

### Other Activities

Prof AC Sinha was appointed as a consultant to the Government of India sponsored Rapid Household Survey (Under nation-wide component of the Reproductive and Child Health Project (RCH) for the States of Assam, Meghalaya and Nagaland, conducted by TALEEM Research Foundation, Ahmedabad.

## INSTITUTE AND CONSTITUENT COLLEGES

### INSTITUTE OF SELF ORGANISING SYSTEMS & BIO-PHYSICS

The Institute was established in the year 1986. It is a purely research institute within the university system dedicated to pursue interdisciplinary research in newly emerging and unconventional areas. The primary aim of the institute has been to investigate biological phenomena using techniques of physical sciences with a view to obtain an integrated vision of science. The Institute also trains students in new methodology and equips them with skills to face challenges encountered in scientific endeavors. The institute admits students from various science departments in its ongoing research activities. The research students can register in respective departments for their M.Phil. and Ph.D. degrees. The faculty members carry out research work in diverse fields and collaborate with other departments in the university and with national and international institutions. The institute has an international vision and reputation. Its faculty members have been honored in both national and international forums for doing original and quality work. The students trained by the institute have gained employment in prestigious institutions. One student received the young scientist's award on the work carried out for his Ph.D. dissertation. The current research interest of the institute lies in the measurements of biophotonic activity and its possible connection with squeezed states, harmono-toxins and drug targeting, acoustic communication in Anurans, bio-diversity and conservation of amphibians in the eastern Himalayan belt, modeling of neuronal and immunological activities, nonlinear dynamics and chaos.

Head: vacant

Courses Conducted: M.Phil. and Ph.D

Ph.D. Awarded to

1. Miss. B.Borah on the dissertation entitled "Development of the Auditory System and Acoustically mediated Behaviour in Anurans"
2. Mr. Biswajit Pal on the dissertation entitled "Spectroscopic Studies of Proteins and Azo Dyes: Protein Secondary Structure, Structural Changes in Dyes and Dye-Protein interactions"

Faculty :

Professor : R.P.Bajpai, M.Sc.(Alig.), Ph.D.(Glas.)

Readers : Vinod Singh, M.Sc./Ph.D.(Kanpur),

Dr.Satish Kumar, M.Sc.(Ban.), Ph.D.(Utkal)

Dr.Debjani Roy, M.Sc.(Gauhati), Ph.D.(NEHU)

**Seminar/Conferences :**

Dr.R.P.Bajpai (I) attended the International Symposium on Biophotons in Germany from Aug. 22- 26, 1998 and presented a paper entitled "Advantages with the description of Biophotons as squeezed state of light". (ii) Attended the International Symposium on Food Quality in Germany from Aug. 30- 31, 1998 and presented a paper entitled "Possible roles of Biophotons in food industry".

Dr. Debjani Roy (I) attended the International Conference on Biodiversity Conservation Prioritisation Programme at WWF-Nature India, New Delhi from April 27-28, 1998 and presented a paper entitled "Prioritisation of Biodiversity Rich Sites in Meghalaya". (ii) attended the workshop on Peoples' Participation in Biodiversity Conservation at Shillong from March 4-6, 1999 and delivered a talk entitled "Measures for Biodiversity Conservation and Role of NGO's".

**Publications:**

Bajpai, R.P., Kumar,S., and Sivadasan, V.A. (1998). Biophoton Emission in the Evolution of a Squeezed State of Frequency Stable Damped Oscillator, *Applied Mathematics and Computation*. 93,277-288.

Bajpai,R.P. Coherent Nature of Biophotons: Experimental Evidence and Phenomenological Model: In Chang , J.J., Fisch,J., Popp,F.A. Ed. *Biophotons*. Kluwer Acad. Pub. 1998. Pp323-339.

Roy, D., Sarma, A., Borah,B., and Bannette, B.W.(1998). Significance of Biometric ratios and Bioacoustics Call Analysis in Amphibian Systematics, *Journal of Bombay Natural History Society*. 95(1),19-32.

**Research Programmes :** On going projects include those supported by DST, SERC and WWF India.

**Other Activities:**

1. Dr. S. Kumar taught "Quantum Mechanics I" to M.Sc. (Physics) in the department of Physics.
2. Dr. Debjani Roy (a) visited Smithsonian Institute Washington D.C. and the Smithsonian Tropical Research Institute, Panama from August1 -31, 1998, (b) visited the Department of Zoology, University of Texas at Austin from Sept1-5, 1998, (c) visited the Department of Zoology, University of Oxford from Sept6-14, 1998, (d) Participated in the meeting on Biotechnology for Woman : A vision for 21<sup>st</sup> Century, New Delhi on November 11, 1998, (e) Participated in the meeting on Using Satellite Imagery Data for Biodiversity Maps at IIRS, Dehradun from Dec.8-10, 1998.
3. Dr. R.P.Bajpai visited the International Institute of Biophysics, Neuss Germany from August15-October31, 1998.
4. Dr. Vinod Singh (a) visited Protein Core Laboratory, Department of Biological Sciences, Wichita State University, Wichita KS from April6 to June 20, 1998, (b) visited Protein Core Laboratory, Department of Biological Sciences, Wichita State University, Wichita KS from February1 to March 31, 1999.

## PACHHUNGA UNIVERSITY COLLEGE

Pachhunga University College the oldest College in Mizoram was founded in 1958 and is now 41 years old. It was initially a Private College and in 1967 was made a Government College under the Composite State of Assam. It remained a Government College till 1979. When it was taken over as a Constituent College of North Eastern Hill University, with a view to making it a pace-setting institution in the region. This is the Premier College in the State of Mizoram offering Pass & Honours undergraduate courses in eighteen subject of Sciences, Arts and Commerce.

The College occupies a land area of 730 acres with trees of many species. It is ideally located about three kilometres from the heart of the Aizawl town, and well connected by the public transport system.

### ACADEMIC STRUCTURE

#### **Courses of Graduate Studies :**

The pattern of courses in this College falls mainly into three broad categories : Arts, Sciences and Commerce. The College ran +2 level Arts, Sciences and Commerce courses till 1996 and since they have been dropped, as the +2 level in the State is shifted to Higher Secondary Schools.

At present the College offers Undergraduate Courses in Art, Science and Commerce. Under the Arts Courses, subjects covered are Literature (English/Mizo), History and Philosophy. Under Social Sciences come Economics, Sociology, Political Sciences, Geography, Education and Psychology. Under the Science stream, Physics, Chemistry, Mathematics, Geology, Botany, Zoology and Statistics are offered. Commerce subjects include Banking, Computer Science, Accountancy and Economics. It is noteworthy to mention that Honours level courses are offered in all the existing subjects in Arts, Sciences and Commerce, only in this College in Mizoram. The subject combination in Arts is not restricted and students are given wide options. In the Science stream subject combinations are restricted due to obvious reasons.

#### **Enrolment of Students :**

During the last five years (1992-96) the total enrolment of students per year is over 1200. The number of students in Science stream per year on the average is over 600. The enrolment in the Arts stream is gradually increasing, although it is also being introduced in number of Colleges of Mizoram. The Commerce stream in the College attracts only a few students and the enrolment remains the same over the years.

Nine five percent of the students belong to schedule tribe and are from backward, and border areas of the State. The ratio of female students to male students is 1:3.

The admission of students to the different courses is generally based on merit. The minimum requirement for admission to Honours course in the degree level is 45% marks in the Higher Secondary Examination in the subject concerned. Each Science Department can accommodate 20 students in Honours/Major courses.

### Performance of the Students :

Pachhunga University College has contributed immensely for the development of Higher Education particularly the Science Education in Mizoram. Till recently the College as the only institute providing +2 level course in Science to the students, who after completing the course entered the professional education namely Engineering, Medicine and Agriculture, and Veterinary. The graduates passed out from this College in Arts, Sciences and Commerce are of high quality who joined Civil/Administrative services, Teaching and other jobs. This College is an important feeder institution for the Post-graduate programme in Shillong and Aizawl Campuses of the University.

Over the last few years the pass percentage of the students in the University Examination at the degree level Honours courses have been increasing.

## STUDENT SERVICES AND AMENITIES

### STUDENTS' WELFARE

The Office of the Dean of Students' Welfare continued to serve as the nodal agency for student services and their welfare. Though largely concerned with the Shillong Campus, the Office coordinated student activities in the Aizawl Campus through teachers given charge of these functions. Throughout the period under the review Dr. B. Kharbuli, Reader in Zoology, held charge as Dean Students' Welfare. As in previous years a major concern of the office was management of the residence of the post-graduate students and research scholars, the coordination of the NEHU Students' Union, cultural activities and admission to the post graduate and research programmes of the University and the award of P.G. Scholarships and Students' Aid Fund.

#### Scholarships/Aid Fund

During the period under review 85 NEHU P.G scholarships including 22 to ST/SC students were awarded. Six economically backward students were awarded NEHU Students' Aid Fund.

#### Residence in Hostels

In the Shillong Campus, Total Hostel admission is as follows :

	Gen	SC/ST	Total
Hostel (Male)	09	61	70
Hostel (Female)	13	103	116

#### Students' Activities :

Election to the Executive Committee of the NEHU Students' Union for the year 1998-99 and 1999-2000 was conducted on schedule.

The Office coordinated the Study tour of eight Academic departments, namely: Political Science, Physics, Education, English, Biochemistry, Zoology, Geography, and Anthropology.

In addition to the Annual University Week which included Sports and Games and cultural programmes, the office also organised the following :