

CSIR-NISTADS

Annual Report

2011-2012



CSIR - National Institute of Science, Technology and Development Studies

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Annual Report 2011-2012



CSIR - National Institute of Science, Technology and Development Studies
Pusa Gate, K.S. Krishnan Marg, New Delhi, India



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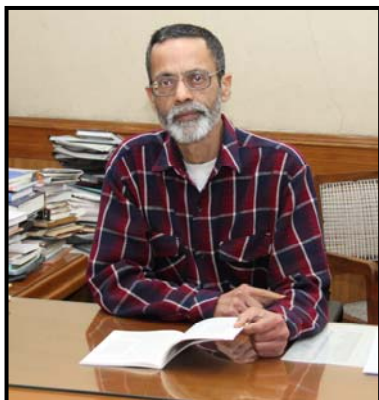
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Contents

Director's Note	i
1. Research Projects	
• India, Science and Technology 2010-11	3
• Sponsored Projects	9
• In-House Projects	15
2. Faculty	
• Academic Background and Research Interests	19
• Publications	24
• Academy of Scientific and Innovative Research (AcSIR)	32
• Invited Lectures/Conference Presentations	33
• Foreign Visits	38
3. Seminars / Conferences / Workshops / Roundtables	43
4. Tuesday Seminars	45
5. CSIR-NISTADS Library	51
6. Research Council	52
7. Management Committee	53
8. Right to Information Act (RTI) Cell	54
9. Budget	54
10. Staff List	55

Director's Note



The current Annual Report of CSIR-National Institute of Science, Technology and Development Studies (CSIR-NISTADS) highlights some of its activities and achievements during 2011-12. CSIR-NISTADS has been a unique and important research institution of the country and the current year has added one more important dimension to it. This year we could propose a theme “Science, Technology, and Innovation Studies” (STIS) to introduce Ph.D. programme at CSIR-NISTADS. The purpose of this STIS course will be to create a critical mass of scholars and practitioners with analytical competencies to lead and transform India’s science, technology and innovation trajectories in economically productive, socially progressive and environmentally sustainable ways. In its academic and policy endeavours, CSIR-NISTADS operates at the interface between science and society. Through this STIS course, the research and policy expertise and experience in CSIR-NISTADS will be shared with and built into a wide range of natural, physical and social science graduates. The institute, however, will continue with its vision “to undertake research on policy, policy advisory and provide research support to advocacy and advice, and to serve CSIR and other national S&T agencies on science, technology, society and innovation challenges”. At the same time CSIR-NISTADS will abide with CSIR’s mission of providing people and nation-centric thrust to science, technology and societal pursuits.

The Institute continues with S&T policy research and ‘India S&T’ biennial-report series. It also keeps renewing its research focus in tune to the changing Indian as well as global S&T issues and systems. The Institute, in short, remained committed to generate and disseminate knowledge related to scientific and technological innovation, creativity and their applications along with the policy implications. It could make a mark in terms of : a) publications in the

form of books, research papers, reports; b) organization and participation in national as well as international conferences, seminars, workshops; c) delivering and organizing invited lectures; d) taking up in-house as well as sponsored projects and; d) conducting training programmes.

CSIR-NISTADS is extremely grateful to the Research Council Chairman, Prof. Ashok Chandra and the distinguished members for guiding the academic affairs of the Institute. We look forward for their continued support to enable CSIR-NISTADS to move forward to meet its mission and vision.

Dr. Parthasarathi Banerjee



RESEARCH PROJECTS

- **INDIA, SCIENCE AND TECHNOLOGY 2010-11**
- **SPONSORED PROJECTS**
- **IN-HOUSE PROJECTS**

**INDIA, SCIENCE AND TECHNOLOGY 2010-11***(in press)*

India S&T Report 2010-11 stands as an important contribution by CSIR-NISTADS, under the Supra-Institutional Project. Innovation, which forms the base for current global economy, was thus the core concept for this report. The report could identify: a) the nature and extent of innovative activities in the country; b) the lacunae in the innovation support mechanism; and c) S&T interventions required in the policy matrix to enable India to be in the forefront on innovation activities. India S&T Report 2010-11 is

organized under following five themes: (i) S&T and Human Resources, (ii) S&T and Innovation Support System, (iii) S&T and Industry, (iv) S&T Outputs and Patents, and (v) S&T and Rural Development Strategies. While the content and approach of these five themes differ from each other, innovation occupies the central stage in each of these themes. The report is targeted at a wide readership ranging from policy makers and advisors to academic readers as well as the common person. The contents of the report are:

S&T Human Resource			
	Theme Editor: Naresh Kumar		
1	Status of Enrolment at different levels of Education	Vipan Kumar & Naresh Kumar	T1 - 2
2	Computational GIS based Mapping of some Indicators of Primary Education in India	Vipan Kumar & Naresh Kumar	T1 - 7
3	Social Profiles of some Science students amongst top 1% at Higher Secondary Level	Hardip Grewal & Avinash Kshitij	T1 - 18
4	Technical Education in India: Historical Lessons & Roadmap	Samir Kumar Saha	T1 - 23
5	Challenges of Higher Secondary Education in India: An Overview	Hardip Grewal & Harish Kumar Gond	T1 - 30
6	Performance and Growth Pattern of Manpower in Mathematics in India	Avinash Kshitij, Swarup Chattopadhaya, Sujit Kundu & Harish Kumar Gond	T1 - 37
7	A Comparative Status of Enrolment and Ph.Ds produced in India	Naresh Kumar	T1 - 53
8	Transformation in Indian Higher Education and Prospects	Naresh Kumar	T1 - 58



9	Status of Technical Education in India: Emerging Issues and Challenges	Naresh Kumar	T1 -67
10	Migration of Students: A Case of BRIC Countries	Naresh Kumar & Vipin Kumar	T1 - 78
11	Gender and Technology in Indian Context	Neelam Kumar	T1 - 86
12	Status of Health Professionals in India: An Overview	Naresh Kumar	T1 - 91
13	Biotechnology Educational System & Infrastructure	Kavita Mehra, Kirti Joshi, Suman Govil & Nitu Singh	T1 -101
14	Green and Emerging Occupations in India	Vipin Kumar, Naresh Kumar, Kasturi Mandal & Taposik Banerjee	T1 - 111
15	Skill Development Mission in Vocational Areas: Mapping Government Initiatives	Tabassum Jamal & Kasturi Mandal	T1 - 116

S&T and Innovation Support System

	Theme Editor: Pradosh Nath		
	<i>Organisational Arrangement for Promotion of Technological Innovation</i>		T2 - 1
1	Length and Breadth of the Innovation Support System	Abhishek Kumar & Pravin Rawat	T2 - 3
2	Functionalising the Support System	Parveen Arora & Abhishek Kumar	T2 - 20
3	Support System for MSMEs	N Mrinalini, Abhishek Kumar & Pravin Rawat	T2 - 35
4	Enterprisation of the Informal and Unorganised Sector	Abhinandan Saikia & T Venkatmullu	T2 - 53

S&T and Industry

	Theme Editors: Sanjib Pohit & Kavita Mehra		
1	Science, Technology and Innovation Policy: Some Critical Thoughts	Sujit Bhattacharya	T3 -4
2	Legal Basis of Innovation Systems in India	Surya Mani Tripathi & Manchikanti Padmavati	T3 - 7
3	Innovation in Indian listed Companies	Bikramjit Sinha & Avinash Kshitij	T3 - 13
4	Pattern of Non-R&D Innovation in Indian Enterprises	Bikramjit Sinha & Avinash Kshitij	T3 -21
5	Inward FDI and Innovation in the Indian Service Sector	Bikramjit Sinha	T3 - 29
6	Brief Analysis of Patent Litigations in the Past 3 years	VK Unni	T3 - 36



7	Generation of Innovations in India: Relative Roles of Public and Private Sector Enterprises	Sunil Mani	T3 - 43
8	Strengthening India's Intellectual Property Protection Mechanism: Some Policy Directions	Sujit Bhattacharya	T3 - 54
9	Technology Market: India China Comparison	Kavita Mehra	T3 - 60
10	Technology Transfer from Government Research Institutions to Small and Medium Enterprises: Factors Emerging from Case Studies	Yogesh Suman & Ajay Pandit	T3 - 73
11	Productivity, Technical Change and Innovation in Indian Economy: An Input-Output Approach	Sanjib Pohit & Barun Deb Pal	T3 - 76
12	Trends in High Technology Trade	Sanjib Pohit & Sanjukta Basu	T3 - 87
13	Indian Firms Research Activity in the Liberalization and Globalization Era	Sujit Bhattacharya, Kashmiri Lal & Kirti Joshi	T3 - 93
14	Processed Food and Beverage Industry: An Overview	Kirti Joshi	T3 - 106
15	Indian Herbal Drug Industry	Niharika Sahoo	T3 - 121
16	Indian Biopharmaceutical Industry: An Overview	Niharika Sahoo	T3 - 127
17	Regulation of Vaccine Clinical Trials in India	Y Madhavi	T3 - 133
18	Glass & Ceramic Manufacturing Industry in India: An Overview	D Gangopadhyay	T3 - 137
19	Indian Cement Industry: A Technology Perspective	Dripto Mukhopadhyay	T3 - 146
20	Machine Tools Industry of India	Pradip Biswas & Sanjib Pohit	T3 - 158
21	Industrial Robots	Sanjib Pohit	T3 - 162
22	Creating Capacity for Nanotechnology Research and Innovation in India	Sujit Bhattacharya & Madhulika Bhati	T3 - 167
23	IT & Telecom Manufacturing in India	Anindya Chaudhuri	T3 - 178
24	Indian mVAS Industry	Mukesh Kumar & Ram Kumar Kakani	T3 - 186
25	Some Emerging Issues in Communications Infrastructure	Anindya Chaudhuri	T3 - 189
26	Surface Transport in India	Taposik Banerjee & Anindya Chaudhuri	T3 - 196
27	Public Procurement as Policy Tool	Sanjib Pohit	T3 - 205
28	Regulation of Human Reproduction-related Technologies in India	Tista Bagchi	T3 - 210
29	Risk Frames and Representation in the Assisted Reproductive Technologies (Regulation) Bill 2008	K Rajesh & Pranav N Desai	T3 - 214
30	Analytical Study of Micro Small and Medium Enterprises: Evidences from MSME Census	Yogesh Suman & D Gangopadhyay	T3 - 220
31	Technological Innovations in Engineering Micro, Small & Medium Enterprises (MSME) Sector	MH BalaSubrahmanya	T3 - 229
32	Innovations in SME through TNC-SME Subcontracting Relationship	R Sudhir Kumar & MH BalaSubrahmanya	T3 - 237



33	S&T in Environmental Regulation: Inter-dependencies and the Indian Approach		Kaushik Ganguly	T3 - 242
34	Growth and CO2 Emissions – An Indian Perspective		Monica Dutta	T3 - 247
35	Green Growth – An Incomplete Information Game		Monica Dutta	T3 - 251
36	An Analysis of Energy Efficiency in Indian Industries		Monica Dutta	T3 - 253
37	National Mission on Enhanced Energy Efficiency: A Component of National Action Plan for Climate Change		Ashok Kumar	T3 - 259
38	Greening Production in the Indian SMEs: Methodologies and Case Studies		Aditi Jamalpuria	T3 - 264
39	Status of Green building Sector in India		Madhulika Bhati & Vipin Kumar	T3 - 270
40	Regulations to Control the Exploitation and Pollution of Water		Taposik Banerjee	T3 - 276
41	International Climate Friendly Technology Framework and India: An Assessment and Recent Developments		Tirthankar Mandal	T3 - 283

S&T Output and Patents

	Theme Editors: KC Garg & Sujit Bhattacharya			
1	Scientometric Profile of Indian Science as Seen Through Web of Science during 2007-2009		KC Garg & Suresh Kumar	T4 - 3
2	Indian S&T during last Fifteen Years (1996-2010): A Quantitative Assessment using Publications Data		BM Gupta & Adarsh Bala	T4 - 13
3	Analysis of Citation Pattern of Indian Science Journals Indexed by SCIE		KC Garg & Suresh Kumar	T4 - 22
4	Foreign Authored Contributions to Indian Science Periodicals		KC Garg & Suresh Kumar	T4 - 32
5	S&T Coverage in English-language Indian Dailies		Bharvi Dutt, KC Garg & Suresh Kumar	T4 - 40
6	Scientometric Analysis of Indian Research Output in Medicine during 1999-2008		BM Gupta & Adarsh Bala	T4 - 49
7	India's Patent Activity in the Domestic Patent Office		Sujit Bhattacharya	T4 - 61
8	India's International Patenting Activity		Sujit Bhattacharya	T4 - 68
9	Patents Granted to India by the US Patent Office		NJ Satish	T4 - 82
10	Mapping Solar Photovoltaic Research in India		Bikramjit Sinha	T4 - 93
11	Mapping Nanotechnology Research and Innovation Activity in India		Sujit Bhattacharya & Madhulika Bhati	T4 - 106
12	Collaboration in Biotechnology: Linkages among the Research Institutes in India		MPK Nagpal, Sreevani & Swarup Chattopadhyay	T4 - 120



S&T and Rural Development: Strategies and Capacities			
	Theme Editors: Rajeswari S Raina, Kasturi Mandal, Mohammad Rais, Kirti Joshi & Subhan Khan		
<i>Rural Development: S&T Strategy for Poverty Alleviation</i>			T5 - 7
1	S&T for Rural Populations and Resources	Rajeswari Raina	T5 - 8
2	S&T for Rural Development – Central and State Governments	Rajeswari Raina	T5 - 12
3	Delivering S&T for Poverty Alleviation	D Gangopadhyay and Kirti Joshi	T5 - 17
4	Gender, Employment and Poverty in Rural India – Neglected Terrains	Neetha N	T5 - 20
5	R&D for Drinking Water in Rural India	Kasturi Mandal, Taposik Banerjee & Nabamita Bag	T5 - 27
6	R&D and Capacity Building for Geo-spatial Data Use – The Case of Managing Village Ponds	Subhan Khan	T5 - 34
7	S&T support for Rural Electrification	Bikramjit Sinha	T5 - 39
8	Rural Energy S&T – Solar Energy Options	Santosh M Harish, Shuba V Raghavan & Ashis Kumar Sahu	T5 - 46
9	Rural Finance and Research - for Rural Development	Tara Nair	T5 - 53
<i>S&T strategies for Agri/Farm Based Livelihoods</i>			T5 - 60
10	Food, Work and Employment – Agricultural S&T in Context	Rajeswari Raina	T5 - 61
11	S&T and Innovation in Agriculture	Rajeswari Raina	T5 - 67
12	R&D and the Groundwater Situation	Himanshu Kulkarni and PS Vijayashankar	T5 - 77
13	Livestock Research and Development	Ramesh Kumar	T5 - 84
14	S&T Support for Fisheries Development – Issues from Inland Fisheries	Neelkanth Misra	T5 - 89
15	S&T for Coastal Fisheries	Rajeswari Raina & Ramesh Kumar	T5 - 97
16	S&T Support for Agricultural Extension	Rasheed Sulaiman	T5 - 103
17	S&T for Organic Agriculture – Production and Distribution	Sunita Sangar	T5 - 109
18	Organic Standards – Competency System, S&T Participation and Capacity	Kirti Joshi	T5 - 114
19	S&T on Bio-Fertilizers	Sunita Sangar	T5 - 124
20	Seed Sector – R&D and Policy Support	Sunita Sangar, Dinesh Abrol and Rajeswari Raina	T5 - 131



21	Plantation Agriculture R&D	KJ Joseph	T5 -141
22	Agro-Biodiversity and Livelihoods R&D in Uttarakhand	Mohammad Rais and Nehal A Farooquee	T5 - 147
23	Climate Change and S&T	Rajeswari Raina	T5 - 155
<i>S&T strategies for Non-Farm/Rural Industrial Development</i>			T5 - 161
24	Non-farm Occupations in Rural India	D Gangopadhyay	T5 - 163
25	Rural MSMEs and S&T	Keshab Das	T5 - 175
26	Training, Education and Skill Development for Rural Non-farm Sector Employment	Pradip Biswas	T5 - 182
27	Gender, Self-Employment and Non-farm Livelihoods	Neetha N	T5 -190
<i>Theme Overview – Demand for a Sea-change in Formal S&T</i>			T5 -194



SPONSORED PROJECTS

DESIGN AND DEVELOPMENT OF SCIENCE & TECHNOLOGY POLICY OF THE STATE OF UTTAR PRADESH

Team: Dr. Tabassum Jamal

Sponsored by: Council of Science and Technology, U.P, Lucknow.

Date of start: January 2011

The project started in January 2011 and the duration of this project is for two years. The main objective of the project is to study the sectoral policies of the state and the integration of these policies with the Science & Technology Policy of Uttar Pradesh (UP). An extensive survey of the economic indicators of UP on the basis of available literature and the official documents has been done. A preliminary report on the State-of-the-Art of Uttar Pradesh and Agriculture Development in UP have been prepared. The sectors covered in the report are Agriculture, Health, Education, Industry, Environment, Science and Technology etc. The report gives glimpse of the growth of various sectors and implementation of several schemes initiated by the UP government. In the coming months a policy framework with regard to Agriculture, Health and S&T infrastructure will be developed and an extensive survey will be carried out by interacting with the experts working in the above sectors. A special focus will be given to the agriculture and allied sectors.

Agriculture has been indicated as a priority area of the state of UP and, thus, requires a dedicated and strategized effort to bring out an innovative approach, which can be adapted as a policy mechanism for the development of this sector.

DATABASE MANAGEMENT AND SUPPORT FACILITY DEVELOPMENT FOR INSPIRE PROGRAMME.

Team: Yogesh Suman, Dr. Naresh Kumar, Vipin Kumar, Avinash Kshitij and A.K. Bhardwaj

Sponsored by: Department of Science and Technology (DST), New Delhi.

Sate of Start: April 2009

Objective of the project: The aim of the project is to provide the database management and support for the INSPIRE programme launched by DST.

INSPIRE programme has been launched by DST to provide scholarship to deserving students for pursuing higher education in basic sciences. The scheme is called 'Scholarship for Higher Education (SHE)'. The main aim of the scheme is to attract students in the age group of 17-22 towards basic sciences at graduation and post graduation levels. Students coming under the scheme are given fellowship @ Rs. 1 lakh per year till the completion of their graduation and post graduation. Students are awarded this scholarship (SHE) on the



basis of their performance in their respective board examinations or on the basis of following national level competitive examinations:

1. IIT – JEE: Rank within top 10,000 and pursuing basic sciences at graduation level
2. AIEEE (Engineering): Rank within top 10,000 and pursuing basic sciences at graduation level
3. CBSE Medical Board : Rank within top 10,000 and pursuing basic sciences at graduation level
4. All Kishore Vaigyanik Protsahan Yojna (KVPY) Fellows, National Talent Search Examination
5. (NTSE) Scholars, International Olympiad Medalists and Jagadis Bose National Science Talent

As part of this project, NISTADS role is to receive applications from the students from all over the countries and screen these applications for the award of scholarships. The criterion for screening the students is decided by DST. The list of students thus screened is submitted to DST for the final selection and decision. Under this project, NISTADS thus collected data from educational boards across the country. Software for the online submission of data by the State Boards and screening of the applications has been developed by NISTADS. For the current year, applications for the award of scholarship are being received and data from state boards is also being collected.

KNOWLEDGE CREATION AND INNOVATION IN AN EMERGING TECHNOLOGY: CONTEMPORARY AND FUTURE SCENARIO IN NANOTECHNOLOGY

Team: Dr Sujit Bhattacharya and Dr. Madhulika Bhati

Sponsored by: National Science and Technology Management Information System, DST, New Delhi.

Duration: January 2011 - October 2012

This project concerns a detailed study of Nanotechnology development in India -- *a key technology of the 21st century that can provide solutions/new pathways for addressing complex technological problems.* A decade after the Government of India initiated nanotechnology as a priority programme to create capacity with directed goals, this study investigated to what extent it has been 'successful'. The study has also examined approaches of other countries in developing their nanotechnology innovation ecosystem, in order to draw plausible inputs that can be useful in the Indian context. The study has also articulated intervention measures. The study shows that India has been able to create a nanotechnology 'research ecosystem' through the umbrella programme of NSTI followed by Nano Mission (initiated and implemented by DST), complemented by multi-agency involvement (CSIR, DIT, DBT, DRDO, ISRO, etc). Among the outcomes of these efforts is a vibrant nanotechnology research community. One of indications of their



performance is the significant rise in research publications. India is now (in 2011) the sixth most active country and has shown maximum growth and increase in publication share among prolific countries. Patenting activity is still insignificant but a few patents have attracted global attention. Some novel nanotechnology enabled applications are observed in areas of pressing concerns, such as drug delivery, water purification and health monitoring. The study underscores the need at this critical juncture to develop a framework that helps progression from research ecosystem towards an innovation ecosystem. A roadmap needs to be developed in this context that has short, medium and long term perspective. The roadmap needs to embed a business model, a well defined strategy that provides pathways from lab to market. The findings of the project have been disseminated through publications in peer reviewed journals, book chapters and presentations at conferences. To disseminate this work to the policy community and key stakeholders, two Policy Briefs have been printed. The policy briefs and strategy papers are available at <http://nistads.res.in> under reports. The work has also been reported in the cover story of the 'Nano Digest' (CSIR special issue, 4(4), 2012)).

PRIVATE SECTOR INVESTMENT

OPPORTUNITIES IN INDIAN R&D

Team: Dr. S. Pohit and Dr. P.K. Biswas

Sponsored by: British High Commission, India

Duration: 12 February 2012 – December 2012

The aim of this report is to look at the following issues:

- Analysis of patterns of R&D expenditures of private firms
- Analysis of R&D Expenditure in FDI
- Collaborative pattern in R&D between Public and Private sectors
- Pattern of research funding in Indian universities /institutes

The study would be based on the secondary resources.

ECONOMIC GROWTH AND POTENTIAL OF CLEAN ENERGY TECHNOLOGY

DEVELOPMENT IN INDIA

Team: Dr. Kasturi Mandal and Dr. Taposik Banerjee

Sponsor: WWF, India.

Date of Start: 1 July 2011 – 31 September 2012

The study looked into the following: Assessment of policies and policy gaps in moving towards development of clean energy technology in India; assessment of India's export profile in clean energy technologies; and the scope of creation of jobs in alternative clean energy sectors role of the civil societies in promotion of clean energy services. A draft report of



“Economic Growth and Potential of Clean Energy Technology Development in India” has been submitted to WWF-India.

THE ORGANISATION OF SCIENCE IN RUSSIA AND INDIA AT THE BEGINNING OF THE XXI CENTURY

Team: Dr. Kasturi Mandal, Dr. P. Banerjee and Dr. Naresh Kumar

Sponsor: ILTP, Department of Science and Technology (DST), New Delhi.

Date of Start: 31 August 2010

The project is under two research components: first research component on “The Organisation of Science in Russia and India at the beginning of the XXI century” is between CSIR-NISTADS and under the leadership of the Institute for the History of Science & Technology, St. Petersburg; and the second component on “Modernization of Science, Technology and Innovations Institutions in Russia and India: Comparative Analysis” is between CSIR-NISTADS and the Institute of Economy, Russian Academy of Science. As a part of the project, an International conference was organized in New Delhi, 2011 which was attended by over 100 delegates from India and abroad. A visit to Russia was undertaken by three scientists from NISTADS and lectures on S&T system were delivered in the respective institutes in Moscow and St. Petersburg.

GLOBAL STRATEGY AND PLAN OF ACTION ON PUBLIC HEALTH, INNOVATION & INTELLECTUAL PROPERTY (GSPOA) IN INDIA

Team: Dinesh Abrol and Dr. Y. Madhavi

Sponsored by: WHO-India office, South East Asia Region, New Delhi

Date of Start: 1 July 2011.

The objective of the project is to plan studies and surveys for the purpose of monitoring and evaluation status of mandated actions under GSPOA. Utilization of national and international data base to investigate status and promotion of research, innovation, financing, technology, IPR and related activities in respect of drug discovery, medical devices, vaccines and diagnostics and their access, and policy studies for the preparation of inputs needed by Ministry of Health and Family Welfare (MOHFW)

DEVELOPMENT POLICY AND S&T: TOWARDS A RESEARCH POLICY FOR AGRICULTURE, SHORT ASSIGNMENT FOR THE VPAGE PROJECT (NAIP),

Team: Dr. Rajeswari Raina

Sponsored by: NCAP (ICAR) under the NAIP VPAGE project, New Delhi.

Duration: May 2011 – November 2011

The purpose of this study, sponsored by NCAP under the NAIP- VPAGE project, was to understand the relationship between agricultural development policy and



agricultural science and technology (S&T) in India. More specifically, the objectives were to assess the extent of convergence between agricultural development policy and S&T, and understand the ways in which some key drivers of change shape agricultural policy and scientific research. In addition, the study also sought to understand the role of the social sciences in agricultural development policy and S&T. That India has had no agricultural policy document till the dawn of the 21st century (Govt. of India, 2000) and no policy or strategic framework for agricultural research or extension thus far, is the prime justification for this study. Right from the policy articulation to choice of policy instruments and implementation mechanisms, both IPM and pulses reveal an S&T agenda that is locked into a development policy framework or strategy. There is a significant need for a concerted effort within Indian agricultural science, to identify and chart its course in the future of agriculture and the overall economy, without compromising on excellence and the evolution of knowledge. Most crucially, the report points to the fact that a policy for Indian agricultural research is not possible without significant social science research inputs and communication.

INNOVATION SYSTEMS FOR INCLUSIVE DEVELOPMENT: LESSONS FROM RURAL CHINA AND INDIA

Team: Dr. Rajeswari Raina, (with other collaborations)

Sponsored by: Centre for Policy Research, New Delhi, funded by IDRC, Canada (In collaboration with Centre for Development Studies, Trivandrum, Gujarat Institute of Development Research, Ahmedabad, and the Central University of Hyderabad, and Chinese collaborators headed by Zhejiang University, Hangzhou).

Date of Start: March 2009 – August 2012

The SIID research has focused on understanding the relationships between exclusion of the rural poor and the innovation systems that do or ought to cater to their development demands. Thereby, the key innovation system components analysed during the 2nd year are research, policy (governance), and intermediary (finance, market mediation, extension, etc.) components. Research focused on the content and delivery mechanisms of each of these innovation system components, and the interactions among them - especially the rules or institutions that govern each of them. Secondary and primary information collection and analysis reveals that “innovation for inclusive development demands inclusive innovation systems”. This is a key finding in Module 1, which emerges from both the agricultural (module 2A) and rural MSME cluster (module 2B) analysis. Current programmes and



mechanisms of inclusive development, through the same organizations and delivery mechanisms that enabled mainstream economic growth, will not lead to inclusive development. This is because these organizations and their delivery mechanisms have evolved over time in

ways that have led to different forms of exclusion. More investments in the name of inclusion in the same organizations or components of the innovation system, is meaningless without institutional reform of each component and its linkages with the other components.



IN-HOUSE PROJECTS

PSYCHOLOGY OF SCIENCE: RETROSPECT AND PROSPECTS

Dr. Neelam Kumar

Until recently science has been the subject of study of history, philosophy and sociology. This project is based on the assumption that Psychology can be another important sub-discipline to study and explain science. This project argues that in the studies of science psychology is a necessary perspective if we are to more fully understand science and technology at both the individual and group level. Scientists grasp and understand, abstract and generalize, form hypotheses, and try to prove them. All this is behaviour, and psychology has the substantive as well as methodological potentiality to study human behaviour, both that of scientists and non-scientists. This project aims to examine the emergence, role and status of psychology as a sub-discipline studying science. It also proposes to examine the social psychological processes such as social comparison, social identity and differentiation, which can be linked to the scientific activities in Indian setting.

WOMEN AND SCIENCE IN INDIA

Dr. Neelam Kumar

Women's unequal positions in various spheres of social constitute important areas of study for the social scientists. The feudal, authoritarian values and hierarchy have characterized Indian society. Are

these reflected in Indian science as well? While the literature on women and science in western nations has been extensive, and ranges from discussions about women in science to philosophical analyses of the gendered nature of science itself, it remains a neglected area of research in India. Formation of Indian Women Scientists' Association (IWSA) in 1973 in Mumbai, acted as the first source of data collection on women scientists. Later a few studies have been undertaken and there are a few reports on gender and science. However, there is no systematic mapping of women in science. The question of women in science in India thus stands out. The project concerns: (a) conceptual, analytical and theoretical views of gender and science; (b) historical and sociological analysis; and (c) empirical research.

HIMALAYAN ECOLOGY AND ECONOMIC DEVELOPMENT (HEED): A THREAT TO AGRO BIODIVERSITY AND ITS CONSERVATION IN UTTARAKHAND HIMALAYA DUE TO COMMERCIALIZATION OF AGRICULTURE

Dr. Mohammad Rais

The farmers in Uttarakhand have been cultivating traditional cultivars of a number of cereals, pulses and vegetables. These farmers have also conserved their forest reserve, the plant genetic resources and the methods of cultivation in the face of massive erosion of crop diversity all over India. The gene-pool of traditional crops



has also been continuously enriched by gene-flow across the Himalayan states and countries through trading of grain and exchange of seeds. Despite the urgent need of farming families to grow cash crops in order to survive in the market economy, women in Uttarakhand have emphasized the role played by the traditional crops in ensuring household food security and maintaining the cultural heritage of their tradition. But now due to increased market integration and commercialization of traditional agriculture to improve the productivity, per capita income and standard of living, this gene-pool diversity and traditional knowledge systems associated with conservation is deeply threatened.

VACCINE STS FOR RESEARCH AND POLICY

Dr. Y. Madhavi

This project has generated significant knowledge and has led to its dissemination for capacity building, evidence based national vaccine policies, sustainable financial models, regulation and ethical standards for conducting clinical trials etc. It has also illuminated the impact of 1) Public sector decline, its impact on R&D, production & affordable access to vaccines, 2) Private sector growth, its impact on the availability and cost of vaccines, 3) Unsustainable financial models to implement immunization programmes. One of the significant contributions of this project, during 2011-2012, was that the

project leader, Dr. Madhavi, (as an expert of the committee member) could contribute to the timely intervention on National vaccine policy debate and pentavalent vaccine introduction in India. The project also resulted in peer reviewed publications, conference presentations. Through advocacy and formal and informal interactions of Dr. Madhavi with ICMR, Health ministry, NTAGI members, academia, civil society etc could lead to timely policy interventions.

POLICIES AND INSTITUTIONS: THE ARCHITECTURE OF S&T FOR DEVELOPMENT IN SOUTH ASIA

Dr. Rajeswari S. Raina

This in-house project is to explore the structure and content of S&T for development. The study locates S&T as a function of policies, the policy goals and instruments which are shaped by certain institutions - the rules, norms or assumptions. The study brings out the explicit and hidden values or cultures of knowledge and knowing in each context (space and time). The study deviated from the focus on South Asia, to focus on India. As an outcome of this project, a manuscript for a book titled "Development policy and S&T: values and norms in India" with 14 chapters, is ready and will be submitted to Orient Blackswan. The publisher has agreed to publish it in 2013. We hope to take up this at the South Asia level, with a focus on biological sciences and social-economic developments in 2013-14.



FACULTY

- **Academic Background and Research Interests**
- **Publications**
- **Academy of Scientific and Innovative Research (AcSIR)**
- **Invited Lectures/Conference Presentations**
- **Foreign Visits**



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Research interests: Technology Transfer; Innovation.

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Research interests: Science Measurement; Social Networking in Science.

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QHF/Visiting Scientists

DR. D. GANGOPADHYAY (5.1.2009 to 2.1.2012)

Qualification: Ph.D.

Research interests: S&T for rural development; industry linkage machinery to create demand-based-technology market for rural communities.

DR. TAPOSIK BANERJEE (17.7.2009 to 19.4.2012)

Qualification: Ph.D.

Research interests: Water rights; green jobs; drinking water and sanitation; climate change; technology transfer.

SWARUP CHATOPADHYAY (1.8.2009 to 30.4.2012)

Qualification: M.Sc.

DR. ADITI JAMALPURIA (joined on 1.4.2011)

Qualification: Ph.D.

Research interests: Environmental Economics, Industrial Organization and Econometrics.

DR. ANKUSH GUPTA (joined on 1.8.2011)

Qualification: Ph.D.

Research interests: Waste management.

DR. ANINDYA CHAUDHURI (joined on 20.10.2010)

Qualification: Ph.D.

Research interests: Information and communication technologies, education, human capital, and knowledge and innovation.



DR. NIHARIKA SAHOO (joined on 21.3.2011)

Qualification: Ph.D.

Research interests: Intellectual property rights, biopharmaceutical regulation, herbal drug regulation and pharmaceutical innovation

PAPIYA GHOSH (joined on 14.3.2011)

Qualification: M.A.

Research interests: analysing the implications of different laws and regulations dealing with issues like medical negligence, environmental pollution and Internet torts and crimes.

DR. RITTIK CHATTERJEE (joined on 21.3.2011)

Qualification: Ph.D.

Research interests: Auction and Mechanism Design Theory

MS. MONICA DUTTA (joined on 5.2.2010)

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PUBLICATIONS

BOOKS

1. Rais, M.; N.A. Farooquee and G.V. VanLoon (2012) 'Agro-biodiversity Conservation in Indian Central Himalaya: On Farm (In-situ) Practices', Technical Monograph, LAP LAMBERT Academic Publishing GmbH: Germany, pages.100.
2. Saha, B.; P. Banerjee and R.K. Kakani. (2011) 'Strategic Thinking', Sage: New Delhi.

PAPERS IN JOURNALS

1. Bala, Adarsh and B.M. Gupta, (2012) 'Diabetes Research in India, China and Brazil: A Comparative Quantitative Study, 2000-2009', *Journal of Health & Medical Information*, 3(2): 1-8.
2. Banerjee, P. and S. Roy. (2011) 'Intercity Differences in University, R&D and Industry Interactions in Biomedical Sector Research in India', *International Journal of Technology Management & Sustainable Development*, 10(3): 27-44.
3. Basu, Aparna (2012) 'Some Differences in Research Publications of

Indian Scientists in India and the Diaspora, 1986–2010', *Scientometrics*,
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<http://www.springerlink.com/openurl.asp?genre=article&id=doi:10.1007/s11192-012-0800-z>)

4. Basu, Aparna; Dobler, Roland Wagner (2012) 'Cognitive Mobility or Migration of Authors Between Fields Used in Mapping a Network of Mathematics', *Scientometrics*, 91(2): 353-368. (link: <http://www.springerlink.com/content/0476878107264823/>)
5. Bhattacharya, S. and Patra, S. (2010) 'Assessing Competency of a Developing Country in High Technology?: A Case Study based on Indian Patenting Activity in the Biotechnology Sector', *COLLNET Journal of Scientometrics and Information Management*, 4(2).
6. Bhattacharya, S. and Shilpa (2011) 'Mapping Nanotechnology Research and Innovation in India', *Journal of Library & Information Technology*, 31(5): 349-358.
7. Bhattacharya, Sujit and A.P. Jayanthi (2011) 'Research and Innovation for Drug Development in Neglected



- Diseases: A Case Study of India', *African Journal of Science, Technology, Innovation and Development*, 3(1): 236-258.
8. Bhattacharya, Sujit and K. Lal, (2011) 'Transition of Indian Firms in the Liberalisation and Globalisation Era', *Asia-Pacific Tech Monitor*, Jul.-Aug.: 43-51.
9. Bhattacharya, Sujit and Madhulika Bhati (2011) 'China's Emergence as a Global Nanotech Player: Lessons for Countries in Transition', *China Report*, 47(4): 243-262.
10. Biswas, Pradip K. and Alberto Moreira Baptista, (2012) 'Growth of ICT Capital and Deceleration of Labour Productivity in the EU Countries: The Missing Links', *Computer and Information Science*, 5(5): 55-68.
11. Biswas, Pradip K. and Alberto Moreira Baptista, (2012) 'Institutions and Micro-enterprises Demography: A Study of Selected EU Countries, 1997-2006', *Journal of Small Business and Entrepreneurship*, 25(3): 283-306.
12. Chatterjee, Rittwik (2011), 'Multi-stage Double Auctions With Many Bidders', *Economics Bulletin*, 31(2): 1902-1909. ([link:http://www.accessecon.com/includes/CountdownloadPDF.aspx?PaperID=EB-11-00200](http://www.accessecon.com/includes/CountdownloadPDF.aspx?PaperID=EB-11-00200))
13. Chatterjee, Rittwik (2012), 'Single vs. Simultaneous Contests', *Contemporary Issues and Ideas in Social Sciences, North America*, Vol 7. ([link:http://journal.ciiss.net/index.php/ciiss/article/view/81](http://journal.ciiss.net/index.php/ciiss/article/view/81))
14. Chattopadhyay, S. and Rittwik Chatterjee, (2012) 'Revenue Equivalence in Sequential Auctions', *Economics Bulletin*, 32(2): 1272-1281.
15. Francisco Diniz and Pradip Biswas, (2012) 'Innovations in Agriculture and Manufacturing in selected EU Countries: A Study Based on Input-Output Tables', *Romanian Journal of Regional Science*, 6(1): 1-21.
16. Gunatilake, Herath; Sanjib Pohit and Guntur Sugiyarto (2011) 'Economy-Wide Impacts of Biodiesel Production and Use in India: A Computable General Equilibrium Model Assessment', *Asian Development Bank, South Asia Working Paper Series*, 4: 1-17.
17. Gupta, B.M. (2012) 'Measurement of Indian Science and Technology Using Publications Output during 1996-2010', *Indian Journal of Science and Technology*, 5(6): 2899-2911.
18. Gupta, B.M. (2012) 'Scientometric Analyses of Pakistan's S&T research



- output', *Annals of Library & Information Studies*, 59 (1): 25-38.
19. Gupta, B.M. and Adarsh Bala, (2011) 'A Bibliometric Analysis of Malaria Research in India during 1998–2009', *J. Vector Borne Dis*, 48(Sept.): 163-170.
20. Gupta, B.M. and Adarsh Bala, (2011) 'Indian S&T During Fifteen Years (1996-2010): A Quantitative Assessment using Publications Data', *DESIDOC Journal of Library & Information Technology*, 31(5): 359-370.
21. Gupta, B.M. and Adarsh Bala, (2011) 'Mapping of Asthma Research in India: A Scientometric Analysis of Publications Output during 1999-2008', *Lung India*, 28(4): 239-246.
22. Gupta, B.M. and Adarsh Bala,(2011) 'Mapping of tuberculosis research in India: A scientometric analysis of publications output during 1998-2009', *COLLNET Journal of Scientometrics and Information Management*, 5(1): 1-19.
23. Gupta, B.M., (2011) 'Mapping of Indian science and technology in a national and global context, 1997-2007', *Library Philosophy and Practice* September, (link:<http://www.unlib.unl.edu/LPP/Gupta.pdf>)
24. Gupta, B.M., (2012) 'Heredit Blood Disorders (HBD): A Scientometric Analysis of Publications Output from India during 2002-11', *Journal of Blood Disorder & Transfusion*, 3(4): 1-7.
25. Gupta, B.M., Adarsh Bala and Har Kaur, (2011) 'Mapping of HIV/AIDS research in India: A scientometric analysis of publications output during 1999-2008', *COLLNET Journal of Scientometrics & Information Management*, 5(2), 185-203.
26. Gupta, B.M., Har Kaur and Adarsh Bala, et al. (2011) 'Ranking of Indian pharmaceutical institutions for their research performance during 2000-09', *International Journal of Pharmaceutical Applications*, 2(1), 99-104.
27. Jamalpuria, A. (2012) 'On Voluntary Eco-labeling and Fiscal Incentives', *Economics Letters*, 117(1): 110-114. (link:<http://dx.doi.org/10.1016/j.econlet.2012.04.087>).
28. Jayanthi, A.P., Koen Beumer, and Sujit Bhattacharya (2012) 'Nanotechnology: Risk, and Governance in India', *Economic & Political Weekly*, XLVII(4): 34-40.



29. Kaur, Har, Preeti Mahajan and B.M. Gupta, (2011) 'Scientometric analysis of the research output of Government Medical College College & Hospital (GMCH), Chandigarh', *COLLNET Journal of Scientometrics & Information Management*, 5(2): 217-26.
30. Kostoff. R.N. and Bhattacharya, S. (2010) 'Identification of Military Related Science & Technology', *Defence Science Journal*, 60(3): 259-270.
31. Kshitij, Avinash and B.M. Gupta, (2011) 'Semantic Web: A Quantitative Analysis of World Publications Output (2001-2010)', *DESIDOC Journal of Library & Information Technology*, 31(4): 253-261.
32. Kumar, Naresh and Nadia Asheulova, (2011) 'Comparative Analysis of Scientific Output BRIC Countries', *Annals of Library and Information Studies*, 58(Sept.): 228-236.
33. Kumar, Naresh and Shailaja Rego (2011) 'Comparative Enrolment Growth at Different Levels of Education and Dissemination of ICT: A Case of BRIC Countries', *Sociology of Science and Technology*, 2(3): 31-40.
34. Kumar, Naresh and Shailaja Rego (2011) 'Linkages Between Level of Educational Skill and Diffusion of ICT in Brazil, China and India', *The International Journal's Research Journal of Social Science & Management*, 1(4): 71-80.
35. Kumar, Vipin; Naresh Kumar and Sapna Narula (2011) 'Plethora of Indian Education: Are we following the Development Path?', *Liceo Journal of Higher Education Research*, 7(1): 18-25.
36. Kumar, Vipin; Naresh Kumar and Sapna Narula, (2011) 'Mapping of Elementary Educational Infrastructure in India: A State and District Level Analysis', *International Journal of Multidisciplinary Research*, 1(1): 128-139.
37. Madhavi Y., and N. Raghuram (2012) 'National Vaccine Policy in the Era of Vaccines Seeking Diseases and Governments Seeking Public Private Partnerships', *Current Science*, 102(4): 57-58.
38. Nath, P. and S. Bhattacharya, (2011) 'Export Structure, Technological Capability and Comparative Performance of India and China in US Market', *Sociology of Science and Technology*, 2(1): 62-74.



39. Pohit, Sanjib, Barun Deb Pal and Joyashree Roy, (2012) 'Social Accounting Matrix for India', *Economic Systems Research*, 24(1): 77-99.
40. Pohit, Sanjib, Herath Gunatilake and Guntur Sugiyarto, (2011) 'Economy-Wide Impacts of Biodiesel Production and Use in India: A Computable General Equilibrium Model Assessment', *South Asia Working Paper Series, Asian Development Bank*, 4: 1-17
1. Pohit, Sanjib, Pradip K. Biswas and Sunil Ashra (2011) 'Incentive Structure of India's Biofuel Programs: Status, Shortcomings and Implications', *Biofuels*, 2(4): 389-404.
41. Prathap, Gangan; B.M. Gupta, (2011) 'Ranking of Indian Medical Colleges for Their Research Performance during 1999-2008', *Annals of Library and Information Studies*, 58(Sept.): 203-210.
42. Ravindra, A. and Rajeswari S. Raina (2012) 'Risk and Trust: Collectivising Private Groundwater Borewells in Anantapur, Andhra Pradesh, India', *Innovation and Development*, 2(1): 189-191
43. Sahoo, N. and M. Padmavati, (2011) 'Recombinant Drug Development, Regulation and Commercialization: an Indian Industry Perspective', *Biodrugs*, 25(2): 105-113.
44. Sahoo, N., M. Padmavati, S.H. Dey, (2011) 'Herbal Drugs Patenting: IP Potential', *Journal of Ethnopharmacology*, 137(1): 289:297.
45. Saxena, Anurag; B.M. Gupta and Monika Jauhari, (2011) 'Research Performance of Top Engineering and Technological Institutes of India: A Comparison of Indices', *DESIDOC Journal of Library & Information Technology*, 31(5): 377-381
46. Tripathi, Arun Kumar; Pradosh Nath, (2011) 'Culture of Embodied Skill and its Acquisition in Human Computer Interaction: How Embodied Users Deal with Embedded Computers', *International Journal of Applied Research on Information Technology and Computing*, 2(2): 87-96.



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- *IAMURE International Journal of Multidisciplinary Research*

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**CHAPTERS IN BOOKS**

1. Banerjee, P. (2012) 'Science and Technology for Governance in China'. In *Transformation and Development: The Political Economy of Transition in India and China*. (Eds.) A.K. Bagchi and A.P. D'Costa. Oxford University Press: New Delhi, 247-272.
2. Kumar, Neelam (2011) 'Women in Scientific and Technical Education in India: Trends over the Decades', In *Indian Culture, Science & Technology: Through the Ages*. (Ed.) Amal Kumar Mishra. Utkal University, Bhubneshwar, Printed by Gyanajuga Publication, pp.236-258.
3. Kumar, Vipin; Mandal, Kasturi; Kumar, Naresh; Banerjee, Taposik (2011) 'India', In *Synthesis report on Skills for Green Jobs: A Global View*. (Eds.) Olga Strieska-Ilina, Christine Hofmann, Mercedes Duran and Shinyoung Jeon. pp.323-334.
4. Mehra, Kavita (2011) 'Community Building through Dialogues'. In *Facilitating Change: Using Interactive Methods in Organizations, Communities and Networks*. (Ed.) L.B. Rasmussen; Polyteknisk: Denmark, 285-303.
5. Rais, M. and G.W. VanLoon, (2012) 'Policy Development to Support Biodiversity within Agricultural Systems of Hilly Regions of Uttarakhand, North India'. In *Mountain Biodiversity Conservation and Management: Selected Examples of Good Practices and Lessons Learned from the Hindu Kush Himalayan Region*. (Eds.) Chettri, N; Sherchan, U; Chaudhary, S; Shakya, B, Kathmandu: ICIMOD, 31-35.
6. Rajeswari S. Raina (2011) 'Institutional Strangleholds: The Evolution of Agricultural Research in India'. In *Shaping India*. (Eds.) D. Narayana and R. Mahadevan; Routledge: New Delhi, pp. 99-123.
7. Rajeswari S. Raina (2012) 'Agriculture in the Environment: Are Sustainable Climate Friendly Production Systems Possible in India?' In *The Handbook of Climate Change*. (Ed.) N. Dubash; Oxford University Press: New Delhi, pp. 317-327.



PAPERS IN CONFERENCE PROCEEDINGS

1. Bhattacharya, Sujit; Madhulika Bhati and Avinash Prasad Kshitij. (2011), 'Investigating the Role of Policies, Strategies, and Governance in China's Emergence as a Global Nanotech Player', in IEEE conference proceeding of the 2011 Atlanta Conference on Science and Innovation Policy, pp.1-14. (link: http://ieeexplore.ieee.org/xpls/abs_all.jsp?arnumber=6064462)
2. Jamal, Tabassum (2010) 'Globalisation and Skill Development – Mapping government Initiatives for Vocational Education and Training in India', in proceedings of World Conclave of Scientists on Regional Co-operation in Science and Technology: Opportunities and Challenges in the Context of Globalization, ed. Mohsin U. Khan, held during 26-29 November 2010 at New Delhi, published by Zaheer Science Foundation: New Delhi, pp.373-385.
3. Khan, Subhan (2010) 'Geospatial Science & Technology Policy of India in Global Context', in proceedings of World Conclave of Scientists on Regional Co-operation in Science and Technology: Opportunities and Challenges in the Context of Globalization, ed. Mohsin U. Khan, held during 26-29 November 2010 at New Delhi, published by Zaheer Science Foundation: New Delhi, pp.357-359.
4. Kumar, Naresh; Rai, L.P. 2011. 'Use of mathematical models to forecast market capitalization and economic growth in India', in proceedings of National Conference on Recent Trends in Materials and Devices, eds. Prof. A.L. Verma, Prof. C.K. Goel, Prof. Sunita Rattan, Dr. Alpana Goel, organised by Amity Institute of Applied Sciences & Amity School of Engineering and Technology, Amity University, Noida, U.P., during 19-20 May 2011, published by Excellent Publishing House: New Delhi, pp.113-118.



ACADEMY OF SCIENTIFIC AND INNOVATIVE RESEARCH (AcSIR)

CSIR-NISTADS as a part of **Academy of Scientific and Innovative Research (AcSIR)** will introduce PhD programme on Science, Technology and Innovation Studies (STIS). The purpose of this STIS course is to create a critical mass of scholars and practitioners with analytical competencies to lead and transform India's science, technology and innovation trajectories in economically productive, socially progressive and environmentally sustainable ways. In its academic and policy endeavours, CSIR-NISTADS operates at the interface between science and society. CSIR-NISTADS proposes to cover the following courses:

CORE COURSES

- 1 Quantitative Research Methodology
- 2 Introduction to Qualitative Research

- 3 Indian Economy and Policy
- 4 Innovation systems and development
- 5 Introduction to History of Science
- 6 Science & Technology Policy
- 7 Science and Technology Systems - India and the World

ELECTIVE COURSES

1. Trade and Technology
2. Enterprise Development through Value Chains Analysis
3. Intellectual Property Rights in the Context of Research, Innovation and Development
4. Environmental History
5. Resource Planning & Policy
6. and others



INVITED LECTURES/CONFERENCE PRESENTATIONS

1. Basu, Aparna and Ronald Wagner Dobler, 'Mapping the Network of Mathematics using Cognitive Mobility or the Migration of Authors between Fields as an Index', at the 13th international conference of the Society of Scientometrics and Informetrics (ISSI 2011), Durban, South Africa, 4-7 July 2011.
2. Basu, Aparna, 'Changing Database Coverage and Its Effect on Evaluation', at NISCAIR-Thomson Reuters event on Evaluative Bibliometrics, New Delhi, 9 November 2011.
3. Basu, Aparna, 'Interpretation of Metrics/Indicators and Effect on Policy Options', at Indian Statistical Institute Workshop on Metrics, New Delhi, 16 February 2012.
4. Bhati, Madhulika, 'Risk Issues and Regulatory Risk Framework in Nanotechnology: A Case Study of India', in international workshop on Nanotechnology in the Edge of Convergence, held at Malaysia 24-27 November 2011.
5. Bhati, M and Bhattacharya, S., 'Nanotechnology Development in India: Quantitative Analysis', presented at 7th International Conference on Webometrics, Informetrics and Scientometrics & 12th COLLNET meeting, Istanbul, Turkey, 20-23 September 2011.
6. Bhattacharya, S. and Bhati, M., 'China and India: Two New Players in the Technology Race: Evidence from Nanotechnology Research', presented at 7th International Conference on Webometrics, Informetrics and Scientometrics & 12th COLLNET meeting, Istanbul, Turkey, 20-23 September 2011.
7. Bhattacharya, S., 'Nanotechnology Risk and Governance: Global Initiatives and Challenges for India', presented at ICONSAT2012, Hyderabad, 20-23 January 2012.
8. Bhattacharya, S., Invited lecture on 'S&T Policy in China and Innovation Indicators', at the National Academy of Agricultural Resource Management, Hyderabad, 19 January 2012.
9. Bhattacharya, S., Invited talk on 'Reflections on Indian Patenting Activity' at the SIS conference 2012 in



- association with CSIR-URDIP, Pune, 20 March 2012.
10. Bhattacharya, S., Invited talk on 'Scientometrics: The Way Ahead', at Workshop on 'Evaluative Bibliometrics' Organised by Thomson Reuters in partnership with CSIR-NISCAIR, New Delhi, 9 November 2011.
 11. Bhattacharya, S., Invited talk on 17 February at 'National Workshop on Using Different Metrics for Assessing Research Productivity, organized by Indian Statistical Institute, New Delhi, 16-17 February 2012.
 12. Bhattacharya, S., Invited talk on 18 February at 'Valedictory Session of the International Conference on Creativity and Innovation: Breaking the Barriers to Reach the Bottom of the Pyramid', at Chinmaya Mission, New Delhi, 17-18 February 2012.
 13. Chatterjee, Rittwik, 'Auctions with Synerg', in JNU-NIPFP Economic Theory and Policy Conference, NIPFP, New Delhi, 29 March 2012.
 14. Chatterjee, Rittwik, 'Contest under Interdependent Valuations', in JNU-NIPFP Economic Theory and Policy Conference, NIPFP, New Delhi, 29th March 2012.
 15. Chatterjee, Rittwik, 'Tullock contest with Multiple Types', in CESP Young Scholars seminar, Jawaharlal Nehru University, New Delhi, 12 March 2012.
 16. Chaudhuri, Anindya 'Creeping Tiger, Soaring Dragon: India, China and Competition in Information Technologies', in ICT Landscapes of BRICS Countries: R&D, Innovation and Trade, organised by Institute for Prospective Technological Studies (IPTS), European Commission - Joint Research Centre (EC-JRC), at Johannesburg, South Africa, 5 October 2011.
 17. Chaudhuri, Anindya 'India's Information Technology Policy', international seminar on Socioeconomic & Technological Innovations in the Globalizing Economy, organised by CSIR-NISTADS and Russian Academy of Sciences, at New Delhi, 2-5 November 2011.
 18. Chaudhuri, Anindya, 'Convergence in Communications: Some Regulatory Implications for NGN', in seminar on Next Generation Networks - Implementation and Implications, held at Telecommunications Regulatory Authority of India (TRAI), New Delhi, 25-26 August 2011.



19. Chaudhuri, Anindya, 'Indian IT&T: The Big Picture', in NISTADS-PTP Ambassador Programme USA Joint Meeting on 'Emerging Issues and Challenges in Science, Mathematics & Engineering Education', 11 October 2011.
20. Chaudhuri, Anindya, 'Keynote Speaker, Media Launch, Information Economy Report 2011', at United Nations Conference on Trade and Development (UNCTAD), New Delhi, 19 October 2011.
21. Ghosh, Jaideep 2011, 'Technology Acceptance and Innovation Diffusion of Software Products in Asian Consumer Markets: A Systems Model', at the IndoRussian conference on Socio-Economic and Technological Innovations in the Globalizing Economy (STIGE-2011): Mechanism and Institutions', organized by CSIR-NISTADS in collaboration with Russian Academy of Sciences, held at New Delhi, 2-5 November 2011.
22. Ghosh, Papiya, 'Internet Laws: Some Conceptual Issues with Special Reference to India', at the IndoRussian conference on Socio-Economic and Technological Innovations in the Globalizing Economy (STIGE-2011): Mechanism and Institutions', organized by CSIR-NISTADS in collaboration with Russian Academy of Sciences, held at New Delhi, 2-5 November 2011.
23. Jamal, Tabassum and Kasturi Mandal, 'Globalization and New Modes of Institutional Arrangements for Skill Development: Mapping Government Initiatives in Vocational Education and Training in India', at international seminar on Institutions, Structure and Organisations in Globalizing India: Science and Technology, Economy and Society, IIT Bombay, Mumbai, 20-21 January 2012.
24. Jamal, Tabassum and Kasturi Mandal, 'Institutional Arrangements for Skill Development: Reflections on Vocational Education and Training in India', at the IndoRussian conference on Socio-Economic and Technological Innovations in the Globalizing Economy (STIGE-2011): Mechanism and Institutions', organized by CSIR-NISTADS in collaboration with Russian Academy of Sciences, held at New Delhi, 2-5 November 2011.
25. Jamal, Tabassum, 'Ideate, Initiate, Innovate for Inclusive Growth: Showcasing CSIR-NInc Partnership for MSME Cluster Development', in Cluster discussion Seminar on Surveying Instrument Industry Cluster



- of Roorkee, at COGNIZANCE, IIT Roorkee, Roorkee (Uttarakhand).23-25 March 2012.
26. Jamalpuria, Aditi, 'Green Product Development with Heterogeneous Consumer Preferences', at the Indo-Russian conference on Socio-Economic and Technological Innovations in the Globalizing Economy (STIGE-2011): Mechanism and Institutions', organized by CSIR-NISTADS in collaboration with Russian Academy of Sciences, held at New Delhi, 2-5 November 2011.
27. Jamalpuria, Aditi, 'Green Product Development with Heterogeneous Consumer Preferences', in a weekly seminar at the Indira Gandhi Institute of Development Research (IGIDR), Mumbai, July, 2011.
28. Kumar, Neelam 'Women's Education in India', at Central University of Gujarat, April, 2011
29. Kumar, Neelam, 'Gender and Science: Indian Experiences', at Central University of Gujarat, April 2011
30. Kumar, Vipin, 'GIS-Mapping of Elementary Educational Infrastructure in India', in Plenary Session at Asian Conference for Academic Journals and Higher Education Research, held at Philippines during 17-20 August 2011.
31. Kumar, Vipin, 'Plethora of Indian Education: Are We following the Development path?', at Plenary Session at Asian Conference for Academic Journals and Higher Education Research, held at Philippines, 17-20 August 2011
32. Madhavi, Y. and N. Raghuram, 'Vaccine PSUs & Rational Vaccine Policy: PIL in Supreme Court, SP Shukla & Ors vs. Union of India', at National Dialogue Using the Law for Public Health, co-organised by Human Rights Law Network, LOCOST, PRAYAS & IHES, held at Vishwa Yuvak Kendra, Chanakyapuri, New Delhi, 17-18 December 2011. Madhavi, Y., 'Evidence based National Vaccine Policy: Agenda for Action. International Seminar on Innovation, Sustainability and Development, co-organised by CDS, Trivendrum, SPRU, UK and NISTADS, New Delhi, 28-30 June 2011. Madhavi, Y., 'National vs. Global Approaches to Vaccine Policy: The New Face of an Old Conflict', at the Indo-Russian conference on Socio-Economic and Technological Innovations in the Globalizing Economy (STIGE-2011): Mechanism and Institutions', organized by CSIR-



- NISTADS in collaboration with Russian Academy of Sciences, held at New Delhi, 2-5 November 2011.
35. Mandal, Kasturi, 'Arsenic Contamination in Food in West Bengal: Evidences from the Field', in the seminar on Challenges of Biology in the 21st Century, held at MUCWC, Burdwan, 1-2 December 2011.
36. Raina, Rajeswari S., 'But why? Towards a Policy for Agricultural Research in India', in the Atlanta conference on Science, Technology and Innovation Policy, at the Georgia Tech Global Learning Centre, Atlanta, 15-17 September 2011.
37. Raina, Rajeswari S., 'Norms of Expertise: Agricultural Production and the Environment in India', lecture delivered at the STS Group, Fall Lecture Series, Harvard University, Boston, 19 September 2011.
38. Raina, Rajeswari S., 'South Asian Agriculture: Knowledge and Development Debates', lecture delivered as part of the International Course on Challenge of the Balance: Learning the Policies, Practices and Politics of Environmental Management, at CSE, New Delhi, 5 August 2011.
39. Sahoo, N., 'Innovation in Indian Herbal Medicine Sector', in workshop on Public Health, Innovation and Intellectual Property in India, held at New Delhi, 8-9 November 2011.

**FOREIGN VISITS**

Name of Scientist	Place visited	Date of visit	Purpose of visit
Dr. P. Banerjee	Russia	3-16 May, 2011	Visited St. Petersburg and Moscow, Russia to work jointly on the collaborative project under the Integrated Long Term Programme (ILTP) of Indo-Russian Science & Technology Cooperation coordinated by DST.
Dr. Kasturi Mandal	Russia	3-17 May, 2011	Visited St. Petersburg and Moscow, Russia to work jointly on the collaborative project under the Integrated Long Term Programme (ILTP) of Indo-Russian Science & Technology Cooperation coordinated by DST.
Dr. Bikramjit Sinha	Russia	3-17 May, 2011	Visited St. Petersburg and Moscow, Russia to work jointly on the collaborative project under the Integrated Long Term Programme (ILTP) of Indo-Russian Science & Technology Cooperation coordinated by DST.
Dr. Monica Datta	Spain	21 July to 29 August, 2011	Visited Spain for pursuing scientific and collaborative research
Dr. Rajeswari S. Raina	Atlanta	18-21 September, 2011	Visited for the Conference on 'Science Technology and Innovation Policy', held at Atlanta, Georgia, USA and delivered lecture at STS-Harvard Kennedy School of Government, Harvard University.



Dr. Sujit Bhattacharya	Isanbul,Turkey	20-23 September, 2011	To attend 27th International Conference on Webometrics, Informetrics and Scientometrics (WIS) and 12th COLLNET meeting '
Dr. Anindya Chaudhari	South Africa	5 October 2011	To participate in the workshop on 'ICT Landscape in Bricks Countries: Lessons from emerging economies (R&D), innovation and trade' - 2nd, JRC IPTC Brick workshop.
Dr. Subhan Khan	Brazil	17-24 October, 2011	As a Keynote speaker presented paper in the Interdisciplinary Symposium and Workshop on Public Communication of Science and Technology
Dr. Rajeswari S. Raina	China	9-17 November, 2011	Participated in the workshop on ' Emerging Economies Research Dialogue' held at Tsinghua University, Beijing and wrote joint research paper with NIIM on the project of 'Innovation Systems for Inclusive Development: Lessons from Rural China and India' at Zijingang University, Hangzhou.
Shri D.K. Abrol	Buenos Aires, Argentina	15-18 November, 2011	Invited speaker at 9th Globelics Conference, in the special Session on "Innovation for Social inclusion and Sustainable Development' and also to attend CRIID workshop.
Dr. Madhulika Bhati	Malaysia	24-27, November, 2011	To participate in international workshop on 'Nanotechnology in the EDGE of Convergence'



Shri D.K. Abrol	U.K	24-26 March, 2012	To participate in the workshop on 'Grass Roots Innovation in Historical and Comparative Perspective', and also for presentation in the forthcoming planet under pressure Conference.
	South Africa	28-31 March, 2012	For attending the planning meeting on Local Innovation and Production Systems (LIPS) in Brazil, South Africa, India and China (BASIC).



- **SEMINARS / CONFERENCES / WORKSHOPS / ROUNDTABLES**
- **TUESDAY SEMINARS**

SEMINARS/CONFERENCES/WORKSHOPS/ROUNDTABLES

1. International Seminar on **‘Innovation, Sustainability and Development’**, organised by CSIR-NISTADS; CDS, Trivandrum & STEPS Centre, UK, held at CSIR-NISTADS, New Delhi, 28-30 June 2011.
2. NISTADS - USA Joint Ambassador Programme/Meeting on **‘Emerging Issues and Challenges in Science, Mathematics & Engineering Education’**, at CSIR-NISTADS, New Delhi, 11 October 2011

The structures of education systems across the world, particularly in science education at secondary/higher secondary level, are undergoing considerable change. This is more visible in emerging economies like India as the new economic policies open the doors of employment opportunities in other areas like economics, commerce and. Consequently, the preferences of students have changed over the last two decades. Enrolment in the sciences has declined, and if the current trend persists, science education may suffer overall. Taking a note on the issue, the Government of India launched an ambitious program *Innovation in Science Pursuit for Inspired Research* (INSPIRE) in 2007 to attract young talents and to promote basic science education in the country. A joint meeting on “Issues and Challenges in Science, Mathematics & Engineering Education” was held on 11 October, 2011 to discuss the emerging issues in the area of science, technology and engineering education. The emphasis was on secondary and higher secondary

education to explore issues of science education and a framework for comparative policy research. The participants were the experts from Department of Science & Technology (DST), National Council of Educational Research and Training (NCERT), Central Board of Secondary Education (CBSE), National Board for Higher Mathematics (NBHM) and Secondary Education States Boards, as well as educational non-governmental organizations from Indian side.

3. The Indo-Russian conference on **“Socio-economic and technological innovations in the globalizing economy (STIGE-2011): Mechanism and Institutions”**, organized by NISTADS in Collaboration with Russian Academy of Science, New Delhi, 2-5 November 2011.

An International Conference “Socio-economic and technological innovations in the globalizing economy (STIGE-2011): Mechanism and Institutions” was organized



Dr. P. Banerjee (left), Director CSIR-NISTADS and Prof. Samir K Brahmachari (right), Director General, CSIR & Secretary, DSIR, Govt. of India during the inauguration of Indo-Russian conference on “Socio-economic and technological innovations in the globalizing economy (STIGE-2011): Mechanism and Institutions”, held at New Delhi, 2-5 November 2011.



in collaboration with Russian Academy of Science during November 2-5, 2011, New Delhi. This conference aimed at searching a framework of comparative policy research on domestic institutions of economy, society and S&T. The conference was also about searching aspects where mutual country institutions could learn and collaborate. The conference brought together scholars from Russia, India, China and other Asian countries and critically looked into current happenings, nuanced meanings and applications of innovation. Total number of participants attending the conference was 102, in which the number of foreigner participants was twenty. Around 60 research papers were presented

in the various parallel sessions at the conference. The conference was inaugurated by Prof S K Brahmachari, DG, CSIR & Secretary, DSIR, on 1st November, 2011, at CSIR Vigyan Kendra, New Delhi.

4. A roundtable on ***Information Technologies in the Public Space***, People to People Ambassador Program, held at CSIR-NISTADS, on 8 November 2011.
5. Workshop on **‘Public Health, Innovation and Intellectual Property in India: Status and Proposals’**, held at NISTADS, 8-9 November 2011.

**TUESDAY SEMINARS**

Date	Title	Speaker
26 April 2011	Law and Its Difficult Relationship with Art: Contextualising Science in Public Sphere and Reportage	Ms. Biraj Swain <i>Social Development, Governance and Essential Services Expert, Delhi</i>
10 May 2011	Trust, Experts and Technology: Their Ambivalence Relations	Mr Arun Kumar Tripathi <i>Department of the Philosophy of Technology Institute for Philosophy, Dresden University of Technology (Germany)</i>
24 May 2011	Innovation, Sustainability, Development: A New Manifesto	Dr. Adrian Ely <i>Research Fellow, SPRU - Science and Technology Policy Research University of Sussex, United Kingdom</i>
31 May 2011	International divergence in the regulation of agricultural biotechnologies: global harmonisation and local realities	Dr. Adrian Ely <i>Research Fellow, SPRU - Science and Technology Policy Research University of Sussex, United Kingdom</i>
14 June 2011	Knowledge and development action: looking at the Solution Exchange experience	Dr. Anand Kumar <i>Former Co-ordinator of Solution Exchange, Delhi</i>
5 July 2011	Nanotechnology Standards Development Activities and its Importance for Development of Responsible Nanotechnology	Dr. Madhulika Bhati <i>Scientist, CSIR-NISTADS</i>
26 July 2011	Ethics and Science	Dr. Aparna Basu <i>Emeritus Scientist, CSIR-NISTADS</i>
30 August 2011	The Prime Minister's expectations from Scientists: Ways forward for inclusive development	Dr K.S. Gopal <i>Scholar at Residence at Tata Institute of Social Sciences, Mumbai</i>
6 September 2011	Expertise - shaping production and environmental knowledge in Indian agriculture	Dr. Rajeswari S. Raina <i>Scientist, CSIR-NISTADS</i>



27 September 2011	Trends and Pattern of Temperature and Rainfall over India	Mr Amarnath Tripathi <i>Senior Research Assistant Agriculture Economics Research Unit Institute of Economic Growth, New Delhi</i>
13 December 2011	Implementation in undominated strategies with a prior	Dr Saptarshi Mukherjee <i>Department of Economics; Universitat Autònoma de Barcelona; Spain</i>
10 January 2012	How do Scientists Select Problems to Solve? Evidence from InnoCentive Problem-Solving Challenges	Dr Ina Ganguli <i>Postdoctoral Fellow; Harvard University Assistant Professor, Stockholm School of Economics, SITE</i>
17 January 2012	Reflection on the Durban Meet	Dr Nitya Nanda <i>Fellow, Centre for Global Agreements, Legislation and Trade (GALT), Resources, Regulation and Global Security Division The Energy and Resources Institute (TERI), New Delhi</i>
24 January 2012	Determinants of drug launch delay in pre-TRIPS India: A Survival analyses approach	Dr Saradindu Bhaduri <i>Centre for Studies in Science Policy (CSSP); School of Social Sciences Jawaharlal Nehru University, New Delhi</i>
07 February 2012	China and India: Two new players in the nanotechnology race	Dr Sujit Bhattacharya <i>Senior Principal Scientist, NISTADS Editor-in-Chief The Journal of Scientometric Research & Guest Faculty, JNU</i>
14 February 2012	How Well Do We Know It?	Dr. S. T. Lakshmikumar <i>Scientist G; Head of Division; Physics of Energy Harvesting CSIR-National Physical Laboratory, New Delhi</i>
21 February 2012	Human Hair “Waste” and Its Utilization: Challenges and Possibilities	Dr Ankush Gupta <i>QHS Fellow Scientist, CSIR-NISTADS</i>



27 March 2012	MSME in Nigeria: Problems and Prospects	Prof. M. O. ILORI <i>African Institute for Science Policy and Innovation(AISPI) Obafemi Awolowo University, Ile-Ife, Osun State, Nigeria</i>
OTHER LECTURES		
1 August 2011	Algebra and Geometry in Sulbasutras	Prof. Ramasubramanian <i>HSS, IIT Bombay</i>
9 September 2011	Importance of Innovation to the Philosophy of Technology	Arun Kumar Tripathi <i>Senior Research Scholar & Doctoral Researcher Department of Philosophy of Technology; Institute for Philosophy Dresden University of Technology, Germany</i>
06 January 2012	Innovation Flow - Growing Ideas to Innovations	Dr M.V. Shankar <i>Innovation Leader, Honeywell Technology Solutions Lab., Bangalore</i>





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- **MANAGEMENT COMMITTEE**
- **RIGHT TO INFORMATION ACT (RTI) CELL**
- **BUDGET**
- **STAFF LIST**



CSIR-NISTADS LIBRARY

During this period our Library added 289 books to its collection on various aspects of Science, Technology and Society (STS) according to the needs of the users. Library also subscribed to 215 periodicals and ten different databases for the use of researchers. In addition, the library also enhanced its Hindi collection by adding

135 new books. During the year 200 books were lent out to users in the institute and 50 books were sent on Inter-library loan to various Libraries and received 5 books by this mode. Library continued to support the STS research activities of the Institute by lending its collection of books, reports and journals.

**RESEARCH COUNCIL**

1 April 2010 to 31 March 2013

Chairman**Prof. Ashok Chandra**

Principal Advisor,
International Management Institute, India
B-10, Qutab Institutional Area,
Tara Crescent, New Delhi-110 016

Members**Prof. Kanchan Chopra**

Former Director
IEG, Y-155, Regency Park-II
DLF Phase IV, Gurgaon-122002

Prof. Satish Jain

Prof. Of Economics
Centre for Economic Studies & Planning
School of Social Sciences
Jawarlal Nehru University, New Delhi-87

Dr. Ajit Ranade

Chief Economist
Aditya Birla Management Corporation Ltd.
Aditya Birla Group, CII, S.K. Ahlre Marg,
Worli, Mumbai 400030

Prof. J. Chatterjee

Professor, IME Deptt.
Indian Institute of Technology
Kanpur 208016

Prof. Sugata Marjit

Director
Centre for Studies in Social Sciences
10 Lake Terrace, Kolkata 700029

Dr. Rangan Dutta

Scientific Consultant
Office of PSA,
318 Vigyan Bhawan Annexe
Maulana Azad, New Delhi 110001

Dr. Sandip K. Basu

Professor of Eminence
National Institute of Immunology
Aruna Asaf Ali Marg, New Delhi 110067

Agency Representative**Shri S.S. Kohli**

Scientist F
Department of Science & Technology
Technology Bhawan, New Mehrauli Road
New Delhi 110016

DG Nominee**Dr. H.S. Maiti**

Former Director, CGCRI
Sr. Advisor to DG
Council of Scientific & Industrial Research
Anusandhan Bhawan, 2 Rafi Marg
New Delhi 110001

Sister Laboratory**Dr. S. Gangopadhyay**

Director
Central Road Research Institute
P.O. CRRI, New Delhi 110020

Cluster Director**Dr. Gangan Prathap**

Director
National Institute of Science
Communication and Information Resources
Dr. K.S. Krishnan Marg
New Delhi 110012

Director**Dr. P. Banerjee**

Director
National Institute of Science, Technology
and Development Studies
Dr. K.S. Krishnan Marg
New Delhi 110012

Permanent Invitee**Head or his Nominee**

Planning & Performance Division
Council of Scientific & Industrial Research
Anusandhan Bhawan, 2 Rafi Marg
New Delhi 110001



MANAGEMENT COMMITTEE

Chairman

Dr. P. Banerjee

Director, CSIR-NISTADS

Members

Dr. Gangan Prathap

Director, CSIR-NISCAIR

Sh. Pradosh Nath

Chief Scientist, CSIR-NISTADS

Sh. Vipin Kumar

Principal Scientist, CSIR-NISTADS

Mrs. Sandhya Wakdikar

Senior Scientist, CSIR-NISTADS

Dr. Madhulika Bhati

Scientist, CSIR-NISTADS

Sh. P.R. Bose

Chief Scientist & Head, PME; CSIR-NISTADS

Sh. Rammi Kapoor

Principal Tech. Officer, CSIR-NISTADS

Sh. Hari Kumar

Finance & Accounts Officer; CSIR-NISTADS

Member-Secretary

Sh. R.P. Sharma

Sr. C.O.A.; CSIR-NISTADS



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1. **Dr. Mohd. Rais**, Appellate Authority
2. **Shri Rammi Kapoor**, PIO
3. **Shri S.A. Nabi**, APIO

BUDGET FOR LAST FIVE YEARS

Year	Total Budget (Rs. in lakhs)	E.C.F. (Rs. in lakhs)
2007-2008	975.68	80.76
2008-2009	1065.1	125
2009-2010	1109.38	102.66
2010-2011	1254.40	105.93
2011-2012	1084.599	33.832

**STAFF LIST****Director**

Dr. P. Banerjee

Chief Scientist

Shri P. Nath

Shri Dinesh Abrol

Dr. Subhan Khan

Dr. (Ms) N. Mrinalini

Dr. K.C. Garg (retired on 31.1.2012)

Shri P.R. Bose

Senior Principal Scientist

Shri S.K.Dhawan

Dr. (Mrs) Kavita Mehra

Dr. Satpal Sangwan

Dr. (Ms.) G.D. Sandhya

Mrs. Anuradha Singh

Dr. L.P. Rai

Dr. (Ms.) Tabassum Jamal

Dr. Sanjib Pohit

Dr. P.K. Biswas

Dr. Sujit Bhattacharya

Dr. Mohammed Rais

Principal Scientist

Shri V.K.C. Sanghi (retired on 31.10.2011)

Dr.(Ms)Y. Madhavi

Dr. (Ms) Neelam Kumar

Dr. L. Pulamte

Dr.(Ms)S. Rajeswari

Dr. Naresh Kumar

Dr. Ram Samar Singh

Shri Vipin Kumar

Shri Yogesh Suman

Mrs. Sandhya Wakdikar

Scientist

Dr. (Ms.) Madhulika Bhati

Shri Avinash Prasad Kshitij

Dr. (Ms) Kasturi Mandal

Principal Tech. Officer, Group III(7)

Shri S.C. Sharma (retired on 31.12.2011)

Shri Rammi Kapoor

Sr. Technical Officer (3), Group III(6)

Shri Anil Sharma

Shri Bharvi Dutt

Dr. Anju Chawla

Shri S.A. Nabi

Shri A.K. Bhardwaj

Shri Kashmiri Lal

Ms. Praveen Sharma

Shri Suresh Kumar

Sr. Technical Officer (2), Group III(5)

Shri S.K. Prasad

Ms. Renu Jethi

Ms. Mala Bahl

Technical Officer Group III(3)

Shri Avinash Verma

Librarian

Shri Vajendra Joshi (retired on 31.10.2011)

Scientist Fellow

Mr. Swarup Chattopadhyay (1.8.2009 to 30.4.2012)

Dr. Debnirmalya Gangopadhyay (5.1.2009 to 2.1.2012)

Dr. Taposik Banerjee (17.7.2009 to 19.4.2012)



Ms. Monica Dutta (joined on 5.2.2010)
Dr. Anindya Chaudhuri (joined on 20.10.2010)
Ms. Papiya Ghosh (joined on 14.3.2011)
Ms. Niharika Sahoo (joined on 21.3.2011)
Mr. Ritwik Chatterjee (joined on 21.3.2011)
Ms. Aditi Jamalpuria (joined on 1.4.2011)
Dr. Ankush Gupta (joined on 1.8.2011)

Ramanujam Fellow

Dr. Jaideep Ghosh

Sr. Technician (2), Group II (4)

Ms. Shaheen Syed
Shri Karanvir (retired on 31.3. 2012)
Shri Suresh Chander
Dr. (Ms.) Anita Bali
Ms. Tara Verma
Shri N.K. Prashar
Shri J.S. Narula
Shri R.K. Nagarwal

Sr. Technician (1), Group II(3)

Shri Bharat Lal (Driver)

Lab. Assistant, Group I(4)

Shri Madan Kumar
Shri Dhiraj Pal
Shri Ram Suphal

Lab. Attendant, Group I(3)

Shri K.C. Joshi
Shri Shiv Singh Negi
Shri S.C. Tyagi
Shri Sunder Lal
Shri Murli Dhar

Sr. COA

Shri R.P. Sharma (joined on 9.5.2011)

Administrative Officer

Shri K.P. Sharma (transferred on 31.5.2011)
Shri Balraj Singh (joined on 8.4.2011)

Stores & Purchase Officer

Finance & Accounts Officer

Shri Hari Kumar

Section Officer

Ms. Anita
Shri Dharam Singh

Section Officer (F&A)

Shri Anil Kumar Sharma

Section Officer (S&P)

Shri S.P. Prabhakar

Private Secretary

Ms. Mercy Joseph
Ms. Neeta Sahney

Assistant (Gen) Grade-I

Shri Anil Kumar
Ms. Rajinder Kaur
Shri N.A. Khan
Shri Pretesh Kumar
Shri Mohd. Idrees
Manish Mehta (on deputation)
Shri Surinder Pal

Assistant (F & A) Grade-I

Ms. Kavita Bellani (transferred on 15.7.2011)
Shri Anisur Rehman



Assistant (S &P) Grade – I

Ms. Indira Jain
Shri R.K. Mago

Assistant (F&A) Grade-II

Shri M.S. Rawat
Shri Narender Singh

Senior Stenographer

Ms. Krishna Verma
Shri Mohan Lal
Shri Yogender Kumar (Hindi)
Shri Ved Prakash (Hindi)
Shri Pukh Raj (Hindi)
Shri Ashok Kumar
Ms. Sunita Arora

Assistant Grade- II (S&P)

Shri Kanchan Singh Negi

Staff Car Driver

Shri Tara Chand (retired on 28.2.2012)

Record Keeper

Shri Harbans Singh

Junior Stenographer

Ms. Inderjeet Kaur
Ms. Dolly Chaudhary

Daftry

Shri Rajnath

Junior Hindi Translator

Shri Veer Pal Singh

Peon

Shri Md. Kamrul



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