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NIAS NEWS

Dawn Nelson

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Editors' Note

As with the earlier issue, we have once again combined the two issues of July and October 2005 into a single larger issue. We, however, continue with our objective of bringing you newsworthy information that will make you aware of the research being conducted in our Institute as well as the many other activities that we organise every month. Please do write to us if you would like to participate in any of the upcoming events being organised at the Institute and help us to strengthen our activities further.

Anindya Sinha, Hamsa Kalyani and **A Deva Raju,**
Editors, October 2005

From the Director's Desk

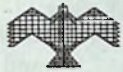
At the outset, let me extend my greetings to the NIAS community on the eve of the festival season. The last six months have been very eventful on several fronts at NIAS. Before highlighting some of the important activities, let me say a few words about the organizational aspects, particularly, the creation of Schools.

As already reported elsewhere, NIAS presently is organized in the context of its academic activities, into three Schools; Humanities, Social Sciences and Natural Sciences and Engineering. Most of the members of the academic staff belong one or the other of these schools based on their professional interests. The projects and programmes which the institute undertakes are expected to cut across the disciplines of various schools, thus making them truly interdisciplinary. The impact of this reorganization can be felt only when we find the emergence of interdisciplinary initiatives through effective and close coordination between the Schools. I do look forward to innovative programs attributable to this new mode of working in the coming months and years. More recently, a Centre for Philosophy has been set up under Dr. Sundar Sarukkai's leadership. This Centre is expected to play a lead role in the country to promote excellence in the subject of Philosophy, considering that much desires to be done in this field. Several prominent philosophers in the country have supported this idea. I am sure, one will hear more about this initiative in the future. The first step towards setting up a Centre for Sociology and Social Anthropology has also been taken, even though the approach to progress in this activity is expected to take some more time. This Centre is expected to work under the overall direction of the Dean of Social Sciences with Dr. A.R. Vasavi being directly in-charge.

It is good to note the entry of six more students into NIAS as a part of the PhD programme. Several courses have been carefully formulated to equip the students with the necessary knowledge and tools to undertake research. As observed earlier, the students community in NIAS is proving to be a very refreshing dimension to its academic and work ethos.

I am happy to inform that Foundation Stone for the Faculty Block was laid by Dr. J.J. Irani, Director, Tata Sons Limited and a Member of the Governing Council of NIAS on July 2nd, 2005. I may recall that a sum of three crores of rupees, has been granted by Sir Dorabji Tata Trust, towards this purpose as part of commemorating the birth centenary of visionary Founder of this Institute, Late Bharat Ratna J R D Tata. I do not have to emphasize the critical need of this new Faculty Block, the absence which has been sorely felt for a long time.

About the courses, one of the highlights is the sixth NIAS-ISRO Course on "India Space Enterprise: Achieving Social Impact". The participants exclusively drawn from ISRO had the opportunity to hear lectures from several eminent speakers, covering a broad set of themes, emphasizing social sciences, economics, art, culture, and management. Dr. P.S. Goel, Secretary, Department of Ocean Development, inaugurated this course and talked on the subject of "Oceans and Space". The meeting was also addressed by Mr. Madhavan Nair, Chairman, ISRO who wanted the participants to examine the critical issues relating to India's future steps towards manned space exploration and also analyze other options like the use of robots. What I see as unique about the NIAS courses, besides imparting a broad-based knowledge, is the nature of intense interaction between the participants and speakers, and among the participants themselves. Further, the participants are encouraged to provide a critical feedback about their own assessment of such courses and the type of improvements for the future.



Among the many visitors of eminence during this period, I should particularly mention Prof. Frits Staal, a Professor of Philosophy at the University of California, Dr. Wiebe E Bijker of Maastricht University in the Netherlands, Dr. Stephen Cohen, Senior Fellow of the Foreign Policy Studies of the Brookings Institution, Washington DC and Professor Ashish Bose, an internationally distinguished specialist in Demography.

The JRD Tata Memorial series of lectures had three important programmes in this period that included the "Idea of Trusteeship in Gandhi and JRD Tata" by Dr. Sundar Sarukkai and "Demographic Future of India" by Prof. Ashish Bose. It is with a great sense of pride, that I recall the visit of His Excellency Dr. A.P.J. Abdul Kalam, President of India who delivered one of the JRD Tata Memorial Lectures on "Aerospace Technologies: Past, Present and Future" on August 20, 2005 . His Excellency Shri T.N. Chaturvedi, Governor of Karnataka presided over the function. Special guests included Hon'ble Chief Minister of Karnataka Shri N. Dharam Singh, Hon'ble Deputy Speaker of Rajya Sabha Shri K. Rahman Khan, and Hon'ble Minister of Planning and Implementation Shri M.V. Rajashekaran. President's brilliant presentation on the subject was very well received by the audience, who represented a large cross-section of the intelligentsia of Bangalore including Associates of NIAS. The opportunity of President's visit to NIAS was also used to meet the members of the faculty of NIAS who briefed His Excellency about their areas of academic work. President, after hearing the brief suggested Energy, Socio-economic Studies and Water as potential areas of the future work of NIAS.

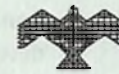
The History of Ideas this time included an interesting theme on "Genesis, Evolution and Flowering of the concept of Ahimsa" by Shri Alan Nazareth. The period ended with a special event relating to Einstein Centenary Year and

International Year of Physics organized by NIAS and RRI in collaboration with Indian Physics Association, Bangalore Chapter and Bangalore Association for Science Education. The two speakers for the occasion, Prof. G. S. Ranganath of RRI and Dr. Sundar Sarukkai of NIAS, through their brilliant exposition, gave an account of the Scientific and Philosophical Foundations of Einstein's Theoretical work.

Friends, we have a long way to go! I am sure, through work and high level achievements, NIAS's academic work force will attract the best of the scholars from different parts of the world in the years to come.

K Kasturirangan

Research Programmes



The principal areas of research that faculty members of the Institute are currently involved in include animal behavioural ecology, communication and cognition; consciousness studies; conservation biology; education; energy policy and renewable energy; environmental toxicology; epigraphy; gender studies; history and philosophy of science; Indian history; international and strategic studies; mathematical modelling in non-traditional areas; science and technology policy; sociology and social anthropology; and theory of numbers.

More specifically, the review-study of the **VTU-EDUSAT Pilot Project**, sponsored by the Indian Space Research Organisation (ISRO), Bangalore, was completed by a team consisting of **D P SenGupta**, **Dilip Ahuja**, **D Venugopal**, **A R Vasavi** and **Revathi S Kumaran**. This review was made at the request of ISRO regarding the functioning of the EDUSAT lectures beamed to the engineering colleges from September 15 till the end of December 2004. As per the 'Terms of Reference', the review was to investigate the technical, institutional, managerial and academic aspects of the Pilot Project. Detailed suggestions and guidelines were developed with which ISRO/VTU could fine-tune the functioning and utilisation of EDUSAT. A presentation of the study and its findings and recommendations were made to a team of ISRO scientists and officials of the Vishweshwara Technological University on 25 August 2005.

The **District Quality Education Project** (**DQEP**) received supplementary grants from the Government of Karnataka, the India Foundation for Arts, and Asha for Education (Boston Chapter) for their work. These grants will supplement the major grant from the Sir Ratan Tata Trust, Mumbai and will lead to the development of three Education Resource

Centres in Chamarajnagar district, the development of a pool of master resource persons, and the development and implementation of an Arts in Education programme.

The **DQEP** organised a one-day seminar on "Chamarajnagar: History, society and literature" on August 27 in Chamarajnagar. The speakers were well-known Kannada literateurs who detailed the history and culture of the district and highlighted its literacy traditions. Teachers and members of the Education Department, Government of Karnataka, attended the seminar and it was widely covered in the Kannada press.

Rahul Mukhopadhya, a doctoral student in the School of Social Sciences, has received a research grant from the Harvard Global Equity Initiative and the Human Development Capability Association to conduct research on **Structure and agency in the Education Department.**

Sundar Sarukkai has completed his work on two books during this time period. One, titled "Indian Philosophy and Philosophy of Science", has been published by PHISPC in August 2005 and distributed by Motilal Banarasidass. The other, a manuscript titled "The Human Touch: A Philosophical Walk with JRD Tata", was completed as part of the JRD Tata Centenary Year celebrations.

Anindya Sinha of the School of Natural Sciences and Engineering has received a research grant from the Department of Science and Technology, Government of India for a three-year project entitled **Demography and behavioural ecology of the Indian bonnet macaque (*Macaca radiata*): A comparative account of the two subspecies.** This work will also involve **Mayukh Chatterjee**, one of the current doctoral students under the NIAS Doctoral Programme. The bonnet macaque (*Macaca radiata*), a cercopithecine primate endemic to southern India, is believed to consist of two subspecies with subtle morphological differences: the northern *Macaca*

radiata radiata and the southern *Macaca radiata diluta*, restricted to southeastern peninsular India. Our long-term studies on the ecology, behaviour and demography of the northern subspecies has revealed several unique features of the species, unparalleled amongst cercopithecines. In contrast, there is a virtual absence of any comparable study on the southern subspecies. This project will examine the behavioural ecology, demography and life-history strategies of identified individuals in selected troops of the two subspecies in a few protected areas and in other areas where their distributions overlap. This study would, therefore, confirm the legitimacy of the two subspecies in terms of their behavioural ecology, initiate long-term monitoring of selected groups, and attempt to obtain insights into management strategies for their survival amidst increasing conflict with human populations.

In collaboration with **Nandini Rajamani**, Research Associate in the School of Natural Sciences and Engineering, **Anindya Sinha** has also received a grant from the Ministry of Environment and Forests, Government of India, for a project entitled **Niche-partitioning and the impact of disturbance and fragmentation in two sympatric species of flying squirrels, the endemic Travancore flying squirrel *Petinomys fuscocapillus fuscocapillus* and the Indian Giant flying squirrel *Petaurista philippensis* in the Western Ghats.** This three-year research grant marks the beginning of a long-term field study on two species of nocturnal flying squirrels in the Western Ghats mountain range. The project will determine if these two species are sympatric across different forest types and altitudes, and will record their natural abundance levels in such habitats. The patterns of sympatry of the two species in intact evergreen forests and the displacement of this equilibrium in fragmented landscapes will also be documented. Flying squirrels will be trapped and marked, and these individuals will

be observed to document various aspects of their ecology and behaviour, namely space use, vertical stratification, roost site choice, food preferences and activity patterns. Finally, the habitat associations, reproductive success, and life history strategies of the two species will be analysed in a comparative manner.

Sharada Srinivasan has a three-year project supported by DST-Young Scientist Nurture Scheme on **'Archaeometallurgy of newly uncovered Harappan sites such as Dholavira'**

Publications

BOOKS AND MONOGRAPHS

Sarukkai, S. 2005. *Indian Philosophy and Philosophy of Science*. Published by Project of History of Indian Science, Philosophy and Culture, Centre for Studies in Civilizations, New Delhi and distributed by Motilal Banarasidass; ISBN: 81-87586-22-2; Hardback, pp xiii + 268; Rs 450

Philosophy of science draws upon different traditions in Western philosophy, starting from the ancient Greek. However, there is a conspicuous absence of non-Western philosophical traditions, including the Indian, in philosophy of science. This book argues that Indian rational traditions such as Indian logic, drawn from both Buddhist and Nyaya philosophies, are not only relevant for philosophy of science but are also intrinsically concerned with scientific methodology. It also suggests that the Indian logical traditions can be understood as requiring that logic itself be scientific. This explains their engagement with ideas such as valid inference, invariable concomitance, the use of the empirical in logical analysis, the move from observations to statements about these observations and so on.

The essential relation between some Indian philosophical traditions and science is further illustrated by the semiotic character of Indian logic, its explanatory structures which are similar to those of scientific explanations, Indian theories of knowledge and truth, the pragmatic nature of truth and its relation to action which is essential to Nyaya and to science, and finally the importance of the effability thesis which is central to Nyaya, Bhartrihari and modern science.

This book introduces the reader to important themes in Indian logic, epistemology and philosophy of language as well as philosophy of science. Relationships between these various traditions are also explored thereby suggesting how Indian philosophy can engage with contemporary philosophy of science. This introductory book will be valuable for students, professional philosophers as well as those interested in Indian philosophy and its significance for contemporary thought. The main chapters of the book are introduction; doubt; Indian logic; logic in science: the western way; science in logic: the Indian way; and knowledge, truth and language.

Kumar, M and **Sarangapani, P M** (eds.) 2005. Improving government schools: What has been tried and what works. New Delhi: Books for Change.

PAPERS

Kapur, R L. 2004. The story of community mental health movement in India. In: *Mental Health: An Indian Perspective, 1946-2003* (ed S P Agarwal), Ministry of Health and Family Welfare, Government of India, New Delhi, pp 3-24

Kumar A. 2004. India and nuclear weapons in the Indian Ocean. *Journal of Indian Ocean Studies* **12**: 390-403

Kumar, A. 2005. Nuclear dimension in India - China relations **In** *China and India: Political and Strategic Perspectives* (Isabelle Saint-Mezard and James K. Chin, eds.,). Hong Kong: Centre of Asian Studies: The University of Hong Kong. pp.149-164.

Kumar R S, Mishra C and **Sinha A.** 2005. Discovery of the Tibetan macaque *Macaca thibetana* in Arunachal Pradesh, India. *Current Science* **88:** 1387-1388

Mallapur, A. 2005. Managing primates in zoos: Lessons from animal behaviour. *Current Science* **89:** 1214-1219

Radhakrishna, S. 2005. Midnight's children?: Solitary primates and gregarious chiropterans. *Current Science* **89:** 1208-1213

Mallapur, A, Waran, N and **Sinha, A.** 2005. Factors influencing the behaviour and welfare of captive lion-tailed macaques in Indian zoos. *Applied Animal Behaviour Science* **91:** 337-353

Mallapur, A, **Sinha, A** and Waran, N. 2005. Influence of visitor presence on the behaviour of captive lion-tailed macaques (*Macaca silenus*) housed in Indian zoos. *Applied Animal Behaviour Science* **94:** 341-352

Mallapur, A, Waran, N, Seaman, S and **Sinha, A.** 2005. Preliminary observations on the differences in reproductive behaviour between breeding and non-breeding captive lion-tailed macaques (*Macaca silenus*) housed in Indian zoos. *Applied Animal Behaviour Science*, **http://dx.doi.org/10.1016/j.applanim.2005.08.001**

Shetty, P K. 2005. Impact of agrochemicals on sustainability of agricultural development. **In:** *Sustainable Agricultural Development in India* (eds R S Ramesh, K S Venkateshappa and S Suryaprakash), Southern Economist Publication, Bangalore, pp 77-80

Srinivasan, S. 2005. 'Shiva in the International Year of Physics'. **In** S. Rao and S. Ponnamma (eds.) *Modern Reading : A Miscellany*, Select Books, Bangalore.

Srinivasan, S. 2005. Cultural and artistic significance of India's metals heritage: Into the future with knowledge from our past. Bangalore: Sri Tirunarayana Trust.

REPORTS

Ahuja, D. 2005. Making energy systems more sustainable. Report submitted to the Academy of the Sciences for the Developing World (TWAS), Trieste, Italy

Anitha, B K. 2005. Baseline Report to study the impact of agricultural technologies on the income and working patterns among small and marginal farmers and it's subsequent impact on the relative status of women in these households in Tumkur District. Report submitted to the India Development Enterprise, Bangalore

Devi, H K A. 2005. Knowledge-based processing of epigraphy texts: Phase II. Technical report of the ISRO-RESPOND project submitted to the Indian Space Research Organisation, Bangalore

BOOK REVIEWS

Krishna, Y C and **Sinha, A.** 2005. A review of the book *Losing a Lost Tribe: Native Americans, DNA, and the Mormon Church* by Simon G Southerton (Signature Books, Salt Lake City, Utah, USA, 2004). *Current Science* **89**: 567-568

Vasavi, A R. 2005. Correcting social disadvantage. A review of the book *Affirmative Action in the United States and India: A Comparative Perspective* by Thomas Weisskopf

(Routledge, New York, 2004). *Economic and Political Weekly* **40**: 1963-1965

Vasavi, A R. 2005. A review of the book *Regional Modernities: The Cultural Politics of Development in India* edited by K Sivaramakrishnan and A Agrawal (Oxford University Press, New Delhi, 2003). *Contributions to Indian Sociology* **39**: 165

ARTICLES

Deva Raju, A. D K Karve: His life and his works, Bhavan's Journal of Bharatiya Vidya Bhavan, Vol 51, No 19, pp 77-82, May 15, 2005

Deva Raju, A. A math that feeds people all through the day! Bhavan's Journal of Bharatiya Vidya Bhavan, Vol 51, No 20, May 31, 2005

Kumar, A. Indo-US Civilian Nuclear Cooperation: Myths or realities. *Deccan Herald*. 6 August 2005

Rao, V. The Haldane Archives, *Wellcome History*, Vol 24, pp 12-13, October 2003

Sarukkai, S. Is Su-doku mathematics? *Sunday Times of India*, Mumbai, 11 September 2005

DOCTORAL PROGRAMME IN NIAS

Although a few students had earlier obtained their PhD degree by working at NIAS under the aegis of a NIAS-MAHE Doctoral Programme, there was no regular PhD programme as such involving coursework at the Institute. It was felt by the Director and the faculty of the Institute that the interdisciplinary expertise available at NIAS could be very profitably utilised for developing a cadre of young students who could involve themselves in interdisciplinary research by opening up a regular PhD programme in NIAS. Accordingly, a regular Doctoral Programme has been initiated at NIAS. With support from the Department of Science and Technology, Government of India and

the Indian Space Research Organisation, forteen students have been recruited so far. Both the Manipal Academy of Science (MAHE) and now, the University of Mysore have recognised NIAS as a centre of research for the award of the PhD degree by them. For more information, please contact B V Sreekantan (bvs@nias.iisc.ernet.in).

B V Sreekantan

COURSES OFFERED IN THE DOCTORAL PROGRAMME

Foundation Course
Course No: 101

This is a 3-Credit course offered during August to November 2005. Th course has been designed and coordinated by **Dr Sindhu Radhakrishna** with Prof P G Vaidya and Dr Padma Sarangapani as advisors

The goals of this course are to introduce students to an understanding of the disciplines as "ways of knowing" to explore approaches to 'truth', 'objectivity', ways of asking questions and answering them, their research focus and interesting/worthwhile research problems being pursued; to engage in a conceptual exploration of interdisciplinary research through case studies and to learn to communicate ones own area of interest/field to others from other disciplines.

The course has two main components; introductory lectures and student presentation. The introductory lectures in basic disciplines includes philosophy (introduction to the nature of knowledge, the disciplines, concerns of philosophical enquiry, traditions of knowledge), psychology (knowledge of self/mind, concept of values and morality, application of psychology as a research tool in other disciplines), life sciences, physical sciences, social sciences,

mathematics and logic, history, art and aesthetics, practical knowledge ('know how', medicine, engineering, practical forms of the knowledge of doing things), gender and development and feminist epistemology. Students will also be exposed to methodologies involved in field research through field trip to a NIAS field project. Students will present a review of a book in their chosen field of research and a project proposal that is interdisciplinary in nature i.e. to bridge their own discipline and other disciplines.

Research Methodology in Interdisciplinary Studies
Course No: 201

This is a 3-Credit course offered during August to November 2005. The course has been designed and coordinated by **Dr B K Anitha** with Prof. Tim Poston and Prof. S. Chandrashekar as advisors.

The course is designed for Ph.D students of NIAS drawn from Natural Sciences (NS), Social Sciences (SS) and Humanities. The course aims at equipping researchers to formulate research questions that are informed of not only the current debates in their own disciplines but also related disciplines cutting across the three schools of NS, SS and Humanities. The focus of this course is to provide the students the necessary skills to evaluate existing body of researches and select appropriate methods for use in their own research work. The students will be introduced to a broad range of research methods in natural and social sciences. Topics include philosophical foundations of research, relationship of theory and research, research design, statistical analysis, modeling and academic writing - in particular, proposal and thesis.

Philosophy of Mathematics
Course Number: 301H

This is designed and taught by **Dr Sundar Sarukkai** during the period August to November

2005. No prior knowledge of mathematics is necessary. The course is open to anybody interested in the foundations of mathematics and its relation to other disciplines, including the sciences and philosophy. This course introduces the basic problems in the philosophy of mathematics. The themes that are discussed in detail in this course include a brief history of mathematics in different civilizations; logicism: the relation between mathematics and logic, including discussion of Frege and Russell, nature of logic in both Western and Indian systems; formalism: Hilbert's program; intuitionism: Brouwer and the intuitionists, including discussion of intuitionist logic and the nature of infinity; realism: dealing with the ontology of mathematics, including issues such as the existence of mathematical entities like numbers; epistemology: dealing with the nature of mathematical knowledge and truth; structuralism: introduction to some influential theories on the structural nature of mathematics; philosophical foundations of set theory; The nature of mathematical discourse; philosophical problem of the applicability of mathematics. The course is based on readings handed out every week.

Differential Equations with "Manifold" Applications

This is a 3-credit course offered to Ph.D students by **Prof. P. G. Vaidya** with Prof. Tim Poston as an advisor. The students of IISc and JNCASR are also allowed to audit or register for this course. It is aimed at Engineers and Physicists. The duration of the course is August to November.

This course is not a series of many standard applications of a few forms of Differential Equation. The goal is to go deeper into the theory of linear and non-linear equations, so that eventually newer applications will emerge. The approach will be geometrical, using and clarifying the concept of a 'Differentiable

Manifold'. The course is inspired by the book Ordinary Differential Equations of V. I. Arnol'd, 2nd Edition, Springer-Verlag, 1984. Each student will be expected to participate with active understanding, and carry out an ambitious project to clarify and apply the material.

Curriculum Studies

This is 3-credit course designed and taught by **Dr Padma M Sarangapani**. The aim of this course is to introduce philosophy of education, the concept of curriculum, basic issues in curriculum organisation and critical perspectives and issues relating to curriculum in Indian school education

Science Education

This is a 3-credit course designed and taught by **Dr Padma Sarangapani.** This course is run as a reading course from is August to November. The course aims to introduce issues in science education such as the nature of the science: the subject matter and method; aims of science education and science curriculum and practice.

Anthropological Perspectives on Development

This is a 3-credit course designed and taught by **Dr Carol Upadhya** and **Dr A R Vasavi** during the period September to December.

This course will examine the genesis and development of the concept of development, both in public discourses and social science theories; the debates that have emerged around the idea and the various challenges to planned development; the social and environmental implications of the practice of development on the ground; and the various alternatives to the standard paradigm of development that have been proposed around the world.

K P Vijayalakshmi

Dr K P Vijayalakshmi has joined the International Strategic and Security Studies Programme as a Visiting Professor. She is currently a teaching faculty at the Centre for American Studies at School of International Studies, Jawaharlal Nehru University in New Delhi. Her area of research interests and expertise are in the field of Indo-US relations with a concentration on domestic politics of United States and its ramifications for foreign policy building and matters related to international security, in general and South Asian security, in particular. She has a number of publications to her credit. She also has a number of awards including the Fulbright Scholar Award and Salzburg Fellow to her credit.

Sonika Gupta

Dr Sonika has joined the International Strategic and Security Studies Programme as Post-Doctoral Fellow. Prior to joining NIAS, she was Assistant Director at the Institute of Peace and Conflict Studies, New Delhi and Research Fellow at Observer Research Foundation in New Delhi. She has been the recipient of the Chinese Government Scholarship for language study and research at the Beijing Language and Cultural University during 1998-1999. She was also awarded Social Science Research Council, New York Summer Fellowship. Her research interests include China's domestic politics and foreign policy, nuclearisation of South Asia and alternative approaches to security. She has co-edited Human Security in South Asia and Nuclear Stability in Southern Asia

Honours, Awards and Appointments for NIAS Faculty

K Kasturirangan

Conferred 'Balvantbhai Parekh Gold Medal 2005' for life-time Achievements in Space Science by The Indian Planetary Society, Mumbai, April 14

Conferred 'Aryabhata Award 2003', instituted by Astronautical Society of India at Satish Dhawan Space Centre, Sriharikota, September 21

Conferred 'Lifetime Achievement Award' of the Asia-Pacific Satellite communications Council, Singapore, September 27

Arvind Kumar

Appointed Academic Advisor to the Post Graduate Department of International Studies at the Stella Maris College, Chennai for 3 years

Sharada Srinivasan

Nominated to the International Advisory Committee of the International Conference on the Beginnings of the Use of Metals and Alloys (BUMA)

A R Vasavi

Nominated to the Governing Council of the Sarva Shikhsha Abhiyan, Department of Education, Government of Karnataka

VISITORSHIPS FOR THE NIAS FACULTY

Anindya Sinha

Appointed Visiting Professor at the Centre for Theoretical Studies, Indian Association for Cultivation of Science, Kolkata, on a year-long sabbatical from the Institute, beginning August 8, 2005

DISSERTATIONS GUIDED BY THE NIAS FACULTY

H K Anasuya Devi

Several projects have been completed by students from different academic institutions for the fulfilment of the BE degree and the dissertations submitted to the respective institutions. These include:

"Web-based semantic information retrieval for scripts" by Anitha J, Vellore Institute of Technology, Vellore, December 2004-May 2005

"Optical Character Recognition System for Brahmi script" by Aditi Sampath, Prasanna Venkatesh and Santosh Kabbur, R V College of Engineering, Bangalore, December 2004-June 2005

"Image de-noising and enhancement algorithms for an ancient Indic script" by Vijayendra, B M S College of Engineering, Bangalore, January-May 2005

"Image preprocessing for an ancient Indic script" by Maneesha Suresh, Rachana B V, Sharvani Haran and Usha Rao D, Malnad College of Engineering, Hassan, January-June 2005

"Content-based image retrieval" by Ajeya M A, Dinesh Beniwal, Jolly J Varghese and Lavanya A, Rajiv Gandhi Institute of Technology, Bangalore, March-May 2005

"Content-based image retrieval system" by Archana Sarathi, Lakshman Raju N, Nagaswaroop G M and Ravikarthik R, M S Ramaiah Institute of Technology, Bangalore, March-May 2005

"Breaking DES" by Kashyap K, Nithin V, Rajesh B G and Subramanya K S, City Engineering College, Bangalore, March-June 2005

COURSES TAUGHT BY NIAS FACULTY

Anindya Sinha

Taught a short three-lecture course on Animal Behaviour and conducted a training session on Biology Theory and Practice, consisting of a series of theoretical and practical sessions for the Indian Biology Olympiad Team, Homi Bhabha Centre for Science Education, Mumbai, June 31-July 10

Important Events

Complementing its research programmes, NIAS organises a variety of seminars, workshops, and academic courses each year. Some of the important events that were organised during the period from April to September 2005 included:

MEETING ON BIOSECURITY ISSUES

April 21

Two experts on biosecurity issues, Dr Susan B Rivera and Lauren T Hickok from Sandia National Laboratories visited NIAS recently, and the International Strategic and Studies Programme organised an interactive session with them. The purpose of the meeting was to exchange views on matters related to biological weapons and dangers

associated with it in the existing milieu. It was felt that the rapid advances made in life sciences and biotechnology has provided an impetus for the non-state actors to access biological weapons easily. The challenges to securing biological agents also formed a major part of the debate. How to make Biological and Toxin Weapons Convention (BWTC) a stringent one was also discussed at length. The need to have an additional protocol in the BWTC for having a verification and inspection regime seem to be an urgent necessity because the United States itself feels highly vulnerable especially after that anthrax episode in 2001.

S Chandrashekar and **Arvind Kumar**

MEETING ON INDIA TAIWAN RELATIONSHIP

May 18

A delegation comprising of Dr Chen-en Ko, Dr I-Chung Lai and Ms Yun-wen Sung from the Taiwan ThinkTank (TTT) visited NIAS recently. The TTT is the Brains Trust of the ruling Democratic Progressive Party of Taiwan. The International Strategic and Security Studies Programme organised a discussion meeting with them during their visit. Dr I-Chung Lai, Director of the Department of Foreign Policy Studies at the TTT made a presentation on "The cross-strait relations, the emerging India-Taiwan relations and the evolving Taiwanese strategies towards India and China". This was followed by a presentation on "Issues relating to the need to establish relations between India and Taiwan" by Dr Chen-en Ko, who is currently the Vice President of the TTT and also the Economic Policy Advisor to Taiwan's President Mr Chen Shui-bian. Wide-ranging discussions were held on security relations and how India and Taiwan can enhance its cooperation.

S Chandrashekar and **Arvind Kumar**

WORKSHOP ON SPACE INPUTS TO ARCHAEOLOGY

July 5

Advances in various geospatial technologies such as Remote Sensing, GIS, GPS and Digital Photogrammetry in synergy with the conventional surveys are providing a thrust to archaeological studies, be it for prospecting newer sites and/or for scientific documentation. In this context, a half-a-day workshop was jointly organized by the National Institute of Advanced Studies (NIAS), the Indian Space Research Organization (ISRO) and the National Remote Sensing Agency (NRSA). There were presentations on different aspects of archaeology as well as case studies showing the applications of space data to archaeological studies. It was followed by a session for remarks by the invitees and discussion. Participants included archaeologists, historians, space scientists, and, several members of NIAS faculty. The aim of the workshop was to try and culminate in working out a discussion paper on the way forward and a future plan of action.

M B Rajani

THE SECOND DST-NIAS PROGRAMME ON MULTIDISCIPLINARY PERSPECTIVES ON SCIENCE AND TECHNOLOGY

July 24 - August 6

This course held at NIAS and at Orange County was coordinated by Prof Dilip Ahuja. The Programme was inaugurated by Professor C. N. R. Rao and was attended by 20 senior participants from various scientific institutions in the country. Prof. V. S. Ramamurthy, Secretary, the Department of Science and Technology, delivered the valedictory address. Its purpose, as in the first programme, was to provide scientific, social, economic, and cultural perspectives on the science and technology enterprise in the country.

Dilip Ahuja

THE INTERNATIONAL CONFERENCE ON NEW GLOBAL WORKFORCES AND VIRTUAL WORKPLACES: CONNECTIONS, CULTURE AND CONTROL

August 12-13

The conference, funded by the Indo-Dutch Programme on Alternatives in Development, brought together scholars from different countries (especially in Asia) who are engaged in research on new forms of work and categories of global workers that are emerging in the 'new economy', especifically in the information technology (IT) and IT-enabled services (ITES) sectors.

THE SIXTH ANNUAL ISRO COURSE ON THE INDIAN SPACE ENTERPRISE: ACHIEVING SOCIAL IMPACT

September 29 - October 5

The Institute organized this Course for 30 mid-level scientist-engineers from the Indian Space Research Organization (ISRO), who were identified by ISRO as potentially constituting its future leadership. The purpose of the course, as in the previous years, was to offer views of the broader scientific, social, economic, and cultural milieu in which the Indian space programme could develop in the coming decades. The course was coordinated by Prof Dilip Ahuja.

Dilip Ahuja

Associates' Programme

The Institute maintains a strong outreach with its Associates Programme, organised by ***P K Shetty****. The Associates of the Institute include prominent personalities from widely different backgrounds in the media, arts, policy-making and academia. Associates are invited to a monthly evening lecture series and other important events, and constitute a strong base of ongoing outside support and interactions for the Institute.*

The Associates' Programme during the period from April to September 2005 included the following events:

May 6

What Euclid is to Europe is what Panini is to India or are they?

Frits Staal
Emeritus Professor of Philosophy and South & Southeast Asian Studies
Department of Philosophy
University of California at Berkeley
USA

August 5

What next for Economic Reforms?

Rakesh Mohan
Deputy Governor
Reserve Bank of India, Mumbai

J R D TATA BIRTH CENTENARY LECTURE SERIES

NIAS has organised a series of commemorate lectures to celebrate the birth centenary of one of the most distinguished Sons of India, Bharat Ratna Late Sri. JR D Tata. There were three lectures in this series held during the period April to September 2005:

May 27

The idea of trusteeship in Gandhi and J R D Tata

Sundar Sarukkai
NIAS

This lecture was the fourth in the series of J R D Tata Birth Centenary Lectures, being organised to commemorate the birth centenary of Bharat Ratna late J R D Tata..

Trusteeship is the model of responsibility that best describes JRD's view of himself and his role in the world. It was a view that JRD essentially derived from Gandhi. Gandhi's view of trusteeship was based on the belief that we do not really 'own' our wealth but are only trustees of it, meaning that we have to administer our wealth for the benefit and betterment of the community. There are many important ethical principles associated with trusteeship: a natural association with the principle of non-violence, voluntary renunciation, a more complex meaning of ownership which is not restricted to ownership as authority, a larger sense of responsibility towards the community and the nation, and the need for an ethical approach to the means of profiting. In the trusteeship model, wealth does not automatically go to the family members but only to those who can function as its trustees. Thus, this idea of trusteeship challenged the fundamental principles of a capitalist society.

Ironical then that JRD Tata was not only influenced by Gandhi's idea of trusteeship but developed his personal and professional life based on this idea. However, JRD did not follow Gandhi's model completely. Nor did he theorise about the idea of trusteeship. What he did was to lead a life based on the principle of trusteeship. Although there were some overlapping principles common to both

Gandhi and JRD in their views on trusteeship, there were nevertheless some important differences. One of which was JRD's emphasis on institutionalising trusteeship as against leaving it all to the spirit of voluntarism. This talk discussed Gandhi's model of trusteeship and JRD's practical implementation of it. JRD's approach offers a workable and pragmatic model of this extremely important idea of trusteeship.

August 20

Aerospace Technologies: Past, Present and Future

A. P. J. Abdul Kalam
His Excellency President of India

September 30

Demographic Future of India

Ashish Bose
Honorary Professor,
Institute of Economic Growth
Member, Independent Commission on Health in India

WEDNESDAY DISCUSSION MEETINGS

The members of the Institute meet every Wednesday morning for informal academic discussions after a talk delivered by a member of the faculty. These Wednesday meetings, organised by ***Sangeetha Menon****, also serve as a forum for invited guest speakers to deliver a special lecture on a subject of their choice. The discussions then continue over the high tea that follow these talks!*

The Wednesday Discussion Meetings during the period from April to September 2005 have included:

April 6

Can heart attacks be predicted?

Prabhakar G Vaidya

For the last few years we have been looking at new ways to analyze ECG data. Our recent results seem to give a clue about a well known paradox: "why do some people with a normal-looking ECG get heart attacks?" In this lecture, a hypothesis was made that a heart attack is exacerbated by a lack of synchronization in cardiac cells. The speaker also demonstrated that some normal ECG's have tell-tale signs of potential de-synchronization.

April 27

How to put our hands into Virtual Reality, not deep into our pockets

Timothy Poston

Virtual Reality (VR) systems are exciting, but mostly still in labs. They are not environments for productive work, due to simulator sickness, large space requirements and other discomforts not least a price

ranging from thousands to lakhs of US$. Much of this comes from the 'stick your head in it or immersion' fixation of the VRtists. An excellent 'put your hands in it and achieve something' VR system could be built for a retail price of a few thousand rupees. The speaker described how to do that.

May 25

A software product on OCR Optical Character Recognition for ancient scripts

H K Anasuya Devi and her associates

The speaker and her project associates made a presentation of a software product on OCR Optical Character Recognition for ancient scripts that they have developed. This software, which will find application in archaeological findings and in the interpretation of epigraphic texts in rock inscriptions, will contribute towards builiding a knowledge-based system. The team is likely to apply for patent rights on this product, which is a consortium of different modules integrated into one.

May 27

A gender equity program for science and technology

B K Anitha

The past few decades has registered a growing demand for trained professionals in the field of science and technology worldwide. The gap between the number of trained professionals needed and students entering the science stream is increasing and has been receiving attention from planners and policy makers from developed and developing countries. In an attempt to close this gap, several countries are not only taking measures to attract and retain talent in science as a whole, but also undertaking specific measures to attract those sections of the population hitherto under represented in the scientific community. Recent trends, for example, show a slow but a steady rise in the number of the hispanics, Asians,

blacks and also women who are opting for a career in science in the USA. The focus now is not only to increase the quantity and quality of these professionals, but to create a diverse pool of trained professionals. An effort to address the low representation of women in science and technology in particular has received significant attention.

India as a country is making a significant contribution to this pool of scientists and engineers. The challenges of the growth and development of science and technology in India is no different. If one were to examine the steering of major scientific enterprises in the country or for that matter the leadership in important scientific and technological institutions the absence of women in leadership roles is conspicuous. Further, the minuscule number of women scientists and engineers in these organizations renders the problem of women in science more complex. This is an issue of serious concern and merits attention.

The proposed study under the Gender Equity Program for Science and Technology, described by the speaker, will attempt to highlight the rationale and reasons for the gender imbalances in the scientific community. It seeks to analyse the reasons for the low presence of women in science with a focus on institutional factors while acknowledging that societal factors also contribute to the phenomenon. A comparative study of the institutions of excellence will be undertaken for this purpose. It further seeks to suggest realistic measures to promote gender equity amongst the scientific community in India.

June 8

India and East Asia

Arvind Kumar

East Asia, more particularly South East Asia and China, are increasingly becoming important for India. This talk highlighted the evolving strategy and interest on part of India towards East Asia. It also assessed and analysed the politico-diplomatic part and looked into the rationale and need behind articulating a definite strategy towards the region. Whether India forms a part of East Asia's radar screen was also debated. An attempt was made to highlight the change in the international system and the reasons for the growing global importance of both India and China. The presentation also examined the major challenges being confronted by India and East Asia, and assessed India's strategic and security interests in East Asia.

June 15

Unravelling the making of Kalaripayattu martial art weapons: Some preliminary archaeometallurgical and historical insights

Sharada Srinivasan

Kalaripayattu is a celebrated martial art tradition of the state of Kerala in southwestern India which thrives today in the region of the Malabar and which is now experiencing a resurgence of interest through tourism and through contemporary dance practitioners. Although some anthropological studies on Kalaripayattu have been made by scholars such as Philip Zarrili, there have been few technical studies of the sword blades used in Kalaripayattu and little authentic documentation of the making of the sword blades itself. This talk touched upon some preliminary explorations into some of historical and metallurgical aspects of the sword-making traditions of Kalaripayattu and attempted to place it within the larger framework of what is generally known about iron

and steel heritage in southern India, a region that was well known for the production of the traditional 'wootz' crucible steel, while also exploring it within the context of other rare metal crafts of Kerala such as the making of metal mirrors also documented by the speaker.

June 29

By the consciousness couch: Odd, regular and inexplicable experiences

Sangeetha Menon

The history of 'consciousness studies', if we take a closer look, is the history of 'odd, regular and inexplicable experiences' and their explanations. Though today much of the discussion on experience, in neuroscience, holds on a building block approach, we know that the complexity of experience is not amenable to segregated explanations for one kind of sensation. Even if we hope that the mechanisms for generating various sensory experiences can together explain the basic feature of consciousness called 'experience', concepts of self, free will, reinforcement of self-help and positive attitudes will not allure a purely neural explanation. This is being evidenced by the recent neuropsychiatric literature.

The neurology and phenomenology of the unusual condition of deafferentation in patients, who have extreme difficulty with movement because of the lack of senses of touch and proprioception below the neck, have been explained to understand how they experience and project their agenc. Recent literature has examined the social and personal difficulties faced by patients with unusual experiences and how they manage to reconcile and make progress with the help of "sheer effort, will power and an ingenious collection of motor tricks". What is interesting about this kind of neuropsychological literature is the shift in

focus from third-person neural data to first person qualities of will power and self-effort as pertinent to cope up with such conditions and help achieve some (neural and experiential) progress. Certainly this suggests advancement from the basic view of Rylean behaviourism and identity theory of mind that equates all mental processes with brain processes. In this lecture, the speaker discussed different kinds of experience that fall in the class of 'consciousness', including normal day-to-day experiences, experiences (delusions) of patients with neurological disorders, psychedelic experiences, near-death experiences, spiritual experiences, god-experiences,and aesthetic experiences, in the hope that this could throw light on any lingering characteristics of the 'self' in these different experiences.

July 13

Involutions in rural India?: Understanding contemporary conditions

A. R. Vasavi
NIAS

Although difficult to generalize on a pan-India basis, contemporary rural India exhibits characteristics of 'involution' in which retention and change in key structures and practices are evident. Altered economic practices, new political mobilization, decentralized administration, the new village agents, migration patterns, the conjoining of sanskritisation with consumerism etc are some of the processes implicated in the making of this involution. The talk drew attention to these so that trends such as the agrarian crisis, the problem of institution building, and the altering family forms in rural India could be understood. The implication of these involutions for enabling both 'transition' and 'transformation' of rural India was raised.

July 20

We and the prime numbers

K Ramachandra
Hon. Visiting Professor, NIAS

Some results on Prime Numbers were stated. In particular, the Euler-Riemann conjecture was stated in a simple language intelligible to students of tenth standard.

According to the speaker, anyone who proves the Euler-Riemann Conjecture stands to receive a million dollars, as announced somewhere.

August 10

Scaring the living daylights out of you: An analysis of our fascination with horror!

Malavika Kapur
Clinical Psychologist,
Honorary Visiting Professor, NIAS

Some of us are fascinated by horror in literature, visual media and in real life. The presenter explored the world of horror in literature, television and cinema. She narrated a few stories in brief to illustrate some ethical and psychological aspects. She also focused on the changes in the presentation of horror from the olden days to the present. In contrast, the research on effects of violence in the visual media on the children was also higlighted. She welcomed a lighthearted discussion from the floor from those who LIKED and those who ABHORRED horror.

August 17

On universal grammar

M G Narasimhan
NIAS

In this talk the speaker introduced the concept and tried to demonstrate its relevance in understanding a very complex phenomenon called "Langue".

September 14

Parrondo's paradox

Nithin Nagaraj, NIAS

Counter-intutive phenomenon, which occurs in certain physical systems capable of rectifying fluctuations: the so-called Brownian ratchets was discussed. An equivalent of this is now popularly known as Parrondo's paradox which states that two losing games, when alternated in a periodic or random fashion can produce a winning game. Parrondian-like behaviour is exhibited by processes in Biology, Physics, Economics etc.

September 21

Nanotechnology: The Second Industrial Revolution

S Ranganathan
Department of Metallurgy, IISc &
Hon. Professor, NIAS

Nanotechnology is making enormous changes across the world in the past decade. It is often hailed as the second industrial revolution and is termed as a disruptive technology. It also has the power to transform society particularly in India. The lecture addressed the the themes of synthesis and characterisation of nanomaterials, novel properties of nanomaterials, industrial applications, effect on electronic industries and life sciences, health, safety and ethical issues, educational reforms mandated by the new science, convergence of nano-, bio-, info- and cognitive sciences, and finally, the Indian scenario.

September 28

Globalization, Labour and Activism: A Political Economy Perspective

Supriya Roy Choudhury
Institute for Social and Economic Change
Bangalore

The speaker discussed the impact of globalisation on labour both in terms of

marketization policies, and new technologies. The central impact has been in terms of the casualization process. This is an important structural factor in the marginalization of labour politics. But the disempowerment of the workforce is also due to the broader political environment. Agencies which represent labour - unions, and increasingly, NGOs are unable either to redefine labour' s interests appropriately in the new economy, or to find the political vocabulary for inserting labour as an important category in the emerging economy.

Special lectures

April 20

Reading the classroom (into the black box)

Indira Vijaysimha
DPEP, Government of Karnataka
Bangalore

The current debates about quality in education make it necessary for us to understand the site of every-day teaching and learning, namely the classroom. The essentially private and closed space of the classroom then becomes the site where the actual implementation (or lack of) educational plans and policies takes place. As a teacher and teacher trainer, the speaker has often been struck by the complexity of the classroom space. It is almost impossible to capture the various dimensions of a classroom adequately. What one sees depends very much upon what one looks for this is not just a banal statement of observer bias, but a reflection of the very real difficulty involved in studying a classroom. Some dimensions on which observations can be made are the following: pupil interactions, pupil teacher interactions, nature of teacher interactions, activities of the pupils, content of the lesson, use of teaching aids and management of time by

the teacher. All these observations seem to flow more or less from a positivist framework, where the role of the teacher is seen to that of effectively transacting the curriculum. Classrooms can also be studied from sociological, cultural and psychological perspectives and these will in turn result in observations made through a different set of lenses.

The baseline study done by the DQEP team in Chamrajnagar indicated that children were failing to read in significant numbers and thus their classroom observations were done with a view to understand the teaching of Kannada in the primary school and design possible interventions to improve teaching. The team had deliberately as well as unwittingly chosen to reduce the obvious complexity of the space to manageable dimensions keeping the scope of their project in mind. This talk consisted of a discussion of their observations.

May 4

Little republics: A series of three films

Gautam Sonti
Bangalore

With the adoption of the 73rd Amendment to the Constitution of India in 1993, one-third of all seats in panchayats have been reserved for women. Seats have also been reserved for scheduled caste and scheduled tribe populations. This far-reaching policy of positive discrimination has been sabotaged in many parts of the country by male family members, upper-caste men and politicians who field proxy candidates. These films revolved around the experiences of a few elected scheduled caste and scheduled tribe women in the Telangana region. Through an ethnography of four villages, they examined the way in which power is controlled and misused in the home, community and in the outside world.

June 1

Have we, as Indians, actually delivered what we are capable of?

Amit Chatterjee
Tata Steel
Jamshedpur

Although India may be a developing nation, it is different from others in this category in so far as it has a rich and illustrious history. Indeed, India is one of the oldest civilisations in the world. In the field of metals India had made significant impact in yester-years; for example, wootz steel the first high-quality steel was made in India and the famous Iron Pillar in Delhi was built in the fourth-fifth century AD. These are still considered to be metallurgical wonders.

India has also been the birthplace of many individual giants who were trailblazers in the past. J N Tata started a textile mill in India, even after he was told by experts that the local weather was not suitable for growing cotton. He also pioneered the steel industry in India though the British were not very favourably disposed to the idea. The Indian Space Research Organisation, which till now has designed / built 32 satellites and three generations of launch vehicles, was the outcome of Dr Vikram Sarabhai's vision. Traditionally, therefore, India has been a country with a history of many successful innovations. Of late, however, two Indians appear to have come into reckoning. One has a severe inferiority complex and is unwilling to be creative because it thinks it is incapable of doing so. It perceives that being looked upon as the "back office" of the world is the ultimate compliment. The other is still confident about its capability, dreams big dreams, and then goes ahead to translate the dreams into reality. Examples of both these schools of thinking were presented during the talk.

It is clear that it is not the lack of inherent capability in Indians that is hindering India's growth today. It is probably a lack of will and a proper environment, which are the real impediments. If India wants to emerge as a knowledge power in the years ahead, the strength of Indians in science/ technology/engineering has to be exploited. India's future depends on what we decide to become and on our will to succeed. Our capability is definitely not in doubt, and history lends credence to this claim.

June 22

Mega ambitions, mega projects, mega impacts: A study of the Bangalore-Mysore Infrastructure Corridor Project

Leo Saldanha
Coordinating Environment Support Group
Bangalore

June 24

On China and Pakistan

Sindhu G Murthy and *Pratibha*
International Studies Department
Stella Maris College, Chennai

August 12

'Are there primes between n and 2n?'

K Ramachandra

August 18

Lax-Milgram theorem and applications to partial differential equations

S Ramaswamy
Visiting Professor, Allagappa University, Karaikudi (Former Head, Dept. of Mathematics, University of Pondicherry)

The Lax-Milgram Theorem is of fundamental importance to guarantee existence of weak solutions to Elliptic Partial Differential Equations in some Sobolev Spaces.

September 1

Proof as a mathematical artifact

Mihir Chakraborty
Department of Mathematics
Calcutta University

A list of mathematical artifacts was presented of which some, e.g. Euclidean and Projective lines, and transfinites was briefly discussed. It was claimed that mathematical proofs are also mathematical artifacts presented by some mathematicians for being read/ scrutinized/intervened/rewritten by fellow mathematical observers, logic playing a basic role in the creation and viewing of such an artifact. Various forms of logic giving rise to various notions of consistency specially, weak consistencies was mentioned. That there may be various kinds of proof depending upon various kinds of logic was discussed, finally ending with multiplicity in mathematics.

September 2

Usage of remote sensing for archaeology

M.B.Rajani

This lecture was based on the training programme attended by the speaker for two and half weeks in the National Remote Sensing Agency (NRSA), Hyderabad, on usage of remote sensing data for archaeology. A brief history of aerial archaeology, especially that developed during the Second World War, was presented. The speaker also highlighted the kinds of patterns that can be seen from above at a potential archaeological site. She discussed the analysis done at NRSA on remote sensing data of Girnar and Bangalore, and focussed on the significance of satellite imagery for archaeological studies.

September 2

Remembering nature: Indian nature, Indian nationalism, conservation biology and the problem of the park

Anand Vaidya

September 19

Prospects for the U.S. – India Nuclear Agreement

Stephen Cohen
Senior Fellow
Foreign Policy Studies
The Brookings Institution
Washington, D.C.

SEMINAR ON THE HISTORY OF IDEAS

NIAS and Raman Research Institute (RRI), Bangalore, have been organising Seminars on the History of Ideas, usually on the Second Friday of the month in NIAS. The organising committee consists of K Kasturirangan, R Narasimha, N Kumar, S Settar, M G Narasimhan and M B Rajani (Coordinator). There was one talk in this series, held during the period from April to September 2005.

September 22

Genesis, evolution and flowering of the concept of ahimsa

Alan Nazareth
Ambassador of India (Retd),
Managing Trustee Sarvodaya
International Trust

The lecture located early references to ahimsa in Vedic literature and examined its evolution through Jainism and Buddhism. Its diffusion within India, and through South East and Central Asia, Egypt and Greece after Ashoka's conversion to Buddhism in 260BC, its early impact on Judaic tradition and the fundamental transformations, through Buddhism, brought about in East, South East

and Central Asia, particularly Tibet and Mongolia were also traced. Also discussed were the 19th century Western interest in Vedic and Buddhist literature, gestated by translations there from by William Jones, Charles Wilkins and others. In the final section, Gandhi's fashioning of ahimsa into the powerful tool of 'satyagraha' for radical, political and social change, its successful use thereafter in various parts of the world, and the considerable research undertaken on its potential by Western political and military analysts resulting in formulation of new civilian and social defence strategies in Europe, were briefly presented. A thirty-minute 'Force More Powerful' film showing how black University students in southern USA were trained for non-violent struggle against racial segregation,embarked on it and achieved their objective, was screened during the lecture.

SPECIAL PROGRAMMES

One public lecture and a half-a-day seminar was organised at the Institute from April to September 2005

Public Lectures

August 16

Democratisation of technological culture: The role of science and technology for development

Wiebe E. Bijker
Maastricht University
The Netherlands

"We live in a technological culture: a culture that is constituted by science and technology, a culture that cannot be understood without understanding the role that science and technology play in modern societies."

Bijker argued that this claim not only applies to the Netherlands and other northern countries, but that it can also with some qualifications be fruitfully used to address issues of development. Bijker introduced STS (science, technology and society) studies, and especially the constructivist perspective on analysing the development of science and technology and their relations to society. The contribution of such an STS perspective to enhancing the democracy of technological cultures was then discussed by using some concrete examples. One key issue is the role that science and technology may play in development, and how this role may be shaped so that democracy is enhanced at the same time. The opportunities and challenges of citizens' participation technology development, and the role of indigenous knowledge was reviewed.

Seminars

September 30

Einstein: The Philosopher - Scientist
A celebration of Einstein Centenary Year and International Year of Physics (1905-2005)

NIAS and RRI in collaboration with Indian Physics Association, Bangalore Chapter and Bangalore Association for Science Education organised this half day seminar. Dr. K. Kasturirangan, Director, NIAS, inaugurated the seminar. There were two lectures:

Einstein's Miraculous Year

G.S. Ranganathan
Raman Research Institute

Philosophical Foundations of Einstein's Theory of Relativity

Sundar Sarukkai
NIAS

CONSCIOUSNESS DISCUSSION FORUM

During the period from April to September 2005, the Forum had organised the following discussion meetings.

May 31

Beside the stream of consciousness: A survey of old and recent bridges

Sangeetha Menon
NIAS

Two views come across in discussions on consciousness. One view is that many problems and puzzles about consciousness are not so new but are classical ones, redefined in a refined manner. Another view is that though problems may be classical, the interdisciplinarity that has been led to by discussions on consciousness has paved way for not just psychological and philosophical insights but some real 'revealing' techniques, as in the case of brain-imaging. It is hard not to notice that these two views together have contributed to many handshakes between philosophers, psychologists, neurologists, physicists et al.

Researchers of consciousness once dubbed simplistically as either 'materialists' or 'idealists' have gained new identities with a score of emerging disciplines like evolutionary psychology, neuro-pharmacology, and neurotheology. Multiple puzzles come to the couch of these analysts, but amongst them the puzzle of 'self' seem to have a ghostly presence that will just not leave. Many centuries ago, in Greece and in India, philosophers and sages burnt their midnight oil cracking the code for the self. Curiously enough, passing through medieval and classical periods in the history of Eastern and Western philosophy and psychology, the 'self' still dominates the stage by its eluding presence. What once was considered taboo by any respectable scientific discipline and

method is today the most exciting challenge with the potential of creating a breakthrough in understanding the human brain. Some testimonials for these are the works of the neurologist Vilayannur Ramachandran, radiologist and meditation researcher Andrew Newberg, NDE researcher Peter Fenwick, meme theorist Sue Blackmore and others.

A hundred plus years ago, William James presented his idea about the existence of a 'stream of consciousness' and how he could capture a lot of the evading consciousness by his 'stream' theory. Today when we look at the scenario of the studies and discussions on consciousness it will only be natural if we see the stream of consciousness flowing still faster leaving behind bridges that combine some of the best technologies and human insights. The two inviting shores across the bridge seem to be that of the 'impersonal brain' and 'personal experience' that just will not shed off its human quality. This talk examined some of these issues.

June 9

Brain architecture and processes mediating the consciousness of self

Shobini L Rao

Department of Clinical Psychology
National Institute of Mental Health and Neurosciences, Bangalore

A consciousness of self appears to be unique to higher primates. The components of self-consciousness are subjectively experiential and objectively observable. The subjective components are the experiences of a sense of agency, and a sense of being a spectator. The objectively observable components are control over the environment and self, verbal narratives. Characteristic to the sense of self-consciousness are the experiences of continuity, uniqueness, identity. Self-consciousness also occurs in conjunction with behaviour and not in its absence.

Behaviour occurs in response to the information or lack of it from the internal and external environments. The information has to be acted upon by the person to fulfill both short-term and long-term goals. The cognitive processes which mediate goal-directed behaviour are attention and executive functions. Attention is the capacity to select information, sustain processing of that information and to divide the processing across different informations. Executive functions are processes, which control the flow of information and manipulate the information. Attention is thus necessary for both intake and manipulation of information. Therefore, attention is ubiquitous in goal-directed behavior. The executive functions are varied, with planning, working memory, set shifting, organisation and abstraction, strategy formation, error detection and correction, and response inhibition being some examples. Underlying the processes of executive functions is the process of effortful control, which refers to the process of either investing or disinvesting attention or attentional modulation. Excess of attentional demand leads to a breakdown of attentional regulation. This is when things appear beyond our control and appear to get out of hand. It is also associated with a loss of control and an accompanying sense of loss of consciousness of self. On the other end of the dimension, complete absorption of attention in one object or process or thought leads to a lack of the need for conscious control and also the absence of the sense of self consciousness. 'Flow' or 'peak' experiences are examples of this. There are distinct brain structures and processes, which mediate each of the processes of attention and executive functions. It was hypothesised by the speaker that attentional regulation through effortful or inhibitory control, combined with executive functions

and subserving goal-directed behaviour, is the basis of consciousness of self.

July 8

A screening of "What the bleep do we know?!" (documentary-movie on how we perceive reality)

Producer, Director, Screenwriter,
William Arntz & Betsy Chasse

Director of Photography
Mark Vicente

What the bleep do we know?! is part documentary, part story, and part elaborate and inspiring visual effects and animations on 'how we perceive reality and how we can alter our perceptions'.

NIAS LITERARY FORUM

There were three meetings of the Forum during the period from April to September 2005.

April 13

Short stories of Bohumil Hrabal

Naureen Aziz
Department of English
Jyothi Niwas College
Bangalore

This presentation was based on a few short stories of Bohumil Hrabal, translated from the original Czech into English by Micheal Henry Heim. Excerpts from different stories were read out to initiate the discussion, the focus of which were the myriad angles discovered in the 'palavering' of the characters of these stories.

July 27

The mirror cracked from side to side... Decoding a myth!

Reading and Discussion by Smt. Hema Ramakrishna

The author in her lecture-cum-reading from her play Sanctuary based on the Ramayana theme explored some basic problems that arise today from our reading of 'myths'. Her writing attempts to unravel the events, as they are known in order to present a 'decoded' version. All 'myths' are in the nature of ciphers, she feels that there is much that lies concealed behind the archaic formulae.

August 31

Poetry of the everyday

Poetry reading and talk by Ms. Anjum Hasan
Writer and Critic, Programme Executive at India Foundation for the Arts, Bangalore

Anjum Hasan's talk located her poems in her interest in everyday situations and local contexts. She grew up in Shillong and her poetry is peopled by the figures and landscapes of a small-town milieu.

What does it mean to write poetry that draws attention to the unnoticed details and textures of day-to-day existence? She read out poems that capture different aspects of her poetic world – childhood, middle-class existence, small town characters and the idea of home. She also presented samples from the work of poets who have inspired and influenced her.

In addition to sharing her poems, Anjum Hasan discussed, with reference to her own and others' work, her views on aspects of the poet's craft, such as what determines the choice of detail in a poem, the question of tone, the search for an individual style, concerns about technique, and the larger question of why one should write poetry at all.

Meetings Attended and Lectures Delivered by NIAS Faculty

APRIL TO SEPTEMBER 2005

Dilip Ahuja

Participated in the Panel Discussion on Research Ethics, Foundation Course of the NIAS Doctoral Programme, NIAS, April 19

Attended the Meeting of the Organizing Group for the IAC Study on Transitions to Sustainable Energy Systems", The Royal Netherlands Academy of Arts and Sciences, Amsterdam, The Netherlands, April 24-27

Attended the meeting of the Indian Authors participating in the IPCC Fourth Assessment Report, New Delhi, May 4

Attended the Workshop on Greenhouse Gas Emissions Reduction Strategies for Developing Countries and made a presentation on "Proposals and issues for India", Sao Paulo, Brazil, May 11-13

Attended the Second Lead Author Meeting of the IPCC Fourth Assessment Report Working Group III, Lima, Peru, June 6-9

Chaired the viva-voce examination of Ms. R. Uma for IIT Delhi doctoral dissertation on "Measurement and Assessment of Air Pollutants from Biomass gasifier Based Systems", 8 July 2005, New Delhi.

Participated in the 2nd Regional Expert Consultation Meeting on Logical Framework Analysis of the proposed project on "Reducing Greenhouse Gas Emissions by Promoting Bioenergy Technologies for Heat Applications, Gual Pahadi, Haryana, 6-10 September 2005. Made a presentation on Incremental Cost Analysis.

Made a presentation on "What can we do to Reduce the Risk of Climate Change?" at the Regional Conference on Science, Technology and Society, at the Indian Institute of Public Administration, Karnataka Regional Branch, Bangalore, September 17

H K Anasuya Devi

Attended the 36th Midterm Symposium and Exhibition on Emerging and Futuristic Communication Systems, Bangalore, April 29-May 1

Attended and participated in the Annual General Meeting of IETE and participated in the Seminar on RFID and WSN-widening Scope of Enterprises, Bangalore, June 26

B K Anitha

Attended the 43rd Executive Committee meeting of Mahila Samakhya Karnataka at Raichur, Karnataka. May 24

Conducted a training for the Staff of India Development Enterprise, Karnataka, on developing a baseline questionnaire to study the impact of agricultural technologies on the quality of life of households of marginal and small farmers in Tumkur through changed agricultural practices June 2

Participated in a Round Table Discussion on the National Curriculum Framework 2005 at the Meeting Hall, R.V. Educational Consortium, Jayanagar, Bangalore, July 25

Delivered a lecture on Gender and Leadership for Chairpersons of the Karnataka Women Milk Federation for a State Level Training Workshop organized at Bangalore, September 1

K Kasturirangan

Delivered the First Dr P A Verghese Memorial Oration on "Health care for all Translating the

vision of Dr Verghese", Medical Trust Hospital, Cochin, April 10

Delivered a lecture on "India in space" on receiving the Balvantbhai Parekh Gold Medal 2005, Indian Planetary Society, Mumbai, April 14

Attended the International Astronautical Congress (IAF) Selection Committee Meeting to select the IAF Executive Director, IAF, Paris, May 17

Delivered the 37th Convocation Address at the Indian Institute of Technology, Kanpur, May 31

Participated as Chief Guest and addressed the students in the Valedictory Function of the International Mathematical Olympiad 2005, Homi Bhabha Centre for Science Education, Mumbai, June 11

Participated in the International Workshop on Humans and Space: The Next Thousand Years, organised by the Foundation for the Future, USA, and delivered a talk on "India's space programme", Seattle, USA, June 24

Delivered a lecture on 'Space in the Next Millennium' at the Bangalore Science Forum, National College, Bangalore on June 31

Delivered a lecture on 'Managing Indian Science' in the NIAS DST Course, Bangalore, August 4

Delivered a lecture on 'Space for Sustainable Agriculture and Rural Development' at the M.S.Swaminathan Foundation during the 80th Birthday of Prof.M.S.Swaminathan on August 7

Delivered the Indira Gandhi Memorial Lecture on 'Science and Technology A Unique Instrument for National Integration' at the Asiatic Society, Kolkata on September 1

Annual Convocation Address at Sikkim Manipal Institute of Technology, Majitar, Sikkim, September 5

Arvind Kumar

Delivered a series of lectures at the post graduate department of International Studies at Stella Maris College, Chennai during 22-24 September 2005. The topics included Game Theory in International Relations, India-China Relations, WMD Terrorism and India's Foreign Policy

S Meenakshisundaram

Participated in the International Workshop on Governance Indicators for Pro-poor and Gender Sensitivity Policy Reforms, jointly organized by UNDP-ICSSR, and chaired the session on Indicators for Pro-poor Reforms, New Delhi, April 20-22

Participated in the Consultation on Tsunami Rehabilitation Networking, organised by the M S Swaminathan Research Foundation, Chennai, and IDRC, Canada, and chaired the Sub-group on Rehabilitation, Chennai, May 13-14

Participated in the state-level Convention on Panchayats and Child Rights Birth Registration as the First Child Rights Issue, organised by the Institute of Social Sciences, New Delhi, and chaired the session on Micro-planning and Child Rights, Bangalore, May 30

Participated in the Workshop on Women in Coastal Communities, organised by the Institute of Social Science Trust, Bangalore, June 6

Participated in the Consultation on Panchayats and Rural Knowledge Revolution, organised by the M S Swaminathan Research Foundation, and chaired the plenary session, Chennai, June 9

Participated in the Discussion Meeting on Six Months after the Tsunami and presented a paper on "Rehabilitation and reconstruction strategies", NIAS, June 16

Delivered a lecture on "Delivery Systems for Rural Development" during the 2nd NIAS-DST programme for senior Scientist-Administrators at Orange County, Kodagu, July 30

Participated in the International Conference on "Human Centred Sustainable Development Paradigm" organized by the M S Swaminathan Research Foundation (MSSRF), Chennai during 7-10 August and was the lead speaker in the session on "Grassroots Institutions and Linkages".

Participated in the WASH India meeting organized by the Water Supply and Sanitation Collaborative Council, Geneva at the India Habitat Centre, New Delhi during August 16-17

Participated in the Consultation on "Agro-meteorology" organized by MSSRF, Chennai and chaired the session on "Village Resource Centres", August 23

Participated in the panel discussion on "Science and Technology and Rural Development" organized by the Observer Research Foundation, New Delhi, Bangalore, September, 12

Chaired a session on "Panchayati Raj, Community Development, Social Justice and Governance" in the national symposium on 'Power to the people from Gram Sabha to Lok Sabha' organized by the State Institute for Rural Development, Mysore and the Ministry of Panchayati Raj, Government of India as a part of S.K. Dey centenary celebrations.

Veena Rao

Delivered a lecture on "Role of J B S Haldane in the development of genetics in India", Indian National Science Academy, New Delhi, March 18

Delivered a lecture on "Excerpts from correspondence between Ernst Mayr, John Maynard Smith and J B S Haldane", on the occasion of the Mayr-Maynard Smith Memorial Symposium, Indian Institute of Science, Bangalore, April 27

K Ramachandra

Delivered a Mathematics Colloquium on "Hardy-Littlewood first approximation theorem for quasi L-functions: Mean square over short intervals", IISC-TIFR Mathematics Programme, TIFR Centre, Bangalore, April 12

Shantha Mohan

Participated in a seminar titled "IPC Section 498A: A Tool to Combat Domestic Violence" organized by the Centre for Social Research at India Habitat Centre, New Delhi. August 30

Resource person and facilitated a session on "Assessing and measuring change through the development of indicators in a qualitative educational empowerment programme" for national and state programme directors and district coordinators at the National Workshop organized by Mahila Samakhya, Mysore. July 9

Participated in the core group meeting of SaciWATERS, the South Asian Consortium for Interdisciplinary Water Resources Studies, Hyderabad. September 5-7

Sundar Sarukkai

Delivered a lecture on "Science and language", Vignana Jignasa, Heggodu, April 14-16

Delivered three lectures on "Philosophy of language" and "Philosophy of Space", and a Colloquium on Philosophy of Language and Space, Northeastern Hill University, Shillong, May 4-6

Delivered the fourth talk in the J R D Tata Memorial Lecture series on "The idea of trusteeship in Gandhi and J R D Tata", NIAS, May 30

Anindya Sinha

Delivered a lecture entitled "Understanding autism through the animal mind", Manovikas Kendra, Kolkata, April 16

Delivered a lecture entitled "Modern genetic technologies: Boon or bane?", Summer School for High School Students, Indian Association for Cultivation of Science, Kolkata, May 12

Attended the Annual Executive Committee Meeting of the Nature Conservation Foundation, Goa, May 21-24

Delivered a lecture entitled "Human cloning the science and the ethics", Bangalore Science Forum, National College, Bangalore, June 22

Participated in the Final Pre-departure Training Camp, Indian Biology Olympiad Programme, Homi Bhabha Centre for Science Education, Mumbai, June 31-July 10

Attended the International Biology Olympiad as an International Jury Member and Team Leader, Indian Biology Olympiad Team, Beijing, China, July 11-18

Delivered a lecture entitled "How bonnet monkeys see the world" at the Second DST-NIAS Programme on Multi-disciplinary Perspectives on Science and Technology, NIAS, August 2

Delivered a lecture entitled "The science and ethics of human cloning", Maharaja Srish Chandra College, Kolkata, August 22

Attended the Indo-US International Workshop for Indian Primates, organised by the Primate Research Centre, Jodhpur, and delivered two lectures on "The Indian bonnet macaque" and "Primates of southern India: Current problems and future perspectives", Jodhpur, Sptember 12-14

Delivered a lecture entitled "Current perspectives in animal cognition", Bejoygarh Jyotish College, Kolkata, September 24

Delivered a lecture entitled "To clone or not to clone that is the question", Gurudas College, Kolkata, September 26

B V Sreekantan

Delivered a talk on "Oneness and reality", School of Ancient Wisdom, Bangalore, August 14

Delivered a talk entitled "Sixty years of the Tata Institute of Fundamental Research, 1945-2005: The role of young men in the creation and development of this institute" as one of the J R D Tata Birth Centenary Events organised by the TIFR Alumni Association, Tata Institute of Fundamental Research, Mumbai, August 18

Sharada Srinivasan

Presented a paper at international conference at British Museum, London on 'Metallurgy: A touchstone for cross-cultural interactions', April 28-29, 2005, felicitating contributions of Dr. Paul Craddock, British Museum. Paper was entitled: 'Investigating martial arts swords in Kerala'. Conference offered hospitality; travel grant obtained from Sir Ratan Tata Trust.

Invited by Nehru Centre, London to give lecture-cum Bharata Natyam dance demonstration entitled 'Amidst the "Musical Pillars" of Hampi' which explored the intriguing musical pillars of Hampi from a scholarly perspective followed by a Bharata Natyam performance inspired by the theme. May 13

Invited by Heritage Foundation, Seminar on National Awareness, Kolkatta to give Lecture-cum Bharata Natyam dance demonstration entitled "Amidst the Musical Pillars of Hampi". June 19

Paper presented at the 22nd International Conference of History of Science, July 2005, Beijing for session entitled 'Dialogue between Science and Religion: A case study of the Hindu Nataraja bronze'. Conference offered local hospitality; grant was made by INSA for travel support

Invited by 22nd International Conference of History of Science, July 2005, Beijing give Lecture-cum Bharata Natyam dance demonstration entitled "Amidst the Musical Pillars of Hampi"

Paper presented at the National seminar on 'History of Science and Technology in India' at Hyderabad, 1-3rd Sept. 2005, entitled 'Megalithic High-tin bronzes

Delivered a lecture entitled 'Unravelling the making of Kalaripayattu martial arts swords'. NIAS, June 15

Delivered a lecture entitled 'Cultural and artistic aspects of India's metals Heritage', Sri Tirunarayana Trust, Bangalore. September 12

Invited by International Seminar on 'Life, Biology and Consciousness', Science and Spirituality Seminar supported by Templeton Foundation

Invited by 'History of Science and Technology in India' at Hyderabad, to give Lecture-cum Bharata Natyam dance demonstration entitled "Amidst the Musical Pillars of Hampi". September 1

A R Vasavi

Delivered a talk on "Involutions in rural India", M S Swaminathan Research Foundation, Chennai, July 4

VISITS BY THE NIAS FACULTY

Sundar Sarukkai

Served as Visiting Professor at the Institut Nicod, Paris, France, during June 2005

Sharada Srinivasan

Visited UK, (London and Oxford) to attend a conference at British Museum and lecture-cum-Bharata Natyam dance performance at Nehru Centre. Visited the Wallace Collection, London and their conservation department to get insights into the arms and armoury in the collection and also visited Institute of Archaeology, University College London, April 26- May 16

Visited Beijing, China to attend the International History of Science Congress. Also visited archaeological sites and well known museums and collections including Forbidden City Palace Museum, Summer Palace Museum, Bell Temple, Clock Museum, Ming Tombs, Enamel and Jade worskshops, Great Wall etc. which gave interesting insights into history of science and technology in China. July 22-August 2

Visited the Golconda fort with a special view to documenting canon together with Dr. R. Balasubramanium, of IIT Kanpur and Mr. Jaikishen, Dharmapuri. September 2

NIAS STUDENTS ACTIVITIES

M B Rajani

Attended two-days training on GIS in Regional Remote Sensing Service Centre, Bangalore on July 6th and 7th.

Attended a training programme for two and half weeks in the National Remote Sensing Agency

(NRSA), Hyderabad on Usage of Remote Sensing Data for Archaeology, which included a days visit to Advanced Data processing Research Institute (ADRIN), Hyderabad.

VISITORS TO NIAS

Dr Stephen Krasner, Director, Policy Planning, Department of State, United States of America, visited the Institute on June 19. Dr Krasner works in the office of the Secretary of State and is one of Secretary Rice's closest advisors. The International Strategic and Security Studies Programme organised a discussion meeting on the emerging trends in Indo-US relations and how the various tenets of the next Indo-US steps in strategic partnership will move forward. The matters related to expanding cooperation in civilian nuclear and civilian space activities also formed a major part of the discussion.

Dr Vincent Chen Associate Professor, Institute of International Relations, National Political University, Taipei, Taiwan, visited the Institute on June 29. The International Strategic and Security Studies Programme organised a discussion meeting with him, the purpose of which was to exchange views on the India-China-USA triangular relationship and examine areas for future cooperation. Dr Chen also made a formal presentation on the subject. There was an overall consensus among the group who participated in the discussion meeting that forging triangular relationship among three major countries may not be viable because of existing asymmetry between India and China on one hand, and between China and the US on the other.

The International Strategic and Security Studies Programme has initiated internships for two post-graduate students of International Studies of Stella Maris College, Chennai. Ms Sindhu G Murthy and Ms Prathibha M S joined the Institute during April for two months and worked as interns on Pakistan and China respectively. Their internship

was a part of their post-graduate programme. Some problem areas were identified on Pakistan and China and a comprehensive research on the identified themes and sub-themes were conducted. Their findings and research output on some of the very complex issues encompassing polity, society, economy, organisational structure, infrastructure and military and defence strategy and their linkages were based on mostly secondary source literatures and interactions with a few key experts on the subject. Both interns made a formal presentation on their study at the Institute on June 24. Wide-ranging discussions were held on security issues and matters related to India-Pakistan and Sino-Indian relations during these presentations.

UNICEF, New Delhi has sent four student interns to the School of Social Sciences for a period of two months as part of its new International Internship Programme. These students have been participating in the District Quality Education Project, being run by the School and developing a case study of the work and its impact on elementary education in one district of Karnataka state.

Prof Wiebe Bijker from The Netherlands visited NIAS between August 14 to 19, 2005. He delivered a talk on "Democratising Technology: The Role of Science and Technology in Development" on August 16 at NIAS. The event was jointly organised by NIAS and the Institute of Social and Economic Change, Bangalore.

Upcoming Events

The Third DST-NIAS Programme for Senior Scientist-Administrators on Multidisciplinary Perspectives on Science and Technology will be held between 6th and 9th November 2005 at NIAS and at the Kabini river jungle lodge. Science administrators with at least 20 years of experience are eligible to attend this programme.

The **National Conference on "India's Competitiveness and Preparedness in Science and Technology for the Coming Decades - Issues, Challenges and Strategies"** will be organised by NIAS and JNCASR during 26-27 October 2005. . This conference is supported by Department of Science and Technology. For details, please contact coordinator Dr B K Anitha anibk@nias.iisc.ernet.in

The **Ninth UGC-Sponsored NIAS Orientation Course on An Integrated Approach to Knowledge and Information for University and College Teachers** will be conducted from 28 December 2005-17 January 2006. The theme of the course is Education, Research and Universities. For details please contact course coordinator Dr B K Anitha anibk@nias.iisc.ernet.in

Twentieth NIAS Course for Senior Executives on **Excellence in leadership** will be held from 22 28 January 2006. For details, please contact course coordinator Dr Sangeetha Menon. smenon@nias.iisc.ernet.in

The Ecology, Behaviour and Conservation Group of the School of Natural Sciences and Engineering, NIAS, is organising the **Fourth International Tree Squirrel Colloquium** and the **First International Flying Squirrel Colloquium**, which will be held between March 22-29, 2006 in the Periyar Tiger Reserve, Kerala. For more details, please contact

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The National Institute of Advanced Studies (NIAS) was conceived and initiated by the late Mr. J R D Tata, who sought to create an institution which would conduct advanced research in multidisciplinary areas, and also serve as a forum to bring together administrators and managers from industry and government, leaders in public affairs, eminent individuals in different walks of life, and the academic community in the natural and social sciences. The intention has thus been to nurture a broad base of scholars, managers and leaders who may contribute to tackling the complex problems facing contemporary India in a more informed and effective manner.

The philosophy underlying NIAS is given shape by its research teams, which are drawn from a variety of disciplines in the natural and social sciences. The Institute is unique in its integrated approach to the study of intersections between science and technology and social issues.

Sangeetha Menon

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