Shivali Tukdeo	1 Aug'16	Dreams and Discontents: Understanding Career and Life-path of High School Students in Mandla, Madhya Pradesh	Manipal



Name	Guide	Date of Joining	Thesis Title	University
Sherin Jose	Mayilvaganan	1 Aug'16	Spatializing Nation-state through the Discourses of Development and Security at the Borderland: A Case Study of Tawang	Manipal
Surya Sankar Sen	Anshuman Behera	1 Aug'16	Implications of Local Conflicts on Bilateral Relations: Cases of Land Boundary and Enclave Conflicts on India-Bangladesh Relations	TDU
Varun S Bhatta	Sundar Sarukkai		Philosophical Analysis of Matter in Contemporary Physics	Manipal
Snehashish Mitra	Carol Upadhya	1 Aug'17	Contestations over Urban Land and Environment: Negotiating Citizenship in the Hills of Guwahati	TDU
Nitesh SA	Anindya Sinha	1 Aug'17	Other Minds: Philosophical and Empirical Approaches in the Conceptualisation of the Nonhuman Mind	TDU
Sarvajeet K Sinha	R Srikanth	1 Aug'17	Consolidation of Laws Related to Environment Protection in Surface Coal Mining in India – Prospects and Challenges	Manipal
S Vignesh	Sindhu Radhakrishna	1 Aug'17	Interactions of Consent: Human – Bovine Relations in Tamil Nadu	Manipal
Ashni K Dhawale	Anindya Sinha	1 Aug'17	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	TDU
Chandana R Bindu	Narendar Pani	1 Aug'17	Patterns of Response to Inequality in Relation to the Development Process: A Study of Two Villages in Gujarat and Kerala	TDU
Shilajit Sengupta	Narendar Pani	1 Aug'17	Political Consequences of Intra-village Inequalities in Rural Transformation: A Study of Two Villages in West Bengal	TDU
Ajit Kumar Babu	Narendar Pani	1 Aug'17	Inequalities in the Process of Former Agriculturists Learning Non-Agricultural Skills	TDU
Cheshta Arora	Anitha Kurup	1 Aug'17	Scientific, Technological, and Gendered Relations: An Ethnographic Study of Women Scientists, Engineers and Factory Workers	Manipal
Aparupa Bhattacherjee	D Suba Chandran	1 Aug'18	Role of Religion in Contemporary Nation-building: A Case Study of Sri Lanka, Myanmar, and Thailand	TDU
Sreshtha Mondal	VV Binoy	1 Aug'18	Determinants of the Protective Action Decision Making during Floods: A Study of the Kerala Deluge 2018	TDU



Name	Guide	Date of Joining	Thesis Title	University
Zarnain Manzoor	Anshuman Behera	1 Aug'18	Discourses around the Kashmiri Pandits: Engaging with 'Fractured Identity' and the 'Politics of Deadlock'.	TDU
Shaima Amatullah	Shalini Dixit	1 Aug'18	Perceptions of Social Discourses and Identity Negotiations: A Psychological Study of Muslim Community in India	TDU
Hrudaya Chandana K	Anshuman Behera	1 Aug'18	Discursive Formulations of Violence in Ethnic Conflict: Generation and Transmission of Values	TDU
Meera Kumar	Sangeetha Menon	1 Aug'18	The Secret of the Word and the Theatrics of Faith Healing: Tracing the Language-Consciousness Nexus Through Mantravada Traditions in Kerala	TDU
Niharika Sharma	Sangeetha Menon	1 Aug'18	Parasamvit and Pratyabhijna: An Onto-Epistemic Enquiry in Kashmir Shaivism	TDU
Shruti Ragavan	Anindya Sinha	1 Aug'18	Of Cash Cows and Piggy Banks? Natures, Cultures and Politics of The Cultivated Animal in Urban India	TDU
Anmol Chowdhury	Anindya Sinha	1 Aug'18	Rethinking the Urban 'Wild' Animal: Ethnologies and Ethnographies of Nonhuman Primates in Indian Cities	TDU
Sneha Gutgutia	Anindya Sinha	1 Aug'18	Life at The Urban Margins: Human-Animal Relations and Precarity in Indian Cities	TDU
Shubhangi Srivastava	Anindya Sinha	1 Aug'18	A Tail of Two Cities: Ecological, Socioeconomic and Political Dynamics of Human-Dog Relations in Urban India	TDU
Lavanyaa VP	R Srikanth	1 Aug'18	Ambient Air Quality and Public Health – A Study in Bengaluru	Manipal
Soumyadeep Das	R Srikanth	1 Aug'18	Universal Access to Affordable, Reliable and Modern Energy Services – A Case Study	Manipal



ANNUAL MEMORIAL LECTURES

Six annual memorial lectures were organized as follows:

Third Lakshmi Nizamuddin Memorial Lecture

Dr Rohini Godbole

Honorary Professor, Centre for High Energy Physics,
Indian Institute of Science, Bengaluru
Women in Science: Indian Scene and Way Forward
March 27, 2019

Second Baldev Raj Memorial Lecture



Dr R Chidambaram

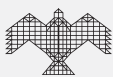
Former Principal Scientific Advisor to Government
of India and Former Chairman, Atomic Energy
Commission
*Global Sustainable Development: Role of Science,
Technology and Innovation*
January 29, 2019

Fourteenth Raja Ramanna Memorial Lecture



Dr RB Grover

Emeritus Professor, Homi Bhabha National
Institute, Mumbai
*Realization of International Civil Nuclear
Cooperation: A Technical Perspective*
January 9, 2019



Eighteenth MN Srinivas Memorial Lecture



Prof Amita Baviskar

Professor of Sociology, Institute of Economic
Growth, Delhi
*Consumer Citizenship: The Social Life of Industrial
Foods in India*
January 2, 2019

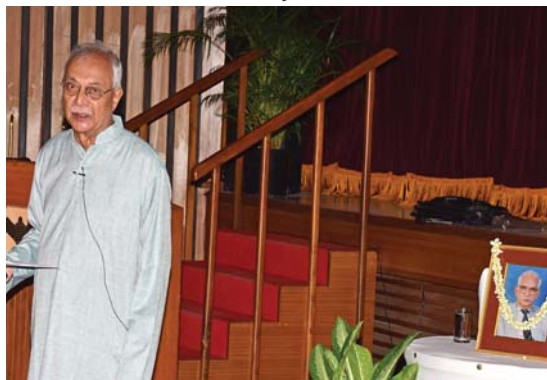
Fourth CV Sundaram Memorial Lecture



Dr A Sivathanu Pillai

Honorary Distinguished Professor, ISRO
Technological Innovations and Creative Leadership
November 23, 2018

Sixth RL Kapur Oration



Prof Vijay Padaki

Well-known Theater Personality and Playwright
The Theatre as Behaviour Science
June 22, 2018

Dr MB Rajani is the Coordinator of Annual Memorial Lectures.



PUBLIC PROGRAMMES

Dr Prabhat Shankar

Senior R&D Engineer at ABB Ability Innovation Center, Bengaluru

Introduction to Data Science

(Svasthya-rasa-bodhini CSP Public Lecture Series)

March 8, 2019

Dr Shailesh Nayak, Director, NIAS; **Prof Narendar Pani**, Dean, School of Social Sciences, NIAS; **Prof Anindya Sinha**, NIAS; **Prof Anitha Kurup**, NIAS

Panel Discussion on Science and Society: The Future – To Celebrate National Science Day

February 28, 2019

Mr HV Nagaraja Rao

Sanskritist and Aesthetician

Bharata's Rasa Sutra and Its Various Interpretations

(Svasthya-rasa-bodhini CSP Public Lecture Series)

February 25, 2019

Dr Devaki Jain

Development Economist and Activist

Vichaara Dhaara – Feminism and Philosophy: Conjoined Twins?

February 16, 2019

(In Association with Barefoot Philosophers)

Ambassador Nirupama Menon Rao and Party

Peace is My Dream – Music Concert

January 31, 2019

Dr Ananda Shankar Jayant

Dancer, Choreographer, Bureaucrat and A TED Speaker

Art, Culture and Development

January 30, 2019

Dr Laxmi Bandlamundi

Professor of Psychology, LaGuardia Community College, City University of New York

Aesthetic Vision and Carnival Experience: Necessary Counterparts in a Dialogic World Engaging with Living Texts (The Mahabharata) and Performing Traditions

January 25, 2019

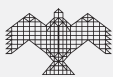
Dr Pradeep Kumar Srivastava

Former Deputy Director and Senior Principal Scientist, Medicinal and Process Chemistry Division, Central Drug Research Institute, Lucknow

Scientoons and Scientoonics

January 22, 2019





Prof Sreekumar Nellikapilly, IIT Chennai; **Dr Sudha Gopalakrishnan**, Sahapedia; **Dr Shashank Sinha**, Routledge; **Dr JJ Pallath**, Jeevana Samskriti; **Prof S Gregory**, University of Kannur; **Dr MP Damodaran**, University of Madras; **Prof John P John**, NIMHANS

Panel Discussion on Expressions of Life, Living and the Self: A Discussion on Many Facets of Indigenous Healing Traditions and Ritual Arts
January 17, 2019

Prof Sundar Sarukkai

NIAS

Vichaara Dhaara (A Series of Talks on Philosophy)

January 12, 2019



Prof Rajmohan Gandhi

Biographer, Historian and Former Member of Parliament

Prerequisites for Global Leadership: Learning from History

January 10, 2019

Dr Susan S Bean

Independent Scholar and Curator; Chair, Art and Archaeology Center, American Institute of Indian Studies, Gurugram

The Career of Clay in the Deccan

January 9, 2019

(NIAS-TCS Heritage Initiative)



Mr Ricky Kej

Music Producer, Music Director, Revolution Studios, Bengaluru

Vision for A Young India

January 8, 2019

Dr Radhika Govinda

University of Edinburgh, UK

Towards a Renewal of Feminist Politics? 'Bad Girls', Everyday Sexism and Activist Campaigns in Millennial India

January 8, 2019



Dr Nikhil Anand

Assistant Professor, Anthropology, University of Pennsylvania

City of Waters: On Leaks, Sewage and the Uncertain Sea (City at Its Limits Lecture Series)

December 20, 2018

Dr Tilak Agerwala

IBM Emeritus

Ethical Dilemmas in Disruptive Technologies: Data Analytics, AI, and Genetic Engineering

December 17, 2018



Vidushi Sangeeta Katti Kulkarni and Team

Music Concert

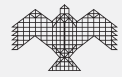
November 29, 2018

Prof Narendar Pani

NIAS

India at 70, Gandhi at 150 – Gandhi, Peace and Post-truth (International Peace Research Initiative [IPRI] Peace Lecture Series)

November 29, 2018

**Dr Adrian Bradley**

UK and European Patent Attorney

Intellectual Property as a Mechanism for Translating Research into Societal Benefits

November 27, 2018

Prof Mukul Sharma

Indian Institute of Mass Communication, New Delhi

Green and Blue: Caste, Dalits and Indian Environmentalism (Changing India Lecture Series)

November 16, 2018

Prof Pauline Lipman

Professor of Educational Policy Studies, University of Illinois at Chicago
and Director of the Collaborative for Equity and Justice in Education

Education and Urban Crises: Coercive Neoliberalism, The Politics of Disposability, and the Struggle for the Right to the City

November 12, 2018

Mr Ashish Kothari

Environmentalism, Kalpavriksh, Pune

Development, Environment and Human Rights: Towards Sustainability and Equity

(Changing India Lecture Series)

October 30, 2018

Dr Sarada Natarajan

Independent Researcher

Eloquent Elephants in Sign Saturated Forests: An Endangered Frame

October 15, 2018

Dr TV Ramachandra

Energy and Wetlands Research Group

Centre for Ecological Sciences, Indian Institute of Science, Bengaluru

Lessons of Unplanned Urbanisation: Bengaluru, a dying city (with burning and frothing lakes) (City at Its Limits Lecture Series)

October 12, 2018

Prof Rahamath Tarikere

Literary and Cultural critic, Kannada University Hampi

ಕರ್ನಾಟಕದ ಅನುಭಾವಿ ಪಂಥಗಳು: ಜನತಾ ಧರ್ಮಗಳು *(Mystic Cults As Peoples' Religion)*

(Changing India Lecture Series)

October 11, 2018

Mr Arvind Narrain

Human Rights Lawyer, Activist and Writer

Transformative Constitutionalism and the Decriminalisation of the Right to Love (Changing India Lecture Series)

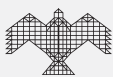
September 24, 2018

Mr Takayuki Kitagawa

Consul-General, Consulate-General of Japan, Bengaluru

Importance of Karnataka in Indo-Japan Relationship

September 20, 2018



Dr Shivani Agarwal

Azim Premji University, Bengaluru

Understanding the Impact of Forest Management on the Landscape Change and Tree Diversity in Central Indian Dry Deciduous Forest Landscapes

September 20, 2018

Prof Shailesh Nayak, NIAS; **Prof Vinod Kumar Gaur**, C-MMACS, Bengaluru; **Dr M Mohapatra**, NWFC, IMD, New Delhi; **Dr EN Rajagopal**, NCMRWF, Noida; **Dr GS Srinivasa Reddy**, KSNDMC, Bengaluru; **Dr MV Ramana Murthy**, NCCR, Chennai

Panel Discussion on Flood in Kerala and Kodagu Region of Karnataka: The Lessons

September 18, 2018

Prof Arun Kumar

Malcolm Adisheshiah Chair Professor, Institute of Social Sciences, New Delhi and Retired Professor Jawaharlal Nehru University

Two Circles of Growth: Marginalizing the Unorganized

September 14, 2018

Ms K Vaijayanti

Head Resource and Research Vertical, Akshara Foundation

Maximising Learning of Children in Schools – Early Grade Math initiative at Scale

September 11, 2018

Prof G Baskaran, SERB Distinguished Fellow, The Institute of Mathematical Sciences, Chennai; **Prof S Ranganathan**, NIAS; **Prof M Sai Baba**, NIAS

Discussion Meeting on Private Funding for Basic Research in India

September 6, 2018



Dr Bindeshwar Pathak

Founder, Sulabh International, Social Service Organization

My Inventions and Discoveries to Solve the Problems of Sanitation, Untouchability and Social Discrimination – Through Peace and Non-Violence

September 4, 2018

Prof BV Sreekantan

Honorary Visiting Professor, NIAS

Crisis in Fundamental Sciences – Physics and Astrophysics-2018

August 17, 2018

Dr MB Rajani, Assistant Professor, NIAS; **Dr Viraj Kumar**, Visiting Professor, Divecha Centre for Climate Change, Indian Institute of Science, Bengaluru

Five Degrees of Variation at Nalanda

August 13, 2018

Ms Choodie Shivaram

Senior Freelance Journalist and Researcher

At the Altar of India's Freedom – INA Veterans of Malaysia (Film Screening and Discussion)

August 9, 2018



Prof Jaya Menon, Professor and Head of the Department of History, Shiv Nadar University, Dadri; **Dr Supriya Varma**, Associate Professor, Centre for Historical Studies, School of Social Sciences, Jawaharlal Nehru University

Archaeological Places: Negotiations between Local Communities, Archaeologists, and the State
July 25, 2018

Prof Lynn Meskell

Professor, Department of Anthropology, Stanford University
Save Archaeology from the Technicians: Wheeler, World Heritage and Expert Failure at Mohenjodaro
July 24, 2018

Ambassador Nirupama Menon Rao

Former Foreign Secretary to the Government of India
Nurturing Leadership Among Youth for Global Peace
(On the Occasion of The Second Anniversary of The Salzburg Global Seminar Series)
July 15, 2018

Prof Ashwini Tambe

University of Maryland-College Park
Academic Feminism, Public Feminism, and #MeToo
July 13, 2018

Ms Padma Menon

Founder, Moving Archetypes, Australia
Embodying Archetypes: Navarasas as Spaces of Emotional Transformation
July 12, 2018

Dr Sejuti Dasgupta

Former Faculty, Tata Institute of Social Sciences, Mumbai
Farmers Matter in New India's Political Settlement: Discontinuous Agrarian Policy and New Class Formations
July 10, 2018

Prof Carmen Molina-París

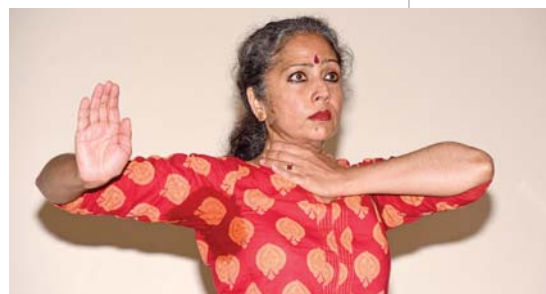
School of Mathematics, University of Leeds, UK
Lessons to be Learnt from Mathematical Models of T Cells
July 9, 2018

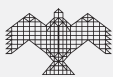
Mr Bhaarathe Malliah

Practicing Raja Yoga Meditator
Meditating Minds
June 26, 2018

Prof Narendar Pani

Professor, NIAS
Shooting the Messenger – What does the killing of journalists mean for Indian media, ideas and politics?
June 21, 2018





Dr Uma Chakravarty

Feminist Historian, Delhi

Ek Inquilab Aur Aaya: Lucknow 1920-1949 – Documentary Screening and Discussion

June 15, 2018

Mr Naresh Narasimhan

Managing Partner, Venkataramanan Associates, Bengaluru

Contrapuntal View: Tactical Urbanism in Bengaluru

(City at Its Limits Lecture Series)

June 14, 2018

Prof Jyoti Parikh

Executive Director, IRADe

Paris Agreement and India's Commitments

June 12, 2018

Dr Sunil S Chirayath

Director, Centre for Nuclear Security Science and Policy Initiatives
and Associate Professor, Nuclear Engineering Department, Texas A&M
University, College Station, Texas, USA

*Nuclear Security Education at Texas A&M University and Human Capital
Development*

June 1, 2018

Dr Anjoo Sharan Upadhyaya

Professor, Department of Political Science, Malaviya Centre for Peace
Research, Banaras Hindu University

Maoist Politics in Nepal: Past and Present

May 23, 2018

Dr Frank Krueger

Associate Professor, School of Systems Biology, George Mason University,
USA

Towards a Neuropsychological Framework of Social Trust

May 21, 2018

Dr Shashi Tharoor

Member of Parliament

The Role of Reason in Indian Politics

May 5, 2018

Dr Radhika Joshi Ray

Hindustani Classical Vocalist, Jaipur Atrauli Gharana

*Gaansaraswati Yashogatha: An Audio Visual on the Life and Music of Smt
Kishori Amonkar*

April 10, 2018





WEDNESDAY DISCUSSION MEETINGS

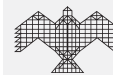
NIAS Wednesday Discussion Meetings is one of the outreach events that have continued since the inception of the Institute. The faculty of the Institute meets every Wednesday morning for semi-formal academic discussions after a lecture delivered by a member of the faculty. These Wednesday meetings also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

Prof Sangeetha Menon is the Coordinator of Wednesday Discussion Meetings.

Date	Name	Title
March 20, 2019	Ms V Geetha Feminist Writer and Activist, Chennai	Speaking of Assault: Expressions and their Histories
March 13, 2019	Prof Srikumar Pullat Visiting Professor, International Strategic and Security Studies Programme, NIAS	Unmanned Aerial Systems in India's National Air Space – Some Issues and Concerns
March 6, 2019	Prof R Srikanth Professor and Dean, School of Natural Sciences and Engineering, NIAS	Why India Needs to Focus on Nuclear Power in Addition to Renewable Energy
February 20, 2019	Dr Prakash Panneerselvam Assistant Professor, International Strategic and Security Studies Programme, NIAS	Blue Economy and Maritime Security: Perspectives for Comprehensive Approach
February 13, 2019	Prof Sisir Roy Senior Homi Bhabha Fellow and Visiting Professor, NIAS	Bacterial Intelligence
February 6, 2019	Dr Hemangini Gupta Post-doctoral Associate, School of Social Sciences, NIAS	The City of Hope: Debt, Credit, and New Urban Futures in Global Bangalore
January 16, 2019	Dr Smriti Haricharan Assistant Professor, Heritage Science and Society Programme, NIAS	Mapping the History of Iron Age-Early Historical Burials of South India
January 2, 2019	Prof Janaki Balakrishnan Head, Complex Systems Programme, NIAS	Complex Behaviour in Natural Systems: From Cellular to Macroscopic Scales
December 19, 2018	Dr Sumedha Bajar Assistant Professor, NIAS	Gendered Impact of Rural Transition in India
December 12, 2018	Dr Shalini Dixit Assistant Professor, NIAS	Charting the Trajectory of "Excellence" – The Socio-Emotional Challenges and Role of Gender
December 5, 2018	Dr Srikumar M Menon Associate Professor, NIAS	Finishing the Unfinished Conjectural Restoration of the Open Mantapas at Badami
November 14, 2018	Dr Vishwanath Varma DBT Post-Doctoral Fellow, School of Natural Sciences and Engineering, NIAS	Evolution of Accurate Biological Clocks
October 31, 2018	Ms Aparupa Bhattacharjee PhD Scholar, NIAS	Myanmar: Understanding the Buddhist Violence against the Minorities
October 24, 2018	Prof Narendar Pani Head, RBI Programme on Inter-disciplinary Approaches to Economic Issues, NIAS	Measurements of Multidimensional Inequality



Date	Name	Title
October 10, 2018	Prof Carol Upadhyay, Dr Hemangini Gupta, Mr Sachinkumar Rathod and Ms Priyanka Krishna NIAS	Speculating on Bangalore's Urbanism: Land, Livelihood, and Life on the City's Edge
September 26, 2018	Dr Jeebanlata Salam Assistant Professor, NIAS	Aspirations and the Social Capital
September 12, 2018	Dr Kshitija Joshi Assistant Professor, NIAS	The Trade-off between Fiscal Efficiency and Human Development – The Case of Five South Indian States
August 29, 2018	Prof V Bhujanga Rao ISRO Chair Professor, NIAS	Nurturing Grassroots Innovations
August 8, 2018	Ms Kuili Suganya PhD Scholar, NIAS	On the Network of "Karez" Marked in Pre-independence Maps of Bangalore
August 1, 2018	Prof PS Goel Raja Ramanna Chair Professor, NIAS	Satellite Anomaly Resolution-A Case Study
July 25, 2018	Dr Anshuman Behera Assistant Professor, NIAS	Urban Maoism in India: Rhetoric and Reality
July 18, 2018	Dr S Udayakumar Post-doctoral Associate, NIAS	Archaeo-Experimental Approach to understanding Iron Smelting Processes: A Case Study of Nathara-Ki-Pal, South East Rajasthan
July 11, 2018	Ms Meghna N Desai Research Associate, NIAS	Global Perspectives on Funerary Monuments
July 4, 2018	Mr Srikumar Pullat Visiting Professor, NIAS	S&T to Products: The Weak Links in Indian Defence R&D
June 27, 2018	Prof Anitha Kurup Professor and Dean, School of Social Sciences, NIAS	Identifying Gifted and Talented Children in a Multi-Cultural Context: An Experiment in India
June 13, 2018	Dr Amit Mukherjee Assistant Professor, NIAS	Legacy of India Israel Relationship: Past, Present and Future
June 6, 2018	Dr Paula Pebsworth Post-Doctoral Associate, NIAS	To Feed or Not to Feed: Will People Stop Provisioning to Reduce Human-Monkey Conflict?
May 30, 2018	Prof Malavika Kapur Visiting Professor, NIAS	Genie Out of the Bottle Children and IoT and AI
May 23, 2018	Dr M Sai Baba Principal Scientist, NIAS	Atomic Energy: Kangri for Energy Security?
May 16, 2018	Dr Nithin Nagaraj Assistant Professor, NIAS	So You Think You Can Count?
May 9, 2018	Dr TS Gopi Rethinaraj Associate Professor, NIAS	How Long Before the World Runs Out of Energy Resources?
May 2, 2018	Prof D Suba Chandran Professor and Dean, School of Conflict and Security Studies, NIAS	Why Do Conflicts Expand? The Case of Pakistan, J&K and Sri Lanka
April 25, 2018	Dr VV Binoy Assistant Professor, NIAS	Adapting to Invasion: Understanding the Impact of Non-native Fishes on the Behaviour of Indigenous Species
April 4, 2018	Dr Prakash Panneerselvam Assistant Professor, NIAS	India and China Competition in Indian Ocean: Race for Naval Dominance



ASSOCIATES' PROGRAMME

NIAS shares its experiences, both intellectual and cultural, with a select group of distinguished persons. As Associates, they enjoy certain privileges, including access to the NIAS library, invitations to all major events and opportunities to dine with the NIAS faculty and distinguished visitors. As of now we have 135 distinguished personalities as our associates. NIAS organizes regular associates' meetings, which include lectures, plays, and performing arts events.

Currently, Prof S Setter is the Chairman for the Associates' Programme.



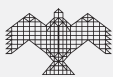
Nrityagram
Bengaluru
Odissi Dance Performance
January 11, 2019



Bangalore Little Theatre
Photograph 51 (Directed by Mr Sridhar Ramanathan and
Ms Archana Kariappa)
September 5, 2018



Team Prakasam
Bengaluru
Music Concert – Raaga in Films
October 4, 2018



LIBRARY

The Library over the years has sought to meet the growing needs of the research programmes of the Institute by acquiring relevant printed books throughout the year. The breadth and depth of the collection are enhanced with books obtained to support ongoing interdisciplinary research areas of doctoral students. 643 books have been acquired during the year. Among them are *the Oxford Handbook of Public Heritage: Theory and Practice* edited by Angela M Labrador and Neil Asher Silberman, *Environmental and Pollution Laws in India* in 2 volumes by Justice TS Doabia, *the Oxford Handbook of Skills and Training* edited by John Buchanan et al., *the Oxford Handbook of the Science of Science Communication* edited by Kathleen Hall Jamieson and *the Routledge Handbook of Contemporary Myanmar* edited by Adam Simpson et al. Currently, the Library's printed book collection stands at 17773. In addition, the Library has received 50 donations. The Library is subscribed to 68 prominent print journals.

Electronic Journals and Databases

Subscription to e-resources includes the special collection of 1500 e-journals from Taylor and Francis publishers and 56 e-journals from other reputed publishers. Data resources include *Indiastat.com*, a portal for India's socio-economic data and *Economic and Political Weekly Research Foundation India Time Series Data* with 18 modules. Archival resources include *JSTOR* and *Economic and Political Weekly Archives*. These electronic resources can be accessed within the campus as well as remotely.

Heritage Volumes

The Library marked the 150th Birth Anniversary of Mahatma Gandhi by showcasing the Gandhi collection which includes *the Collected Works of Mahatma Gandhi* in 100 volumes and other books and audio-visual materials.

Plagiarism Software

The support service for plagiarism detection in student proposals and theses is being provided by the Library using Turnitin software.

Facilities

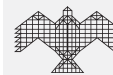
The Library website provides online access to licensed content and Library catalogue. Users are provided with facilities for browsing and desktop applications. The Library acquired a new digital laser copier/printer/colour scanner during the year. There has been a continuous flow of readers and researchers throughout the year.

Donation Policy

The Library collection has been enriched through the years by donations of books from leading thinkers associated with the Institute. In view of limitation of available space, a donation policy was formulated for accepting future donations.

International Collaborations

NIAS entered into a co-publishing agreement with Routledge, an imprint of the Taylor and Francis Group, Informa UK Limited in September 2018.



Website Activities

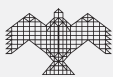
New website committee was recently constituted to take care of outreach activities. The Library provides active support for outreach activities such as fortnightly alerts carrying information about research and teaching activities, publications and a variety of events hosted at NIAS disseminated to a wide array of audience.

In-House Publication

NIAS has an in-house publication programme since 1998. A 'document control sheet' with the bibliographic details of the document is being included in every NIAS publication brought out from 2019 onwards.

Library Resources 2018-2019

Sl No.	Library Resources	2018-2019
1	Books	17773
2	Kannada Books	570
3	Donations	1156
4	Theses	35
5	E-Journals Subscriptions	1556
6	Print Journals	68
7	Bound Volumes	2661
8	Data CDs	290
9	CDs	477
10	Lectures on DVDs	864
11	Magazines	8
12	Newspapers	10



CHAIR PROFESSORS

SCHOOL OF CONFLICT AND SECURITY STUDIES



V Bhujanga Rao
ISRO Chair Visiting
Professor

Room No. F 22
Teel: 080-22185074
Fax: 080-22185028
Email:
vbhujangarao@nias.
res.in

Joined NIAS on: April 20, 2016

Major Research Contribution for the Academic Year

As Chief Designer of Cochlear Implant Prosthesis (Bionic Ear) Project, research work has been continued and the product is now available for human clinical trials. This work was done in collaboration with SBMT/DRDO and DST.

EPSRC, UK has sanctioned funds of Rs.4.0 crores (approximately) in February 2018 for development of Secure Ultrasound Scanning System for scanning pre-natal woman without revealing the gender of the foetus. The work is under progress. This is a collaborative project with Indian Institute of Science, St John's Research Centre and Cranfield University, UK. NIAS' share of fund is Rs.1.0 crore (approximately).

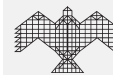
Undertaken a societal project titled Frugal Innovation Nurturing Programme, to help the grassroot innovators for making their innovative products (TRL-3) into commercially viable products (TRL-9). INAE has sanctioned Rs.25.0 lakhs per annum as financial support to these grassroot innovators.

As ISRO Chair Visiting Professor, preparatory work has been done to bring out a quarterly newsletter to help the academicians/space industry, etc. with latest technology developments. The first issue was released in January 2019.

Outreach

As Chairperson of Inclusive Manufacturing Forum, was responsible to hold IMF-2018 at NIAS during April 5 to 7, 2018. The meeting was well received by over 100 delegates including delegates from UK, Kenya, Finland and Bangladesh. Five thematic topics deliberated were (1) Agro Processing and Productivity: Policy for Inclusive Manufacturing (2) Water and Sanitation: Policy for Inclusive Manufacturing (3) Affordable Healthcare: Policy for Inclusive Manufacturing (4) Craft and Small Scale Manufacturing: Policy for Inclusive Manufacturing and (5) Energy for All: Policy for Inclusive Manufacturing; Global Perspective on Inclusive Manufacturing Policy. A consolidated report was released.

Acted as resource person to NIF, Ahmedabad in organizing a Festival of Innovations at Indonesia for five days during October 2018.



Lectures

Origin, Evolution and History of Science Policy, NIAS-DST Training Programme on Science, Technology and Innovation Policy, November 19, 2018.

Future of Space Technology, Annual International Conference on Outer Space, SAGAR Discourse, Goa, October 25, 2018.

Innovation for Sustainability, NIAS DST Training Programme for Women Scientists, September 5, 2018.

Training Courses

Coordinated Training Programme on Leadership in Defence Manufacturing Technology, March 4 to 8, 2019.

Coordinated NIAS-DST Training Programme on Science, Technology and Innovation Policy, November 19 to 30, 2018.

Memberships

Chairman, National Committee on Mechanical Engineering, Institute of Engineers (2015 onwards).

Chairman, Innovation Promotion Committee (INAE) (2018 onwards).

Founder and Current President, Condition Monitoring Society of India (2003 onwards).

Member, R&D Board, Ministry of Earth Sciences, Government of India (2016 onwards).

Member, Project Review Committee, NIOT, Government of India (2017 onwards).

Member, Scientific Advisory Committee, TDU, Bengaluru (2018 onwards).

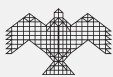
Member, Governing Council, INAE (2018 onwards).

Member, National Management Committee, IPMA, Delhi (2017 onwards).

Honorary Professor, Department of Mechanical Engineering, Andhra University

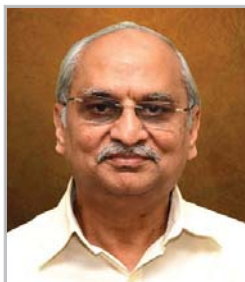
Member, Board of Management, Veltech University, (2014 to 2018).

Chairman, R&D Advisory Committee, NIF, Ahmedabad (2018 onwards).



SCHOOL OF NATURAL SCIENCES AND ENGINEERING

Science Communication Programme



M Sai Baba
TV Raman Pai Chair
Visiting Professor
School of Natural
Sciences and
Engineering

Room No. S 06
Tele: 080-22185066
Fax: 080-22185028
Email: msaibaba@
nias.res.in

Joined NIAS on: October 6, 2017

Lectures

Advanced Technologies and Challenge of Reaching Out to Society Discussion Meeting on Nuclear Security Best Practices held at Indian Institute of Technology-Bombay, jointly organized by Texas A&M University and IIT Bombay, February 28, 2019.

Science, Technology and Society: The Challenge of Reaching Out Science, Technology and Innovation Policy (STIP) Forum Lecture Series (17th in Series) India Habitat Centre, New Delhi, February 15, 2019.

Public Policy and Development in India: Way Forward, Panel Discussion on the topic Existing Public Policy Programs in India: Perspective of Think Tanks at National Workshop on "Changing Paradigm in Public Policy Education and Research in India, at Kochi, jointly organized by Chinmaya Vishwavidyapeeth and NIAS, January 28, 2019.

Doing Science and Communicating It Well: The Challenge, NIAS-DST Training Programme on Science and Technology: Global Developments and Perspectives, January 23, 2019.

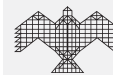
Disruptive Technologies and Public Policies, panel discussion chaired by Prof Rudra Pratap, IISc., Hon. Rashton V Paray, MP, Trinidad and Tobago, Dr Radhika Samarasekera, Director General, Industrial Technology Institute, Ministry of S&T, Sri Lanka, were the co-panelists, CeNSE Seminar Hall, IISc, Bengaluru, November 16, 2018.

Team Building for Innovation, NIAS-DST Training Programme on Science, Technology and Innovation Policy, November 28, 2018.

Contemporary Science Literature: An Assessment, Panel Discussion, India International Science Festival (IISF), Science Communication for Transforming India, Lucknow, October 6 to 8, 2018.

Importance of Science Communication for the Development of the Society, Dialogue with the Scientist-Communicators at Workshop organized by Swissnex India, Consulate General of Switzerland and NIAS, September 28, 2018.

Opportunities in Science and in Science Journalism: Where are the jobs, the students and the teachers? – panel discussion on Science, Journalism, Media, Communicating Science in a Changing India, Institute of Mathematical Science, Chennai (jointly organized by IMSc and Indian Academy of Science), August 21, 2018.



How to be Effective: Self-Motivation for Enhanced Performance, BARC Training School at IGCAR, Kalpakkam, August 10, 2018.

Transition from Information Resource Centers to Knowledge Houses: Saraswati learning to Playing Digital Veena, 11th National Conference on "Recent Advances in Information Technology" held at IGCAR, Kalpakkam, August 9, 2018.

Access to Information Resources in the Digital Era: Change, Opportunity and Challenges, International Conference on Exploring the Horizons of Library and Information Sciences: From Libraries to Knowledge Hubs, DRTC, ISI Bengaluru Campus, August 7, 2018.

Appreciation of Chemical Sciences, GITAM Institute of Science, GITAM University, Visakhapatnam, July 19, 2018.

Access to Information in the Digital Era, Knowledge Resource Centre, GITAM University, Visakhapatnam, July 19, 2018.

Studying and Researching in Chemistry, PG Centre of BVK College, Visakhapatnam, July 19, 2018.

Atomic Energy and Energy Security of India, JNCAR, Bengaluru, organized by DHWANI, June 7, 2018.

Science Communication Skills, Dr Baldev Raj Memorial Bridge Course on Non-destructive Evaluation and Quality Assurance (BRM-BCNQ 2018), IGCAR, Kalpakkam, organized by Indian Society for Non-destructive Testing (ISNT) Kalpakkam Chapter, Society for Failure Analysis (SFA) Chennai Chapter and Indira Gandhi Centre for Atomic Research (IGCAR), May 24, 2018.

Nuclear Education and R&D in India, 4th India Nuclear Industry Congress 2018, Nuclear Power Augmentation through Domestic and International Endeavors, Mumbai, April 26, 2018.

LWRs on India-Challenges and Solutions for Moving Forward, served as Chairman of the panel discussion, 4th India Nuclear Industry Congress 2018, Nuclear Power Augmentation through Domestic and International Endeavors, Mumbai, April 26, 2018.

Nuclear Liability and Insurance in India, Chairman of the session, 4th India Nuclear Industry Congress 2018, Nuclear Power Augmentation through Domestic and International Endeavors, Mumbai. April 26, 2018.

Academic Courses

One Credit course on Science Communication Principles, Practices and Future Challenges at National Institute of Advanced Studies was offered along with Dr VV Binoy.

Membership

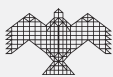
Member, Advisory Board, Governing Council of Hindustan Institute of Maritime Training Group of Educational Institutions, Chennai.

Other Information

Chaired the session on Existing Public Policy Programmes in India: Perspective of Think Tanks at National Workshop on Changing Paradigm in Public Policy Education and Research in India, at Kochi, jointly organized by Chinmaya Vishwavidyapeeth and NIAS, January 28 and 29, 2019.

Started a NIAS Communication Club, which aims to collectively understand the art of effective science communication. The motive behind NIAS-Communication Club being formed is to fill the gap of communicating research to the society and aims to foster and nurture communication skills of young researchers.

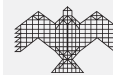
Chaired the panel discussion on Science Journalism: Yesterday, Today and Tomorrow, 18th Indian National Science Congress, New Delhi, Commemorated 200 Year of Science Journalism in India, organized by NISCAIR, December 20, 2018.



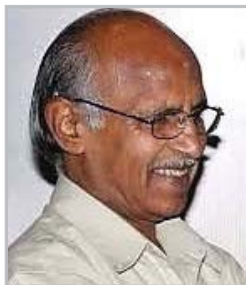
What HEIs (universities, research institutions, researchers, and students) Can Do to Promote Open Access?, chaired the panel discussion, International Open Access Week Activities, organized by DST-Centre for Policy Research at IISc in association with NIAS, Karnataka State Library Association, IISc and Science Policy Group (SPG), Centre for Contemporary Studies, IISc, Bengaluru, November 28, 2018.

Chairperson of the committee interacted with participants with the teams presenting the posters on the theme of “Open Access and Open Access to Knowledge” for identifying the best presentations. Dr Padmini Ray Murray, Srishti School of Art Design and Technology and Dr Anand Byrappa, IISc were the other members of the committee, November 28, 2018.

Part of International Open Access week, organized by DST-Centre for Policy Research at IISc in association with NIAS, Karnataka State Library Association, IISc and Science Policy Group (SPG), Indian Institute of Science, Bengaluru, November 28, 2018.



SCHOOL OF NATURAL SCIENCES AND ENGINEERING

**PS Goel**

Raja Ramanna Chair
Visiting Professor

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Joined NIAS on: May 2, 2016

Major Research Contribution for the Academic Year

Advised Energy and Environment Programme at NIAS with respect to sharpening proposals to Ministry of Earth Sciences for a long-term funding from the Ministry. Also advised/reviewed joint UK/NIAS proposal to DRDO for Advance manufacturing for Defence.

Advised Workshop on Medical Tourism and Creating Eco System in India.

Guided NIAS/INAE/National Innovation Foundation Programme for translating Grass Root Innovation into Products with academic support from Indian Institute of Science.

Organized strategy on development of Regional Transport Aircraft in the country and coordinated with NITI Aayog and PSA.

Lecture

Engineering Intervention in Grass Root Innovation, Workshop on Grass Root Innovations, Honey Bee, Ahmedabad. January 28, 2019.

Awards, Memberships

Honorary Distinguished Professor, ISRO HQ, Bengaluru.

INAE Satish Dhawan Chair of Engineering Eminence.

Chairman, Governing Board, National Innovation Foundation, Gandhi Nagar.

Chairman, Technology Research Board, MoES, Delhi.

Chairman, RC, NGRI/CSIR, Hyderabad.

Chairman, RAC, NIOT/MoES, Chennai.

Member, Governing Body, NIOT/MoES.

Member RC, NAL/CSIR, Bengaluru.

Chairman, CTR, GEOSAT Programme, ISRO.

Member, CTR, Chandrayaan-2, ISRO.

Member, GB, CEFIPRA, DST.



Member, JECRC (Jaipur) University Advisory Board.

Chairman, Apex Committee for Planning Future Spacecraft Missions, ISRO.

Chairman, Project Advisory Committee and Member, Steering Committee, IMPRINT-2.

Member, Board of Governors, Birla Institute of Scientific Research, Jaipur.

Chairman, Project Monitoring and Guidance Committee (PMGC) Manned Submersible Project, NIOT/MoES.

Other Contributions

At ISRO

Chaired Apex Committee for planning ISRO Satellite Programme for 5 years and direction for 10 years (a) Remote Sensing Programme (b) Communication Programme (c) Navigation Programme.

Chairman, Apex committee for finalizing the strategic space segment for the country covering all dimensions.

Chairing Committee on Navigation, Guidance and Control for Chandrayaan-2 and Human Space Programme (Gaganyaan).

Member, Mission Readiness Review (MRR) for all launch vehicles and satellite missions.

Chaired Committee on Anomaly resolution of GSAT 6A spacecraft.

Chaired Peer Review of ISST Trivandrum.

At DRDO

Chaired DRDO/ISRO Technical Committee and Member, Steering Committee for Kautilya Project.

Chaired PDR Committee for ANVESHA project.

At MoES

Chairman, Technology Research Board. Guided development of solar assisted low temperature Thermal Desalination Plant by IIT-M at Vivekananda Kendra, Kanyakumari.

Chairman, Research Advisory Council, NIOT, Chennai and Member Governing Council, NIOT.

Chairman, Project Implementation and Guidance Committee for Manned Submersible, NIOT.

Member, Apex Committee for funding external research.

At CSIR

Chairing Committee for Fast Track Transformation Projects for Earth Sciences.

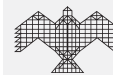
Chairman, Research Council, NGRI.

Chairman, Review Committee, Drone based Electro Magnetic Exploration Project.

At INAE

Mentored overall planning and conduct of Engineers Conclave EC-2018 with themes (i) Defence manufacturing in India and (ii) Engineering Intervention for Urban Infrastructure.

Mentoring overall planning of EC – 2019.



PROFESSORS EMERITUS



Prof Roddam Narasimha

Prof Roddam Narasimha was the Director of the National Institute of Advanced Studies during 1997-2004. He is currently the DST Year-of-Science Chair Professor at Jawaharlal Nehru Centre for Advanced Scientific Research, Bengaluru, and concurrently holds the Pratt and Whitney Chair in Science and Engineering at the University of Hyderabad.



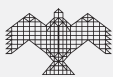
Dr K Kasturirangan

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 of public good and public risks associated with emerging technologies, identification and mentoring of children with unusual learning capabilities and science and technology communication.



MEMBERS

Members of the Conflict Resolution Programme



Anshuman Behera
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Joined NIAS on: January 31, 2014

Research Areas: Conflict Resolution, Internal Conflicts in India, Nepal and Bangladesh, Terrorism in South Asia, Religious Radicalisation.

Lectures

India's Internal Security: Emerging Challenges, Centre for Security Studies, School of National Security Studies, Central University of Gujarat, February 26, 2019.

Science and Technology Development and Social Conflict, NIAS-DST Training programme on Science and Technology: Global Developments and Perspectives, January 28, 2019.

Internal Security Issues in India, National Technical Research Organisation (NTR) Training Programme, Bengaluru, December 10, 2018.

Emerging Trends in Terrorism: An Analysis, National Technical Research Organisation (NTR) Training Programme, Bengaluru, December 10, 2018.

Proposal for China-Nepal-India Economic Corridor: Wishful Thinking or Regional Aspiration beyond Rhetoric, in an International Conference on 'China and South Asia', Organized by Shanghai University, November 24 to 26, 2018.

Social Media has the Potential for Creating Public Disorder, and so the Sedition Law (Section 124A of the Indian Penal Code) is a Reasonable Restriction on Freedom of Expression, at Ranga Shankara Theatre Festival 2018, Bengaluru. November 4, 2018,

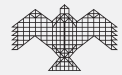
Resistance at the Grassroot Level and Success and Failure Narratives of Development, Kalahandi Dialogue, September 29, 2018.

Vulnerabilities of Children in Armed Conflicts in India, Madras Christian College, Chennai, on September 7, 2018.

Academic Courses

Three credit course on Theoretical Constructs of Conflict, NIAS.

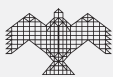
Course on National and Global Security in Contemporary World, School of Liberal Studies, Pandit Deendayal Petroleum University, Gandhinagar, February 2019.



Course on Political Theory, School of Liberal Studies, Pandit Deendayal Petroleum University, Gandhinagar, October 2018.

Training Course

Co-coordinator for the NIAS-DST Training Programme on Science and Technology: Global Developments and Perspectives, January 21 to February 1, 2019.



Members of the International Strategic and Security Studies Programme



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Joined NIAS on: February 1, 2007

Research Areas: Security and Strategic Studies

Lectures

ASAT Weapons, 74th Staff Course, Defence Services Staff College, Wellington, March 26, 2019.

Indigenous Solid Propellant – The Early Years, Inaugural Function of Golden Jubilee Celebration of Indigenous Solid Propellant Development in ISRO, VSSC, Thiruvananthapuram, February 27, 2019.

Science and Technology: Security and Securitization, NIAS-DST Programme on Science and Technology: Global Developments and Perspectives, January 22, 2019.

Panelist in the Discussion on Indo-Pacific, NIAS, January 11, 2019.

Inaugural Address on the occasion of Inauguration of Abdul Kalam Memorial Astronomy Club at Vidyavardhaka College of Engineering, Mysuru, November 17, 2018.

Panelist in the Sagar-2 Discourse. The Panel debated the Future of Space Technology, October 25, 2018.

Address to the Students of AVS College of Engineering on the occasion of Kalam Day, Bengaluru, October 15, 2018.

Technology Dimensions of India's Security and International Relations, Prof ML Sondhi Award for International Politics Awards Ceremony, New Delhi, October 5, 2018.

Panelist in the Science Diplomacy Workshop, NIAS, September 24, 2018.

Panelist in the discussion on Commemorating 20 Years of Pokhran-2, NIAS, May 11, 2018.

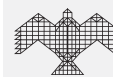
Academic Course

Lecture on Space and National Security to the NIAS PhD Students in the School Course on Introduction to Conflict and Security, November 15, 2018.

Other Information

Reviewer, International Journal of Energetic Materials and Chemical Propulsion.

Invited to Chair Design Review Committees for DRDO.



D Suba Chandran
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Joined NIAS on: November 18, 2015

Research Interest: Peace Research Initiative (IPRI), NIAS Science Diplomacy, Global Politics.

Lectures

Towards Sustainable Ocean Governance, University of Pondyerry, March 23, 2019.

Indo-Pacific 2.0, University of Pondyerry, March 21, 2019.

India and the Indo-Pacific, Centre for South Asian Studies, Kathmandu, March 13, 2019.

Naya Pakistan, Observer Research Foundation, Chennai, February 1, 2019.

Policy Approaches and Strategies for Peace Building, Peace Building and Conflict Transformation: Moving from Violence to Sustainable Peace, Stella Maris College, Chennai, January 29-31, 2019.

The Science Pillar of India-Russia Energy Dialogue, India-Russia Dialogue, MGIMO, Moscow, December 18, 2018.

Indo-Pacific and Greater Eurasia, ICWA, New Delhi, November 15, 2018.

Energy for Peace and Peace for Energy, Energy Security and Energy Market Integration in South Asia, Konrad Adenauer Stiftung, Kathmandu, October 9-10, 2018.

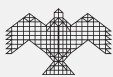
The Future of Pakistan: Analyzing the Pakistani Mindset, Air War College, Secunderabad, October 10, 2018.

India's External Outlook, Centre for Peace and Conflict Studies, Islamabad, September 4, 2018.

The New Security Stress: Is the State ready in South Asia? Will the Region Come Together?, Centre for Peace and Development Studies, Islamabad, September 3, 2018.

Youth Radicalization in India: Causes, Courses and Consequences, Regional Centre for Strategic Studies, Colombo, June 1, 2018.

The Farm Crisis: Inputs from the Ground, Foundation of Good Governance, New Delhi, April 24, 2018.



Academic Courses

Summer Course on Conflict, Peace and Regional Security in South Asia for Interns (April to Jun 2018).

Global Politics: Contemporary World Affairs, four credit course for NIAS PhD Scholars.

Conflict and Security, one credit course as a part of the School Course for NIAS PhD Scholars.

Winter Course on Contemporary World Affairs, three credit course.

Training Course

Coordinator for the 33rd NIAS Annual Programme for Senior Executives, January 7 to 12, 2019.

Memberships

Became a part of GPPAC network on Global Programme to Prevent Armed Conflicts.

Member, COSATT – Consortium of South Asian Think Tanks.

Member, of NESA network on Near East and South Asia.

Member, of India-Russia Dialogue, led by the Indian Council of World Affairs.

Other Information

Continues to coordinate the NIAS outreach programme, which includes regular monthly (now fortnightly) alerts on NIAS research, publications and events to a global audience.

In 2019, the outreach activities were expanded to make use of the Social Media Platforms – Twitter, Instagram and Facebook.



S Chandrashekar

JRD Tata Visiting
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Joined NIAS on: July 2, 2004

Research Interest: Strategic and Security Studies

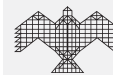
Lectures

India's Space Requirements, Capability and Capacity, Centre for Air Power Studies, Bengaluru, November 2, 2018.

Space Power and China's Rise – A Strategic Perspective, Chennai Center for China Studies, June 8, 2018.

Academic Course

Taught two case study classes on Crisis Management in Complex Systems for students of corporate strategy at the Indian Institute of Management Bangalore, February 9, 2019.



Memberships

Member, Board of Trustees, RBNMS Group of Educational Institutions, Bengaluru.

Member, Governing Council of the MVJ College of Engineering, Bengaluru.

Other Contribution

One of the monographs authored and brought out as an ISSSP/NIAS Publication "Space, War and Security – A Strategy for India" has been translated into Chinese and published in China. Royalties for this have been paid to NIAS and the author.



Srikumar Pullat

Visiting Professor
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Joined NIAS on: May 24, 2017

Research Areas: Unmanned Aerial Systems

Lectures

Engineering and Technology Challenges in the Design and Development of an Aeronautical System Configuration – The 'Nirbhay' Experience, Distinguished Lecture Series, Department of Aerospace Engineering, Indian Institute of Science, Bengaluru, September 28, 2018.

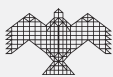
Panelist in a discussion on Science for Diplomacy and Diplomacy for Science, NIAS, September 24, 2018.

Challenges in Managing a Multi-Disciplinary System Development Project NIAS-DST Training Programme for Women Scientists on Science and Sustainability in India, September 3, 2018.

Memberships

Member, Aeronautical Society of India.

Member, Astronautical Society of India.



PM Soundar Rajan
Visiting Professor
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Joined NIAS on: May 17, 2017

Research Areas: Cyber Security, Advanced Weapons Systems

Lectures

Tactics and Technologies in the Recent Projection of Air Power over the LOC, NIAS, March 22, 2019.

Cyber Security, NIAS-DST Training Programme on Science, Technology and Innovation Policy, November 21, 2018.

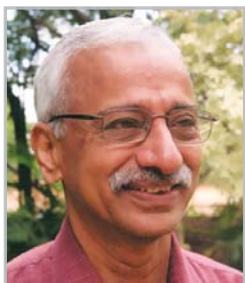
Self-Reliance in Defence, NIAS-DST Training Programme on Policy for Science and Science for Policies, October 3, 2018.

Other Information

Chaired a session on "Aerospace Sensors" during Aero India Seminar, Bengaluru, February 18, 2019.

Organized and conducted a one-week course on Avionics and Electronic Warfare Systems to Executives of Bharat Electronics along with Institute of Defence Scientists and Technologist during September 2018. Delivered talks on Avionics Systems, Cyber Security and AI and Weapon Platform Upgrades.

Trained two Master's Students from Christ University and published NIAS reports on Airpower Aspects of the Neighbourhood and Digital Democracy.

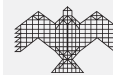


N Ramani
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Joined NIAS on: November 1, 2007

Research Areas: SSA Modelling and Computation



Lalitha Sundaresan
Visiting Professor
School of Conflict and
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Joined NIAS on: May 14, 2008

Research Areas: Satellite Imagery Analysis

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M Mayilvaganan
Associate Professor
School of Conflict and
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Joined NIAS on: November 2, 2010

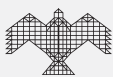
Research Areas: Strategic and Security Issues Concerning India and India's Neighbourhood, Indian Ocean/Indo-Pacific, Foreign Policies of China, Japan and the US, Security Perspective of Climate Change, Refugees Issues and Non-Traditional Security Issues.

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Lectures

Enhancing India-Vietnam Ties: Examining Possibilities and Potential Agenda of People to People Connectivity, International Conference on India-Vietnam – Strengthening Ties, Teen Murti Memorial Museum and Library and Centre for Vietnam Studies, New Delhi, July 29, 2018.

Dialogue Without Commitment: Why Southern Thailand Peace Process is Fragile?, NIAS-KAS Workshop on Armed Conflict, Peace Audit and Early Warning, Stella Maris College, Chennai, July 10, 2018.



Amit Mukherjee
Assistant Professor
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Joined NIAS on: October 3, 2017

Research Areas: Defence and Strategic Studies - Geo-Spatial Analysis.

Lectures

Lecture on Maritime Security – Enhancing Coastal Policing – NTRO OFFICE, December 11, 2018.

Presentation on International Cooperation in Space Technology: An Abstraction with Fuzzy Logic Analysis, Capacity Building in Emerging Trends in Remote Sensing and Geo-Informatics (CBE-4) Sub-Theme: Advances in RS & GIS, ISPRS, November 23, 2018.

Lectures (2) on Application of GIS for Counter Insurgency and Counter Terrorism, Internal Security Academy – Mount Abu, November 17, 2018.

Presentation on Feature Classification Using Object Based Image Analysis: Defence Applications, India National Cartographic Association – INCA Hyderabad, October 22, 2018.

Lecture on Object Based Image Analysis in GIS, Geospatial Intelligence Asia 2018, Speaker, Conference Geo-Spatial World Forum, New Delhi, June 4 and 5, 2018.

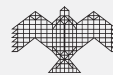
Memberships

Member, Board of Governors, Internal Security, Safety and Protection Industry Association (2018 onwards).

Member, Advisory Board - Heidelberg Institute for International Conflict Research (HIIK-2018 onwards).

Honorary Fellow, National Security Studies Center, University of Israel (2016 to 2019).

Associate Member, IACSIT, Computer Science, Singapore (2016 onwards).



**Prakash
Panneerselvam**
Assistant Professor
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Joined NIAS on: December 1, 2015

Research Areas: Defence and Strategic Studies – Maritime Security

Lectures

Idea of Global Partnership: Role of India-Japan Maritime Cooperation in 2025, International Conference on India and Japan: Growing Partnership and Opportunities for Cooperation” organized by Centre for Public Policy Research in collaboration with Consulate-General of Japan in Chennai, Kochi (Kerala), February 27, 2019.

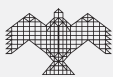
Maritime Security and Blue Economy: Perspective for Comprehensive Approach, National Seminar on Maritime Security of India: Challenges and Policy Options, VK Krishna Menon Study Centre for International Relations Department of Political Science, University of Kerala, January 30, 2019.

East Asia and Indo-Pacific Region, ISSSP Panel Discussion on the Indo-Pacific, January 11, 2019.

Blue Economy with Special Reference to Karnataka, National Conference on Coastal Security: Challenges and Concerns, Mangalore University, April 21, 2018.

Academic Course

Trade Network in Indian Ocean 1500 –1800 (August 2018 to December 2018).



Members of the Consciousness Studies Programme



Sangeetha Menon
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School of Humanities

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Joined NIAS on: January 8, 1996

Research Areas: Consciousness Studies

Lectures

Gandhi and the Psychology of Self: Consciousness and Selflessness as the Fundamental principles of Wellbeing, Keynote Lecture, Symposium organised by Indian Council of Medical Research and National Gandhi Museum, New Delhi, March 26, 2019.

Science and Consciousness at the Edge of Philosophy, The National Science Day Lecture, Indian Institute of World Culture, Bengaluru, February 28, 2019.

The Fundamental Puzzle of Self, and Its Ontological Primacy, Keynote Lecture at the Seminar organised by IIT Kanpur on Self, February 25, 2019.

Two Invited Presentations (with live telecast) in New Delhi for the Mega Public Culture-Arts-Knowledge Festival organised by ARTH – Zee TV/IGNCA. The Focus topics were Consciousness, and Kashmir Saivism philosophy, February 10 and 11, 2019.

Expressions of Life, Living and the Self, Introduction to the Public Panel Discussion organized by NIAS CSP, January 17, 2019.

Mind, Body and Self: A Discussion on Rationality, Resource Person's Lecture, UGC Orientation Course, University of Kannur, November 20, 2018.

Beyond Thinking Structures: What Exists Between Our Body and Mind?, Infosys Corporate Headquarters, Bengaluru, October 9, 2018.

Delineating Body-Mind-, Self-Processes, and Its Philosophy and Psychology, Mount Carmel College, Bengaluru, September 15, 2018.

Debates on the Self in Consciousness Studies, and an Introduction to NIAS Consciousness Studies Programme, Interactive Session with the Research Faculty and Vice President of Program, Fetzer Institute, Kalamazoo, MI, USA, April 10, 2018.

Indian Philosophical Approaches to Mind and Consciousness, Department of Comparative Religion, Western Michigan University, MI, USA, April 6, 2018.

Academic Courses

Tracing the Self – Local Phenomenologies and Indigenous Healing Traditions of Kerala, NIAS 2018-CSP-01 (3 credits).



Thinking Experiences and Experiencing Thoughts: Foundations of Philosophy in Framing Our Minds, Beliefs and Actions, NIAS 2018-CSP-02 (4 credits).

Delineating Body-Mind, Self-Processes, and Its Philosophy and Psychology, Course module for Psychology Masters Students of Mount Carmel College, Bengaluru, September 15, 2018.

What is it to Think and Do Philosophy?, Course module for Research Methodology Course, First Semester 2018, NIAS, August 14, 2018.

Mind and Its Methods in Psychology and Arts, Course module for Research Methodology Course, First Semester 2018, NIAS August 16, 2018.

Training Course

Coordinator for the NIAS-DST Training Programme on Policy for Science and Science for Policies for Directors/ Divisional Heads/Chief Scientists/Senior Scientists, October 1 to 5, 2018.

Funded Projects

"A Study of Consciousness Measures and Synchrony between Brain and Cardiovascular Dynamics in Yoga Experience" funded by DST-SATYAM (Department of Science and Technology – Science and Technology of Yoga and Meditation) is an interinstitutional project with Dr Nithin Nagaraj as PI and Prof Sangeetha Menon as Co-PI (2018-2021), and collaborators from the Indian Institute of Science, and National Institute of Mental Health and Neurosciences.

"Causal Structures, Vimarsa and the Pratyabhijna: A Comparative Research Study on Kashmir Saivism and Information Theory" funded by the Tata Education Trust – Rs.161.15 lakhs over four years (2018-2022). Prof Sangeetha Menon is the PI of the Project.

"Documentation and Study of Alternate and Indigenous Psychiatric and Psychological Practises of Healing and Wellness (With A Pilot Project of Model Building Focusing on Kerala State) funded by the Tata Education Trust – Rs.125.91 lakhs over four years (2018-2022). Prof Sangeetha Menon is the PI of the Project.

Funding from ICPR (Indian Council of Philosophical Research) for a study on "Kashmir Saivism, Self-reflection and Aesthetics", 2017-2019. Prof Sangeetha Menon is the PI of the Project (Rs.4 lakhs).



BV Sreekantan

Honorary Visiting
Professor
School of Humanities

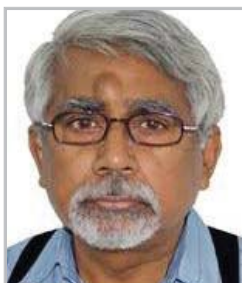
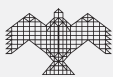
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Joined NIAS on: August 6, 1992

Research Areas: Scientific and Philosophical Studies on Consciousness

Award

Lifetime Achievement Award by the Karnataka Science and Technology Academy on February 1, 2019.

**Sisir Roy**

Honorary Visiting
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Pai Chair Visiting
Professor till May 31,
2018)
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Joined NIAS on: November 5, 2014

Research Areas: Quantum Reality and Consciousness

Lectures

Scope of Consciousness Studies in Quantum Theory, Philosophy Department, Jadavpur University, March 8, 2019.

Quantum Entanglement and the Philosophy of Relations, Philosophy Department, Jadavpur University, March 6, 2019.

Intrinsic Property, Quantum Vacuum and Shunyata, Philosophy Department, Jadavpur University, March 5, 2019.

Keynote Address, International Conference on the Advances of Consciousness Studies, Scope of Consciousness Studies in Quantum Theory, Monforte College, Bengaluru, December 29, 2018.

Quantum Entanglement and the Philosophy of Relations, National Seminar on Buddhist Studies, Central Institute of Higher Tibetan Studies, December 19, 2018.

Scope of Consciousness Studies in Quantum Theory, Symposium on Quantum Physics, Neuroscience and Buddhist Philosophy, Tibet House, New Delhi, December 2, 2018.

Lecture at Inauguration Function, Modern Physics and Ancient Indian Wisdom, Symposium on Quantum Physics, Neuroscience and Buddhist Philosophy, Tibet House, New Delhi, December 1, 2018.

Special Lecture, Quantum Ontology and Doctrine of Two Truths in Buddhism, Symposium on Quantum Physics, Neuroscience and Buddhist Philosophy, Tibet House, New Delhi, December 1, 2018.

Quantum Ontology and Insights from Buddhist Philosophy, National Symposium on Quantum Physics and Brain Function held at Guwahati, organized by Tibet House, New Delhi and LBS Foundation, Guwahati, September 25, 2018.

Bridging Modern Science and Philosophy, Inaugural Session, National Symposium on Quantum Physics and Brain Function held at Guwahati, organized by Tibet House, New Delhi and LBS Foundation, Guwahati, September 24, 2018.

Keynote Address, Quantum Reality and Shunyata, National Symposium on Quantum Physics and Brain Function held at Guwahati, organized by Tibet House, New Delhi and LBS Foundation, Guwahati, September 24, 2018.



Awards

Senior Homi Bhabha Fellowship by the Homi Bhabha Fellowships Council, Mumbai for a period of two years with effect from June 1, 2018.

Appointed as one of the editors for American Journal of Modern Physics.



Nithin Nagaraj

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Joined NIAS on: October 15, 2015

Research Areas: Causality, Brain Complexity and Consciousness

Lectures

The Art and Science of Cryptography: From Ancient to Modern Ciphers, NIAS, March 28, 2019.

Introduction to Wavelets and its Applications to Signal/Image Processing, as a part of 2-day 'Foundation Course on Image Processing', Department of Medical Electronics, Ramaiah Institute of Technology, Bengaluru, March 12, 2019.

Science of Consciousness, All India Radio Bengaluru, aired on March 8, 2019 at 7.45 pm IST.

What Can We Really Know? – The Limits of Knowing, Amrita Vishwa Vidyapeetham, Amritapuri Campus, Kollam, January 4, 2019.

What Can We Really Know? – In Praise of C.I., Reading Glass, NIAS, December 27, 2018.

From Brains to Machines: The Puzzle of Consciousness, Mahindra Research Valley, Mahindra World City, Chennai, October 29, 2018.

The Limits of Knowing, The Socratic Club, Mahindra World City, Chennai, October 28, 2018.

Science of Consciousness, NIAS-DST Training Programme on Policy for Science and Science for Policies, October 5, 2018.

What is Mathematics?, Mallya Aditi International School, Yelahanka, Bengaluru, August 29, 2018.

Causality Testing: Practical Approaches and Challenges, Discussion Meeting on 'Causally Open Systems', PPISR Campus, Bidlur, Greater Bengaluru, July 21, 2018.

ICA, Foundations of Information Theory and Applications to Machine Learning, Workshop on Foundations of Linear Algebra and Machine Learning, PES Institute of Technology, Bengaluru South Campus, July 17, 2018.



Introduction to Chaos and Chaos-Computing, as a part of "Celebrating Computing" technical talk series of the IEEE Computer Society Bengaluru Chapter, hosted by National Institute of Engineering (NIE), Mysuru as a part of their NIE Summer of Code 3.0, June 2, 2018.

Foundations of Matrix Theory, SVD & PCA With Applications, Workshop on Foundations of Data Science: Theory and Applications, PES Institute of Technology, Bengaluru South Campus, May 17, 2018.

From Fourier to Wavelets and Beyond, Guest Lecture, Department of Electronics and Communications Engineering, PES University, Bengaluru, April 20, 2018.

Claude E Shannon and the birth of Digital Computing and Information Science, Inaugural Talk of "Celebrating Computing" technical talk series organized by IEEE Computer Society Bengaluru Chapter, PES University, Bengaluru, April 7, 2018.

Academic Courses

Causality Testing and Its Applications (January to May 2018) Credit Hours: 2 (Reading course, 2 contact hours/week).

Topics in Information Theory, Learning and Causal Inference (August to November 2018) Credit Hours: 2 (Reading course, 2 contact hours/week).

Learning in the Presence of Noise (January to April 2019) Credit Hours: 2 (Reading course, 2 contact hours/week).

Training Course

Co-coordinator for the NIAS-DST Training Programme on Policy for Science and Science for Policies for Directors/ Divisional Heads/Chief Scientists/Senior Scientists, October 1 to 5, 2018.

Memberships

Executive Committee of the IEEE Computer Society Bangalore Chapter (2018 onwards).

Invited member, Advisory Council of METI: Messaging Extra Terrestrial Intelligence International, San Francisco, CA, USA, in the capacity as an expert in complexity, information science and signal processing (May 2018 onwards).

International Conference Presentations

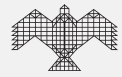
A Novel Compression Based Neuronal Architecture for Memory Encoding, Computing and Networking for Smart Healthcare (CoNSH) Workshop in International Conference on Distributed Computing and Networking (ICDCN'19), Bengaluru January 4, 2019 (along with Ms Aditi Kathpalia).

Multiscale Analysis of Heart Rate Variability Using Subsymmetry and Effort-to-Compress Complexity Measures, INDICON-2018, Amrita Vishwa Vidyapeetham, Coimbatore, December 17, 2018 (along with Ms Srilakshmi P, Mr Karthi Balasubramanian, Mr Sandipan Pati)

Detecting Anticipating and Complete Synchronization using Causality Testing Methods, Conference on Nonlinear Systems and Dynamics (CNSD-2018), School of Computational and Integrative Sciences, Jawaharlal Nehru University, New Delhi, October 12, 2018 (along with Ms Aditi Kathpalia)

Deciphering Anticipation Synchronization using Causality Testing Methods}, International Conference on Causality in the Neuro- and Psychological Sciences, Univ. of Antwerp, Belgium, September 20, 2018 (along with Ms Aditi Kathpalia).

Structured Compressed Sensing Matrices for Causality Detection, 3rd IEEE International Conference on Recent Trends in Electrical and Information Communication Technology (RTEICT 2018), Bengaluru May 18 and 19, 2018 (along with Mr Abhijith MA, Ms Aishwarya N, Ms Aswathi G, Ms Krishnapriya M, Ms Aditi Kathpalia).



Other Information

Invited member of Technical Programme Committee of Computing and Networking for Smart Healthcare (CoNSH) workshop as a part International Conference on Distributed Computing and Networking (ICDCN '19), Bengaluru January 4, 2019,



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Joined NIAS on: September 6, 2018

Research Areas: Tribal Medicinal Knowledge

Lecture

Forest Policies and the Tribal Medicinal Knowledge – A Study of Wayanad District, Young Scholars Congress, University Campus, Kerala, March 17, 2019.



Shankar Rajaraman

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Joined NIAS on: August 1, 2018

Research Areas: Sanskrit Poetry and Indian Aesthetics

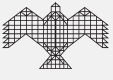
Lectures

Applying the Principles of Steganography and Pattern Poetry for Deciphering Faulty Manuscript Readings – A Case Study, National Conference on Manuscripts on Science and Technology, ISKCON, Bengaluru, March 27, 2019.

The Greatness of Shivarathri as Expounded in Sanskrit Poetry, Shri Rama Mandira, Bengaluru, March 1, 2019.

Poetic Conventions in the Works on Banabhatta, National Conference on Banabhatta and His Works, Karnataka Sanskrit University, Bengaluru, January 12, 2019.

Intratextuality in Sanskrit Texts, Reading Glass Series, NIAS, January 11, 2019.



Shaiva Poems from Kashmir, Hindu Sadara Kshemabhivruddhi Sangha, Bengaluru, December 27, 2018.

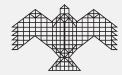
Academic Courses

Kashmir Shaivism, Causality, and the Search for the Self - Subtitle: The Pratyabhijna School of Indian Philosophy and Its Importance for Understanding Consciousness and Aesthetic Experience (August 2018 to November 2018).

Lecture on The Interplay of Form/Sound (Shabda) and Content/Sense in Literature – A Sanskrit Poetics Perspective, Thinking Experiences Course, September 12, 2018.

Award

Presidential Award – Maharshi Badrayan Vyas Samman for Sanskrit, 2019.



Members of the Philosophy in Action Programme



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Joined NIAS on: August 29, 2016

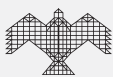
Research Areas: Philosophy

Lectures

Various public lectures on philosophy were delivered across the country. The aim of these lectures was to increase public engagement with philosophy and to show that philosophy as a tool has great value in navigating the everyday lives of normal citizens. A couple of lectures conducted over the past year are given below as examples.

Exploring Exciting Texts XIV, Nagarjuna's Mulamadhyamakarikā, British Council, Bengaluru, September 15, 2018.

Happiness, Public lecture, Indian Women's Association, Chennai, October 23, 2018.



Members of the Heritage, Science and Society Programme



Sharada Srinivasan
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Joined NIAS on: June 10, 2001

Research Areas: Archaeometallurgy.

Lectures

Archaeometric and Archaeotechnological Insights on Bronzes from Southern India, International Women's Day Lecture, Indian Institute of Astrophysics, Bengaluru, March 8, 2019.

Archaeometallurgical Insights and Comparative Studies between Southern India and Sri Lanka, University of Kelaniya, Colombo, March 2, 2019.

Archaeotechnological Insights on South Indian Metals Heritage, Keynote Address, National Science Day, ISRO Satellite Centre, Bengaluru, February 28, 2019.

Valedictory Address, Innovation of Iron Technology and Its Impact on Society, Dravidian University, Kuppam, February 26, 2019.

The Nataraja Bronze at the Confluence of Art, Science and Dance, National Conference on Science in Performing Arts, IUCAA, Pune, January 13, 2019,

Inaugural Address, Conference on The Relevance of Archaeology for 21st Century India, NIAS, July 24, 2018.

Awards, Memberships

Padma Shri Award, 2019.

Co-Awardee, Insight Grant, Canada, 2019.

Standing Committee Member, Conference of Beginning of the Use of Metals and Alloys.

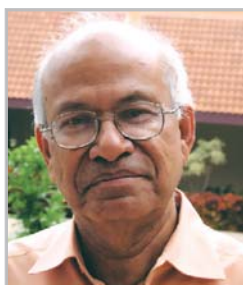
Advisory Committee Member, CSIR-Traditional Knowledge Digital Library.

Advisory Committee Member, CV Seshadri Endowment, Anna University.

Advisory Board Member, South Asia Centre, University of Exeter.

University of Exeter Fellow.

Subject Expert, Surabhi Foundation '100 Scientific and Cultural Dimensions' Audio-visual Project



S Ranganathan
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Joined NIAS on: July 2, 2004

Research Areas: Materials Heritage.

Major Research Contribution for the Academic Year

A new initiative of bridging Science and Humanities in support of Dr Jatinder Yakhmi of Department of Atomic Energy and Dr Ashutosh Sharma, Secretary, Department of Science and Technology, Government of India.

In collaboration with Prof M Sai Baba Trinity-India's Tryst with Plutonium.
In collaboration with Dr Jai Asundi of CSTEP Artificial Intelligence in Discovering New Materials.

Publication of second edition of High Entropy Alloys by Elsevier 2019, coauthors JW Yeh, S Ranganathan, BS Murty and Pinaki Bhattacharjee.

Japanese translation of book on New Geometries for New Materials Maruzen 2019, editors Eric Lord, Alan Mackay and S Ranganathan. Preface by S Ranganathan.

Membership

Member, Editorial Board, Materials Transactions, Iron and Steel Institute, Japan.



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Joined NIAS on: August 5, 2002

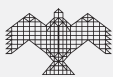
Research Areas: Ancient Kannada Literature.

Award

Dr MM Kalburgi Award, 2018.

First General President, All India Ancient Kannada Literature Conference, Shravana Belagola, Hassan District, Karnataka, June 2018.

Award of Certificate of Honour for the Year 2016, Department of Higher Education, Ministry of Human Resource Development, Government of India.



Srikumar M Menon
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Joined NIAS on: March 1, 2016

Research Areas: Megaliths.

Lectures

A Unique Sun-facing Rock-cut Structure at Badami, International Symposium on Astral Sciences in Asia, Indian Institute of Technology, Bombay, January 24, 2019.

Motion in Stasis: Incorporating Movement in Architecture, Reading Glass, NIAS, December 5, 2018.

Megaliths of Prehistoric Communities in South India, Keynote Address, Khasi History in Stone: The Robin Laloo Memorial Seminar on Heritage and Legacy, Department of Environment and Traditional Ecosystems, MLCU, Shillong, April 10, 2018.



Smriti Haricharan
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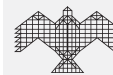
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Joined NIAS on: January 2, 2017

Research Areas: Archaeology.

Lecture

Mapping the History of Iron Age-Early Historic Burials of Southern India, 2018 European Association of South Asian Art and Archaeology, Italy, July 2-6, 2018.



MB Rajani
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Joined NIAS on: January 1, 2015

Research Areas: Geospatial Research for Cultural Heritage.

Lectures

The Need for a National Geo-Spatial Database of Cultural Heritage Landscapes, Conference on Urban Renewal of Heritage Cities, Satish Dhawan Auditorium, Indian Institute of Science, Bengaluru (organized by Mysore School of Architecture and Liverpool School of Architecture), July 28, 2018.

Five Degrees of Variation at Nalanda, Public Lecture, NIAS, August 13, 2018 (along with Dr Viraj Kumar, Visiting Professor, Divecha Centre for Climate Change, Indian Institute of Science).

What Can Satellites Reveal about Our Past?, Sri Vidya Kendra, Smart School, Bengaluru, November 22, 2018.

Site Protection Boundaries: A Double-Edged Sword, Conference on EU-INDIA Partnership for Cultural Heritage Conservation, National Museum, New Delhi, December 5, 2018.

Five Degrees of Variation at Nalanda, Nightingales Elders Enrichment Centre, Bengaluru, February 23, 2019 (along with Dr Viraj Kumar, Visiting Professor, Divecha Centre for Climate Change, Indian Institute of Science).

Academic Courses

One credit course (as part of Foundation Course August to December 2018) on Traditional Textiles.

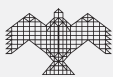
Two credit course on GIS for Spatial Data Visualization and Analysis (January to April 2019).

Other Information

The project titled Exploring India's Medieval Coastline Using Geospatial Analysis and Historical Records, funded by Ministry of Earth Sciences, Government of India started in April 2018. Presented the project progress in a PAMC meeting in INCOIS, Hyderabad on September 27, 2018. The committee appreciated the status of project.

Made a proposal presentation at Indian Institute of Remote Sensing, Dehradun, of a project titled Cultural Landscape Research: Characterising Built Heritage Sites, submitted to ISRO RESPOND scheme (budget 56k), March 28, 2019.

The project title Advancing Landscape Archaeology Using High-resolution Digital Elevation Models, whose original duration was January 2016 to December 2018; applied for extension and got it till January 2020.



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Joined NIAS on: January 1, 2018

Research Areas: Archaeology.

Lectures

A Comparative Analyzes of Dhokra Casting and Chola Bronze Casting: A Technological Approach, National Seminar on Technology and Society in Central India, Department of History, Indira Gandhi National Tribal University, Amarkantak, Madhya Pradesh, March 1, 2019.

A Comparative Approach to Understanding the Current Techniques of Iron Workers of South and West India; A Case Study of Karnataka and Gujarat, International Conference on Heritage of South and South East Asia: Issues on Musealization from Department of Museology, University of Calcutta, Kolkata, November 15, 2018 (along with Prof Sharada Srinivasan)

A Comparative Study of Lost-Wax technique of South Indian Bronze Casting and Manipur Brass Casting, Conference on Relevance of Archaeology for 21st Century India, NIAS, July 20, 2018.

An Archaeo-Experimental Approach to Understanding the Indian Metal Heritage of Small-Size Bronze Image of Harappan Culture, INAE- Engineering Heritage-Meeting Study Group Annual Meeting and Workshop on Digital Museum of Metallic Objects, Deccan College, Pune, July 24, 2018.

Investigating Causes for the Small Size of Bronze Images in the Harappan Civilization: A Technological Perspective, International Conference in the Growth and Development of Indian Culture: Historical and Literary Perspectives (Prehistoric Period – 12th Century CE), Dr SR Rao Memorial Foundation for Indian Archaeology, Art and Culture, Bengaluru, July 1, 2018.

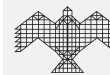
Lost-Wax Method (South Indian Bronze), Christ University, Bengaluru, May 23, 2018.

Outreach

Was a resource person in organizing a “Playtime at National Museum” in National Museum, New Delhi, June 1 to 3, 2018.

Award

The Historical Metallurgy Society, UK, RF Tylecote Award on title “Understanding the Ancient Leather Air Bellows through Ethno-Techno-Archaeological Lens; with special reference to Sholapur, Maharashtra, India.



Asmita Mohanty
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Joined NIAS on: October 1, 2018

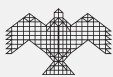
Research Areas: Geology.

Lecture

Introduction to Remote Sensing and Its Application, Jawaharlal Nehru Planetarium, Bengaluru, October 4, 2018.

Academic Course

Two credit course on Coastal Geomorphology (February to May 2019).



Members of the Animal Behaviour and Cognition Programme



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Joined NIAS on: September 1, 2001

Research Areas: Primatology, Human Animal Studies, Conservation Biology and Human Wildlife Conflict.

Lectures

The Science of Studying Animal Behaviour, DST-INSPIRE Workshop, Mar Ephraem College of Engineering and Technology, Marthandam, October 9, 2018.

Perceptions of tourists and residents towards provisioning primates, 27th Congress of the International Primatological Society, Nairobi, August 24, 2018 (along with Dr Sengupta A).

How Dependent is the Rhesus Macaque on Agroecosystems?: Insights for Mitigating Human-Rhesus Macaque Conflict in India, 27th Congress of the International Primatological Society, Nairobi, August 21, 2018 (along with Mr Anand S).

For the Love of Selfies, Monkeys and Food: Initiation and Recurrence of Human-Primate Encounters in Bengaluru, Southern India, 27th Congress of the International Primatological Society, Nairobi, August 20, 2018 (along with Dr Sengupta A).

Awards, Memberships

Executive Committee Member, Governing Board, Yakshi (2016 onwards).

Commission Member, IUCN SSC Primate Specialist Group – South Asia (2013 onwards).

Editorial Board Member, *Resonance* (2018 onwards).



Anindya Sinha
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Joined NIAS on: November 15, 1996

Research Areas: Mammalian Behavioural Ecology and Cognitive Psychology, Animal Molecular and Behavioural Genetics, Evolutionary Biology, Conservation Biology, Urban Ecologies, Animal Studies, Performance Studies and Philosophy of Biology.

Lectures

Compassionate Bioethics for the Future, Panel Discussion on Science and Society: The Future, to celebrate National Science Day, NIAS, February 28, 2019.

A Rolling Stone Does Gather Some Moss – Reflections on a Primate Life, Keynote Lecture, Regional Young Investigator Meeting (YIM) 2019, Presidency University, Kolkata, February 5, 2019.

Reaching Out: Intentional and Referential Multimodal Communication between Wild Bonnet Macaques and Humans, Plenary Talk, Understanding Behaviour 2019, Indian Institute of Science Education and Research Kolkata, Mohanpur, January 11, 2019.

To Be or Not To Be, That is the Question: The Urban Macaque in India, Keynote Lecture, Workshop on Urban Ecologies: Feral, Cultivated, Wild; Department of Geography, University of Cambridge, Cambridge, UK, November 22, 2018.

Ecology Proposes, Behaviour Disposes: Phenotypic Flexibility in Social Behaviour and Life-History Strategies in Wild Bonnet Macaques, 27th Congress of the International Primatological Society, Nairobi, Kenya, August 22, 2018.

Not in Their Genes! Behavioural Transmission and Cultural Traditions in Wild Bonnet Macaques, 27th Congress of the International Primatological Society, Nairobi, Kenya, August 22, 2018.

NIAS: The Way Ahead, Foundation Day Address, NIAS, June 20, 2018.

Academic Courses

Four four-credit courses on Doctoral Thesis Proposal Writing, consisting of discussions and presentations for NIAS doctoral degree students – August to December 2018 (with Dr Maan Barua).

A six-lecture module on Methodological Considerations in Human-Environmental Interaction Studies as part of a four-credit course on Research Methodology for NIAS doctoral degree students – October to November 2018 (with Dr Maan Barua).

A three-credit course on Behavioural Ecology, consisting of lectures, discussions and paper presentations for NIAS doctoral degree students – October to December 2018 (with Dr Maan Barua).



A two-credit course on Philosophy of Science, Ecology and Conservation, consisting of lectures, paper presentations and discussion sessions for Master's degree students of the Postgraduate Programme in Wildlife Biology and Conservation, National Centre for Biological Sciences, Bengaluru, October 2018 to March 2019.

A three-credit course on Animal Behavioural Ecology, consisting of lectures, field methods, paper presentations and discussion sessions for Master's degree students of the Postgraduate Programme in Wildlife Biology and Conservation, National Centre for Biological Sciences, Bengaluru, February to May 2019.

Awards, Memberships

International Advisor, Twenty-Ninth International Biology Olympiad, Teheran, Iran, July 7 to 22, 2018.

Resource Person, Indian National Biology Olympiad, 2017 to 2018 and 2018 to 2019.

Homi Bhabha Fellowship, Homi Bhabha Fellowships Council, Mumbai, January 2018 to December 2020.

Adjunct Professor, Indian Institute of Science Education and Research, Kolkata, April 2018 onwards.

Adjunct Professor, Cotton University, Guwahati, March 2019 onwards.

Adjunct Teaching Faculty, National Centre for Biological Sciences, Bengaluru, August 2010 onwards.

Adjunct Faculty, Centre for Neuroscience, Indian Institute of Science, Bengaluru, June 2011 onwards.

Scientific Advisor and Research Coordinator, Dhole's Den Research Foundation, Bandipur National Park, October 2012 onwards.

Honorary Research Fellow, School of Humanities, University of Exeter, Exeter, United Kingdom, August 2015 onwards.

Adjunct Faculty, Nature Conservation Foundation, Mysuru, July 2017, onwards.

Member, Research Advisory Committee, Department of Life Sciences, Presidency University, Kolkata, September 2018 onwards.

Member, Conservation Committee, International Primatological Society, January 2019 onwards.

Member, Board of Studies, Postgraduate Diploma Course in Bioscience Policy Research, Institute of Bioinformatics and Applied Biotechnology, Bengaluru, January 2019 onwards,

Vice-President, Organising Committee, Asian Primate Symposium 2020, to be held in Guwahati, in February 2020, February 2019 onwards,

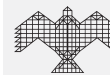
Member, Steering Committee, Postgraduate Programme in Wildlife Biology and Conservation, National Centre for Biological Sciences, Bengaluru, July 2004 onwards,

Vice President, Indian Association for Teachers in the Biological Sciences, Mumbai, May 2009 onwards,

Member, IUCN/SSC Primate Specialist Group – South Asia Section, Species Survival Commission of the International Union for the Conservation of Nature, Gland, Switzerland; March 2013 onwards.

Associate Editor, International Journal of Mind, Brain and Cognition, June 2014 onwards.

Member, Academic and Research Committee, Trans-Disciplinary University for Health and Allied Sciences, Bengaluru, August 2016 to August 2018.



Member, Partnership Committee, Trans-Disciplinary University for Health and Allied Sciences, Bengaluru, August 2016 to August 2018.

Member, Institutional Ethics Committee, Institute of Public Health, Bengaluru, April 2017 onwards.

Member, Review Panel for Research in Life Sciences, Trans-Disciplinary University for Health and Allied Sciences, Bengaluru, August 2017 to August 2018.

Reviewer for Animal Cognition, Conservation and Society, International Journal of Developmental Biology and Psychological Studies.



VV Binoy

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Joined NIAS on: September 2, 2010

Research Areas: Animal Behaviour, Social Cognition, Decision Making and science communication.

Lectures

'Fishy Decisions'! Determinants of Social Decision Making in Climbing Perch, an Air-Breathing Freshwater Fish, Plenary Talk, 42nd Annual Conference of the Ethological Society of India and the Symposium on Animal Behaviour, Biodiversity and Human Future, University of Calicut, Kozhikode Kerala, December 2018.

Social Behaviour and Cognition in Fishes. Science Academies, Workshop on Cognitive and Behavioral Sciences, Indian Academy College, Bengaluru, October 4, 2018.

Social Cognition, Science and Policies, NIAS-DST Training Programme on Policy for Science and Science for Policies for Directors/Divisional Heads/Chief Scientists/Senior Scientists, October 3, 2018.

Life Science Education – The Way Forward, Maharani's Science College for Women, Bengaluru, July 20, 2018.

Outreach

Organized Workshop on Integrating Animal Cognition with Conservation Science. Student Conference on Conservation Sciences-2016, Indian Institute of Science, Bengaluru, September 29, 2018.

One-day Workshop Dialogue with the Scientist-Communicators at NIAS in Collaboration with Swissnex India September 28, 2018.

Organized Roundtable Meeting and Public Interaction Meeting on Flood in Kerala and Kodagu, NIAS, September 18, 2018 (along with Prof M Sai Baba).



Organized one-day Workshop on Conservation Psychology. University of Transdisciplinary Health Sciences and Technology, Bengaluru, June 4, 2018.

Roundtable Meeting on Exposure to Radiation, How Low it should be? Risk of Radiation and Communicating the Reality, NIAS, May 17, 2018 (along with Prof M Sai Baba).

Roundtable Meeting on Artificial Intelligence and Society at NIAS, April 9, 2018 (along with Prof M Sai Baba).

Academic Course

One credit course on Science Communication – Principles, Practices and Future Challenges for doctoral degree and postgraduate students August – November 2018 (along with Prof M Sai Baba).

Awards, Memberships

Fellow, Intercontinental Academia (ICA), University-Based Institutes for Advanced Study, Birmingham University UK and Nanyang Technological University, Singapore.

Joint Secretary, Ethological Society of India.

Research Affiliate, Centre for the Study of Neuro-Economics, George Mason University, USA.

External Affiliate, Krasnow Institute of Advanced Study, George Mason University, USA.



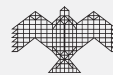
Shaurabh Anand

Post-doctoral
Associate
School of Natural
Sciences and
Engineering

Joined NIAS on: February 12, 2019

Research Areas: Human Wildlife Conflict, Land Use Changes, Landscape Ecology.

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Viswanath Varma
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Associate
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Engineering

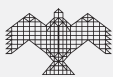
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Joined NIAS on: July 31, 2018

Research Areas: Behavioural Genetics, Animal Behaviour, Animal Cognition and Personality.

Lecture

Exploring the Link Between Personality Traits and Lateralized Utilization of Brain Hemispheres in Deccan Mahseers (*Tor khudree*), National Symposium on Animal Behaviour, Biodiversity and Human Future, Ethological Society of India, University of Calicut, December 5, 2018.



Members of the Complex Systems Programme



Janaki Balakrishnan
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Engineering

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Joined NIAS on: July 10, 2012

Research Areas: Modelling Climate Change Impact on Ecological Systems, Dynamics of Charged Bubbles Under Acoustic Forcing, Coupled Neuron Dynamics, Bursting Oscillations, Hearing Research, Physics of Sensory Systems, Nonlinear Oscillations and Complex Behaviour in Various Systems.

Lecture

Modelling Complex Interactions in Natural Systems, 2nd Thoughtworks Engineering for Research Symposium, Pune, January 19, 2019.

Academic Courses

Introduction to Dynamical Systems Theory (MA 278), Department of Mathematics, Indian Institute of Science (January to May 2019).

Other Contributions

Refereed manuscripts during the past year for the following journals:
Physical Review E (Published by the American Physical Society)
Scientific Reports (Nature Publishing Group)
Physica D: Nonlinear Phenomena (Published by Elsevier)
Physics Letters A (Published by Elsevier)

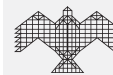


Sudharsana V Iyengar
Post-doctoral
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Joined NIAS on: July 4, 2016

Research Areas: Modelling Ecological Systems, Complex Systems.



Members of the Energy and Environment Programme



R Srikanth

Professor and Dean
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Engineering

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Joined NIAS on: August 22, 2016

Research Areas: Sustainable Development, Energy Governance, Environment, Minerals.

Lectures

Delivered lectures in several DST courses organized by NIAS as well as in the National Workshop on Public Policy Education conducted by Chinmaya University, Cochin.

Academic Courses

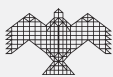
Taught a part of the "Proposal" course for PhD students in the August semester and a course on Energy and Environment Policy in the January semester.

Training Course

Coordinator for the 33rd NIAS Annual Programme for Senior Executives, January 7 to 12, 2019.

Memberships

Continues to serve as a member of the Department of Scientific and Industrial Research's Technical Advisory Committee for "A2K+ Studies" Program, in addition to serving as a member of task forces appointed by NITI Aayog for certain policy-oriented matters.



Sheela K Ramasesha
Principal Scientist
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Joined NIAS on: September 28, 2017

Research Areas: Renewable Energy Technologies, Pollution and Sustainability.

Lectures

Beyond the Boundaries of Chemistry, two talks in workshop organized by the Indian Academy of Sciences held at Providence Women's College, Calicut, October 29 to 31, 2018.

Academic Courses

A one credit course on "Power Generation Technologies – Pros and Cons", during first semester for NIAS doctoral students.

Gave lectures in "Research Methodology" course, during first semester for NIAS doctoral students.

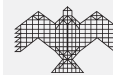
A four-credit course on "CFD Modelling of Pollutants", during the second Semester.

Training Course

Coordinator for the NIAS-DST Programme on Science and Sustainability in India for Women Scientists, September 3 to 7, 2018.

Other Contribution

Helped in conducting the KVPY examination at Jammu on November 4, 2018 where over 500 students appeared for the test.



Chanchal Chauhan
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Joined NIAS on: August 14, 2018

Research Areas: Air Pollution Modelling and Chemical Characterization.

Award

CSIR, Senior Research Fellowship in Earth Sciences (2013 to 2015).

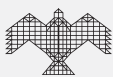
Memberships

Life Member, Indian Association for Air Pollution Control, New Delhi.

Life Member, Indian Aerosol Science and Technology Association, Bhabha Atomic Research Centre, Mumbai.

Outreach

To provide air quality data that form the basis for identification of polluted areas in and around the open cast mines and power plants, planning the strategies and development of policies/action plans for control and mitigation of air pollution.



Members of the Education Programme



Anitha Kurup
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Joined NIAS on: January 2, 1995

Research Areas: Higher Education, Education of the Gifted and Talented, Gender and Women in STEM.

Lectures

Indian Women in Science: Peek into the World of Work, Zakir Hussain Centre for Educational Studies, JNU, New Delhi, January 22, 2019.

Multiple Models to Identify and Mentor Gifted and Talented Children in India, Zakir Hussain Centre for Educational Studies, JNU, New Delhi, January 16, 2019.

Gender Equality Plans and Policies for Women in STEM, Indo-French 'Women in Science' Seminar organized by IFCPAR/CEFIPRA, CNRS Headquarters, Paris, France, September 15, 2018.

Gender Family and Society, Bangalore Social Sciences Forum, National College, Basavanagudi, Bengaluru, September 10, 2018.

Women and Science; Stubborn Exceptions in the DISHA, NIAS-DST Training Programme for Women Scientists on Science and Sustainability in India, September 5, 2018.

Women and Science in India at Hotel Ashok to the Florida International University Delegation and India Partners of FIU, August 30, 2018.

Nuances of Writing Research Papers, MS Ramaiah Institute of Management, Bengaluru, August 2, 2018.

Presentation of the NIAS Model for the Education of the Gifted and Talented to the IBM Design Thinking Team at NIAS, July 29, 2018.

Memberships

Member, Academic Council, Christ University (2014 onwards).

Member, Academic Council, Bhagat Phool Singh Mahila Vishwavidyalaya, Sonapat, Haryana (2014 onwards)

Invited as an expert to write a chapter on Higher Education for the Karnataka State Human Development Report by the Department of Planning, Government of Karnataka and UNDP.

Member, Ethics Committee, Centre for Brain Research, Indian Institute of Science, Bengaluru.



Member, Committee for Improving the Quality of MPhil and PhD in India constituted by the University Grants Commission, Government of India, December 2018 to April 2019.

Expert Member in Literacy and School Education and Higher Education for the Sustainability Goal 4 constituted by the Planning Department, Government of Karnataka. (2018 onwards).



Shivali Tukdeo
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Joined NIAS on: March 10, 2010

Research Areas: Education among the Disadvantaged Communities, Ethnography of Education and Sociology of Education Policy.

Lecture

Not by Re-appropriation Alone: Revisiting Development Driven Knowledge, Workshop on Egalitarianism, Hierarchy and Global Intellectual Labour Beyond the West, NIAS, September 18, 2018.



Shalini Dixit
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Joined NIAS on: December 21, 2015

Research Areas: Social Memory and Identity; Education of Gifted and Talented and Education for Sustainable Development.

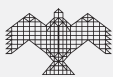
Lecture

Learning History Amidst Denial of Community Narrative: Struggling Identities of Marginalised, in the 28th Annual Conference of National Academy of Psychology, University of Delhi, December 20, 2018.

Academic Courses

Taught Elective Optional Course on “Cognition and Learning in Context” as part of Foundation Course (August 2018 to November 2018).

Taught Modules on Qualitative Methods in the Research Methodology Course (August 2018 to November 2018).



Training Course

Co-coordinator for the NIAS-DST Training Programme for Women Scientists on Science and Sustainability in India, September 3 to 7, 2018.

Memberships

Member, National Academy of Psychology.

Member, Comparative Education Society of India.



Jeebanlata Salam

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Joined NIAS on: February 22, 2106

Research Areas: Sociology of Education, Social Exclusion, Education Policies, Vocational & Skill Education, Studies in Ethnicity, Conflict, Violence and Human Rights Issues.

Lectures

Aspirations and Motivations of Vocational Graduate Employees: A Case Study of Manufacturing Employees, Two-day National Level Consultation on Future Research Directions on Vocational and Higher Education in India. NIAS, October 16, 2018.

Education and Identity, Pennsylvania Convention Centre at the 113th American Sociological Conference, Feeling Race: An Invitation to Explore Racialized Emotions, Philadelphia, USA, August 11, 2018.

Educational Deprivation of Muslim Children: The Case of Bihar. Two-day National Seminar on "Right to Education: Issues and Challenges from Rights Perspective, NIAS, April 10, 2018.

Impact of Conflict and Violence on the Education of Children: Teachers and Parental Narratives: Experiences from Manipur, Two-day National Seminar on Right to Education: Issues and Challenges from Rights Perspective, NIAS, April 10, 2018.

Outreach

Organized and convened a two-day National Seminar on Right to Education: Issues and Challenges from Rights Participatory Perspective at NIAS, April 9 and 10, 2018.

Organized Public Lecture on Maximizing Learning of Children in Schools–Early Grade Math Initiative at Scale at NIAS, September 11, 2018.

Co-organized a Two Day Consultative Meet on Future Research Directions on Vocational and Higher Education in India at NIAS, October 15 and 16, 2018.

Academic Courses

Offered a Course on The Craft of Ethnography for NIAS doctoral students, 2nd Semester 2018.



Taught NIAS doctoral students Research Methodology Course on Paradigms of Research and the Research Process, 1st Semester 2018.

Memberships

Member, American Sociological Association.

Member, Indian Sociological Society.

Member, Comparative Education Society of India.



Malavika Kapur
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Joined NIAS on: May 1, 2003

Lectures

Mental Health of Adolescents, SP Acharya Annual Endowment Lecture, Foundation for the Prevention of Disability, Bengaluru, March 16, 2019.

Parental Challenges in Digital Age, Festival of Knowledge, Knowledge Factory, Bengaluru, February 9, 2019.

Inclusive Education and Mainstreaming in School, Keynote Address, International Conference on Reflections and Refractions on Dis(ability) Interdisciplinary Perspectives, Kristu Jayanti College, Bengaluru, February 1, 2019.

Clinical Counselling and Health Psychology, Hundred Years of Applied Psychology, International Association of Applied Psychology, Delhi University North Campus, December 20, 2018.

Shivarama Karanth by CN Ramachandran, Book Release and Guest Lecture, Sahitya Academy, Bengaluru, December 9, 2018.

Being Karanth's Daughter, Celebration of Jnanpitha Award Winners in Karnataka, Life and Work of Shivarama Karanth, Acharya Patashala Pre-University College, Bengaluru, September 10, 2018.

Parenting, Ananda, Bengaluru, July 21, 2018.

Understanding Child's Emotions for Parents, Teachers, Special Educators, Reussir Trust, Bengaluru, July 7, 2018.

Empowering Girl Students: Success through Motivational Guidance in Science, Knowledge, Technology and Culture, Gyan Jyoti Programme, Department of Science and Technology, Institute of Ocean Management, Chennai, May 24, 2018.



Right to Education: Inclusion through Child Centred Approach, Seminar on Right to Education: Issues and Challenges from Rights Participatory Perspective, NIAS, April 4, 2018.

Memberships

NCERT, Department of Educational Psychology and Foundation of Education (2016 to 2018).

NIMHANS, Yoga and Indian Psychology (2017 onwards).



Members of the Inequality and Human Development Programme



Narendar Pani
Professor and Dean
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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 Conceptualization of Sustainability; and The Theorization of Conflict.

Lectures

End of a Cantonment, Bangalore International Centre, February 24, 2019.

Towards a Gandhian Approach to Volunteerism, Final Workshop of the Indo-German Initiative on Civil Security Research, IIT New Delhi, December 5, 2018.

The Tragedy of Hasty Generalization: Agricultural Labour and Cultivator Suicides in India', Centre for Women's Development Studies, New Delhi, December 4, 2018.

Transparency in Governing Plural Cities, Round Table on Governing Plural Cities, New Delhi, December 1, 2018.

Academic Course

Three credit course on 'Ontology of Indian Development' for NIAS PhD students.



Sumedha Bajar
Assistant Professor
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Joined NIAS on: January 1, 2016

Research Areas: Looking at Issues of Economic Growth and Infrastructure Development, Economic Inequality and Rural Transition in India.

Lecture

Measurement of Work Participation of Rural Workers using Census Data, Conference on Official Data and Statistics on Wage and Employment with Special Reference to Rural Women, Indian Statistical Institute, Bengaluru, January 25, 2019.

Academic Course

Co-taught a course on "Contemporary Indian Economy – Issues and Debates" for NIAS PhD Students.



Members of the Inter-Disciplinary Approaches To Economic Issues Programme



Kshitija A Joshi
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Sciences

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Joined NIAS on: January 1, 2016

Research Areas: Inequality, Economic Growth, Entrepreneurial Finance, Entrepreneurship and Innovation.

Lectures

Managing the Risks from High-Tech Investments in India: Differential Strategies of Foreign and Domestic Venture Capital Firms", International Conference for Business Intelligence and Analytics, Indian Institute of Science, Bengaluru, December 22, 2018.

Financing of Innovations, NIAS-DST Training Programme for Senior Scientists on Science, Technology and Innovation Policy, November 28, 2018.

Managing the Risks from High-Tech Investments in India: Differential Strategies of Foreign and Domestic Venture Capital Firms, at Academy of International Business, Minneapolis USA, June 26, 2018.

Financial Inclusion in Rural Karnataka, Institute for Financial Management and Research, Bengaluru, April 25, 2018.

Academic Courses

Course on Current Debates on the Indian Economy to the NIAS PhD students (August to December 2018) (along with Dr Sumedha Bajar).



SS Meenakshisundaram

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Joined NIAS on: December 10, 2004

Lectures

Challenges and Opportunities for Rural Reconstruction, National Conference on Gram Swaraj--Gandhian vision for Rural Reconstruction, Gandhigram Rural University, Gandhigram, March 12, 2019.

Deepening Democracy, Training Programme for All India Service Officers, TISS, Mumbai, February 19, 2019.

Changing Paradigm in Public Policy Education and Research in India, National Conference, Chinmaya Vishwa Vidyapeet, Veliyanad, Kochi, January 28, 2019.

Future Strategies for Biodiversity and Governance, ToT Programme, NIRD and PR, Hyderabad, November 15, 2018.

Inaugural Address on Gram Panchayat Development Plans for Western States of India, SETU Abhyan, Kutch, Ahmedabad, September 28, 2018.

Strategies for Improving Quality of Education for Minorities in India, National Law School of India University, Bengaluru, September 18, 2018.

Future of Panchayatiraj in Odisha, Odisha Vikas Conclave organized by Centre for Youth and Social Development, Bhubaneswar, August 25, 2018.

Round Table on Future of Jobs in India, CUTS International Foundation, Chennai, August 17, 2018.

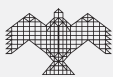
Ethics, Civil Society and Governance in Higher Education, UGC-HRD Programme, Bangalore University, July 2, 2018.

Valedictory Address on Dynamics of Rural Development and Panchayatiraj, Karnataka State RD and PR University, Gadag, June 14, 2018.

Jan Sunvai on Nyaya Panchayats in Himachal Pradesh, SUTRA, Simla, May 31, 2018.

Behind the Curtains: Preparing and Finalizing the Constitution Seventy Third Amendment, National Conference on 25 Years of Panchayatiraj, Kerala Institute of Local Administration, Thiruvananthapuram, April 24, 2018.

Role of States and Gram Panchayats in Achieving Sustainable Development Goals (SDGs), Vishwa Yuvak Kendra, Chanakyapuri, New Delhi, April 3, 2018.



Awards, Memberships

Continue to be on the Board of Management of the following institutions:

Centre for Sustainable Development, Bengaluru.

India Wash Forum, New Delhi.

Institute of Social Sciences, New Delhi.

IIPA, Karnataka Regional Branch, Bengaluru.

Institute for Societal Advancement, Thiruvananthapuram.

National Design and Research Forum (NDRF), Bengaluru.

DHAN Panchayat Development Foundation, Madurai.

Continue to be a Member of:

Academic Council, Karnataka State Rural Development and Panchayat Raj University Gadag.

Technical Advisory group for the SDC funded research project on 'Ethnic Power Relations and Conflict in Fragile States' at TISS, Mumbai.

Advisory group for the ICSSR funded research project on 'Empowerment through MGNREGS' undertaken by the Institute of Rural Management at Anand (IRMA) and Gandhigram Rural University.

Social Audit Monitoring Committee of the Government of Chhattisgarh, Raipur.

Editorial Advisory Board for the Journal of Economics and Governance published by the Fiscal Policy Institute, Bengaluru.

Guidance Committee to the School of Local Governance at NIRD and PR, Hyderabad.

Student Advisory Committee for a couple of research scholars at NIAS.

Chairperson of:

MYRADA and a few other institutions promoted by MYRADA.

Academic Council for the Green Skills Academy, Bengaluru.

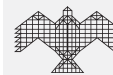
Team of National Monitors to assess the process of capacity building for Panchayats in ten States of India constituted by the Ministry of Panchayatiraj, Government of India.

Building Construction Committee and the Grievances Committee at NIAS.

Other Information

Contributed the Chapter on 'Making available clean water and sanitation' to the volume on 'SDGs and Gram Panchayats' brought out by MoPR and Niti Aayog for Government of India.

Paper on "Panchayats and NGOs: An Evolving Interface" has been published by the IIPA, Karnataka Regional branch in the volume entitled 'Excellence in Public Administration: Prospects and Perspectives'.



Members of the Urban and Mobility Studies Programme



Carol Upadhy

Professor
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Joined NIAS on: September 1, 2003

Research Areas: International Migration, Transnationalism, and Regional Diasporas; Labour and Capital in the Software Industry; Urbanisation and the Globalisation of Cities; and Land Rights.

Lectures

Speculating on Bangalore's Urbanism: Land Transitions at the City's Edge, Urban ARC Conference, Indian Institute for Human Settlements, Bengaluru, January 11, 2019 (along with Mr Sachinkumar Rathod).

Mobilising the Youth? Deflection of Desire through Skill Development, Conference on Egalitarianism, Hierarchy and Global Intellectual Labour beyond the West, NIAS, September 18-20, 2018.

Rural Real Estate: Agrarian Land as a Financial Asset, Sixth Conference of the Network of Rural and Agrarian Studies International Conference, Central University of Gujarat, Gandhinagar, September 20-22, 2018.

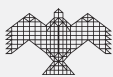
Academic Courses

A workshop on Ethnographic Field Methods was organized on April 19, 2018 for PhD scholars, NSF and ICSSR Research Associates and a group of researchers from Ashoka Trust for Research in Ecology and the Environment (ATREE) (along with Dr Hemangini Gupta).

A workshop on Ethnographic Field Methods was organized on February 22, 2019 for first-year doctoral students and research associates of NIAS (with the assistance of Ms Priya Gupta and Ms Krupa Rajangam).

Memberships

Associate Editor, the Journal of South Asian Development.
Member, Editorial Advisory Board, Contributions to Indian Sociology.



Library



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Library and
Information Officer

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Joined NIAS on: May 1, 1992

Lecture

The Role of Librarians in Data Driven Environment in Social Sciences. International Conference on Future of Libraries, Indian Institute of Management Bengaluru, February 28, 2019.



Director



Shailesh Nayak
Director

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Joined NIAS on: March 19, 2018

Awards, Memberships

Lifetime Achievement Award (India Geospatial Leadership Award) for outstanding contributions to the development and dissemination of geospatial technologies in India by Geospatial Media and Communications Private Limited, New Delhi, February 11, 2019.

Chancellor, TERI School of Advanced Studies (TERI-SAS), Delhi, January 2019.

Scientific Consultant, Earth System Science, Office of the Principal Scientific Adviser to the Government of India, Delhi, January 2019.

Chairman, Expert Committee to review IPZ notification, 2011 and draft ICRZ notification, 2018 and others, Ministry of Environment, Forest and Climate Change, Government of India, Delhi, February 4, 2019.

Chairman, Technical Scrutiny Committee to carry out technical scrutiny and review the draft Coastal Zone Management Plans (CZMPs) submitted by state Governments/UTs to NCSCM and submit recommendations to NCZMA; National Centre for Sustainable Coastal Management (Ministry of Environment, Forest and Climate Change, Government of India, June 2018.

Member, National Coastal Zone Management Authority, Ministry of Environment, Forest and Climate Change, Government of India, February 2019.

Chairman, Working Group on Coastal and Deep-Sea Mining and Offshore Energy, Member, Steering Committee on 'Blue Economy and Ocean Policy', EAC-PM, NITI Aayog, New Delhi, July 2018.

Member, Indo-Norwegian Task Force on Blue Economy-2019, NITI Aayog, Government of India and Ministry of Trade, Industry and Fisheries, Government of Norway, January 2019.

Chairman, Blue Flag India National Jury, Blue Flag India, Pune, July 2018.

Chairman, Expert Group on National Geospatial Policy (NGP), Department of Science and Technology, Government of India, Delhi, May 2018.

Chairman, Research Advisory Committee, Wadia Institute of Himalayan Geology, Dehradun, March 2019.

Chairman, Research Advisory Committee, ESSO-National Centre for Polar and Oceanic



Research, Goa, October 2018.

Chairman, Research Advisory Committee, CSIR-National Environmental Engineering Research Institute, Nagpur, 2018.

Chairman, Monitoring Committee on CSIR Mission on Safety and Security of Vital Installations, Ministry of Science and Technology, Government of India, Delhi, October 2018.

Coordinator: Review the Academic Activities of three Centres i.e. Atmospheric and Oceanic Sciences, Centre for Earth Sciences and Divecha Centre for Climate Change of Indian Institute Science, Bengaluru, August 2018.

Member, Governing Council, The Energy and Resources Institute, New Delhi.

Member, Board of Governors, Foundation for Ecological Security, Gujarat (April 2018).

Member, Governing Council, ESSO-National Centre for Polar and Oceanic Research, Goa.

Chairman, Search-cum-Selection Committee for Director, CSIR-NE Institute of Science and Technology, Jorhat, July 2018.

Member, Search-cum-Selection Committee for the Director, Wadia Institute of Himalayan Geology, Dehradun.

Member, Award Committee, ELCINA defEnnovation Awards-2018, Electronic Industries Association of India, New Delhi May 2018.

Member, The National Academy of Sciences, India (NASI)-Council for the year-2019, December 2018.

Regional Representative for Asia, Council of International Society for Photogrammetry and Remote Sensing, Czech Republic, May 2018.

Trustee, The ISPRS Foundation, USA, March 28, 2019 to March 27, 2022.

President, Federation of Indian Geoscientists Association, Hyderabad.

President, Indian Geophysical Union, Hyderabad.

President, Mangrove Society of India, Goa.

Vice President, Geological Society of India, Bengaluru.

Lectures

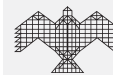
Inaugural Address, TERI KAS Resource Dialogue on The Emerging Global Maritime Order – India's Strategy, Mahabalipuram, Chennai, organized by TERI, Delhi, March 7, 2019.

Environmental Changes and Future Earth: An Indian Perspective, ISRO Structured Training Programme (STP) and Colloquium at Physical Research Laboratory, Ahmedabad, February 8, 2019 and Colloquium at Savitri Phule Pune University, Pune, February 22, 2019.

Future Earth – An Indian Perspective, NIAS-DST Training Programme on Science and Technology: Global Developments and Perspectives, January 22, 2019.

Future Earth – An Indian Perspective, Guest Lecture on Undergraduate Curriculum, Jain University, Bengaluru, January 18, 2019.

Towards Blue Economy: An Indian Perspective, Plenary Talk, Research Retreat –2018, Jain University, Bengaluru, December 17, 2018.



Towards Blue Economy, NIAS-DST Training Programme on Science, Technology and Innovation Policy, November 27, 2018.

Cooperation with China to Advance Science and Technology, Keynote Address, 11th All India Conference of China Studies (XI AICCS), Christ University, Bengaluru organized by Institute of Chinese Studies, Delhi, November 14, 2018.

India and Arctic Research: A Perspective, Guest of Honour Address, International Interdisciplinary PhD and Post-Doc Winter School, ESSO-National Centre for Antarctic and Ocean Research, Goa, October 29, 2018.

Public Policy for Integrating Geo-science Research to Societal Benefits: The Indian Perspective, Valedictory Address, NIAS-DST Training Programme on Policy for Science and Science for Policies, October 5, 2018.

Environmental Changes and Future Earth: A Perspective, Foundation Day Lecture at CSIR-Central Institute of Mining and Fuel Research, Dhanbad, October 4, 2018.

Building from Scratch: The Tsunami Warning System, Valedictory Address, Project Management Practitioners Conference 2018: Architecting Project Management for Value Creation, PMI Bangalore Chapter, Bengaluru, July 14, 2018.

Key Speaker of the Session on Strategy for Strengthening Defence Production, 9th Strategic Electronics Summit (SES-2018) – Defence and Aerospace, The Lalit Ashok Hotel, Bengaluru organized by Electronic Industries Association of India (ELCINA), New Delhi, July 6, 2018.

The Himalayan System: A Perspective, Foundation Day lecture for the Golden Jubilee Celebration of Wadia Institute of Himalayan Geology (WIHG), Dehradun, June 29, 2018.

The Himalaya Cryosphere: A Perspective, Training Course on Glacier Studies and Remote Sensing, Divecha Centre for Climate Change, Indian Institute of Science, Bengaluru, June 4, 2018.

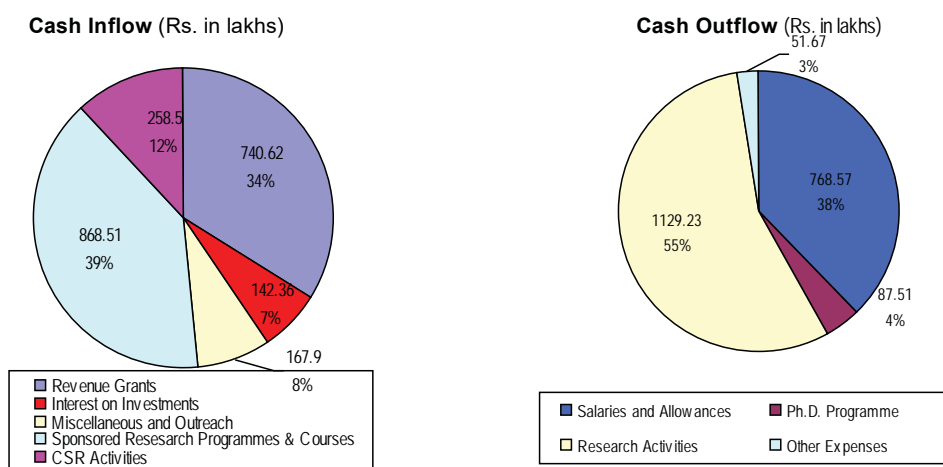


ADMINISTRATION

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 Mr 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 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 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 forty-three students work for their Ph.D. degrees. 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. 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 Administration. Compliance with various statutory requirements such as Provident Fund, Professional Tax, Income Tax, etc., is also taken care by Administration. The administrative set up consists of, in addition to the Head-Administration, an Office Manager, two Assistant Managers in the area of Administration and Accounts & Finance and other Administrative Coordinators/Secretarial/Office/Supporting Staff, in all numbering 26.

Finance management, accounting, auditing (internal and statutory), resource mobilization and expenditure control are carried out systematically. An overview of finances (unaudited) for the year 2018-2019 is given below:



NIAS has a specified investment of Rs.1,902.00 lakhs (exclusive of project funds) as on March 31, 2019.

During the year, the Institute has received 11 new research projects with a total value of Rs.897.56 lakhs. Total value of projects handled during the year including the projects sanctioned in the earlier years was Rs.3,397.51 lakhs. This is inclusive of CSR funded initiatives. Foreign exchange component included in this sum was Rs.513.93 lakhs.



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B Lalu

Office Manager

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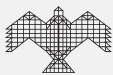


V Girija

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Senior Executive Assistant

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MS Shivakumar
Executive Assistant

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Joined NIAS on: July 7, 2008



AS Mary Stella
Executive Assistant

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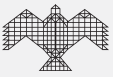
Joined NIAS on: June 23, 1994



VA Ramesh
Junior Executive Assistant

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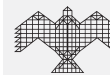
Joined NIAS on: July 1, 2011



SUPPORT STAFF



*Left to Right Top: SR Rathnam, G Venugopal, Mohammed Umar, G Nagaraja, Mujeeb Pasha, Gajanana S Naik, N Rajesh
Left to Right Bottom: S Sampath, B Shivanandappa, V Srinivasa, R Harish, N Ramesh*



NIAS FINANCIAL REPORTS

NATIONAL INSTITUTE OF ADVANCED STUDIES

SIGNIFICANT ACCOUNTING POLICIES AND NOTES ON ACCOUNTS FORMING PART OF THE FINANCIAL STATEMENTS AS AT MARCH 31, 2019

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. Trust/718/ 10A.Vol. AII/86/459/1986-87/CIT.II, dated April 15, 1986.

Society is registered under Foreign Contribution (Regulation) Act, 1976 ("FCRA") vide registration no. 094420614 dated October 1, 1993. During the year, FCRA authorities has renewed FCRA certificate for the period starting from November 1, 2016 to October 31, 2021 dated June 27, 2016.

(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. Basis of Preparation of Financial Statements:

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

B. Fixed Assets:

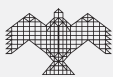
Fixed assets are stated at written down values i.e. cost of acquisition less accumulated depreciation. Cost of acquisition of fixed assets includes all direct expenses relating to acquisition of the asset.

C. Depreciation:

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. Revenue Recognition:

- 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:

The society's contribution to the provident fund is recognized as expenses in the Income and Expenditure account of the year in which the contribution is paid to the provident fund trust. Any deficit in the Provident Fund Trust is recognized as expense in the Income & Expenditure Account of the Society.

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. The retirement benefit obligation recognised in the Balance Sheet represents the present value of the defined benefit obligation as adjusted for unrecognised past service cost, as reduced by the fair value of scheme assets.

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:

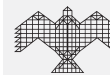
Provisions are recognized when the society recognizes that it has a present obligation as a result of past events, it is more likely than not that an outflow of resources will be required to settle the obligation and the amount can be reasonably estimated.

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. Revolving Fund:

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.



J. Recognition of Capital Grants:

Capital Grants received towards cost of fixed assets is credited to Capital 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 Capital fund to Income and Expenditure Account.

- 3). The Society is registered under Section 12AA of the Income Tax Act, 1961, vide No. Trust/718/ 10A.Vol. AII/86/459/1986-87/CIT.II, dated April 15, 1986 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). The Society has during the year contributed towards Group Leave Encashment Scheme to LIC amounting to Rs.2,77,62,036, which includes contributions towards past liability of Rs.2,53,52,759 and balance of Rs.24,09,277 is for current year contributions.
- 5). Previous years' figures have been regrouped/ reclassified wherever necessary.

For and on behalf of National Institute of Advanced Studies

Place: Bangalore
Date: 16 September 2019

Dr. Shailesh Nayak
Director

P. Srinivasa Aithal
Head-Administration



BALANCE SHEET AS AT MARCH 31, 2019

Particulars	Note No.	As at March 31, 2019 (In Rupees)	As at March 31, 2018 (In Rupees)
FUNDS AND LIABILITIES			
Funds			
(a) Corpus Fund	3	3,35,00,000	3,35,00,000
(b) Fixed Assets Fund	4	2,27,52,392	2,39,87,263
(c) Earmarked Funds	5	7,02,29,444	9,58,03,822
(d) Other Funds	6	20,64,09,716	19,00,78,879
(e) Income & Expenditure Account	7	4,28,38,959	3,10,11,387
		37,57,30,511	37,43,81,351
Current Liabilities and Provisions			
(a) Current Liabilities	8	45,10,462	51,14,214
(b) Provisions	9	33,09,556	2,92,73,838
		78,20,018	3,43,88,052
TOTAL		38,35,50,529	40,87,69,403
ASSETS			
(a) Fixed assets			
- Tangible Assets	10	4,74,49,679	4,98,92,492
- Capital Work-in-Progress		4,60,52,867	1,75,36,564
(b) Investments	11	17,97,34,600	13,28,42,300
(c) Loans and advances	12	1,83,42,908	3,79,84,956
(d) Cash and bank balances	13	9,19,70,475	17,05,13,091
TOTAL		38,35,50,529	40,87,69,403
See accompanying notes forming part of the financial statements	1-20		

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

For **National Institute of Advanced Studies**

Joe Pretto
Partner

Dr. Shailesh Nayak
Director

P. Srinivasa Aithal
Head-Administration

Place : Mumbai
Date : September 16, 2019

Place : Bangalore
Date : September 16, 2019



INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDED MARCH 31, 2019

Particulars	Note No.	2018-19 (In Rupees)	2017-18 (In Rupees)
Income			
Grant income	14	21,06,06,649	18,66,99,064
Other income	15	2,51,06,502	1,80,00,575
Total Income		23,57,13,151	20,46,99,639
Expenses			
(i) Sponsored Research Expenditure	5	13,53,09,307	10,52,68,917
Total (A)		13,53,09,307	10,52,68,917
(ii) Employee Benefit Expenses	16	7,95,93,769	8,08,30,414
(iii) Other Expenses	17	57,12,778	1,52,39,664
(iv) Depreciation	10	32,69,725	34,45,808
Total (B)		8,85,76,272	9,95,15,886
Total expenses	(A+B)	22,38,85,579	20,47,84,803
Excess of Income over Expenditure/ (Expenditure over Income) for the year		1,18,27,572	(85,164)
See accompanying notes forming part of the financial statements	1-20		

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

For **National Institute of Advanced Studies**

Joe Pretto
Partner

Dr. Shailesh Nayak
Director

P. Srinivasa Aithal
Head-Administration

Place : Mumbai
Date : September 16, 2019

Place : Bangalore
Date : September 16, 2019



RESEARCH PROGRAMMES AND PROJECTS

Sl. No.	Title of the R&D Project	Funding Agency	Name of the Project Investigator	Duration	Sanctioned Amount in Rs. in lakhs
1	Nonlinear Oscillatory Phenomena in Sensory Systems	SERB	Prof Janaki Balakrishnan	Dec' 15 - Jun' 19	21.42
2	Advancing Landscape Archaeology Using High-resolution Digital Elevation Models	SERB	Dr MB Rajani	Jan' 16 - Jan' 20	30.80
3	Inequality and Human Development Programme	TCS Foundation	Prof Narendar Pani	Mar' 16 - Sept' 19	300.29
4	Education Programme at NIAS	TCS Foundation	Prof Anitha Kurup	Mar' 16 - Sept' 19	297.03
5	Metal Craft Heritage in the Cauvery Region	TCS Foundation	Prof Sharada Srinivasan	Mar' 16 - Sept' 19	300.00
6	World-City" Planning in Andhra Pradesh: A New Model for Urbanization?	APU	Prof Carol Upadhya	Jul' 16 - Dec' 19	12.36
7	Vulnerabilities and Political Aspects of Civil Society: Vulnerabilities & Volunteerism	DST	Prof Narendar Pani	Aug' 17 - Aug' 19	58.13
8	Voices from Margins: Education and Aspirations among Youth from two Tribal Districts in Maharashtra and Karnataka	RGNIYD	Prof Anitha Kurup	Oct' 16 - Jul' 18	8.50
9	Speculative Urbanism: Land, Livelihoods and Finance Capital	NSF	Prof Carol Upadhya	Jan' 17 - Jun' 20	57.33
10	Unraveling the Octopus: Behavioral Ecology of Octopus Cyanea in the Andaman Islands	Andromeda Sales & Distributions Pvt Ltd & Ms.Shobha Punukollu	Prof Anindya Sinha	Jan' 17 - Mar' 19	11.05
11	Stylistic and Technical Authentication of Bronzes of Karnataka	AMHD, Govt of Karnataka	Prof Sharada Srinivasan	Mar' 17 - Feb' 19	15.00
12	India's Changing Cityscapes: Work Migration and Livelihoods	ICSSR	Prof Carol Upadhya	Mar' 17 - Sept' 19	12.50
13	Interdisciplinary Forays into Human Environment Interactions: An Integrative Research Initiative in Energy, Ecology and Nonlinear Modelling	SERB	Profs R Srikant, Sindhu Radhakrishna and Janaki Balakrishnan	Mar' 17 - Feb' 20	223.94
14	Together for Health, Research and Innovation for Vibrant Employment-THRIVE	GCC, Canada	Profs Sudipto Chatterjee and Anindya Sinha	May' 17 - Nov' 18	123.35



Sl. No.	Title of the R&D Project	Funding Agency	Name of the Project Investigator	Duration	Sanctioned Amount in Rs. in lakhs
15	Borderland and the Strategic Challenges: Towards Better Understanding of the Social Behaviour and Socio-Cultural, Religious and Economic Profile of Border People in Tawang	DRDO	Dr M Mayilvaganan	Jun'17 - Dec'18	41.94
16	Determinants of Nuclear Risk Perception in India: An Integrated Analysis	DAE	Prof M Sai Baba	Jun'17 - May' 20	34.98
17	Beyond Casual Structures: Consciousness and Self Reflection in Kashmir Saivism	ICPR	Prof Sangeetha Menon	Jun' 17 - May'19	4.00
18	Advanced Weapon System	DRDO	Prof Rajaram Nagappa	Jul'17 - Jun'20	93.65
19	Weapon Systems and War Deterrence Strategies in India's Neighborhood	DRDO	Prof SChandrashekar	Jul'17 - Jan'19	60.54
20	Annual Summer School on Grassroots Innovations	DST	Dr Hippu Salk Kristle Nathan	Aug'17 - Jul' 18	19.47
21	Managing Public Perception and Public Acceptance of Public Risks Associated with New and Emerging Technologies through Science & Technology Communication	DST	Prof M Sai Baba	Aug' 17 - Jan' 19	15.27
22	Understanding the Past: Intervention through dissemination to explore the idea of teaching archaeology	SFL	Dr Smriti Haricharan	Aug'17 - Jul' 19	16.00
23	University of Oxford sponsored project titled "Urban Animals Human Livelihoods and Health in the Global South: A Trans-Species Approach"	University of Oxford	Prof Anindya Sinha	Nov' 17 - Apr' 18	7.15
24	Characterizing Role of Large Frugivores in Seed Dispersal Networks: Macaques and Hornbills in Asia	DST	Prof Sindhu Radhakrishna	Dec' 17 - Nov' 19	5.12
25	Natural Resources, Conflict and Consciousness: Dissecting People's Movements in Odisha	ICSSR	Dr Anshuman Behera	Jan' 18 - Dec' 19	6.45
26	The Politics of Performance on the Urban Periphery in South India	University of Exeter	Prof Anindya Sinha	Feb' 18 - Sept' 19	14.51
27	RIS & NIAS Joint Programme in Science Diplomacy	DST	Prof D Suba Chandran	Feb' 18 - Jan' 21	41.85
28	Impacts of Land Use Changes on Human-Primate Conflict in India	ISRO	Prof Sindhu Radhakrishna	Jun' 18 - May' 20	22.19
29	Exploring India's Medieval Coastline using Geospatial Analysis and Historical Records	MoES	Dr MB Rajani	Mar' 18 - Feb' 22	52.12
30	Distributed Intelligent Ultrasound Imaging System for Secure in-community Diagnostics (Secure Ultrasound)	EPSRC	Prof V Bhujanga Rao	Feb' 18 - Jan' 21	105.86



Sl. No.	Title of the R&D Project	Funding Agency	Name of the Project Investigator	Duration	Sanctioned Amount in Rs. in lakhs
31	Casual structure, Vimarsa and the Pratyabhijna: A Comparative Research Study on Kashmir Saivism & Information Theory	Tata Education Trust	Prof Sangeetha Menon	Mar' 18 - Feb' 22	161.15
32	Documentation and Study of Alternate & Indigenous Psychiatric and Psychological Practices of Healing and Wellness (with a pilot project of model building focusing on Kerala)	Tata Education Trust	Prof Sangeetha Menon	Mar' 18 - Feb' 22	125.91
33	Philosophy in Action-Creating Public Citizenship	Tata Social Welfare Trust	Prof Sundar Sarukkai	Mar' 18 - Feb' 22	129.05
34	Advanced Epilepsy Research: A Multidisciplinary Approach	O/o PSA	Prof MV Hosur	Apr' 18 - Mar' 21	60.40
35	OSPF-NIAS Project 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	Prof MV Hosur	Jun' 18 - May 23	86.25
36	An Integrated Approach to Development and Environment in the Power Sector	DST	Prof R Srikanth	Jun' 18 - May 21	150.76
37	To Understand the Interaction between Components of Earth Systems and Human Systems at Various Spatial and Temporal Scales	MoES	Prof R Srikanth	Jun' 18 - May 23	318.00
38	Armed Conflicts and Peace Processes: A Global Primer	KAS, Germany	Prof D Suba Chandran	Jun' 18 - May 19	16.00
39	Causality Testing in Cognitive Neuroscience with Applications to Measures of Consciousness	DST	Dr Nithin Nagaraj	Jul' 18 - Jun' 21	20.04
40	A Study of Consciousness Measures and Synchrony Between Brain Cardiovascular Dynamics in Yoga Experience	DST	Dr Nithin Nagaraj	Aug' 18 - Jul' 21	33.08
41	Urban Ecologies: Governing Nonhuman Life in Global Cities	ERC	Prof Anindya Sinha	Aug' 18 - Jul' 23	184.68
42	Research on India-EU Migration and Mobility	PAC	Prof Carol Upadhya	Nov' 18 - Mar' 19	2.99
43	Water Hyacinth: A Resource for Energy, Rural Enterprise and Women Empowerment in Kuttanad Region, Kerala	DST	Dr V Jayasree	Jan' 19 - Jun' 21	26.38
44	Study on Adopting Sustainability into the Tourism Development	DoT, Govt. of Karnataka	Dr Hippu Salk Kristle Nathan	Jan' 19 - Jun 20	23.75



STAFF

STAFF

Director

Shailesh Nayak

Professors Emeritus

K Kasturirangan
Roddam Narasimha
VS Ramamurthy

Visiting Professors

M Sai Baba, *TV Raman Pai Chair Visiting Professor*
S Chandrashekar, *JRD Tata Chair Visiting Professor*
PS Goel, *Raja Ramanna Chair Visiting Professor*
Malavika Kapur
SS Meenakshisundaram
Rajaram Nagappa
Srikumar Pullat
PM Soundar Rajan
N Ramani
V Bhujanga Rao, *ISRO Chair Visiting Professor*
Sisir Roy, *TV Raman Pai Chair Visiting Professor (till May 31, 2018)*
Lalitha Sundaresan

Honorary Visiting Professors

S Ranganathan
S Settari
Sisir Roy
BV Sreekantan

Principal Scientists

M Sai Baba (*till May 31, 2018*)
Sheela K Ramasesha

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
Sundar Sarukkai
Anindya Sinha
R Srikanth, *Dean (School of Natural Sciences and Engineering)*
Sharada Srinivasan
Carol Upadhyaya

Associate Professors

M Mayilvaganan
Srikumar M Menon
Nithin Nagaraj
TS Gopi Rethinaraj (*till September 25, 2018*)
Shivali Tukdeo

Assistant Professors

Sumedha Bajar
Anshuman Behera
VV Binoy
Shalini Dixit
Smriti Haricharan
Kshitija A Joshi
Amit Mukherjee
Hippu Salk Kristle Nathan (*till October 23, 2018*)
Prakash Panneerselvam
MB Rajani
Abha S Rao (*till April 30, 2018*)
Jeebanlata Salam

Post-doctoral Associates

Shaurabh Anand
Chanchal Chauhan
VK Deepa
Sudharsana V Iyengar
Muralidhar Lakkanna (*till September 4, 2018*)
Leya Mathew (*till May 15, 2018*)
Asmita Mohanty
Paula A Pebsworth (*till October 31, 2019*)
Shankar Rajaraman
Sindhuja CV
S Udayakumar
Vishwanath Varma

Library & Information Officer

Hamsa Kalyani

Head (Administration & Finance)

P Srinivasa Aithal

Office Manager

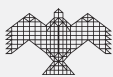
B Lalu

Assistant Manager (Administration)

A Deva Raju

Assistant Manager (Accounts & Finance)

P Satish Bhat

**Administrative Coordinators**

V Girija
KS Rama Krishna
S Lalitha

Communication Officer

Bharat Chandra BK (*till February 22, 2019*)

Senior Executive Assistants

VB Mariyammal
JN Sandhya
R Vijayalakshmi

Executive Assistants

MS Shivakumar
AS Mary Stella

Junior Executive Assistant

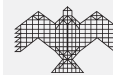
VA Ramesh

Office Assistant

V Srinivasa

Support Staff

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



ADJUNCT PROFESSORS AND ADJUNCT FACULTY

ADJUNCT PROFESSORS

Vice Admiral RN Ganesh, Admiral Katari Chair of Excellence at the United Services Institute.

Dr LV Krishnan, Former Director, Safety Research and Health Physics Programmes, IGCAR, Kalpakkam.

Dr Kota Harinarayana, Dr DS Kothari DRDO Chair, ADA, Bengaluru.

Dr Mukund Rao, Chief Executive, Centre for Spatial Analytics and Advanced GIS, NIAS, Bengaluru.

Mr B Muthuraman, Former Vice Chairman, Tata Steel Jamshedpur and Past President, CII.

Prof LM Patnaik, INSA Senior Scientist; Honorary Professor, Department of Electronic Systems Engineering, Indian Institute of Science, Bengaluru.

Prof Bhupendra Jasani, Department of War Studies, King's College.

Prof S Siraj Hasan, Former Director of the Indian Institute of Astrophysics, Bengaluru.

Dr BN Suresh, Chancellor, Indian Institute of Space Science and Technology, Thiruvananthapuram and Honorary Distinguished Professor, ISRO HQ.

Prof TN Shorey, INSA Senior Scientist; Distinguished Professor, Department of Mathematics, IIT Bombay.

Prof B Ravi, Institute Chair Professor, Mechanical Engineering, IIT Bombay.

Prof KP Vijayalakshmi, Professor, Centre for Canadian, US and Latin American Studies, School of International Studies, JNU, New Delhi.

Prof SS Mantha, Former Chairman, All India Council for Technical Education.

Prof Gautam Sen, Distinguished Visiting Fellow, CLAWS and Air Marshal Subroto Mukherjee Chair of Excellence, USI.

Prof S Ayyappan, Chancellor, Central Agricultural University, Imphal.

Mr RN Nayak, Former Chairman and Managing Director, Power Grid Corporation of India Limited.

Prof Nagaraj Nareppa, Professor and Programme Coordinator, GPS Institute of Agricultural Management, Bengaluru.

Mr VVR Sastry, Former Chairman and Managing Director, Bharat Electronics Limited

Mr Ricky Kej, Grammy® Award Winner, 'Peace Ambassador' and US Billboard #1 artist, internationally renowned Indian Music Composer and Conservationist.

Mr Suresh P Prabhu, Former Minister of Commerce & Industry and Civil Aviation.

Prof Sudipto Chatterjee, Psychiatry, Mental Health and Wellbeing.

Dr Madhusoodan Hosur, INSA Senior Scientist.

Air Marshal PP Khandekar, Retired Air Officer.

Lt Gen (Retd) Dr Prakash Menon, Director, Strategic Studies Programme
The Takshashila Institution, Bengaluru.

Prof Tilak Agerwala, Adjunct Associate Professor, Seidenberg College of CS&IS, Pace University, New York, IBM Emeritus and Retired IBM Research Vice President.

Prof KR Sridhara Murthi, Director, International Institute for Aerospace Engineering and Management, Jain University, Bengaluru.

Dr Ing BVA Rao, Former Professor, IIT Madras.

Prof Shiv Visvanathan, OP Jindal Global University, Sonapat.

Dr Sudha Gopalakrishnan, Executive Director, Sahapedia an online encyclopedic resource on Indian culture and the arts.

Prof Manas K Mandal, Distinguished Visiting Professor, Department of HSS, Indian Institute of Technology, Kharagpur.



Dr Jai K Garg, Guru Gobind Singh Indraprastha University.

Dr Hina Gokhale, Former Director General (HR), DRDO HQ.

Dr Kailash N Srivastava, Group Director, LNCT Group of Colleges.

Dr G Parthasarathy, INSA Senior Scientist.

Mr Manoj K Srivastava, Former Chief Secretary, Government of India.

Dr VS Hegde, Former Chairman-cum-Managing Director of Antrix Corporation Limited, ISRO.

Prof Manoj Kumar Patariya, Director, CSIR-National Institute of Science Communication and Information Resources, New Delhi.

ADJUNCT FACULTY

Amb Saurabh Kumar, Formerly Ambassador of India to the UN Offices and other International Organizations in Vienna, Austria, Ireland and Vietnam.

Dr V Siddhartha, Emeritus Scientist, DRDO.

Prof Michael Goldman, University of Minnesota, Sociology and Institute for Global Studies, Fall.

Dr Catharine Turner, Associate Professor in Drama, University of Exeter.

Dr Gillian Juleff, Senior Lecturer, University of Exeter.

Dr Maan Barua, University Lecturer in Human Geography, University of Cambridge.

Prof Jerri Daboo, Professor of Performance, University of Exeter.

Dr Soumya Prasad, Assistant Professor (UGC), School of Life Sciences, Jawaharlal Nehru University, New Delhi.

Dr Xavier Raj, Anthropologist and Professor of Entrepreneurship Management, Chairperson, CK Prahalad Centre for Emerging India, Loyola Institute of Business Administration, Chennai.

Dr Shailaja D Sharma, Visiting Faculty, Azim Premji University, Bengaluru.

Dr Kim R McConkey, University of Nottingham Malaysia.

Dr Rajesh Kasturirangan, Former Associate Professor, NIAS

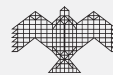
Dr Asmita Sengupta, Adjunct Fellow, Suri Sehgal Centre for Biodiversity and Conservation, ATREE, Bengaluru.

Dr Paula Pebsworth, Independent Research Analyst.

Dr Tathagata Neogi, Co-founder, Heritage Walk Calcutta.

Col Vinayak Bhat, Ex-Intelligence Officer.

Dr Sarada Natarajan, Principal, Bangalore School of Visual Arts (Evening), Karnataka Chitrakala Parishath, Bengaluru.



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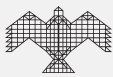
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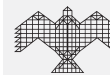
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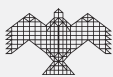
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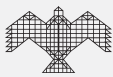
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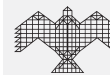
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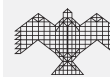
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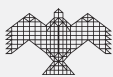
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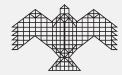
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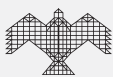
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