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DEVELOPMENTAL BIOLOGY AND GENETICS LABORATORY

Dr. N.V. Joshi,
Centre for Ecological Sciences,
Indian Institute of Science,
Bangalore 560 012.

15 June, 1994

Dear *Nirajan*

I enclose a copy of a letter sent to me by Prof. R.P. Bajpai of the North-Eastern Hill University. The letter is self-explanatory. Could you kindly go through it and get back to Dr. Bajpai directly?

With thanks,

Yours sincerely,

(V. NANJUNDIAH)

Encl: as above

vn/bs



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INSTITUTE OF SELF ORGANISING SYSTEMS AND BIOPHYSICS

The 6th June, 1994

Prof.V.Nanjundiah
Developmental Biology and Genetics
Laboratory, Indian Institute of Science,
Bangalore-560012.

Dear Prof.Nanjundiah,

Thank you very much for your letter. As promised during the workshop, I am enclosing herewith a note raising a few points regarding M.Sc (Biophysics) course. I shall appreciate it very much, if you kindly let me know your opinion as well as the opinion of other persons in I.I.Sc, Bangalore about them. Kindly suggest the names of the persons, who will be helpful in devising M.Sc(Biophysics) course for our Institute.

Regarding scientific topics, I am not suggesting anything, simply because I was not present during the panel discussions. Perhaps, Dr P.Nongkynrih has written a letter indicating various topics. This is one of the reason, why I delayed the sending of this note.

With regards,

Yours sincerely,

R.P. Bajpai
(R.P. Bajpai)
Professor

INSTITUTE OF SELF ORGANISING SYSTEMS AND BIOPHYSICS
NORTH EASTERN HILL UNIVERSITY SHILLONG 793022

A note by Prof. R. P. Bajpai on the M.Sc(Biophysics)

1. Identity Crisis: The important question to ask is "whether Biophysics is a sufficiently developed discipline to teach as M.Sc(Biophysics) course?". My answer is at present no, but will soon emerge to be a viable course.

The discipline of biophysics originated from the desire to apply the techniques and methodology of physics in understanding the fundamental problems of biology. The strategy was good but did not yield the expected returns primarily because of the wide gap between the paradigms of two disciplines. Consequently, many departments of Biophysics in U.S.A. and other European countries did not flourish. They were either wound up or merged with other disciplines. In India, where both winding up and merging are not practicable, M.Sc (Biophysics) programme metamorphosed into medical physics or a collage of exercises in biomaterials and their transport properties. It has a very little scope of growth.

Situation is now changing. With the availability of cheap computing power and instruments approaching theoretically permissible sensitivity, complex systems are amenable to physico-chemical investigations. The gap between biology and physical sciences is constantly being narrowed down. One can seek answers to questions permissible in both disciplines. As a result, a new discipline of Biophysics is being evolved. In the current stage, it still have a considerable overlap (approximately 40% with Biochemistry.

A large overlap with a developed discipline is problematical. Biochemistry offers soft options and quick returns, which forces many biophysicists to become biochemists. This is a serious problem. Both can not co-exist in a single unit.

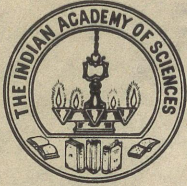
2. Eligibility of Input Students: For a proper teaching programme, it is essential that input students must be B.Sc(Hons) in physics. Opening of other channels like students with B.Sc(Hons) in Biological subjects will be detrimental. It will be impossible to devise challenging and satisfactory academic curriculum, with input from many disciplines in the Indian conditions.

3. Creation of Employment Opportunity: One need not worry about the top 20% of the students. They will find openings in the research

institutions. One must create openings for the lower 80%. For this purpose, efforts must be made on a national level to declare M.Sc(Biophysics) as cognate or allied subject for recruitment in schools, college and other institutions where M.Sc(Physics) are usually employed.

4. Course Contents: The general structure of the course content should be 30% experimental component and 70% theoretical component. A further sub-division into various components related to the established disciplines is given below: Chemistry (5%), Mathematics (10%), Physics (10%), Molecular Biology (15%), Cell Biology (10%), Theoretical Biology (10%), Experimental Techniques (10%), Bioethics (10%), Evolution (10%), Genetics (10%)

5. Responsibility of pioneers to disseminate information: Any evolving discipline requires constant support in the form of conferences, workshops, discussions and summer schools by the pioneers in the field. Unfortunately, financial crunch comes in the way. A possible compromise is to distribute the material covered in various meetings through floppies. The workshop at Shillong concentrated on evolution and biological rhythm. At a cost of air support of a single person, one could have distributed the entire proceeding in floppies to all interested institutions in the country. All organizers be compelled to do so. Similarly, resource floppies containing an up-to-date review, back ground material and relevant papers must be made on the various topics suggested in panel discussions or mentioned as thrust areas by national committees. Perhaps, work may be shared by various institutions claiming expertise or substantial grants.



INDIAN ACADEMY OF SCIENCES

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JB-100/D-2657

July 24, 1991

Dr N V Joshi
Centre for Ecological Sciences
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Dear Nirranjan,

Your manuscript "Drongos and the mixed-species feeding flocks" has been reviewed by two referees. There is general agreement that the scope of the paper is interesting. However, as you will see from the attached comments, there are also fairly serious queries regarding the handling of data and manner of presentation. I am therefore returning the manuscript to you. If you are able to address yourself to the referees' criticisms and modify the paper suitably (paying particular attention to language), please do so and return it.

With regards,

Yours sincerely,

N. V. Joshi

V Nanjundiah

P.S. Let me draw your attention to the following
papers by Diamond: The Emu 87 (4) p201, 1987 and
Nature 292, 408 (1981)