

NIAS NEWS



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APRIL 2003





Editors' Note

As we move deeper into the twelfth year of publication of NIAS NEWS, we would like to reiterate our earnest attempts at providing you glimpses of the activities being carried out at the National Institute of Advanced Studies. We do hope that you enjoy reading it as much as we enjoy producing the newsletter. We would definitely like to make this attempt more interactive and so, please do write in to let us know if you have any suggestions and comments regarding its contents or format.

Anindya Sinha, Hamsa Kalyani and A Deva Raju,
Editors, April 2003



From the Director's Desk



We had such a hectic January this quarter that most of us have spent the rest of it recovering from it! There was first of all the international symposium on *Science and Beyond* which was extremely well attended, attracted a large number of the most distinguished speakers from within the country and abroad, and, I believe, appealed strongly to the public of Bangalore going by the extensive coverage that the event got in the press. Many different points of view were presented at the meeting, and the lectures by Nobel Laureate Charles Townes, the British mathematician Sir Roger Penrose, the celebrated primatologist Jane Goodall, were given to packed houses (in Jane Goodall's case, a large number of young people shared the huge stage of the NIAS Auditorium with the speaker). The programme got off to a great start on January 8 with Dr Karan Singh, MP, scholar and statesman, giving the inaugural address, and Mr N R Narayana Murthy of Infosys and Prof Philip Clayton of Sonoma State University giving keynote addresses. The Chief Minister of Karnataka, Mr S M Krishna, presided over the function, and Mr Justice Sri Nittoor Srinivasa Rau was the guest of honour. Among the many interesting events during the Symposium was a lunch-hour concert on the piano by Dr Raja Ramanna, Director-Emeritus of this Institute.

After the Symposium we had a meeting with members of the Committee on International Security and Arms Control of the US National Academy of Sciences, and then our usual January course for senior executives. As all of these were preceded by the Science Congress, which this year was held in Bangalore in the early days of January, we really had no breathing time during the whole month.

Among the other notable events during the quarter was the third M N Srinivas Memorial Lecture given by Mr Justice M N Venkatachaliah on 17 January 2003. He spoke on the theme *Does technology re-*

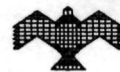
invent a purpose in civilization? Teleology from Bergson to William Halal. Another interesting programme was an evening with the famous painter M F Hussain. This included a screening of his film *Gajagamini*, followed by a discussion with him on his art.

On behalf of the Institute I would like to say how happy we are that Dr Arcot Ramachandran, Honorary Professor at the Institute, was decorated with the Padma Bhushan in this year's Republic Day honours. We value highly having Dr Ramachandran as one of our faculty, with the interest he takes in energy studies in particular and the enthusiastic support he has given to many of the courses we have run.

R Narasimha



Research Programmes



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

More specifically, the **International and Strategic Studies Unit** has been accorded sanction for the project entitled A Comparative Approach to Air-based Surveillance Technologies, funded by the Centre for Air-borne Systems (CABS), Defence and Research Development Organisation (DRDO), Ministry of Defence. A preliminary meeting was organised on March 11 with the participation of DRDO, officials of the Department of Space, and private consultants to discuss the requirements specified by CABS.



Publications

NIAS PUBLICATIONS

I. SPECIAL PUBLICATIONS

- SP14-03 Jaadi pirivu kalvikoodam
(Tamil version of the Report: Caste, class and school; NIAS Special Publication SP12-02, 2002)
Local Education Report – Thanjavur, Tamil Nadu
- SP15-03 Baalalaku dviguneekrutamaina baruvu bhaadyatalu: Matsyakaarulalo jeevanopaadhi mariyu vidyaabhyaasamu
(Telugu version of the Report: Children's double burden Livelihood and schooling in a fishing community; NIAS Special Publication SP8-02, 2002)
Local Education Report – Chirala, Andhra Pradesh

BOOKS

- Menon, S** and Swami Bodhananda. 2002. *Dialogues: Philosopher meets seer*, Srshti Publishers, New Delhi
- Menon, S, Sinha, A** and **Sreekantan, B V** (eds). 2002. *Science and metaphysics: A discussion on consciousness and genetics*. Special Publication 10-02, National Institute of Advanced Study, Bangalore
- Rajagopal, S** and **Chari, S K** (eds). 2003. *Prospects for stability in a nuclear sub-continent*. Special Publication 16-03, National Institute of Advanced Studies, Bangalore
- Sarangapani, P.** 2003. *Constructing school knowledge: An ethnography of learning in an Indian village*. Sage, New Delhi

MONOGRAPHS



Menon, S. 2002. *Binding Experiences: Looking at the Contributions of Adi Sankaracarya, Tuncettu Ezuttacchan and Sri Narayana Guru in the Context of Recent Discussions on Consciousness Studies*, Indian Institute of Advanced Studies, Shimla

PAPERS

Balagopalan, S. 2003. Neither suited for the home nor for the fields: Inclusion, formal schooling and the *adivasi* child. In: *Education Inclusion and Exclusion: Indian and South African Perspectives*. *IDS Bulletin* 34(1): 55-62

Kapur, R L. 2003. Can Indian spiritual practices be used in psychotherapy? *Proceedings of the Conference on Application of Oriental Philosophical Thought in Mental Health*, National Institute of Mental Health and Neurosciences (NIMHANS), Bangalore, NIMHANS Publication No 47, pp 9-20

Menon, S. 2003. Binding experiences for a first-person approach: Looking at Indian ways of thinking (*darsana*) and acting (*natya*) in the context of current discussions on 'Consciousness'. In: *On Mind and Consciousness*, Indian Institute of Advanced Study, Shimla, pp 90-117

Narasimha, R. 2003. A metaphysics of living systems: the *Yoga-Vasishtha* view. *Journal of Biosciences* 27: 645-650; *Sandhan* 2(2): 155-164

Radhakrishna, S and Singh, M. 2003. Activity schedule and habitat use in the slender loris. *Journal of the Bombay Natural History Society* 99: 400-407

Ram, S, **Venkatachalam, S** and **Sinha, A.** 2003. Changing social strategies of wild female bonnet macaques during natural foraging and on provisioning. *Current Science* 84: 780-790

Sarukkai, S. 2002. Interpreting scientific terms across traditions. *Sandhan* 2(2): 57-72

Vasavi, A R. 2003. Schooling for a new society? The social and political bases of education deprivation in India. In: Education Inclusion and Exclusion: Indian and South African Perspectives. *IDS Bulletin* 34(1): 72-80

CONFERENCE ABSTRACTS

Sarukkai, S. 2003. Universality, emotion and communication in mathematics. Extended abstract at the *International Conference on Encoding Altruism: The Art and Science of Interstellar Message Composition*, Paris, March 2003
(http://publish.seti.org/art_science/2003/)

Sinha, A, Mukhopadhyay, K and **Datta-Roy, A.** 2003. *Eka adwitiya*: Evolution of unimale social organisation in bonnet macaques (*Macaca radiata*). *Abstracts of the Twenty-eighth Conference of the Ethological Society of India*, Department of Zoology, Sarah Tucker College, Tirunelveli, February 2003

REVIEWS

Vasavi, A R. 2003. Book review of "Agrarian Studies: Synthetic Work at the Cutting Edge" (eds. J Scott and N. Bhatt) , New Delhi, OUP, 2002. *Current Science* 84: 717-718

REPORTS

Ahuja, D. Towards a global transition to sustainable energy systems: A draft proposal, prepared for the IAC Board for a Study on Energy, Amsterdam, January 2003

ARTICLES

Deva Raju, A. *Sarvagna* of our times. *Bhavan's Journal* 49(13): 71-75, February 15

Deva Raju, A. L S Seshagiri Rao: Age of productivity. *The Vijay Times*, February 16

Deva Raju, A. A special talent in the numbers game. *The Vijay Times*, March 13

Narasimha, R. Down in the doldrums: The state of science research in India (interview). *Down To Earth*, December 31, 2002, pp. 42-44



Narasimha, R. A profile. *SpaceNews*, December 2, 2002

Rajagopal, S. War machines may trigger price hike, infiltration: Experts (interviewed by Ramu Patil). *The New Indian Express*, March 29

DOCTORAL PROGRAMME IN NIAS

NIAS is a unique institution that conducts advanced research in multidisciplinary areas that bridge the gap between the natural sciences, technology and the social sciences. Complementing its research programmes, NIAS also offers courses in different areas of research, development and policy for different groups of professionals including teachers, bureaucrats, and executives.

One constraint that NIAS has functioned under so far has been the lack of a doctoral programme whereby young students are trained in the research areas that the Institute has traditionally been interested in. There is, however, an urgent need for such a programme for two principal reasons. First, the unique multidisciplinary academic culture that NIAS has so carefully been building up over the past years has to be nurtured and not allowed to dissipate with the passage of time. This would require that young, talented, and committed students are identified and absorbed into the organisation they would then serve as torchbearers into the future. Second, much of the research being conducted in the Institute, being of an interdisciplinary nature, requires cooperation between a number of specialists. Groups such as these would definitely benefit from young researchers of different disciplines who can actively academically contribute in their respective areas of expertise.

It must also be noted that there has been, in recent times, increasing awareness and interest in issues relating to the interfaces between the natural sciences, technology and the social sciences among young Indian graduate students. Many of them, in fact, are becoming increasingly attracted to pursuing a research career in these interdisciplinary areas. Very few opportunities, however, exist for such students, who have dared to think differently, to pursue a career of their choice within the country. NIAS has thus begun a doctoral programme in collaboration with the Manipal Academy of Higher Education (MAHE), Manipal, an innovative leader among institutions imparting higher education in the basic and applied sciences in the country. This programme specifically involves the awarding of doctoral degrees by MAHE to students interested to

pursue independent research in the areas that NIAS specialises in. For more information, please contact Anindya Sinha (asinha@nias.iisc.ernet.in).



Anindya Sinha



Honours for NIAS Faculty

A Ramachandran

Honoured with the Padma Bhushan in this year's Republic Day honours.

N Shantha Mohan

Nominated member of the State-level Gender Advisory Committee, constituted by the Jala Samvardhane Yojana Sangha (JSYS), Government of Karnataka, Bangalore

COURSES TAUGHT BY THE NIAS FACULTY

H K Anasuya Devi

Teaching a course entitled **Artificial Intelligent and Expert Systems** at Proficiency Continuing Education Programme, Indian Institute of Science, Bangalore, January to May 2003



People We have Lost

VJ Modi

It is with great regret that we have to report that Dr Vinod J Modi, Honorary Professor at this Institute, passed away on February 12 this year. He had held the position since the year 2000; many here will recall the exhibition of his photographs organised here in December 2000. The exhibition was titled *This Moment has Twenty-one Days*, recalling the time he spent in the rural community of Karla in Maharashtra. Dr Modi was one of the benefactors of this Institute, as he gifted a sum of Rs 10 lakhs towards a library building and also the proceeds of the sale of his pictures during the exhibition. Some of his pictures still adorn the walls of the Foyer of the J R D Tata Auditorium in NIAS.

Vinod Modi was born on December 15, 1929 in Bhavnagar, Gujarat. He got his degree in engineering from Bombay in 1953, took a post-graduate Diploma in Aeronautics in 1955 and a PhD from Purdue University in 1959. He was for a long time a professor of mechanical engineering at the University of British Columbia, Vancouver, Canada.

Prof Modi was internationally known for his work in aerospace engineering, bio-mechanics, vibration control of buildings and a variety of other areas. His professional work was marked by an inventiveness of the kind that is unusual among academics, but he never patented his inventions and freely gave away his intellectual property.

Prof Modi was also a passionate photographer; this was almost a parallel career for him and he won world-wide recognition here as well. He was also interested in calligraphy and music, held a pilot's license, and was a great admirer of Vinoba Bhave and Sri Aurobindo. Among the numerous honours that he won was the Fellowship of the Royal Society of Canada, and the permission to take pictures at the Emperor's Garden in Tokyo. He often returned the prize money he won to award givers, sometimes with a supplementary matching contribution

from himself; so his wife Mira is reported to have complained that they could no longer afford her husband's prizes!



Prof Modi was a perfect gentleman, kind and considerate, meticulous and serious in everything he did and generous in spirit to the rest of the world. In his death this Institute has lost a great friend and benefactor. We convey our most sincere condolences to his wife Mira, their daughter Amita and her husband John Shandro.

* * *

A memorial meeting for Prof Modi was held at the Institute on 20 February. Tributes were paid to Prof Modi by Prof R Narasimha, Prof D P Sengupta and Maj Gen Paul. A condolence resolution passed on the occasion was conveyed to Mrs Modi by the Director.



New Faces at NIAS

C R Ananth Rao

Prof Rao has joined the Institute as a Visiting Professor during the period from January 1 to June 30, 2003. On sabbatical from the School of Informatics and Engineering, Flinders University, Adelaide, Australia, his areas of interest include Continuum Mechanics, Wave Propagation in Inhomogeneous Media, and Creativity.



Major 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 January to March 2003 included:

WORKSHOP ON IMPLEMENTING AND MONITORING THE CEDAW CONCLUDING COMMENTS

January 6

This one-day workshop was organised by the Gender Studies Unit for the Legislative Members of the Government of Karnataka, with support from the International Women's Rights Action Watch-Asia Pacific (IWRAP-AP), particularly to facilitate the effective participation by women in politics.

The Unit has been successful in conducting CEDAW training for the members of the State legislature. In the process a training module was prepared, and can now be used to train other elected representatives of the country. This has generally been considered a path-breaking effort since it is the first attempt in the country to provide training on CEDAW for elected representatives at the level of the state legislatures.

Although the number of members participating in the workshop was disheartening, the interest evinced by them was reassuring and satisfying. The outcome of the training is the assurance given by them to advocate strongly for:

- collection and dissemination of sex-desegregated data particularly in areas where such information is lacking
- enactment of the 85th Constitutional Amendment Bill for reservation of seats for women in the state legislatures and the Parliament
- creating an enabling environment to facilitate women's participation at all levels of governance

- implementation of compulsory registration of marriages through gram panchayats
- dispelling myths about women, for example, that women are women's own enemies, or that violence against women is because women deserve/attract it
- organising similar training for other elected representatives through party intervention



N Shantha Mohan

**INTERNATIONAL SYMPOSIUM ON SCIENCE AND
THE SPIRITUAL QUEST II : SCIENCE AND BEYOND:
COSMOLOGY, CONSCIOUSNESS AND
TECHNOLOGY IN THE INDIC TRADITIONS**

January 8-11

This conference, held in NIAS, was the third in the series *Science and the Spiritual Quest II*, a programme of the Center for Theology and the Natural Sciences in Berkeley, California, USA. The objective of the programme was to promote dialogue among leading scientists on the connections between their scientific work and their religious or spiritual identities.

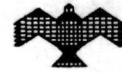
The participants in the Bangalore symposium were drawn from the most distinguished scientists, including Nobel Prize winners and leading specialists in each major field. They came from different continents of the globe, represented world's major religious traditions, and included theists, atheists and agnostics among their number. The Bangalore meeting also drew together the most distinguished Indian scientists, philosophers and other scholars and engaged them with their colleagues from the rest of the world in a series of intellectual encounters on the theme of the meeting. Emphasis was placed on understanding the role of consciousness, cosmology and technology, especially in the Indic traditions. The programme included 40 talks on these subjects, including short presentations by

leading Indian scientists and philosophers on what is science and what is beyond science for them, public lectures, a panel discussion and two major public events. The conference was attended by about 150 registered participants and students.

The speakers at the Symposium were:

- N Balakrishnan, Division of Information Sciences, Indian Institute of Science, Bangalore
- Anindita Balslev, University of Copenhagen, Copenhagen, Denmark
- M L Bhaumik, Cosmogenics, Los Angeles, USA
- Purushottama Billimoria, University of Melbourne, Melbourne, Australia
- Swami Bodhananda, Sambodh Foundation, New Delhi
- D P Chattopadhyaya, Centre for Studies in Civilizations, Kolkata
- Philip Clayton, Sonoma State University, USA
- R Cowsik, Indian Institute of Astrophysics, Bangalore
- George F R Ellis, University of Cape Town, Cape Town, South Africa
- Jane Goodall, The Jane Goodall Institute, USA
- Bruno Guiderdoni, Instituté of Astrophysics de Paris, Paris, France
- Devaki Jain, Bangalore
- Ashok Kumar Jain, Department of Physics, IIT, Roorkee
- Kireet Joshi, Indian Council of Philosophical Research, New Delhi
- D R Kaarthikeyan, Life Positive Plus, New Delhi
- R L Kapur, NIAS, Bangalore
- N Kumar, Raman Research Institute, Bangalore
- Rajiv Malhotra, The Infinity Foundation, Princeton, USA
- Sangeetha Menon, NIAS, Bangalore P K Mukhopadhyay, Jadavpur University, Kolkata
- N Mukunda, Centre for Theoretical Science, Indian Institute of Science, Bangalore
- V Nanjundiah, Indian Institute of Science, Bangalore
- R Narasimha, NIAS, Bangalore
- M G Narasimhan, NIAS, Bangalore
- N R Narayana Murthy, Infosys Technologies Ltd, Bangalor
- Thomas R Odhiyambo, African Academy of Sciences, Nairobi, Kenya
- Roger Penrose, University of Oxford, UK

- Joseph Prabhu, University of California, Berkeley, USA
- R C Pradhan, Indian Council of Philosophical Research, New Delhi
- S K Ramachandra Rao, Bangalore
- K Ramakrishna Rao, Institute for Human Science and Service, Visakhapatnam
- Raja Ramanna, Member of Parliament, New Delhi
- Sundar Sarukkai, NIAS, Bangalore
- S Settar, NIAS, Bangalore
- H N Shankar, PES Institute, Bangalore
- Obaid Siddiqi, National Centre for Biological Sciences, Bangalore
- HNLN Simha, Satyam Computers, Bangalore
- Karan Singh, Member of Parliament, New Delhi
- Anindya Sinha, NIAS, Bangalore
- B V Sreekantan, NIAS, Bangalore
- Sharada Srinivasan, NIAS, Bangalore
- Jean Staune, Université Interdisciplinaire de Paris, Paris, France
- B V Subbarayappa, Indian Institute of World Culture, Bangalore
- M S Swaminathan, M.S. Swaminathan Research Foundation, Chennai
- Charles H Townes, University of California, Berkeley, USA
- CS Unnikrishnan, Tata Institute of Fundamental Research, Mumbai
- Prabhakar Vaidya, NIAS, Bangalore
- M S Valiathan, Indian National Science Academy, New Delhi
- R M Varma, National Institute of Mental Health and Neurosciences, Bangalore



The themes for the symposium included: Science and beyond; cosmology; consciousness; Indic ways of thinking and scientific traditions; science and society; method and epistemology; identity, consciousness and the self; biosciences and values; and health and environment. Apart from these sessions, there were public lectures by Sir Roger Penrose and Dr Jane Goodall, two public events and a panel discussion on "Towards the future". At the public event held on January 10, the Nobel Laureate Prof Charles Townes gave a lecture on "A scientist's view of the parallelism and

ultimate convergence of science and religion”; this lecture was followed by responses made by Dr M S Swaminathan and Prof R Cowsik.

Sri S M Krishna, Honourable Chief Minister of Karnataka delivered the President's address at the inaugural programme of the conference on January 8. Justice Sri Nittoor Srinivasa Rau was the guest of honour. Philip Clayton and N R Narayana Murthy gave the keynote addresses. Karan Singh, Member of Parliament (Rajya Sabha) gave the inaugural address. Dr R Narsimha, Director, NIAS, welcomed the participants and speakers to the symposium and made introductory remarks. Dr B V Sreekantan delivered the vote of thanks. At the valedictory programme on January 11, Dr Raja Ramanna, Member of Parliament (Rajya Sabha) delivered the valedictory lecture while Dr Mark Richardson made the concluding remarks and summarised the achievements of the conference.

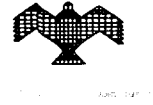
Sangeetha Menon and B V Sreekantan

XVII NIAS COURSE FOR SENIOR EXECUTIVES

January 15-25

The main theme for this year's annual course was *Corporate and Public Governance*. There were sixteen participants from private and public organisations. The course was inaugurated by Prof R Narasimha, Director of the Institute. A wide range of subjects dealing with various aspects of governance was covered. Themes covered in this course included topics such as the interface between public and corporate governance, governance and leadership, the impact of corruption on governance, structures of public and private organisations, the impact of internal security on governance, a series of lectures on the theme of poverty which covered issues of rural-urban divide, governance and gender, and the role of democracy; political representation and bureaucracy, foundations of ethics, electoral reforms, experiences in local governance, Indian psyche, enforcement and governance, psychological reflections on communal violence, environmental governance and urban governance. The list of speakers included Narendar Pani, L C Jain, M K

Narayan, D M Nanjundappa, Arjun Ray, P Sainath, Gita Sen, A Ramachandran, K Jairaj and Rajeev Chawla along with some NIAS faculty. There was also a lecture-demonstration of *World music* by Guruskool.



Five evening public lectures were also held as part of this Course. The first was also the M N Srinivas Memorial Lecture delivered by Justice M N Venkatachaliah (Retd). On January 20, Aruna Roy spoke of her experiences with MKSS in a talk titled *Restructuring democracy*. The next evening talk was by Veerappa Moily, the former Chief Minister of Karnataka who spoke on politics and governance. Following him, on January 22, was M S Gill, the former Chief Election Commissioner, who spoke on electoral reforms. The last evening talk was by Sudhir Kakar and was titled *Hindu-Muslim violence: Some psychological reflections*.

The valedictory address was given by R Gopalakrishnan of Tata Sons.

Sundar Sarukkai

ROUND TABLE CONFERENCE ON SYSTEMS ENGINEERING APPROACHES FOR COMPLEX MEGA-PROJECTS

February 8

This round table conference was organised as a follow-up of the project on Systems Engineering Approaches for Complex Mega-projects, run by the International and Strategic Studies Unit of NIAS with funding from the Defence Research and Development Organisation, Ministry of Defence. Some of the important issues addressed during the meeting included a discussion on the the world scenario in Systems Engineering with projections of where it was headed as well as critical discussions on the role and need for Systems Engineering in the Indian context.

S Rajagopal



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' Programmes during the period from January to March 2003 included the following events:

January 17

Does technology re-invent a purpose in civilization?
Teleology from Bergson to William Halal

The Third M N Srinivas Memorial Lecture, sponsored
by Syndicate Bank

M N Venkatachaliah
Retired Chief Justice of India, Bangalore

March 17

An evening with M F Hussain

This Associates' Programme was an occasion to meet and listen to the celebrated painter, M F Hussain. The programme began with an exhibition of the film, Gajagamini, followed by a short talk by the artist on his art and his cinema.



Lectures and Seminars



WEDNESDAY DISCUSSION MEETINGS

*The members of the Institute meet every Wednesday morning (and rarely on other mornings too!) for informal academic discussions after a talk delivered by a member of the faculty. These Wednesday meetings, organised by **Sangeetha Menon** and **Sridhar K Chari**, also serve as a forum for invited guest speakers to deliver a 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 January to March 2003 have included:

January 1

On cardinality and resonances

Raja Ramanna

*Sudhir Jain, Bhabha Atomic Research Centre,
Mumbai*

K Ramachandra

Employing the relation between time-delay and resonances and a property of the Riemann-Stieltjes integration, the authors showed that the product of binding energy and lifetime for unstable particles is given by $\hbar^2 n/n$ where n is an integer. Due to the fact that resonances occur in continuum, their relation with cardinality is of great interest. Even though the resonances are designated by a complex energy variable where ordering is not possible, in terms of stability, the index n labels these resonances; larger than n , more stable a resonance is.

January 29

To speak for the Individual or the Collective?
States, societies and nationalism

Sridhar K Chari

The talk attempted to investigate how far one could sustain the argument that a State can, and

should, only speak for the Individual, and not a Collective. Liberal individualism has been criticised for its "atomism" and for having a tendency to "create elites". Arguments in favour of privileging a collective, however, are also beset with many problems. The talk also explored these arguments and attempted to link these issues with the question of the role and relevance of nationalism, and the working of the current international system.

February 12

Convention for Elimination of all forms of Discrimination Against Women (CEDAW): Its applications for achieving substantive equality

N Shantha Mohan

This convention was adopted by UN general assembly in 1979 and is often described as an international comprehensive bill of rights for women. India was a signatory and ratified it in the year 1993 by committing to achieve substantive equality for women. It defines what constitutes discrimination against women and sets up an agenda for action to end such discrimination.

February 19

The creative moment in myth, literature and science

C R Ananth Rao

We seem to assume consciously or otherwise that behind any human activity some kind of 'Creative Process' is at work. While the label 'creative' appears to be used commonly for significant achievements of the more gifted amongst us, the creative experience itself is not necessarily exclusive to such individuals. In this talk the speaker attempted to identify instances of the creative process and 'the creative moment' with an example each from mythology, literature and science.

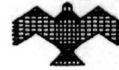
February 26

What is 'systems dynamics'?

Prabhakar G Vaidya

This seminar served as a report and a critical review of a meeting held in Bangalore on February 8 as a follow-up of the NIAS course on Systems Engineering. This talk was prompted by a comment at that meeting by V K

Aatre that after all the discussions that took place in that meeting he still had no clue as to what was 'Systems Engineering'. In this lecture, the speaker presented some personal views of what it could be or what it should be by drawing upon some of his experiences, especially at Boeing in the US. He also tried to answer some of the key questions that the chairperson of the February 8 meeting, R Narasimha, had asked.



March 5

Mendacity in our midst

Dilip Ahuja

Cultural observers like A K Ramanujan and Max Muller have implied in print that untruthfulness was widely prevalent amongst Indians because of its approval by ancient Indian behavior codes. While these ancient codes (those by Apastamba, Gautama, Baudhayana, Vasistha and Manu) contain many assertions we would consider problematic today, a preference for untruthfulness does not appear to be one of them. The only occasion wherein a code expresses a preference for lies over truth is when someone's life was at stake. However, the prevalence of untruthfulness in different groups can only be estimated experimentally or by carefully designed questionnaires.

The **guest lectures** at the Wednesday Discussion Meetings during this period included:

March 12

Hydrography and underwater archaeological explorations: Complexities and limitations

John Jacob Puthur

Charge hydrographer, Indian Navy

After a brief introduction to hydrography, which also described various applications and types of hydrographic data gathered during a typical hydrographic survey, the speaker focussed on a newly emerging application of hydrography: underwater archaeological explorations. The

discussions concerned two aspects of this application, namely sunken wreck investigations and exploration of submerged human settlements. In the discussion of the latter, aspects of coastal dynamics that may have caused the settlements to be submerged were touched upon, followed by a description of the limitations of hydrographic surveying in getting to the exact nature of the underwater settlements with the possibility that incorrect inferences could be made. No specific case study was, however, presented.

March 19

Challenging classical logic: The axiomatic nature of mathematical truth
via the newly proposed non-Aristotelian finitary logic

R Srinivasan
R & D Group India Software Labs
IBM Global Services India
Bangalore

In this talk, the speaker outlined the philosophical basis of his proposed non-Aristotelian finitary logic (NAFL) that could seriously challenge the present foundations of mathematics, theoretical physics and theoretical computer science built upon classical/intuitionistic/constructive logics. He attempted to demonstrate that these logics unavoidably have to rely on the discredited philosophy of Platonism, which requires mathematical truths to exist independent of the human mind in a Platonic (ideal) world of mathematical objects. NAFL, on the other hand, is the only logic that correctly embodies the philosophy of formalism, in which mathematical truths exist only with respect to axiomatic theories. These truths reside (temporarily) in the human mind as axiomatic declarations and not in any Platonic world. NAFL settles Hilbert's program negatively much of classical infinitary reasoning stands refuted from the finitary and formalistic standpoints. Consistent NAFL theories do not tolerate self-reference, unlike classical logic. In particular, infinite sets (and the continuum) do not exist, Cantor's diagonalisation argument is invalid, non-Euclidean geometries and Einstein's relativity theories are inconsistent, Turing's halting problem is decidable and Goedel's incompleteness theorems are inapplicable in

consistent NAFL theories. On the other hand, NAFL elegantly justifies the phenomenon of quantum superposition and also correctly handles time-dependent truth values for propositions involving future contingencies, as were illustrated with example.



Thus the incompatibility between quantum mechanics and the continuum-based relativity theories is clearly established in NAFL. This suggests the search for new foundations of physics in which everything, including space, time and matter is discrete in a consistent NAFL theory.

March 26

A movement called KV

Ram S Pejavar
Bangalore

The lecture focussed on children's education in general, and around KV (Katha Vyakti, the storyteller), an animated genie created by the speaker, in particular. KV has been a live-video television series on Doordarshan Bangalore and the National Network since the early 1990s. As the name suggests, KV is a repository of stories drawn from myriad sources bringing alive myths, legends, history and folklore from all over the world.

SPECIAL PROGRAMMES

There were eight public lectures and two special lectures organised at the Institute during the period from January to March 2003

Public lectures

January 10

A scientist's view of the parallelism and ultimate convergence of science and religion

Charles H Townes, Nobel Laureate
University of California at Berkeley
USA

Response by

M S Swaminathan

Chairman, M S Swaminathan Research Foundation,
Chennai

and

R Cowsik

Director, Indian Institute of Astrophysics, Bangalore

January 20

Restructuring democracy

Aruna Roy

Mazdoor Kisan Shakti Sangathan

January 21

Politics and governance

Veerappa Moily

Former Chief Minister of Karnataka
Bangalore

January 22

Electoral reforms

M S Gill

Former Chief Election Commissioner
New Delhi

January 23

Hindu-Muslim violence: Some psychological
reflections

Sudhir Kakar

January 27

India's maritime traditions and south-east Asia

Satish Chandra

Secretary-General, Society for Indian Ocean
Studies and
Former Chairman, University Grants Commission
New Delhi

*Why did India not develop a navy in order to counter
the Portuguese, and then other European nations'
efforts to dominate the Indian seas, leading to the
British conquest of India? This question is related to*

India's maritime and navigational traditions (or lack thereof), which, it is said, led to the neglect of the oceans and the growth of insularity on the part of the Indians, and to the loss of profitable overseas trade first to the Arabs and then to the Europeans. All these are supposed to be the result of a lack of the 'spirit of adventure' and daring on the part of the Indian people. These attitudes and assumptions were examined critically in an historical context, keeping in mind new research and thinking, and in the context of the challenges and opportunities facing India. India's age-old contacts with south-east Asian countries, India's role in developing deep-ocean trade in this region, and the role of Vasco da Gama in opening India's trade with Europe were also discussed in this talk.



February 11

Meditations on Desire and other poems

Saleem Peeradina

Siena Heights University, Michigan

USA

The poet read selected poems from his books and lectured briefly about his poetry.

March 10

Ethics and weapons of mass destruction: A realist account

Scott D Sagan

Stanford University

USA

Special lectures

February 17

Stabilisation measures for ballistic missiles in southern Asia

Arvind Kumar

National Institute of Advanced Studies

Bangalore

India, China and Pakistan possess a volatile mixture of large militaries, nuclear weapons,

strike aircraft, and surface-to-surface missiles overlaid with poor communication and distrust. Within this context, the delivery systems for nuclear weapons strongly affect each country's threat perceptions and nuclear strategies. As a delivery system, ballistic missiles have both stabilising and destabilising characteristics. Destabilising characteristics include a short time from launch to target, the use of mobile launchers requiring much less infrastructure than aircraft, and the potential dual use of conventional and nuclear warheads. The possession of large numbers of ballistic missiles could lead powers to miscalculate in a crisis, perhaps opting for preemptive military action. In spite of these factors, ballistic missiles can provide a stabilising role in political-military conflicts. As a conventional weapon, their relatively low cost can enable a weak state to counter its inferiority in other areas. As a nuclear weapon, missiles can provide a survivable force that serves as a deterrent to attack.

This study assessed the destabilising and stabilising effects of ballistic missiles in Southern Asia including both nuclear and conventional roles. 'Stability' in this context means that the status quo is maintained (pending a political solution) and that the presence of ballistic missiles neither makes a conflict more likely nor escalates an ongoing one. The second goal of this study was to develop operational concepts, within the strategic policy context of southern Asia, of the decrease in instability associated with ballistic missiles. The analysis assessed the practicality of potential operational concepts by evaluating them within the context of several scenarios related to the current imbroglio in the subcontinent. Options for stabilisation were presented in three categories: 1) unilateral measures, 2) cooperative measures to increase transparency and build confidence, and 3) structural arms control. Cooperation in implementing or evaluating an experiment demonstrating a stabilisation option would increase understanding of procedures and tools and could become a basis for improved confidence between India, Pakistan and China.

February 25
Haldane and India



Veena Rao
Bangalore

In this presentation, the speaker described the relationship between the famous scientist, author and Indophile J B S Haldane and India from the viewpoint of history of science. She also dealt with such issues as India's significance for Haldane and his contribution to science in India during the lecture.

SEMINAR ON THE HISTORY OF IDEAS

NIAS and Raman Research Institute (RRI), Bangalore, are organising a monthly Seminar on the History of Ideas, meeting usually on the second Friday of every month at NIAS. The organising committee consists of R L Kapur, N Kumar, R Narasimha and M G Narasimhan (Convener). The talks in this series held during the period from January to March 2003 included:

February 14

Pattern formation in biology: Alan Turing and the Chemical Basis of Morphogenesis

Vidyanand Nanjundiah

Indian Institute of Science and Jawaharlal
Nehru Centre for Advanced Scientific Research
Bangalore

The name of Alan Turing is commonly associated with 'Turing machines' and the 'Turing test'. Less widely known is the fact that in 1952 (one year before the double helix, it should be pointed out) he wrote a seminal paper in theoretical biology. The paper, entitled The Chemical Basis of Morphogenesis, tried to make the case that the details of biological form did not need correspondingly detailed mechanisms of specification. Rather, Turing argued that a system of chemical reactions, combined with diffusion in some sense a 'minimal system' could yield spatial and temporal patterns that

outlined the broad features of form that one wanted to understand. The talk addressed the following questions, though not necessarily in the order listed: What exactly did Turing achieve in this paper? Were there any antecedents to his way of thinking? What was the impact of his theory then, and what has the impact been since? Are there essential differences in the ways in which biologists try to understand nature from the ways in which physicists or mathematicians try to do so?

March 21

Why did modern science arise in Pisa, not Patna or Peking?

Roddam Narasimha

Director

National Institute of Advanced Studies

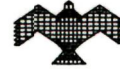
Bangalore

The question in the title is what Joseph Needham asked in virtually identical words as his monumental project on the history of Chinese science began taking a definitive form. It was argued in the lecture that many of the standard socio-cultural explanations offered in answer to Needham, in India and elsewhere, are not truly convincing (the Peking half of the question was not directly addressed). Instead, an alternative perspective involving the history of ideas in Indic civilizational thought was put forward in the lecture.

NIAS LITERARY FORUM

This forum has been established in the Institute to pursue and conduct literary activities such as play-reading, reading of poetry (one's own or others'), reading of short stories and the like. These activities are aimed at providing complementary support to the Institute's more regular work. The activities are open to all members of the NIAS fraternity and occasional guests from outside the Institute as well. Currently, this forum meets on one Wednesday every month. For more details about its activities, please contact **M G Narasimhan**.

CONSCIOUSNESS DISCUSSION FORUM



The Culture, Cognition and Consciousness Unit, in an effort to increase its activities in consciousness studies and to draw upon other existing sources of knowledge and interest in this area, has initiated a Consciousness Discussion Forum. The Forum has decided to meet once in about two months. Following the exchange of ideas in the first few meetings, an e-group on Consciousness has been formed. Those who are interested in this discussion forum can either log on to www.egroups.com/groups/NIAS-forum-on-CONSCIOUSNESS/ and register themselves or subscribe to the group by sending an email to NIAS-forum-on-CONSCIOUSNESS-subscribe@egroups.com. For more details, please contact Sangeetha Menon (smenon@nias.iisc.ernet.in).

On January 13, the Forum had a meeting on the theme: Consciousness And Experience: Philosophical Debates, with brief presentations by H N Shankar, Philip Clayton, J Srivastava, Purushottama Bilimoria, Ananda Wood, Stephen Kaplan and Sangeetha Menon.



Faculty Activities

JANUARY TO MARCH 2003

Dilip Ahuja

Delivered a presentation entitled "Indian policy on climate change negotiations" at the Panel Discussion on Weather and Climate, Indian Science Congress, Bangalore, January 5

Attended a seminar on Status of Indian Science, a meeting of scientists organised by the Rajiv Gandhi Foundation, Indian Institute of Science, Bangalore, January 13

Delivered a lecture entitled "International environmental treaties and their implications for India" at the XVIIth NIAS Course for Senior Executives on Corporate and Public Governance, January 16

Delivered a talk entitled "Towards a global transition for sustainable energy systems: A draft proposal" to the IAC Board for a Study on Energy, Third Annual IAC Board Meeting, Amsterdam, the Netherlands, January 21

Attended the Fourth Annual IAC Board Meeting, Amsterdam, the Netherlands, January 20-22

Delivered a talk entitled "Ineffectiveness of energy reports in changing government policy" at the Seminar on Directions of Science in the 21st Century Indian and French Perspectives, Indian National Science Academy, New Delhi, February 17

B K Anitha

Presented a paper on "CEDAW concluding comments" in the one-day Workshop on Implementing and Monitoring CEDAW Concluding Comments for the State Legislature members, NIAS, January 6

Presented a paper on "Mainstreaming gender issues in irrigation" at the Southern Regional Workshop on Participatory Irrigation Management Practices for

senior- and middle-level officers of the Irrigation Department South India, Centre for Water Resource Development and Management, Kozhikode, March 17



H K Anasuya Devi

Attended the Review Committee meeting and presented the progress of the on-going project on Knowledge-based Processing of Epigraphy Texts (Phase II), National Remote Sensing Agency, Hyderabad, February 1

Presented two papers entitled "Feature extraction of Brahmi script" and "Creation of graphical user interface for identification of Brahmi script" at the National Conference on Ancient Science and Archaeology, Courtallam, March 7-9

R L Kapur

Delivered a lecture entitled "The making of a *sadhu*: An inquiry into higher states of mental health" at the International Conference on Science and the Spiritual Quest II Science and Beyond: Cosmology, Consciousness and Technology in the Indic Traditions, Bangalore, January 11

Delivered a lecture on "My work with the *Sanyasis* of the Himalayas", Indian Private Psychiatrists' Association, New Delhi, February 24

Delivered an oration on "The foundation of belief systems", Chhatrapati Sahuji Maharaj Medical University, Lucknow, March 8

Delivered a course of lectures on "Psychotherapy", Department of Psychiatry, King George Medical College, Lucknow, March 8

Sangeetha Menon

Delivered a talk entitled "Beyond 'what' and what is 'beyond'?" at the International Conference on Science and the Spiritual Quest II Science and Beyond: Cosmology, Consciousness and Technology in the Indic Traditions, Bangalore, January 11

Delivered a talk entitled “Basics of consciousness: Asking fundamental questions” at the NIAS Consciousness Discussion Forum, NIAS, January 13

Delivered the invited talk entitled “Beginning with fundamental questions about consciousness” at the National Seminar on Consciousness, Society and Values, organised by the Department of Philosophy, Goa University and Institute of Advanced Study, Shimla, at Goa, January 17

Delivered a Panel talk entitled “Bridging traditions” at the VK Krishna Menon Memorial Lecture on Science, Technology and Social Change, Palakkad, February 8

Delivered an invited lecture entitled “Foundations of Indian thought” at the Bharatiya Vidya Bhavan, organised by District Lions Club and Bharatiya Vidya Bhavan, Palakkad, February 9

N Shantha Mohan

Presented a paper on “CEDAW and substantive equality” in the one-day Workshop on Implementing and Monitoring CEDAW Concluding Comments for the State Legislature members, NIAS, January 6

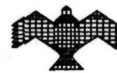
Delivered a lecture entitled “Gender and governance” at the XVIIth NIAS Course for Senior Executives on Corporate and Public Governance, NIAS, January 20

Participated and contributed to the one-day Workshop on Programme for Action Development to deliberate on issues related to the water sector in the Southern region, organised by Sahayoga, Bangalore, January 30

Presented a paper entitled “Economic empowerment of women” at the state-level Consultation Meeting on Gender and Economic Empowerment of Women, organised by the Singamma Srinivasa Foundation and supported by the National Women's Commission, Bangalore, February 3

Presented a paper on “Women's participation in local government: India's experience with constitutional amendments” at the Expert Group Meeting on Gender and Women's Issues in Human Settlements, organised by UN HABITAT, Nairobi, Kenya, February 18-20

Presented two papers entitled "Principles and key features of CEDAW" and "Recommendations of the Baseline Report on Women and Political Participation in India" at the two-day National Consultation on Monitoring and Implementation of Concluding Comments/Observations of UN-CEDAW Committee on India's Initial CEDAW Report, organised by National Alliance of Women and supported by IWRAW-Asia Pacific, New Delhi, February 25-26



R Narasimha

Organised a special session on *Megha-Tropiques* at the 90th Indian Science Congress Session, Bangalore, January 5

Delivered a lecture entitled "The fundamental problem of human action" at the International Conference on Science and the Spiritual Quest II, Science and Beyond: Cosmology, Consciousness and Technology in the Indic Traditions, Bangalore, January 8

Delivered the inaugural lecture at the 17th Senior Executives Course on Corporate Governance, NIAS, January 15

Delivered an invited lecture on "Is Indian aerospace all set for a boom?" at the International Seminar on Aerospace Technologies: Developments and Strategies, Aero-India 2003, Bangalore, February 6

Delivered an invited lecture on "Science and society" at the Akhila Bharata Madhwa Maha Mandala Golden Jubilee Celebrations, Poornaprajna Vidyapeetha, Bangalore, February 7

Was Chief Guest at the Inauguration of Students Activities, Sri Sarvajna College of Education, Bangalore, February 16

Was telecast live on personality interview programme of Doordarshan, Bangalore, February 28

Delivered the valedictory address at the Maharani Lakshmi Ammanni College, Bangalore, March 8

Participated as a discussant at the International Seminar on Marine Archaeology India 2003, New Delhi, March 14

Delivered the first anniversary lecture on "Why did modern science arise in Pisa, not Patna or Peking?", Seminar on the History of Ideas, NIAS, March 21

K Ramachandra

Delivered a lecture on "Some selected theorems of number theory" under the IISc-TIFR Mathematics Programme, TIFR Centre, Indian Institute of Science, Bangalore, March 12

Sundar Sarukkai

Delivered a talk entitled "Space and matter" at the International Conference on the Concept of Matter in Indian Philosophical Schools and the New Physics: Understanding Knowledge Systems, Bangalore University, January 6

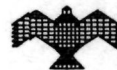
Delivered a lecture entitled "Boundaries" at the International Conference on Science and the Spiritual Quest II Science and Beyond: Cosmology, Consciousness and Technology in the Indic Traditions, Bangalore, January 10

Delivered a set of four lectures on "Continental philosophy of science" at the Refresher Course in Philosophy of Science, University of Hyderabad, January 13-14

Delivered a lecture entitled "Foundations of ethics" at the XVIIth NIAS Course for Senior Executives on Corporate and Public Governance, NIAS, January 22

Delivered a talk entitled "Methodology and discourse" at the National Seminar on the Philosophy of Karl Popper, Pune University, March 11

Anindya Sinha



Delivered a lecture entitled "A brave new world: Scientific and ethical issues in human cloning" at the International Conference on Science and the Spiritual Quest II Science and Beyond: Cosmology, Consciousness and Technology in the Indic Traditions, Bangalore, January 10

C Srinath

Presented a paper on "State initiatives" in the one-day Workshop on Implementing and Monitoring CEDAW Concluding Comments for the State Legislature members, NIAS, January 6

Participated and contributed to the one-day Workshop on Programme for Action Development *to deliberate on issues related to the water sector* in the Southern region, organised by Sahayoga, Bangalore, January 30

Participated in the Meeting on Gender and Economic Empowerment of Women and contributed to the recommendations to the National Women's Commission, organised by the Singamma Srinivasa Foundation, Bangalore, February 4

Participated in the National Consultation on Monitoring and Implementation of CEDAW Concluding Comments in India, organised by NAWO, and contributed in drafting the demands to the government, New Delhi, February 25-26

Sharada Srinivasan

Delivered a lecture entitled "The cosmic dance of Siva: An icon of science and beyond" at the International Conference on Science and the Spiritual Quest II Science and Beyond: Cosmology, Consciousness and Technology in the Indic Traditions, Bangalore, January 11

Delivered a review talk on the project on Metallurgical Characterisation of High-Tin Bronzes and Copper Alloys from Ancient India", DST-SERC

Young Scientist Awardee Group Monitoring Workshop,
Nagpur, January 19

Delivered a lecture on “Archaeometallurgy” to undergraduate students of the Institute of Archaeology, New Delhi, at the Archaeological Survey of India Camp in Dholavira, Gujarat, March 12

N Sudhamani

Participated and contributed to the one-day Workshop on Programme for Action Development to deliberate on issues related to the water sector in the Southern region, organised by Sahayoga, Bangalore, January 30

Participated in the Meeting on Gender and Economic Empowerment of Women and contributed to the recommendations to the National Women's Commission, organised by the Singamma Srinivasa Foundation, Bangalore, February 4

A R Vasavi

Served as a discussant for the panel on “Culture and Globalisation”, held at the Mehta Institute of Management, Indian Institute of Technology, Mumbai, January 31

H Venugopal

Presented a paper on “Major findings of the Baseline Report on Women and Political Participation in India” in the one-day Workshop on Implementing and Monitoring CEDAW Concluding Comments for the State Legislature members, NIAS, January 6

Participated and contributed to the one-day Workshop on Programme for Action Development to deliberate on issues related to the water sector in the Southern region, organised by Sahayoga, Bangalore, January 30

Participated in the National Consultation on Monitoring and Implementation of CEDAW Concluding Comments in India, organised by NAWO, and contributed in drafting the demands to the government, New Delhi, February 25-26

VISITS MADE BY THE FACULTY



Sharada Srinivasan

Invited to visit the Archaeological Excavation Camp, undertaken by the University of Michigan, USA, at Kadabakale, near Hampi, February 16-19

Invited to visit the Archaeological Excavation Camp of the Archaeological Survey of India (ASI) at the Harappan site of Dholavira, Gujarat, March 8-13. She also toured the ASI Camp in Bhuj and inspected sites affected by the earthquake including Aina Mahal and the Chattris during this visit

VISITORS TO THE INSTITUTE

Prof N K Jha, Dean, School of International Studies, Pondicherry University, visited the International and Strategic Studies Unit on January 11

Dr Scott Sagan, Co-director, Center for International Security and Co-operation, Stanford University, USA, visited the International and Strategic Studies Unit on March 10



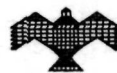
Upcoming Events

Following the success of last year's summer course on *Understanding Science* for college students, the History and Philosophy of Science Unit is continuing the course this summer as well. It is a two-week course in history and philosophy of science for college students in the sciences and arts. It will be held from June 16-27, 2003, and is sponsored by the Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore. The participants in this course will be exposed to introductory topics in history and philosophy of science. Reading material and a daily honorarium will be given to all participating students. There will also be a certificate awarded at the end of the course. If there is sufficient interest, we hope to offer a semester programme in philosophy starting from August 2003. For more details, please contact Sundar Sarukkai / (sarukkai@nias.iisc.ernet.in)

The International and Strategic Studies Unit will organise the Fifth CISAC-NIAS Dialogue and a Workshop on Counter-terrorism Technologies at Goa during October 2003. For more details, please contact S Rajagopal (rajgopal139@hotmail.com)



An Appeal for Funds



Building and sustaining the intellectual and social foundations of a transforming civilisation

About NIAS

India has several fine institutions, in the natural sciences, in engineering and technology, and in the social sciences. But these institutions harbour different cultures, and, indeed, are often worlds unto themselves. And there are too few bridges between and among them. The most interesting and challenging problems of the coming century probably lie in the interfaces between these cultures and disciplines interfaces that are studied far too little in our country. It is in these no man's lands that I believe the future of NIAS lies in subjects that do not belong to the tidy little pigeon holes that the current knowledge system of the world has created artificially, and for technical or bureaucratic convenience, not because that is the way the world operates. How to build these bridges, how to bring different intellectual and social communities together, and how to look at the future of our nation and the world with the greatest possible intellectual integrity as well as public and social confidence it is the pursuit of these aims that NIAS is taking up as its mission.

If we have to achieve these goals it is necessary for us to bring together the best in the natural and social sciences. The late JRD Tata, who conceived of this institution, saw the great need in India to form a new kind of leader he envisioned an institution that could harness creativity and commitment, mathematics and management. With my distinguished colleagues on the faculty of NIAS, and the eminent persons we count among our Associates, I am hopeful that we can carve a unique niche for ourselves in the public and intellectual life of this country and the world, moving in the direction that our founders so clearly saw as essential for the future health of our nation.

The appeal

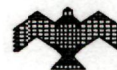
The pursuit of our goals demands a measure of autonomy. We need financial support from diverse sources to ensure and sustain that autonomy. The early generosity of the House of Tatas and the Government of Karnataka has given us some splendid facilities. We now need to build on this foundation, diversify our sources of income and carry out programmes that are sensitive, at one and the same time, to public and national needs as well as to the demands of uncompromising intellectual rigour.

We solicit your contributions to help us to realise our goals. Bequests can be made to the NIAS Endowment Fund in the manner described below.

R Narasimha

Director, NIAS, and
Chairman, NIAS Endowment Committee

How to make Contributions to the NIAS Endowment Fund



All contributions made to NIAS or its Endowment Fund are tax deductible under Section 35, Subsections (i) and (ii) of the Indian Income Tax Act of 1961.

NIAS is registered under the Foreign Contributions (Regulation) Act, 1976, and is entitled to receive contributions from abroad directly (Register number 094420614, Account No. 0100005000200, State Bank of India, Indian Institute of Science, Bangalore 560 012). Contributions must be made by cheques drawn in favour of the National Institute of Advanced Studies; the cheques may be sent directly to NIAS, or credited to the State Bank of India account mentioned above with independent intimation to NIAS.

The Institute welcomes contributions of any amount. Typical sums and the purposes for which they can be used and the forms in which acknowledgements can be made are shown below.

1. *Books*

Can be donated as books or as funds to be utilised for purchase of books

Every book donated or purchased out of donation funds will carry a label indicating the name of the donor

2. *Objects of art* (paintings, sculpture etc.)

Rs 10,000/ and above

Will carry a small plaque indicating the name of the donor

3. *Annual Endowed Lecture* (speaker residing in India)

Rs 2.5 lakh or US \$ 6,000

May be named with concurrence of donor

4. *New Office Space*

Rs 5 lakh per room

Room will carry a plaque indicating the name of the donor

5. *Visiting Professor (from India or abroad)*
Rs 10 lakh or US \$ 25,000
May be named with concurrence of donor
6. *Lecture Hall*
Rs 20 lakh or US \$ 50,000
May be named with concurrence of donor
7. *East Wing, Main Building*
Rs 40 lakh or US \$ 100,000
May be named with concurrence of donor
8. *West Wing, Main Building*
Rs 50 lakh or US \$ 125,000
May be named with concurrence of donor
9. *Endowed Doctoral Scholarship*
Rs 10 lakh or US \$ 25,000
May be named with concurrence of donor
10. *Endowed Fellowship*
Rs 30 lakh or US \$ 70,000
May be named with concurrence of donor
11. *Endowed Professorship*
Rs 40 lakh or US \$ 90,000
May be named with concurrence of donor
12. *Endowed Research Unit*
Rs 80 lakh or US \$ 187,500
May be named with concurrence of donor



The NIAS Faculty



R Narasimha (PhD Caltech)
Director
roddam@nias.iisc.ernet.in
roddam@caos.iisc.ernet.in

Raja Ramanna (PhD London)
Director Emeritus
rr@nias.iisc.ernet.in

R L Kapur (PhD Edinburgh)
J R D Tata Visiting Professor, History and Philosophy of
Science
rlkapur@bgl.vsnl.net.in

S Rajagopal (BTech Guindy)
Homi Bhabha Chair, International and Strategic Studies
rajgopal139@hotmail.com

Prabhakar G Vaidya (PhD Southampton)
Professor, Mathematical Modelling
pgvaidya@nias.iisc.ernet.in

Dilip Ahuja (PhD Virginia)
ISRO Professor of Science and Technology Policy Studies
dahuja@nias.iisc.ernet.in

B V Sreekantan (PhD TIFR/Bombay)
Honorary Visiting Professor, Culture, Cognition and
Consciousness
bvs@nias.iisc.ernet.in

S Settar (PhD Karnataka)
Dr S Radhakrishnan Visiting Professor
settar@nias.iisc.ernet.in

K Ramachandra (PhD TIFR/Bombay)
Honorary Visiting Professor
kram@nias.iisc.ernet.in

H K Anasuya Devi (PhD IISc)
Fellow, Epigraphy
hka@nias.iisc.ernet.in

N Shantha Mohan (PhD ISEC/Bangalore)
Fellow, Gender Studies
shantham@nias.iisc.ernet.in
A R Vasavi (PhD Michigan State)
Fellow, Sociology and Social Anthropology
arvasavi@nias.iisc.ernet.in

P K Shetty (PhD IARI)
Fellow, Environmental Studies
pks@nias.iisc.ernet.in

Sundar Sarukkai (PhD Purdue)
Fellow, History and Philosophy of Science
sarukkai@nias.iisc.ernet.in
sarukkai1@yahoo.com

Anindya Sinha (PhD TIFR/Bombay)
Fellow, Culture, Cognition and Consciousness
asinha@nias.iisc.ernet.in

Sangeetha Menon (PhD Kerala)
Fellow, Culture, Cognition and Consciousness
prajnana@yahoo.com
www.geocities.com/prajnana

B K Anitha (PhD ISEC/Bangalore)
Associate Fellow, Gender Studies
anibk@nias.iisc.ernet.in

M G Narasimhan (PhD IISc)
Associate Fellow, History and Philosophy of Science
narasim@nias.iisc.ernet.in

Suri Venkatachalam (PhD IISc)
Adjunct Associate Fellow, Mathematical Modelling
suri@ces.iisc.ernet.in

H N Shankar (PhD IISc)
Adjunct Associate Fellow, Mathematical Modelling
hn_shankar@yahoo.com

Sharada Srinivasan (PhD London)
Adjunct Associate Fellow, Culture, Cognition and Consciousness
sharada@nias.iisc.ernet.in

Sarada Balagopalan (PhD New York)
Adjunct Associate Fellow, Sociology and Social Anthropology
saradab@vsnl.net

Sindhu Radhakrishna (PhD Mysore)
Adjunct Associate Fellow, Culture, Cognition and Consciousness
loris_sr@yahoo.com

Padma M Sarangapani (PhD Delhi)
Associate Research Fellow, Sociology and Social Anthropology
psarangapani@hotmail.com

Arvind Kumar (MPhil JNU)
Research Associate, International and Strategic Studies
arvind@nias.iisc.ernet.in

C Srinath
Research Associate, Gender Studies
srinath@nias.iisc.ernet.in

N Sudhamani (MA Bangalore)
Research Associate, Gender Studies

Sridhar Krishnaprasad Chari (MA Leicester)
Research Associate, International and Strategic Studies
sridhar_kchari@yahoo.co.in

M D Madhusudan (MSc Saurashtra)
Research Scholar, Culture, Cognition and Consciousness
madhu@nias.iisc.ernet.in



Savita Angadi (BE Karnataka)
Research Scholar, Mathematical Modelling
savita@nias.iisc.ernet.in

S K Uma (MSc Bangalore)
Research Scholar, Philosophy, Science and Society

N Balakrishnan, Honorary Professor
Information Sciences Division, Indian Institute of Science,
Bangalore
balki@serc.iisc.ernet.in

Vijay Chandru, Honorary Professor
Computer Science and Automation, Indian Institute of
Science, Bangalore
chandru@csa.iisc.ernet.in

R K Kochhar, Honorary Professor
National Institute of Science, Technology and Development
Studies, New Delhi
rkk@nistads.res.in
rkochhar2000@yahoo.com

A Ramachandran, Honorary Professor
Bangalore
Tel: 225 5780

D P Sen Gupta, Honorary Professor
Electrical Engineering, Indian Institute of Science, Bangalore

H N Sharan, Honorary Professor
Netpro Renewable Energy India Ltd, Bangalore
netpro@blr.vsnl.net.in

B V Subbarayappa, Honorary Professor
Indian Institute of World Culture, Bangalore

V J Sundaram, Honorary Professor
Bangalore
sundaram@nias.iisc.ernet.in

ADMINISTRATION

Maj Gen M K Paul VSM (Retd) (BE Jadavpur)
Controller
mgp@nias.iisc.ernet.in

PRINCIPAL S R GROVER LIBRARY

Hamsa Kalyani (MLISc Bangalore)
Assistant Librarian
niaslib@nias.iisc.ernet.in

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



Prof R Narasimha
Director
National Institute of Advanced Studies
Indian Institute of Science Campus
Bangalore 560012, India
Tel : 91-80-3604351, 3602050
Fax : 91-80-3606634
Telex : 0845-8349 IISC IN
Email : niasoff@nias.iisc.ernet.in
URL : www.iisc.ernet.in/nias/
www.nias.res.in

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