To, Dr. N. V. Joshi

भारत सरकार
विज्ञान और प्रौद्योगिकी मंत्रालय
बायोटेकनोलॉजी विभाग
GOVERNMENT OF INDIA
MINISTRY OF SCIENCE & TECHNOLOGY
DEPARTMENT OF BIOTECHNOLOGY

ब्लाक 2, (7-8वीं मंजिल),
सी० जी० ओ० कमप्लेक्स, लोदी रोड,
नई दिल्ली-110003
Block 2, (7-8th Floor),
C. G. O. Complex, Lodi Road,
New Delhi-110003

No. BT/IS/11/003/90 Dated : 30th March, 1990.

To

The Pay & Accounts Officer
Department of Science & TEchnology,
New Delhi.

Sub: IISc., Bangalore, project proposal for Computational Facility for Oligonucleotide Crystallography and human genomic Sequence Data Analysis.
(By Prof. M.A. Viswamitra),

Sir,

I am directed to convey the approval of the President to the proposal for Computational Facility for Oligonucleotide Crystallography and human genomic Sequence Data Analysis of the Indian Institute of Science, Bangalore for a period of five years for an amount of Rs. 92.5 lakhs (Rupees ninety two lakhs and fifty thousand only) for the period of 1990-95 as per details given below.

	YEAR					
(i) Non Recurring	I	II	III	IV	V	Total
1. Additional disc space, core memory and speed enhancement peripheral like line plotter / printer.	5.0	-	-	-	-	5.0
2. CD-ROM, related equipment	4.0	-	-	-	-	4.0
3. UPS space modifications	10.0	-	-	-	-	10.0
4. Equipment related to crystallographic structure data.	3.0	-	-	-	-	3.0
Total :	22.0	-	-	-	-	22.0

(ii) Recurring	YEAR I	II	III	IV	V	VI
1. Contingencies and consuma -bles (Ribbon, tapes, paper, telephone connections etc.)	2.4	2.4	2.4	2.4	2.4	12.0
2. Salaries for project personnel **	1.4	1.4	1.4	1.4	1.4	7.0
3. Travel	0.3	0.3	0.3	0.3	0.3	1.5
4. Computational and running	10.0	10.0	10.0	10.0	10.0	50.0
Total:	14.1	14.1	14.1	14.1	14.1	70.5

Total : Non-recurring(i) + Recurring (ii) = 92.5 lakhs

** Posts of project personnel sanctioned in this regard are as follows:

1. Proncipal Scientific Officer 1
2. Senior Scientific Officer 1
3. Laboratory Assistant 1
4. Laboratory Helper 1

2. The sanction of the President is also accorded to the release of Rs. 32.20 lakhs (Rupees thirty two lakhs and twenty thousand only) as per details given below :-

Rs. in lakhs

(i)	Equipments	22.00
(ii)	Contingencies and consumables	1.00
(iii)	Travel	0.20
(iv)	Computational and running cost	9.00
	Total :	32.20

3. The amount of Rs. 32.20 lakhs (Rupees thirty two lakha and twenty thousand only) will be drawn by the Drawing and Disbursing Officer, Department of Biotechnollogy from the Pay and Accounts Officer, Department of Science& Technology and disbursed to the Registrar, Indian Institute of Science, Bangalore by A/C Payee Cheque/Demand Draft.

4. The expenditure involoved is debitable to Demand No. 68, Department of Biotechnology, Major Head "3425" B-Other Scientific Research B.1-Others B.1(1)-Assistance to Others Scientific Bodies, B.1(1)(2) Grants-in-aid to Biotechnology Research Scheme, B.1(1)(2)(4)-Infrastructural Facilities for the year 1989-90 (Plan).

5. This issues under the powers delegated to this Department and with the concurrence of I.F. Division vide their Dy. No. Director(F)/853/90 dated 27-3-90.

Yours Faithfully,

(S. Chatterjee)
Principal Scientific Officer

Copy for information and n/a to :

(1) The Director of Audit(CW&M-II), AGCR Building, N. Delhi-1.
(2) The Resident Audit Offiecr(S&T), 404, Anusandhan Bhawan, N. Delhi-1.
(3) Cash Section(DBT 2 Copies)
(4) IF Division, DBT
(5) Accounts Section, DST
(6) The Registrar, Indian Institute of Science, Bangalore.
(7) Prof. M.A. Viswamitra, Indian Institute of Science, Bangalore.
(7) Guard File
(8) Sanction Folder

(S. Chatterjee)
Principal Scientific Officer

CONFIDENTIAL

INDIAN INSTITUTE OF SCIENCE
BANGALORE 560012

Ref: R(IB)308-3/90- 1823

Dated: 19 July 1990

Dr. N.V. Joshi
Centre for Ecological Sciences

Dear Sir:

Sub: Selection Committee Meeting

You have been nominated as a member to serve on the Selection Committee for selecting suitable candidate for the post of **COMPUTER PROGRAMMER** in the Centre for Ecological Sciences at the Institute. The Selection Committee meeting has been fixed on Friday, the 27th July, 1990 at 2.30 p.m. in the Council Chamber.

You are requested to kindly make it convenient to attend the above meeting. A copy of the agenda together with a copy of advertisement are enclosed herewith for reference.

Yours faithfully,

ASSISTANT REGISTRAR

Encl: a.a

INDIAN INSTITUTE OF SCIENCE, BANGALORE 560012

FILE NO: R(IB)308-3/90

SCHEDULE OF MEETING

Sub: Post of **COMPUTER PROGRAMMER** in the Centre for Ecological Sciences at the Institute in the grade of Rs.1640-60-2600-EB.75-2900.

DATE	:	27th July 1990 (FRIDAY)
TIME	:	2.30 p.m.
VENUE	:	COUNCIL CHAMBER

C O M M I T T E E

Prof. Madhav Gadgil - Chairman
Chairman, Centre for Ecological Sciences

Dr. N.V. Joshi
Centre for Ecological Sciences

Prof. D.K. Subramanian
Department of Computer Science & Automation

Prof. J. Srinivasan
Dept. of Mechanical Engg.

Dr. P. Venkatram
Dept. of Electrical Communication Engg.

Mr. B.K. Subburaman - Secretary
Assistant Registrar

E M O L U M E N T S

BASIC PAY	:	Rs. 1640.00
DA	:	Rs. 623.00
HRA	:	Rs. 450.00
CCA	:	Rs. 75.00
		Rs. **2788.00**

LIST OF CANDIDATES CALLED FOR THE TECHNICAL TEST IS ENCLOSED HEREWITH

LIST OF CANDIDATES CALLED FOR TEST/INTERVIEW TO BE HELD ON 27TH JULY 1990. FOR THE POST OF COMPUTER PROGRAMMER IN THE CENTRE FOR ECOLOGICAL SCIENCES

REF: R(IB)308-3/90

S.NO.	NAME(S)	PLACE	APPL.NO.
	Messrs		
1.	A.S. Shanmugam	Bangalore	03 SC
2.	A.Anandaraj	Thirumandu Rai (TN)	33 SC
3.	Singal Nishesh Laxmanbhai	Raikhad, Ahmedabad	37 SC
4.	M.N. Nagesh	Manchenahalli(Kolar)	48 SC
5.	K Anandi	Bangalore	50 SC
6.	M. Mahalakshmi	Bangalore	57 SC
7.	Abhijit Singh Chowdhury	S.Sarania,Gowahati	66 SC
8.	Sunita Rai	Lucknow	67 SC
9.	S.Ravindra	Bangalore	01
10.	Joseph Dominic Sahayam	Ramanputhur,Nagercoil	04
11.	J.Chandar	Bangalore	06
12.	Nadig Manjula Sharada.N.S.	Bangalore	12
13.	B.R. Srinath	Bangalore	24
14.	K.P. Viji	IISC-MBU	27
15.	Jyothsna V.Hirode	Udupi	31
16.	S. Ganesan	Ramanagaram	32
17.	K. Sezhiyan	Sethiathope(TN)	39
18.	K.V. Jupiter	Chengalpattu(TN)	41
19.	Meera Raghu	Bangalore	42
20.	M.S. Murali	IISC-CC	46
21.	N.N. Janardhanan Pillai	IISC-CES	47
22.	A. Mariappan	Nirjuli-ArunachalPradesh	68

INDIAN INSTITUTE OF SCIENCE
BANGALORE 560012

ADVERTISEMENT DETAILS FOR THE POST OF COMPUTER PROGRAMMER IN THE CENTRE FOR ECOLOGICAL SCIENCES AT THE INSTITUTE

ADVERTISEMENT NO: R(IB)308-3/90, DATED: 11TH APRIL 1990

NUMBER OF POST: 2 (GENERAL-1, SC-1)

ESSENTIAL QUALIFICATIONS

(i) I Class B.E./B.Tech in Electrical/Electronics/Computer Engineering; OR I Class M.Sc. in Physical Sciences/Mathematics/Statistics/Computer Sciences; (ii)Two years practical experience in development of software oriented towards scientific research; and (iii)Knowledge of FORTRAN/PASCAL/Computer languages, as well application of software like DBASE/LOTUS.

SC candidates with Second Class will also be considered.

DESIRABLE

1) Experience in managing IBM PC-compatible computers;

2) Experience of using main frame systems and peripherals such as tape units and plotters;

3) Knowledge of Statistical techniques and experience in handling large volumes of scientific data.

JOB DETAILS

The selected candidate is required to assist in:

1) development of computer programmes for modelling ecological systems;

2) statistical analysis of scientific data;

3) management of computer systems at headquarters in Bangalore as well as at the field stations in Western Ghats and

4) any other duties that may be assigned from time to time

RESERVATION

One post is reserved for candidates belonging to Scheduled Caste.

SCALE OF PAY

Rs.1640-60-2600-EB.75-2900 plus allowances admissibe at Central Government rates prevailing at the Institute. (Total emoluments at the minimum of the scale are Rs.2788.20 per month).

RELAXATION

The requirements regarding experience are relaxable at the discretion of the competent authority in the case of candidates belonging to Scheduled Caste/Scheduled Tribe as per rules.

P.T.O.

GENERAL CONDITIONS

1) The prescribed essential qualifications are minimum and the mere possession of the same does not entail candidates to be called for test/interview. Where the number of applications received in response to an advertisement is large and it will not be convenient or possible for the Institute to test/interview all those candidates, the Institute may restrict the number of candidates for test/interview a reasonable limit on the basis of qualifications and experience higher than the minimum prescribed in the advertisement or by shortlisting such candidates who in the opinion of the Institute suit the Institutional requirements.

2) The decision of the Institute in all matters regarding eligibility, conduct of test/interview, selection of candidates shall be final and binding on the candidates. No correspondence will be entertained by the Institute in this regard.

3) Candidates called for technical test/interview will be paid second class single to and fro train fare by the shortest route after attending the test and interview.

4) Candidates working in the services of the Government, quasi-Government, Government-aided or similar Institutions should apply through proper channel.

5) Candidates will have to enclose xerox copies of certificates and testimonials, etc., to their applications in support of their qualifications, experience, caste etc.

6) The last dates are:

   (a) For receipt of requisitions for application forms: 18TH MAY, 1990

   (b) For receipt of applications duly filled in (2 sets): 30TH MAY, 1990

7) In-complete applications are liable to be rejected.

TENURE OF APPOINTMENT

The above appointment is upto 31.03.1995 but likely to continue.

REGISTRAR

INDIAN INSTITUTE OF SCIENCE
BANGALORE-560 012.

TELEGRAMS : 'SCIENCE' BANGALORE
TELEPHONE : 344411
TELEX : 0845-8349

R(IA)P.V.53(J)-81

8/15 January 1991

Dr. N.V. Joshi
Lecturer

Thro' The Chairman
Centre for Ecological Sciences

Dear Sir,

PROMOTION AS ASSISTANT PROFESSOR

I have pleasure in informing you that the Council of the Institute at its meeting held on 29th December 1990 has been pleased to approve of your promotion as ASSISTANT PROFESSOR in the Centre for Ecological Sciences on a salary of Rs.3700/- p.m. in the grade of Rs.3700-125-4950-150-5700 with effect from 29/12/1990. You will continue on contract for the remaining period of five years of your appointment. The date of your next increment will be 29/12/1991.

You are requested to indicate your acceptance of the promotion on the above terms and conditions.

Yours faithfully,

REGISTRAR

Proceedings of the meeting of the Science Faculty
held on Friday, 19 April 1991 in the Faculty Hall

* *

With Compliments

from

DEPUTY REGISTRAR (ACADEMIC)
IISc.

* *

Comments, if any, on the above proceedings may please be sent on or before [redacted] 1991
7 June

PROCEEDINGS of the meeting of the Science Faculty held on 19 April 1991 at 3 00 P M in the Faculty Hall

P r e s e n t

Prof T R Kasturi
Dean, Science Faculty — Chairman

Mr A L Narasimhan
Deputy Registrar (Academic) — Secretary

For others present, please see Appendix.

The Chairman welcomed Dr N V Joshi, Assistant Professor, Centre for Ecological Sciences, new member to the Faculty.

1. CONFIRMATION

1.1 The proceedings of the meeting of the Science Faculty held on 18 October 1990 and the special meeting held on 10 December 1990 were confirmed.

DISCUSSION ITEMS

2. Item from the previous proceedings

2.1 The Chairman recalled the discussion at the last meeting regarding payment of higher value of scholarship to research students from the date of completion of two years though the comprehensive examination in such cases was conducted much later.

2.1.1 The Faculty, after discussion, agreed with the suggestion of the Chairman that at best about 3 months grace period from the date of completion of 2 years could be given to complete the comprehensive examination. In such cases higher value of scholarship/fellowship could be given from the date of completion of 2 years and in all other cases it should be from the date of completion of comprehensive examination. The Faculty recommended that this be made effective from the session 1991-92.

3. Items from the Chairman

3.1 The Chairman drew the attention of the members to the note circulated and explained the reasons for delay in receiving the reports from the thesis examiners as also in conduct of the oral examination. He also mentioned about measures taken in hastening the reports. Keeping in view the suggestion of the Senate at its last meeting a review was being conducted about processing of Ph D thesis. He requested the members to give their comments and suggestions to hasten the processing of thesis.

... 2

3.2 During the discussion the following observations were made :

i) Faxing of invitation and synopsis to the examiners; thesis to be sent by courier service;

ii) It would be better to mention the name of the research supervisor in the synopsis;

iii) In clear cases oral examination could be dispensed with; oral examination could be conducted by the departmental faculty itself in such cases;

iv) The supplicant can present a seminar with the Faculty being present.

3.2.1 After discussion, the Chairman informed that he would keep the various points made by the members in view while discussing the matter further by the Committee constituted by the Director to review the procedures of the evaluation of the Ph D thesis at the Institute.

3.3 The Chairman requested the cooperation of the Faculty in the admission operations including in the conduct of entrance examination at various Centres in order to make the admission operations a success.

REPORTING ITEMS

4. The Faculty noted the summary of the report on the meetings of the Senate held on 3rd December 1990 and 22 February 1991.

5. Noted that Dr Ramakumar, Department of Physics had been nominated to represent the Science Faculty on the Senate for a period of one year from 19 April 1991 in place of Dr S Ramasesha who was promoted as Associate Professor.

6. A report on the admission of students - subsequent to the report made at the last meeting held on 18 October 1990 was received and recorded.

... 3

APPENDIX- 1

Science Faculty : 19.04.1991 MEMBERS PRESENT

Prof/Dr/Mr

Adiga, P R
Anil Kumar
Appaji Rao, N
Antony, A
Ajit Kumar, P
Arnab Rai Choudhuri
Arun M Umarji

Balaram, P
Bhat, H L
Bhat, S V
Binny J Cherayil
Brahmachari, S K

Chanda J Jog (Ms)
Chandan Das Gupta
Chandrasekaran, S
Chakravorty, A R

Gopalakrishna, A V
Gopalakrishnan, J
Guru Row, T N

Jayabaskaran, C
Joshi, N V

Khetrapal, C L
Krishna Murthy, H R
Krishnan, V
Kutty, T R N

Lakshminarayanan, R

Margaret Biswas (Mrs)
Manju Bansal (Mrs)
Mahadevan, S
Mukunda, N
Muniyappa, K
Munichandraiah, N
Madhyastha, K M
Manjunath, R
Mahadevan, S

Nayak, R
Narasimha Rao, D

Padma, D K (Mrs)
Patil, K C
Podder, S K

Rao, K J
Rao, M R S
Rao, V S R

Prof/Dr/Mr

Rajaraman, R
Ramasarma, T
Ramakumar, S
Ramakrishna, J
Ramasesha, S
Rahul Pandit

Sangunni, P
Sankara Rao, K
Sarma, D D
Saraswathi Vishveshwara (Mrs)
Shamala, N (Mrs)
Subramanyam, S V
Subramanian, C K
Sriram R Ramaswamy
Subba Rao, G S R
Shivasankar, S A
Sastry, P S
Sukumar, R

Tikekar, V G

Uday Maitra

Vijayan, M
Vikram Kumar

By invitation

Diptiman Sen

Nethaji, M

Ramakrishnan, S

Umapathy, S

Yadnivalkya

*****

CONFIDENTIAL

INDIAN INSTITUTE OF SCIENCE
BANGALORE 560012

Ref: R(IB)308-32/91-1771

Dated: 2 August, 1991

Dr. N. V. Joshi
Centre for Ecological Sciences

Dear Sir:

Sub: Selection Committee Meeting

You have been nominated as a member to serve on the Selection Committee for selecting suitable candidate for the post of **PROJECT ASSISTANT** in the Project "Research on Carbohydrates, Cell Surface and Cellular Transport" in the Molecular Biophysics Unit at the Institute. The Selection Committee meeting has been fixed on Monday, the 5th August 1991 at 2.30 P.M. in the Chairman's Room, Molecular Biophysics Unit.

You are requested kindly to make it convenient to attend the above meeting. A copy of the agenda together with a copy of advertisement are enclosed herewith for reference.

Yours faithfully,

B. Rama Murthy
DEPUTY REGISTRAR

Encl: a.a

INDIAN INSTITUTE OF SCIENCE, BANGALORE 560012

FILE NO: R(IB)308-32/91

SCHEDULE OF MEETING

Sub: Position of **PROJECT ASSISTANT** in the Project "Research on Carbohydrates, Cell Surface and Cellular Transport" in the Molecular Biophysics Unit at the Institute on a consolidated salary of Rs.2500/- per month.

DATE : 5TH AUGUST 1991 (MONDAY)

TIME : 2.30 P.M.

VENUE : CHAIRMAN'S ROOM, MBU.

C O M M I T I E E

Prof. M. Vijayan — Chairman
Chairman
Molecular Biophysics Unit

Prof. V.S.R. Rao
Project Investigator
Molelcular Biophysics Unit

Dr. (Mrs.)Saraswathi Vishveshwara
Molecular Biophysics Unit

Dr. N.V. Joshi
Centre for Ecological Sciences

Dr. (Mrs.)Margaret Biswas
Distributed Information Centre

List of candidates called for test/interview on 5.8.91:

1) Ms. Anindita Makur (Chattopadhyay), Bangalore
2) Ms. Bindu, L.K., BC, IISc
3) Ms. P. Sailaja, MBU, IISc.

/INTERNAL CIRCULATION/

INDIAN INSTITUTE OF SCIENCE
BANGALORE 560012

INVITES

APPLICATIONS FOR THE FOLLOWING POST IN THE PROJECT "RESEARCH ON CARBOHYDRATES, CELL SURFACE AND CELLULAR TRANSPORT" IN MOLECULAR BIOPHYSICS UNIT AT THE INSTITUTE

ADVT.NO. R(IB)308-32/91

PROJECT ASSISTANT : 1 POSITION

1)	COORDINATOR	:	PROF. V.S.R. RAO
2)	TENURE OF APPOINTMENT	:	31.03.1995
3)	ESSENTIAL QUALIFICATION	:	I CLASS MASTER'S DEGREE IN PHYSICS/CHEMISTRY/COMPUTER APPLICATION.
4)	DESIRABLE	:	EXPERIENCE IN COMPUTER PROGRAMMING UNDER UNIX ENVIRONMENT
5)	JOB DESCRIPTION	:	TO ASSIST THE INVESTIGATOR IN THE DEVELOPMENT OF CARBOHYDRATE DATABASE.
6)	CONSOLIDATED EMOLUMENTS	:	Rs.2500/- PER MONTH (FIXED)
7)	HOW TO APPLY	:	

Application on plain paper (in triplicate) furnishing the following details should reach PROF. V.S.R. RAO, MOLECULAR BIOPHYSICS UNIT, INDIAN INSTITUTE OF SCIENCE, BANGALORE 560012, within 10 days from the date of this notification:

Advertisement Number: Title of the Project:	Department: Post applied for:
1. Name (in block letters): 3. Nationality: 5. Married or Single: 7. Full details of educational qualifications with marks: 9. Name and address of two responsible persons who are not related to you, but whom you know well or under whom you have worked: 11. Any additional information:	2. Date of birth and age: 4. Sex: 6. Address for communication: 8. Experience including position held and emoluments drawn: 10. Do you belong to SC/ST? If yes, indicate the Caste/Tribe to which you belong (Caste Certificate issued by the competent Revenue Authority should enclosed:

P.T.O.

8) GENERAL CONDITIONS:

a) Candidates should be prepared to appear for an interview at short notice at their own cost.

b) Candidates will have to enclose copies of certificates and testimonials etc., to their applications in support of their qualifications, experience, caste, etc.

c) Application should be routed through proper channel.

DATED: 20 JUNE 1991

REGISTRAR

Dr. N. V. Joshi.

INDIAN INSTITUTE OF SCIENCE
BANGALORE 560 012

REF NO:R(UnitV)/Sal/92 DATE:11-02-1992

The Chairman
Department/Section/Laboratory

Dear Sir,

Sub: Revision of Daily Allowance while on Tour.

The Govt.of India, Ministry of Finance, Department of Expenditure in its Office Memorandum dated 24-1-92 have enhanced the rate of Daily Allowance payable to the Central Govt employees while on tour.(effective from 1-1-92). The new rates of DA are given below:-

(a) While staying in Government/Public Sector Guest-House or making his own arrangement.

Pay Range	Localities other than those mentioned in Col.3&4	B-I Class cities and expensive localities	A Class cities and specially expensive localities
1	2	3	4
	Rs	Rs	Rs
1. Rs.5100 & above	78	85	106
2. Rs.2800 & above but less than Rs.5100	70	84	105
3. Rs.1900 & above but less than Rs.2800	60	75	98
4. Rs.1400 & above but less than Rs.1900	53	68	83
5. Rs.1100 & above but less than Rs.1400	45	60	75
6. Below Rs.1100	30	38	53

Make copies for Faculty
(2) Notice board
(3) File.
12/2/92

....2/-

(b) While staying in a Hotel or other establishment providing Board and/or lodging at scheduled tariff.

Pay range	Locality other than those mentioned in Col 3&4.	B-I Class cities and expensive localities	A Class cities and specially expensive localities
1	2	3	4
	Rs	Rs	Rs
1. Rs.5100 & above	205	225	265
2. Rs.2800 & above but less than Rs.5100	160	180	225
3. Rs.1900 & above but less than Rs.2800	115	135	190
4. Rs.1400 & above but less than Rs.1900	75	100	120
5. Rs.1100 & above but less than Rs.1400	60	75	100
6. Below Rs.1100	40	45	60

It has been decided to implement the above cited orders in the Institute also. While preferring the TA/DA claims in respect of journeys performed after 1-1-92 the enhanced rates of DA may kindly be taken into consideration. TA claims already settled will not be reopened.

This may be brought to the notice of all the members of the staff of the Department/Section/Laboratory.

Yours faithfully

FINANCIAL CONTROLLER 11-2-92

CC: Chairman/Department/Sections/Centres/Laboratories/
Financial Controller/Dy.Financial Controller/Accounts Officer/
Registrar/Deputy Registrar/Assistant Registrar/
Internal Auditor/Stores Officer/Purchase Officer/
Public Relations Officer/Librarian/Security Officer/
Chief of Administration/Secretary to the Director/
Placement Officer/Project Engineer-cum-Estate Officer/
SCRAP Office/P.A.to the Registrar/Chairman, CSIC/CCE.

Units: IA, IB, IC, II, II(Admissions), III, IVA, IVB, VIA, VIB, VIIA, VIIB, VIII, Cashier.

sv*.

FACULTY ASSOCIATION
INDIAN INSTITUTE OF SCIENCE
BANGALORE 560 012

26th December 1991

Dear Member

Sub: Elections to the Executive Committee
for the term 1992 - Nominations

Elections to fill the following vacancies in the Executive Committee of the Association will be held on 24th January 1992.

	Category	No. of Vacancies
I	Professors/Associate Professor/ Principal Scientific Officers/Librarian	02
II	Assistant Professors/Senior Scientific Officers or equivalent	02
III	Lecturers/Scientific Officers/System Programmers/Asst. Librarian I	02
IV	Scientific/Research/Technical/ Assistants/Asst. Librarian II/ Programmers or equivalent	02

The calendar for the elections is as follows:

1. Last date for filing nominations	20.1.1992 (5 PM)
2. Scrutiny of nominations and announcement of candidates whose nominations are found valid	21.1.1992
3. Last date for withdrawals by candidates	22.1.1992
4. Announcement of final list of candidates	23.1.1992
5. Date of Polling (10.00 am to 04.00 pm)	24.1.1992
6. Announcement of results (6.00 pm)	24.1.1992

Nominations on plain paper are invited from members. The nominations should specify the Category and duly proposed, seconded and accepted by the candidate. Nominations are to be sent in closed cover addressed to the Returning Officer and handed over to the Returning Officer. The venue of the election is Faculty Association Office (Coffee Board Building).

For any clarification, please contact the Returning Officers at Extensions given below.

K. R. Gunasekhar

(Dr. K.R. Gunasekhar)
Phone No, Extn. 2349
Instrumentation and
Services Unit.

K. Rajagopal

(Dr. K Rajagopal)
Phone: Extn. 2364
Dept. Electrical Engg.

FACULTY ASSOCIATION
INDIAN INSTITUTE OF SCIENCE
BANGALORE

Dear Member,

The annual general body meeting is scheduled on 29 January 1992 at 4 pm. The meeting will be conducted in PE 303.

1. President's address
2. Annual Report
3. Announcement of election results
4. Housing allotment - removal of Director's discretionary quota.
5. Any other item

Arrangements will be made to collect the 1992 subscriptions from members (Rs 20/-) / enroll new members (Rs 30/-) at the venue of the meeting. Payments may be made in cash or cheque in favour of Faculty Association.

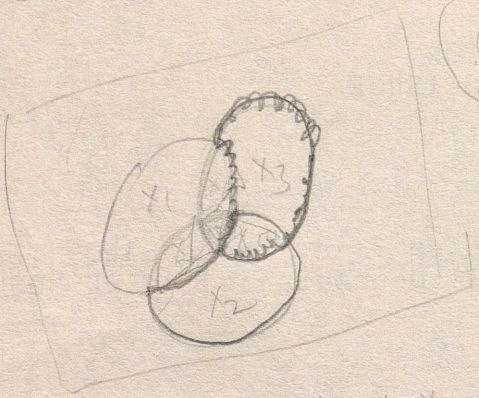
Refreshments at 3.30 pm

Mehtin Md. Akram

Date 30 December 1991

Secretary

$(1-s_{12})+q-s_{13}$



$x_2+x_4+x_5+x_7=1$

$x_4+x_7=s_{12}$

$x_5+x_7=s_{23}$

$s_{12}=0.10$
$s_{13}=0.15$
$s_{23}=0.20$

FACULTY ASSOCIATION
INDIAN INSTITUTE OF SCIENCE
BANGALORE

News Letter No. 4 Date:30 December 1991

Dear Reader,

Since the last newsletter (No.3 of December 1991) a special general body meeting was convened which in the main concerned itself with the strained relations between the administration and the Faculty Association. Viewing the matter very seriously, the general body passed the following two resolutions and instructed the Executive Committee to convey the same to the Director.

> RESOLUTION I: *The General Body of the Faculty Association fully endorses the stand taken by the office bearers of the Association during their meeting with the Director on Friday, the 22nd November 1991. The General Body further authorizes the Executive Committee to continue its efforts in whatever manner possible - through negotiations or by other means, in an honourable, truthful, decent and cordial atmosphere.*
>
> RESOLUTION II: *The General Body expresses its deep sense of grief, anguish and hurt at the lack of a congenial and respectful atmosphere in the Institute brought about by personalized and insensitive administration functioning in a style which is both undemocratic and adhoc. The Faculty Association calls upon the Director to forthwith take measures to restore a proper atmosphere so that the consultative process can be resumed.*

These resolutions were conveyed to the Director who responded quickly stating that he fully understood the spirit of the resolutions and agreed with the sentiments expressed therein.

Armed with these resolutions, the office bearers recommenced their dialogue with the Director on 20 December 1991 on several issues of interest to the Association, the chief being revision of payscales for the Scientific/Technical staff.

The gist of the discussions is that the Director has agreed to

1. release a circular giving option to the Faculty to continue in MBF/NMBF.
2. in principle enhance the transport allowance.
3. establish a gate to afford easier access to the Vigyanapura campus.
4. release the original document so that faculty members can take second mortgage with the Central Government approved agencies.

5. treat the scale Rs 3000 - 5000 as selection grade for SO/TO-I as in case of Lecturers.

The office bearers in this meeting also discussed the scale for SSOs and TO-IIs along with **desirability of rotating regularly chairmen for Departments/Divisions.**

The current year has seen some achievements by the Faculty Association, for instance, rationalization of payscales, an enhancement of transport allowance, streamlining of the allotment procedures for housing, granting of transportation allowance to those residing at the Vigyanapura campus, exemption of the transportation allowance from taxation, linking of the same allowance to distance of residence, among others.

Yet there is much to be achieved. The revision of payscales, mentioned earlier, needs to be done soon before it loses its significance in these days of acute escalation of prices. Rotation of Chairmen has not occurred for several years in many departments and we are all aware the longer an incumbent stays the more prone he is to play the devil.

THE SHRINKING CAMPUS

While India encompasses an area of 3.3 million square kilometres, the Institute Campus barely covers 370 acres. At the rate several agencies like the Kendriya Vidhyalaya, NIAS and JNC are hurrying forward to carve a piece of the campus for themselves, the day is not too far when an Institute employee may park his scooter in land occupied by one outside agency, sip coffee on the premises of a second and return home without treading on Institute soil.

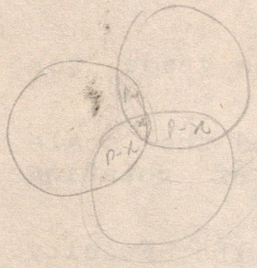
The Faculty Association has passed a resolution in the past and also reiterated it in a recent special general body meeting condemning the way Institute land is melting away while the research activities of the Institute, both present and those projected in the document **Vision For the Future**, will call for usage of every bare acre of the campus. Passing resolutions is the easier part of a struggle in which the entire Institute has shown lukewarm interest to-date. It is imperative that every Institute employee vigilantly monitors the activities of the Governing Council which in its profound ignorance sometimes acts against the interests of the Institute. The Faculty Association calls upon the Administration and the Governing Council to restore to the Institute the lands that have been alienated and endeavour to increase the Campus instead. There is only one Institute and it should exist for the future generations also.

AN APPEAL

The Faculty Association appeals to its members to renew their membership for 1992. Those who have yet to become members may please do so and join the Faculty Association in protecting and enhancing the glory of the Institute.

The Executive Committee wishes the faculty

A HAPPY AND PROSPEROUS NEW YEAR



p

$1-(p-x)-(p-x)-x$

$1-p+x-p+x-x$

$=1-2p+x$

$x-3p<0$

$x<3p$

$3 \quad 1-2p+x$

$3 \quad p-x$

x

$3-6p+3x$

$+3p-3x$

$+x = \quad 3-3p+x$

$3\left(\frac{1-2p+x}{3-3p+x}\ln\frac{1-2p+x}{3-3p+x}\right)$

$1-2p+x \geq 0$

$x \to p$

if $p < 1/3$

$x > 2p-1 \quad + \quad 3\frac{p-x}{3-3p+x}\ln\frac{p-x}{3-3p+x}$

$2p-1<x<p$

$0 \quad + \quad \frac{x}{3-3p+x}\ln\frac{x}{3-3p+x}$

N.V. Joshi

DR. N. V. Joshi.

INDIAN INSTITUTE OF SCIENCE
BANGALORE 560 012

Chairman, Biological
Sciences Division

DCO/A17/92-651.
January 9, 1992

Dear Colleague,

Sub : Divisional Meeting to discuss the documents on "Vision for Future".

I would be grateful if you can attend the above meeting scheduled for January 17, 1992 (2.30 P.M. - 5.00 P.M) at the Biochemistry Lecture Hall. The agenda is as follows :

Vision for Future

Introduction	-	2.30 - 2.35 PM	GP
DNA Transaction	-	2.35 - 2.50 PM	KPG/MRS
Protein Structure	-	2.50 - 3.05 PM	MV/NAR
Molecular Basis of Disease	-	3.05 - 3.20 PM	MSS/GP
Developmental biology and Genetics	-	3.20 - 3.35 PM	VN
Reproductive Biology & Molecular Endocrinology	-	3.35 - 3.50 PM	PRA
Cell Surface and Cell Membrane	-	3.55 - 4.10 PM	AS/PSS
Ecological Sciences	-	4.10 - 4.25 PM	RG
General Discussion	-	4.25 - 5.00 PM	

Please make it convenient to attend

Thanking you,

Yours sincerely,

G Padmanaban

G PADMANABAN)

INDIAN INSTITUTE OF SCIENCE
BANGALORE - 560 012

Invites

No:R(VIIA)DST-150/308-10/92 Dt:14-1-92

Applications for the post of PROJECT ASSISTANT in the scheme sponsored by the Department of Science & Technology 'Modelling of Planetary boundary layer' (tenable upto 31-5-92) in the centre for Atmospheric Sciences at the Institute.

Qualifications:Essential:M.Sc(Physics)/(Mathematics)

Desirable: Computer programming

Job Description:Computational work & discharge any other duties assigned from time to time.

Emoluments:Consolidated salary of Rs.2500/-pm.

Applications furnishing the bio-data, copies of certificates in support of age, qualifications, experience etc. along with a crossed Indian Postal Order for Rs.5/-(non-refundable and SC/ST candidates are exempted from payment on production of certificate issued by a competent authority) drawn in favour of Indian Institute of Science, Bangalore-12; should reach Prof.M.Sankar Rao, Centre for Atmospheric Sciences, Indian Institute of Science, Bangalore-12; WITHIN TEN DAYS from the date of this notification.

REGISTRAR

OFFICE OF THE RESEARCH SCHEMES
INDIAN INSTITUTE OF SCIENCE
BANGALORE-560 012

R(VIIA)DST-150/308-10/92 -145 Dt:12.02.92

Dr. N. V. Joshi

CES.

Sir/Madam,

Sub: Post of PROJECT ASSISTANT
in schemes DST:CAS:MSR:150/
DOD:CAS:SG:1

The Committee for selecting the candidate to the position cited above is scheduled to meet on **24.02.1992** at**2.00pm** in the **CENTRE FOR ATMOSPHERIC SCIENCES.** The following are the Committee Members:

Prof.Sulochana Gadgil CAS	}	CHAIRMAN & PRINCIPAL INVESTIGATOR
Prof.M.Sankar Rao CAS	}	PRINCIPAL INVESTIGATOR
Dr.N.V.Joshi CES	}	EXPERT MEMEBERS
Dr.N.Shyamala Dept. of Physics	}	

You are requested to kindly make it convenient to ~~preside over/~~attend the meeting, as one of the expert members of the Committee.

Yours faithfully

N. Premalatha
for REGISTRAR

encl: copy of advt.

DETAILS OF CANDIDATES CALLED FOR TEST/INTERVIEW

DST-150

1. A.Raju
2. Sanjeev K.Rao
3. S.Sridhar

DOD-1

1. Umesh Gunjikar
2. S.Savitha
3. V.Chenna Krishna Reddy
4. T.N.Phanish
5. N.S.Hemamalini
6. Jayantha Kumar S.K.
7. B V R Ramakrishna
8. C.Sreenivas Gowd
9. Ashit Kumar C
10. A.Raju
11. G.Sunder Rajan
12. Harini H.K
13. B.K.Sumana
14. Annappa

INDIAN INSTITUTE OF SCIENCE
BANGALORE 12

R(III)165-10/92- 874 1992.

6 MAR 1992

Dr.N.V. Joshi
Asst.Professor

Through:

The Chairman
Dept. of C.E.S

Dear Sir/Madam,

Sub : Allotment of quarters on the campus.

This is to inform you that you have been allotted quarter No:Dv-019 in Vijnanapura, according to seniority on the following terms and conditions:

1) rent will be charged from the date of occupation of of the quarters by you and you will not be entitled for HRA and Transport Allowance from the date of occupation of the quarters;

2) charges for consumption of electricity and water are also recoverable as per the existing norms;

3) you will occupy the quarters within 30 days from the date of issue of this letter.

You may collect the keys of the quarters from the Project Engineer-cum-Estate Officer. You are requested to indicate the date of occupation of the quarters by you to the Project Engineer-cum-Estate Officer under intimation to this office (i.e., Unit-III, situtated in Bungalow No:1). A copy of the rules for occupation of the quarters is enclosed herewith for your information and strict compliance.

Yours faithfully,

REGISTRAR.

Encl : Rules Copy

cc: Units : IA,VA,VB,VIII
PE-cum-EO.

Not Recieved
NVJ

CENTRE FOR ECOLOGICAL SCIENCES
INDIAN INSTITUTE OF SCIENCE
BANGALORE – 560 012
INDIA

CABLE: CES 'SCIENCE',
MALLESWARAM, BANGALORE, INDIA.
TELEX: 0845-8349,
TEL: (0812) 340985
344411 EXTN 2506/2507

17 March 1992

To,

The Registrar, Indian Institute of Science

[Attn: Asst. Registrar, Campus (Unit III)]

Through: The Chairman, C.E.S.

Sub: Allotment of quarters

Dear Sir,

With reference to your letter R(III)165-10/92-874 of March 6, 1992, which reached me with the copy of rules on 16th March 92,

1. Since I had applied for allotment of quarters only at the New Housing colony, (and NOT Vigyanpura), the same may be allotted to me.
2. Please note that I am sending an immediate reply, so that the next person on the list, interested in occupying the quarters at Vigyanpura, may be allotted the same quarters.

With regards

Yours faithfully
N.V. Joshi

Dr. N.V. JOSHI
Centre for Ecological Sciences
Indian Institute of Science
BANGALORE-560 012, INDIA

INDIAN INSTITUTE OF SCIENCE
BANGALORE - 560 012

Invites

No:R(VIIA)DE-4/008-5/92 Dt:25-3-92

Applications for the post of FIELD TRAINEE for a period of TWO YEARS or for the duration of the scheme whichever is earlier, in the scheme sponsored by the Deaprtment of Environment 'Centre for Ecological Sciences' in the Centre for Ecological Sciences at the Institute.

Qualifications: Essential:SSLC with knowledge of Kannada.

Job Description:The selected candidate is required to:

i) Assist in Field Ecological research in Uttara Kannada Dist.
ii) Assist in maintaing building & vehicles at Field Station & discharge any other duties assigned from time to time.

Emoluments:Consolidated emolument of Rs.1400/-pm.

Applications furnishing the bio-data, copies of certificates in support of age, qualifications, experience etc. should reach Prof.Madhav Gadgil, Centre for Ecological Sciences, Indian Institute of Science, Bangalore-12; WITHIN TEN DAYS from the date of this notification.

REGISTRAR

INDIAN INSTITUTE OF SCIENCE
BANGALORE 12.

RULES FOR OCCUPATION OF BUNGALOWS/DUPLEX-QUARTERS/QUARTERS IN THE NEW HOUSING COLONY/ QUARTERS IN OLD LINES/SCIENTISTS APARTMENTS BLOCK/Etc.

1.1 A person occupying a building is expected to take charge of the building noting at the time of occupation the inventory of the various articles, fittings, etc., in the building.

1.2 If any defects are noticed at the time of occupation of the building, either in the building or in the water or electrical installations, they should promptly be brought to the notice of the Registrar/Assistant Engineer, Office of the Project Engineer-cum-Estate Officer, in writing.

2. He/She is expected to maintain the building in good condition and to ensure that proper sanitation and sanitary conditions are maintained in the area allotted to him/her.

3. A person occupying the building shall not sublet or hire out of the building or any part thereof including the servents' room to any other person for any purpose whatsoever.

4. When the occupant of the building vacates it, he should give timely notice (15 days prior) to the Registrar to allow of any inspection by the Officer-in-Charge of Buildings, Pump House and Electrical installations to ascertain the state in which the building is about to be handed over.

5. When the occupant of a house vacates the same, he shall also get the servant room vacated failing which he shall be charged standard rent till this is done.

6. If the building should have suffered damage as a result of apparent carelessness or rough/bad use on the part of the occupant, the occupant shall be liable to make good the cost of repairs etc.

7. The allottee shall not carry out any structural alterations in the Unit or make any additions or temporary constructions in the premises allotted to him. Where any infringement of the above conditions occurs, the allottee may be called upon to remove such additions temporary constructions, within a specified date. In case of default, the provisions of clause 12 will become applicable.

8. The allottee shall take necessary care to avoid disfigurement of walls, furniture, fittings etc., in the house.

P.T.O.

9. All heating and cooking shall be by electricity only/ gas only. It is to be clearly understood that other fuels should not be used under any circumstances. Occupants shall not use gagdets, like 'instant geysers' which are likely to cause damage or interrupt services like supply of power.

10. Rent shall be paid in arrears and recovered through the salary of the allottee. If for any reason recovery of rent through salary has not taken place, the allottee will pay rent before the 5th of the month following the one for which rent is collected.

11. For any part of a calendar month covered by the period of occupation, the rent shall be charged for the actual number of days during which the allotment is in the allottee's name.

12. Occupation of any of the quarters can be terminated if the Institute authorities are satisfied that the allottee has committed persistent breath of any of the above conditions. The Director's decision in this matter will be final.

13. Allottees are not allowed to maintain poultry/Cows/ buffelows/Goats/Pigs/ etc animals and stray Dogs in the quarters allotted to them.

14. The Allottee shall abide by all rules contained herein and by such other instructions/directions of the Director as may be communicated to him from time to time in the matter of allotment/occupation/vacation of the Units.

tsc. * * * * *

FACULTY ASSOCIATION
INDIAN INSTITUTE OF SCIENCE
BANGALORE

News Letter No. 2 **Date: 7 April 92**

Dear Reader,

With the Director agreeing to treat the Rs 3000 - 5000 scale as an additional scale for SO and TO-I's, as is done for lecturers, some complications are expected to arise in the case of SSO's who were earlier very unwisely classed into SSO's ordinary and SSO's selection grade. The Director has announced the formation of a fresh committee with Prof B S Sonde and Prof A Sridharan (who share the distinction of being in the earlier committee) to review the SSO angle. Fortunately, FA will have two members in the committee to ensure that history does not repeat itself.

On the domestic front, the EC is pleased to report that the Institute has agreed to permit employees to avail a second mortgage for house construction.

The following Executive Committee has been elected for the year 1992.

Prof. M.R. Chidambara (President)
Prof. V.M.H.Govinda Rao (Vice President)
Prof. A. Prabhu (Treasurer)
Prof. V.S. Holla
Dr. T.S. Panchapagesan (Jt. Secretary)
Dr. M.M. Allam
Mr. M. Krishna Kumar
Mr. M.V. Raghavendra Rao
Dr. N.C. Shivaprakash (Secretary)
Mr. C.K. Balakrishna
Mr. S. Ramachandra Iyer
Mr. K.R. Harihar
Mr. Sharat Ahuja
Mr. N. Jagadish
Mr. L. Doreswamy
Mr. M.Adinarayana Murthy

AS WE MARCH FORWARD

It is said that the Roman Empire commenced to fade with the brutal assassination of Julius Ceasar; while Alexander the Great's conquest of India was the last brilliant flash in the Greek saga. The soul of the Institute yearns for this period as seen in the magnificent granite columnade meandering across the greenery between the two main portals of the Campus. Studded with lover's niches, philosopher's benches and even little amphitheatres, this revival of the past invites persons of the ilk of Plato, Socrates and perhaps even Archimedes to expound and inculcate in the dry minds of the faculty a love for fine arts. The reader may recall Mr J R D Tata mentioning something to this effect during the platinum jubilee celebrations in 1984.

WE ARE IN GOOD COMPANY

Many will recall that during his quest for truth, Sir Isaac Newton absent mindedly boiled his pocket watch for breakfast and held on to the unfortunate egg. Some roving FA investigators looking for the source of some severe noise pollution in the backyard of CE Department discovered it to be caused by two of six great diesel generators keeping the SERC in the forefront of scientific inquiry. These are housed in a well designed sound proofed structure with double walls, double windows but (unfortunately) ill fitting single doors. The latter are not the cause of the noise leakage. This is due to the genius behind the design (like Newton boiling his watch) omitting to provide ventilation for the personnel monitoring the sets. When the sets work the sound suppressing shutters on all the openings are left open and waves of acoustic fury are unleashed on the hapless scientists of the Institute in the vicinity.

APPEAL

Subscriptions for 1992 may kindly be paid to any of the members of the EC. They can also be paid at the venue of the forthcoming GBM on 9th April. Rates are: Rs. 20/- for renewal and Rs. 30/- for new enrolments.

OFFICE OF THE RESEARCH SCHEMES
INDIAN INSTITUTE OF SCIENCE
BANGALORE - 560 012.

R(VIIA)DE-4/008-5/92-Dlif

Date: 5th May 1992

Dr. N. V. Joshi
Dept. of CES

Sir/Madam,

Sub: Post of FIELD TRAINEE in
Scheme DE:CES:MG:4

The Committee for selecting the candidate to the position cited above is scheduled to meet on 12.05.1992 at 2.00PM in Centre for Ecological Sciences. The following are the committee members:

Chairman Dept. of CES	CHAIRMAN
Prof. Madhav Gadgil Dept. of CES	PRINCIPAL INVESTIGATOR
Dr.N.V.Joshi Dept. of CES	
Dr.M.S.Shaila Dept. of MCB	EXPERT MEMBERS
Prof. J.Srinivasan Dept. of CAS	

You are requested to kindly make it convenient to preside over/attend the meeting, as one of the expert members of the committee.

Yours faithfully,

N. Premalatha
REGISTRAR

encl: copy of advt.

DETAILS OF CANDIDATES CALLED FOR TEST/INTERVIEW

1.	Anant Haryappa Naik	PUC III Class
2.	Chennakeshav K.	SSLC III Class
3.	Doddaiah R.	"
4.	Ganesh S.	"
5.	Ganesha M.S.	"
6.	Gundappa A.	" (Senior Typing)
7.	Jalendran N.	"
8.	Jayasheel R.	" (Dipl.Electronics & Dipl.T.V.Techno')
9.	Manjunath Bangarya Naik	" (Dipl. in Hoticultura)
10.	Nagaraja K.S.	PUC II Class
11.	Nagaraja Malya	PUC III Class
12.	Prakash M.M.	SSLC II Class
13.	Purushothama A.	PUC III Class
14.	Raghavendra T.K.	SSLC I Class
15.	Shivarudraiah	SSLC Pass (ITI Electronics-1)
16.	Srinivisa M.	SSLC III Class (Jr.Typing)
17.	Vasudeva M.	SSLC II Class

Dr. N. V. Joshi
CES

NEWS LETTER

Faculty Association
Indian Institute of Science, Bangalore

Date: 20 August 1993

The Executive Committee is happy to address the faculty after a long break through this first newsletter of the year. For the information of our members, the following is the executive committee and the list of office-bearers for the year 1993-94:

1. Mr. B.R. Srinath	CAF	President
2. Dr. K.R. Gunasekhar	ISU	Vice-President
3. Mr. M. Krishnakumar	CEDT	Gen. Secretary
4. Mr. P.V. Ramakrishnan	ISU	Joint Secretary
5. Mr. L. Doreswamy*	ME	Treasurer
6. Mr. M. Adinarayana Murthy	ISU	
7. Mr. H.S.S. Chakravarthy	SERC	
8. Mr. K.R. Kannan	SSCU	
9. Mr. T.B. Maruthisha	EE	
10. Mr. M.V. Raghavendra Rao	AE	
11. Mr. S. Ramachandra Iyer	AE	
12. Mr. K. Ramamurthy Reddy	AE	
13. Mr. H.L. Shesha Prasad	HVE	
14. Mr. B. Vasudevan	AE	

*Mr. L. Doreswamy retired from service on 31st July 1993. The Faculty Association thanks him for the excellent service he rendered to the Association and wishes him a Happy Retired Life.

Prof. V.M.H. Govinda Rao and Dr. Parameswar P Iyer who were also on the executive committee for the current year stepped down on personal grounds. The executive committee places on record their service to the Association during their tenure and solicits their continued cooperation. Dr. M.M. Allam, Mr. C.K. Balakrishna and Dr. N.C. Shivaprakash were co-opted to bridge the gap between past and present.

The absence of the newsletter does not imply that the executive committee is silent. The executive committee has been taking up the case of refixation of the pay-scales of the Scientific and Technical Officers and introduction of the scale of Rs. 3000 - 5000 to the Scientific Assistant (lab) on priority basis. The opening of a Gate on the New BEL Road for the convenience of staff residing on the Vijnanapura campus and nearby areas has also been on the agenda. The implementation of the recommendations of the grievance committee in favour of the staff has also been given due weightage during the discussions with the Director.

Pay-scales for Scientific and Technical Officers:

The Director has kept up his promise that he would implement the MHRD circular (No. F.5-11/87-TD.I dated 5th March 1993) which relates to the revision of scales of pay of Scientific and Design Staff at the IITs. A gist of the circular is given below for the benefit of members who are not aware.

The caption reads:

REVISED PAY-SCALES, MINIMUM QUALIFICATIONS/EXPERIENCE & MODE OF RECRUITMENT OF SCIENTIFIC & DESIGN STAFF OF INDIAN INSTITUTE OF TECHNOLOGY

I. Revised Pay-Scales:

Revised scales of pay, effective from 1.1.1986, against the existing scales of pay for different categories of Scientific & Design Staff shall be as follows:

Category/Designation	Existing payscale	Revised scale of pay
Scientific/Design staff (Grade II)	Rs. 700 - 1600	Rs. 2200 - 4000
Scientific/Design staff (Grade I)	Not existing	Rs. 3000 - 5000 (New scale)
Senior Scientific/Design staff	Rs. 1200 - 1900	Rs. 3700 - 5700
Principal or Chief Scientific Officer/Design staff	Rs. 1500 - 2000 or Rs. 1500 - 2500	Rs. 4500 - 6300

II. Qualifications and Experience:

The minimum qualifications and experience to all positions in the revised scales will be as prescribed below:

(1) Scientific Officer /Design Staff (Grade II)
(Revised scale: Rs. 2200 - 4000)
M.Sc. with I class / B.Tech with I class

(2) Scientific Officer/Design Staff (Grade I)
(New scale: Rs. 3000 - 5000)
Ph.D. + I class preceding degree + 3 years experience
or
M.Tech. full-time I class + 5 years experience
or
M.Tech. part-time I class + 6 years experience
or
M.Sc./B.Tech. I class + 7 years experience

(3) Senior Scientific Officer/ Sr. Design Engineer
(Revised scale: Rs. 3700 - 5700)
Ph.D. + I class preceding degree + 5 years experience
or
M.Tech. I class + 7 years experience

(4) Principal Scientific Officer / Chief Design Engineer
(Revised scale: Rs. 4500 - 6300)
Ph.D. + I class preceding degree + 10 years experience
(3years as SSO I)

FACULTY ASSOCIATION
INDIAN INSTITUTE OF SCIENCE

10 Dec 1993

Dear Sir,

Sub: Elections to the Executive Committee for the term 1994 and 1995 - Nominations.

Elections to fill the following vacancies in the Execcutive committee of the Association will be held on Friday 31st December 1993.

		No. of vacancies
Catagory I :	(Professors/Associate Professors/ Principal Research Scientists/ Technical Officers III/Librarian or equivalent)	2
Catagory II :	(Assistant Professors/Senior Scientific Officers/Technical Officers II or equivalent)	3
Catagory III:	(Lecturers/Scientific Officers/ Technical Officers I/System Programmers/Assistant Librarians I or equivalent)	2
Catagory IV :	(Scientific Assistants/Assistant Librarians II/Programmers or equivalent)	2

The calandar for the elections is as follows.

1. Last date for enrolment as a new member for clearing the arrears for the year 1992 to be eligible for proposing/seconding/contesting as a candidate.	17 Dec 1993
2. Last date for filing nominations	20 Dec 1993
3. Scrutiny of nominations and announcement of candidates whose nominations are found valid.	22 Dec 1993
4. Last date for withdrawls by candidates	23 Dec 1993
5. Announcement of final list of candidates	24 Dec 1993
6. Date of polling (10.00 a.m to 4.00 p.m) @ FA office	31 Dec 1993
7. Announcement of results (6.00 p.m)	31 Dec 1993

Nominations on plain paper are invited from members. The nominations should specify the catagory and duly proposed, seconded and accepted by the candidate. Nominations are to be sent in closed cover addressed to the Returning officer.

For any clarification, please contact Returning officer at Phone numers(Extension) given below.

M P Srinivasn 10/12/93
(Dr M P Srinivasn)
Ph: 2532 CADL

S Ramagopal 10/12/93
(Mr S Ramagopal)
Ph: 2274 I.S.U

(Returning Officers)

FACULTY ASSOCIATION
INDIAN INSTITUTE OF SCIENCE
BANGALORE 560 012

Date :21st December 1993

Dear Member,

A General Body Meeting of the Faculty Association will be held on Tuesday, the 18th January 1994 at 3.30 P.M. in Room No. PE 303, Dept of Electrical Engineering. You are requested to make it convenient to attend the meeting.

AGENDA:

1. Confirmation of the minutes of the previous General Body Meeting
2. President's remark
3. Secretary's report
* 4. Revised procedure for allotment of quarters
5. Elections to the new Executive Committee
6. Items from members
7. Any other matters.

Note: i) Members are requested to send, in writing, items to be discussed in the general body to the Secretary on or before 3rd January 1994.

ii) Tea at 3.00 P.M.

M. Krishna Kumar
GENERAL SECRETARY.

*

House allotment procedure:

The Executive Committee of the Faculty Association unanimously resolved the following regarding the house allotment.

"The allotment of the quarters to the Faculty members may be made on the basis of general seniority and basic pay".

CENTRE FOR ECOLOGICAL SCIENCES
INDIAN INSTITUTE OF SCIENCE
BANGALORE – 560 012
INDIA

CABLE: CES 'SCIENCE',
MALLESWARAM, BANGALORE, INDIA.
TELEX: 0845-8349,
TEL: (0812) 340985
344411 EXTN 2506/2507

22 Feb 1994

To,

The Assistant Registrar (C)
I.I.Sc.

Sub: Acceptance of 'D' type quarters in the New Housing Colony

Ref: (i) Your letter R(III) 165-10/94-287 of 8 Feb 94
(ii) Our discussion of 15 Feb 1994

Dear Sir,

Thank you for your letter, and I accept the allotment of 'D' type quarters in the New Housing Colony. I have been allotted D-217 & D-236. However, I understand that D-206 & D-218 are likely to be available for allotment in the near future. I request that I be considered for allotment of those quarters, as per seniority.

Thanking you & with best regards

Yours faithfully

N Joshi

Dr. N.V. JOSHI
Centre for Ecological Sciences
Indian Institute of Science
BANGALORE-560 012, INDIA
☎ 340985

OFFICE OF THE RESEARCH SCHEMES
INDIAN INSTITUTE OF SCIENCE
BANGALORE - 560 012

R(VIIA) FRLH-1/308-63/94 Dtd: 24-10-94

Dr. (Mrs.) Vidya Shiva Swamy

Sir/Madam,

Sub: Post of PROJECT ASSOCIATE
in scheme FRLH:ASTRA:KSJ:1

With reference to your application for the post of PROJECT ASSOCIATE in the scheme mentioned above, you are requested to appear for ~~xxxxxxxxxx~~ ~~xxxx~~/interview, (~~xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx~~) at your cost, on the date and time indicated below:

		TECHNICAL TEST	INTERVIEW
DATE	:	-	28-10-94
TIME	:	-	2.30 pm
VENUE	:	ASTRA	

You are requested to produce the originals of your degree and relevant certificates for reference, without which it may not be possible for the Committee to interview you.

Yours faithfully,

for Rama Chandra
Dy. REGISTRAR

cc: Prof. K S Jagadish, ASTRA : The application/~~s~~ of the candidate/~~s~~ is/~~are~~ enclosed herewith for reference and return along with the MINUTES OF THE COMMITTEE. ~~Only candidate/s who have secured marks of 50% and above need be called for interview.~~

1) Prof. Vidyanand Nanjundappa, DBG
2) Dr. N.V. Joshi, CES

Niranjan

Thanks

Balaram

3/2/94

INDIAN INSTITUTE OF SCIENCE
BANGALORE 560 012

1.8 –
1.5 – 1.8
1.0 – 1.5
– 1

R(IC)063-1/94- 359

21 OCTOBER 1994

Dr. N.V. Joshi
Centre for Ecological Sciences

Dear Sir,

The Director has constituted Evaluation Committees for various categoires of staff and has nominated you as MEMBER of the Evaluation Committee for SECURITY STAFF, the composition of which is given below :

Prof. S.K. Sen, SERC (Chairman)
Prof. A.K. Raychaudhuri, Physics
Dr. Vinod Sharma, EE
Prof. Kishore, MET
Dr. N.V. Joshi, CES
Dr. D.N. Sathyanarayana, IPC

I request you kindly to accept the above nomination.

A meeting of the Central Evaluation Committee with the various Evaluation Committees has been fixed on October 26, 1994 at 03.30 p.m. in the Council Chamber (First Floor) at the Institute.

You are requested kindly to make it convenient to attend the meeting.

Yours faithfully,

ASSISTANT REGISTRAR

75/100 needed for promotion

For evaluation out of 3
1.8 – 2 Extremely good
1.5 – 1.8 makes grade
1 – 1.4 below the grade
0 – 1 poor

40 service
30 ACR
30 evaluation

Normally 60 ~~65~~ is obtained from these two.

ACR, by ~~dis~~ regulation cannot exceed 2.7 (2.5 ?)

INDIAN INSTITUTE OF SCIENCE
BANGALORE - 560 012

TELEGRAMS : 'SCIENCE' BANGALORE
TELEPHONE : 344411
TELEX : 0845 - 8349
TELEFAX : 812 - 341683

Prof.H.S. MUKUNDA
Chairman, Schemes Adv. Committee

Dt: 15.11.94

Dear Dr. Joshi,

This has reference to the discussion the Schemes Advisory Committee had with you on 26.10.94, regarding the revision in emoluments of project staff. The principal points that came out of the discussion are as follows:

1) The need to raise the emoluments of project staff at this stage is reasonable.

2) The emoluments of project staff in engineering disciplines and science disciplines can be different because of the market forces.

3) Parity between scholarship of students and emoluments of students taken on projects should be maintained.

4) The raise in emoluments should not be universal and simply related to qualification and experience. Quality as assessed by the Investigator matters precisely because of market forces and the availability of quality materials. The Investigators must have a choice to set the level of emoluments instead of a straight jacket approach.

5. The parity of emoluments of project staff with those of research associates of Institute should be maintained. The fact that research associates have additional facilities like accomodation on campus and freedom to do their own research must be kept in mind.

A plan to meet the diverse requirements of investigators (as I see, in a personal sense).

1. The positions in the Schemes are de-linked from the position of Research Associates of the Institute. The positions in the schemes termed Project Associate/Proj. Assistant will have emoluments structure as per Institute norms, while Research Associates in projects from sponsoring agencies where these designations are insisted upon, the emoluments will be according to the sponsor's specifications.

.....2/-

2. A few select positions similar to existing ones with broad range in emoluments must be identified, like :

Designation	Qualification	Emoluments Range	Amount to be claimed
Proj. Associate	M.E./M.Tech./M.Sc.(Engg) Ph.D.(Science)	3700-6000	5500.00
Proj. Assistant	a) M.Sc./B.E./B. Tech.	3300-4500	4000.00
	b) M.E./M.Tech.	3500-4500	4200.00

3. Investigator may recommend emoluments at any value in the range, not necessarily at the minimum even at the start.

4. If the recommendation is at the minimum emolument level, there is no need for a committee. The Investigator can recommend a candidate for the position without the involvement of any committee. The duration can be upto 1 year or more if no emolument change is required.

5. If the recommendation is at levels more than the minimum or an enhancement is recommended, it is desirable to have a committee support for the recommendation.

6. In the case of students being taken on project a slight increase in emoluments may be allowed for, but a committee with the Chairman of the department must clear it.

7. Investigator can take candidates on contract with specific task plan and payment schedule, the payment periods being not monthly, but related to specific milestones.

8. No COP recommendation is called for in any case, as students research carreer has little to do with COP and investigator should be trusted in making judgements.

I am enclosing a copy of the exisiting designations, emoluments of the project staff. May I request you to please provide

1) an alternate sheet containing designations, emoluments that you desire and

2) any other observation that you wish to make.

A reply to me in this regard on or before 25.11.94 will be greately appreciated.

Yours sincerely

(H.S. MUKUNDA)

Encl: a.a.

Emoluments of Scheme Staff approved w.e.f. 01-04-1992

Position	Qualification	Minimum Emoluments	Annual @ increments	Maximum Emoluments	Suggested $ Budgetory Figures
Research Associate	Ph.D in Science or Engg.	3300.00	100.00	4325.00	3800.00
Project Associate	* M.E/M.Tech/M.Sc (Engg) Ph.D (Engg) submitted	3650.00	150.00	5600.00	4400.00
Project Assistant	B.E/B.Tech/M.Sc and equivalent	3000.00	100.00	4000.00	3300.00
	M.E/M.Tech/M.Sc (Engg) or students who have submitted thesis for award of Ph.D Integrated Ph.D in Science (thesis submitted)	3200.00	100.00	4000.00	3500.00
Jr. Proj. Assistant	B.Sc or Diploma of 3 years in a technical subject	2000.00	50.00	2600.00	2200.00
Project Trainee	-do-	1800.00	-	1800.00	1800.00
Jr. Research Fellow	B.E/M.Sc with UGC-CSIR National Test/GATE	1800.00	-	1800.00	1800.00
	Post Graduate degree in Engg/Tech/M.D	2400.00	-	2400.00	2400.00
Sr. Research Fellow	B.E/M.Sc with UGC-CSIR National Test/ GATE plus 2 years of research experience	2100.00	-	2100.00	2100.00
Field Assistant/Secretarial Assistant/Mechanic/Driver	S.S.L.C. or as required	1600.00	50.00	2000.00	1700.00
Helper or equivalent	VII Std.	1250.00	30.00	1550.00	1400.00

@ Given on the recommendation of the Principal Investigator
$ Any higher or lower figures should be justified in the proposal itself.
* For IISc students, those who have completed all the formalities. Letter from Chairman of the Dept. is required to this effect.

In case of students who are appointed as Project Assistant/Associates and who have registred/Registering for Institute confirments, the total emoluments will be restricted to the last value of scholarship till submission of thesis.

PROF. S.K. Sen
CHAIRMAN
SECURITY STAFF
EVALUATION COMMITTEE

INDIAN INSTITUTE OF SCIENCE
BANGALORE 560 012

R(IC)063-1/94-397

23rd November 1994

Dr. N.V. Joshi, CES

Dear Sir/Madam,

A meeting of the evaluation committee for SECURITY STAFF will be held on 28/11/94 as per the following schedule.

Sl. No.	Name	Desgn.	Dept.	Time	Venue
1	Mr. B.R. Byrappa	SG	W&W	10.00 a.m.	W&W (B)
2	Mr. R. Venkataramaiah	SG	W&W	10.30 a.m.	W&W (B)
3	Mr. N.H. Giddaiah	SG	W&W	11.00 a.m.	W&W (B)
4	Mr. M. Mallaiah	SG	W&W	11.30 a.m.	W&W → 6
5	Mr. S. Krishneswara Iyer	SEC SUPVR	W&W	9.30 a.m.	W&W (A)
6	Mr. Mohammed Haneef	SG	W&W	12.00 Noon	W&W (A)
7	Mr. H.M. Thopaiah	SG	W&W	12.30 p.m.	W&W (B)
8	Mr. M. Venkatesha	SG	W&W	2.00 p.m.	W&W (B) → (A)
9	Mr. M. Nagaraju (SC)	SG	W&W	2.30 p.m.	W&W (B)
10	Mr. D. Yogeswaran (SC)	SG	W&W	3.00 p.m.	W&W (A)
11	Mr. H. Kalappa (SC)	SG	W&W	3.30 p.m.	W&W → (A)
12	Mr. B. Balaiah (SC)	SG	W&W	4.00 p.m.	W&W → ?
13	Mr. G.M. Gopal (ST)	SG	W&W	4.30 p.m.	W&W (A)
14	Mr. K.R. Gopalakrishnan (SC)	SG	W&W	5.00 p.m.	W&W (A)

I request you to kindly associate in the evaluation of the above staff member(s).

Yours faithfully

S. K. Sen

(S.K. Sen) 22-11-94

P.S : Kindly join for lunch at 1.00 p.m in the 'F' block guest room

INDIAN INSTITUTE OF SCIENCE
BANGALORE 560 012

/ CONFIDENTIAL /

R(IC)063-1/94-66

8th FEBRUARY 1995

Dr. N.V. Joshi
Centre for Ecological Sciences

Dear Sir,

A meeting of the Central Evaluation Committee with the Chairmen and Members of the Technical Evaluation Committees has been fixed on February 13, 1995 at 11.30 a.m. in the New Council Chamber (First Floor) at the Institute.

You are requested kindly to make it convenient to attend the meeting.

Yours faithfully,

ASSISTANT REGISTRAR

BHASKAR CHAKRABARTI
PRAVASINI APARTMENTS
7B DIAMOND HARBOUR ROAD
BEHIND BALANANDA HOSPITAL
CALCUTTA 700 034

The Deputy Registrar
(Academic)
Indian Institute of Science
Bangalore 560 012

Recd on 1st May 95 12.45 pm

27 April 1995

Ref. No. R(ADM) Appln. No. 30537

Dear Sir,

With reference to your letter of 20 April 1995, you have indicated that my Joint UGC-CSIR certificate is not valid as on the date of interview. I wonder your office might have overlooked certain pertinent points of my application.

However, I would like to bring to your notice the following facts for your kind perusal:

1. I have passed the UGC-NET Examination in Anthropology in 1994 and not the UGC-CSIR exam.

2. As per UGC rules, the students of Anthropology are required to appear in the NET exam conducted by the UGC only, although the students are awarded degrees in Science throughout Indian Universities.

3. I hope you will be pleased to exempt me from the entrance test as I am a UGC-NET qualified candidate for Junior Research Fellowship as well as eligibility for Lectureship, the results of which were published in October 1994.

4. I look forward to receiving an interview letter from you and ~~look~~ would exchange views and ideas with you regarding academic matters. I feel that the Anthropologists are well equipped to work in the field of ecological sciences, the area in which I am inclined to pursue research at your Institute.

The hall ticket supplied by you is therefore returned herewith this letter. I will arrange sending the UGC-NET certificate to you as soon as I receive it. With regards,

Yours sincerely,
Bhaskar Chakrabarti

NVJ for advice. Should we send a letter to Dy. Reg. recommending this case?

copy to: Registrar, IISc.
Director, IISc.
Faculty, Ecological Sciences.

Chmng Thanks. I feel that we should strongly recommend that the candidate be called for the interview — NVJ

INDIAN INSTITUTE OF SCIENCE
ADMISSIONS UNIT

R(ADM)001-10/95-74

30 June 1995

URGENT

Dear Sir,

A meeting of the Admission Committee has been arranged at 2.30 p.m. on 6th July 1995 in the Foyer of the Faculty Hall to finalise the admissions to the Research Programme for the Session 1995-96.

3.30

You are requested to make it convenient to attend the meeting.

Yours faithfully,

DEPUTY REGISTRAR (ACADEMIC)

Ninaysian. It would be most appropriate if you attended this Shah

cc : The Chairman
Dept. of MA, PH, AP, BC, CRBME, IPC, MCB, MBU, CGE, DBGL, OC, SSCU, CES, MRC, ECE, EE, HVE, CSA, AE, CH, CE, ME, MT, MG, ISU, CAS, SERC, CEDT.

- with an invitation to attend the meeting.

In view of the above, I would like to reiterate that your recommendations should reach us latest by 4 July '95.

CENTRE FOR ECOLOGICAL SCIENCES
INDIAN INSTITUTE OF SCIENCE
BANGALORE 560 012 INDIA

Telephone: (91-080) 3340985 or (91-080) 3344411 Extn. 2506
Cable: 'Science' Malleswaram, Bangalore, India
Telex: 0845-8349; FAX: 91-080-3341683
E-Mail: ragh@ces.iisc.ernet.in

DR. N.V. JOSHI
Assistant Professor

Dated: July 3, 1995

THE DEPUTY REGISTRAR (ACADEMIC)
IISc.

Dear Sir,

Through: The Chairman, CES

Sub: Admission to Research Programme for the session 1995-96 - merit list of candidates.

Ref: R (ADM) 001-10/95 dt. 14 June 1995

Please find enclosed

1. List of candidates recommendations for admission in the order of merit ~~(Proforma A)~~. *
2. Merit list of candidates (General) who have obtained an aggregate of not less than 55% in the merit index (Proforma B).
3. Merit list of all SC/ST candidates who have attended the interview with marks obtained (55% aggregate is not applicable to SC/ST candidate) (Proforma ~~A1~~). C
4. List of ~~all the candidates~~ who have ~~attended the interview~~ in your Department date-wise in the ~~enclosed proforma~~ (Proforma D). Statistical abstract

Thanking you,

Yours faithfully,

DR. N.V. JOSHI

Enclosure: a.a.

* a) General (Proforma 'A')
b) SC/ST (Proforma A1)

PROFORMA 'A'

List of Candidates (General) recommended for admission in the order of merit

Sl.No.	Appln. No.	Name	Marks obtained			Entry Source GATE/ CSIR-UGC Ent.Test/ M E/M Tech
			Interview 80%	CAM 20%	Aggregate	
1,	30028	Shankar Raman T R	60.00	16.00	76.00	Ent.Test
2.	31200	Sonia Kaushik.	52.00	13.88	65.88	- do -
3.	30729	Anuradha Bhat	49.60	13.54	63.14	- do -
4.	33496	Sumana A	48.00	13.96	61.96	- do -

Signature of the Chairman
Department :

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

This Proforma to be returned to the Deputy Registrar (Academic) to reach IISc latest by 1 July 1995.

PROFORMA 'A1'

List of Candidates (SC/ST) recommended for admission in the order of merit

Sl.No.	Appln. No.	Name	Marks obtained			Entry source GATE/ CSIR-UGC Ent.Test/ M E/M Tech
			Interview 80%	CAM 20%	Aggregate	
[illegible]						

— NIL —

Signature of the Chairman
Department :

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

This Proforma to be returned to the Deputy Registrar(Academic) latest by 4 July 1995.

PROFORMA 'B'

RESEARCH ADMISSIONS

SESSION 1995-96

Merit List of Candidates (General) who have obtained an aggregate of not less than 55% in the Merit Index.

Sl.No.	Applin.No.	Name	Marks obtained		
			Interview 80%	CAM 20%	Aggregate
1.	30028	Shankar Raman T R	60.00	16.00	76.00
2.	31200	Sonia Kaushik	52.00	13.88	65.88
3.	30729	Anuradha Bhat	49.60	13.54	63.14
4.	33496	Sumana A	48.00	13.96	61.96

Signature of the Chairman
Department : Chairman
Centre for Ecological Sciences
Indian Institute of Science
BANGALORE-560 012
INDIA

This Proforma to be returned to the Deputy Registrar (Academic) to reach him latest by 1 July 1995

PROFORMA 'C'

RESEARCH ADMISSIONS

SESSION 1995-96

Merit List of all SC/ST candidates who attended the interview with marks obtained (55% aggregate is not applicable to SC/ST candidates)

Sl.No.	Appln.No.	Name	Marks obtained		
			Interview 80%	CAM 20%	Aggregate
1.	32000	Sudhakar Akulapalli	16.00	12.34	28.34

Signature of the Chairman
Department

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

This Proforma to be returned to the Deputy Registrar (Academic) to reach him latest by 4 July 1995

PROFORMA 'D'

STATISTICAL ABSTRACT

I. General Candidates

No. Applied	354	No. Attended	55
No. called for interview	86	No. selected	4

II. SC/ST Candidates

No. Applied	3	No. attended	1
No. Called for interview	3	No. selected	0

Categorywise distribution of candidates who have attended interview.

GATE	UGC-CSIR	IISc Entrance Test	M E/M Tech
7	8	40	-

Signature of the Chairman
Department :

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

This Proforma to be returned to the Deputy Registrar (Academic) to reach him latest by 4 July 1995.

INDIAN INSTITUTE OF SCIENCE
BANGALORE 560 012

/ CONFIDENTIAL /

R(IC)063-1/95-181

27/5 JULY 1995

Dr. N.V. Joshi
Centre for Ecological Sciences

Dear Sir,

A meeting of the Central Evaluation Committee with the Chairmen and Members of the Technical Evaluation Committees has been fixed on August 03, 1995 at 11.30 a.m. in the New Council Chamber (First Floor) at the Institute.

You are requested kindly to make it convenient to attend the meeting.

Yours faithfully,

ASSISTANT REGISTRAR

INDIAN INSTITUTE OF SCIENCE
BANGALORE 560 012

R(IC)063-1/95- 181 27th JULY 1995

Prof. Mohan, I S U
Dr. T.S. Ramu, H V E

Dear Sir,

The Director has constituted Evaluation Committees for various categoires of staff and has nominated you as CHAIRMAN/MEMBER of the Evaluation Committee for SECURITY STAFF, the composition of which is given below :

Prof. Mohan, ISU (Chairman)
Prof. A.K. Raychaudhuri, Physics
Dr. Vinod Sharma, EE
Prof. Kishore, MET
Dr. N.V. Joshi, CES
Dr. D.N. Sathyanarayana, IPC
Prof. T.S. Ramu, HVE

I request you kindly to accept the above nomination.

A meeting of the Central Evaluation Committee with the Chairmen and Members of the Technical Evaluation Committees has been fixed on August 03, 1995 at 11.30 a.m. in the New Council Chamber (First Floor) at the Institute.

You are requested kindly to make it convenient to attend the meeting.

Yours faithfully,

ASSISTANT REGISTRAR

CC : Prof. A.K. Raychaudhuri, Physics
Dr. Vinod Sharma, EE
Prof. Kishore, MET
Dr. N.V. Joshi, CES
Dr. D.N. Sathyanarayana, IPC

CONFIDENTIAL

INDIAN INSTITUTE OF SCIENCE
B A N G A L O R E - 560 012

R(IB)308-32(94)/95- 1938

Dated: 20th October 1995

Dr. N V Joshi
C E S

Dear Sir,

Sub: Position of temporary PROJECT ASSISTANT in the Project 'Research on Carbohydrates, Cell Surface and Cellular Transport' in the Molecular Biophysics Unit at the Institute.

A Committee to select temporary Project Assistant in the Project 'Research on Carbohydrates, Cell Surface and Cellular Transport' in the Molecular Biophysics Unit at the Institute has been constituted with the following:

1. Prof. P Balaram — Chairman
   Chairman, MBU

2. Dr. S K Sikdar — Member
   M B U

3. Dr. K Rajagopal — Member
   Dept. of EE

4. Dr. N V Joshi — Member
   C E S

Selection Committee Meeting has been fixed for 3rd November 1995 (Friday) at 2.30 p.m. in the Molecular Biophysics Unit.

You are requested kindly to make it convenient to attend the meeting.

A copy of the advertisement is enclosed. 3 candidates have been called for test/interview.

Yours faithfully,

REGISTRAR

Encl: a.a

PROF. S. Mohan
CHAIRMAN
SECURITY STAFF
EVALUATION COMMITTEE

INDIAN INSTITUTE OF SCIENCE
BANGALORE 560 012

R(IC)063-1/95- 280

20th October 1995

Dr. N.V. Joshi, CES

Dear Sir/Madam,

A meeting of the evaluation committee for SECURITY STAFF will be held on 31/10/95 as per the following schedule.

Sl. No.	Name	Desgn.	Dept.	Time	Venue
1	Mr. Dil Bahadur	HSG	W&W	10.00 a.m.	W&W
2	Mr. E. Eliston Rich	SG	W&W	10.20 a.m.	W&W
3	Mr. Gopi Rao	SG	W&W	10.40 a.m.	W&W
4	Mr. S.G. Hiremath	SG	W&W	11.00 a.m.	W&W
5	Mr. Kumar S Sarapure	SG	W&W	11.20 a.m.	W&W
6	Mr. S. Murugaiah	SG	W&W	11.40 a.m.	W&W
7	Mr. H. Nagaraj Singh	SG	W&W	12.00 Noon	W&W
8	Mr. R. Nagarajaiah	SG	W&W	12.20 p.m.	W&W
9	Mr. K. Raja Rao	SG	W&W	12.40 p.m.	W&W
10	Mr. T. Raju (SC)	HSG	W&W	2.30 p.m.	W&W
11	Mr. T. Natarajan (SC)	SG	W&W	2.50 p.m.	W&W
12	Mr. K. Ramalingappa (ST)	SG	W&W	3.10 p.m.	W&W
13	Mr. B. Balaiah (SC)	SG	W&W	3.30 p.m.	W&W
14	Mr. Ramsingh	SG	W&W	3.50 p.m.	W&W
15	Mr. T. Shivalingaiah	SG	W&W	4.10 p.m.	W&W
16	Mr. M. Subbaraj	SG	W&W	4.30 p.m.	W&W
17	**Mr Susai Arokia Dass**	**SG**	**W&W**	**4.50 p.m**	**W&W**

I request you to kindly associate in the evaluation of the above staff member(s).

P.S: Kindly join for lunch at 1.00 p.m in the Guest House.

Yours faithfully

S. Mohan

(S. Mohan)

Kindly assemble at 9.30 a.m in the Security Office on the above date.

INDIAN INSTITUTE OF SCIENCE
BANGALORE 560 012

/ CONFIDENTIAL /

R(IC)063-1/95-319

27th NOVEMBER 1995

Dr. N.V. Joshi
Centre for Ecological Sciences

Dear Sir,

A meeting of the Central Evaluation Committee with the Chairmen and Members of the Technical Evaluation Committees has been fixed on December 01, 1995 at 02.00 p.m. in the New Council Chamber (First Floor) at the Institute. The meeting will be preceded with a lunch in the Reception Hall (First Floor) at 1.00 p.m.

You are requested kindly to make it convenient to join for lunch and attend the meeting.

Yours faithfully,

PROGRAMME CO-ORDINATING OFFICER

INDIAN INSTITUTE OF SCIENCE
BANGALORE - 560 012

No. R(IA)P.V.53(J)-1608

Date: 15 July 1996

Rec'd on 17/7/96.

Dr. N V Joshi
Assistant Professor

Through: The Chairman
Centre For Ecological Sciences

Dear Sir,

Your evaluation is due for a possible promotion from the grade of Assistant Professor to Associate Professor in the scale of Rs. 4500-150-5700-200-6300, for which purpose kindly forward through the Chairman of your Department 25 copies of report on your academic and related activities at the Institute covering the review period from 29/12/1990. The report may be sent to us on or before 09/09/1996, strictly adhering to the format enclosed.

Please also furnish along with your report eight sets of important papers published (in Journals/Conferences etc.) during the period under review along with a list of at least 6 scientists/experts who are familiar with your scientific work and to whom reference could be made. No other document is required.

Yours faithfully

REGISTRAR

Encl: PROFORMA

NVJ

PROF. S. Mohan
CHAIRMAN
SECURITY/ G & N STAFF
EVALUATION COMMITTEE

INDIAN INSTITUTE OF SCIENCE
BANGALORE 560 012

R(IC)063-1/96-277

26 August 1996

Dr. N.V. Joshi, CES

Dear Sir/Madam,

A meeting of the evaluation committee for SECURITY/ G & N STAFF will be held on 29/08/96 as per the following schedule.

Sl. No.	Name	Desgn.	Dept.	Time	Venue
1	Mr. Kenchappa (Sc)	MALI	G&N	3..0 p.m.	G&N
2	Mr. Munibylappa (Sc)	MALI	G&N	3..0 p.m.	G&N
3	Mr. Gangappa	MALI	G&N	4..0 p.m.	G&N
4	Mr. H. Narayanappa	SG	W&W	4..0 p.m.	W&W
5	Mr. S. Govindarajan	SG	W&W	5..0 p.m.	W&W

I request you to kindly associate in the evaluation of the above staff member(s).

Yours faithfully

S. Mohan

(S. Mohan)

PROF.H.S.MUKUNDA
SECRETARY

No.5.3/SNAPSHOT/ 18th February, 1997

The Director
Indian Institute of Science
Bangalore 560 012

Dear Sir,

This has reference to the discussion I had with you regarding the publication of SNAPSHOT by KSCST on behalf of Dept. of Science & Technology, Govt. of India. Dr.Laxman Prasad, Advisor, DST has kindly agreed to our suggestion of constituting the Editorial Committee consisting of the following members:

1. Sri Thomas Chacko, Dept. of Foreign Language, IISc.
2. Dr.K.N.Lakshmisha, Dept. of Aerospace Engg, IISc.
3. Dr.Joshi, Centre for Ecological Sciences, IISc.
4. Mr.R.N.Narahari, CSIC, IISc. ~~2242~~ 2446 3340134
5. Mr.M.S.Rama Prasad, JES, KSCST - Member Secretary

I shall be extremely grateful to you, if you can kindly permit the above mentioned faculty members of the Institute to contribute in the publication of SNAPSHOT.

Thanking you,

Yours faithfully,

H S Mukunda

(H.S.MUKUNDA)

20 commerce S&T

cc to: Editorial Committee Members

1000 copies
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INDIAN INSTITUTE OF SCIENCE
BANGALORE 560 012

/ CONFIDENTIAL /

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26/3 MARCH 1997

Dr. N.V. Joshi
Centre for Ecological Sciences

Dear Sir,

A meeting of the Central Evaluation Committee with the Chairmen and Members of the Technical Evaluation Committees has been fixed on March 27, 1997 at 12.00 noon in the New Council Chamber (First Floor) at the Institute.

You are requested kindly to make it convenient to attend the meeting.

Yours faithfully,

PROGRAMME CO-ORDINATING OFFICER

Lakshmi

26/03/97

INDIAN INSTITUTE OF SCIENCE

DEPARTMENT OF BIOCHEMISTRY

BANGALORE - 560 012, INDIA

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March 25, 1997

Prof. Raghavendra Gadagkar
Chairman
Center for Ecological Sciences
IISc., Bangalore 560 012

Dear Gadagkar,

We have finalized, conforming by the deadline set by the Deans, the question paper for the Entrance test for admissions to Research program in Biological Sciences for the year 1997-1998. As you may recall, I informed you about the periodic meetings of the committee and the progress made towards setting the question paper. However, we could not include many questions related to ecological sciences due to the absence of an expert member during the preparation of the question paper.

With best wishes.

Sincerely,

K. Muniyappa

NVS

INDIAN INSTITUTE OF SCIENCE
BANGALORE 560 012

Chairman, Biological
Sciences Division

March 26, 1997

Dear Colleague,

Please find enclosed the final EFC document that we have submitted for the Core Programme support of the DBT during 1997-2002.

A meeting of all faculty members of the Division is arranged at 4.00 PM on April 1, 1997, at the Conference Room of the Department of Biochemistry to discuss future plans. I would like to request you to attend this meeting.

With best wishes,

Yours sincerely,

(M VIJAYAN)

Prof. N. V. Joshi
CES

All Faculty Members in the
Division of Biological Sciences

GOVERNMENT OF INDIA
MINISTRY OF SCIENCE & TECHNOLOGY
DEPARTMENT OF BIOTECHNOLOGY

SUBJECT: MEMORANDUM FOR THE EXPENDITURE FINANCE COMMITTEE ON THE PROGRAMME SUPPORT AT INDIAN INSTITUTE OF SCIENCE, BANGALORE.

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1. STATEMENT OF THE PROPOSAL

1.1 Title of the Proposal

Core Programme Support for High priority Areas in Biology at I.I.Sc., Bangalore.

1.2 Aims and Objectives of the present proposal

(I) **Infectious Diseases**

a) To identify specific inhibitors of DNA topoisomerase, uracil DNA glycosylase and cell division proteins of mycobacteria.

b) To identify protective and diagnostic antigens of *Mycobacterium tuberculosis* and to identify protective antigens of *M.bovis* BCG.

c) To develop recombinant or live Rotavirus vaccine.

d) To identify the Japanese Encephalitis Virus proteins important in protective immune response in humans.

e) Towards developing an edible vaccine for Rinderpest Virus using transgenic plants.

f) To explore the cytochrome P450 biosynthetic pathway as possible antimalarial drug target.

(II) **Drug and Molecular Design**

a) To identify and develop protein targets for inhibitor and drug design, with specific emphasis on pathogen proteins, metabolic enzymes and carbohydrate binding proteins.

b) To develop new approaches to inhibitor design involving strategies for disruption of multimer assembly.

c) To develop new synthetic modifications of peptide and nucleic acid backbones as a means of designing novel molecules with potential therapeutic use.

d) To develop methodologies for studying biomolecular structure and interactions of potential importance in drug-receptor binding studies.

(III) **Gene Targeting, Genetic Disorders and Genetic Diversity**

a) To understand the fundamental mechanisms of homologous recombination using chromatin templates that will throw light towards evolving strategies for efficient Gene targeting. To develop techniques of Gene targeting and gene delivery in *B.mori* and animals.

b) To develop transgenic and knock out mouse technology for understanding tissue specific gene expression and the functions of important genes and triplet repeats *in vivo*. To develop transgenic technology to synthesize and accumulate commercially important fatty acids in oil seeds.

c) To develop methodologies for studying the mutations in genetic disorders involving triplet repeat expansions, microsatellite instability and in phenylketonuria. To develop techniques for sexing the embryos in the context of X-linked disorders.

d) To study genetic relatedness and diversity between different ethnic populations in Karnataka using polymorphic loci markers.

e) To study genetic relatedness in social insects and natural isolates of cellular slime mold and population genetics of Asian elephant, Indian one-horned rhinoceros and Lion tailed macaque. To study genetic and evolutionary relationship among members of enterobacteriacae using the bgl genes of *E.coli* as a probe.

f) To study sequence diversity in MADS domain gene families involved in flower development in rice.

1.3 Scientific and Technical Achievement of the Umbrella Support programme at IISc. for the period 1990-97

The concerted support received from the DBT during this period has been in the form of the Umbrella programme which encompassed two Centres, six Facilities, five Special Research programmes and the Post Doctoral Programme.

Among the Centres, the Centre for Genetic Engineering has made outstanding contributions pertaining to the molecular biology and immunology of important pathogens such as *Mycobacerium tuberculosis*, rinderpest virus and rotaviruses. The contributions of the Centre towards understanding the structure, function and regulation of specific genes, have been noteworthy. The research output from the Centre for Reproductive Biology and Molecular Endocrinology, which has received international recognition, has been concerned with the regulation of endocrine function of placenta, structure and function of gonadotropins, growth

factors and steroid hormones, studies related to riboflavin carrier protein, gamete maturation and fertilization, pre-and -peri-implantation embryo development, signal transduction in hormone action and the reproductive biology of the primate.

The different facilities established under the Umbrella Programme have provided critical support to the biotechnological research at the Institute and elsewhere in the country. Some of them indeed set the pace for similar facilities at other centres in India. The effective use of these facilities has been to a substantial extent responsible for major developments in diverse areas of modern biology and biotechnology. The important contributions that resulted from the special Research programmes pertain to the mechanism of protein-carbohydrate interactions, interactions and itinerary of glycans, ionphores and antibiotics, sodium channels, pollen antigens, uteroglobin-moderated immune regulation, genomic analysis of Arabidopsis, Cuscutta and plant viruses, molecular biology of sandalwood, DNA methylation in plants, the molecular biology of peste des petits ruminants virus, silk worm nuclear polyhedrosis virus, human rotaviruses, Japanese encephalitis virus and the anti-viral action of 5-fluorouracil.

The post doctoral programme, in which the entire faculty of the Division has been involved, has proven to be a great success in training, at the highest level, young scientists from other universities and institutions. More than a 100 scientists have taken advantage of the programme. It is heartening to note that nearly 50% of those who have completed the programme, have taken up jobs in institutions within the country.

In summary, the Umbrella programme has been responsible for taking the biotechnological research at the Institute to still higher levels of excellence and for further strengthening the role of the Institute as a national resource facility. The programme has helped immensely in promoting top class fundamental research. Furthermore, it has nucleated and nurtured industrially and socially relevant research. For example, it is in no small measure due to the momentum generated by the programme that the faculty of the Biology Division was able to embark on more than a dozen projects, in collaboration with industry, under the Technology Development Mission in Genetic Engineering and Biotechnology initiated by the Planning Commission. Interactions with industry through other routes have also registered notable progress during the period.

1.4 Proposal for Programme Support During 1997 - 2002

Taking advantage of the progress during the past few years substantially due to the institutional support provided by the DBT and the collaborative interactions engendered within the Division of Biological Sciences, the programme for the next few years envisages concentration of effort in three major areas involving a synthesis between the long term objectives of the DBT on the one hand and the capabilities and aspirations of the faculty of the

Institute on the other. Core programme support for the proposed activities, summarised below, is sought from the DBT. The existing Area Detector/Image plate, DNA Sequencing,Bioinformatics, Graphics and Transgenic Facilities would also be made use of for carrying out the work outlined here. Different elements in the programme would be pursued by faculty members individually and collectively, using project funding by different agencies.

I. Infectious Diseases

India has the dubious distinction of being the number one country for many infectious diseases including tuberculosis, leprosy, malaria, viral and bacterial diarrhea, parasitic infections like amoebiasis, filariasis etc. India is also soon emerging as a major HIV - infected country. The presence of HIV and infectious diseases is a devastating combination wherein the infectious diseases would follow HIV and would have a cascading effect on enhanced incidence of these agents in the population at large. Therefore, the Infectious diseases research programme has taken a new urgency in today's context.

Tuberculosis has remained a major killer in India, and the appearance of multidrug resistant strains of this organism puts a premium on tuberculosis research. The long experience in tuberculosis research and the involvement of a diverse group of investigators at the Institute provides reasons to hope for the indigenous development of newer drugs, diagnostics and prophylactics. Similarly, the recent work on malarial parasite has yielded significant results leading to the understanding of the mechanism of action of antimalarial drugs. There is a candidate vaccine developed at the Institute for human rotavirus which needs detailed investigation to bring the work to a logical conclusion.

India has a predominantly agricultural economy. The recurrent live stock diseases play havoc with the livelihood of the rural people. Rinderpest and Peste des Petits Ruminants (PPR) are two diseases which affect cattle and small ruminants like goats and sheep. The ongoing research on rinderpest virus and PPR virus has provided lead molecules for preparation of diagnostic reagents, for differential diagnosis of these two diseases. Also, a recombinant subunit vaccine has been developed which awaits large scale field trials.

During the period of this programme (1997 - 2002), the following aspects of the identified infectious diseases will be undertaken.

The mechanisms of mycobacterial cell division, recombination and DNA repair will be investigated and efforts will be made to identify inhibitors of DNA topoisomerase, Uracil DNA glycosylase and cell division proteins of mycobacteria. The antigens of *Mycobacterium tuberculosis* will be investigated for their B and T cell responses. The protective and diagnostic antigens from amongst them would be identified. Basic work on immune responses against tuberculosis will be carried out. The immuno-dominant antigens of M. *bovis* BCG would be characterised.

Antigenic variation in Indian rotaviruses will be determined. Reagents will be developed for recombination or live rotavirus vaccine. Epitopes of JEV proteins recognizing B and T cells will be characterised. The human immune response to individual antigens will be continued. Efforts will be made to develop an edible vaccine by expressing the protective antigen of Rinderpest in edible plants like peanut, sweet potato etc.

The basis of chloroquine resistance in the malarial parasite *Plasmodium falciparum* will be studied. The cytochrome P450 biosynthetic pathway will be explored as possible antimalarial drug target. Monoclonal antibodies will be developed against recombinant antigens of *Entamoeba histolytica*, which will be then used to develop an ELISA for diagnostic detection of amoeba in stool, samples of carriers and patients.

Participating Faculty

M.S.Shaila, C.Durga Rao, R.Nayak, Parag P.Sadhale, G.Lakshmi Sita, H.S.Savithri, G.Padmanaban, R.Manjunath, K.Muniyappa, P.V.Subba Rao, S.Vijaya, V.Nagaraja, P.Ajit Kumar, Umesh Varshney.

II. Drug and Molecular Design.

Peptide Design, Peptidomimetics and Peptide Antigens

Peptides have assumed considerable importance in pharmaceutical and immunodiagnostic applications. They are central to vaccine research and hold great promise as novel biomaterials. An ongoing research effort in this area is aimed at developing strategies for conformational stabilization and synthetically simple approaches for amide bond replacements in peptides. These studies may be readily extended to the design of analogs of biologically active sequences. Specifically, alpha-alpha dialkyl residues will be used to nucleate helices and fully extended structures, while D-Pro-Gly segments will be developed as hairpin nucleators. Chiral block peptides will also be investigated, as preliminary studies indicated that ambidextrous molecules containing fused helices of opposite chirality can yield scaffolds similar to a uniform helix. In general, introduction of unusual residues imparts greater solubility in polar media and increased resistance to enzymatic degradation, factors which invariably enhance the bioavailability of a potential peptide based drug. Specific systems to be investigated include the stable toxin and RNase S system and antigenic peptides.

Proteins as Drug Targets

Enzymes are often the favoured site of attack of low molecular weight inhibitors. Toxicity is an inevitable consequence of the inability of the inhibitor to distinguish the enzyme targets in the pathogen from the host enzymes. In rare cases, a unique target in the pathogen can be identified. The conservation of active sites in enzymes make a direct distinction improbable. Since many metabolically important enzymes are multimers an alternate approach to inhibitors can involve disruption of subunit assembly and consequent inactivation.

An ongoing research project is aimed at analysing multimer interface interactions and to explore the extent of residue conservation at these sites. The possibility of using synthetic interface peptides is being studied using two model enzymes, *L.casei* thymidylate synthase(TS) and *P.falciparum* triosephosphate isomerase. In both cases peptide segments of about 20-22 residues in length are being examined. In the case of TS, synthetic sequences mimicking a β -hairpin at the interface are being constructed. preliminary results suggest that interface peptides are indeed inhibitory. Future studies will focus on conformational control to permit peptide fragments to adopt "native-like" structures and to enhance solubility and reduce 'misfolding' by replacement of exposed hydrophobic residues.

Attempts at drug design using enzymes from Mycobacteria will be pursued. DNA gyrase, which is very well recognised as a drug target, topoisomerases, uracil DNA glycosylase and Rec A are among the enzymes identified for this purpose. Another enzyme on which studies have already been initiated is serine hydroxymethyltransferase. Yet another effort would concentrate on drugs and poisons which act on sodium channel expressed in CHO cells.

Protein Design

The techniques protein engineering, which involves the confluence of genetic engineering, structural biology and biophysical chemistry, makes it possible to meaningfully modify expressed proteins with specific ends in view. This approach is all the more powerful when the detailed three-dimensional structure of the concerned protein is available at atomic resolution. Such a situation exists in the case of several plant lectins which have been studied exhaustively in the Division using biochemical, physicochemical and X-ray diffraction techniques. The proposed programme envisages the mutagenesis of these lectins on the basis of the known three-dimensional structure, studies on the ligand binding properties of the mutants, structure elucidation of the ligand-lectin complexes wherever possible and the subsequent re-design of the protein. These investigations are expected to lead to redesigned lectins with improved carbohydrate specificity, which could have biomedical applications.

Glycoprotein hormones, LH, FSH, TSH and their mutants are being produced by recombinant DNA technology. Their interactions with the receptors are expected to lead to derivatives with agonistic and antagonistic properties. These studies will also be useful in understanding the basic phenomenon of hormone receptor interactions and signal transduction.

Various synthetic models of triplet repeats responsible for a number of genetic disorders incorporating the type of mutations observed in populations will be investigated using different biophysical and biochemical tools. Specially, the kinetics and thermodynamics of these triplet models, duplex vs slipped loop structure, is likely to provide clues to the mechanism of disease process. Similarly, determination of the structure of the centromic repeat, GATA repeat and other repeats, which are likely to be involved in the disease process, will be crucial in understanding the relationship between structural organization of repetitive sequences in genome and phenotypic variability.

Structural Data analysis and Modelling

The measure of success that molecular modelling of large proteins has received in recent years, in primarily on account of its reliance on the massive data base of protein structural data resulting from crystallographic investigations. This knowledge base is an important resource for arriving at general structural principles which form the basis of modelling. Analysis of these structural data and associated investigations will continue to form an important component of future research. The topics investigated will include motif recognition, disulfide modelling, amino acid residue stereochemistry and sequence and length dependent properties of alpha-helices. Particular attention will also be paid to the methodology of protein-ligand/drug docking.

Participating Faculty

P.Balaram, M.Bansal, S.K.Brahmachari, R.Dighe, K.R.K.Easwaran, A.Karande, K.Muniyappa, G.S.Murthy, M.R.N..Murthy, V.Nagaraja, R.Nayak, C.Ramakrishnan, D.N.Rao, K.Sankar Rao, H.S.Savithri, S.K.Sikder, K.Suguna, A.Surolia, R.Varadarajan, U.Varshney, M.Vijayan, S.Vishveshwara, S.Visvesvariah.

III. Gene Targeting, Genetic Disorders and Genetic Diversity

No field in modern biology has been so radically transformed during the past decade as the mammalian genetics. The vigour of the Human Genome Project has been instrumental in designing approaches towards understanding the molecular basis of genetics diseases which are over 5000 to date. Gene targeting has become a powerful tool for molecular genetic analysis of genes *in vitro* with potential applications in the correction of genetic disorders by Gene Therapy. However, the major concern since the very beginning of the concept of Gene Therapy has been the efficiency of gene targeting, locus-to-locus variation, enhanced propensity of mammalian cells to promote non homologous over correct integration by homologous recombination. To design robust gene targeting strategies, it will be necessary to understand the fundamental mechanism that control the correct integration of foreign genes. In addition, the factors that govern the expression of correctly integrated genes is obscure. One needs to understand locus-to-locus variation in the control of gene expression particularly with respect to the chromatin structure at the site of integration. These are some of the issues being currently studies world over with the hope that in the future we would be able to make the best use of preventive molecular medicine or even cure some of the genetic diseases.

Genetic variability has long been recognized to play a major role in speciation and therefore evolution. But to link genetic variability to the phenotype through the right candidate gene will require an understanding of the mechanism of action of developmentally regulated genes. In this context, transgenic mouse models have emerged as an important approach for studies on gene expression, provide animal models for understanding disease processes, and for the evaluation of therapeutic protocols.

Keeping these developments in mind a group of scientists at IISc have begun to address issues related to genetic variability, screening of populations for some commonly occurring genetic disorders, and the development of protocols for gene targeting and transgenic systems. It is necessary to focus on this set of issues as they represent one of the most important future frontiers of research.

The programme on Gene targeting and transgenic technology will include a) understanding the fundamental mechanisms of homologous and monohomologous recombination using large chromatin templates b) developing mouse transgenic model systems for testis specific topoisomerase II, estrogen receptor and aromatase and for triplet repeat expansion c) tissue specific expression of CRBP II and cytochrome P450, d) cloning and targeting acyltransferase gene from ground nuts e) cloning of lipase gene from palm fruit and developing strategies to inhibit its expression through antisense approach to decrease the free fattyacid content of palm oil. f) Identification of transposable elements and developing strategies for gene targeting in silk worm ***B.mori***, to generate improved races (in terms of improved silk yield and more sturdy races) and g) developing non-viral methods of gene delivery of therapeutically important genes in animals.

The programme on Genetic disorders will focus on a) triplet repeat - associated diseases b) analysis of the triplet binding proteins at the mRNA level, c) role of polypurine and polypyrimidine repeats in gene expression d) mutational analysis of globin gene cluster e) mutational analysis of PAH gene in phenylketonuria f) mutational analysis of mismatch repair genes in colorectal cancer and other cancers and f) development of PCR techniques for sexing the embryo at 8 to 16 cell stage in X-linked disorder families so that only the female embryos can be implanted for further development.

The programme of Genetic diversity will be initiated to understand a) genetic relatedness between different ethnic populations in Karnataka b) genetic relatedness between social insects inrelation to their behaviour c) genetic and evolutionary relationship among members of enterobacteriacae using bgl genes of *E.coli* as a probe d) genetic diversity among animal population to obtain structure among endangered populations of asian elephant, dwindling populations of the rare Nilgiri tahr and Lion-tailed macaque and d) cloning and developmental expression pattern analysis of MADS box containing genes from rice whose sequence diversity might be related to different pathways of flower development.

Participating Faculty

M.R.S.Rao, S.K.Brahmachari, V.Brahmachari, C.Durga Rao, R.Gadagkar, K.P.Gopinathan, A.Jagannadha Rao, C.Jayabaskaran, P.Kondiah, S.Mahadevan, K.Muniyappa, V.Nanjundiah, Ram Rajasekharan, P.N.Rangarajan, H.S.Savithri, P.B.Seshagiri, R.Sukumar, Usha Vijayaraghavan.

2. ORGANISATIONAL SET UP

All the three components of the programme cut across the different departments of the Division of Biological Sciences. Therefore the mode of organisation would be essentially Divisional in character. The primary responsibility for running the programme would be with a Divisional Committee with the Divisional Chairman as the nominee of the Director as its Chairman. The members of the Committee would include Departmental Chairmen and the Convenors of the three programme components. The committee would meet, on an average, once in a month to review and plan the work.

Each programme component would have separate faculty sub-committees which would be responsible for reviewing and planning the scientific and technical aspects of the work. Separate representative sub-committees would be constituted for maintaining and running major instruments and facilities. The work of the sub-committees would be supervised and controlled by the main Divisional Committee.

3. TIME ACTIVITY MILESTONES

I. Infectious Diseases

a) April 1997 - March 1998

1. Ordering and procurement of equipment
2. Site preparations to house the equipment
3. Recruitment of personnel
4. Characterisation of membrane-associated, immunogenic BCG specific protein of 27,000 daltons.
5. Standardisation of conditions for regeneration of groundnut plants in tissue culture and transformation procedures.
6. Isolation of different field strains of PPRV in cell culture and characterisation of these viruses.

b) April 1998 - March 2001

1. Procuring, installation of remaining equipment and training of personnel to handle the large m achines.
2. Identification of inhibitors of topoisomerase of M. *tuberculosis.*
3. Characterisation of cell division proteins of mycobacteria and uracil DNA glycosylase of mycobacteria.
4. Characterisation of Japanese Encephalitis proteins involved in the human immune response.
5. Delineation of mechanism of recombination in mycobacteria.
6. Assessment of the human rotavirus vaccine from field studies.
7. Identification of novel enzyme targets for antimalarial drugs.
8. Production of transgenic groundnut plants harbouring marker gene.

9. Development of diagnostic reagent based on the identified novel genes of M.*tuberculosis*
10. Cloning and characterisation of RNA Polymerase II subunits from pathogenic yeasts.
11. Development of transgenic ground plants harbouring Rinderpest virus haemaglutinin gene and characterization of the expression of H gene in different tissues.
12. Protection offered by novel, recombinant M.*tuberculosis* antigens against infection in animal model.
13. Completion of the molecular epidemiology of PPRV in India.
14. Identification of selective inhibition of mycobacterial uracil DNA glycosylase.

c) April 2001 - March 2002

1. Experimental animal studies on the edible vaccine to offer protective immune response against rinderpest infection.
2. Assessment of the efficacy of Rotavirus Vaccine.
3. Final evaluation of the diagnostic and protective antigens of mycobacteria.
4. Evaluation of new drug targets in tuberculosis and malaria.
5. Exploration for possible tie-up with industries.

II. **Drug and Molecular Design**

a) April 1997 - March 1998

Appointment of staff/procurement and commissioning of major equipment like mass spectrometer, biosensor and circular dichroism spectrometer. Commencement of specific programs on proteins, peptides, membrane receptors and nucleic acids. It is anticipated that most biochemical groundwork for target identification will be laid in the first year.

b) April 1998 - March 2000

Cloning, expression, structural characterization of target proteins. Synthesis of modified peptides. Analysis of protein-ligand interactions to guide inhibitor design.

c) April 2000 - March 2001

Three dimensional structure-activity relationships for target proteins and candidate inhibitors.

d) April 2001 - March 20002

Interfacing with collaborating institutions for further development of main leads.

III. **Gene Targeting, Genetic Disorders and Genetic Diversity**

a) April 1997 - March 1998

Appointment of Staff/procurement and commissioning of major equipments like Conforal microscopy, electronic antoradiographic system, image analysis facility, *In situ* PCR, Titre PCR and DGGE. Construction of Green House facility. It is anticipated that the Transgenic facility, which has been approved by the Animal Biotechnology Task Force but not yet sanctioned by DBT, will be sanctioned shortly and the facility is created during this first year.

b) April 1998 - March 2000

Design strategies to understand the Basic mechanisms of homologous recombination between large chromatin templates. Design of the primers, standardization of PCR conditions for mutation analysis of disease associated genes. Characterization of genomic and cDNA fragments for transgenesis, generation of transgenic and knock out mice, analysis of their expression and phenotypes cloning of Fatty acyl transferase and generation of transgenic oil seeds, cloning of Lipase and design strategies for the inhibition of its expression using antisense approach. Analysis of genetic relatedness among social insects, ethnic populations in karnataka and forest animals like asian elephants, rhinoceros and macaque, using polymorphic markers. Analysis of the diversity of the nucleic acid sequences within the MADS domain gene families of rice in relation to their function.

c) April 2001 - March 2002

Analysis of the data generated and interface with other institutions in the country for further development of main leads.

4. MONITORING MECHANISM

An apex committee chaired by Professor P.N.Tandon and consisting of the Secretary and other officers of the DBT, the Director of the Institute, the Chairman of the Division of Biological Sciences and other eminent scientists with expertise in the concerned areas, would be responsible for monitoring the programme.

5. FINANCIAL IMPLICATIONS

5.1 Funding provided during eigth plan (1990 - 97)

The total funds provided under the Umbrella programme amounted to about Rs.1560 lakhs. Of this, Rs. 380lakhs were accounted for by the two Centres. Rs.562 lakhs were provided for research facilities. The provision for the five special research programme was Rs. 309 lakhs while that for the post - doctoral programme was Rs. 300 lakhs. The remainder of the amount was accounted for by salaries of administrative staff.

5.2 Financial projections for the period of 1997-2002

The non-recurring items projected for the period essentially consists of major equipment and facilities. These, and the other existing facilities mentioned in 1.4, are essential for carrying out the proposed work. They would be available to workers from other establishments as well. Indeed the Institute has functioned and would continue to function, as a national resource facility not only in academic and scientific terms, but also in terms of instruments and facilities.

The existing faculty and staff of the Institute form an overwhelming major component of the personnel for carrying out the programme. What are projected in this area are essential additional requirements. Most of the additional personnel would be made use of for looking after equipment and facilities. A substantial part of the other provisions in the recurring budget is also meant for the maintenance of equipment and facilities. The total amount provided for chemicals, consumables and contingencies is Rs. 255 lakhs only for a five year period. This amount is meant for the use of 55 faculty members, each heading an active research group. Thus the average budget provision per faculty / group in the programme works out to be about Rs 90000 per year. This is indeed a very meager amount and is highly inadequate to carry out the work satisfactorily. Therefore, this amount is only to be considered as a seed money and each faculty member is expected to bring in substantial additional funds through projects from different granting agencies.

It may also be mentioned that the budget given below has been prepared on the lines suggested by a meeting of the Apex Committee of the Umbrella Programme held in June, 1996, at Bangalore, and has been essentially recommended by the meeting of the new Apex Committee held at DBT on Febraury 12, 1997.

BUDGET

I. **Infectious Diseases**.

Non-recurring	Rs. In Lakhs
i) Fluoresence activated cell sorter along with essential accessories and site preparation	80.00
ii) Fermentor with continuous flow centrifuge	20.00
iii) Infectious animal facility with burn out exhaust and built-in incinerators, air handling system and waste treatment plant	94.00
iv) Farm animal facility	15.00

v) Environmentally controlled GLP Floor	25.00
vi) Animal isolators and laminar flow work stations	20.00
vii) Industrial sterilizer and facility of Gamma irradiation	18.00
viii) Microscopes (fluorescent, inverted and phase contrast)	25.00
ix) Walk-in incubators	10.00
x) Microtome and tissue processor	4.00
xi) Minor pieces of equipment	15.00
Total	326.00

Recurring

Rs. In Lakhs

	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	Total
i) Personnel						
a) Faculty (2 Nos)	4.0	4.0	4.0	4.0	4.0	20.0
b) Veterinary Officer(1 No)	1.5	1.5	1.5	1.5	1.5	7.5
c) Research Associate/ Project Asst. (4 Nos.)	2.5	2.5	2.5	2.5	2.5	12.5
d) Jr.Proj.Asst/ Animal House Asst/Proj. Trainee	1.5	1.5	1.5	1.5	1.5	7.5
ii) Maintenance, repair & spares of animal, primate, FACS, P3 & other facilities	7.0	11.0	11.0	11.0	11.0	51.0
iii) Chemicals and consumables	12.0	12.0	12.0	12.0	12.0	60.0
iv) Contingencies	5.0	5.0	5.0	5.0	5.0	25.0
v) Travel	1.5	1.5	1.5	1.5	1.5	7.5

vi) Animal (including monkey) feed, bedding, lucern etc.	11.0	11.0	11.0	11.0	11.0	55.0
vii) Support for visitors	1.0	1.0	1.0	1.0	1.0	5.0
Total	47.5	51.0	51.0	51.0	51.0	251.0

Total (non-recurring + recurring)	=	Rs. 577.0 lakhs
15% overheads	=	Rs. 86.6 lakhs
Grand Total	=	Rs. 663.6 lakhs

II. **Drug and Molecular Design**

Non-recurring	Rs. In lakhs
i) Mass spectrometer and accessories along with site preparation	175.00
ii) Biosensor along with site preparation	65.00
iii) Upgradation of protein/peptide sequencing facility	20.00
iv) CD spectrometer along with essential accessories	25.00
v) Major components and spares for existing small molecule X-ray equipment	15.00
vi) Computational Resources	
a) Remote computer ports and networking	15.00
b) High capacity disk drives, stereoglasses and other attachments	18.00
c) Additional software modules	12.00
vii) Components and spares for analytical equipment	15.00
viii) Minor pieces of equipment	10.00
TOTAL	370.00

Recurring

Rs.in lakhs

	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	Total
i) a) Personnel faculty (2 nos)	4.0	4.0	4.0	4.0	4.0	20.0
b) Research Associates/Project Assts. (4 Nos.)	2.5	2.5	2.5	2.5	2.5	12.5
c) Jr.Proj.Asst/Proj.Trainee (4 nos)	1.5	1.5	1.5	1.5	1.5	7.5
ii) Maintenance, repair and spares of mass spectrometer, biosensor, sequencer and other facilities	7.0	12.0	12.0	12.0	12.0	55.0
iii) Chemicals and consumables	12.0	12.0	12.0	12.0	12.0	60.0
iv) Contingencies	5.0	5.0	5.0	5.0	5.0	25.0
v) Travel	1.0	1.0	1.0	1.0	1.0	5.0
vi) Support for Visitors	1.0	1.0	1.0	1.0	1.0	5.0
Total	34.0	39.0	39.0	39.0	39.0	190.0

Total (non-recurring + recurring) = 560.0 lakhs
@ 15% overheads = 84.0 lakhs

644.0 lakhs

III. Gene Targeting, Genetic Disorders and Genetic Diversity

	Rs. In lakhs
Non-recurring	
i) Electronic autoradiography systems along with site preparation	50.0
ii) Confocal microscope and accessories along with site preparation	125.0
iii) Image analysis facility with accessories	40.0
iv) Green House facility	30.0
v) In situ PCR and titre PCR	15.0
vi) Denaturing Gradient gel electrophoresis apparatus (2 Nos.)	6.0
vii) Minor pieces of equipment	10.0
Total	276.0

Recurring

Rs.in lakhs

	1997-1998	1998-1999	1999-2000	2000-2001	2001-2002	Total
i) a) Personnel faculty (2 nos)	4.0	4.0	4.0	4.0	4.0	20.0
b) Research Associates/Project Assts. (4 Nos.)	2.5	2.5	2.5	2.5	2.5	12.5
c) Jr.Proj.Asst/Proj.Trainee (3 Nos)	1.2	1.2	1.2	1.2	1.2	6.0
ii) Maintenance, repair and spares of autoradiography systems, confocal microscope and other facilities	5.0	10.0	10.0	10.0	10.0	45.0
iii) Chemicals and consumables	12.0	12.0	12.0	12.0	12.0	60.0
iv) Contingencies	5.0	5.0	5.0	5.0	5.0	25.0
v) Travel	1.5	1.5	1.5	1.5	1.5	7.5
vi) Support for Visitors	1.0	1.0	1.0	1.0	1.0	5.0
Total	32.2	37.2	37.2	37.2	37.2	181.0

Total (non-recurring + recurring) = 457.0 lakhs
@ 15% overheads = 68.6 lakhs
525.6 lakhs

IV Administrative Support

	1st year	2nd year	3rd year	4th year	6th year	Total
1. Accounts officer	1.5	1.5	1.5	1.5	1.5	7.5
2. Superintendent	1.0	1.0	1.0	1.0	1.0	5.0
3. U.D.C.	0.75	0.75	0.75	0.75	0.75	3.75
Total						16.25 lakhs
					15% overheads =	2.43 lakhs
					Total =	18.68 lakhs

Grand Total :

I Infectious Diseases	663.6
II Drug and Molecular Design	644.0
III Gene Targeting	525.6
IV Administrative Support	18.68
	1851.88 lakhs

5.3 Equipment

The three programmes cut across different departments of the Division of Biological Sciences. Although the major pieces of equipment have been identified with each of the programmes, they will be available for use by the entire faculty of the Division. Furthermore, these major facilities will also be made available for use by other scientists outside IISc. It should be noted that no building component has been asked for housing these major facilities. They will be housed in the present existing building with minor and appropriate modifications, and site preparation.

Fluorescent activated cell sorter and accessories

Fluorescent activated cell sorter is required for the enumeration of B-cells, T-cells, macrophages and virus infected cells. Expression of antigen on cell surface and presence of specific antibody can be easily enumerated. Similarly for research pertaining to cell biology like analysis of cell cycle, expression of proteins and other antigen in cells, measurement of cell division require the use of a cell sorter. Presently there is no cell sorter in the Institute. The cell sorter will be extensively used by faculties from all the departments of the Division.

Animal Isolaters

The handling of infectious animals require animal isolaters. Besides, breeding of genobiotic animals require the use of animal isolater where these animals can be maintained. Presently the animal facility is planning to have provision for animals infected with tuberculosis, Japanese encephalitis, morbillivirus and malaria. The different organisms would require independent isolaters. Therefore, at least four isolaters have to be procured.

Laminar flow work station

Handling infectious etiological agents need handling of the organism under biosafety hood. Therefore laminar flow work stations are required.

Infectious animal facility

Work on infectious diseases at the Institute has been hampered due to the lack of an infectious animal facility where drug trials, vaccine trials using animal models could be carried out. Besides many of the pathophysiological studies on disease processes had not been undertaken at the Institute due to the lack of this infrastructure facility. Therefore establishment of an infectious animal facility has been proposed which would provide the facility for drug and vaccine trials envisaged in the proposal.

Farm animal facility

A large number of projects in the programme use antibodies for their research which are raised in rabbits, sheep and goats. It is proposed to provide a facility to house these animals. Besides chicken are routinely used for experimental research in the programme and there is an intensive programme on animal viruses at the institute. A farm animal facility would meet the requirement of all these investigators.

GLP Floor

Drug design is a proposed major activity. However the animal facility does not have the necessary infrastructure to carry out animal experiments which can meet the standards required by the regulating authorities as well as journals requiring adherence to GLP standards. The objective is to gradually upgrade the animal facility to meet international standard and as a first step towards this a GLP floor is proposed to be added to the facility.

Industrial steriliser and γ-irradiator

The Central Animal Facility requires industrial steriliser for sterilisation of cages, bedding materials, feed and also sterilisation of waste before disposal. An independent detached facility for irradiating mice for the immunological experiments has also been requested. This is essential for the infectious diseases programme.

Fermenter

For large scale growth of organism a fermenter is essential. The group working at Institute have several engineered genes which use *E.coli* or yeast expression systems. A fermenter is required for large scale production of these proteins.

Fluorescent/phase contrast microscopy

Fluorescent/phase contrast microscope is required for immunological studies connected with the infectious diseases programme and for monitoring the expression of viral genes in cell culture.

Microtome and tissue processor

The Institute does not have a microtome at the present time. The microtome is required for pathological and histological studies of infected tissue materials from animals.

Walk-in Incubators

Temperature controlled walk-in incubator are required for growth of microorganisms. The walk-in incubator is a multi user facility which can be used by several investigators at the same time. At present there is no walk-in incubator in the campus.

Mass spectrometer

The biological mass spectrometry facility proposed to be set-up at the Institute will be the first of its kind in India and will cater to the needs of biological researchers involved in a wide spectrum research activities. The facility will have access to both electrospray and matrix assisted laser desorption (MALDI) modes of ionization and will be equipped with a LC interface. The facility is essential for mass measurements, peptides and nucleotide characterization, quality control on synthetic molecules and protein analysis. The mass spectrometry facility will be available to users from other institutions. It is also anticipated that several industrial R & D laboratories will utilise the available facility on a charge basis.

CD spectrometer

CD spectra are a powerful sensitive tool in the study of biomolecular conformation, stability and interactions. Since CD spectra can be collected under a wide range of conditions the molecular conformation can be studied as a function of pH, temperature and other solvent conditions. CD spectra can be obtained with small quantities of sample, of the order of a few micrograms. These factors make CD one of the most widely used spectroscopic tools for studying biomolecular structure and design.

Biosensor

Biosensor instrument provides a rapid, convenient and accurate means for measuring the strengths of biomolecular interactions. Such measurements are vital for understanding several biological problems such as the interaction between a potential drug and its target or between one protein and another. Unlike other methods which require the use of toxic radioactive materials or

which require a spectroscopic probe, the Biosensor measures the increase in mass upon binding of one molecule to another. This is a very general approach and can be used in many different biological systems. The biosensor will be a unique facility at the Institute and will also be available to users from other institutions, including private R & D laboratories.

Upgradation of Protein/peptide sequencing facility

The facility was set up with DBT support during the previous phase (1992-1997) and has catered to a large number of users. The funds requested are essential to upgrade the sequencer and HPLC. The facility is essential for the programmes on infectious diseases and drug and molecular design.

Major components and spares for existing small molecule X-ray equipment

The available essential X-ray diffractometer on campus are several years old and require maintenance and spares. They will be extensively used for structure determination work in the core program supported by DBT. Old available X-ray equipment for characterization also needs attention.

Computational Resources

The biology division has access to major computational facilities at the SERC, IISc. The funds requested are for specifically networking computers, addition of remote terminals and to enhance disk capacity and provide peripheral attachments on graphics workstations. In addition funds for purchase of specific additional software modules essential for biological modelling work is requested.

Components and spares for analytical equipment

A large number of spectrophotometers, centrifuges and chromatographs will be routinely used which require additional attachments and accessories.

Confocal laser Scanning imaging system

The confocal laser scanning microscopy (CLSM) has revolutionized biology by virtue of its ability to take 'optical sections' of the object in a non-invasive manner. This is accomplished by eliminating out-of-focus blur, a process described as opto-digital microtomy, particularly valuable for differential fluorescence imaging. The ability to investigate dynamic process in living cells using the CLSM leads to the possibility of including the 4-dimension in real time particularly in studies related to cell and developmental biology. CLSM provides a vivid 3-D image available using either bright field dark field optics or fluorescence microscopy in the visible or UV range.

Because of its non-invasive nature, confocal imaging has wide-range of important applications including photoaffinity labeling of cells and cellular organelles, studies on the release of 'caged' molecules such as neurotransmitters and second messengers, tracing the path of infectious pathogens, secretory processes, intracellular trafficking, ionic physiological studies within cells, and imaging of chromosomes and chromatin structure with appropriate dyes. The present programme envisages transgenic expression of many tissue specific and development related genes. Confocal microscope will be used for studying the localization of these expressed genes.

Electronic Autoradiographic system

Until recently autoradiography of gels was being carried out by using X-ray film. the Electronic Autoradiographic system (also termed as phosphorimager) has greatly simplified and speeded up the detection and quantitation of radioactive bands on gels. This technique is highly sensitive and the data are obtained within a few hours of time which normally takes a couple of days in the classical autoradiographic analysis using X-ray films. This instrument will be used by most of the faculty and will definitely speed up the research.

Image Analysis facility

Gene expression studies *in vivo* involves detection and quantitation of the proteins within cell. A good Image analysis system Nomarski optics and computer software for is required for many of the studies proposed in this programme including FISH.

Green House Facility

The research program on transgenesis in plants (oil seeds) and rice flower morphogenesis needs a good Green House facility. We do not have a Green House as of now in IISc. to carry out the proposed activity.

In situ PCR and Titre PCR

In situ PCR technique is one of the recently developed methodologies to amplify a DNA fragment on chromosome spreads using fluorescently labelled nucleotides or primer and visualization in a fluorescence microscope. This technique is used for detecting large deletions of DNA sequence within particular gene associated with genetic disorders. Titre PCR is used for DNA amplifications in the 96 well Titre plate itself for analysis of DNA of a large number of samples.

Denaturing Gradient Gel Electrophoresis

This technique is used for detection of mutation in the PCR amplified DNA fragment. A large number of PCR fragments can be analysed by this technique and only those showing a different mobility can be taken further for DNA sequence analysis.

Minor Pieces of Equipment

The core program envisages participation of a large number of faculty. The funds for minor equipment asked in each of the programme are essential to permit procurement of items that are urgently required during the course of the project.

5.4 Recurring Expenditure

Maintenance/Spares Etc.

The requested support is essential to ensure trouble free operation of major sophisticated instruments and facilities. Although new instruments will be covered by warranty in the first year, it must be emphasized that the requested funds will also go towards upkeep and maintenance of a large number of existing instruments which are essential for research under the DBT core program.

Chemicals/Consumables

The requested support of Rs.36 lakhs per annum will provide chemicals and consumables to run the major facilities as well as a small measure of recurring chemicals support for about 55 participating research groups. This level of support is the minimum necessary to ensure that the core programme progresses rapidly.

Contingencies

The sum of Rs. 15.0 lakhs per annum is towards contingent expenditure involving major facilities and 55 research groups. This will permit costs of publication and routine minor expenditure.

Travel

The sum of Rs. 4.0 lakh per annum is to cover in part travel of the participating faculty specifically in connection with the programme.

Support of Visitors

The program envisages networking interactions with researchers in other institutions in India. This head will provide support for a small number of visiting scientists and students facilitating collaborative research and permitting wider use of major facilities at the Institute.

5.5 Staff

Most of the proposed work will be carried out by the existing faculty with the help of research personnel (students, research associates and project assistants). Six new faculty (two in each programme) have been asked for keeping in mind the newer expertise that would be required for running the programme efficiently. The supporting staff like Veterinary officer, Research Associates and project assistants are necessary to run the major facilities.

In the earlier Umbrella programme in the last plan period, three administrative support staff were approved for managing the programme. These three posts which have been asked in the present proposal are absolutely required for a smooth running of the three programmes. This is only a small essential addition to the vast administrative support provided by the Institute.

6. BENEFITS

I. Infectious Diseases

The core programme on infectious diseases aims at contributing to developing newer tools and reagents for many of the infectious diseases endemic in India. These include, tuberculosis, diarrhea, Japanese encephalitis virus infection, malaria, amoebiasis and fungal infections in human and animal virus diseases like cattle plague.

Tuberculosis

It is hoped to develop reagents for early diagnosis of tuberculosis. It is also hoped to develop protective antigens as vaccines in place of BCG which has failed in India. Discovery of new drug targets and development of new drugs aimed at in the project would go a long way in combating tuberculosis, specially when multidrug resistant tuberculosis has become rampant in the country. Basic understanding of the organism and its interaction with the host would provide us means for developing rational approach to the control of tuberculosis. Development of reagents indigenously would ultimately save resources and strengthen manpower training.

Viral Diseases

The molecular epidemiological studies carried out at the Institute on rotavirus and rinderpest viruses have demonstrated that the virus strains circulating in India are very different from those present in other geographical regions. Therefore, it has become imperative to study the Indian isolates in order to develop appropriate prophylactic and diagnostic measures.

In the present programme, it is envisaged to develop diagnostic tools and vaccines for four important viral diseases prevalent in India (rotavirus, Japanese Encephalitis virus, Rinderpest and PPR viruses).

Parasitic diseases

Indian population carries the highest parasitic burden in the world. To add to this, malaria has made a come back. The proposed programme aims at developing possible drug targets for malaria and diagnostic tools for *entamoeba histolytica.*

II. Drug and Molecular Design

The projects under the core program on molecular and drug design will permit identification of potential therapeutic targets and lay the groundwork for the design of useful lead molecules. The efforts to develop the synthesis of modified peptides will be of utility not only in generating novel inhibitors but also in development of effective peptide diagnostics by utilising structurally well defined antigenic sequences. the work on this programme will also lead to the development of important analytical methodology like mass spectrometry, which will be crucial for quality control of synthetic molecules and products of recombinant DNA technology. The biosensor methodology proposed to be standardised for biomolecular interaction analysis will be critical for high throughput screens for ligand-receptor binding, a key step in drug development. The structural characterization of diverse pathogen proteins and carbohydrate binding proteins will contribute significantly to drug and inhibitor deign. The computer modelling approaches planned under this programme will be an important component of drug design strategies.

III. Gene Targeting, Genetic Disorders and Genetic Diversity

The programme envisaged will give us tremendous expertise in gene targeting and gene diversity which will be very valuable in developing Gene Therapy technology in the country. It is generally believed that in the next century, one will have to cope with management, treatment and prevention of over 5000 genetic disorders. The technology developed for mutation detection will be one of the most important steps in this direction. Transgenesis technology once developed will definitely give us an opportunity to produce commercially important products in plants. Our country has a rich resource of human population and wild animals. A careful genetic analysis will create a data bank on their genetic relatedness and diversity.

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T.V. RAMACHANDRA

Ref. : CES/TVR/UNIT-1A/1625/97
Date : 2nd November 1997

The Registrar
Indian Institute of Science
Bangalore 560012

Dear Sir,

I am happy to inform you that I have been awarded Ph.D. degree in the Faculty of Science of the Institute on 27th September 1997. Copy of the degree certificate is enclosed herewith for your kind information and needful action (your ref.: R(II)310-2/93-330, 30th March 1993).

As per your letter R(1A)P.V. 303(R)1746, 16th May 1997, please find enclosed herewith (a) 30 copies of report of academic activities, and (b) 8 sets of important papers published in journals.

Thank you,

Yours faithfully,

T.V. Ramachandra
T.V. RAMACHANDRA.

Encl.: As stated above.

Forwarded

4 NOV 1997

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

Rec'd
4/11

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)

November 4, 1997

The Registrar,
Indian Institute of Science,
Bangalore.

Attn.: Assistant Registrar, Unit 1A.

Dear Sir,

In continuation of the letter CES/TVR/Unit-1A/1625/97 dated 2nd Nov'1997 of Dr.T.V. Ramachandra forwarded by me, along with the 30 copies of the report and 8 sets of reprints, this is to inform you that the recommendation of the committee of Professors in this connection would follow in due course.

Thanking you,

Yours sincerely,

Chairman

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

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MINUTES of the meeting of the Senate held on Friday, 28 November 1997 at 2 15 P M in the Faculty Hall

Present

Prof G Padmanaban
Director — Chairman

Prof B R Srinivasa Murthy
Registrar — Secretary

For others present, please see Appendix - 1.

The Chairman welcomed the following new members

Name	Designation	Dept.
Prof S Mahadevan	Associate Professor	MRDG
Prof (Mrs) S Vijaya	,,	MCB
Prof Subhash Jacob	,,	CCF
Dr P Kondaiah	Assistant Professor	MRDG

(Representative of the Faculty of Science)

1. Confirmation of the Minutes of the last meeting

1.1 The Chairman informed that a comment had been received from one of the members on the Minutes of the last meeting regarding paragraph 8.2, the case of Ms. S Yuvarani, a research student in the erstwhile Centre for Genetic Engineering. He informed that based on the suggestion of the member necessary changes would be incorporated in the Minutes.

As existing	As modified
8.2 The Chairman informed that Ms S Yuvarani, a student in the erstwhile Centre for Genetic Engineering, had completed the work and wanted to submit her thesis. But her guide had categorically stated that she would have nothing to do with the thesis processing or evaluation. No other faculty member had also come forward to guide her. In the circumstances since the candidate had completed her work and wants to submit the thesis, he suggested that the Senate could permit her to submit the thesis and the Chairman of the Department could take care of conducting the oral examination on receipt of all favourable reports. However, he suggested that some faculty member could volunteer to help her	The Chairman informed that Ms. S Yuvarani, a student in the erstwhile Centre for Genetic Engineering, had completed the work and wanted to submit her thesis. But as assessed by her Research Supervisor, the candidate had not done the required amount of work for the PhD thesis before she left abroad. In view of the above, the Research Supervisor had categorically stated that she would not like to be a part of the thesis processing or evaluation. No other faculty member had also come forward to guide her. Since the candidate had completed her work and wanted to submit the thesis, a committee was appointed by the Director to give its opinion on the thesis. Taking all factors into consideration, the Director suggested that the Senate could permit her to submit the thesis at her own risk

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in the presentation of the thesis before submission.	and the Chairman of the Department could take care of conducting the oral examination on receipt of all favourable reports. He also suggested that some faculty member could volunteer to help her in the presentation of the thesis before submission. The above suggestion of the Chairman was accepted. The Senate approved that the student be permitted to submit her thesis without any research supervisor and the thesis be sent to three external examiners for adjudication.

1.1.1 The Senate agreed with the suggestion of the Chairman and with the modification, the Minutes of the meeting of the Senate held on 12 September 1997 were confirmed.

2. Conferments

2.1 The oral examination and consolidated reports (along with the reports from the examiners, where applicable) and abstracts of the theses for Ph D and M Sc (Engg.) were considered.

2.1.1 Arising out of the above, the Chairman informed that in the Oral Examination Report of Jayagowri Shivakumar, Foreign Languages Section, where four examiners had evaluated the thesis comments from one of the examiners were missing.. He suggested that the Oral Examination Report be rewritten incorporating the comemnts of all the four examiners.

2.1.2 The Senate agreeing with the above suggestion of the Chairman authorised hin to take further action in presenting the case before the Council.

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

DOCTOR OF PHILOSOPHY (Ph D) DEGREE

SCIENCE FACULTY

Sl No.	Name of the Student	Department	Title of the thesis
1	Sooryanarayana	Biochemistry	Studies on Chicken Riboflavin Carrier Protein, Recombinant Expression and Receptor Characterization
2	Mahalakshmi S	- do -	In Vitro Studies Towards Understanding the Function and Aggregation Properties of Escherichia coli RecA Protein
3	Karthikeyan G BC	- do -	Role of Heme in Chloroquine Resistance of the Malarial Parasite
4	Jayagowri Shivakumar	Foreign Languages Section	Local Area Teacher Groups: A New Paradigm for Human Resources Development in Higher Education

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5	Ganesh Srinivas E	Inorganic & Physical Chemistry	Extended Molecular Mechanics Investigations of some Simple Alkyl Amides and Thioamides
6	Sreedhar Rao V	- do -	Theoretical Studies on Intermolecular Hyderogen Transfer Reactions
7	Ashis Kumar Chakraborty	Mathematics	Software Quality Testing and Remedies
8	Arvind	Physics	Nonclassical Aspects of Two-Mode Radiation Fields
9	Swati Saha	Biochemistry	Towards Elucidating the Mechanism of Action of EcoP1 Restriction Enzyme
10	Madhu P K	Physics	Development of Methodologies in NMR and Applications of NMR to Biomolecules
11	Tata Pramila	Microbiology and Cell Biology	Studies on the Plasmids and the Mechanism of Copper Resistance in Thiobacillus Ferrooxidans
12	Pankaj Saha	Mathematics	Optimal Control of a Stochastic Hybrid System
13	Satyanarayan M N	Physics	Growth and Study of Certain Physical Properties of $KTiOPO_4$ Single Crystals
14	Mahendiran R	- do -	Novel Transport Properties of Oxides Showing Giant Magnetoresistance
15	Mohd Azhar	Molecular Reproduction, Development and Genetics	Dependence of Post-Aggregative Cell Fate on Early Phenotypic Differences with Respect to Cellular Calcium and Cell Cycle Phase in Dictyostelium discoideum

RECOMMENDATION FOR THE AWARD OF Ph D DEGREE
ENGINEERING FACULTY

1	Alagarsamy K	Computer Science & Automation	Some Theoretical Contributions to the Mutual Exclusion Problem
2	Saji N H	Centre for Atmospheric and Oceanic Sciences	Simulations of Tropical Surface Winds : Seasonal Cycle and Interannual Variability
3	Sukanya Mukhopadhyay	Metallurgy	Studies on Phase Relations, Thermodynamics and Electrochemistry of Some Ceramic Oxide Systems
4	Prakasan K	Mechanical Engineering	Studies on Squeeze Cast Copper Based Metal Matrix Composites
5	Shanmukh Swamy M N	Electrical Commn. Engg.	Some Studies on Composite Dielectric Materials

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RECOMMENDATION FOR THE AWARD OF
M SC (ENGG) DEGREE

1	Kavita P.Dixit	High Voltage Engg.	Design Studies, Modelling and Testing the RF Characteristics of the Radio Frequescy Quadrupole Accelerator
2	Ravi R	Civil Engg.	Random Earthquake Response Analysis of Multiply Supported Nuclear Power Plant Secondary Systems
3	Sondipon Adhikari	- do -	Stochasstic Dynamic Stiffness Method for Vibration and Energy Flow Analyses of Skeletal Structures
4	Sachin V Deshpande	High Voltage Engg.	Analysis of Sulphur Hexafluoride Gas Blast ARC by a Mathematical Model
5	Rajanish	Electrical Commn. Engg.	Propagation Model and Antennas for Microcellular Mobile Communication
6	Santhiya D	Metallurgy	Surface Chemical Studies on Alumina Suspensions Using Polymeric Additives
7	Yuvaraj A R	Computer Science & Automation	A New Algorithm for Linear Tree Pattern Matching

2.2 Recommendation for the award of Master of Engineering (ME) Degree was considered.

2.2.1 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 M E Degree.

M E DEGREE

ELECTRICAL COMMUNICATION ENGINEERING

FIRST CLASS

Yoganand Rajala

M E DEGREE (Integrated Course)

COMPUTER SCIENCE & ENGINEERING

FIRST CLASS

V Srivatsan

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3. Matters from Faculties

3.1 The Senate considered the recommendation of the Facuty of Science (meeting held on 23 October 1997) regarding the procedure for Integrated Ph D Programme.

3.1.1 At the request of the Chairman, the Dean, Faculty of Science, presented briefly the procedure suggested for adoption.

3.1.2 After discussion, the Senate approved the following procedure for adoption:

i) All students must complete a minimum of 48 credits by the end of the third term of their joining the programme. [e.g. Students who have joined in 1997 August must complete these 48 credits before December 1998]

ii) Within a division the course work [meaning both black board and lab] during the first year, will consist of a common programme for all students of the Division, independent of the student's future research area.

iii) The contents of the third term course work which can include electives are to be chosen by the student on the advice of the Divisional Committee .

iv) At the beginning of the fourth term - the Divisional Committee will assign each student to a research guide-taking into account the following factors :

a) Student's research interest (b) research programmes of the division as a whole with an equitable distribution among the various programmes (c) concerned faculty's consent.

This process must be completed before January 31 .

v) In the fourth semester of his/her stay the student should commence the project work and in addition credit at least 6 credits of 300 level courses.

vi) At the beginning of the fifth term ,i.e. in the month of August the student will be examined by the Divisional Committee both on the course work and progress in regard to the project work which would by then have gone on for nearly seven months i.e. Jan-July.

The purpose of this exam is to determine whether the student is competent enough to proceed for a Ph.D degree or needs to be advised to leave the programme. In the event of a student's performance being inadequate, a second and final chance must be given to the student before the end of the fifth term i.e.before December 31 of that year.

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vii) a) All students, that is those who will continue for a Ph.D degree as well as those who would be required to leave after their M.S. degree will submit a report on their project before March 31 of the year i.e.their third year [sixth term].

b) The project work will carry between ten and sixteen credits and shall be decided by the Divisional Committee.

c) The number of credits for the project should be the same within a Division.

viii) The project must contain sufficient original material to deserve a research degree. The project report will be evaluated by two experts of the Comprehensive Board.

ix) The report of the two experts from the Comprehensive Board should be submitted before April 30 for consideration by the SCRC and placing before the Senate in the month of May.

The successful students will be eligible for the award of the M.S. degree .

x) The student continuing on for the Ph.D programme is generally expected to continue with his/her project guide.

xi) If the research work done by the student after the submission of the project report for the Ph.D degree is closely related to the earlier work done for the project , then appropriate use can be made of it in writing his/her Ph.D. thesis.

3.1.3 One of the members suggested that in the M S degree certificate issued to Integrated Ph D students the expansion of **M S (Master of Science)** be mentioned since many employers were not aware of the expansion and students had some difficulty in explaining.

3.1.4 The Senate agreed with the suggestion and approved that the expansion of M S **(Master of Science)** be mentioned within parenthesis in the M S degree certificate.

3.2 The Senate considered the recommendations of the Faculty of Engineering (meeting held on 24 October 1997) and approved the following :

i) The present ceiling strength for research be retained and intake for ME/M Tech programmes be increased depending on the demand and strength of the department by examining the needs on case by case basis.

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ii) Revision in the minimum qualification for admission to **research** (Ph D and M Sc (Engg.) in the Department of Metallurgy as follows :

As existing	As approved
BE in Metallurgical,Chemical or Mechanical Engineering or M Sc. in Physcs, Chemistry, Materials Science or Applied Science or Physical Engg. or B Sc followed by AMIE in Metallurgical Engineering/ AMIIM/AMIIChE	BE in Metallurgical, **Mineral**, Chemical or Mechanical Engineering or Masters degree in Physcs, Chemistry, **Geology, Mineral Processing**, Materials Science or Applied Science or Physical Engg. or B Sc followed by AMIE in Metallurgical Engg/ AMIIM/ AMIIChE

iii) Extension of last date for sumbission of completed forms for admission **upto 7th or 8th April only for ME/M Tech Programmes.**

iv) Extension of IISc Young Fellowship Programme to Faculty of Engineering.

4. Matters from Senate Committees

4.1 The Senate considered the recommendations of the Medals Committee regarding award of Medals and after discussion, recommended that medals be awarded to the following identified candidates for the year 1996-97 : *

Sl.No	Name of the medal	Name of the student recommended	Dept.
	(A) BEST ME/M TECH STUDENT - MAXIMUM CGPA AND QUALIFIED IN FIRST CLASS WITH DISTINCTION		
1.	Dr M N S SWAMY MEDAL (Yearly) EC & EE	Mr. Soumya Jana	EC
2.	PROF S V C AIYA MEDAL (Yearly)	Mr. Soumya Jana	EC
3.	THE N R KHAMBHATI MEMORIAL MEDAL (Yearly)	Mr. Rajesh Krishnamurthy	EE
4.	CS (SSA)	Mr. Vijaya Mohan Rao Konda	CS
5.	THE CEDT DESIGN MEDAL (Yearly)	Mr. Jayanta Kumar Ray	CEDT
6.	THE COMPUTER SOCIETY OF INDIA (BANGALORE CHAPTER) MEDAL (Yearly)	Ms. Tulika Mitra	CS
7.	Mrs SABITA CHAUDHURI MEMORIAL MEDAL (Yearly)	Mr. S Nagarajan	AE

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Sl.No.	Name of the medal	Name of the student recommended	Dept.
8.	PROF N R KULOOR MEMORIAL MEDAL (Yearly)	Mr. Rochish Madhukarrao Thoakar	CH
9.	PROF N S GOVINDA RAO MEDAL (Yearly)	Mr. Sanjiv Kumar Roy	CE
10.	THE K K MALIK MEDAL (Yearly) ME(Int.)	Mr. S Arvind Kumar	MT
11.	THE MAA COMMUNICATIONS MEDAL (Yearly)	Mr. Prem Swaroop	MS
12.	PROF CHINTAKINDI V JOGA RAO MEDAL **(Aerospace Structures)** (Yearly)	Mr. Spandan Maiti	AE
13.	THE MOTOROLA MEDAL + CASH PRIZE OF Rs. 4000/- (Yearly)	Mr. Soumya Jana	EC
14.	S V SASTRY MEMORIAL MEDAL + CASH PRIZE OF Rs.4000/- (Yearly)	Mr. R M Deshpande	ME
	(B) FOR THE BEST PROJECT WORK		
15.	H R BAPU SEETHARAM MEDAL(Yearly) ME(Int.) Project Title : **An Object Oriented Tool Kit for Implementation Oriented Modeling of Real-Time Multimedia Communications**	Mr. Shankar Kumar Singha	EC
	(C) FOR THE BEST THESIS		
16.	THE M SREENIVASAYA MEDAL(Yearly) Thesis entitled : "Purification, Characterisation and Regulation of Nitrite Reductase from Candida utilis"	Dr. Sagar Sengupta	MC
17.	PROF GIRI MEMORIAL MEDAL (Yearly) **(Members of the Biochemical Society)** Thesis entitled : "Structure-Function Relationships in EcoP151 DNA Methyltransferase"	Dr. Ishtiyaque Ahmad	BC
18.	DR J C GHOSH MEDAL (Yearly) Thesis entitled : "Measurement of Dissociation Constant (Ka) and Partition Coefficient 9Kp of Weak Organic Acids from their First Hyperpolarizabilities"	Dr. Paresh Chandra Ray	IP
19.	Mrs. SABITA CHAUDHURI MEMORIAL MEDAL (Yearly) Thesis entitiled : "Design and Evaluation of Some Stochastic Load Scheduling Algorithms in Distributed Computing Systems"	Dr. L Anand	AE

Sl.No	Name of the medal	Name of the student recommended	Dept.
20.	PROF B H IYER MEDAL(Alternate year) Thesis entitled : "Synthetic Investigations on Terpenoids "	Dr. K Kaliappan	OC
21.	PROF D J BADKAS MEDAL + CASH PRIZE OF Rs.4000/-(Yearly) Thesis entitled : "Development of an Application Specific Parallel Processing Real-Time System for MTDC System Control"	Dr. V Shyam	HV
22.	PROF B K SUBBA RAO MEDAL + CASH PRIZE OF Rs.4000/-(Yearly) Thesis entitled : "Form Feature Generation Model for Features Technology"	Dr. N Sivarama Prasad Rao	ME
23.	DR SRINIVASA RAO KRISHNAMURTHY MEDAL (Alternate year) **(In the areas of Electrochemistry & Electrochemical Engg.)** Thesis entitled : "Theoretical Studies in Semiconductor Electrochemistry : Role of Interfacial States in Surface Kinetics and Photocarrier Dynamics Under Depletion Conditions"	Dr. S Ramakrishna	IP
24.	PROF N R KULOOR MEMORIAL MEDAL FOR RESEARCH (Alternate year) Thesis entitled : "Study of Momentum Transfer in Fluid-Fluid Systems by the Boundary Integral Method"	Dr. Shreekumar	CH
25.	THE MARTIN FORSTER MEDAL (Yearly) **Divn. of Physical & Mathematical Scs.** Thesis entitled : "Nonequilibrium Steady States in Driven Diffusive Systems: Sheared Colloids, Noisy Ratchets and Sedimenting Suspensions"	Dr. Rangan Lahiri	PH
26.	THE P S NARAYANA MEDAL (Yearly) **Divn. of Mechanical Scs.** Thesis entitled : "Retention and Permeability Characteristics of Clays and Clay-fly Ash Systems Subjected to Flow of Contaminants"	Dr. C Rajasekhar	CE
27.	THE ALUMNI MEDAL (Yearly) **Divn. of Electrical Scs.** Thesis entitled : "Parallel Voxelization Algorithms for Volume Rendering of Unsaturated Grids"	Dr. C Edmond Prakash	SERC
28.	PROF F N MOWDAWALLA MEDAL(Yearly) **Divn. of Electrical Scs.** (Best M Sc (Engg.) thesis) Thesis entitled : "Algorithms for ECG Compression After Period and Amplitude Normalization"	Mr. Supratim Saha	EE

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Sl.No	Name of the medal	Name of the student recommended	Dept.
29.	THE SHESHGIRI KAIKINI MEDAL + CASH PRIZE OF Rs.4000/- (Yearly) **Divn. of Electrical Scs.** (Areas of Electronics & Communications, Photo Electronics, Digital Communications, Hybrid Microcircuits, Optical Fibre Technology etc.)	Dr. Rajeev Shorey Thesis entitled : Modelling and Analysis of Event Message Flows in Distributed Discrete Event Simulators of Queueing Networks"	EC
30.	THE SHAMRAO KAIKINI MEDAL + CASH PRIZE OF Rs.4000/- (Yearly) **Divns. of Biological & Chemical Scs.** (Basic Molecular Biology, Microbial Genetics, Recombinant DNA Technology, Immunology, Animal Tissue Culture etc.)	Dr. V Ramesh Thesis entitled: "DNA Binding Studies with the Trnascriptional Activator Protein C of Bacteriophage Mu"	MC
31.	SIR VITHAL N CHANDAVARKAR MEMORIAL MEDAL (Yearly) Depts. under the Faculty of Engg. "**on Progress in Industry OR Human Relations**" Thesis entitled : "Retention and Permeability Characteristics of Clays and Clay-fly Ash Systems Subjected to Flow of Contaminants"	Dr. C Rajasekhar	CE
32.	Mrs C V HANUMANTHA RAO MEDAL(Yearly) Open to all the theses - area directly related to the **Alleviation of Human Suffering which is of immediate value to the community** Thesis entitled : " Genetic Characterization of Novel Asymptomatic Neonatal Human Rotavirus I321 and Studies on the Structure and Expression of the Major Rotavirus Neutralization Antigen VP7 "	Dr. Manjula Das	MC
33.	PROF K P ABRAHAM MEDAL + CASH PRIZE OF Rs.4000/- Open to all the theses-**area of Materials Chemistry** Thesis entitled : " Influence of Formulation Methods on the Nonlinear Voltage-Limiting Properties of Zinc Oxide Varistor Ceramics "	Dr. S Ezhilvalavan	MR

All the medals (except Sl. Nos., 13, 14, 21, 22, , 29, 30 and 33) **carry a cash prize of Rs.2000 each**

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None recommended for award of the following medals :

1.	THE TAG CORPORATION MEDAL	(Yearly)
2.	THE HAY MEDAL	(Yearly)
3.	THE ALUMNI MEDAL	(Yearly)
4.	M E DEPARTMENT ALUMNI MEDAL + CASH PRIZE OF Rs.4000/-	(Yearly)

4.2 The Senate considered the recommendation of the Senate Curriculum Committee (SCC) regarding starting of Master of Engineering (ME) in Manufacturing Engineering in the Department of Metallurgy and Master's (M Tech) Programme in Satellite Technology and Applications in the Department of Aerospace Engineering at the Institute.

M E Programme in Manufacturing Engineering

4.2.1 At the request of the Chairman, Prof Y V R K Prasad while giving a brief background informed that the proposed M E Programme in Manufacturing Engineering will enable IISc to initiate this important field of materials processing education in India. The course structure emphasizes the approach to manufacturing through a sound understanding of material properties, processing methods and criteria for materials selection. While the core courses are mainly from the Department of Metallurgy, the elective courses are widely open. If any of the partiocipating department would like to offer core courses it would be welcomed. He also informed that the title of the programme as initially proposed was M Tech programme in Manufacturing Technology and it was revised as ME Programme in Manufacturing Engineering as suggested by the Senate Curriculum Committee.

4.2.2 The Senate noted that this proposal had earlier been discussed at the meeting of the Faculty of Engineering which had recommended starting of the programme subject to some changes in the curriculum, which were incorporated subsequently.

4.2.3 During the discussion the following observations were made :

i) Since Manufacturing has wide connotation, students will be confused. Restrictive title would be useful to the employers/prospective students

ii) The participating departments are too many. It would be better to limit to two or three.

iii) Computer course on simulation techniques could be included in electives.

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* 4.2.4 After discussion, the Senate recommended starting of the Master of Engineering Programme in Manufacturing Engineering in the Department of Metallurgy from the session 1998-99 as detailed in Appendix - 2.

4.3 **Master's (M Tech) Programme in Satellite Technology and Applications**

4.3.1 At the request of the Chairman, Prof B N Raghunandan, informed that the proposal had earlier been discussed in the Joint Meeting of the Faculties which recommended starting of the Masters Programme in Satellite Technology and Applications in the Department of Aerospace Engineering from the session 1998-99. During the discussion in the Faculties there were many suggestions for including some courses in specific areas. He informed that he had extensive discussions with all the faculty members who had suggested the changes and some of them had been incorporated in the revised curriculum which was considered by the SCC. The SCC also suggested minor changes in the minimum qualification for admission which had also been incorporated.

4.3.2 During the discussion, the following points emerged :

i) Weightage for GATE percentile and performance in interview to be decided before finalising admission procedures ;

ii) Candidates with M Sc (Physics) not necessarily with electronics background also to be considered.

Prof Raghunandan clarified that background of electronics was essential.

* 4.3.2 After discussion, the Senate recommended starting of the M Tech programme in Satellite Technology and Applications in the Department of Aerospace Engineering from the session 1998-99 as detailed in Appendix - 3.

4.3.3 The Chairman expressed happiness in starting masters programmes in newer areas as envisaged at the time of discontinuation of Integrated M E programmes. He added that it was essential that the Institute should continue to offer courses in newer and challenging areas.

5. **Items from Members**

5.1 The Senate considered the proposal received from Prof Chandan Dasgupta for starting a Centre for Condensed Matter Theory.

5.1.1 At the request of the Chairman, Prof T V Ramakrishnan, briefly explained the salient points in the porposal. He informed that a group of theorists working at IISc in Condensed Matter Physics and related fields consisting of 15 faculty members would like to work under one common umbrella. The setting up of a Centre for Condensed Matter Theory will provide a

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necessary venue and focus for research activities in this area. It will encourage collaborative research programmes and cross fertilization in this broad field. If the interaction among them is strengthened and made more frequent, if commonly needed resources are made available, and strategic additions in strength are made, the group could evolve one of the most vital centres in the world and make major contributions to science over the years. No such centre exists in India: very few such large groups exist anywhere. The faculty members of this group will continue to be primarily and substantively in their parent Departments, and will be associated with the Centre for pursuing common academic interests. The main purpose of the proposed Centre is to promote research and high-level training in theoretical Condensed Matter Science. The Centre will aim to foster collaborations with Condensed Matter theorists working in other local Institutions such as Raman Research Institute, Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR) and Indian Institute of Astrophysics. Certain kinds of support, such as building, infrastructure and new faculty, can be provided only by the Institute. The members of the Centre plan to apply to external funding agencies such as DST for other resources needed for the proposed Centre.

The Chairman informed that several rounds of discussion were held before sending the proposal for consideration of the Senate.

5.1.2 During the discussion the following observations were made by the members :

i) There was no consensus in the COP of the Department of Physics and the Faculty expressed apprehension about the weakening of the department ;

ii) With the establishment of the Centre, the parent department would be weakened ;

iii) Physical togetherness would be essential for smooth functioning; hence the Centre could be tried as an experiment ;

iv) Theory and experiment should go together. There are many such interdisciplinary areas which have potential to develop as a Centre. Hence a conscious decision would be necessary on all such areas. Instead of having a separate Centre, the Institute could have separate programmes similar to Astronomy & Astrophysics or groups in the relevant area

v) The Centre should provide sufficient opportunities both for theory and experimental groups in the area.

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5.1.3 After discussion, the Chairman suggested that since there were divergent views about starting of the Centre and the COP of the Department of Physics itself has expressed apprehension to the proposal, this could be discussed again in the Department of Physics; perceptions have to become very clear in academic terms and any apprehension to be removed by discussions and brought up again before the Senate for consideration at a later meeting.

5.1.4 The Senate agreed with the above suggestion of the Chairman.

6. Items from the Chairman

6.1 Evaluation of Faculty

The Chairman informed that one of the members had asked for defining various norms considered for faculty evaluation. He said that there was no need for any alarm just because one or two cases had not been through for promotion. He added that all factors would be considered positively and it would not be possible to indicate any specific weightage for any particular activity. Agreeing with the suggestion of one of the members, the Chairman informed that teaching would be one of the parameters while considering faculty promotion.

6.2 Appointment of Adjunct Faculty

In view of the starting of new ME/M Tech programmes it was possible that the Institute may have to seek help from faculty outside the Institute for teaching courses in certain areas. He said advance action needs to be taken to identify well qualified persons well in advance and also work out course structure in consultation with them.

6.3 Safety Standard Measures

The Chairman requested the members to ensure safety standard measures for the staff and students working in risk areas. The COP should review and ensure proper safety standard measures.

One of the members suggested insurance coverage for all working in risky areas.

6.4 Thesis report

The Chairman informed that some research supervisors had not sent their reports even though the reports from the external examiners were already received. He requested the members to send their reports, if not already sent, without any further delay.

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6.5 Pay Commission Report

To a query from one of the members, the Chairman clarified that no communication from the MHRD had been received regarding implementation of the recommendations of the V Pay Commission as applicable to autonomous institutions for the B, C & D groups. Regarding "A" group, the Ministry is awaiting Prof U R Rao Committee's Report.

REPORTING ITEMS

7. Cases of award processed between Senate and Council Meetings

7.1 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 12 September 1997 and before the meeting of the Council held on 27 September 1997 and that the Council had approved the award.

DOCTOR OF PHILOSOPHY (Ph D) Degree

SCIENCE FACULTY

Sl No	Name of the Candidate/	Dept	Title of the Thesis
1	Viswajanani R	OC	Studies on the Enantiospecific Synthesis of Valeranes: and Cyclopentannulation of Allyl Alcohols
2	Anil Kumar	IP	Studies on Hyperbranched Polymers
3	Subramanian K	IP	Studies on Vinyl Polyperoxide Initiated Photopoly-merization of Vinyl Monomers
4	Ramachandra T V	CES	Ecologically Sound Integrated Regional Energy Planning
5	Sangeeta K	MA	Numerical Simulation of Converging Nonlinear Wavefronts
6	Shalini Lobo	BC	Studies on Chicken Riboflavin Carrier Protein: Characterization of an Immunodominant Epitope and Cloning of an Immuno-cross Reactive Rat Pericen-triolar Material Protein
7	Mitali Mukerji	MRDG	Studies on the Mechanisms of Transcriptional Activation of the bgl Operon of Escherichia coli
		ENGINEERING FACULTY	
1	Saravanan R A	ME	Deformation and Tribological Studies on A356 and A356-SiCp Composites
2	Arvind M T	EE	Stochastic Learning Algorithms With Improved Speed Performance
3	Murthy A N N	ME	A Domain Independent Computational Framework for Preliminary Design
4	Prem Kumar G	EE	Integrated Network Management Using Extended Blackboard Architecture

MRDG - Dept of Molecular Reproduction, Development & Genetics

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5	Ganesh Murthy C N S	EE	Pattern Recognition Techniques and Based on Self-Organization and Learning Vector Quantization
6	Chandran M	IN	Turbomolecular Pumping A Markovian Chain Model and Some Experimental Investigations
7	Chakrabarti P K	MS	Structure, Process and Environment of R&D Function in Manufacturing : A Study in Relation to Technology Adoption, Adapatation and Innovation
		M Sc (ENGINEERING) DEGREE	
1	Abhay S Kanhere	CS	Implementation of Data Distribution and Parallelism in HPF
2	Senthil Kumar S	HV	Development of a Phase Resolved Pulse Height Analyser and its Application to Partial Discharge Measurements
3	Keshava Datta G	IN	Studies on Wavefront Estimation and Refraction Corrected Image Reconstruction in Optical Tomography
4	Syed Ameenulla	AE	Design, Development and Validation of an Advanced Instrumentation System for Atmospheric Surface Layer Studies
5	Vikash Kandhway	ME	Performance Analysis of a Photovoltaic Powered Cold Store
6	Saki Krishnamurthy	MT	An Investigation of the Densification and Sinterforging Characteristics of Alumina-Yttria Composites
7	Viswanath G	EC	Robustness and Localization in Time- varying Real Estimation
8	Chirpa Selvi S	MT	Electrobioleaching of Sphalerite Flotation Concentrate
9	Gupta A V T	EC	A Call Admission Control for Deterministic Traffic in High Speed Networks
10	Anirban Roy	EC	Design of an Optimal Link Control Protocol for Broadband Multimedia Services in Wireless Local Communication
11	Thyagarajan B	CH	Studies on Toughening of Epoxy Resins Using Elastomers

M E DEGREE

COMPUTER SCIENCE & ENGINEERING

SECOND CLASS

1. Jeetendra L. Moon

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M.E Degree (Integrated Course)

ELECTRICAL ENGINEERING

FIRST CLASS

Shailendra Kumar Gupta

Tilak Mitra

Monika Krishan

COMPUTER SCIENCE & ENGINEERING

SECOND CLASS

G Venkatesha Murthy

8. Matters concerning conferments

8.1 A report on the theses submitted for the Ph D/M Sc(Engg.) degrees but pending for more than one year due to various reasons was received and recorded.

9. Matters from Council

9.1 The Senate noted the information on matters dealt with by the Council at its meeting held on 27 September 1997.

10. Other academic matters

10.1 The Senate noted that the Director has constituted the following committee to carry out self study as requested by Prof A S Nigavekar, Director, National Assessment and Accreditation Centre, Bangalore and complete the task by 1st January 1998 :

Prof S Ranganathan Chairman, Divn. of Mechanical Sciences	Chairman
Prof T S Mruthyunjaya Chairman, Centre for Continuing Education	Co-Chairman
Prof A V Krishna Murty Dean, Faculty of Engineering	

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Prof J Pasupathy
Dean, Faculty of Science

Prof M Vijayan
Chairman, Divn of Biological Sciences

Prof S S Krishnamurthy
Chairman, Divn of Chemical Sciences

Prof N Viswanadham
Chairman, Divn of Electrical Sciences

Prof S V Subramanyam
Chairman, Divn of Physical & Mathl. Sciences

Prof B R Srinivasa Murthy
Registrar

Mr A L Narasimhan
Deputy Registrar (Academic) Secretary

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

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MEMBERS PRESENT **APPENDIX - 1**

Professor

Akhilesh, K B
Allam, M M
Anantha Krishna, G
Anil Kumar
Anil Kumar
Antony, A
Arakeri, J H
Atul H Choksi

Balaram, P
Bhat, S V
Biman Bagchi
Binny J Cherayil

Chakravorty, A R
Chanda J Jog (Mrs)
Chandrasekaran, S
Chandrasekhar, J

Dattaguru, B
Dighe, R R
Durga Rao, C
Dwarakadasa, E S

Easwaran, K R K

Gandhi, K S
Ghosal, A K
Gopalakrishna, A V
Gopalakrishnan, J
Gopinathan, K P
Govinda Raju, S P
Guru Row, T N
Hajra, J P
Hegde, M S

Jacob, K T
Jagannatha Rao, A
Jamadagni, H S
Jayabaskaran, C
Joshi, N V

Professor

Kesava Rao, K
Keshava Murthy, K
Khetrapal, C L
Kishore
Kondaiah, P (Dr)
Krishna Murty, A V
Krishna Murthy, H R
Krishnamurthy, S S
Kutty, T R N

Lahiri, A K
Lakshimi Sita G (Mrs)
Lawrence Jenkins

Mahadevan, S
Matthew Jacob, T
Menon, A G
Modak, J M
Mruthyunjaya, T S
Muniyappa, K
Murthy, C R L
Murthy, M R N
Malwad, N M (Mr)

Nagaraja, V
Narasimhan, R
Narayana Dutt, D
Natarajan, K A
Nayak, R
Padiyar, K R
Pandey, P C
Pandian, N S
Pasupathy, J
Phoolan Prasad
Prasad, U R
Prasad, Y V R K

Raghunandan, B N
Raghuprasad, B K
Rahul Pandit

Professor

Ramachandra Rao, A
Ramakrishna, J
Ramakrishnan, T V
Ramakrishna Rao, A
Raman, K S
Ranganathan, S
Rao, K J
Rao, K P
Rao, M R S
Rao, N J
Reddy, K P J
Rohini M Godbole (Mrs)

Santanu Bhattacharya
Sastry, P S
Seshadri, T P
Seshan, S
Shaila, M S (Ms)
Shamala, N (Ms)
Shrinivasa, U
Sikdar, S K
Somasekhara, N
Som Krishan
Srikrishna, A
Srinivasan, J
Srinivasan, R
Sriram Ramaswamy
Sriram Shastry, B
Subba Rao, G S R
Subhash Jacob
Subramanyam, S V
Surappa, M K

Thomas Chacko
Thukaram, D

Uday Maitra

Vasu, R M
Vasudevan, S

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MEMBERS PRESENT **APPENDIX - 1 - contd....**

Professor

Vedavathy, T S (Ms)
Veni Madhavan, C E
Venkatesh, Y V
Vijaya Chandru
Vijayan, M
Vikram Jayaram

Professor

Yogendra Simha, K R

By invitation

Chalapathy Rao, N V (Mr)
Ghare, D B (Dr)
Gopalakrishnan, A R (Mr)
Gunasekaran, M K (Dr)
Kasturirengan, S (Dr)

Munichandraiah, N (Dr)
Narasimha Rao, K (Dr)
Pradeep G Yammiyavar (Mr)
Ramanathan, K V (Dr)
Ravindranath, N H (Dr)
Sangunni, K S (Dr)
Somavarma, R (Mr)
Srinath, B R (Mr)
Srinivasa Rao, B R (Dr)

Others present

Mr A L Narasimhan
Deputy Registrar (Academic)

Mr B V Ramakrishna
Deputy Registrar

Mr B A G Sharma
Financial Controller

Mr B K Subburaman
Assistant Registrar

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APPENDIX - 2

M E PROGRAMME IN MANUFACTURING ENGINEERING

PROGRAMME DETAILS :

Starting from	:	1 August 1998
Duration	:	1 Year 6 months
Nodal Department	:	Metallurgy
Participating Departments	:	(a) ME (b) CSA (c) CEDT (d) AE (e) MG
Qualifications	:	B.E./B.Tech. Degree in Metallurgical Engg./Mechanical Engg./Production Engg./Manufacturing Engg. or B.Sc. (with Physics, Chemistry and Mathematics) followed by AMIE/AMIIM or equivalent
Intake	:	Total 12 with 3 B.E. (Metallurgical Engg.) & 9 B.E. Mechanical/Production/Manufacturing Engg.
Selection	:	GATE score only

APPENDIX - 3

Master's Programme in Satellite Technology and Applications

Programme Details

Proposed starting date	:	1 August 1998
Duration	:	1 Year 6 Months
Nodal Department	:	Aerospace Engineering (through ISRO-IISc Space Technology Cell)
Intake	:	Total 10 : 5 Regular 5 Sponsored (Sponsoring is from ISRO: can be extended to other agencies later)
Qualification for Admission	:	B.E/B.Tech in Aerospace/Mechanical/ Civil /Electrical/Electronics & Communications M.Sc (Physics) with Electronics* or M.Sc. (Electronics)
Selection	:	Regular students - GATE followed by Interview Sponsored students - Minimum 2 Years experience, Interview
Degree to be awarded	:	M.Tech. (Satellite Technology and Applications)

* preferably limited to 3 candidates

From
V. Nataraj
Dept. of Instrumentation
Indian Institute of Science

6.04.99

To
The Convenor,
DISC,
Indian Institute of Science

Sub: Report on progress of work on the project "Web based Interactive Digital Signal Processing Tutor" for the period Nov'98 to 31st Mar'99.

Dear Sir,

The tutor consists of eight chapters. The first one is an introduction to the subject and the next seven chapters cover the various aspects of **Digital Signal Processing.**

The tutor is frame based, each frame consisting of five components.
The five components are:

1. Bulleted list of important points in HTML formats. (Completed)

2. Figures in GIF format. (Completed)

3. Detailed text for each frame. (Under Preparation)

A button is provided to access explanatory text for each frame. The idea of providing a separate text page is to keep the contents of each frame focussed on the important concepts of the subject. This approach avoids filling up of each frame with lot of details.

4. Animation. (Under Preparation)

Each frame is provided with an animation button. Animation is provided to give the user a 'behind the scene' workings of various concepts of the subject.

5. Audio. (Under Preparation)

It is intended to provide background audio for each frame. All the frames will have background audio along with animation. We need help from DISC for developing audio files.
The last frame of each chapter has an extra button. This button is used to access References for each chapter.

We had undertaken to complete the first three chapters of the tutor by 31st March'99. The first two components for the three chapters have been completed. The tutor is now hosted on the DISC server and is available online at http://disc.iisc.ernet.in/

We require another year's time to complete the work. We request you kindly to extend and provide additional funding for the successful completion of the project.

Thanking you,

Yours faithfully

V. Nataraj

(V. Nataraj)

OFFICE OF THE DEANS OF FACULTIES
Indian Institute of Science, Bangalore.

Prof. J.Pasupathy,
Dean, Science Faculty

Ref: R(Deans):
Date: 23rd April, 1999

Dr. N.V.Joshi,
CES.

Dear Dr. Niranjan,

I am enclosing herewith the response I obtained from the Council Section and the Academic Section regarding the definition of the faculty member. I sincerely apologise for the long delay in getting back to you.

With best wishes and regards,

Yours sincerely,

(J.PASUPATHY)

DEFINITION OF FACULTY :

(Refer Regulation 11 of the Scheme, Regulations & Bye-laws : page 25)

11.2 The Faculties shall comprise of :

(a) Members of the staff holding the rank of an Assistant Professor and above; and

(b) Not more than five other members of the staff for their special knowledge, appointed by the Chairman of the Council after consulting the Director, for a period of two years at a time

(Refer Bye-law 10 of the Scheme, Regulations & Bye-laws : page 48)

10. Faculties

10.1 There shall be two faculties in the Institute, Science and Engineering. The departments under each faculty shall be as determined by the Council from time to time. The Director shall nominate Professors, one from each faculty, as Deans to hold office for two years at a time in the order of seniority of service, preference, however, being given to those Professors as had not held this office even once, the Science Dean assuming charge in January and the Engineering Dean assuming charge in August of the year. An officer to be so designated by the Director shall act as the Secretary of the Faculties.

10.2 The Faculties shall function as advisory bodies to the Senate and assist the Senate in the discharge of its academic duties. Joint meetings of the faculties may also be convened for this purpose.

(The other duties and functions of the faculty – refer Bye law 10.2.1 to 10.6)

21/4/99

Submitted -

Faculties

The faculties of Science and Engineering act as advisory bodies to the Senate and assist in the discharge of its duties. Each Faculty consists of the respective Dean as Chairman, all **Professors, Associate Professors, Principal Research Scientists, Assistant Professors and Senior Scientific Officers as members** and the Deputy Registrar [Academic] as Secretary.

All Lecturers, Scientific Officers and the Librarian are invited for the Faculty meetings as invitees. For Joint Faculty meetings, the Financial Controller and the Asst. Registrar [Admissions] are also invited.