

Curriculum Vitae

- 1. Name** : Dr. Ramasare Prasad
- 2. Designation** : Assistant Professor
- 3. Address** : Department of Biotechnology
Indian Institute of Technology
Roorkee,
Roorkee – 247 667, Uttaranchal.
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- 4. Date & Place of Birth** : 03.10.1962, UP
- 5. Sex** : Male
- 6. Marital status** : Married
- 7. Nationality** : Indian
- 8. Area of Specialization** : **Cell and Molecular Biology,
Biochemistry**

9. ACADEMIC QUALIFICATIONS:

- B.Sc. (Honrs) Chemistry** : 1982, **First Div.**, Chemistry (Honrs),
Banaras Hindu University, Varanasi, India.
- M. Sc. Biochemistry** : 1985, **First Div.**, Biochemistry
Banaras Hindu University, Varanasi, India.
- M Phil/Pre Ph.D** : 1987, First Div., **Molecular Biology**,
Immunology, J.N.U., New Delhi, India.
- Ph. D.** : 1993, **Cell and Molecular Biology**,
J.N.U, New Delhi, India.

10. PROFESSIONAL EXPERIENCES:

March 15th, 2001 Onwards:

Assistant Professor (Rs:12000-16500): Department of Biosciences & Biotechnology, University of Roorkee, U.P., India.

Nature of Duty: Research and Teaching Activities to Post-Graduate Students.

Subjects Taught: Cell & Molecular Biology, Immunology & Immunotechnology, Molecular diagnostic and therapeutic techniques, Biotechnology Lab Techniques, Instrumental method of analysis.

April 24th 1996 -14th March 2001:

Lecturer (Rs:10000-15200): Department of Biosciences & Biotechnology, University of Roorkee, U.P., India.

Nature of Duty: Research and Teaching Activities to Post-Graduate Students.

Subjects Taught: Cell & Molecular Biology, Cell & Tissue Culture Technology, Biotechnology Lab Tech., Immunology, Instrumental method of analysis

March 1995-April 1996:

Scientist (Rs 8000-13500): Jawaharlal Nehru University, New Delhi, India.

Nature of Duty: Research Worked on project, " Multidrug Resistance Genes of *Candida albicans*".

May 1994-Feb 1995:

Research Associate(8000 fix): Department of Biochemistry, Allahabad University.

Nature of Duty: Research. Worked on Project, " Study of Glycolipid Anchoring of Thy-1 using Recombinant DNA Approach".

Dec.1993-April 1994:

Senior Research Fellow: School of Life Sciences, J.N.U., New Delhi.

Nature of Duty: Research. Worked on Projects, "Molecular cloning and nucleotide sequencing of different fragments of extra chromosomal circular DNA from *Entamoeba histolytica* and their use as diagnostic probes., and "Identification and characterization of antigens of a few selected species of Mycobacteria."

July 1986-Dec.1988:

Junior Research Fellow: School of Life Sciences, J.N.U., New Delhi.

Nature of Duty: Research. Worked on Project, " Identification and characterization of antigens of a few selected species of Mycobacteria."

11. AREAS OF RESEARCH INTERESTS:

- Molecular Biology & Proteomics,
- Biologically active Plant Products (proteins & Gluco-conjugates),
- Immunomodulators,
- Molecular Basis of Multidrug-resistance in pathogenic fungi

CURRENT RESEARCH ACTIVITIES:

Molecular Biology and Proteomics: One of our current research activity is molecular cloning and characterization of genes of arabinogalactan proteins (AGPs) and other Biologically active proteins from medicinal plants from natural and culture cells; Isolation, purification and characterization of such proteins and glycoproteins using sophisticated modern molecular and biochemical techniques; Amino acid sequencing, homology search based on sequence to predict their possible functions; Study their role in cell growth & development, somatic embryogenesis, cell-signalling; Evaluation of their pharmaceutical potentials as immunomodulators, antifungal and anticancerous agents in vivo and in vitro model system; Large scale production of such biologically active products by cell-suspension culture for two main reasons: firstly for commercial exploitation of its pharmaceutical potentials, and secondally for preservation and propagation of important plants by callus and somatic embryogenesis induction.

Molecular Basis of Multidrug-resistance in pathogenic fungi: Sudden alarming increase in infection caused by fungi mainly in immunocompromised hosts, and emergence of multi drug-resistance strains, is one of the major health problem world over. In recent few years much emphasis has been given to understand the molecular mechanism of mdr in various pathogenic fungi globally, in order to overcome this problem. We are interested in isolation and identification of various drug resistance clinical isolates of *Candida* and *Cryptococcus* spp, study the molecular basis of multi-drug resistance which may be helpful to develop and design some strategy to overcome this problem.

12. SCHOLARSHIPS/PRIZES AWARDED:

- National Scholarship 1979-1982
- CSIR/NET Qualified 1987
- GATE Qualified 1986

13. ACADEMIC VISIT ABROAD AND SPECIAL TRAINING:

- a. Short visit under exchange programme , Advance centre of Cell and Molecular Biology, Department of Zoology, University of Georgia, Athen, Atlanta,rics to the laboratory of Dr Wilmont (Chairman Cell and molecular Biology Atlanta State), from feb 1993-May1993.
- b. Short term training course on ‘B-cell biology’ Department of Immunology, Madurai Kamraj University, Jan30 –Feb12, 1989.
Radioimmunological assays – ICMR – Post Graduate Institute of
- c. Short Term traning course on electron microscopy, AIIMS, New Delhi, INDIA, 2000.

14. Membership of Professional Societies:

- a. Society for Biological Chemist of India- Life member
- b. Society of Biosciences – Mmember
- c. Indian Immunological Society-Member

15. RESEARCH AND TEACHING EXPERIENCE:

TEACHING & RESEARCH EXPERIENCE: ~14 Years

RESEARCH GUIDANCE:

Ph.D. Theses supervised	: 02
Ph.D. Theses in progress	: 04
M.Sc dissertation supervised	: 24

16. RESEARCH PROJECT EXICUTED:

1. Molecular changes in structural and enzymic proteins of cell wall of higher plants under salinity stress. **2.6 Laks**, 2 years, funded by **UPCST, 1997-1999**. completed
2. Identification and characterization of GPI-anchored proteins. **5.5 laks**, **CSIR**, 2 years, **1999-2001**. completed

3. Identification and characterization of salinity stress induced proteins from *Arachis hypogea*. **6.5 Lacks, UGC, Major Research Scheme, 2000-2001.** ongoing
4. *Candida* Biofilms: Molecular analysis of its formation and control, (2003-2006) Department of Biotechnology, Government of India, **Rs 16.40 lacs,** Ongoing

Minor Projects:

1. Cell-surface macromolecules of *Candida albicans*, UGC, 0.10 lac, 1996-97
2. Study of expression of salt stress induced proteins from *Arachis hypogea*. UGC, 0.30 LACS, 1998-2000.

17. LIST OF PUBLICATIONS:

Paper Published	:	21
Communicated	:	02

Paper presented in National and International Symposia and Conferences:	25
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List of Publications in refereed journals:

1. **Bhattacharya, A., Ramasare Prasad and David Sacks (1992).** Identification and characterization of a Lipophosphoglycan like molecules from a pathogenic strain of *Entamoeba histolytica*. **Mol. and Biochem. Parasitol. 56, 161-168.**
2. **Ramasare Prasad, Tola, M., Bhattacharya, S., Sharma, M.P. and Bhattacharya, A. (1992).** Recognition of *Entamoeba* lipophosphoglycan by monoclonal antibody specifically recognizing pathogenic strain. **Mol. and Biochem. Parasitol. 56, 279-288.**
3. **Bhattacharya, A., Gildayal, R., Prasad R., Bhattacharya, S. and Diamond, L.S. (1992).** Modulation of a surface antigen of *Entamoeba histolytica* in response to bacteria. **Infect. and Immun., 60, (4), 1711-1713.**
4. **Bhattacharya, A., Bhattacharya, S., Ramasare Prasad and Gildayal, R. (1993).** Cell-surface lipophosphoglycan of *Entamoeba histolytica*. **Proc. Natl. Sci. Acad., India, 25, 135-145.**
5. **Prasad, R., Krishnamurthy, S., Vinita, G. and Prasad, Ramasare (1995).** Multidrug resistance in *Candida albicans*. **ACTA Biochemica Polonica. 42 (4), 145-152.**
6. **Krishnamurthy S, Chatterjee U, Gupta V, Prasad R, Das P, Snehlata P, Husnain S E and Prasad R (1998).** Deletion of transmembrane domain of CDR1, a multidrug transporter from *Candida albicans*, leads to alter drug specificity: expression of a yeast multidrug transporter in baculovirus expression system **Yeast, 14, 535-550.**

7. **Prasad R, Krishnamurthy S, Gupta V, Snehlata P, Prasad R. (1998).** Expression of *CDR1*, a multidrug resistance gene of *Candida albicans*: Transcriptional activation by heat shock, drugs and human steroid hormones. **FEMS Microbiol.**, **160** (2), 191-197.
8. **Huchinson TE, Kumar P, Prasad R and Pereira BMJ (2000).** Identification strategy for glycosyl-phosphatidyl inositol (GPI) anchored proteins from goat epididymal sperm. **Int. J. Urology**, **7(spl)**, S-73.
9. **Prasad R and Srivastava V (2000).** Molecular and biochemical changes in *Arachis hypogaea* under salinity stress. **Chinese J. Biochem. And Mol. Biol.**, **15**, Oct (spl), 63.
10. **Gaur M, Srivastava N, Prasad R, Pereira BMJ (2000).** Evidence for the ionic modulation of beta-galactosidase purified from goat epididymis. **J Anim. Morphol and Physiol**, **47** (1&2), 25-32.
11. **Gaur M, Pruthi V, Prasad R, Pereira BMJ (2000).** Induced coupled plasma (ICP) emission spectroscopic and flame photometric analysis of goat epididymal luminal fluid. **Asian J. Androl.**, **2(4)**, 288-292.
12. **Prasad R (2000).** Recognition of immunodominant antigens from *Mycobacterium smegmatis* by polyclonal monospecific antibodies and their cross reactivity with other species. Proceedings 5th international meeting on Molecular epidemiology and evolutionary genetics of infectious diseases (MEEGID), Hyderabad, India. **J. Infection Genetics and Evolution.** (spl) abstract-56, P-35.
13. **Prasad R, Yadav G (2001).** A 75 kDa highly immunodominant antigen from *M. smegmatis*, its cross reactivity with other species. **Ind. J. Exp. Biol.** **39**, 255-262.
14. **Prasad R (2001)** Molecular relationship among different mycobacterial species based on immuno cross reactivity, 2-D fingerprints of whole proteins and nucleic acid hybridization. **Recent Advances in Molecular Biology, Allergy and Immunology.** Edited by . Ramchand C.N., MPN Nair and Bonny Pilo, SUN PHARMA Pvt Ltd, and State university New York Buffalo, USA. Allied Publishers, P50-64.
15. **Garg DK and Prasad R (2001).** The study of chemical constituent in silken styles of corn (*Zea mays*). A clinical review. **Adv. In Biosci.**, **40**, 1-8.
16. **Huchintion TE, Dwivedi K, Rastogi A, Prasad R, Pereira BMJ (2002).** N-acetyl D-glucosaminidase is not attached to human sperm membrane through the glycosylphosphatidyl inositol (GPI)-anchore. **Asian J Androl.**, **4**, 24-33.
17. **Pereira BMJ, Parul Pruthi, Prasad R. (2002).** Glycosyl phosphatidyl inositol (GPI) anchored molecules on mammalian spermatozoa (chapter 7). In: **Introduction to mammalian Reproduction**, Tulsiani DRP (ed). Kluwer Academic Publishers, MA, USA. pp114 -126.
18. **Pereira BMJ, Pruthi V, Prasad R (2001).** Exploring the potential of herbal drugs for the development of the pharmaceutical sector in the state of Uttaranchal. **Proc. All India Seminar on infrastructural development in Uttaranchal, problem & prospects.** pp-172-183.
19. **Huchintion TE, Prasad R, Pereira BMJ (2002).** GPI-anchored molecules shelter sperm from macrophages. Proceedings SRBCEXX ,2001.
20. **Pereira BMJ and Prasad R (2001)** Herbalism: The next generation reproductive biomedicine. **J. Endocrinol. Reprod.** **5**: 40-50. (Review)

21. **Gupta, A D and Prasad R (2002)** Isolation and purification of arabinogalactan proteins (AGPs) and like molecules from *Arachis hypogea* and its pharmaceutical potentials. Proceedings of IInd International Symposium on Molecular medicine, 20-23 Jan, 2002, Vadodara. Organized by University of Baroda and the State University of New York, USA.(in press)

PAPER PRESENTED IN CONFERENCES/SYMPOSIA

NATIONAL:

1. XVII Annual conference of Indian Immunology Society and National Symposium on Infectious Diseases, **Nov. 1992**, NII, New Delhi, India.
2. Cell Biology Symposium, **Feb, 1992**, Jawaharlal Nehru University and Delhi University, India.
3. Symposium of Biological Chemists, **1992**, Center for Cellular and Molecular Biology, Hyderabad, India.
4. **Prasad, R., Bhattacharya, S. and Bhattacharya, A.** Humoral immune response against Lipophosphoglycan (LPG) of *Entamoeba histolytica*. Annual conference of Indian Immunology Society and **National Symposium on Immunology of Infectious Diseases. Jawaharlal Nehru University, New Delhi, India, Dec. 15-17, 1995.**
5. Advances in Industrial Biotechnology. A short term course, Deptt of Biochemical Engineering and Biotechnology, **IIT, Delhi, Oct. 23-29, 1996.**
6. **Garg, D.K. and Prasad, R.:** Biochemical investigation on gall stone of some patients..**National Symposium on Toxicology and Environmental Health. Jamia Hamdard University, New Delhi, Nov. 20-21, 1998.**
7. **Prasad, R., Srivastva, V. and Chaudhary, S.:** Study of abiotic stress responses in *Arachis hypogea*. **Nalt Symposium " Recent trends in plant science research " Thiruvantpuram, April 17-19, 2000, Abstract PTM-38.**
8. **Abbas, Tl-judi and Prasad, R.:** Genetic and Biochemical studies of purine auxotrophic mutants of *Rhizobium meliloti*: role in symbiosis. **Nalt Symposium " Recent trends in plant science research " Thiruvantpuram, April 17-19, 2000, Abstract PTM-1.**
9. **Abbas, Tl-judi and Prasad, R.:** Mutations in *S. meliloti* purine biosynthesis lead to defect in symbiosis with alfalfa. **88th Indian Science Congress, IARI, New Delhi, Jan 3-7th, 2001.** (Best paper award in Biochemistry Biophysics and Molecular Biology Section).
10. **Huchintion TE, Prasad R, Pereira BMJ (2001)** GPI-anchored molecules shelter sperm from macrophages. Proceedings SRBCEXX, 2001, Oct 14-17th, Bharathidarshan University.
11. **Ashish Deep Gupta and Ramasare Prasad (2003)** Arabinogalactan proteins (AGPs) a novel cell-surface glyco-conjugate: its potential I antifungal drug-formulation. **IV annual symposium on frontiers in biomedical research ACBR, University of Delhi, Delhi" 13th –15th April, 2003.**

INTERNATIONAL:

1. **Symposium on Amoebiosis**, All India Institute of Medical Sciences, New Delhi, India. Nov. 14-16, 1990.
2. **International Symposium on Liposome Biotechnology**, University of Delhi, South Campus, New Delhi, 1993.
3. **IIIrd International Symposium on Biochemical role of Eukaryotic Cell-Surface Macromolecules**. India International Centre, New Delhi, 1993.
4. **Bhattacharya, A., Prasad, R., Tola, M. A., Srivastva, G. and Bhattacharya, S.** Lipophosphoglycan of *Entamoeba histolytica*. XVITH IUBMB Symposium on Complex Carbohydrates, University of Roorkee, India, Sept14-16, 1994, P-19.
5. **Prasad, R., Krishnamurthy, S., Vinita, G. and Prasad, R.** Multidrug resistance gene of *Candida albicans*, a pathogenic yeast. 5TH International Symposium on "Molecular aspects of Chemotherapy", Technical University of Poland, August 21-24, 1995.
6. "Expression of CDR1 a multidrug resistance gene of *Candida albicans* in Baculovirus". **International Symposium on Eukaryotic Gene Expression**, NII, New Delhi, India, Feb. 9-12, 1996.
7. "CDR1 *Candida albicans* drug resistance gene: Expression in Baculovirus and drug resistance clinical isolates. **International Symposium on Microbiology and Fungal Diseases**, UCLA, USA, March 24-27, 1996.
8. **Kumar, P. and Prasad, R.** Isolation and characterization of salt stress induced proteins from *Arachis hypogea*. **International Conference on Environment and Agriculture**, Kathmandu, Nepal, Nov. 1-3, 1998.
9. **Prasad, R. and Srivastva, V.** "Molecular and Biochemical changes in *Arachis hypogea* under salinity stress". 15th FAOBMB Symposium, Beijing, China, Oct. 21-25, 2000.
10. **Prasad, R.** Molecular relationship among different mycobacterial species based on immuno cross-reactivity, 2-D fingerprints of whole cell proteins and nucleic acid hybridization. **International Symposium on Recent Advances in Molecular Biology , Allergy and Immunology**. Organized by University of Baroda and State University of New York at Buffalo, Sept 3-5th, 2000, Vadodara, India.
11. **Prasad, R., Bajaj, T. and Pereira, BMJ.** Evaluation of antimicrobial potential of *Allium sativum* and *Boerhaavia diffusa*. **First International Conference on "Global Sustainable Biotech Congress 2000 AD"**. P.G. Department of Microbiology, Nagpur University, Nagpur, India, Nov. 27-Dec, 2000. **Memoir Journal**, pp-117.
12. **Singh, A. and Prasad, R.** "Isolation and identification of alkaline thermostable lipase producing microorganism from soil". **First International Conference on "Global Sustainable Biotech Congress 2000 AD"**. P.G. Department of Microbiology, Nagpur University, Nagpur, India, Nov. 27-Dec1, 2000. **Memoir Journal**, pp-124.
13. **Prasad, R.** Recognition of immunodominant antigens from *Mycobacterium smegmatis* by polyclonal monospecific antibodies and their cross-reactivity with other species. 5TH International Meeting on **Molecular Epidemiology and**

Evolutionary Genetics of Infectious Diseases, Nov 12-16, 2000, Ramoji Film City Hyderabad, India.

14. **Prasad R (2002)** Isolation and purification of arabinogalactan proteins (AGPs) and like molecules from *Arachis hypogea* and its pharmaceutical potentials. IInd International Symposium on Molecular medicine, 20-23 Jan, 2002, Vadodara. Organized by University of Baroda and the State University of New York, USA.
15. **Prasad R (2002)** Isolation, purification of a complex carbohydrate from *Arachis hypogea* and its role in antifungal drug formulation. XXIst International Carbohydrate Symposium, Cairns, Australia, July 7-12, 2002.

List of Ph.D. Thesis supervised:

1. Genetic and symbiotic studies on aromatic amino acid auxotrophic mutants of *Rhizobium*. **Hassan F. N –May 2001.**
2. Genetic and symbiotic characterization of purine auxotrophic mutants of *Rhizobium*. **Abass Tali-Judi –Sept 2002.**

List of M.Sc. Dissertations supervised:

1. Drug resistance and susceptibility of different strains of *Candida*. **Mr. Saurabh Gupta (1997).**
2. Characterization of cellwall proteins from *Candida albicans*.. **Ms. Surabhi Sharma (1997).**
3. Study on the cell wall proteins of *Arachis hypogea*. **Mr NeetiRaj Singh (1997).**
4. Bioaccumulation of heavy metals in *Bacillus* species. **Mr manoj Kumar Baliyan (1998).**
5. Metal resistance in *Pseudomonas putida*. **Mr Potala Ramesh Babu (1998).**
6. Gall stone : a chemical and biochemical investigation, its effect on patients blood and urine parameter. **Ms Suman (1998).**
7. Effect of pyrazoles derivatives on different blood parameter in albino mice. **Mr Nikunj Sharma (1998).**
8. Effect of salt stress on cell wall bound enzymes in groundnut. **Mr Vikram Srivastva (1999).**
9. Isolation and purification of peroxidase from radish. **Mr Amjad Hussain (1999).**
10. Study of effect of abiotic stress in groundnut. **Ms Shashy Chaudhary (1999).**
11. Isolation of alpha amylase producing microorganism from soil. **Ms Sonia Sharma (2000).**
12. Isolation, screening and identification of lipase producing microorganism. **Mr Ajeet Singh (2000).**
13. Effect of salt stress and phytohormones on growth and proline accumulation in *Arachis hypogea*. **Ms Neelima (2000).**

14. Evaluation of antifungal activity of medicinal plants (*Allium sativa*, *Boerhaavia diffusa*). **Ms Aparna.(2000).**
15. Evaluation of antimicrobial (antibacterial) activity of medicinal plants (*Allium sativa*, *Boerhaavia diffusa*). **Ms Tanu bajaj(2000).**
16. Isolation and partial purification of extracellular β -galactosidase from *Aspergillus niger*. **Ms Sanyukta (2001).**
17. Partial purification and characterization of lipase enzyme produced extracellularly from bacterial isolates. **Ms Minal Malik (2001).**
18. Effect of salt stress on cell wall peroxidase in groundnut. **Mr. Alok Misra (2001).**
19. Susceptibility of clinical isolates of *Candida albicans* towards antifungal drugs. **Ms Ratima Malhotra (2002).**
20. Evaluation of antimicrobial and immunomodulatory activities of Indian medicinal plants. **Mr Harinder Singh (2002).**
21. Isolation and partial purification of extracellular beta glucosidase from fungi. **Mr Himjot Jaiswal (2002).**
22. Isolation and partial purification of arabinogalactan like proteins(AGPs) from *Asparagus racemosus* and its antifungal potential. **Mr Anubhav Bhardwaj (2003).**
23. Isolation and partial purification of arabinogalactan like proteins(AGPs) from *Catharanthus* and its antifungal potential. **Ms Manisha Dixit (2003).**
24. Isolation of lipase producing microorganism and partial purification of the enzyme. **Ms Shubhra Datta (2003).**