Prof. V. V. Joshi

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PROCEEDINGS OF THE JOINT MEETING OF THE FACULTIES HELD ON FRIDAY, 7 JANUARY 2000 AT 2.15 P.M. IN THE FACULTY HALL

With best compliments
from
DEPUTY REGISTRAR (ACADEMIC)

Comments, if any, may please be sent on or before
4 February 2000

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PROCEEDINGS OF THE JOINT MEETING OF THE FACULTIES HELD ON FRIDAY, 7TH JANUARY 2000 AT 2.15 P M IN THE FACULTY HALL

PRESENT

Prof. Goverdhan Mehta, Director — Chairman
Mr. A L Narasimhan, Deputy Registrar — Secretary
(For other members present, please see **Appendix - I**).

At the outset, the Chairman greeted the members and conveyed his best wishes for a Happy New Year and a Happy Millennium. He wished, with the support of the excellent faculty we have, the Institute will take further strides in the scientific world and improve upon its present standing.

The Chairman welcomed the following new members.

Name	Designation	Department
Dr. N. Jayaraman	Assistant Professor	Organic Chemistry
Dr. J M Chandra Kishen	- do -	Civil Engineering
Dr. Jyant Kumar	- do -	Civil Engineering
Dr. R V Ravikrishna	- do -	Mechanical Engineering
Mr. S Dasappa	Sr. Scientific Officer	ASTRA
Mr. K Muthukumar	Sr. Scientific Officer	CEDT

1.0 CONFIRMATION

1.1 The Chairman mentioned that a member had suggested a minor correction on item 5.2 of the previous Proceedings of the Joint Meeting of the Faculties held on 31st August 1999. The members agreed to the minor change which reads as follows.

Existing	Corrected as
The Chairman informed the member had suggested that the admission criteria and procedure could be relaxed in respect of bright and merited candidates. This was with particular reference to the IISc Young Fellows.	The Chairman informed that the member had suggested that a small number of students who are exceptional and who are unable to appear for the IISc Entrance Test for reasons beyond their control be given another chance to write a test that can be conducted at IISc before the interview dates.

With the above change, the Proceedings of the Joint Meeting of the Faculties held on 31st August 1999 were confirmed.

2. DISCUSSION ITEMS

A. 2.1 Changes in qualification

The faculties considered the recommendation for changes in minimum qualification for Research Programme in the Centre for Electronics Design & Technology, Dept. of Aerospace Engineering, Dept. of Metallurgy, Supercomputer Education & Research Centre, Dept. of Management Studies and M.E. Programme in Computer Science & Engineering, M.Tech Programme in Computational Science.

After discussion the faculties recommended that the qualifications suggested by Department and as modified in some cases by the faculties be approved

Arising out of the above, the Chairman pointed out that awarding a degree like M Sc (Engg) for students with background in Economics, Social Work, Psychology is an anamoly and a different nomenclature has to be thought of. It is also necessary that we should think of a different faculty to which the Department of Management Studies should belong.

2.2 Changes in cut off in GATE percentile : The faculties recommended that the change in the GATE cut off percentile in respect of the following departments be approved.

Department	Existing	Change Recommended
Biochemistry	90	95
Organic Chemistry	90	95
Computer Science & Automation	90	95
Metallurgy	80	85
Supercomputer Education & Research	85	90

The Chairman informed that in case any Department wishes any change in GATE cut off percentile for calling Research students for interview they should send their request to the Dean within the next one week and get the necessary approval.

B. ITEM FROM THE MEMBERS

2.3 Starting of Research Programme in ASTRA

The faculties discussed the proposal from the Chairman, Centre for ASTRA about starting Research Programme and admitting a few Research students. The Chairman, Centre for ASTRA clarified that this was only a preliminary request and modus operendi would be worked out in detail.

The Chairman suggested that he would appoint a small group which could find out the viability of such a proposal and come out with a suitable recommendation.

The faculties accepted the suggestion of the Chairman.

2.4 Provision for bright B.E. candidates to register directly for Ph D degree

The Chairman informed that many departments had felt that it would be worthwhile admitting bright B.E. candidates directly for Ph.D degree. He also mentioned that such a procedure existed earlier at the Institute. However, while the suggestion was welcome, the process and other related issues have to be discussed. One of them was Exit Point for those who want to leave in the middle. Provision for awarding M Sc (Engg) for such candidates on similar lines to one which exists for Integrated Ph.D students needs careful consideration. He suggested that this important issue would be discussed by a Committee which would also consider all related issues and come out with an integrated proposal. Meanwhile it was necessary that we mention in our advertisement the possibility of B.E.s who join for M.E. or M Sc (Engg) Programme converting their registration to Ph.D degree; particularly after one term for those who join M.E. degree programme.

The faculties endorsed the suggestion of the Chairman.

2.5 Request for increase in intake for M E/M Tech /Research Programmes

The Chairman informed that there were requests from several departments for increase in number of seats for both Research and Course Programmes. The Chairman gave brief details about the admission pattern for the last 4 years. He mentioned that while our general admissions was around 450 per year, this number was exceeded by more than 30% in 1998-99. Last year, after exercising necessary control the number admitted was 500. For the Session 2000-2001 even as per the approved intake the Institute may have to admit around 540 students. The Chairman categorically stated that he cannot increase the number without adequate increase in the seats in the hostels. It would be ideal if the students' strength stabilises around 1650.

Keeping the above factors in view he suggested that the Departments should carry out an exercise to reduce the number of Programmes which are not very attractive and compensate this reduction by increase in the number in Programmes which are most sought after. He requested the Departments to provide a feed back on this.

The Chairman finally suggested that he will keep the request made for increase in the number of seats in mind and take appropriate action after getting the necessary feed back from the Departments and in consultation with all concerned.

C. ITEMS FROM THE DEANS

(i) Ratio to be operated for M E/M Tech Programmes

The Dean, Engineering gave brief details about the procedure adopted for admissions to M E/ M Tech Programmes last year. No ratio was operated last year but wait list was operated upto 5 times wherever required to fill the necessary seats. Generally this mode of operation was found satisfactory. However, many departments felt that operation of certain ratio was absolutely necessary to attract bright students sufficiently early but the ratio for operation has to be carefully determined so that no excess admissions are made.

After discussion the faculties recommended that a maximum ratio of 1 : 1.5 on the intake capacity be operated for the Session 2000-2001 . The Deans will determine the exact ratio for each Department/Programme. Also where found necessary wait list will also be operated in consultation with the Department.

(ii) Ceiling strength of Departments/Centres

The Chairman informed that the complexion in all the Departments/Centres has substantially changed since the ceiling strength was fixed about six years ago. Hence there is a need for relook about ceiling strength of the Departments/Centres. The ratio allotted to each faculty member also needs a fresh look. He informed that he will appoint a Committee to look into all the details and come out with a viable proposal to determine ceiling strength which should be flexible for operation. However, he assured that in the meanwhile if a department found a student really good and there were no seats, he would make suitable provision to admit such a student.

The faculties endorsed the suggestion of the Chairman.

(iii) Delinking IISc Entrance Test

The Dean, Engineering indicated that there is a need for delinking the IISc entrance test from the admission operations. It is mainly due to the fact that getting the entrance examination score was posing some difficulties. The Institute entrance test marks were also being used for seeking admission during mid-year operations and hence some time validity for this score was necessary. Since GATE and IISc entrance tests are equivalent the Institute entrance test marks could also have validity for 2 years. In such a case, conducting IISc entrance test in a period where the admission operations are not in full swing would be very advantageous. The most appropriate period could be arrived at after due discussions with all concerned. This leads only to a variation in the operating procedure and does not change policies.

The proposal of the Dean was accepted by the faculties.

(iv) **Last date for admission to M Sc (Engg) Programme**

The Dean informed that giving provisional admission for students admitted to Research Programme upto 15th November and 31st March for those admitted in August and January respectively was posing serious problems, in particular, for those admitted to M Sc (Engg) Programme since they have to complete the Research Training Programme normally within 6 months. The late joining has made it impossible for them to register for courses during the first term. Hence he suggested that the last date for those admitted to M Sc (Engg) Programme could be the same as for Course Programmes i.e. 16th August for the August Session and 15th January for the Mid-year admissions.

The faculties accepting the suggestion of the Dean endorsed the same for approval.

(v) **Mid-year Admission Operation**

The Dean informed the faculties that until 2 years back the Mid-year admission was carried out mainly to enable M E/ M Tech qualified students to join for Research (Ph D) Programme since they would not have completed their degree in August. However, since the last 2 years on specific request the Mid-year admissions was thrown open to candidates with B.E. qualification seeking admissions to M Sc (Engg) Programme. It was found that majority of admissions made this year was for M Sc (Engg) Programme and the choice available for selection was not very large. Hence he suggested that we revert to our earlier operation of restricting the mid-year admissions for admission to Ph.D Programme only.

The Chairman also emphasised the need for admitting well qualified M E/M Tech students for Ph.D Programme and felt that the Department should make every effort to admit more and more such candidates which would be very much in the interests of the Institute. There was a substantial difference between the July and the December admissions. Hence he suggested the proposal made by the Dean could be accepted.

The faculties recommended the suggestion of the Dean for approval.

D. ITEMS FROM THE CHAIRMAN

1) Joint Ph.D Programme

The Chairman informed that during the discussion with visitors from foreign Universities at various levels one point had emerged which required serious consideration. All of them had shown a keen interest in exchange of students and carrying out joint research programmes between IISc and the foreign Universities. A student would come to the Institute for a year and a half and carry out research in association with the faculty of the Institute and similarly an Institute student could go and work in a foreign laboratory attached to the University. This would be under joint guidance from the faculty from the Institute and another faculty from the foreign University concerned. There is also a proposal for award of the degree jointly by IISc and the University concerned where a student would have worked for a period of time. Such an arrangement would give an

international flavour to the research activities and the necessary exposure to the research students of the Institute at an international level.

The faculties welcomed the suggestion and agreed that this could be further discussed at various levels and brought up to the Senate for consideration.

2. Joint ventures with Industries

The Chairman informed that at the brain storming session he had with the Institute faculty he had pointed out one important issue i.e. to open up opportunities for the Institute faculty for greater interaction with industries. One such idea is participation of faculty in joint ventures with industries on equity basis. Under this, intellectual property will be made over to the industry on equity basis. This is more relevant to IT industry. Certain percentage of equity will also be given to faculty member concerned. While the Finance Committee and the Council have appreciated such participation of faculty and approved the suggestion in general, adequate safeguards will have to be built and necessary schemes formulated for successfully operating this Programme.

3. Creation of a Special Fund

Every department in principle can have its own fund created out of earnings from non Governmental sources by the faculty members of the department. This is mainly a facility fund and not a corpus. This fund is created mainly to support and promote the academic and research activities within the department for which small monies can be used upto a limit of 2 lakhs. Necessary guidelines are being formulated and will be circulated shortly. Such a creation of fund would provide the necessary incentive for the department and the faculty to seek more and more support for their departmental activities.

4. Review and restructuring of M E/M Tech Programmes

The Chairman informed that over the years the Institute had started many new Master's degree programmes while continuing the existing ones. While there was no problem in adding new programmes, it is necessary to periodically find out whether the existing programmes are still viable and sought after in the current scenario. A review of the existing programmes is absolutely necessary to find out our strength and weaknesses and also enable the Institute to move in the direction to meet the national needs.

He would be appointing a Committee to review the Programmes and come out with a detailed report for consideration.

5. Report on MBA Programme

At the request of the Chairman Prof. N J Rao, Chairman, Dept. of Management Studies presented a brief report on the admission to MBA Programme.

The faculties noted that 1072 candidates had applied to the Programme and there was very good response for the Joint Entrance Test conducted on 19th December 1999 at the Institute in which 953 applicants wrote the test. The interviews are being conducted during 2-4 February 2000 for which about 150 candidates are being called.

6. More than one Research Supervisor for M Sc and Ph D Programmes

The Chairman suggested that there should not be too many guides either internal or even external for the M Sc (Engg) and Ph D registrants. We have to rationalise the number. Unless it was absolutely necessary he felt that only one guide would be appropriate. Depending on the nature of research topic additional guides may be permitted by the SCRC.

7. IISc Young Fellowship Programme

The Chairman informed that from among the applications received 30 candidates were offered the fellowship. There was a good distribution among the various zones and also there was also one SC and one ST candidate among the 30.

The Chairman announced that the next Senate meeting will be on 25th February 2000. However since the advertisement has to appear immediately (towards the end of January) he suggested that the Chairman of the Senate could be authorised to take necessary steps to release the advertisement which would also include the new programmes. The faculties authorized the Chairman to take all the necessary steps, pending ratification by the Senate.

3. APPROVAL ITEMS

Admission Calendar

The faculties approved the Admission Calendar with minor modification as suggested by the members.

4. ADMISSION PROCEDURE 2000-2001

The faculties recommended the admission procedure as presented in the agenda.

The meeting terminated with a vote of thanks to the Chair.

APPENDIX - I

JOINT MEETING OF THE FACULTIES - 7 JANUARY 2000

Members Present

Ajay Kumar Sood
Akhilesh K B
Ananda Rao G
Anil Kumar
Antony A
Anurag Kumar
Arakeri V H
Arun M Umarji
Arun Kumar
Asokan S

Balaji R Jagirdar
Bhat H L
Bhat M V
Bhat S V
Binny J Cherayil

Chanakya H N
Chockalingam A

Das P K
Dinesh N S
Diptiman Sen

Easwaran K R K

Ghare D B
Gopalakrishna A V
Govindarajan R
Govindaraju S P
Govinda Ram H S
Guru Row T N

Hegde M S
Hariharan R

Indraneel Sen

Jagadish K S
Jaganmohan Rao N
Jayabaskaran C
Jayaraman
Joseph Mathew
Jyant Kumar

Kameswara Rao L
Kartik Venkataraman
Kaza Suguna
Kesava Rao K
Khincha H P
Koteswara Rao K S R
Krishna Murty A V
Krishna Murthy R
Krishnamurthy H
Krishnamurthy M V
Krishnamurthy S S
Kutty T R N

Lakshmi Sita G
Lawrence Jenkins

Mahadevan S
Mahapatra P R
Mary Mathew
Mathew Jacob T
Mathias P C
Mohan Rao G
Mruthyunjaya T S
Muniyappa K
Munjal M L

Nagabhushana G R
Nagaraju J
Nagendra Rao P S
Nanjunda Rao K S
Narayana B V
Natarajan K A
Nayak R

Panchapagesan T S
Pandian N S
Phoolan Prasad
Prabhakara Rao K
Pradeep G Yammiyavar

Raghavendra Gadagkar
Raghu Menon
Raghunandan B N
Rahul Pandit
Rajan K
Rajanikanth B S
Ramakrishnan C
Ramakrishna J
Ramakrishnan S
Ramamurthy T S
Ramanathan K V
Ramasesha S
Ramasubramanian D
Ramesh K P
Ramesh Hariharan
Ramgopal S
Ravikrishna R V

P.T.O.

APPENDIX - I

JOINT MEETING OF THE FACULTIES - 7 JANUARY 2000

Members Present

Reddy B V V
Reddy K P J
Rohini M Godbole

Sampath S
Sandhya S Visweswaraiah
Sangunni K S
Saraswathi Vishveshwara
Sastry D H
Sastry P S
Satish L
Satish V Kailas
Satyanarayana Rao M R
Saumitra Das
Seshagiri P B
Shanthinath S Indi
Shivaprakash N C
Sikdar S K
Somasekhara N
Somavarma R
Sreenivas T V
Srikrishna A
Srinivasan J
Srinivasan N
Srinivasan R
Sriram Ramaswamy
Subba Rao K S
Subramanyam S V
Surolia A

Thathachar M A L

Uday Maitra
Utpal Mukherji

Varma K B R
Veni Madhavan C E
Venkataram P
Venkataraman V
Venkatesh Y V
Vijayan M
Vinay V
Vittal Rao R

Yadnyvalkya

INVITEES

Chandra Kishan J M

Dasappa S

Pittet A

Ramachandra S G

Suja Elizabeth

Udayakumar

Ramakrishna B V
Registrar

DIVISIONAL CHAIRMEN'S OFFICE
Indian Institute of Science
Bangalore 560 012, INDIA
Tel : 3092478, 3092286, Telefax : 080-3600416
E mail:dcbio@admin.iisc.ernet.in

Chairman, Biological Sciences Division

23/01/2001

Dear Colleague,

There will be a meeting of the faculty in the Division of Biological Sciences on Tuesday April 3, at 2.30 p.m. in the Seminar Hall of the Department of Microbiology and Cell Biology.

Agenda :
1. Integrated Ph.D program
2. DBT Genomics proposal
3. Review and Future projection of DBT program support.

Kindly make it convenient to attend.

Yours Sincerely,

P. Balaram

(P. Balaram)

To all faculty in the
Division of Biological Science

DNRao Int Pl 3 April 2001

70 Student

6 theirs/degree

15/70 left after MS

5/70 left due to other reasons

33 ~~top~~ 37 girls

91 6 → 3

92 7 → 3+3+1 ds

94 3 → 3

95 1

8

97 8

98 9

99 11 → 2

Feldman & Cousin

PRD 57 3873 (1998)

RANMAR

Chapter 6

Room 39

Prof. N V Joshi

CES

Plane sand 4

Chapter 10.125

Rangel Pkg

Pl. GND Pus

P.I.P. 305

7 FEB 2000

INDIAN INSTITUTE OF SCIENCE

BANGALORE

R(II)303-1/2000 –181 4th February 2000

Prof. N V Joshi

Dear Sir,

The next meeting of the Senate will be held on **Friday, 25 February 2000** at 2 15 P M in the Faculty Hall.

Agenda and papers for the meeting will follow.

Kindly note that the deadline for sending brief note(s) on item(s) proposed to be placed before the meeting is **11th February 2000.**

You are requested to attend the meeting.

Yours faithfully,

B. Kamakshaiah

REGISTRAR

CENTRE FOR ECOLOGICAL SCIENCES
Indian Institute of Science
Bangalore 560 012, India

PROF. RAGHAVENDRA GADAGKAR
Chairman

(B.P. Pal National Environment Fellow,
Secretary, Indian Academy of Sciences
Hon. Sen. Fellow, Jawaharlal Nehru Centre
for Advanced Scientific Research)

Dated: February 20, 2001

The Deputy Registrar (Academic)
I.I.Sc.

Dear Sir,

The comprehensive examination of Mr. Janardanan N.N. Pillai (S.R. No. 111695544) which will consist of two parts, has been scheduled for Wednesday, the 28th February 2001 at 9.30 a.m. when the candidate will given an open seminar about his work and at 11 a.m. when the oral examination will be conducted The comprehensive examination committee has been constituted as follows:

1.	*Prof. Raghavendra Gadagkar* *CES*	*Chairman*
2.	*Prof. Y.N. Srikant* *CSA*	*Chairman & Res. Guide*
3.	*Prof. Priti Shankar* *CSA*	*Senate Nominee*
4.	*Prof. Matthew Jacob* *SERC*	*Senate Nominee*
5.	*Prof. N.V. Joshi* *CES*	*Research Guide*

Contd.....2

Telephone (O):91-80-3601463;3601429;3092340; (R):3601758 Cable: CES 'Science' Malleswaram, Bangalore, India
Telex: 0845-8349; FAX: 91-80-3602121, 3601428; 3600683; 3600085 E-Mail: ragh@ces.iisc.ernet.in

This is for your kind information.

Yours faithfully,

(Raghavendra Gadagkar)

Encl: *1. Report of work done by the candidate*
2. Courses taken by the candidate
3. Biodata of the candidate
4. Syllabus

PS: *All the members of the committee are kindly requested to make it convenient to attend the seminar on Wednesday, the 28th February 2001 at 9.30 a.m. in the CES Seminar Hall and the examination at 11 a.m. in the Chairman's Room, Dept. of Computer Science and Automation.*

Copy forwarded to:

1. *Prof. Y.N. Srikant* — *Chairman & Res. Guide*
   CSA
2. *Prof. Priti Shankar* — *Senate Nominee*
   CSA
3. *Prof. Matthew Jacob* — *Senate Nominee*
   SERC
4. *Prof. N.V. Joshi* — *Research Guide*
   CES

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Workflow Management Systems

The automation of a business process, in whole or part, during which documents, information or tasks are passed from one participant to another for action, according to a set of procedural rules, is called workflow. **Workflow Management System** is a system that defines, creates and manages the execution of workflows through the use of software, running on one or more workflow engines. The workflow engine provides operational functions to support the execution of business processes based on the process definitions. These functions include interpretation of process definition, creation of process instances and management of their execution, navigation between activities and the creation of appropriate work items for their processing, supervisory and management functions etc.

The Workflow Management Coalition (WfMC) is a nonprofit organisation with the objectives of advancing the opportunities for the exploitation of workflow technology through the development of common terminology and standards. The coalition has developed a Workflow Reference Model. The reference model identifies "interfaces" covering broadly five areas of functionality between a workflow management system and its environment. They are

1. The import and export of process definitions
2. Interaction with client applications and worklist handler software
3. Invocation of software tools or applications
4. Interoperability between different Workflow Management Systems
5. Administration and monitoring functions.

Though there are many workflow management systems available, most of them do not give any support for analysis. So it is important to device methods for analysing such systems. The analysis consists of verification which focuses on syntactic correctness, validation which focuses on semantic correctness and performance analysis.

BIODATA

Name : **JANARDANAN PILLAI. N.N.**

Designation : Technical Officer

Department : Centre for Ecological Sciences

Age and Date of Birth : 39 years, 02/04/1962 (Second April, Nineteen Sixty two)

DETAILS OF ACADEMIC QUALIFICATION

Examination	University/Institution	Class obtained	Year of obtaining degree
B.Sc.(Maths,Statistics,Physics)	University of Kerala	1st Class	1982
M.Sc. (Statistics)	University of Kerala	1st Class and 3rd Rank	1985

DETAILS OF SERVICE AT THE INSTITUTE

From	To	Designation
September 6, 1990	September 5, 1996	Computer Programmer
September 6,1996		Technical Officer

PROVISIONAL TRANSCRIPT

RESEARCH TRAINING PROGRAMME

NAME: JANARDANAN PILLAI S.R.NO :111695544

CENTRE FOR ECOLOGICAL SCIENCES

TERM: JANUARY-APRIL 1996 SESSION: 1995-96

COURSE CODE	COURSE-TITLE	CREDITS	GRADE
E1 256	GENETIC ALGORITHMS	3:00	B
EC 302	CONSERVATION BIOLOGY	2:00	B

PERFORMANCE IN CURRENT TERM CREDITS : 5 GP : 30 TGPA :6.0

Chairman
Centre for Ecological Sciences
Indian Institute of Science
BANGALORE-560 012

W: Withdrawn
TGPA: Term Grade Point Average
CGPA: Cumulative Grade Point Average

INDIAN INSTITUTE OF SCIENCE
BANGALORE

PROVISIONAL TRANSCRIPT

RESEARCH TRAINING PROGRAMME

NAME: JANARDHAN PILLAI S.R.NO :111695544

CENTRE FOR ECOLOGICAL SCIENCES

TERM: AUGUST-DECEMBER 1996 SESSION: 1996-97

COURSE CODE	COURSE-TITLE	CREDITS	GRADE
E1 213	PATTERN RECOGNITION	3:00	B
EC 202	POPULATION THEORY	2:00	A
EC 205	HUMAN ECOLOGY	2:00	C

PERFORMANCE IN CURRENT TERM	CREDITS : 7	GP : 42		TGPA :6.0
PERFORMANCE IN PREVIOUS TERMS	CREDITS : 5	GP : 30		CGPA :6.0
CUMULATIVE PERFORMANCE	CREDITS : 12	GP : 72		CGPA :6.0

Chairman
Centre for Ecological Sciences
Indian Institute of Science
BANGALORE-560 012

W: Withdrawn
TGPA: Term Grade Point Average
CGPA: Cumulative Grade Point Average

INDIAN INSTITUTE OF SCIENCE

INDIAN INSTITUTE OF SCIENCE
BANGALORE

Syllabus for comprehensive exam of Mr.Pillai

Subjects: Data Structures and Algorithms
Software Architecture
Genetic Algorithms

Data Structures and Algorithms

Abstract data types and data structures, Classes and objects, Complexity of algorithms: worst case, average case, and amoritized complexity. Algorithm analysis. Algorithm Design Paradigms. Lists: stacks, queues, implementation, garbage collection. Dictionaries: Hash tables, Binary search trees, AVL trees, Red-Black trees, Splay trees, Skip-lists, B-Trees. Priority queues. Graphs: Shortest path algorithms, minimal spanning tree algorithms, depth-first and breadth-first search. Sorting: Advanced sorting methods and their analysis, lower bound on complexity, order statistics.

Software Architecture

OOAD and UML, Notation, methodology and case studies. Design Patterns, Introduction, catalog of design patterns,design examples, Analysis Patterns and reuse of object models in application domains,Object-oriented application frameworks.

Software Architecture, Introduction, architectural styles, analysis of architectures, formal descriptions of software architectures, architectural description languages and tools, case studies.

Genetic Algorithms

the simple genetic algorithm (SGA),
foundations of GAs: Schema theorem, implicit parallelism, and Epistatis
genetic search operators: selection, crossover and mutation
Hybrid GAs and Steady-State Genetic Algorithm.
Applications to Feature Selection and Pattern Clustering.

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MINUTES of the meeting of the Senate held on 4 June 2001

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Comments, if any, on the above MINUTES may please be sent to

The Registrar, IISc

on or before 5th July 2001

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INDIAN INSTITUTE OF SCIENCE

BANGALORE

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MINUTES of the meeting of the Senate held on Monday, 4th June 2001 at 2 15 P M in the Faculty Hall

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Present

Prof Goverdhan Mehta
Director — Chairman

Dr Uday Balakrishnan
Registrar — Secretary

For others present, please see Appendix-1.

The meeting was adjourned and reconvened since there was no quorum for the meeting.

The Chairman welcomed the following new members :

Name	Designation	Dept.
Prof Sanjay Jain	Associate Professor	TS
Prof K Rajanna	Associate Professor	IN

BY INVITATION

Mr Yadnyvalkya	Principal Research Scientist	MS

The Chairman informed that the following members have retired after the last Senate meeting from the services of the Institute.

Name	Department
Prof M A L Thathachar	EE
Prof Rama Prasad	CE

The valuable services rendered by the members in various capacities and also in the deliberations at the Senate meetings were placed on record.

1. **Confirmation of the Minutes of the last meeting**

1.1 The Minutes of the meeting of the Senate held on 26 February 2001 were confirmed.

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2. **Report on action taken on previous Minutes**

2.1 A report on the action taken on the previous Minutes was received.

2.1.1 Arising out this on a query from one of the members that actual ceiling strength was not fixed for the department, the Chairman informed that the figures given in the report of the Ceiling Strength Committee should be taken as only guideline and the actual allotment of seats will be made by the Deans of Faculties depending upon the number of faculty members and vacancies available in the department. He assured that no faculty will be prevented from taking students. Deserving students would get seats in the department based on the recommendation of the Chairman of the Department. If there was any problem, the Deans of Faculties would look into this. If seats could not be given from the regular ceiling strength, the seats will be allotted by the Deans from a special pool.

2.1.2 To a suggestion from one of the members that accommodation in the hostel should not be a constraint for admission of students, it was clarified that there was no shortage of accommodation for students.

DISCUSSION ITEMS

3. **Conferments**

3.1 The oral and consolidated reports on the theses for Ph D and M Sc(Engg) were considered.

* 3.1.1 After discussion, the Senate **recommended** that Ph D/M Sc (Engg) degrees of the Institute be conferred on all those who had satisfactorily completed all the requirements for the award of the degrees.

DOCTOR OF PHILOSOPHY (Ph D) DEGREE

FACULTY OF SCIENCE

Sl.No.	Name of the student Date of Regn	Dept.	Res. Supervisor	Title of Thesis
01	Chinmay Das Aug 92 (Int Ph D)	PH	Prof T V Rama-krishnan Prof H R Krishna-Murthy	Theoretical Studies of Laser Modulated Colloids
02	Ayan Guha Aug 92 (Int Ph D)	PH	Prof A K Raychaudhuri	Melting of Charge-Ordering in Manganites with Electric and Magnetic Fields

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03	Soumya Sinha Ray Aug 93 **(Int Ph D)**	MB	Prof P Balaram	Structure, Stability and Unfolding of *Plasmodium falciparum* Triosephosphate Isomerase
04	K Pitchai Mani Aug 94	BC	Prof Ramesh - Maheshwari	Nuclear Behaviour in Heterokaryons : Genetic and Molecular Analysis of (his-3 + his-3$^+$) Heterokaryons of *Neurospora crassa*
05	Sujatha Baskaran Aug 94	MD	Prof V Nanjundaiah Prof Vani Brahmachari	A Mouse model for dynamic mutation and Fragile X Syndrome
06	Jagjit Nanda Aug 94	SS	Prof D D Sarma	Electronic Structure and Photophysical Study of Semiconducting Nanocrystallites
07	M S Ashok Aug 94	BC	Dr P N Rangarajan	Evaluation of the Efficacy of DNA Vaccines for Japanese Encephalitis in a murine intracerebral Japanese Encephalitis Virus Challenge model
08	V Meenakshi Sept 94	PH	Prof S V Subramanyam	Experimental Investigations on Metal – Insulator Transition and Structure in Amorphous Carbon Films
09	Abhilasha Gulati Aug 93 **(Int Ph D)**	MD	Prof S Mahadevan	Studies on Catabolite Repression and mRNA Degradation in the *bgl* Operon of *Escherichia coli*
10	Veena S Anil Aug 95	BC	Prof K Sankara Rao Prof C Jayabaskaran	Study of Ca^{2+} - mediated signal transduction during embryogenesis in sandalwood (*Santalum album* L.) and characterization of an early development – specific CDPK.
11	Sanjib Saha Aug 95	MR	Prof S B Krupanidhi	Study of Pulsed Laser Ablated Barium Strontium Titanate Thin Films for Dynamic Random Access Memory Applications
12	M D Prasanna Aug 95	OC	Prof T N Guru Row	Weak Interactions in Crystal Engineering : Insights from X-ray Diffraction, Experimental Charge Densities and Statistical Analysis of Cambridge Structural Database
13	Dipankar Ray Sept 95	MC	Prof A Antony	Effect of Tri-*N*-Butylstannyl-2-Iodobenzoate on Transformed cells grown in *Vitro* and on Ehrlich's Ascitic Carcinoma in Mice
14	Kiran Bachhawat Aug 96	MB	Prof A Surolia	Garlic (Allium Sativum) agglutinin I : Specificity, binding and folding mechanism
15	Celestine Thomas J Aug 96	MB	Prof A Surolia	Endotoxin Peptide / Protein Interactions : Thermodynamic and Kinetic Analysis
16	S Sri Krishna Aug 96	MB	Prof M R N Murthy	Structural Studies on Physalis Mottle Tymovirus

FACULTY OF ENGINEERING

01	M Pradyumna Jan 94	CE	Prof B K Raghuprasad	Influence of Joint Compliance on the Behaviour of Space Structures

.... 4

02	Radhakrishna Prabhu G Jan 94	IN	Dr L Kameswara Rao	Studies on Surface Plasmon Resonance and Related Experimental Methods Using Fixed Plasmon Angle
03	Prajina Bhattacharya March 94	MT	Prof K Chattopadhyay	Synthesis, Morphology and Phase Transformation of the Metallic Embedded Nanoparticles and Multilayers
04	Purnaprajna R Mangsuli Sept 94	ED	Prof N J Rao	Output Feedback Control of Nonlinear Systems with Application to Induction Motor
05	K Rajendran Sept 94	AS	Prof J Srinivasan Dr Ravi S Nanjundiah	Seasonal and Intraseasonal Variation of Tropical Climate in NCAR CCM2 General Circulation Model: Sensitivity to Cumulus and Surface Processes
06	Anandh Subramaniam Feb 95	MT	Prof S Ranganathan	Metastable Phases in Mg-Based Alloys
07	M Muttharam March 95	CE	Prof M Sudhakar Rao Dr BV Venkatarama Reddy	Engineering Behaviour of Ash-Modified Soils of Karnataka
08	V Shankar Aug 95	CH	Prof V Kumaran	Linear and Weakly Nonlinear Stability of Fluid Flow Through Flexible Tubes and Channels

MASTER OF SCIENCE (M Sc) (ENGINEERING)

01	Parijat Dube Aug 97	EC	Prof Anurag Kumar	Measurement Based Optimal Source Shaping in Integrated Services Packet Networks
02	Rakesh Prasad Aug 97	EC	Prof G V Anand	Signal Detection using Stochastic Resonance
03	Chandana Ghatak Aug 98	CH	Prof Ganapathy Ayappa	Molecular Simulations of Fluids Confined in Smooth and Rough Nanopores
04	Sudip Bhattacharjee Aug 98	CE	Dr Ananth Ramaswamy	Geometric Non Linear Effects on Dynamic Response of Suspension Bridges due to Earthquake Excitation
05	Jayasree Thomas (ERP) Aug 98	MT	Prof S Subramanian/ Dr M S Riyazulla (Orgn)	Studies on the Recovery of Cobalt from Kalyadi Copper Tailings
06	Mrunalini S Rao Aug 98	MS	Prof R Srinivasan	Identification of Key Factors of User Satisfaction for Banking Software Products and Development of an Importance-Performance Map
07	Gautam Gopinath Aug 98	ME	Prof S K Biswas	Characterisation of Polymer-Ceramic Composite Films Prepared Using a Colloidal Approach
08	Pranava Kumar Jha Aug 98	CE	Dr Ananth Ramaswamy	A Strain Rate Dependent Model for Plain and Reinforced Concrete
09	Santanu Singha Aug 98	HV	Dr M Joy Thomas/ Prof M S Naidu	Characteristics of Very Fast Transient Overvoltages (VFTO) Generated in a GIS with SF_6-N_2 Gas mixtures Insulation

... 5

10	Kuntal Das Barmam Aug 98	CS	Dr Ramesh Hariharan	A Survey on the Approximation Techniques for Network Design and Multiple Tool Milling Problems
11	Nelson T Joseph Aug 98	HV	Dr Uday Kumar/ Prof G R Nagabhushana	Analysis of the Protective Action of a Closely Distributed Lightning Protection System for a Satellite Launch Pad
12	Allada Srinivas Aug 98	CE	Prof B R Srinivasa Murthy/Dr G L Siva Kumar Babu	Numerical Analysis of In-Situ Reinforcement Techniques
13	J Harish Aug 98	ME	Dr Pradip Dutta	Computational Modelling of Heat Transfer in Reheat Furnaces
14	K Ranga Reddy Jan 99	CE	Prof K Keshava Murthy/Prof M S Mohan Kumar	Study and Design of Two-Thirds Power Weir
15	Anurag Jain Aug 99	HV	Dr L Satish	Structure of Transfer Function of Transformers with Special Reference to Interleaved Windings

3.2 **Average time taken for submission and processing of theses**

3.2.1 The Senate received a report on the average time taken for submission of thesis and processing.

3.2.2 Referring to the data presented, the Chairman informed that there was a slight decrease in the time taken both for submission of thesis and processing as compared to the time reported at the last meeting. The Deans of Faculties were trying to reduce further the time for processing of thesis. On the suggestion of a member, the Chairman added that average time should be calculated taking into account also the number of cases processed directly through the Council after the last meeting of the Senate to have appreciation of the average time taken for submission and processing of theses .

3.2.3 The Senate agreed with the suggestion of the Chairman.

3.3. Recommendation for the award of M S and ME/M Tech Degrees was considered.

3.3.1 The Senate **recommended** that the following candidates who had satisfactorily completed their courses of study and fulfilled all the requirements for the conferment be awarded the respective degree.

M S DEGREE

PHYSICAL SCIENCES

Arjun Joshua
Ritesh Kumar Singh
J Srivatsava

... 6

M S DEGREE (contd...)

Ajay Singh Negi
Arindam Ghosh
Biswaroop Mukherjee
K Jayendra Baliga

BIOLOGICAL SCIENCES

Vasupradha Vethantham
N K Raghavendra
Surbhi Gupta
Shashi Bhushan Pandit
Shrividhya Srinivasan
Partho Sarothi Ray
Kausik Chakraborty
N Ram Mohan

MASTER OF ENGINEERING DEGREE

TELECOMMUNICATION

FIRST CLASS

Kalyan Kumar Kaipa

ELECTRICAL ENGINEERING

FIRST CLASS

V Pradeep
Subhendu Kumar Misra

CHEMICAL ENGINEERING

FIRST CLASS

Joshi Shitalkumar Jyotindra

MASTER OF TECHNOLOGY (M Tech) DEGREE

COMPUTATIONAL SCIENCE

FIRST CLASS

Kaushik Chakraborty

MASTER OF ENGINEERING DEGREE (Integrated Course)

ELECTRICAL ENGINEERING

FIRST CLASS

A Samuel Thinagar

... 7

REPORTING ITEMS

4. Cases of award processed between Senate and Council Meetings

4.1 It was noted that on the basis of the guidelines approved by the Senate, the Chairman of the Senate had recommended award of degrees in the following cases processed subsequent to the meeting of the Senate held on 26 February 2001 and before the meeting of the Council held on 23 March 2001 and that the Council had approved the award.

Doctor of Philosophy (Ph D) Degree
Science Faculty

Sl No	Name of the student Date of Regn	Dept.	Res. Supervisor	Title of thesis
01	Surajit Sinha Aug 92	OC	Prof S Chandrasekaran	Development of New Synthetic Methodology and Studies Directed Towards the Synthesis of Cyclothialidine: A New DNA Gyrase Inhibitor
02	Bindu Diana Paul Aug 93	MC	Prof V Nagaraja	Features of Site-specific recognition of mom Promoter by bacteriophage MU Transactivator C
03	G Raghavan Aug 93	PH	Prof A K Raichaudhuri Prof G Ananthakrishna	Reactive Diffusion in Al / Ge multilayers
04	Kunj Tandon Aug 94	SS	Prof S Ramasesha	Theoretical Studies of (i) Electronic States and Electron-Hole Recombination in π-Conjugated Systems and (ii) Magnetic Properties of Spin Ladders
05	Indranath Sengupta Aug 94	MA	Prof Dilip P Patil	Betti Numbers, Grobner Basis and syzygies for Certain Affine Monomial Curves
06	C S Nagaraja Aug 94	PH	Prof K V Ramanathan	Solid State NMR methods for the study of oriented systems : New techniques and applications
07	N Subramanian Oct 94	PH	Prof A K Sood Dr K Govindarajan IGCAR, Kalpakkam	Luminescence and Pressure Induced Structural behaviour studies of X-ray Image Storage Phosphors.
08	Bhaswati Mookerjea Aug 95	PH	Prof Chanda J Jog Dr S K Ghosh TIFR, Mumbai	Balloon- Borne Far Infrared Observations of Galactic Star Forming Regions
09	C S Venkatesan Aug 95 / ERP	OC	Prof A Srikrishna Prof G Nadamuni (Orgn)	Synthetic Approaches towards 1,24 - Dihydroxyvitamin D3 and Analogues
10	Nandini Nilakantan Aug 95	MA	Prof Basudeb Datta	Two Dimensional Weak Pseudomanifolds with few vertuces
11	Shaguna Seth Aug 95	MC	Prof M S Shaila	Mapping of Residues involved in Biological Activities of Surface Glycoproteins, Hemagglutinin - Neuraminidase (HN) and Fusion (F) Protein of *Peste des Petits ruminants virus*

... 8

12	Surendra Kumar Patel- ERP Aug 93	AE	Prof B Dattaguru Dr K Ramachandra(Orgn)	Experimental and Numerical Studies on Fatigue Crack Growth of Single and Interacting Multiple Surface Cracks
13	S R Natarajan Feb 94	EC	Prof A Selvarajan	Theoretical and Experimental Studies on Optical Amplification in SOL-GEL Films
14	Nikhil Patel Aug 94	AE	Prof P J Paul Prof H S Mukunda	Studies on the Combustion and Gasification of Concentracted Distillery Effluent
15	Samita Bhattacharjee Aug 94	CH	Prof K S Gandhi Prof R Kumar	Modelling of Foam Drainage and Separation of Protein Mixtures by Foaming
16	A Senthil Kumar Jan 95	ME	Prof M V Krishna Murthy/Prof Subhash Jacob/Dr S Kasthurirenganq	Thermal Performance of Multilayer Insulation down to 4.2K
17	K V Seetha Ram Feb 95	CE	Prof Rama Prasad	Conjuctive and Multipurpose Operation of Reservoirs using Genetic Algorithms
18	Anugrah Singh Mar 95	CH	Prof Prabhu R Nott	Rheplpgy of Non-Colloidal Suspensions
19	Neeharika Adabala Aug 96	SERC	Prof Swami Manohar	Modeling and Rendering of Fluid Volumes with Particle Systems

Master of Science (M Sc) Engineering

01	Baishakhi Sen Aug 98	CH	Dr S K Gupta/ Prof J M Modak	Modeling and Simulation of Mammalian Cell Culture in Hollow Fiber Bioreactors
02	S K Singh Aug 98	CH	Prof Manas Chanda	Polystyrene-Based Compatibilizers for Polymer Blending : Main Chain Epoxidation of High Molecular Weight Polystyrene
03	G Ravindra Aug 98	SERC	Prof N Balakrishnan/ Prof K R Ramakrishnan	Active Routers for Optimal Delivery of Streamed MPEG Packets Under Low Bandwidth Constraints
04	S Swaminathan Aug 98	MT	Prof Vikram Jayaram	Processing and Characterisaction of Bullk Al2O3p/AIN-Al Composites by Pressureless Infiltration
05	Raghunadh K Bhattar Aug 98	EE	Prof K R Ramakrishnan	Strip Based Coding for Large Images Using Wavelets
06	Santanu Kumar Patra Aug 98	IN	Dr G Mohan Rao	Unbalanced Magnetron Sputtering - Studies on Silicon Nitride Films
07	Siddhartha Rai Aug 98	CS	Prof Priti Shankar	Formal Models for Code Generation and Code Compression
08	G Vivek Babu Aug 98	IN	Dr J Nagaraju	Solar Detoxification of Organic Pollutants Using Parabolic Trough Concentrating Collectors
09	V Sujatha Sept 98	CE	Dr J M Chandra Kishen	Effects of Poissons Ratio and Friction on Interfacial Cracks
10	Satyabrata Rout Jan 99	HV	Dr B S Rajanikanth	Application of Pulsed Discharges for Removal of Nitric Oxide from Simulated Flue/Exhaust Gases
11	N Thirumaran HV	HV	Dr B S Rajanikanth	A Modified Approach to Predict Voltage-Current Characteristics of an Electrostatic Precipitator

... 9

M E DEGREE

COMPUTER SCIENCE &ENGINEERING

FIRST CLASS

Uday Sankar Sen

TELECOMMUNICATIONS

FIRST CLASS

Kothapalli Kumar Swamy

SECOND CLASS

Rajesh Kumar Dora

SYSTEMS SCIENCE & AUTOMATION

SECOND CLASS

Sanjay Kumar Linda

METALLURGY

FIRST CLASS

Pritish Bhattacharya
Parveen Sood
Sudeep Prabhakar Ingole

M Tech Degree

MANAGEMENT STUDIES

FIRST CLASS

R Ashwin Kumar

.... 10

5. **Revocation of cancellation of registration**

5.1 A report on the revocation of cancellation of registration of students who had not submitted their theses within the stipulated time was received and recorded.

6. **Pending theses cases**

6.1 A report on the theses pending for more than one year was received.

DISCUSSION ITEMS

7. **Matters from Senate Curriculum Committee (SCC)**

7.1 The Senate considered the views of the SCC regarding revision in the course structure for M Des programme and noted the following revisions suggested by CPDM.

(a) Students should choose 39 credits out of 45 credits pool replacing the present System of 28 credits of hard core courses and 12 credits of soft core from the pool of 24 credits.

(b) 12 credits of electives replacing the present system of 9 credits

(c) 13 credits of project replacing the present 15 credits. The two credit of project will be covered by replacing the Course Credit from 0:01 to 0:03 titled Design and Society.

7.1.1 At the request of the Chairman, the Chairman CPDM had made a brief mention of the need to bring the revision in the curriculum based on their experience for the last 4 years and to suit the requirement of students admitted from different background for this programme.

7.2 During the discussion, the following observations were made :

i) Since the SCC had not given specific recommendation regarding the revision, the proposal should be looked into in detail by the Faculty of CPDM and DCC again and resubmit for the consideration of the SCC.

ii) The pre-requisites required for the courses was not mentioned in the proposal and as seen from the contents some of the identified core courses appear to be pre-requisites for others. This may lead to problems in case choice is allowed among the core courses.

iii) There would be problems for offering the courses as suggested in the proposal.

... 11

iv) The CPDM had suggested revision in the curriculum based on the experience they had for the last 4 years ; with minor modification the revision could be accepted.

7.3 The Chairman suggested that the Faculty of CPDM and DCC could suitably modify the proposal taking into account the views expressed by the members of SCC and the Senate . The Dean, Faculty of Engineering could look into the modified proposal before submitting the same for the consideration of the SCC. The revised proposal with the recommendation of the SCC could be submitted for approval to the Chairman of the Senate.

7.3.1 The above suggestion of the Chairman was accepted by the Senate .

8. **Items from the Faculties**

8.1 The Senate noted the summary information from the proceedings of the meetings of the Faculty of Engineering and Faculty of Science held on 19th and 20th April 2001, respectively.

8.1.1 Arising from this, in respect of the guidelines for research students who desire to work in other institutions in connection with their research work, the Chairman emphasised the need to strictly adhere to the following guidelines.

a) Permission to work in outside institutions will be given for a maximum period of six months during the entire studentship period of 5 years.

b) Permission up to **one month** could be given by the **Chairman of the Department** based on the recommendation of the research supervisor, up to **3 months by the Deans** on the recommendation of the Research Supervisor and Chairman of the Department and up to **6 months by SCRC**.

c) Prior permission from the appropriate authority is mandatory in all cases.

d) Request for permission should be received by the Deans at least one month in advance with all details including the work proposed to be carried out, financial assistance if any given by the host institution and assurance for local hospitality.

8.2 The Senate noted that 4 ME students, 2 each from Chemical Engineering and Metallurgy had been selected for the G E Fund scholarship instituted by M/s GE India Ltd.

.... 12

9. **Item from the Chairman**

9.1 **Selection of students**

9.1.1 Referring to the selection of students for admission to the Institute, the Chairman cautioned the members to exercise maximum care in selecting good and motivated students since the quality of students for research programme was not up to the standard required in many departments. He requested the members to ensure that as far as possible the faculty- student problem should be avoided. He added that while filling up of vacancies for the research and course programmes an acceptable threshold should always be kept in view. He desired that students of the Institute should be of high quality in pursuit of excellence in research.

9.2 **Revocation of cancellation of registration**

9.2.1 The Chairman informed that since there was considerable delay in submission of thesis for M Sc (Engg.) degree after cancellation of registration in the case of Mr J Muralikrishna, Dept. of Electrical Engineering, based on the recommendation of the committee, the revocation of cancellation of registration was not approved by the Senate earlier. However, the candidate had appealed for reconsideration of the decision of the Senate since he had many personal problems and also had done additional work to include one chapter to the thesis incorporating the present updated results in spite of his personal problems. The Chairman added that a Committee consisting of the Dean, Faculty of Engineering, Chairman, Division of Electrical Sciences and Chairman, Dept. of Electrical Engg. had considered the case again and found that the reasons for the delay in submission are justified, and had recommended revocation of cancellation of registration. Based on the recommendation of the Committee he had approved the revocation of cancellation of registration in the case of Mr J Muralikrishna.

9.2.2 The Senate agreed with the decision of the Chairman and approved the action taken by him.

10. **Matters from the Council**

101. The Senate noted the information on matters dealt with by the Council at its meeting held on 23rd March 2001.

The meeting terminated with a vote of thanks to the Chair.

... 13

MEMBERS PRESENT APPENDIX -I

Professor

Allam, M M
Anil Kumar
Anil Kumar
Antony, A
Arun M Umarji
Asokan, S

Bhat, S V
Biswas, S K

Chakravorty, A R
Chanchal Uberoi

Durga Rao, C
Govindarao, V M H
Guru Row, T N

Hajra, J P
Hansda, R C
Hegde, M S
Jagannatha Rao, A

Khincha, H P
Krishnamurthy, S S
Kutty, T R N
Lawrence Jenkins

Mathias, P C
Mruthyunjaya, T S

Nayak, R
Padiyar, K R
Pandey, P C
Pandian, N S

Raghunandan, B N
Rahul Pandit
Ramachandra Rao, A
Ramakumar, S

Professor

Ramanarayanan, V
Ramanathan, K V
Ramasesha, S
Ranganathan, S
Rao, N J
Reddy, K P J

Sadasiva M Rao
Seshagiri, P B
Sinha, S K
Sitharam, T G
Sood, A K
Sridharan, K
Srikrishna, A
Srinivasan, J
Subba Rao, K S
Subramanyam, S V
Sudhakar M Rao0
Surolia, A

Thukaram, D
Usha Vijayaraghavan
Utpal Mukherji

Varma, K B R
Vasudevan, S
Venkataram, P
Vijayan, M

Yogendra Simha, K R

By invitation

Diwakar, J E (Dr)
Krishna Kumar, M (Mr)
Munichandraiah, N (Dr)
Parameshwar P Iyer (Dr)
Pradeep G Yammiyavar(Dr)
Sangunni, K S (Dr)
Shivaprakash, N C (Dr)
Suryaprakash, N (Dr)

Yadnyvalkya (Mr)

Others Present

Mr B A G Sharma
Financial Controller

Mr B K Subburaman
Deputy Registrar

Mr K Panneer Selvam
Assistant Registrar
(Academic)

****

Indian Institute of Science
Bangalore 560 012, (India)
COUNCIL SECTION
✆:3092231/41,3092493,3092941; Telefax : 080-3600683/085/757,
e-mail : council@admin.iisc.ernet.in

R(IA)300-2/(L)2002- 266 31 January 2002

Prof. N V Joshi
Centre for Ecological Sciences

Dear Sri/Prof./Dr. Joshi

Sub: Nomination of two representatives of the Court from amongst its members on the Council of the Institute for the quadrennium 2002 – 05

****

This is to inform you that the Council of the Institute has been reconstituted for the quadrennium 2002-05.

Under Clause 9.1(f) of the Scheme, read with Bye-laws 3.2 to 3.2.10 (vide Annexure 'A'), the Court is required to nominate two of its representatives from amongst its members on the Council for the quadrennium 2002-05.

In accordance with Bye-laws 3.2 to 3.2.10, I invite you to propose two candidates from amongst the members of the Court. A list of members of the Court as on date is enclosed vide Annexure ' B'. (An asterik (*) mark in front of the names indicates that they are already members of the Council).

A copy of the proposal form along with a stamped and self addressed envelope is enclosed to enable you to return the same duly filled so as to reach me on or before the date indicated in the proposal form. *Consent of the members proposed for nomination is also required to be sent.*

As per Scheme Clause 9.1.1 (extract given in Annexure ' A'), none of the Professors of the Institute can become members of the Council and hence they are not eligible to be proposed for election.

Yours faithfully,
Uday Balakl
Registrar

Encls: Annexure A & B
Proposal form
Envelope

Copy to: Director/Associate Director/Registrar
Financial Controller/Officer-in-charge(Public Relations)/

Annexure 'A'

Extracts from the Scheme, Regulations & Bye-laws of the Institute

Scheme Clause:

9.1 The Council shall consist of the following members:

(a) (b) (c) etc...

(f) Representative of the Court from amongst its members - 2

9.1.1 Members of the staff other than the Director and the Deans of Faculties shall not be eligible for membership of the Council.

Bye-laws:

3.2 The following procedure shall be followed for the election of two representatives of the Court on the Council:

3.2.1 The Registrar shall address each member of the Court by letter inviting him to propose a candidate for nomination to the Council.

3.2.2 Every member of the Court proposing a member of the Court for nomination to the Council shall forward to the Registrar in writing the name and address of any such members together with a statement of his academic or other qualifications. Every nomination paper shall be accompanied by a statement signed by the person proposed signifying his consent to stand for election

3.2.3 The list of members proposed shall be closed **Twenty-one** days after the date of posting the notice referred to in Bye-law 3.2.1.

3.2.4 All nominations shall be scrutinised by the Registrar and if after scrutiny the number of members validly nominated is equal to or less than the number of vacancies to be filled, the members so nominated shall be declared duly elected by the Court on the Council. If after scrutiny the number of members nominated is greater than the number of vacancies, the list of members whose nomination papers have been declared as valid shall be published by the Registrar and a copy of the same shall be forwarded to each of the members nominated for election.

3.2.5 Any member may withdraw his candidature by notice in writing signed by him and sent by registered post so as to reach the Registrar within **Ten days** of the date of publication of the list of nominations here in before mentioned.

3.2.6 The Registrar shall immediately thereafter publish the final list of members validly nominated. If the number of members who are validly nominated and who have not withdrawn their names in the manner and within the time specified does not exceed the number of vacancies to be filled, all such members shall be declared to be duly elected. If the number of members who are validly nominated and who have not withdrawn their names in the manner prescribed and within the time specified is greater than the number of vacancies to be filled, the election shall be proceeded within the manner prescribed herein below.

3.2.7 The Registrar shall forward by registered post to each member of the Court:

(a) voting paper bearing the names and qualifications of all members who have been proposed for nomination as in the final list;

(b) a small cover printed "Voting Paper"; and

(c) a bigger cover on which are printed on the left half "Certificate of Identity" and on the right half the words "To the Registrar, Indian Institute of Science, Bangalore 560 012."

3.2.8 Every member shall have as many votes as there are vacancies but shall give only one vote to any one member by putting a cross in the voting paper against the name of the member in whose favour he desires to cast his vote. The member shall enclose the voting paper duly filled in as above, but without his name or signature, in the smaller cover, and enclose this again in the bigger cover, sign the certificate of identity on it, seal it and forward it to the Registrar so as to reach him at the Institute not later than fifteen days after the date of despatch. No voting paper which does not comply with these Bye-laws shall be valid.

3.2.9 The envelopes containing the voting papers shall be opened in the presence of the Director and/or Registrar by Scrutineers appointed by the Council and the declaration by the scrutineers of the result of the voting shall be final.

3.2.10 In the event of two or more members for one and the same vacancy receiving an equal number of votes each, the names of such members shall again be submitted to the members of the Court and a second vote shall be taken in the same manner as the first. If the members for the vacancy receive an equal number of votes each in the second election, the President of the Court shall exercise a casting vote and his vote shall decide the election.

****

Annexure 'B'

RECONSTITUTION OF THE COURT FOR THE QUARDRENNIUM 2002 – 05

No.	Reference to Scheme Clause	Nominating Body	Number of Nominees	Nominations
1.	8.1(a)	The Visitor	2	Awaited
2.	8.1(b)	Govt. of India	3	Awaited
3.	8.1(c)	Govt. of Karnataka	1	Director of Technical Education, Bangalore
4.	8.1(d)	Tata Trusts	1	Dr. J J Irani Director, Tata Sons Ltd., Mumbai
5.	8.1(e)	Donor States	1 each	Awaited
6.	8.1(f)	Donors	1 each	NIL
7.	8.1(g)	Federation of Indian Chamber of Commerce Industry	1	Mr. S N Agarwal Group Chairman Bhoruka Enterprises 48, Lavelle Road Bangalore – 560 001
8.	8.1(h)	All India Organisation Industrial Employers	1	Mr.B C Prabhakar Working President Karnataka Employer's Association, 135, Dr. A R Krishna Shastry Road, Basavanagudi, Bangalore
9.	8.1(i)	Employers' Federation of India	1	Awaited
10.	8.1(j)	AICTE	1	Prof. R Natarajan, Chairman (*) AICTE, I.P. Estate New Delhi – 110 002
11.	8.1(k)	CSIR	1	Dr. T Ramasami (*) Director, CLRI, Adyar Chennai – 600 020
12.	8.1(l)	Association of Indian Universities	4	Northern Region 1) Prof. H P Dikshit, VC, (*) Indira Gandhi National Open Univ. Maidan Garhi, New Delhi Western Region 2) Prof. Ashok Kolaskar, VC, Univ.of Pune, Pune – 411 007 Southern Region 3) Dr. K Mohan Das, Director, (*) Sree Chitra Tirunal Inst. of Medical Sciences & Technology Thiruvananthapuram-695 011 Eastern Region 4) Prof. Nityananda Saha, VC, Univ. of Kalyani Kalyani – 741 235

13.	8.1(m)	Council (eminent men of Science, Learning and Industry	3	1) Mr. R N Tata, Chairman, Tata Sons Ltd., Mumbai 2) Dr. Raja Ramanna, NIAS Bangalore 3) Dr. K Kasthurirangan Chairman, ISRO Dept. of Space, GOI, Bangalore
14.	8.1(n)	Association of Past Students recognised for the Purpose by the Council	1	Awaited
15.	8.1(o)	Director (ex-officio) **(*)**	1	
16.	8.1(p)	Professors (ex-officio)		(List enclosed)
17.	8.1(q)	Members of the Council not Otherwise represented on the Court (ex-officio)	-	i) The Education Secretary Dept. of Secondary & Higher Education,MHRD, GOI New Delhi ii) The Special Secretary Dept. of Secondary & Higher Education,MHRD, GOI New Delhi iii) The Principal Secy. to Govt. Education Dept. Govt. of Karnataka, Bangalore iv) Mr. R M Lala, Director Sir Dorabji Tata Trust Bombay House, Homi Mody Street, Mumbai v) Mr. S N Batliwalla Secy. & Chief Accountant Sir Dorabji Tata Trust Bombay House, Homi Mody Street, Mumbai vi) Prof. S S Katiyar Vice Chancellor Chhatrapati Shahu Ji Maharaj University Kalyanpur, Kanpur

{ * already members of the Council}

8.1(P)

List of Professors/Associate Professors at the Instiute
(Departmentwise)

SlNo	Name	Designation
** Department : AEROSPACE ENGINEERING		
1	ANANTHASAYANAM M R	PROFESSOR
2	BALAKRISHNAN N	PROFESSOR
3	DATTAGURU B	PROFESSOR
4	DESHPANDE S M	PROFESSOR
5	GOVINDA RAJU S P	PROFESSOR
6	MAHAPATRA P R	PROFESSOR
7	MUKUNDA H S	PROFESSOR
8	MURTHY C R L	PROFESSOR
9	RAGHUNANDAN B N	PROFESSOR
10	RAMAMURTHY T S	PROFESSOR
11	SEETHARAMA BHAT M	PROFESSOR
12	DEBASISH GHOSE	ASSOC.PROF
13	JYOTIRMOY DEY	ASSOC.PROF
14	MANI V	ASSOC.PROF
15	PRADEEP S	ASSOC.PROF
16	REDDY K P J	ASSOC.PROF
17	SHESHADRI T S	ASSOC.PROF
** Department : MATHEMATICS		
18	CHAKRABARTI ALOKNATH	PROFESSOR
19	PHOOLAN PRASAD	PROFESSOR
20	RAMACHANDRA RAO A	PROFESSOR
21	RENUKA RAVINDRAN	PROFESSOR
22	VITTAL RAO R	PROFESSOR
23	BASUDEB DATTA	ASSOC.PROF
24	DILIP P PATIL	ASSOC.PROF
25	GOPALAKRISHNA A V	ASSOC.PROF
26	GOVINDAN RANGARAJAN	ASSOC.PROF
27	MRINAL KANTI GHOSH	ASSOC.PROF
** Department : CENTRE FOR APPLICATION OF Sc & TECH TO RURAL AREAS		
28	RAVINDRANATH N H	ASSOC.PROF
** Department : BIOCHEMISTRY		
29	JAGANNADHA RAO A	PROFESSOR
30	MUNIYAPPA K	PROFESSOR
31	NARASIMHA RAO D	PROFESSOR
32	RAMESH MAHESHWARI	PROFESSOR
33	SATYANARAYANA RAO M R	PROFESSOR
34	SAVITHRI H S	PROFESSOR
35	ANJALI ANOOP KARANDE	ASSOC.PROF
36	JAYABASKARAN C	ASSOC.PROF
37	MANJUNATH R	ASSOC.PROF
38	RAM RAJASEKHARAN	ASSOC.PROF
39	RANGARAJAN P N	ASSOC.PROF
** Department : CENTRE FOR ATMOSPHERIC AND OCEANIC SCIENCES		
40	GOSWAMI B N	PROFESSOR
41	SULOCHANA GADGIL	PROFESSOR
42	BHAT G S	ASSOC.PROF
43	DEBASIS SENGUPTA	ASSOC.PROF

** Department : CENTRAL CRYOGENIC TECHNOLOGY

44	KASTHURI RENGAN S	ASSOC.PROF
45	SUBHASH JACOB	ASSOC.PROF

** Department : CHEMICAL ENGINEERING

46	GANDHI K S	PROFESSOR
47	GOVINDARAO V M H	PROFESSOR
48	JAYANT M MODAK	PROFESSOR
49	KESAVA RAO K	PROFESSOR
50	MANAS CHANDA	PROFESSOR
51	GANAPATHY AYAPPA	ASSOC.PROF
52	KUMARAN V	ASSOC.PROF
53	PRABHU R NOTT	ASSOC.PROF

** Department : CENTRE FOR ELECTRONIC DESIGN AND TECHNOLOGY

54	RAO N J	PROFESSOR
55	JAMADAGNI H S	ASSOC.PROF
56	SUDHIR KUMAR SINHA	ASSOC.PROF

** Department : CENTRE FOR ECOLOGICAL SCIENCES

57	MADHAV GADGIL	PROFESSOR
58	RAGHAVENDRA GADAGKAR	PROFESSOR
59	JOSHI N V	ASSOC.PROF
60	SUKUMAR R	ASSOC.PROF

** Department : CIVIL ENGINEERING

61	JAGADISH K S	PROFESSOR
62	NARAYANA IYENGAR R	PROFESSOR
63	PANDEY P C	PROFESSOR
64	PANDIAN N S	PROFESSOR
65	RAGHUPRASAD B K	PROFESSOR
66	SRIDHARAN K	PROFESSOR
67	SRINIVASA MURTHY B R	PROFESSOR
68	SUBBA RAO K S	PROFESSOR
69	ALLAM M M	ASSOC.PROF
70	ANANTH RAMASWAMY	ASSOC.PROF
71	GOVINDA RAM H S	ASSOC.PROF
72	MANOHAR C S	ASSOC.PROF
73	MOHAN KUMAR M S	ASSOC.PROF
74	MUJUMDAR P P	ASSOC.PROF
75	RAMAKRISHNA RAO A	ASSOC.PROF
76	SITHARAM G THALLAK	ASSOC.PROF
77	SIVAPULLAIAH P V	ASSOC.PROF
78	SUDHAKAR RAO M	ASSOC.PROF

** Department : CENTRE FOR PRODUCT DESIGN AND MANUFACTURING

79	AMARESH CHAKRABARTI	ASSOC.PROF
80	ANINDYA DEB	ASSOC.PROF
81	GURUMOORTHY B	ASSOC.PROF
82	MRUTHYUNJAYA T S	ASSOC.PROF

** Department : COMPUTER SCIENCE & AUTOMATION

83	NARAHARI Y	PROFESSOR
84	NARASIMHA MURTY M	PROFESSOR
85	PATNAIK L M	PROFESSOR
86	PRASAD U R	PROFESSOR
87	PRITI SHANKAR	PROFESSOR
88	SARMA V V S	PROFESSOR
89	SRIKANT Y N	PROFESSOR
90	SUBRAMANIAN D K	PROFESSOR

91	VENI MADHAVAN C E	PROFESSOR
92	VIJAYA CHANDRU	PROFESSOR
93	RAMESH CHANDRA HANSDAH	ASSOC.PROF
94	RAMESH HARIHARAN	ASSOC.PROF
95	SATHIYA KEERTHI S	ASSOC.PROF
96	SWAMI MANOHAR	ASSOC.PROF
97	VINAY V	ASSOC.PROF

** Department : CENTRE FOR THEORETICAL STUDIES

98	PASUPATHY J	PROFESSOR
99	ROHINI M GODBOLE	PROFESSOR
100	DIPTIMAN SEN	ASSOC.PROF
101	SANJAY JAIN	ASSOC.PROF

** Department : ELECTRICAL COMMUNICATION ENGINEERING

102	ANAND G V	PROFESSOR
103	ANURAG KUMAR	PROFESSOR
104	SHIVAPRASAD A P	PROFESSOR
105	VENKATARAM P	PROFESSOR
106	VINOD SHARMA	PROFESSOR
107	ANAMITRA MAKUR	ASSOC.PROF
108	HARI K V S	ASSOC.PROF
109	KUMAR N SIVARAJAN	ASSOC.PROF
110	NARAYANA DUTT D	ASSOC.PROF
111	SREENIVAS T V	ASSOC.PROF
112	SUNDAR RAJAN B	ASSOC.PROF
113	UTPAL MUKHERJI	ASSOC.PROF

** Department : ELECTRICAL ENGINEERING

114	KHINCHA H P	PROFESSOR
115	LAWRENCE JENKINS	PROFESSOR
116	PADIYAR K R	PROFESSOR
117	RAMAKRISHNAN K R	PROFESSOR
118	RAMANARAYANAN V	PROFESSOR
119	RANGANATHAN V T	PROFESSOR
120	SUBBAYYA SASTRY P	PROFESSOR
121	VENKATESH Y V	PROFESSOR
122	INDRANEEL SEN	ASSOC.PROF
123	NAGENDRA RAO P S	ASSOC.PROF
124	RAJGOPAL K	ASSOC.PROF
125	THUKARAM D	ASSOC.PROF

** Department : HIGH VOLTAGE ENGINEERING

126	NAGABHUSHANA G R	PROFESSOR
127	RAMU T S	PROFESSOR
128	SATISH L	ASSOC.PROF

** Department : INORGANIC & PHYSICAL CHEMISTRY

129	CHAKRAVARTY A R	PROFESSOR
130	KRISHNAMURTHY S S	PROFESSOR
131	SAMUELSON A G	PROFESSOR
132	SATHYANARAYANA D N	PROFESSOR
133	SEBASTIAN K L	PROFESSOR
134	VASUDEVAN S	PROFESSOR
135	BINNY J CHERAYIL	ASSOC.PROF
136	DAS P K	ASSOC.PROF
137	RAMAKRISHNAN S	ASSOC.PROF
138	SIVA UMAPATHY	ASSOC.PROF

** Department : INSTRUMENTATION

139	MOHAN S	PROFESSOR
140	RAM MOHAN VASU	PROFESSOR
141	ASOKAN S	ASSOC.PROF
142	MENON A G	ASSOC.PROF
143	MOHAN RAO G	ASSOC.PROF
144	RAJANNA K	ASSOC.PROF

** Department : JOINT ADVANCED TECHNOLOGY PROGRAMME

145	PAUL P J	ASSOC.PROF

** Department : MOLECULAR BIOPHYSICS UNIT

146	AVADHESHA SUROLIA	PROFESSOR
147	BALARAM P	PROFESSOR
148	BRAHMACHARI S K	PROFESSOR
149	DIPANKAR CHATTERJI	PROFESSOR
150	MANJU BANSAL	PROFESSOR
151	MURTHY M R N	PROFESSOR
152	SARASWATHI VISHVESHWARA	PROFESSOR
153	RAGHAVAN VARADARAJAN	ASSOC.PROF
154	SIKDAR S K	ASSOC.PROF

** Department : MICROBIOLOGY & CELL BIOLOGY

155	DURGA RAO C	PROFESSOR
156	NAGARAJA V	PROFESSOR
157	RABINDRANATH NAYAK	PROFESSOR
158	SHAILA M S	PROFESSOR
159	UMESH VARSHNEY	ASSOC.PROF
160	USHA VIJAYRAGHAVAN	ASSOC.PROF
161	VIJAYA S	ASSOC.PROF

** Department : MECHANICAL ENGINEERING

162	ARAKERI V H	PROFESSOR
163	ASHITAVA GHOSAL	PROFESSOR
164	BISWAS S K	PROFESSOR
165	JAYWANT H ARAKERI	PROFESSOR
166	KRISHNA MURTHY M V	PROFESSOR
167	MUNJAL M L	PROFESSOR
168	NARASIMHAN R	PROFESSOR
169	SESHAN S	PROFESSOR
170	SHRINIVASA U	PROFESSOR
171	SRINIVASAN J	PROFESSOR
172	SRINIVASAN K	PROFESSOR
173	YOGENDRA SIMHA K R	PROFESSOR
174	PRADIP DUTTA	ASSOC.PROF

** Department : METALLURGY

175	ATUL H CHOKSHI	PROFESSOR
176	CHATTOPADHYAY K	PROFESSOR
177	DWARAKADASA E S	PROFESSOR
178	HAJRA J P	PROFESSOR
179	JACOB K T	PROFESSOR
180	KISHORE	PROFESSOR
181	LAHIRI A K	PROFESSOR
182	NATARAJAN K A	PROFESSOR
183	PRASAD Y V R K	PROFESSOR
184	RANGANATHAN S	PROFESSOR
185	SASTRY D H	PROFESSOR
186	SURAPPA M K	PROFESSOR
187	ABINANDANAN T A	ASSOC.PROF

188	SUBRAMANIAN S	ASSOC.PROF
189	VIKRAM JAYARAM	ASSOC.PROF

** Department : MATERIALS RESEARCH CENTRE

190	ANANTHAKRISHNA G	PROFESSOR
191	KRUPANIDHI S B	PROFESSOR
192	NARAYANAN KUTTY T R	PROFESSOR
193	ARUN M UMARJI	ASSOC.PROF
194	SHIVASHANKAR S A	ASSOC.PROF
195	SUBBANNA G N	ASSOC.PROF
196	VARMA K B R	ASSOC.PROF

** Department : MOLECULAR REPRODUCTION, DEVELOPMENT & GENETICS

197	NANJUNDIAH V	PROFESSOR
198	KONDAIAH P	ASSOC.PROF
199	MAHADEVAN S	ASSOC.PROF
200	RAJAN R DIGHE	ASSOC.PROF
201	SANDHYA S VISWESWARAIAH	ASSOC.PROF
202	SESHAGIRI P B	ASSOC.PROF

** Department : MANAGEMENT STUDIES

203	AKHILESH K B	PROFESSOR
204	SRINIVASAN R	ASSOC.PROF
205	THOMAS CHACKO	ASSOC.PROF

** Department : ORGANIC CHEMISTRY

206	CHANDRASEKARAN S	PROFESSOR
207	SANTANU BHATTACHARYA	PROFESSOR
208	SRIKRISHNA A	PROFESSOR
209	UDAY MAITRA	PROFESSOR
210	SOSALE CHANDRASEKHAR	ASSOC.PROF

** Department : PHYSICS

211	AJAY KUMAR SOOD	PROFESSOR
212	ANIL KUMAR	PROFESSOR
213	ANIL KUMAR	PROFESSOR
214	ARUP KUMAR RAYCHAUDHURI	PROFESSOR
215	BHAT H L	PROFESSOR
216	BHAT S V	PROFESSOR
217	CHANDAN DASGUPTA	PROFESSOR
218	KRISHNAMURTHY H R	PROFESSOR
219	RAMAKRISHNAN T V	PROFESSOR
220	SESHADRI T P	PROFESSOR
221	SRIRAM SHASTRY B	PROFESSOR
222	SUBRAMANYAM S V	PROFESSOR
223	ARNAB RAI CHOUDHURI	ASSOC.PROF
224	CHANDA J JOG	ASSOC.PROF
225	CHANDRASEKHAR N	ASSOC.PROF
226	ONUTTOM NARAYAN	ASSOC.PROF
227	RAHUL PANDIT	ASSOC.PROF
228	RAMAKUMAR S	ASSOC.PROF
229	SHAMALA N	ASSOC.PROF
230	SRIRAM RAMASWAMY	ASSOC.PROF

** Department : SUPERCOMPUTER EDUCATION & RESEARCH CENTRE

231	SADASIVA M RAO	PROFESSOR
232	SYAMAL KUMAR SEN	PROFESSOR
233	APOORVA PATEL	ASSOC.PROF
234	GOVINDARAJAN R	ASSOC.PROF
235	JAYANT R HARITSA	ASSOC.PROF

236	MATTHEW JACOB T	ASSOC.PROF
237	NANDY S K	ASSOC.PROF
** Department : SOPHISTICATED INSTRUMENTS FACILITY		
238	MATHIAS P C	ASSOC.PROF
239	RAMANATHAN K V	ASSOC.PROF
** Department : SOLID STATE & STRUCTURAL CHEMISTRY UNIT		
240	BIMAN BAGCHI	PROFESSOR
241	GOPALAKRISHNAN J	PROFESSOR
242	GURU ROW T N	PROFESSOR
243	HEGDE M S	PROFESSOR
244	RAMASESHA S	PROFESSOR
245	RAO K J	PROFESSOR
246	SARMA D D	PROFESSOR
247	SHUKLA A K	PROFESSOR
248	YASHONATH S	ASSOC.PROF

INDIAN INSTITUTE OF SCIENCE
BANGALORE 560012

Proposal form for nomination to the Council by the members of the Court for the quadrennium 2002 – 05

NOMINATION PAPER

Last date for receipt of nomination by the Registrar of the Institute 20.02.2002

Number of vacancies Two (2)

Names of the proposed members, their qualification and address :

1.

2.

Signature
(Member of the Court)

Note: Every nomination paper shall be accompanied by a statement signed by the person proposed signifying his consent to stand for election

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STUDENTS COUNCIL

Indian Institute of Science
Bangalore

Randhir.R.P
Chairman
(Dept. of Management Studies)
Ph: 3092567/2378, 3604538

Shrikanth
Secretary
(Dept. of Management Studies)
Ph: 3092567/2378

Amol Talekar
Hostel President
(Center for Product Design and Manufacturing)
Ph: 3092921

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(Solid State & Structural Chemistry Unit)

Sandeep Krishna
(Center for Theoretical Studies)

Pinaki Chaudhary
(Physics)

Pankaj Wahi
(Dept. of Mechanical Engg)

Sudip Kumar Mondal
(Inorganic & physical Chemistry)

Sanghamitra Goswami
Dept. of Management Studies

Ashraf Iqbal
Secretary, Gymkhana

Mess President

Date – 10/02/2003

To,

The Director,
Indian Institute of Science

Sub: Launching of "Voices"- Students' Council Newsletter.

Sir,

The Student Council is proud to announce the introduction of "Voices", a monthly newsletter. The objective behind bringing out "Voices" was to create a communication channel to disseminate information at a faster rate, to create a platform, for raising issues relevant to the students, to create a platform, where individual students can also voice their concerns. "Voices" also aims to bring together the Students of IISc and create a more vibrant community, which is proactive.

A copy of the newsletter will be given for all students and faculties.

We request your support in this endeavour.

Regards

Randhir
Chairman
STUDENTS COUNCIL
INDIAN INSTITUTE OF SCIENCE
BANGALORE

CC:
1. Dean,
2. Registrar,
3. Chairman, Divisions
4. Chairman, Department

scouncil@tejas.serc.iisc.ernet.in
☎-3092653

CENTRE FOR ASTRA
INDIAN INSTITUTE OF SCIENCE
BANGALORE 560 012
Phone: 91-80-360 1455 / 360 0985 Fax: 91-80-360 1428 / 360 0683
Email: ravi@ces.iisc.ernet.in

Prof. N. H. Ravindranath
Chairman

March 29, 2003

To,
The Chairman
Division of Mechanical Sciences
Indian Institute of Science
Bangalore – 12

Dear Sir,

Sub: Request for a committee to approve a proposal on "Technology and Information Resource Centre"

The Institute has sanctioned Rs. 33 lakhs under 'Tenth Plan Grant' for augmenting services at Centre for ASTRA. One of the key components is developing a 'Technology and Information Resource Centre'. ASTRA receives a large variety and numbers of visitors from school children to ministers. ASTRA faculty discussed and has decided to initiate the process of developing a 'Technology & Information Resource Centre".

A couple of agencies have been identified, with the requisite technical capacity. The proposed activity may cost around Rs. 10 lakhs.

May I request you to nominate a committee to consider and approve the agency, given the limited time. I have suggested below a few names of faculty for the proposed committee.

1. Prof. B N Raghunandan
2. Prof. N V Joshi
3. Prof. Y Narahari
4. Dr. B V Venkatarama Reddy
5. Prof. N H Ravindranath
6. Prof. M Sudhakar Rao
7. Deputy ~~Registrar~~ Finance ~~/ Administration~~ Controller

Prof. Ravindranath,
All seven members may constitute the said Committee.
31/3/03

Thanking you.

Yours Sincerely,

(N H Ravindranath)

4 dt 31/3/03.

Comparative Statement:

Project:

Web-based Information System on Rural Technologies including astra innovations for Technology and Resource Information Centre at astra.

Name of the Firms:

1. F.I. Sofex Limited,
14, 8th main road,
Malleswaram,
Bangalore-03

2. Spatial Data Private Limited,
747, Srikrishna Temple road,
I stage, Indiranagar,
Bangalore-38.

3. Millenium Infotech,
3448, 4th main, 13th cross,
KR road, Shastrinagar,
Bangalore-28.

4. Unique CADD Services,
36, TaraVilla,
HMT layout,
80 ft road, RT nagar,
Bangalore-28.

(in lakh rupees)

#	Description	Firm-1	Firm-2	Firm-3	Firm-4
1	Modifiy the existing web site of astra with additional details – the technical material and the necessary visual material will be provided by astra on the various technologies developed.	1.8	4.0	14.0 Offered lumpsum amount	7.0
2	Create a keyword based data base of all the documentation available at astra, say about 1000 documents, and the necessary infrastructure for about 5000 documents. The document includes wither a summary or an abstract for a given text. astra will provide necessary support in the technical clearance of the document generated by you.	Included in above	Included in above	Included in above	Included in above
3	All these documents should be hosted on the existing astra web site for access by using key word. There should be standard facility of download, request form, etc.	Included in above	Included in above	Included in above	Included in above
4	Provide five site license for a GIS based information for India and for the State of Karnataka at village level.	4.25	3.0	Included in above	5.0
5	Provide one person as man power support for a period of one year stationed at astra to interface for various activities related to the above functions. About one month travel may be anticipated to obtain details related to specific information.	2.4	3.0	Included in above	1.5
6	About one month travel expected to obtain det related to specific information	*	2.0	Included in above	Included in above
7	Payment terms	25:25:25:25	50:40:10	10:30: 30:20:10	20:50:20:10
8	Delivery Schedule	1 year	1 year	1 year	1 year
	Total	8.45	12.0	14.0	13.5

*** Travel Expenditure has not been included if required it will be charge actual as per IISc rules.**

The Indian Institute of Science, Bangalore 560 012

astra

[Centre for the application of Science & technology to rural areas]

Phones: 334 8575 / 394 2447

E-mail:chairman@astra.iisc.ernet.in

IISc

IISc Purchase Dept. Phones: 394 2217/394 2398/394 2801/394 2640/394 2647/394 2201/394 2801] - Fax: +91 –80 –360 0287 //Telex: 91-845-8349 Telefax: 91-80-334 0287

Enquiry No. astra:TRIC: /// **Date: 10th March 2003**

1. Shri T R Soundarajan, M/s F.I Focus Limited, No.14, 8th Main Road, Malleswaram Bangalore 560 003
2. Shri Shankar K N, Chief of Operations, Spatial Data Private Limited, No.747, Srikrishna Temple Road, I Stage, Indiranagar, Bangalore 560 038
3. M/s Millienium Infotech, No.3448, 4th Main, 13th Cross,K R Road, Shastrinagar, Bangalore 560 028
4. M/s Unique CADD Services, No.36, Tara Villa, HMT Layout,80 Ft. Road, R T Nagar, Bangalore 560 028

Dear Sirs,

Please send your Pro forma Invoice/**Proposal** valid for 90 days for **carrying out the following work**/supply of the following goods **along with your terms and conditions and other valid information as required by us.** Your response may please be addressed to the Chairman, Dept of ***astra*** , The Indian Institute of Science, Bangalore 560 012, so as to reach on or before – **IMMEDIATELY.**

Sl. No.	Description of goods/materials required	Quantity
01	**Web-based Information System on Rural Technologies including astra innovations for Technology and Resource Information Centre at astra - as per enclosed details – (PTO)**	Complete job

Terms and conditions to be furnished in the Proforma Invoice

Note: Please note that the Indian Institute of Science is exempted from *CED/CST and permitted for *Consessional KST as an educational/research Institution. Hence quote your prices/charges accordingly.

1. All correspondences relating to this Enquiry should be addressed to the **Chairman, Centre for *astra***, The Indian Institute of Science, Bangalore 560 012,
2. There is a provision for **Payment Against Delivery** (PAD), if you allow a special discount. So, please indicate the amount of discount, if any, you offer.
3. Delivery terms: Free / Ex-Godown / Delivery charges Rs._____extra.
4. Payment terms: Special discount for Payment Against Delivery (PAD): _____% on the basic price or Rs._____ (fixed/lump sum).
5. Warranty Offered:
6. After Sales Service: Details of how you would be able to support the above work after you

THIS MAY PLEASE BE TREATED AS VERY URGENT. Details of work to be carried out is only a broader outline. This is a highly specialised technical work and hence you are requested to contact Dr H N Chanakya/Dr S Dasappa/ Shri H I Somashekar in this Department, for finer details of specification, clarification, and our requirement, and all other related details and submit your propsoal/ quotation/pro forma invoice accordingly, based on the discussion.

Yours faithfully

CHAIRMAN
Centre for *astra*
The Indian Institute of Science
BANGALORE 560 012

OFFICE COPY

CENTRE FOR ASTRA
INDIAN INSTITUTE OF SCIENCE
BANGALORE 560 012
Phone: 91-80-360 1455 / 360 0985 Fax: 91-80-360 5428 / 360 1683
Email: ravi@ces.iisc.ernet.in

Prof. N.H. Ravindranath
Chairman

5 May 2003

Dear Professor Joshi,

Sub: Technical committee to select agency for information package development.

The institute has sanctioned grants for an "Information Resource Centre at ASTRA". The probable cost could be around Rs. 8 to 10 lakhs. ASTRA has procured 3 or 4 quotations for the task.

The institute has approved a committee to consider the applications and recommend the agency. I am happy to inform that you are one of the members.

May I request you to attend a meeting of the committee at 2.00 p.m. on 8-5-2003 at ASTRA.

Thanking you,

Yours sincerely,

Ravi

(N.H. Ravindranath)

The Indian Institute of Science
Bangalore 560 012

Details of Specifications for the Enquiry regarding **Web-based Information System on Rural Technologies including astra innovations for Technology and Resource Information Centre at astra –**

---

1. Modifiy the existing web site of astra with additional details – the technical material and the necessary visual material will be provided by astra on the various technologies developed.

2. Create a keyword based data base of all the documentation available at astra, say about 1000 documents, and the necessary infrastructure for about 5000 documents. The document includes wither a summary or an abstract for a given text. astra will provide necessary support in the technical clearance of the document generated by you.

3. All these documents should be hosted on the existing astra web site for access by using key word. There should be standard facility of download, request form, etc.

4. Provide one person as man power support for a period of one year stationed at astra to interface for various activities related to the above functions. About one month travel may be anticipated to obtain details related to specific information.

5. Provide five site license for a GIS based information for India and for the State of Karnataka at village level.

6. Provide cost of the above activities separately. Hardware and software requirements may be clearly identified.

7. The total period envisaged is one year.

CHAIRMAN
Centre for astra
The Indian Institute of Science
BANGALORE 560 012

CENTRE FOR ECOLOGICAL SCIENCES
Indian Institute of Science
Bangalore 560 012, India

PROF. N. V. JOSHI
Chairman

Dated: August 11, 2003

Dear Colleagues,

It is a pleasure to enclose along with the report of work from Dr. Renee Borges for evaluation for promotion from Assistant Professor to Associate Professor. I would be grateful for your feedback, which you can send me even by e-mail if you wish. It would be nice if we can meet for the formal COP meeting sometime this month. The draft recommendation can be circulated either before the meeting (if I get the responses in favour of such a course of action), or after the meeting as is done normally.

Thank you and best regards,

Yours sincerely,

(PROF. N.V. JOSHI)

cc: Prof. Madhav Gadgil
Prof. Raghavendra Gadagkar
Prof. N.V. Joshi
Prof. R. Sukumar

Prof. D.K. Subramanian
Prof. Sulochana Gadgil
Prof. N.H. Ravindranath
Prof. Vidyanand Nanjundiah

File: P.V. of RMB
CH/rl

Telephone (O):91-80-3608661;3942635; Cable: CES 'Science' Malleswaram, Bangalore, India
Telex: 0845-8349; FAX: 91-80-3601428; 3600683; 3600085 E-Mail: nvjoshi@ces.iisc.ernet.in

INFORMATION FOR PROMOTION EVALUATION

Renee M. Borges
Centre for Ecological Sciences
Indian Institute of Science
Bangalore 560 012

(For the period 24-11-1997 to 7-8-2003)

PROFORMA

Name of the member of staff: Renee M. Borges

Designation: Assistant Professor

Department: Centre for Ecological Sciences

Age and Date of Birth: 44 years, 25 February 1959

Present Salary and Grade: Rs 25,638/- with effect from 24/11/1997
In the grade Rs 12,000 – 18,300

1. DETAILS OF ACADEMIC QUALIFICATION: (Degree onwards)

Examination	University/Institution	Class Obtained	Year of obtaining the degree
Bachelor of Science	St. Xavier's College, University of Bombay	First Class	1979
Master of Science	Institute of Science, University of Bombay	First Class	1982
Doctor of Philosophy	University of Miami, Florida, USA		1989

1.1 Membership of Professional Bodies:

a. Association for Tropical Biology and Conservation, USA. Council Member 2001-2003.
b. Botanical Society of America. 2001-present
c. International Union for the Study of Social Insects (Indian Chapter). Life Member
d. Ethological Society of India. Life Member
e. Bombay Natural History Society. Life Member

2. DETAILS OF SERVICE AT THE INSTITUTE:

Year		Designation
From	To	
24.11.1997	7.8.2003 (date of review)	Assistant Professor

3. REPORT ON RESEARCH/TEACHING/INDUSTRY INTERACTION DURING THE PERIOD UNDER REVIEW:

3.1 Research and Scientific Investigations:

3.1.1 Guidance of students for research conferments:

At the time of appointment		During the period under review	
Ph. D	2	Nil	**Awarded**
		Nil	**Thesis submitted**
		3	**Under Progress**
M. Sc. (Engg.)	Not appl.	Not appl.	**Awarded**
		Not appl.	**Thesis submitted**
		Not appl.	**Under progress**

3.1.2 Sponsored Projects (Research Schemes):

Title	Funding Agency	Value	Duration	Co-investigators
1. Pollination and dispersal ecology of the climbing shrub *Mussaenda glabrata*	DST	Rs. 17,00,000/-	1999-2002	Nil
2. a) Plant-animal interactions in Western Ghat forests b) Behavioural ecology of ant-mimicking spiders	MoEF	Rs. 5,00,000/- per annum	1998-on going	Nil
3. The chemical ecology of keystone mutualisms: the pollination and dispersal ecology of figs and fig wasps	Indo-French Centre for the Promotion of Advanced Research	Rs. 30,00,000/-	2003-2005	Martine Hossaert, CNRS, Montpellier, France
4. Chemical and Molecular Ecology Laboratory at CES	IISc/DBT	Rs. 32,00,000/- (IISc) Rs. 30,00,000/- (DBT)	2003	R. Gadagkar and R. Sukumar, CES

3.1.3. Publications: See attached list

At the time of appointment	During the period under review
7 Published in Journals	7 Published in Journals
2 Presented at Conferences/ Seminars/Symposia	16 Presented at Conferences/ Seminars/Symposia
1 Submitted for publication	2 Submitted for publication
6 Reports/Monographs etc.	1 Reports/Monographs etc.
4 Others (Book reviews)	22 Others (Book chapters, book reviews, general articles)
20 Total	48 Total

3.1.4. Brief resumé of Research and Development work carried out during the period under review

My research over the last 5 years has focused on the area of plant-animal interactions. It is only a couple of years since I have initiated research on animal-animal interactions via investigations on ant-mimicking spiders. I am therefore working at the interface between species in natural systems, and study the phenomena of mutualism, predation, parasitism, and mimicry.

Below I outline the nature and highlights of work in these areas.

Foraging ecology of the Malabar Giant Squirrel *Ratufa indica*

Just prior to my appointment at the Institute, I had completed the collection of a unique data set on the foraging ecology of the herbivorous Giant Squirrel in a cloud forest in the Western Ghats, along with two PhD students. This data set is unrivalled as it is the most comprehensive for any foraging animal in a canopy network at the scale of resolution of 1 sec and 1 gm. It consists of continuous focal animal observation on 11 squirrels over two years, with each animal being sampled for two consecutive days each month, over a canopy network of 5,660 mapped trees within a 20 ha forest patch, each tree's phenophase being recorded every month. We measured 19 parameters of nutrient and secondary metabolite content of 101 food resources. Organisation of this massive data set itself, was a herculean task, but we believe that we are now equipped with a unique opportunity to model individual-based foraging strategies at a finer scale of resolution than has ever been attempted before. Our first goal on joining IISc was to get the phytochemical data published, as this would form the basis of our modelling efforts, and because our data was the first community-wide data on all measures of phenolic compounds in phytoresources. Our

data on hydrolysable tannins will form a bench mark for future studies on these tannins in tropical forests. We are happy to report that this phytochemical data set is in press in *Biochemical Systematics and Ecology*.

We are modeling squirrel movements using graph theory and testing a constellation of foraging algorithms and approaches: Random Walks, Dijkstra's Shortest Path Algorithm, the Travelling Salesman Problem, Travelling Purchaser Problem, and a variety of Greedy Algorithms. Besides the uniqueness of our data set, there are two other noteworthy aspects of our work:

- We are using a graph theory approach since squirrel movements are constrained by the connectivity of the canopy network. This is different from most other foraging studies that have modeled animal movements either through a homogeneous matrix or by assuming unconstrained movements between any two points in space.
- Our foraging models are individual-based, tracking the decisions of single animals.

Our preliminary results, being presented at two conferences on mathematical biology this year, are that squirrels appear to be following shortest path algorithms.

Mutualistic and antagonistic interactions between plant and animals:
Using DST funding, I have established a functional pollination ecology laboratory where fluorescence microscopy of pollen and pollination processes is possible. Using MoEF funding I have standardized a system for the measurement of spectral reflectance of colour signals of plants and animals in the ultraviolet-visible range using a fibre optic spectrophotometer.

Visual ecology of pollination: In the course of our studies on sexual displays of plants and their impact on the pollination process, we found an unusual interaction between the visual display of a low-density distylous plant and its butterfly pollinators. This plant uses large, white, ultraviolet-absorbing, extra-floral parts as long-distance signals to attract birdwing butterflies, which are the largest and longest flying butterflies of the region. We showed experimentally that the birdwing butterflies are unable to find the plant in the absence of these extra-floral signals called bracts, which function as secondary sexual characters.

Ant-plant interactions: We are studying a transitional myrmecophyte *Humboldtia brunonis* in the Western Ghats, that occurs in two forms, with ant-housing (domatia) and without domatia. We are investigating the ecological conflicts within this mutualism, as well as Partner Selective Mechanisms that determine which ant partner is most appropriate. We find that ants have a negative impact on pollinators and have also discovered a new case of castration behaviour exhibited by a protective plant-ant towards its host-plant that had a negative impact on the plant's fitness. Because it is a non-specialised semi-myrmecophyte, *H. brunonis* is an appropriate model to study Partner Selective Mechanisms. We have also discovered a new species of social parasitic bee in this system (new to science).

The chemical ecology of a keystone mutualism: the fig and fig wasp system:
The fig-fig wasp nursery pollination mutualism is the queen of mutualisms as it involves complex co-evolutionary interactions between figs and their wasp pollinators. We are focussing primarily on the chemical ecology of this interaction and are asking the following questions: What molecules are emitted by figs in pollinator-receptive phase? How is species-specificity of pollinator attraction maintained? Does the pattern of interspecific variation in floral odours partly reflect phylogenetic constraints? What is the role of intersexual chemical mimicry in the evolutionary stability of pollination mutualisms in dioecious figs, in which pollination depends on the insect entering a female fig, in which it will fie without reproducing? Are molecules involved in attraction of frugivorous vertebrate seed dispersers similar to those involved in attracting the insect pollinator? Is the diversity of compounds present in the odour "bouquet" of a species similar in pollinator-receptive figs and ripe figs?
We have just begun this project with funding from the Indo-French Centre (IFCPAR) and I have just begun the analysis of receptive phase compounds collected from two dioecious species *Ficus hispida* and *F. exasperata*, and one monoecious species *F. racemosa*. Results are awaited.

The chemical and behavioural ecology of ant-mimicking spiders:
Mimicry of ants has evolved in several taxa of spiders especially Salticidae, and is an excellent arena to study the phenomenon of convergent evolution. We are

investigating the behavioural, morphological and chemical basis of such mimicry in several ant-spider pairs. We hypothesize that the nature of the interaction between ant and spider depends on the social structure, visual acuity, and foraging method of the ant that will in turn exert selective pressures on the nature of the mimicry. Some mimicking spiders prey upon their ant models, having possibly effectively broken their chemical code, while others are preyed upon by ants. We are standardizing experimental protocols for experiments between ants and spiders (challenging because salticid spiders are intelligent, have memory, and acute vision), and are standardizing procedures for the analysis of the cuticular hydrocarbons of ants, and the surface chemistry of the spiders. Preliminary work has been done in collaboration with Prof P. Balaram, MBU.

3.2 Teaching:

3.2.1 Courses taught:

Year/Semester	Title of course	No. of credits	No. of students who		Taught alone/jointly	Any other remarks
			Credited	Audited		
1998 Aug	Plant-animal interactions EC 302	3	8	Nil	Alone	
1998 Aug	General Biology DB 202	2	8	Nil	Jointly	
1999 Aug	Evolutionary Biology EC 203	2	11	1	Alone	
1999 Aug	General Biology DB 202	2	9	Nil	Jointly	
2000 Aug	Plant-animal Interactions EC 302	3	2	1	Alone	
2000 Aug	General Biology DB 202	2	11	Nil	Jointly	
2001 Aug	Plant-animal Interactions EC 302	3	5	Nil	Alone	
2001 Aug	General Biology DB 202	2	8	Nil	Jointly	

2002 Aug	Plant-animal Interactions EC 302	3	2	Nil	Alone	
2002 Aug	General Biology DB 202	2	9	Nil	Jointly	

3.2.2 Guidance of students:

At the time of appointment/last review		During the period under review
ME/M. Tech	Not applicable	Not applicable
Projects	Not applicable	Not applicable

3.2.3 List books and other education material developed

1. Joint Editor with A. Joshi (JNCASR) and M. Singh (University of Mysore) of Handbook of Exercises in Ecology and Evolution (as teaching aid for undergraduate students and teachers in biology) (In preparation)

3.2.4 List projects in education/short term courses organised

Sl. No.	Course	Sponsoring agency	Duration	Target group	Cost of course
	Nil				

3.3 Industrial Research/Development:

Not applicable

3.3.1 Consultancy Projects:

Title	Funding Agency	Value	Duration	Co-consultants	Deliverables
Nil					

3.3.2 Projects with industries (other than through Consultancy projects)

Not applicable

3.3.3. Patents and Design Registrations:

Nil

3.3.4 A brief summary of interaction with industry

Nil

4. Services provided

EDITORIAL RESPONSIBILITIES:

1. Member, Editorial Board, Biotropica. 2003 onwards
2. Member, Editorial Board, Journal of Biosciences. 1998 – present.
3. Member, Editorial Board, Conservation and Society. 2001– present
4. Series Editor: Books in Wildlife and Ecology Series, Permanent Black, New Delhi

REVIEWED SCIENTIFIC PAPERS FOR:

1. Ecological Applications (1)
2. Biotropica (5)
3. Acta Oecologica (1)
4. Oryx (1)
5. Conservation and Society (1)
6. Current Science (18)
7. Journal of Biosciences (58)
8. Proceedings of the Indian National Academy of Sciences (1)
9. Journal of the Bombay Natural History Society (6)
10. Resonance (11)

REVIEWED RESEARCH PROPOSALS FOR:

1. Ministry of Environment and Forests (MOEF), Government of India
2. Council for Scientific and Industrial Research (CSIR)
3. Department of Science and Technology (DST)

THESIS EXAMINER FOR:

Ph.D theses at

1. Salim Ali School of Ecology, Pondicherry
2. Aligarh Muslim University, Aligarh
3. Shivaji University, Kolhapur
4. Indira Gandhi Forest Research Institute, Dehradun
5. Saurashtra University, Rajkot
6. Bangalore University

M. Sc. theses at

1. Salim Ali School of Ecology, Pondicherry
2. Wildlife Institute of India, Dehradun
3. University of Agricultural Sciences, GKVK, Bangalore

ADDITIONAL TEACHING/SUPERVISORY ACTIVITIES:

1. Adjunct faculty member at Wildlife Institue of India, Dehradun (1992-present). As part of this responsibility, teach a course every two years in Community Ecology for M. Sc. (Wildlife Biology), Wildlife Institute of India. Responsible for setting and evaluation of examination papers. Contributed to two revisions of M.Sc syllabus. Conducted entrance examinations for M.Sc. candidates in Bangalore, 1999, 2001 and 2003.

2. M. Sc Thesis guide for Vena Kapoor, student from Salim Ali School of Ecology, Pondicherry; Co-guide: Priya Davidar, Salim Ali School of Ecology, Pondicherry: Thesis title: "Exploring the possible relationship between the green lynx spider *Peucetia viridans* (Oxyopidae) and the glandular undershrub *Jatropha gossypifolia* (Euphorbiaceae)". 2002

3. Project guide for Nandini Rajamani; post-MSc student from Salim Ali School of Ecology, Pondicherry. Project Title: "The biology of the flying squirrels of the Western Ghats". Funded by: Karnataka Forest Department, 2002

4. Supervisor for Summer Research Fellows through Indian Academy of Sciences Young Fellow Programme (2 fellows), and JNCASR (2 fellows), and Indian Institute of Science Young Fellow Programme (1 fellow).

OTHER MISCELLANEOUS ACTIVITIES:

1. Member, Post-graduate Board of Studies in Biosciences, University of Mysore. 2003
2. Member, Research Advisory Board, Ashoka Trust for Research in Ecology and the Environment (ATREE). 2003
3. Member, IUCN South Asian Invertebrate Specialist Group. 2003
4. Member, IUCN Declining Pollinator Task Force (based at University of Guelph, Canada). 2003 onwards
5. Member, Search Committee for Council Members and President, Association for Tropical Biology, USA. 2002
6. Member, Search Committee for Chief Editor, Biotropica. 2002.
7. Member, Local Organizing Scientific Committee, Association for Tropical Biology's Annual Meeting, 2001, held at Bangalore.
8. Member, Screening Committee for Life Sciences, Jawaharlal Nehru Centre Summer Research Fellowship Programme, 1997 and 1998.

5. Work done for the Faculty/Senate:

1. Coordinator, with Prof. DN Rao (Dept. of Biochemistry), Integrated PhD programme, 2000-2003
2. Member, Institute Publications Committee, 1998-present
3. Member, DBT Postdoctoral Selection Committee, 1998-present
4. Acting Chairman, CES, for various periods from 1999-present
5. Member, KVPY selection interview committee for Biological Sciences, 2001
6. Chairperson, CES Departmental Curriculum Committee (DCC), 2000-present
7. Member, Library Committee, Biological Sciences Division, 2000-present
8. Member, Selection Committee, Integrated PhD students, 1998-present
9. Member, IISc Complaints Committee on Sexual Harassment, 2003

2. Visits abroad during the period under review:

1. International Conference on Invertebrate Vision, Sweden, organized by University of Lund, Sweden, 2001.
2. 27th International Ethological Conference, Tuebingen, Germany, 2001.
3. Association for Tropical Biology, Council Meeting, Washington DC, 2002

4. International Conference on Tropical Forests: Past, Present and Future; Annual meeting of the Association for Tropical Biology, Panama City, Panama, 2002.
5. International Conference on Biotic Interaction in the Tropics; Annual meeting of the Association for Tropical Biology and British Ecological Society, University of Aberdeen, UK, 2003
6. Indo-French (IFCPAR) sponsored collaborative research, Montpellier, France, 2003
7. Initiation of collaborative project on vision of a nocturnal bee, Vision Group, Department of Zoology, University of Lund, Sweden, 2003

7. Awards/Recognition, if any:

Nominated by President of Association of Tropical Biology (ATB) to contest election for the Council of ATB (2001) – the only international association of scientists exclusively devoted to the study of tropical systems, based in USA. This association produces the widely read scientific journal *Biotropica*. Was elected to the Council in 2001.

8. Future Plans

With the help of the **Chemical and Molecular Ecology Laboratory** that I hope will be fully established at CES within the next six months, I hope to address the questions that have been raised by our earlier work.

Besides the questions mentioned in Section 3.1.3, some additional questions emerging out of our earlier work are:

- Characterisation of ant-repellancy of the mucous of earthworms associated with ants in the *Humboldtia brunonis* system
- Investigation of possible clonality of *Humboldtia brunonis* patches using ISSR (Inter-simple sequence repeats) markers and/or AFLP (Amplified Fragment Length Polymorphism) markers

New Areas, New Expansions, New Collaborations:

The behavioural and chemical ecology of parasitic wasps in the fig-fig wasp system: The fig-fig wasp system is subject to parasitism via hymenoptera that oviposit from outside the fig into developing pollinator larvae within the fig, or from non-pollinating fig wasps that enter the fig and utilize galled ovaries for larval development without offering the plant pollination services in return. Although the ecology of figs in relation to their pollinators is being studied in several fig species, the behaviour, ecology, and chemistry of parasites has been severely neglected. For

example, we do not know if pollinators and parasites use the same chemical cues, if the different parasites use different cues to enable them to arrive at the stage of the fig syconium appropriate for their particular mode of parasitism, and if parasites obtain cues from pollinators or other parasites. Furthermore, as the taxonomy of fig-wasp parasites is woefully inadequate, I am collaborating with Jean-Yves Rasplus, (INRA, Montpellier), the world authority on Palaeotropical fig wasps, to develop a fig wasp repository in CES where authenticated and identified specimens will be available for systematic purposes.

Nocturnal vision of lunar-insensitive pollinating carpenter bees: I have developed a new collaboration with the Vision Group at the University of Lund, Sweden, to study the vision and nocturnal orientation of the first truly nocturnal bee that we discovered during the course of pollination studies in the Western Ghats (see publications). This lunar-insensitive bee makes pollinating nectar and pollen-collecting flights even on moonless nights. This suggests that it might use starlight for navigation, especially for homing flights to the nest. I am collaborating with Eric Warrant and Almut Kelber at Lund in this project for which field work will commence in 2004, and optics measurements will be made in 2005.

Vision of ant-mimicking spiders: I plan to collaborate with Michael Land of Sussex University on the visual acuity of ant-mimicking spiders. Work is scheduled to begin in 2004/2005.

Localisation of secondary metabolites in plant tissues in relation to defence: Compounds related to tissue defence against herbivores are often localized in specific parts of plants based on their vulnerability. Using histochemistry, I would like to examine the spatial organization and composition of defence compounds in various plant tissues and relate this to tissue-level discrimination of such compounds by the giant squirrel and herbivorous insects.

9. Any other relevant information

Nil

LIST OF PUBLICATIONS

(% contribution to multiple authored publications given in brackets after each title)

JOURNAL PUBLICATIONS:

1. Mali, S. and Borges, R. M. 2003. Phenolics, alkaloids, saponins, and cyanogenic glycosides in a species-poor cloud forest in India. Biochemical Systematics and Ecology (In press: DOI: 10.1016/S0305-1978(03)00079-6) (60%)

2. Borges, R. M., Gowda, V. and Zacharias, M. Butterfly pollination and high-contrast visual signals in a low-density distylous plant. Oecologia (In press: DOI: 10.1007/S00442-003-1336-y) (80%)

3. Michener, C. D., Borges, R. M., Zacharias, M. and M. Shenoy. 2003. A new parasitic bee of the genus *Braunsapis* from India (Hymenoptera: Apidae: Allodapini). Journal of the Kansas Entomological Society 76:518-522. (50%)

4. Somanathan, H. and Borges, R. M. 2001. Nocturnal pollination by the carpenter bee *Xylocopa tenuiscapa* (Apidae) and the effect of floral display on fruit set of *Heterophragma quadriloculare* (Bignoniaceae) in India. Biotropica 33:78-89. (60%)

5. Borges, R. M. 2000. The anatomy of fragmentation. J. Indian Institute of Science 80:601-608.

6. Somanathan, H. and Borges, R. M. 2000. Influence of exploitation on population structure, plant spacing and reproductive success in dioecious tree species within a fragmented cloud forest in India. Biological Conservation 94:243-256. (50%)

7. Borges, R. M. 1998. Leviathan, natural selection, and ethics. Current Science 74:750-758.

BOOK CHAPTERS:

1. Borges, R. M. The behaviour and ecology of the Malabar Giant Squirrel *Ratufa indica*. In: *Mammals of South Asia: Ecology and Conservation*. (A. J. T. Johnsingh and N. Manjrekar, editors). Permanent Black, New Delhi (in press)

2. Borges, R. M. Conservation of pollinator services in rain forests. In: *Rainforest Research Priorities* (A. Kumar and A. K. Gupta, editors). Penguin, New Delhi (in press)

3. Borges, R. M. 2003. The anatomy of ignorance *or* Ecology in a fragmented landscape: do we know what really counts? Pages 56-85 in *Battles Over Nature. Science and the Politics of Conservation.* V. Saberwal and M. Rangarajan, editors. Permanent Black, New Delhi.

4. Borges, R. M. 1998. Spatiotemporal heterogeneity of food availability and dietary variation between individuals of the Malabar Giant Squirrel *Ratufa indica*.

In: *Ecology and Evolutionary Biology of Tree Squirrels* (J. F. Merritt and D. A. Zegers, editors). Special Publication, Virginia Museum of Natural History, USA. Pp. 99-111.

MANUSCRIPTS SUBMITTED:

Gaume, L., Zacharias, M. and Borges, R. M. Ant-plant conflicts and a novel case of castration parasitism in a myrmecophyte (under revision for Oikos) (50%)

Shenoy, M. and Borges, R. M. The pollination biology of the transitional myrmecophyte *Humboldtia brunonis* (submitted to Journal of Tropical Ecology) (60%)

PAPERS PRESENTED AT CONFERENCE/SYMPOSIA:

1. Prasad, B. R. G. and Borges, R. M. 2003. The consequences of walking on a graph: the case of the Malabar Giant Squirrel, *Ratufa indica*. 1) Annual Meeting of the Society for Mathematical Biologists, Dundee, UK, and 2) Second Alcala International Conference on Mathematical Ecology, Alcala, Spain. (50%)

2. Veena, C. P. and Borges, R. M. 2003. Looking for cryptic species: male response to female silks in ant-mimicking salticid spiders in India. Annual meeting of Association for Tropical Biology and Conservation and Special Symposium of British Ecological Society, University of Aberdeen, UK. (80%)

3. Gaume, L., Zacharias, M. and Borges, R. M. 2002. Castration parasitism in a plant ant and roles of morphological devices against plant-ant conflicts. In Symposium entitled: Funktionelle Aspekte der Evolution der Pflanzen (Functional aspects of evolution in plants) in Botanikertagung: Conference of the Deutsche Botanische Gesellschaft (German Botanical Society), Freiburg i. Br. (Germany), September 2002. (50%)

4. Borges, R. M., Zacharias, M. and Shenoy, M. 2002. Ant diversity in two sites dominated by the myrmecophyte *Humboldtia brunnonis* in India. Paper presented at: International Conference on Tropical Forests: Past, Present and Future; Annual meeting of the Association for Tropical Biology, Panama City, Panama. (80%)

5. Borges, R. M. 2001. The biology of laughter. Paper presented at: International Conference on Science and Metaphysics, National Institute of Advanced Studies, Bangalore.

6. Borges, R. M. 2001. Plant-animal interactions: through the looking glass. Paper presented at: Workshop on Research Priorities for Rainforest Fauna, Salim Ali School of Ornithology and Natural History and State Forest College, Coimbatore (not attached as this short paper was converted into book chapter: Conservation of pollinator services in rain forests: see serial number 2 under **Book Chapters**)

7. Borges, R. M., Gowda, V. and Zacharias, M. 2001. Effect of bract removal on visitation to the flowers of *Mussaenda frondosa* by the southern birdwing butterfly *Troides minos*. Poster presented at: International Conference on Invertebrate Vision, Sweden, organized by University of Lund, Sweden. (80%)

8. Borges, R. M., Talwar, M. and Zacharias, M. 2001. Retreat or die: the perils of mimicry when the model preys on the mimic. Paper presented at: 27th International Ethological Conference, Tuebingen, Germany. (70%)

9. Borges, R. M. and Mali, S. 2001. Hotspots in nutrient landscapes and herbivory by giant squirrels in an Indian seasonal cloud forest. Pages 485-488 in *Tropical Ecosystems: Structure, Diversity and Human Welfare.* K.N. Ganeshaiah, R. Uma Shaanker and K. S. Bawa (eds). Proceedings of the International Conference on Tropical Ecosystems. Oxford-IBH, New Delhi. (80%)

10. Gowda, V., Zacharias, M. Vishveshwara, and Borges, R. M. 2001. Do 'pollinator flags' aid in floral visitation in *Mussaenda frondosa*? Pages 207-210 in *Tropical Ecosystems: Structure, Diversity and Human Welfare.* K.N. Ganeshaiah, R. Uma Shaanker and K. S. Bawa (eds). Proceedings of the International Conference on Tropical Ecosystems. Oxford-IBH, New Delhi. **V. Gowda won the "Best Poster Presentation" award for this paper.** (70%)

11. Shenoy, M. and Borges, R. M. 2001. Is the trichome-rich leaf surface of the aggressive *weed Broussonetia papyrifera* (paper mulberry) a successful means of impeding herbivores? Pages 473- 476 in *Tropical Ecosystems: Structure, Diversity and Human Welfare.* K.N. Ganeshaiah, R. Uma Shaanker and K. S. Bawa (eds). Proceedings of the International Conference on Tropical Ecosystems. Oxford-IBH, New Delhi. (50%)

12. Somanathan, H., Mali, S. and Borges, R. M. 2001. Effect of tree stratum on flowering synchrony in a seasonal cloud forest in the Bhimashankar Wildlife Sanctuary, India. Pages 750-753 in *Tropical Ecosystems: Structure, Diversity and Human Welfare.* K.N. Ganeshaiah, R. Uma Shaanker and K. S. Bawa (eds). Proceedings of the International Conference on Tropical Ecosystems. Oxford-IBH, New Delhi. (70%)

13. Talwar, M., Zacharias, M., Gowda, V., Kapoor, V., Raychaudhuri, S., Sridhar, H., Lokhandwala, Z.and Borges, R. M. 2001. Understanding ant-avoidance behaviours in the myrmecomorphic spider *Myrmarachne plataleoides*, mimic of the weaver ant *Oecophylla smaragdina.* Pages 649-653 in *Tropical Ecosystems: Structure, Diversity and Human Welfare.* K.N. Ganeshaiah, R. Uma Shaanker and K. S. Bawa (eds). Proceedings of the International Conference on Tropical Ecosystems. Oxford-IBH, New Delhi. (70%)

14. Zacharias, M., Gaume, G, and Borges, R. M. (2001). How effective are ants in protecting the myrmecophyte *Humboldtia brunonis* (Fabaceae) against herbivory? Pages 645-648 in *Tropical Ecosystems: Structure, Diversity and Human Welfare.* K.N. Ganeshaiah, R. Uma Shaanker and K. S. Bawa (eds). Proceedings of the

International Conference on Tropical Ecosystems. Oxford-IBH, New Delhi. (60%)

15. Somanathan, H. and Borges, R. M. 1998. Effect of floral display and carpenter bee visitation and fruit set in *Heterophragma quadriloculare* (Bignoniaceae) III Congress of the International Union for the Study of Social Insects (IUSSI, Indian Chapter) and National Symposium on Diversity of Social Insects and Other Arthropods and the Functioning of Ecosystems, at Mudigere, Dakshina Kannada. **H. Somanathan received the "Best Paper Presentation" award**. (50%)

16. Borges, R. M. 1997. Ethics and evolution: Thomas Henry Huxley and the problem of evil. In: *Proceedings of the National Seminar on Bioethics. Indian Perspectives*. Organised by the Indian Council of Philosophical Research and the Department of Philosophy, Goa University. Pp. 61-66.

TECHNICAL REPORTS:

1. Borges, R.M., Mali, S. and Somanathan, H. 1999. *The Status, Ecology and Conservation of the Malabar Giant Squirrel Ratufa indica*. United States Fish and Wildlife Service and Wildlife Insititute of India. 160 pp. (70%)

BOOK REVIEWS:

1. Borges, R. M. 2003. *Return of the Crazy Bird.* C. Pinto-Correia. Springer-Verlag, New York. Current Science, in press.

2. Borges, R. M. 2002. *Annual Review of Entomology*. Vol. 46 (2001). M. R. Berenbaum, R. T. Cardé and G. E. Robinson (eds). Current Science 82:97-99.

3. Borges, R. M. 2001. *Saving Wild Tigers. 1900-2000. The Essential Writings*. Valmik Thapar (ed). Permanent Black, New Delhi. Deccan Herald, 2001.

4. Borges, R. M. 2001. *Nature's Spokesman. M. Krishnan and Indian Wildlife*. Ramachandra Guha (ed). Oxford University Press, New Delhi. Deccan Herald, 2001.

5. Borges, R. M. 2000. *Level s of Selection in Evolution*. L. Keller (editor). Princeton University Press, 1999. Current Science 79:383-385.

6. Borges, R. M. 2000. *Ecology – A Pocket Guide*. Ernest Callenbach. Universities Press (India) Ltd, 1999. Resonance 5:99-102.

7. Borges, R. M. 1999. *The Ecology and Evolution of Inducible Defenses*. Ralph Tollrian and C. Drew Harvell (editors). Princeton University Press, 1999. Current Science 77:825-826.

8. Borges, R. M. 1998. *Evolutionary Ecology of Freshwater Animals: Concepts and Case Studies*. B. Streit, T. Städler and C. M. Lively (editors), Birkhäuser Verlag,

1997. Current Science 75:628-630.

GENERAL ARTICLES:

1. Borges, R. M. 2002. Stephen Jay Gould: a view of life. Resonance 7:2-5.

2. Borges, R. M. 2002. Warring ants: lessons from Lanchester's laws of combat? J. Bisociences 27:75-78.

3. Borges, R. M. 2001. Ant and human farmers face similar problems. J. Biosciences 26:121-124.

4. Borges, R. M. 2001. Why are chillies pungent? J. Biosciences 26:289-291.

5. Borges, R. M. 2000. Feverish honeybees. J. Biosciences25:215-216

6. Borges, R. M. 2000. How asymmetrical before it's asymmetrical? J. Biosciences 25:121-122.

7. Borges, R. M. 1998. Gender in plants. Part I. Why do plants change sex? Resonance 3 (4):64-71.

8. Borges, R. M. 1998. Gender in plants. Part II. More about why and how plants change sex. Resonance 3 (11):30-39.

9. Borges, R. M. 1998. Clonal versus sexual fish – who wins? J. Biosciences 23:166-167.

10. Borges, R. M. 1998. One size does not fit all (caveats for conservation from the Bhimashankar Wildlife Sanctuary). Seminar 466:31-36 (Special issue on Indian wildlife)

STRICTLY CONFIDENTIAL

ESTABLISHMENT SECTION
INDIAN INSTITUTE OF SCIENCE
BANGALORE 560012

R(IB)063-1/2003-2197

Dated : 26th September 2003

Prof. N.V. Joshi
Chairman
Centre for Ecological Sciences

Dear Sir,

I am directed to say that Vijayageetha R Gadagker is being considered for a change in designation from Laboratory Assistant to Junior Scientific Assistant in the Centre for Ecological Sciences.

I therefore request you kindly to send a Confidential Report about his/her work and conduct with your recommendation, on or before 1st October 2003. The report may be sent in a confidential cover to Mr. B.N. Balaji, Assistant Registrar, Establishment Section (Unit-IB) on or before the above date.

Yours faithfully,

ASSISTANT REGISTRAR

CONFIDENTIAL

ESTABLISHMENT SECTION
INDIAN INSTITUTE OF SCIENCE
BANGALORE 560012

R(IB)063-1/2003-2197

Dated : 15th December 2003

The Chairman
C.E.S.

Dear Sir,

I am directed to say that the following are being considered for a change in designation from Laboratory Assistant to Junior Scientific Assistant.

1. Swarnalatha Chandran
2. Prabhakar R. Bhat

I therefore request you kindly to send a report about their work and conduct with your recommendation, so as to reach the undersigned by 17th December 2003.

Yours faithfully,

ASSISTANT REGISTRAR

Received at CSS
Office on 4/10/05

INDIAN INSTITUTE OF SCIENCE
BANGALORE 560 012

R(IA)ASSOC.FACULTY/2005-5340 September 2005
3 October

OFFICE ORDER

The following staff members are identified as Associate Faculty of the National Centre for Science Information at the Institute with immediate effect.

Sl. No.	Name of the faculty	Dept.
1.	Prof. N.V. Joshi	Centre for Ecological Sciences
2.	Dr. Srinivasa Raghavan	Management Studies
3	Prof. A.G. Menon	Instrumentation

DEPUTY REGISTRAR

1. Prof. N.V. Joshi
2. Dr. Srinivasa Raghavan
3. Prof. A.G. Menon

Through The Chairman of the Dept../Unit. Concerned

INDIAN INSTITUTE OF SCIENCE ALUMNI ASSOCIATION

INDIAN INSTITUTE OF SCIENCE, Bangalore - 560 012.
Tel. : 23600180 / 22932597
Website : www.iisc.ernet.in/iiscaa ; E-mail : alumni@admin.iisc.ernet.in

To
All the Members of the Alumni Association

15th August 2006

Dear Sir / Madam

This is an opportunity to write and request you to send to me the following information :

1. **Your Personal E-mail ID**
2. **Your Postal Address**

The Institute will celebrate its "Centenary" during "2008-2009". The Programmes are being planned. Occasionally we will e-mail you about various programmes and activities in the Campus.

Henceforth we will be in touch with you only through e-mail. Postal correspondence has already been discontinued. This is, perhaps, the last Letter.

If you have the Addresses / E-mail IDs of your IISc. Alumni Friends please let me know. I shall contact them separately.

We all depend on you for the co-operation and assistance.

Looking forward to hearing from you soon.

With Best Regards,

Yours Sincerely.

(Dr. Narain Mahishi)
Hon. General Secretary
IIScAA

अन्तर्देशीय
INLAND LETTER CARD



यहाँ कार्ड को खोलिए TO OPEN CUT HERE ② ③

Joshi NV. Dr.
Centre for Ecological Sciences
IISc.
BANGALORE 560012

(इस लाइन के नीचे न तो लिखें और न ही मुद्रित करें Do not write or print below this line) पिन PIN

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पते में पिन कोड लिखें WRITE PIN CODE IN ADDRESS
प्रेषक का नाम और पता :— SENDER'S NAME AND ADDRESS :—

Dr. NARAIN MAHISHI
Hon. General Secretary
I.I.Sc., Alumni Association
Indian Institute of Science
BANGALORE - 560 012
पिन PIN

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① पहला मोड़ FIRST FOLD

प्र.मु. / S.P.P. HYD-2004

रीय पत्र कार्ड
ARD

Prof. Gadagkar

Can your committee consider this

RB

VIKSHANA

October 30th, 2006

Prof. P. Balaram,
Director,
Indian Institute of Science,
Bangalore

Dear Shri Balaram,

Commemorative film on IISc

Further to our meeting about the need for a commemorative film on IISc for its centenary, I hereby ~~submit a preliminary proposal for a 30 minute video film.~~

The proposal is necessarily sketchy at this stage. If the idea of producing a film takes concrete shape, we would be very happy to come across and find out from you and the other concerned people what you'd like to highlight in the film.

I look forward to hearing from you.

Sincerely,

Gautam Sonti

Gautam Sonti

DO-E620
2/11/06

003 Savoy, 3 Coles Road, Frazer Town, Bangalore 560005
Email: gsonti@gmail.com, Web: www.gautamsonti.com
Phone: (080) 25498496, Mobile: (+91) 9880713335

Proposal for a commemorative film for IISc's centenary

The history of the Indian Institute of Science is closely allied with the history of science in modern India. That history continues to develop and change as the practice of science, and the contexts in which it takes place, evolves. On the occasion of the centenary of the Institute we propose a commemorative film which highlights its achievements, paying special attention to the social contexts through which it has evolved, from its historical beginnings to contemporary times. We aim to encapsulate the last hundred years into a half-hour film using a pastiche of different resources, including first-person narratives and interviews, footage of scientific work as it is carried out in the laboratories and classrooms, archival materials and texts.

A powerful way of recounting the Institute's long and many-layered story is through the experiences of its primary constituency, the scientists. We intend to capture on camera prominent scientists (indicated to us by the Institute) from different generations as they speak of their time at the Institute, their understandings of science and of what the Institute has meant to them in their professional and personal lives. In particular, we are interested in recording the experiences of scientists who formed part of the Institute in the early years of this century. Of the scientists of that time - people who are now well into their 80s – only a few remain. Recording them as they speak will also begin the work of the creation of a living archive.

Understanding the distance covered by, and the role of, the present-day Institute involves a looking back into its early years. The interviews and first-person narratives will be complemented by contemporary documents and photographs which speak of the establishment of the Institute during colonial times. What was the vision behind the setting-up of such an institution? Who were its earliest members? Did the nature of the times influence the nature of the scientific work carried out at the Institute? What were the scientific questions of those days? How do they compare with the questions being asked today by current scientists at the Institute?

Commemorative film for IISc's centenary

BUDGET (Per Part)

Format	HDV
Duration	30 minutes approx
Location/s	Bangalore

				Rupees
Research/ Recci				
	Researcher			15,000
	Local Transport			2,000
				17,000
Shooting				
	Cinematographer	6,000	per day x 8 days	48,000
	Sound Recordist	4,000	per day x 8 days	32,000
	Camera Attendants	1,000	per day x 8 days	8,000
	Production Assistant	1,000	per day x 8 days	8,000
	Camera Hire	4,000	per day x 8 days	32,000
	Extra Lenses	1,000	per day x 8 days	8,000
	Extra Mics	1,000	per day x 8 days	8,000
	Lights	1,000	per day x 8 days	8,000
	Food / Local Transport			20,000
				1,72,000
Editing				
	Editor	5,000	per day x 6 days	30,000
	Assistant Editor	2,000	per day x 6 days	12,000
	Editing Suite	5,000	per day x 6 days	30,000
	Sound Studio	1,000	per hour x 4 hours	4,000
	Sound Mixing/ Mastering	1,000	per hour x 4 hours	4,000
				80,000

Production Team

Director/ Producer	60,000
Script Writer	25,000
Assistant Director	10,000
Narrator	8,000
	1,03,000

Miscellaneous

Office Expenses	10,000
Tapes	15,000
	25,000

Total Cost	**3,97,000**

(RupeesThree Lakhs and Ninety Seven Thousand Only)

Including Service Tax / Ed. Cess @ 12.24 %	**4,45,593**

Payment Schedule

Advance	20%
On Approval of Shooting Script	30%
On Completion of Shooting	20%
On Approval of Rough Cut	20%
On Approval of Final Cut	10%

Production Schedule

Research/ Shooting Script	1 Month
Shooting	1 Month
Editing	1 Month
Additional Shooting	½ Month
Additional Editing	½ Month

Completion Time*	**4 Months**

* Provided there are no delays in payments

CENTRE FOR ECOLOGICAL SCIENCES
Indian Institute of Science
Bangalore 560 012,

PROF. N.V. JOSHI

5 February 2007

To whom so ever it may concern

Mr. Sudhir Pandit, A-304 Ramky Utsav, Seenappa Layout, New BEL Road, Bangalore is a visitor to the Centre for Ecological Sciences to have scientific discussions of mutual interest with me and Prof. N.H. Ravindranath from 6th February 2007 to 28th February 2007. I would appreciate it very much if you could kindly allow him entry to the Institute as a visitor for the above days.

(PROF. N.V. JOSHI)

CHAIRMAN
Centre for Ecological Sciences
Indian Institute of Sciences
Bangalore-560 012

Telephone (O):91-80-23600985;22932506 Cable: CES 'Science' Malleswaram, Bangalore, India
Telex: 0845-8349; FAX: 91-80-23601428; 23600683; 23600085 E-Mail: office@ces.iisc.ernet.in

CENTRE FOR CAMPUS MANAGEMENT AND DEVELOPMENT
INDIAN INSTITUTE OF SCIENCE
BANGALORE

R(CCMD)165-10/13/2008- 305 Date: 10/07/2008

MEMO

Dr. Joshi N V, Associate Professor, in the Centre for Ecological Sciences , has vacated the quarters No: D-206, and occupied the quarters No.: E-20, Type: E on 04/07/2008.

Deputy Registrar

Cc: Units: IA, VA, VB and VIII.

Dr. Joshi.N.V
Associate Professor
Centre for Ecological Sciences

NATIONAL CENTRE FOR SCIENCE INFORMATION
Indian Institute of Science, Bangalore 560 012

Prof.M.Giridhar,
Chairman

NCSI/CHMN-PV/2009
November 11,2009

The Registrar,
Indian Institute of Science

Dear Sir,

Sub: Prof.N.V.Joshi to officiate as Chairman,NCSI:

I have to visit Delhi on 12th and 13th November 2009 on behalf of IISc to negotiate with the Scientific Journal Publishers. Prof. N.V. Joshi, Associate Faculty of NCSI, has kindly agreed to officiate as Chairman, NCSI, for this period.

Thanking you,

Yours sincerely,

M.Giridhar

Cc: Prof.N.V.Joshi

ISRO-IISc Space Technology Cell
Indian Institute of Science
Bangalore 560 012, India

Phone: 3600525/3092503 Fax: 3601279 email: stcell@aero.iisc.ernet.in

Prof. Kartik Venkatraman
Convener

STC/I-009 29 December 2009

To

The Principal Investigators (IISc)
On-going STC Projects

Dear Sir/Madam,

Sub: 26th Annual Inhouse Symposium on Space Science and Technology

The 26th Annual In-house Symposium on Space Science and Technology will be held during 28-29 January 2010 at the Space Technology Cell, Department of Aerospace Engineering, Indian Institute of Science, Bangalore. The main objective of the symposium is to review the work carried out in the STC sponsored research projects. During the symposium, the principal investigators are expected to make a brief presentation on the progress made in their projects. The release of grants for the year 2010-2011 requires approval from JPC and management committee members, who will be present at the time of review. We would appreciate if your collaborator from ISRO can also be present at the symposium. We will be sending the invitations separately to them too.

Please note that each project has been given 30 minutes time. Please restrict your presentations to 20 minutes so that about 5-10 minutes are available for discussion.

Note that the presentation is to be made by the principal investigator or the co-investigator of the project.

I request you to kindly make it convenient to participate in the symposium and present the progress made in your project.

The detailed programme is enclosed.

With best regards,

Yours sincerely,

Kartik Venkatraman
(Convener, STC)

ISRO-IISc Space Technology Cell
Indian Institute of Science, Bangalore - 560012

THE TWENTY-SIXTH ANNUAL IN-HOUSE SYMPOSIUM ON SPACE SCIENCE AND TECHNOLOGY

28-29 January 2010

TECHNICAL PROGRAMME

Date: 28 January 2010 **Venue: Space Technology Cell**

0830-0930	Registration	
0930-1000	Inaugural Session	
	Welcome	Prof. Kartik Venkatraman Convener, Space Technology Cell, IISc (0930-0935)
	Opening Remarks	Prof. M. Seetharama Bhat Chairman, Dept. of Aerospace Engg., IISc (0935-0940)
		Shri. A. Bhaskaranarayana Scientific Secretary, ISRO HQ (0940-0945)
		Shri M.S. Chandrasekhar Deputy Director, RESPOND, ISRO (0945-0950)
	Vote of Thanks	Prof. K. N. Lakshmisha Dept. of Aerospace Engg., IISc (0950-0955)
1000-1030	High Tea	

28 January, 2010 (Thursday)

1030-1300 hrs (30 min each)	**SESSION – I-G-M** (Ground Floor Conference Hall)	**Chairperson** Prof K.N. Lakshmisha

1. Studies on cowl/ramp interactions at hypersonic Mach numbers
   Dr. G. Jagadeesh, AE, Prof. K.P.J. Reddy, AE, S. Pandian, VSSC (1030-1100)

2. Measurement of convective surface heat transfer rates for a missile shaped body with forward facing cavity flying at hypersonic Mach number
   Dr. S. Saravanan, AE, Prof. K.P.J. Reddy, AE, Dr. G. Jagadeesh, AE, S. Pandian, VSSC (1100-1130)

3. Effect of temperature on atomization in gas centered coaxial injection systems
   D. Sivakumar, AE, Charlie Oommen, AE, *T. John Tharakan VSSC* (1130-1200)

4. Nonlinear optimal guidance and control of reusable launch vehicles in descent phase
   Dr. Radhakant Padhi, AE, Dr. B.B. Das, VSSC, Mr. M.V. Dhekane, VSSC (1200-1230)

5. Prediction of streamflow at river basin scale under climate change scenarios
   Prof. P.P. Mujumdar, CiE , Dr. KHV. Durga Rao, NRSA (1230-1300)

Lunch Break: 1300-1400

1030-1300 hrs (30 min each)	**SESSION – I-F1-M** (First Floor Seminar Hall)	**Chairperson** Prof. P.P Majumdar

6. Flood assessment using satellite images
   Dr. S.N. Omkar AE, Prof. V. Mani, AE, P. *Diwakar, RRSSC-B* (1030-1100)

7. Root zone soil moisture retrieval by assimilation of near surface measurements
   Dr. M. Sekhar, CiE, M.S. Mohan Kumar, CiE, Dr. S. Bandhopadhyay ISRO Hq (1100-1130)

8. Geospatial modelling of landslide susceptible zones
   Dr.T.V. Ramachandra, CES, Dr. N.V. Joshi, CES, P. G. Diwakar, RRSSC (1130-1200)

9. Application of stable isotope technique in rain water sample to understand tropical convective system
   Dr. Prosenjit Ghosh, CES (1200-1230)

10. Mapping of shear/suture zones in southern India with remote sensing and geological applications.
    Dr. Sajeev Krishnan, CES (1230-1300)

Lunch Break: 1300-1400

I-G-M	1st day ground floor morning
I-F1-M	1st day first floor morning
I-F2-M	1st day first floor classroom morning
I-G-A	1st day ground floor afternoon
I-F1-A	1st day first floor afternoon
I-F2-A	1st day first floor classroom afternoon

28 January, 2010 (Thursday)

1400-1730 hrs (30 min each) | **SESSION – I-G-A** (Ground Floor Conference Hall) | **Chairperson** Prof. Kartik Venkataraman

11. Prediction of micro vibrations in a spacecraft.
Dr. Debraj Ghosh, CiE, K. Renji, ISAC (1400-1430)

12. Methodology for assessing and quantifying stability of humans while standing and during gait on stable and unstable platforms
Dr. S.N. Omkar, AE, Dr. D.R. Mahapatra, AE (1430-1500)

13. Prediction of properties of single walled and multi walled carbon nanotubes and nanocomposites
G. Narayanan Naik, AE, S. Gopalkrishnan, AE, P. Subba Rao, ISAC (1500-1530)

Coffee Break: 1530-1600

14. Measuring displacement and strain field using digital image correlation
Dr. M.S. Bobji, ME, Shri. T.S. Sriranga, ISAC (1600-1630)

15. Development of a surface EMG device for analysis of human muscle dynamics
Dr. R. Maiti, CPDM, Dr. D. Roy Mahapatra, AE (1630-1700)

16. Development of a fluid-structure interaction strategy for incompressible fluids
Prof. C.S. Jog, ME, J.B. Reddy, VSSC (1700-1730)

1400-1730 hrs (30 min each) | **SESSION – I-F1-A** (First Floor Seminar Hall) | **Chairperson** Prof. Ashitava Ghosal

17. Design, development, fabrication and characterization of MEMS based flow sensor.
Prof. K. Rajanna, IN, Mr. Jaspreet Singh, LPSC, Dr. M. M. Nayak, LPSC (1400-1430)

18. Studies on thin film coatings for multi junction solar cells
Dr. K. Narasimha Rao, IN, Sri M. Sudhakar, ISRO (1430-1500)

19. EM analysis of integration and packaging issues with RF MEMS switches
Dr. K.J.Vinoy, ECE, Dr.Rafiq ul Islam, LEOS (1500-1530)

Coffee Break: 1530-1600

20. Exchange springs magnets based on magnetic multilayers
Dr. P.S. Anil Kumar, Phy (1600-1630)

21. Experimental investigation of shape memory effect in noble metallic nanowires
Prof. Arindam Ghosh, PHY (1630-1700)

22. Hyperspectral image processing for agriculture data
Dr. S.N. Omkar, AE, Prof. V. Mani, AE, Dr. P. Diwakar, RRSSC (1700-1730)

28 January, 2010 (Thursday)

1400-1730 hrs (30 min each)	**SESSION – I-F2-A** (First Floor Class Room)	**Chairperson** Prof. Ashok Samuelson

23. Research and development of super capacitors employing nano-scale manganese dioxide
Prof. N. Munichandraiah, IPC (1400-1430)

24. Shock tubes studies on pyrolysis, combustion and ignition delay of fuels
E. Arunan, IPC, Prof. K.P.J. Reddy, AE, Dr. K.N. Ninan, VSSC, Dr. P.R. Nair, VSSC (1430-1500)

25. Nano size ZnO synthesis by microwave heating techniques for optoelectronic and gas sensing application
Dr. H.N. Vasan, SSCU, Dr. M.V. Hanumantha Rao. LEOS (1500-1530)

Coffee Break: 1530-1600

26. Plastic crystal composite electrolytes for rechargeable lithium batteries
Dr. Aninda Jiban Bhattacharyya, SSCU (1600-1630)

27. Establishment of shock tube facility for the study of thermal protection system materials for re-entry applications
Dr. V. Jayaram, SSCU, Prof. K.P.J. Reddy, AE, Mr. M.R. Ajith, VSSC (1630-1700)

28. Catalytic performance of Iridium supported on carbon nano tubes in hydrazine fuel decomposition for space applications
Dr. Prasad Vishnubhotla, PPH, Dr. M.M. Nayak, LPSC, R.Krishnamoorthy, LPSC, Mr. K. Shambayya, LPSC (1700-1730)

29 January, 2010 (Friday)

0830-1030 hrs (30 min each)	**SESSION – II-G-M** (Ground Floor Conference Hall)	**Chairperson** Prof. K. N. Lakshmisha

1. Development of efficient high-resolution multi-domain combined compact schemes for simulation of fluid flows.
   Dr. R.K. Shukla, ME (0830-0900)

2. Pulsation characteristics of sprays discharging from gas-centered coaxial automizers
   Dr. D. Sivakumar, AE, Dr. John Tharakan, LPSC (0900-0930)

3. Development of plasma accelerators for space propulsion
   Prof. T.S. Sheshadri, AE (0930-1000)

4. Study of jet impingement aeroacoustics using acoustic holography
   Prof. T.S. Sheshadri, AE (1000-1030)

Coffee Break: 1030-1100

0830-1030 hrs (30 min each)	**SESSION – II-F1-M** (First Floor Seminar Hall)	**Chairperson** Prof. Ashok Samuelson

5. Organic materials for solar cells
   Dr. Satish Patil, SSCU (0830-0900)

6. Hydrated mineral evolution on earth and other planetary objects: An insitu crystallographic approach combined with spectroscopic studies
   Prof. T.N Guru Row, SSCU (0900-0930)

7. Boron based highly luminous and low voltage display materials
   Dr. P. Thilagar, IPC (0930-1000)

8. Development and characterization of catalyst for hydroxyl ammonium nitrate (HAN) monopropellant
   Dr. Charlie Oommen , AE, Dr. R. Rajeev, VSSC (1000-1030)

Coffee Break: 1030-1100

II-G-M	2nd day ground floor morning
II-F1-M	2nd day first floor morning
II-F2-M	2nd day first floor classroom morning
II-G-A	2nd day ground floor afternoon
II-F1-A	2nd day first floor afternoon

29 January, 2010 (Friday)

0900-1030 hrs (30 min each) | **SESSION – II-F2-M** (First Floor Class Room) | **Chairperson** Prof. Kartik Venkatraman

9. Novel and parallelized computational schemes for wrinkled membranes and unfurling inflatable sturcture
   Debasish Roy, CiE, R. M. Vasu, IN, Lalmoni Guddu, VSSC (0900-0930)

10. Large deformation analysis of fiber-reinforced elastomers fuels
    Namrata Gundiah, ME (0930-1000)

11. Wireless structural health monitoring of impact damage and vibration in spacecraft structures
    D. Roy Mahapatra, AE, Vinayak Naik, CSA (1000-1030)

Coffee Break: 1030-1100

1100-1300 hrs (30 min each) | **SESSION – II-G-M** (Ground Floor Conference Hall) | **Chairperson** Prof. A.G. Menon

12. Nano-layered thin films of In-$CoSb_3$ thermoelectric material
    Ramesh Chandra Mallik, Phy (1100-1130)

13. Using sound to detect ionizing radiation in liquid helium
    Ambarish Ghosh, ECE (1130-1200)

14. Low voltage actuated digital microfluide chips using nano-structured SiO_2 films
    Dr. Manoj Varma, ECE (1200-1230)

15. Generation of modulated microwave signals using integrated optical techniques
    T Srinivas, ECE, T Badrinarayana, ECE, D V Ramana, ISAC, K R Yogesh Prasad, ISAC (1230-1300)

Lunch Break: 1300-1400

1100-1230 hrs (30 min each) | **SESSION – II-F1-M** (First Floor Seminar Hall) | **Chairperson** Prof. P.P. Majumdar

16. Seismic hazard evaluation using remote sensing, earthquake geology and engineering seismology: case study in the godavari rift
    Kusala Rajendran, CES (1100-1130)

17. Assimilation of remote sensing data for modeling the land surface fluxes at watershed scale using a distributed hydrological model
    Prof. M. Sekhar, CiE, Prof.M.S. Mohan Kumar, CiE, Dr. S Bahdhyopadhyay, ISRO (1130-1200)

18. Probabilistic seismic hazard evaluation of karnataka state considering local site effects and revisit of source characterization based on remote sensing data
    Prof. T.G. Sitharam, CiE, Dr. K. Ganesha Raj, ISRO HQ (1200-1230)

Lunch Break: 1300-1400

29 January, 2010 (Friday)

1100-1300 hrs (30 min each)	SESSION – II-F2-M (First Floor Class Room)	Chairperson Prof. Ashitava Ghosal

19. Thermo-acoustic pulse tube refrigerators operating down to 100K
Upendra Behera, CCT, S. Kasthurirengan, CCT, M.V.N. Prasad, LPSC, Geetha Sen , LPSC (1100-1130)

20. Development of MEMS based static pressure sensors for hypersonic shock tunnels
Dr. G. Jagadeesh, AE, Mr. Jaspreet Singh , SCL, Mr. Ram S.N, LPSC Dr. M.M Nayak, SCL (1130-1200)

21. Studies on the development of sol gel based protective coatings on thermal control surfaces of Spacecrafts
Dr. K. Narasimha Rao, IN, Dr. Uma Rani, ISAC (1200-1230)

22. Microfabrication and packaging of high-resolution accelerometers
G.K Ananthasuresh, ME, Jaspreet Singh, SCL, Sanjay Verma, SCL (1230-1300)

Lunch Break: 1300-1400

1400-1530 hrs (30 min each)	SESSION – II-G-A (Ground Floor Conference Hall)	Chairperson Prof. Jacob T. Matthew

23. Inverter output filter for AC motor devices
Dr. Vinod John, EE, Shri T. Saboo, VSSC (1400-1430)

24. Ab Initio analytical study of the effect of strain on silicon nanoelectronics
Santanu Mahapatra, CEDT, Sitangshu Bhattacharya, CEDT (1430-1500)

25. Multi-temporal time series analysis of satellite image
Dr. S.N Omkar, AE, Prof. V. Mani, AE (1500-1530)

Coffee Break: 1530-1600

1400-1500 hrs (30 min each)	SESSION – II-F1-A (First Floor Seminar Hall)	Chairperson Prof. M. R. N. Murthy

26. Using satellite telemetry to track a migratory marine turtle
Kartik Shanker, CES (1400-1430)

27. Understanding the effects of an elevated stressor hormone associated with space missions on neural function using live neuronal cultures
Sujit Kumar Sikdar, MBU (1430-1500)

Coffee Break: 1530-1600

1600-1700 Discussion: Management Committee with ISRO representatives

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For more details please contact: ISRO-IISc Space Technology Cell, IISc, Bangalore 560 012
Ph. 23600525/22932503 Email:stc@aero.iisc.ernet.in