Table 1

Information about published pages in journals (January to December 2000)

		Vol. No.	No. of issues	No. of Papers	Total No. of pages 2000	**
1.	Proc. (Chem. Sci.)	112	6	50	642	(↓126)
2.	Proc. (Math. Sci.)	110	4	32	472	(↑8)
3.	Proc. (Earth Planet. Sci.)	109	4	49	552	(↑208)
4.	Sadhana	25	6	45	640	(↑68)
5.	Pramana	54,55	12	173	1864	(↑40)
6.	Bull. Mater. Sci.	23	6	96	558	(↓540)
7.	J. Astrophys. Astron.	21	4	77	476	(↑182)
8.	J. Biosci.	25	4	50	416	(↓372)
9.	J. Genetics	79	3	21	140	(↓51)
10.	Resonance	5	12	162	1292	(↑84)
11.	Current Science	78,79	24	825*	3458	(↑146)
				1580	10510	(↓135)

* including briefer items such as news, correspondence ** As compared to last year's figures

Table 2

Information on papers submitted for publication (January to December 2000)

		Accepted	Rejected	Pending	Total	**
1.	Proc. (Chem. Sci.)	41	50	6	97	(↓13)
2.	Proc. (Math. Sci.)	30	75	7	112	(↑7)
3.	Proc. (Earth Planet. Sci.)	35	24	25	84	(↑17)
4.	Sadhana	38	6	7	51	(↑5)
5.	Pramana	148	37	44	229	(↓10)
6.	Bull. Mater. Sci.	72	18	36	126	(↓126)
7.	J. Astrophys. Astron.	79	2	5	86	(↑57)
8.	J. Biosci.	51	73	2	126	(↓7)
9.	J. Genetics	21	5	1	27	(0)
10.	Resonance	37	52	53	142	(↓38)
11.	Current Science	679	586	111	1376*	(↑95)
Total		1231	928	297	2456	(↓13)

* including briefer items such as news, correspondence ** As compared to last year's figures

Table 3

Impact factors of journals*

		IMPACT FACTORS					
		1995	1996	1997	1998	1999	2000
1.	Proc. (Chem. Sci.)	0.288	0.400	0.473	0.294	0.339	0.254
2.	Proc. (Math. Sci.)	0.154	0.143	0.184	0.149	0.048	0.061
3.	Proc. (Earth Planet. Sci.)	0.308	0.563	0.130	0.136	0.229	0.412
4.	Sadhana	0.111	0.075	0.071	0.068	0.144	0.171
5.	Pramana	0.349	0.354	0.340	0.284	0.278	0.314
6.	Bull. Mater. Sci.	0.233	0.278	0.296	0.287	0.319	0.393
7.	J. Astrophys. Astron.	0.588	0.489	0.439	0.111	0.286	0.625
8.	J. Biosci.	0.368	0.397	0.435	0.520	0.370	0.404
9.	J. Genetics	0.375	0.278	0.317	0.894	0.419	0.588
10.	Current Science	0.292	0.364	0.376	0.515	0.567	0.512

*(Source: Journal Citation Reports - a part of Science Citation Index published by the Institute of Scientific Information, Philadelphia, USA for the years 1995 to 2000.)

Table 4

Circulation details of journals (January to December 2000)

		Subscription		Complimentary		Fellows & Associates	Total
		India	Foreign	India	Foreign		
1.	Proc. (Chem. Sci.)	560	56	45	90	184	935
2.	Proc. (Math. Sci.)	532	85	48	91	131	887
3.	Proc. (Earth Planet. Sci.)	473	61	57	91	95	777
4.	Sadhana	530	20	46	20	152	768
5.	Pramana	760	50	55	49	259	1173
6.	Bull. Mater. Sci.	1963[a]	35	76	17	136	2227
7.	J. Astrophys. Astron.	474	141	53	25	104	797
8.	J. Biosci.	908	56	67	80	267	1378
9.	J. Genetics	600	113	94	10	167	984
10.	Resonance	3742[b]	48	188	2	-	3980
11.	Current Science	4000[c]	79	220	57	76	4432

a. includes about 1370 MRSI members in India and abroad b. includes about 2075 personal subscribers
c. includes about 2050 personal subscribers

Annexure 1

NEW FELLOWS — 2000

(effective 1 January 2001)

1. Dr S.K. Acharya
(b. 1-11-1951)
All India Institute of Medical Sciences, New Delhi
Areas of Interest: General Medicine, Gastroenterology, and Liver Diseases

2. Dr Anil Kumar
(b. 31-12-1955)
National Chemical Laboratory, Pune
Areas of Interest: Chemical Thermodynamics, Physical Organic Chemistry and Biophysical Chemistry

3. **Prof. Sudha Bhattacharya**
(b. 7-3-1952)
Jawaharlal Nehru University, New Delhi
Areas of Interest: Molecular Biology, Molecular Parasitology, and Genomics

4. **Prof. P.K. Chattaraj**
(b. 26-4-1958)
Indian Institute of Technology, Kharagpur
Areas of Interest: Density Functional Theory, Quantum Chaos and ab initio Calculations

5. **Dr Bhudev C. Das**
(b. 1-5-1948)
Institute of Cytology and Preventive Oncology (ICMR), New Delhi
Areas of Interest: Molecular Biology of Cancer, Molecular Virology, and Mutagenesis & Human Genetics

6. **Dr A. Jayakrishnan**
(b. 25-4-1953)
Sree Chitra Tirunal Institute for Medical Sciences & Technology, Thiruvananthapuram
Areas of Interest: Polymer Chemistry, Biomaterials, and Controlled Drug Delivery

7. **Prof. Amitabh Joshi**
(b. 4-3-1965)
Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore
Areas of Interest: Population and Quantitative Genetics, Evolutionary Genetics, and Population Ecology

8. **Dr Shyam Lal**
(b. 25-12-1957)
Physical Research Laboratory, Ahmedabad
Areas of Interest: Atmospheric Science, Atmospheric Chemistry, and Ozone Trace Gases

9. **Dr Bhaskar G. Maiya**
(b. 20-6-1956)
University of Hyderabad, Hyderabad
Areas of Interest: Bio-Inorganic Chemistry, Photochemistry, and Supramolecular Chemistry

10. **Dr G. Marimuthu**
(b. 25-2-1954)
Maduraj Kamaraj University, Madurai
Areas of Interest: Animal Behaviour and Chronobiology

11. **Prof. Rahul Mukerjee**
(b. 9-2-1956)

Indian Institute of Management, Kolkata

Areas of Interest: Design of Experiments, Asymptotic Theory, and Survey Sampling

12. **Prof. R. Nagarajan**
(b. 9-8-1942)

Tata Institute of Fundamental Research, Mumbai

Areas of Interest: Superconductivity, Magnetism, Valence Fluctuation, Heavy Fermion Behaviour, Mossbauer Spectroscopy, and Instrumentation, Cryogenics

13. **Dr Nitin Nitsure**
(b. 9-11-1957)

Tata Institute of Fundamental Research, Mumbai

Areas of Interest: Algebraic Geometry

14. **Dr R. Ramesh**
(b. 2-6-1956)

Physical Research Laboratory, Ahmedabad

Areas of Interest: Palaeoclimatology, Climate Modelling, and Mass Spectrometry

15 **Prof. Ram Sagar**
(b. 1-7-1952)

U.P. State Observatory, Nainital

Areas of Interest: Astronomy and Astrophysics, and High Energy Physics

16. **Dr R. Raghavendra Rao**
(b. 22-9-1945)

National Botanical Research Institute, Lucknow

Areas of Interest: Plant Taxonomy, Ethnobotany, Phytogeography, and Biodiversity & Conservation

17. **Dr Vijayalakshmi Ravindranath**
(b. 18-10-1953)

National Brain Research Centre, New Delhi

Areas of Interest: Neuro Biology, and Neuro Toxicology/Pharmacology

18. **Dr Girish Sahni**
(b. 2-3-1956)

Institute of Microbial Technology, Chandigarh

Areas of Interest: Protein Engineering, Molecular Biology/ Biotechnology, and Enzymology

19. **Dr Dinakar M. Salunke**
(b. 1-7-1955)

National Institute of Immunology, New Delhi

Areas of Interest: Structural Biology, Macromolecular Crystallography, and Molecular Biophysics

20. **Prof. M.K. Sanyal**
(b. 6.1.1954)

Saha Institute of Nuclear Physics, Kolkata

Areas of Interest: Condensed Matter Physics, Surface Physics, and Synchrotron X-ray Scattering

21. **Prof. Diptiman Sen**
(b. 17-1-1959)

Indian Institute of Science, Bangalore

Areas of Interest: Theoretical Condensed-Matter and Statistical Physics, and Quantum Field Theory

22. **Prof. Anil Kumar Singh**
(b. 2-4-1952)

Indian Institute of Technology, Mumbai

Areas of Interest: Bioorganic Chemistry, Photochemistry, and Photobiology

23. **Prof. Raghavan Varadarajan**
(b. 27-11-1960)
Indian Institute of Science, Bangalore
Areas of Interest: Protein Structure and Folding

NEW HONORARY FELLOWS

Prof. Antony Kevin Cheetham
University of California, Santa Barbara, California, USA
Areas of Interest: Solid State and Structural Chemistry

Prof. Michael E. Fisher
University of Maryland, Maryland, USA
Areas of Interest: Statistical Mechanics and Chemical Physics

Prof. Edward P.J. van den Heuvel
Astronomical Institute, Kruislaan, SJ Amsterdam, The Netherlands
Areas of Interest: Stellar Evolution

NEW COUNCIL FOR THE TRIENNIUM 2001–2003

Dr K. Kasturirangan (*President)*
Prof. N. Kumar (*Previous President*)
Prof. N. Balakrishnan *(Secretary)*
Dr D. Balasubramanian
Prof. S.M. Chitre *(Vice-President)*
Prof. S. Dattagupta
Prof. R. Gadagkar
Prof. Indira Nath (*Vice-President)*
Prof. E.D. Jemmis
Prof. R. Kumar *(Vice-President)*
Prof. N. Mukunda
(Vice-President & Editor of Publications)
Prof. K.J. Rao
Dr P. Rodriguez
Prof. N. Sathyamurthy
Dr S.R. Shetye
Prof. A. Sitaram
Prof. A.K. Sood (*Secretary)*
Prof. S.K. Sopory
Prof. G. Srinivasan *(Treasurer)*
Prof. M. Vijayan

Annexure 2

FELLOWS DECEASED

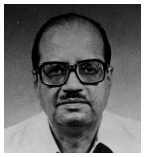
1. Dr V.C. Anguli
(*b.* 25-10-1919, *d.* 22-7-2000)
Elected: 1962
Areas of Interest: Neuropathology, Experimental Pathology, and Oncopathology

2. Bijan Bihari Lal
(*b.* 4-8-1913, *d.* 2.6.2000)
Elected: 1948
Areas of Interest: Archaeological Chemistry, Archaeometry, Conservation, and Environmental Archaeology

3. C.K. Majumdar
(*b.* 11-8-1938, *d.* 20-6-2000)
Elected: 1976
Areas of Interest: Statistical Physics, Electron States, and Magnetic Properties

4. K. S. Mani
(*b.* 18-10-1928, *d.* 28-3-2001)
Elected: 1974
Areas of Interest: Neurology

5. R.S. Mishra
(*b.* 10-8-1918, *d.* 2000)
Elected: 1966
Areas of Interest: Differential Geometry, Relativity, and Fluid Mechanics



6. Biswajit Nag
(*b.* 20-8-1933, *d.* 6-2-2000)
Elected: 1974
Areas of Interest: Electronics and Computer Science

HONORARY FELLOWS DECEASED

1. Olivier Kahn
(*b.* 13-8-1942, *d.* 8-12-1999)
Elected: 1999
Areas of Interest: Molecular magnetism

2. Minoru Oda
(*b.* 24-2-1923, *d.* 1-3-2001)
Elected: 1995
Areas of Interest: Radio Astronomy

Annexure 3

Table 5 : Average Age of Fellows at Election

Year	Average age according to classified subjects									Total no elected	Avg age of total f'ship
	1	2	3	4	5	6	7	8	9		
1971	39	42	43	47	***	***	45	44	***	6	43
1972	38	42	44	51	46	***	***	41	***	10	44
1973	***	47	45	45	***	***	***	***	45	6	45
1974	43	42	50	46	51	50	55	47	47	106	46
1975	50	49	52	47	54	49	54	48	43	85	49
1976	44	44	47	35	44	48	50	53	49	18	46
1977	46	41	50	***	41	53	50	45	51	17	46
1978	47	39	40	41	65	53	52	53	50	14	48
1979	***	44	41	45	***	***	37	55	46	14	45
1980	***	43	***	44	51	43	***	54	46	8	45
1981	49	42	50	45	52	48	48	49	39	19	46
1982	38	49	45	47	55	52	55	51	47	15	48
1983	***	43	50	42	56	48	46	49	42	18	46
1984	43	46	44	47	55	54	46	55	45	20	48
1985	40	45	50	48	44	45	46	44	45	20	46
1986	41	46	47	46	54	48	48	50	54	27	47
1987	37	44	48	43	***	47	51	50	43	27	45
1988	48	46	45	45	53	47	54	50	47	28	47
1989	49	49	46	47	62	53	61	53	48	28	49
1990	54	50	47	46	53	51	47	50	48	28	49
1991	44	44	45	45	49	50	***	56	46	32	45
1992	45	42	44	43	51	44	43	39	42	44	43
1993	43	45	43	47	50	51	50	55	45	46	46
1994	37	46	42	49	50	50	49	50	43	27	46
1995	40	48	44	48	46	45	47	52	42	33	45
1996	44	44	41	43	57	48	51	***	49	25	46
1997	41	48	48	51	40	49	50	44	45	23	46
1998	46	45	45	52	57	48	48	54	48	22	48
1999	44	46	49	35	45	43	48	48	45	22	45
2000	47	46	45	43	49	48	50	49	48	28	47
2001	44	49	45	48	50	47	41	56	45	23	47
avg age	44	45	47	46	51	49	49	49	46	839	47
total no.	74	164	135	131	62	70	47	56	100		

1. Mathematical Sciences
2. Physics
3. Chemistry
4. Engg.& Technical Sciences
5. Medicine
6. Earth Sciences
7. Animal Sciences
8. Plant Science
9. General Sciences

Annexure 4

Fellows elected at or below 40 years of age

1. Nagendra Nath N S — 23
2. Chandrasekhar S — 24
3. Pancharatnam S
4. Bhagavantam S — 25
5. Sarabhai V A
6. Kaw P K — 26
7. Siddiqi M R
8. Badami J S
9. Ananthakrishnan R — 27
10. Narlikar V V
11. Sukhatme P V
12. Viswanathan K S
13. Joshi A C
14. Chowla S
15. Ramachandran G N — 28
16. Kosambi D D
17. Rama Swamy S
18. Randhawa M S
19. Jayaraman A — 29
20. Krishnamurti D
21. Patel J S
22. Rao P S
23. Doss K S G
24. Neelakantam K
25. Rao A Nagaraja
26. Seth B R
27. Madhusudana N V — 30
28. Patodi V K
29. Asthana R P
30. Dixit K R
31. Maheswari P
32. Subbaraya T S
33. Venkatarayudu T
34. Rangaswami S — 31
35. Rao C N R
36. Subramanian C V
37. Taylor H J
38. Ananthakrishnan S V
39. Chakravarthy S N
40. Malurkar S L
41. Ramaswamy M N
42. Balaram P — 32
43. Chandrasekhar S
44. Deshpande S M
45. Kane G P
46. Ramakrishnan A
47. Ramaseshan S
48. Ramaswamy C
49. Ramaswamy M K
50. Sadasivan T S
51. Sudarshan E C G
52. Singh V
53. Bappu M K V
54. Bhabha H J
55. Krishnamurti K
56. Murthy G V L N
57. Vakil R J
58. Vijayaraghavan T
59. Subramanyan V
60. Krishnan R S — 33
61. Raghunathan M S
62. Ramanathan K G
63. Subba Rao B R
64. Kapur P C
65. Dasgupta S N
66. Desai B N
67. Iyer M P V
68. Kalamkar R J
69. Mahadevan C
70. Narayana N
71. Rau M A G
72. Venkataraman K
73. Kumaran V
74. Chandrasekaran C — 34
75. Jha S S
76. Khoshoo T N
77. Murti P B R
78. Satya Prakash
79. Seshagiri N
80. Swaminathan M S
81. Tilak B D
82. Bharucha F R
83. Ganesan A S
84. Giri K V
85. Kappanna A N
86. Krishna Rao P R
87. Raghavan T S
88. Ramdas L A
89. Sarma P S
90. Seshadri T R
91. Singh Inderjit
92. Venkiteshwaran S P
93. Agarwal G S — 35
94. Athreya K B
95. Lal B B
96. Lal M B
97. Mahendra B C
98. Narayanamurti V
99. Ranganathan Srinivasa
100. Rangaswami G
101. Rao B N B
102. Sundaram S
103. Srinivasan Ramachandran
104. Sen Ashoke
105. Padmanaban T
106. Rao K V S
107. Prasad Dipendra
108. Desai S V
109. Dutt N L
110. Iyengar K S K
111. Krishnaswamy S
112. Narayanamurti D
113. Rao S Ramachandra
114. Rao S S M
115. Sahni M R
116. Sastry S G
117. Shah R C
118. Sreenivasaiah B N
119. Wheeler T S
120. Balasubramanian R — 36
121. Govindachari T R
122. Kapoor S S
123. Lal D
124. Mehta G
125. Menon M G K
126. Mukunda N
127. Narlikar J V
128. Puri V
129. Sasisekharan V
130. Siddiqi O
131. Singh B B
132. Venkateswarlu P
133. Ramanujam C P
134. Gowrishankar J
135. Rao K K
136. Uma Shanker R
137. Srinivas V
138. Deshpande D L
139. Joshi S S
140. Krishnan K S
141. Krishnan M S
142. Krishnaswamy K R
143. Madhavarao B S
144. Mata Prasad
145. Paramasivan S
146. Roy S C
147. Shabde N G
148. Sharma N L
149. Singh B N
150. Tawde N R
151. Subramaniyam K
152. Joshi Amitabh
153. Agnihothrudu V — 37
154. Anantharaman T R
155. Chauhan B S
156. Gadgil Madhav
157. Nanjundiah V
158. Parthasarathy R
159. Rao U R
160. Sharma M M
161. Subrahmanyan R
162. Singhi N K M
163. Gadagkar R
164. Bagchi Biman
165. Bagchee K
166. Khakhar D V
167. Kumar L S S
168. Mahajani G S
169. Parameswaran H
170. Subramanian T S
171. Vaidhianathan V I
172. Paranjape K H
173. Udgaonkar Jayant B

Age when elected

38

174. Bal D V
175. Chidambaram R
176. Desikachary T V
177. Govil G
178. Iyengar P K
179. Krishnamurthy E V
180. Majumdar C K
181. Menon T R
182. Narasimhan M S
183. Nori M V
184. Parthasarathy K R
185. Prasad R R
186. Radhakrishna B P
187. Raja Gopal E S
188. Ramanan S
189. Rao P V S
190. Santappa M
191. Sarma I G
192. Shastri N A
193. Swarup G
194. Shastry B S
195. Sarma D D
196. Karandikar R L
197. Chakravarti S P
198. Gogate D V
199. Janaki Ammal E K
200. Krishna Sri
201. Moghe M A
202. Ramanujam S
203. Srinivasaiengar C N
204. Nityananda R
205. Siddiqi S
206. Sharma Ashutosh
207. Chakrabarti P P

39

208. Agrawal H O
209. Bhagwat W V
210. Chandrasekharan
211. Dani S G
212. Ghatage V M
213. Hans-Gill R J
214. Irani J J
215. Joshi S K
216. Kapur R L
217. Mistry K B
218. Prasad Gopal
219. Radhakrishnan V
220. Rajaraman R
221. Ramakrishnan P S
222. Ramakrishnan T V
223. Ramdas A K
224. Seshadri C S
225. Vardya M S
226. Vishveshwara C V
227. Kulkarni B D
228. Dhar D
229. Sathyamurthy N
230. Brahmachari S K
231. Satya Murthy N S
232. Ganeshaiah K N
233. Nagaraj R
234. Ogale S B
235. Sundararajan G
236. Borkar V S
237. Pandey G P
238. Srikrishna A
239. Ramaswamy Sriram
240. Chaudhuri H
241. Kalyanasundaram R
242. Kapur S N
243. Khanolkar V R
244. Madhava K B
245. Rao B S
246. Rao P Krishna
247. Roy S K
248. Sawhney K

40

249. Baba C V K
250. Chakravorty A
251. Chowdhury M
252. Ganapathi K
253. Krishnan S
254. Likhite V N
255. Mashelkar R A
256. Narasimha R
257. Narasimhan Rangaswami
258. Rama
259. Ramamurthy V
260. Shorey T N
261. Sundaram A K
262. Surolia A
263. Thomas J
264. Sreekantan B V
265. Sridharan Ramaiyengar
266. Parimala R
267. Rao M R S
268. Krishnamurthy H R
269. Prathap G
270. Sood A K
271. Banerjee D
272. Chandrasekhar J
273. Godbole Rohini M
274. Mathur D
275. Sunder V S
276. Ganesh K N
277. Ramaswamy R
278. Nag Subashis
279. Asundi R K
280. Banerjee K
281. Bhalerao G D
282. Bharadwaja Y
283. Bhatnagar S S
284. Bhatti H K
285. Yashonath S
286. Pandit Rahul
287. Jayannavar A M
288. Kurian K I
289. Nair U S
290. Palacios G
291. Rao B Sanjiva
292. Rao H S
293. Savur S R
294. Subramaniam A P
295. Uppal B N
296. Venkateswaran C S
297. Thangavelu S
298. Jameel S
299. Narasimhan Ramanathan

Annexure 5

NEW ASSOCIATES – 2000

1. Vinod Kumar Aswal
(b. 2-8-1971)
Bhabha Atomic Research Centre, Mumbai
Areas of Interest: Small-angle Neutron Scattering in the Studies of Condensed Matter

2. Ramesh Hariharan
(b. 23-1-1969)
Indian Institute of Science, Bangalore
Areas of Interest: Design and Analysis of Combinatorial Algorithms

3. Arvind N. Nair
(b. 9-4-1971)
Tata Institute of Fundamental Research, Mumbai
Areas of Interest: Lie Groups, and Representation Theory

4. Vijay Vinayak Patel
(b. 1-4-1969)
Centre for Artificial Intelligence and Robotics, Bangalore
Areas of Interest: Instrumentation, Real Time Process Control, PC and Microprocessor-based Process Control

5. Vidita A. Vaidya
(b. 15-11-1970)
Tata Institute of Fundamental Research, Mumbai
Areas of Interest: Neuroscience

6. Umesh Vasudeo Waghmare
(b. 19-9-1968)
Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore
Areas of Interest: Computational Condensed Matter Physics and Materials Science

Annexure 6

Discussion Meeting
Origin of Life and Evolution
(30 November–1 December 2000, Orange County, Coorg)

List of Lectures

List of Participants	*Topics discussed*
1. M. Vijayan, V. Sitaramam, S. Chandrasekhar and N.T. Saraswathi	Structure (origins - chemical evolution, biophysics, bioenergetics)
2. Apoorva Patel, Sanjay Jain, Chitra Dutta and Somdatta Sinha	Models (origins of life, the genetic code, complexity)
3. Amitabh Joshi, R. Gadagkar, M.K. Chandrashekaran and Renee Borges	Genetics (gene regulation, population genetics, human genetics, behaviour)
4. Shama Barnabas, Mukund Katti, Yogesh Shouche, H.A. Ranganath	Analysis (sequences, phylogenies)
5. Vijay Chandru, Johannes Manjrekar, S. Mahadevan, V. Nanjundiah	Informatics (genomics, databases)

Annexure 7

Symposium on CFD with Hyperbolic Conservations Laws (CFDHYP - 2000)
(1–3 December 2000, Orange County, Coorg)

1. S.M. Deshpande	Inaugural address
2. N. Balakrishnan	Some aspects of unstructured mesh calculations
3. P.H. Prasad	Anatomy and functions of the heart and circulation
4. G.R. Nagbhushana	Presentation
5. Vivek Jawali	Coronary bypass surgery - the changing scene
6. R. Krishnamurthy and K. Anandhanarayanan	Grid generation for aerospace applications
7. Rahul Pandit	Defibrillation via the elimination of spiral turbulence in models for ventricular fibrillation
8. Arnab Rai Choudhuri	A theoretical model of the solar magnetic cycle
9. C.V. Vishveshwara	Conservation laws in the General Theory of Relativity

Annexure 8

Discussion Meeting "Function and Plasticity of Adult Brain"

(25–28 February 2001, Orange County, Coorg)

Summary and Programme

The opening talk by Wesley Thompson illustrated by some stunning pictures of his new discoveries on the role of the Schwann cells in the formation of synapses following denervation, at the rat neuromuscular junction. His work showed that the reactive glial cells show extensive branching following denervation and that nerve sprouts from functional end terminals are guided by these very processes.

Michael Bate focussed his talk on the wiring of motorneurons in *Drosophila* embryo. Peristalsis occurs during hatching of embryo into the first instar larva. Interestingly, while absence of sensory neurons does not affect wiring, the coordination of movement appears to be dependent upon several factors including inputs from contra-laterial side.

Jonathan Bacon talked about electrical synapses and formation of gap junctions at these sites. The synapse studied was the one that occurs between giant fibre (GF) and tergotrochanteral motor neuron (TTM). He spoke about identification of a new class of proteins, the Innexins, in Drosophila that are analogous to connections in vertebrates and that these molecules are responsible for gap junction formation in invertebrates.

Bang-sensitive behaviour in flies follows an extremely complex behavioral paradigm with an equally complex physiological basis. Chun Fang Wu shared some remarkable results on behaviour of flies post electric shock. He addressed the role of mutants such as para, affecting the threshold level measured in terms of electrical stimulation required to produce seizures associated with bang-sensitive behaviour. What was remarkable was the resemblance of this behaviour to human epilepsy.

Eve Marder spoke on activity-dependent regulation of neurons, synapses and small networks using somato-gastric ganglion of lobster as a model system. The ganglion shows a tonic rhythmicity, which in turn is the result of interplay of inhibitory signals between various motorneurons. Her hypothesis was that intracellular sensors regulated different conductances for various ions and that activity patterns are determined by specific combination of conductances.

Ken Muller talked about neurons and circuits operating in the leech that are involved in learning events such as sensitization, desensitization and habituation and the role of neurotransmitters such as serotonin in the same process.

Synaptic plasticity involves cross-talk between several signalling events. Upinder Bhalla discussed ways of simulating these mechanisms by modelling. The model arises from treating each component of signaling pathway as a reaction with a set of forward, backward rates and rate constants so that one can now assign numerical values to them for simulation.

Hollis Cline discussed the role of neuronal activity and activity-dependent processes governing axonal targeting in the visual system in the Xenopus tadpole. The dendritic arborisation of optic tectal neurons as well as those of retinal ganglion cell neurons is found to be highly dependent on the activity. She also discussed the role of a molecule CPG15 that could mediate arborisation and synapse maturation.

Long-term synaptic change is mediated by altered gene expression. Mani Ramaswami presented evidence for using neuromuscular junction in *Drosophila* as a model system to study genetic alterations in the synapse in response to electrical activity. Using a double mutant *comatose* and *Kumbhkarna* results in high Ca^{2+} levels at the synapse mimicking increased activity in the presynaptic neuron. This triggers the transcription of activity-dependent genes such as D fos, Djun and CREB.

Tim Tully made a lasting impression by his erudite talks and ability to convey the excitement in the new field of molecular psychology. He talked about the genetic basis of memory using the T-maze on Drosophila. Spaced training of flies where the electrical shock was given at definite intervals of time produced a more long-term memory as opposed to massed training, which results in a more transient form of memory. The molecular basis can be explained by activator and repressor forms of CREB. In flies, the centre for memory is the mushroom body; acquisition and storage being dendritic to it, while retrieval is axonal to these neurons. Using genetics, analysis of this circuit can be performed.

The zebra fish is a good model system to study vertebrate development. Ajay Chitnis spoke about morphogen gradients patterning the central nervous system in the fish. Boundaries between different parts of CNS are established early in development. In a specific class of mutants called *headless (hdl)* limitation of “posteriorising factors” is defective causing expansion of these structures at the expense of more anterior structures.

Our information about our whereabouts comes from information processing regarding the same in the hippocampus. James Knierim spoke of the analysis of these place cells and their characterization into three classes; cells which are local cues dominant, distal cues dominant and cells that are responsible for remapping. Studies were done by recording the firing of these neurons in the hippocampus in the rat brain.

Prolonged or inappropriate exposure to stress can compromise homeostasis thereby leading to disease. Vidita Vaidya spoke about the effects of stress on the hippocampal cells and the possible role of serotonin in mediating these effects.

Cells exist in the mammalian visual cortex that respond to specifically oriented stimuli. Collaterals exist between these neurons. Anirudha Das spoke about the role of these collaterals in facilitation and depression of the responses of the neurons to visual stimuli.

Learning can induce tremendous changes in the brain circuitry. This capacity of the brain can result in changing behavioural performance. Michael Merzenich spoke about how these plasticity-induced remodelling can be both beneficial as well as catastrophic. In addition these changes can be used in therapy of disorders such as dyslexia and that it is essential to remodel the circuitry in addition to correcting the biochemical anomalies in psychiatric ailments such as schizophrenia.

Most of the participants expressed their appreciation of how much new science was discussed and stated that they would be keen to attend a second meeting if organized. The following is the full programme of the discussion meeting.

List of Lectures

1.	John Nicholls	Introduction
2.	Wesley Thompson, Univ. of Texas, Austin	Roles of glial cells in the repair and maintenance of neuromuscular synaptic connections
3.	John Nicholls, SISSA, Trieste	Why does the spinal cord not regenerate after injury?
4.	C. Michael Bate	Emerging function in the Drosophila nervous system
5.	Jonathan Bacon, University of Sussex, Brighton	Electrical synapses in Drosophila
6.	Chun-Fang Wu, University of Iowa, USA	Fixed-action patterns and their modification in an identified neural circuit of Drosophila mutants
7.	Eve Marder, Brandeis University, Waltham	Activity-dependent regulation of neurons, synapses, and small networks
8.	Ken Muller, University of Miami, Florida	Cellular dissection of a circuit crucial for learning

9. Upinder S. Bhalla, NCBS, Bangalore	Simulations of signaling events in synaptic plasticity
10. Hollis Cline, Cold Spring Harbor Labs, New York	Activity-dependent mechanisms governing visual system development and plasticity
11. Mani Ramaswami, University of Arizona, Tucson	Genetic control of long-term synaptic change.
12. Tim Tully, Beckman Institute for Neuroscience, NY	Gene discovery for memory in drosophila
13. Mriganka Sur, MIT	Cortical plasticity and dynamics
14. Ajay Chitnis, NICHD Lab of Molecular Genetics, Bethesda	-
15. James Knierim, UT-Houston Medical School, Houston	Multi-site analysis of place cell processing in the hippocampal formation
16. Aniruddha Das, Rockefeller University, New York	Cortical dynamics and visual perception
17. Michael M. Merzenich, University of California, San Francisco	Progressive cortical plasticity-induced functional remodeling underlying variations in behavioral performance abilities
18. Vidita Vaidya, TIFR, Mumbai	Cellular and molecular mechanisms underlying the influence of stress on the adult mammalian brain
19. Shona Chatterji, Shubha Tole and M.K. Mathew	General discussion session

Annexure 9

Eleventh Mid-Year Meeting

(14– 15 July 2000, Bangalore)

A. Special Lectures

1. Abhijit Sen, Institute for Plasma Research, Gandhinagar
   Clocks, fireflies and the Landau damping of plasma waves
2. P.P. Majumder, Indian Statistical Institute, Kolkata – *Ethnic India: A genomic view*

B. Public Lecture

K.S. Valdiya, Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore
Rising Himalaya: Resurgent Indian shield in South India

C. Lecture Presentations by Fellows/Associates

1. UshaDevi N. Bhosle, TIFR, Mumbai – *Bundles on curves*
2. Mrinal K. Ghosh, IISc., Bangalore – *Maximum principle and Harnack's inequality*
3. P.P. Chakrabarti, IIT, Kharagpur – *Heuristic search in artificial intelligence*
4. Indrani Bose, Bose Institute, Kolkata – *Spin systems: Surprises and new insights*
5. S.M. Bhattacharjee, Institute of Physics, Bhubaneswar – *Unzipping DNA by a force*
6. Maneesha S. Inamdar, JNCASR, Bangalore – *Building blood vessels*
7. Pratima Sinha, Bose Institute, Calcutta – *Chromosome transmission during cell division*
8. M. Vairamani, Indian Institute of Chemical Technology, Hyderabad – *Chiral recognition studies by mass spectrometry*
9. R. Ramaraj, Madurai Kamaraj University, Madurai – *Photoelectrochemistry in micro/macro-heterogeneous system*
10. R. Sukumar, IISc, Bangalore – *Elephants, agriculture and people: Conflict and conciliation*
11. Amit Ghosh, Institute of Microbial Technology, Chandigarh – *Emergence of new strains* of *Vibrio cholerae*: *Implications for the recombinant oral vaccine strain VA1.3*
12. R. Narasimhan, IISc, Bangalore –*Numerical simulations of fracture initiation in ductile materials under dynamic loading*
13. T. Radhakrishna, Centre for Earth Science Studies, Trivandrum – *Mafic dyke intrusions and the late cretaceous geodynamics along the western continental margin of India*

Annexure 10

Sixty-sixth Annual Meeting, 2000

(24–26 November 2000, Goa)

A. Presidential Address

N. Kumar, Raman Research Institute, Bangalore – *Cold atoms*

B. Microsymposium – Climate, Monsoon and India's Water

R. Ramesh, Physical Research Laboratory, Ahmedabad –*Quantitative reconstruction of paleomonsoon parameters from natural archives using stable oxygen and carbon isotopes*

K. Krishna Kumar, Indian Institute of Tropical Meteorology, Pune – *Changes in monsoon in the recent past*

Jayaraman, Physical Research Laboratory, Ahmedabad – *Aerosol radiation cloud interaction over the Arabian Sea prior to the onset of summer monsoon*

M.M. Sarin, Physical Research Laboratory, Ahmedabad –*Geochemistry of Himalayan Rivers as an agent of climate change*

M. Rajeevan, India Meteorology Department, Pune – *Predicting the Indian summer monsoon*

C. Special Lectures

P.M. Mathews, University of Madras, Chennai – *Glimpses into the Earth's interior from observations of objects in space*

S.K. Sopory, International Centre for Genetic Engineering and Biotechnology, New Delhi
Genetic engineering for developing plants for high soil salinity environment

D. Public Lectures

S. Ranganathan, Indian Institute of Chemical Technology, Hyderabad – *The magic in Chemistry*

Madhav Gadgil, Indian Institute of Science, Bangalore – *Butterflies*

E. Lecture Presentations by Fellows/Associates

K.P. Singh, Tata Institute of Fundamental Research, Mumbai – *Peering into the hearts of galaxies*

Santanu Bhattacharya, Indian Institute of Science, Bangalore – *Lipid design: From structure to function*

Somdatta Sinha, Centre for Cellular and Molecular Biology, Hyderabad – *Collective Behaviour in biological systems*

T.K. Chandrashekar, Indian Institute of Technology, Kanpur – *Receptors for anions and Cations*

Baldev Raj, Indira Gandhi Centre for Atomic Research, Kalpakkam – *Probing of microstructures and their evolution by magnetic and acoustic methods*

Shubha Tole, Tata Institute of Fundamental Research, Mumbai – *How the brain is built?*

M. Krishnamurthy, Tata Institute of Fundamental Research, Mumbai – *Cluster explosion dynamics in intense laser fields*

G. Krishnamurthy, Tata Institute of Fundamental Research, Mumbai – *Fluoroscence dynamics in biology*

Ram Seshadri, Indian Institute of Science, Bangalore – *Carbonate mineralisation and biognostic routes to new materials*