

The Faculty Members

It seems only yesterday when one looks back. But it has been long and demanding 25 years since the department came into existence. In 1980, Prof. R. Lalthantluanga joined the newly sanctioned department with which the department was formally launched at the Mayurbhanj campus of NEHU. Dr. M. Y. Khan joined the department as a Lecturer in the same year and with two members in the faculty department set out on its task of teaching and research programmes in biochemistry. The first batch of M. Sc. Students was admitted to the department in 1982. In 1984, three new colleagues, namely, Dr. R. N. Sharan (Lecturer), Dr. A. N. Rai (Reader) and Dr. C. Kumar (Reader) joined the department. Some research scholars for Ph. D. programme had joined the department by that time. It was only in 1988 that the next two colleagues Dr. R. Sharma (Reader), Dr. A. Alam (Lecturer) joined the department providing the much needed acceleration to the teaching and research programmes of the department. By that time, Dr. C. Kumar had left NEHU to join JNU as an Associate Professor at SLS in 1986. In 1993, Dr. M. Y. Khan (Reader) also followed suit to join Department of Biochemistry, Faizabad University as a Professor. Both of them had provided their might and toiled with all in laying a robust foundation to the formation of the vibrant department. The year of 1996 saw addition of Dr. D. Syiem and Dr. A K. Singh to the faculty as Lecturers. It was only in 2002 that Dr. (Ms.) Mayashree B. Syiem, Dr. P. K. Ambasht, Dr. L. Kma and in 2003 Dr. (Ms.) Kavita Shah joined the department as Lecturers bringing the faculty strength to a desirable level.



The members of faculty of Department of Biochemistry, NEHU in 2005 (L to R : Drs. A. K. Singh, D. Syiem, R. Sharma, R. Lalthantluanga, A. N. Rai, R. N. Sharan, A. Alam, M. B. Syiem, K. Shah, P. K. Ambastha and L. Kma)

Expansion reflects growth. The Department of Biochemistry, NEHU, has also grown over the years. On the occasion of the completion of its twenty five years of glorious standing, it is appropriated to acknowledge its strength, the members of faculty of this department and to see how they have evolved from "**THEN to NOW**". Each member is a STAR that shines with his/her persona, research activities and professionalism.

Dr. R. Lalthantluanga
Professor

Then, 1980 ...



Born: 01.03.1947

Email:

Degrees held: B. Sc., (Hons.), GU, Assam
M. Sc., Pune University
Ph. D., Pune University

... and now, 2005.



Prof. Lalthantluanga, the founding member of faculty of the department, joined as a Reader and started the department in 1980. Earlier, he was a lecturer in the Department of Zoology, NEHU (1976 – 1979). He became Professor in 1984. Before joining NEHU, he did his post-doctoral studies at a Max Planck Institute in Germany supported by a DAAD fellowship. In NEHU, he has served several important administrative positions including Head, Department of Biochemistry (1980-86; 1989-90) and Pro-Vice Chancellor of erstwhile Mizoram campus of NEHU (1990-2001). Currently he is Dean of the School of Life Sciences.

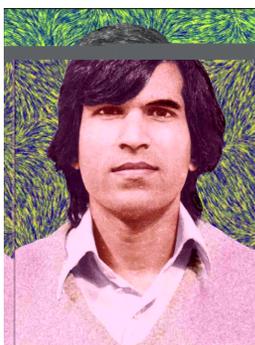
Prof. Lalthantluanga has over 30 years of post-doctoral teaching/research experience. He has been interested in study of high altitude adaptation of biological systems. He has used haemoglobin and oxygen binding as a model system to analyze the structural and functional aspects of the protein in relation to high altitude adaptation. Prof. Lalthantluanga has published 25 research papers and articles in national and international journals. He has supervised several Ph. D. theses and presently one research scholar is working under him.

Research grants:

Prof. Lalthantluanga has completed two projects. The project funded by the **North East Council** dealt with the haemoglobinopathies in this region while that funded by the **Ministry of Environment, GOI** dealt with the nutritional studies of Meghalaya.

Dr. A. N. Rai
Professor

Then, 1984 ...

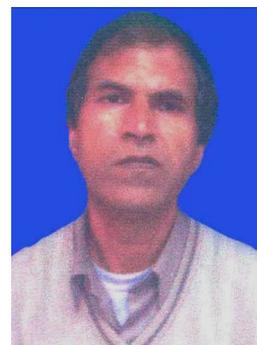


Born: 01.11.1955

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Degrees held: B. Sc. (Hons), Gorakhpur University
M. Sc., BHU
Ph. D., Dundee University, Scotland

... and now, 2005.



Prof. Rai joined the department as a Reader in 1984 from Hyderabad University where he was serving as a Lecturer. He became Professor in 1987. Earlier he did his post-doctoral at University of Dundee, UK (1980-83). His extensive research at doctoral and post-doctoral levels had already established him as an international authority in the field of N₂-fixation and related metabolism. He has continued and developed the field at the department making a place for his group at international level. He has active research collaborations with Uppsala and Stockholm Universities for over a decade. He has been a Visiting Professor at Uppsala and Stockholm Universities, Sweden (1985 and 2002). Prof. Rai is presently the head of the department. Formerly he has also been the Head of Department of Biochemistry (1986-89; 1990-93)

and the Dean of School of Life Sciences (1999-2002). As , a Visitor's nominee for Academic Council and University Court, Nagaland Univ (1996-99) and as member of UGC panel on Molecular Biol. & Biotechnol. (1996-99), Prof. Rai has made significant contributions. Prof. Rai is elected Fellow of Linnean Society, London and Member of Institute of Biology, London. He is recipient of Young Scientist Award (Biotechnology), 1996.

With over 25 years of post-doctoral teaching/research experience, Prof. Rai has supervised 5 Ph. D. theses. Presently, 4 research scholars are working on different aspects in the broad area of microbiology. His main research interest is in microbial biochemistry (Plant-microbe interactions/ cyanobacterial physiology & biochemistry). Prof. Rai has **78** (3 books, 23 book chapters, 51 research papers & 1 technical report). He is serving on the editorial board and has been referee for many journals and funding agencies.

Research grants: Prof. Rai is presently running a **DST** funded project on ---- (2004 – continuing). Earlier, he completed 3 research projects funded by different national and international agencies. The INSA project dealt with study of --- (1984-87). The **DST** funded research project was ----- (196-89) while under **SAREC-SIDA**, Sweden grant (1986-89; 1990-93; 1998-2001) he worked on -----.

Dr. R. Sharma Professor

Then, 1988 ...



Born: 20.07.1956
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Degrees held: B. Sc., BHU
M. Sc., BHU
Ph. D., BHU

... and now, 2005.



Prof. Sharma joined the department in 1988 as a Reader from Manipur University where he was serving as a Lecturer. He became a Professor in 1998. Earlier, he did his post-doctoral study at the Department of Physiology-Anatomy, University of California, Berkeley, USA (1986-88) under National Scholarship from the Ministry of Human Resources and Development, Gov. of India. Prof. Sharma continued his active research in the broad area of development and ageing and has emerged as an internationally acclaimed scientist in the field. He has established research collaborations with the Dept. Cell and Mol. Biol., Univ. California, Berkeley, USA and with the Inst. Enzyme Res., Tokushima Univ., Japan; Dept. Biochem., Sch. Pharmaceutical Sci., Toho University, Chiba, Japan. He has been Visiting Professor to Tokushima University (1989-90) and Toho University (2003-04). Prof. Sharma has been Head of the department (1993-96; 1999-2002). He has also served on important academic/administrative positions outside NEHU which includes Member of Research Council, RRL, Jorhat (2000-03), Member of Board of Management, NERIST (MHRD, Gov. India), Itanagar (2002-05). He is also a Council member of the Assoc. Gerontology (India).

With over 25 years of post-doctoral teaching/research experience, Prof. Sharma has supervised 8 Ph. D. theses. Presently, 4 research scholars are working under his supervision on different aspects in the broad area of development and ageing. His main research interest is in hormonal regulation and kinetic characterization of various enzymes of carbohydrate, amino acids and nucleotide metabolisms during development and ageing of rats/mice/chicken;, glucocorticoid receptor regulation (its level, activation and DNA-cellulose and nuclear DNA binding) during development and ageing of rats and mice. A systematic work on the dietary regulation of adenosine deaminase and malate-aspartate shuttle enzymes and that of glucocorticoid receptors at different phases of the mouse's life span is being carried out. Prof. Sharma has 56 publications in various national and international journals. He is serving as an Associate Editor on the editorial board of Biogerontology and Journal of Assam Science Society, besides being referee for several journals (IJBB, BBA, Biogerontology) and funding agencies (DST/UGC/CSIR).

Research grants: Prof. Sharma has completed 6 research projects funded by different national and international agencies. A **UGC** funded project dealt with biochemical adaptations in relation to evolution (1984-85) While the **Min. Education, Japan** funded project related to study of biomodulators of glucocorticoid action (1989-90). Another **UGC major research project** involved study of regulatory changes in enzymes of malate-aspartate shuttle during development, and ageing of mice (1990-93). A **DST** funded research grant explored biochemical changes in glucocorticoid receptor during development and ageing of mice (1991-95) while the other **DST** funded research project studied regulation of glucocorticoid receptors during dietary restriction in mice (2000-2004). His **CSIR** funded research project dwelled upon regulation of adenosine deaminase in mice: hormonal and dietary interventions (1999-2002).

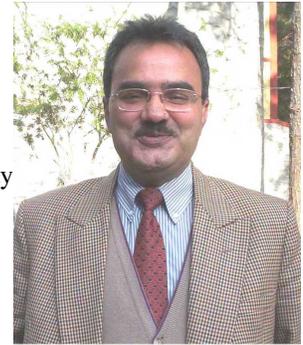
Dr. R. N. Sharan
Professor

Then, 1984 ...



Born: 08.07.1956
E-mail: msharan@nehu.ac.in
Degrees held: B. Sc. (Hons.), Patna University
M. Sc., JNU
Ph. D., JNU

... and now, 2005.



Prof. Sharan joined the department in 1984 as a Lecturer. He became a Reader in 1992 and Professor in 2000. Earlier, he did his post-doctoral work at Nuclear Research Center (renamed Research Center Juelich) in Germany (1987-88) supported by a DAAD fellowship. Later he continued active research collaboration with the institute for over a decade, which also saw exchanges of research scholars between the two institutions on regular basis under an Indo-German Bilateral Exchange Programme. He also established research collaboration with Osaka University, Japan under 'Research for Future' programme. He continues to be a Visiting Professor at FZ, Juelich, Germany and Osaka University, Japan. He has been President of the Indian Society for Radiation Biology (2000-04). He has established VSAT facility of NEHU providing on-line data and voice links in the campus and has been its Administrative In-charge since its inception in 1999. He has also been Head, Department of Biochemistry, NEHU (1996-99); Member, National Youth Council, Govt. of India (1990 – 93) and Program-Co-ordinator, National Service Scheme (NSS) at NEHU (1990 – 93 & 1999 to date).

With over 22 years of post-doctoral teaching/research experience, he has supervised 8 Ph. D. and 1 M. Phil. theses. Currently, 5 research scholars are working on different aspects in the broad area of molecular biology and biochemistry of carcinogenesis and radiation damage to DNA. He has been actively engaged in understanding the role of poly-ADP-ribosylation of chromosomal proteins and its suitability for a population detection/screening tool for cancer (recognised as 'Emerging Technologies from Indian Universities' by UGC-UNDP; patent pending). His pioneering work on betel nut carcinogenesis, especially relevant to this part of country, has won him special international recognition. He is also working on HMG proteins in regulation of gene expression during induced carcinogenesis by betel nut, chemical carcinogens and radiation of different qualities. Using bacterial model, his group is very actively working on radiation and chemical induced damage to DNA and its repair especially in context with the NT sequence; study using a plasmid model in various mutants of *E. coli*. He is also interested in chemical modification of radiation and chemical carcinogenesis at molecular levels and drug carrier system and development. Prof. Sharan has 65 publications (including 3 books, 56 research papers & 6 articles). He is serving as an Associate Editor (Foreign) on the editorial board of Journal of Radiation Research (Japan) besides being referees to many international journals and funding agencies.

Research grants: Prof. Sharan has completed 6 projects funded by different national and international agencies. A **DST** project under **Indo-German Co-operative Research Program** (1998-2002) dealt with molecular biology of radiation damage and repair while another **DST** project was on role of poly-ADP-

ribosylation in cellular transformation (1997-2001). A **TWAS** (Trieste, Italy) project related to development of appropriate models of DNA during radiation damage and repair (2000-01). His **CSIR** project on High Mobility Group (HMG) Proteins in Carcinogenesis (1991 – 1995) and a **UGC major** project on a response protein (1986 – 1990) were highly acclaimed. **Department of Environment** project supported study on betel nut carcinogenesis (1986 – 1988).

Dr. A. Alam
Reader

Then, 1988 ...



Born: 07.08.1951

Degrees held: B. Sc.(Hons.), AMU
M. Sc., AMU
Ph. D., FTI, Moscow

... and now, 2005.



Dr. Alam joined the department in 1988 as a lecturer. He became Reader in 1997. Earlier Dr. Alam had worked as a Scientific Pool Officer (CSIR) at CDRI, Lucknow (1980-84) on lipid and protein organization in malaria infected RBC membrane and at NII, New Delhi (1984-88) on adjuvant active compounds for birth control vaccine formulation. Dr. Alam has a strong chemistry background, which has been groomed over the years in various fields of biochemistry and, in particular, immunology. Consequently, the research contributions of Dr. Alam have been recognized internationally. He has been a Visiting Faculty to Molecular Biology and Biotechnology Department, Tezpur University, Assam twice.

With over 24 years of post-doctoral research/teaching experience behind, Dr. Alam has supervised 4 Ph. D. theses. Presently, 2 research scholars are working under his supervision. Dr. Alam's research interest lies in the broad area of cancer immunology including cancer immunotherapy, drug delivery system and drug targeting. Therefore, his research has strong applied potentials in cancer therapy. Dr. Alam has 31 publications to his credit, including a paper in *Nature* (London), book chapters and articles. He is a referee of *Indian J. Biochem. Biophys.* and *Indian J. Biotech.* Dr. Alam also holds a patent in his name (Patent # 11F/106/88, CSIR, New Delhi 1988: *A process for synthesis of MDP-derivative processing high immuno-adjuvant activity*; Rizvi, K.B. Mathur, Anis Alam and G.P. Talwar).

Research grants: Dr. Alam has successfully completed two major projects. The **UGC** major project focused on development of a new vaccine delivery system using liposome as a carrier of immunogen (1990-93) while the **DST** sponsored project was continuation of the work specific to liposome as vehicle for presentation of tumor-associated antigen to the immune system (1996-99).

**Dr. D. Syiem
Reader**

Then, 1996



Born: 28.02.1960

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Degrees Held: B. Sc., NEHU
M. Sc., NEHU
Ph. D., NEHU
(NET; UGC-CSIR)

... and now, 2005.



Dr. Syiem joined the department in 1996 as a Lecturer. He became Reader in 2002. Earlier, Dr. Syiem served the department as a senior technical assistant (1987-1996) and has been associated with the department in various capacities since its inception. With research interest centered in medical biochemistry, Dr. Syiem has taken keen interest in medicinal plants to exploit its potential medical benefits to humans. As a result, Dr. Syiem holds an authority in medicinal plants of the region, which is also internationally known as the biodiversity hot-spot. Dr. Syiem has established collaboration with NEC, MoEF, NBSAP, NEBRC. Besides, Dr. Syiem has also been contributing in policy making relevant to the upcoming filed of biodiversity by serving on the state steering committee of National Biodiversity Strategy and Action Plan (NBSAP) (2001-2002), state level planning committee on Conservation and Sustainable Utilization of Medicinal Plants (2003), Board of Directors, Meghalaya Tourism Development Corporation (MTDC) (2003-2005), Health Advisory Board, Govt of Meghalaya (2004-2005) and Meghalaya Science Society, Shillong. He is also a life member of Association of Gerontology, India. Dr. Syiem is not only from the first batch of M. Sc. Graduates of the department, he is also the founding member and President of the Alumni Association of the department.

Dr. Syiem has 10 years of post-doctoral research/teaching experience. At present, 7 research scholars are registered for Ph. D. under his supervision working on different aspects of medicinal plants in diseases, which is his main research interest. Dr. Syiem has 12 publications to his credit in journals of high standing and in books as chapters/articles. He has also edited a book. Presently, he is editing a book for Assam Science Society.

Research grants: At present, Dr. Syiem is involved with a mega-project funded by the **North Eastern Council** in form of a **North Eastern Biodiversity Research Cell** at NEHU as a Principal Investigator (1998- continuing). The project, likely to continue, involves identification, cataloguing and isolation/characterization of principal active components from medicinal plants of the region. He also collaborated with Assam Science Society in a project for school children funded by MHRD, GOI. (2004-2005).

Dr. A. K. Singh
Reader

Then, 1996



Born: 05.01.1965

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Degrees held: B. Sc., Gorakhpur University
M. Sc., Gorakhpur University
Ph. D, University of Hyderabad

... and now, 2005.



Dr. Singh joined the department as a Lecturer in 1997. He became Reader in 2002. Earlier, he did his post-doctoral research with Prof. Sammy Boussiba under the prestigious Jacob Blaustein Desert Research Post-doctora fellowship program, Israel (1994-95). His work on osmoregulation of nitrogen metabolism in Cyanobacteria was widely acclaimed. Later he was invited by ----- and worked on the intracellular pH regulation in the alkalophilic Cyanobacteria. Dr. Singh was Visiting Fellow at the Department of Microbiology, Univ. of Bayreuth , Germany for 6 weeks (1993). He has been invited thrice as a Guest Scientist by Prof Peter Boeger, University of Kanstant, Germany to jointly work on cyanobacterial diversity (19-- , 19-- , 19--).

Dr. Singh has 17 ??? years of post-doctoral research/teaching experience. His research centers on nitrogen assimilation in Cyanobacteria and its molecular genomics. At present – research scholars are doing Ph. D. under the supervision of Dr. Singh on different aspects of nitrogen assimilation. Dr. Singh has published 19 research papers in national and international journals of repute.

Dr. (Ms.) Mayashree B. Syiem
Senior Lecturer



Born: 06.08.1963

Email: mayashreesyiem@yahoo.co.in

Degrees held: B. Sc. (Hons.), BITS, Pilani
M. Sc., NEHU
Ph. D., NEHU
(NET; UGC-CSIR)

Dr. (Ms.) Syiem joined the department as a Lecturer in 2002 after an early 8 years of teaching in the Department of Biotechnology and Biochemistry, St. Anthony's College, Shillong and research associateship under an Indo-France project. She is now promoted to senior lecturer. Dr. (Ms.) Syiem has strong research interest in Cyanobacterial nitrogen metabolism and continues to do her current research in the filed.

Dr. (Ms.) Syiem has 12 years of post-doctoral teaching/research experience. At present, one research scholar is working for Ph. D. under her supervision. She has 8 research publications in national and international journals of high standing and a book chapter to her credit. She has also authored a Laboratory Safety Manual for research scholars.

Research grants: Dr. (Ms.) syiem is currently running a research project granted by **DST** to look into ----- (2004 - continuing).

Dr. P. K. Ambasht
Lecturer



Born on: 10-02-1963
Email: pambasht@rediffmail.com
Degrees held: B.Sc. (Hons.), BHU
M. Sc., BHU
Ph. D., BHU
(NET; UGC)

Dr. Ambasht joined the department as a Lecturer in 2002. He has rich post-doctoral experience in various aspects of biochemistry. He worked as a RA on medicinal plant biochemistry at Institute of Medical Sciences, BHU (1994-1995) and at the Department of Biochemistry, BHU (1995-1998). He was appointed as Scientific Pool Officer in Molecular Biology Unit, Institute of Medical Sciences, BHU from 1999 where he worked until joining NEHU. Dr. Ambasht has strong research interest in enzymology, which has been enriched by his varied research experience in different capacities. He has established research collaborations with Molecular Biology Unit of Institute of Medical Sciences and School of Biotechnology at BHU.

Dr. Ambasht has 12 years of post-doctoral research/ teaching experience. His current research interest is in the field of enzymology with special emphasis on protein folding and enzyme immobilization. Dr. Ambasht has 12 publications (including a book, research papers & articles).

Dr. L. Kma
Lecturer



Born: 04.09.1976
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Degrees held: B. Sc. (Hons.), NEHU
M. Sc., NEHU
Ph. D., NEHU
(NET; CSIR)

Dr. Kma joined the department as a Lecturer in 2002. He has worked in the field of chemical induced carcinogenesis and continues to do research in the field. He has participated in many seminars/symposium/workshops and was a member of organizing committee of National Workshop on Conservation and Sustainable Utilization of Medicinal Plants of North-East India.

Dr. Kma has about 2 years of post-doctoral research and teaching experience and has one research publication to his credit. He has initiated research in the field of carcinogenesis with special emphasis on human cancer, cancer detection and prevention.

Dr. (Ms.) Kavita Shah
Lecturer



Born on: November 06, 1968

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Degrees held: B. Sc. (Hons.), BHU
M. Sc., BHU
Ph. D., BHU

Dr. (Ms.) Shah joined the department as a Lecturer in 2003. She has very rich post-doctoral research experience in the broad area of plant biochemistry and stress physiology. She has been Research Associate (1996-2000) and Scientific Pool Officer (2000-03) at Banaras Hindu University working on heavy metal stress and anti-oxidative defense mechanisms in plants. A recipient of young scientist award of Indian Science Congress in 1996, she bagged the prestigious STA Fellowship to work at National Institute of Health Science at Tokyo, Japan (1998-99). Later, she also worked at University of Geneva, Switzerland (2002-03) funded by a Swiss government fellowship. Dr. (Ms.) Shah has established research collaborations with Division of Food Additives, National Institute of Health Sciences, Tokyo; Department of Biological Sciences, University of Geneva, Switzerland and Institute of General Botany and Plant Physiology, University of Jena, Germany. She is also active member of the Indian Science Congress, Society of Biological Chemists, India and Canadian Society of Plant Physiologists, Canada.

Dr. (Ms.) Shah has 10 years of post-doctoral research/teaching experience. She is interested in metabolism and biochemistry with specific research interests in stress metabolism and enzymology of crop plants with special reference to heavy metal stress and heat injury studies in higher plants as *Oryza sativa*, *Rubia tinctorum*, *Horse radish*, zucchini and *Arabidopsis thaliana*. One research scholar is currently doing doctorate under her supervision. Dr. (Ms.) Shah has 22 publications to her credit in national and international journals of high standing, including 3 book chapters.

Research grants: Dr. (Ms.) Shah is currently operating a **DST** sponsored research project to purify and characterize isoperoxidases in cell wall of rice seedlings growing under heat injury and heavy metal stress to find out its possible functions in stress control (2004-07).