



Dr. A.V.R.L.Narsimhacharya

A.V.R.L.Narasimhacharya

Professor (Zoology)

Department of Biosciences

Sardar Patel University

Vallabh Vidyanagar-388 120

Gujarat INDIA

Phone: +91 2692 234 412-308

Fax : +91 2692 231041

Cell : 09898220644

e-mail: narasimhacharya@yahoo.com

Education

Ph.D. (Zoology) 1988 S.P. University, V.V. Nagar, India

M.Sc. (Life Sciences) 1980 S.P. University, V.V. Nagar, India

B.Sc.(Zoology, Botany) 1977 Mysore University, Mysore, India

Professional Experience and Technical Expertise

Jan. 2001-	Professor	S. P. University, Dept. of Biosciences, Gujarat, India
Jan. 1993- 2001	Reader	S. P. University, Dept. of Biosciences, Gujarat, India
Feb. 1987-	Lecturer	S. P. University, Dept. of Biosciences,

1993

Gujarat, India

1. Involved in decision making related to Zoology (Post-graduate and Graduate level) courses at S.P. University, India as a Member in Board of Studies in Biosciences.
2. I teach – Evolutionary Biology and Biodiversity, Environmental Biology and Toxicology, Applied Physiology and Molecular and Applied Endocrinology and Biology of Animal Behavior
3. Develop animal (Primarily vertebrate) models for laboratory experiments in all of the above courses. These include biochemical measurements of circulating/tissue enzymes, carbohydrates, lipids and proteins.
4. Coordinate installation and maintenance of all equipments associated with these laboratories.
5. Continuing research in avian biology, utility of Medicinal plants as hypocholesteremic and antidiabetic agents; fluorosis– amelioration through feed supplements; regeneration in reptiles.

Jul. 1982–Jan. 1987 Research Fellow, S.P. University, Vallabh Vidyanagar, India

1. Worked in field collecting data related to environmental factors and breeding biology in the control of reproduction of the Indian weaverbird. This work in the field and at laboratory level culminated in a thesis entitled, "Investigations on hormonal factors, Integument and certain aspects of breeding biology of the male Indian Baya weaver bird, *Ploceus philippinus* L. (1987)
2. Collaborated with Dr. Peter J. Sharp (Roslin Institute, Edinburgh, Scotland, U. K.) for RIA of pituitary and gonadal hormones.
3. Carried out histo–enzymological and ultrastructural studies on the nuptial (breeding) plumage producing skin regions to evaluate changes in the hormone target skin areas in relation to circulating sex hormones and nuptial plumage production in non–breeding and breeding seasons.
4. Used cryostat, rotary and ultra–microtomes for histoenzymological, histological and ultrastructural aspects of the avian integument and also spectrophotometers for biochemical assays.

Honors/Awards

1. Awarded "Hari Ohm Ashram Prerit Bhaikaka Inter–University Smarak Trust" prize for the year 2008–09 for research paper "Asparagus root regulates cholesterol metabolism and improves antioxidant status in hypercholesteremic rat" published in e-CAM (6:219–226, 2009).
2. Our research paper "Preliminary study on antihyperglycemic and anti–hyperlipaemic effects of *Butea monosperma* in NIDDM rats" published in Fitoterapia (2008) journal has been selected as one of the top 25 hottest papers (July to September 2008).
3. Awarded "Hari Ohm Ashram Prerit Bhaikaka Inter–University Smarak Trust" prize for the year 1988–89 for research paper "Environmental and hormonal interactions in the regulation of seasonal breeding in free–living male Indian baya weaver birds (*Ploceus philippinus*)" published in Journal of Zoology, London (215: 239–248, 1988).

Dr. A.V.R.L.N. Acharya

Research Areas

Avian Integumentary Biology; Use of Medicinal Plants as hypocholesteremic and antidiabetic agents;

Fluorosis– amelioration by using feed supplements; Regeneration in reptiles

Research support

1. UGC, New Delhi sponsored major research project, "An investigation on the effects of dietary intervention in fluoride toxicity", 2009–2012
2. UGC, New Delhi sponsored major research project, "Investigations on Hypolipidaemic and antioxidant properties of certain medicinal plants", 2003–2006. UGC, New Delhi sponsored project on Effect of sunscreen lotions on mammalian skin: a histological and histochemical study, 2001.
3. UGC, New Delhi sponsored project on Endocrine regulation of plumage pattern and integumentary functions in baya weaverbird, 1992.
 1. Senior Research Fellowship, CSIR, New Delhi, India 1984–1987
 2. Research Assistantship, S.P. University, V.V. Nagar, India, 1982–1984
 3. Research Assistantship, M.S. University, Baroda, India, 1981–1982

Theses

1. Identification and Evaluation of antidiabetic, hypolipidaemic and antioxidant potential of certain medicinal plants– Jasminkumar Bavarva, 2008
1. Investigations on hypolipidaemic and antioxidant properties of certain medicinal plants– Nishant P Visavadiya, 2006
3. Some endocrine factors and physiology of the integument in male Indian Baya weaver bird, *Ploceus philippinus* L. – Sujata S. Bhatt, 1998
4. Histological and histoenzymological studies on certain avian integumentary derivatives and glands– P. Sudha Rani, 1997

Dr. A.V.R.L.N. Acharya

Recent Publications

1. Rupal A. Vasant, A. V. R. L. Narasimhacharya, 2011. Antihyperglycemic and antihyperlipemic effects of *Mangifera indica* L. in fluoride induced toxicity. *Pharmacologyonline*, 3: 265–274.
2. Rupal A. Vasant, A. V. R. L. Narasimhacharya, 2011. Amelioration of fluoride induced oxidative stress by *Mangifera indica* L. fruit. *Spatula DD*, 4 (1): 181–188

3. Nishant P. Visavadiya, A. V. R. L. Narasimhacharya. Ameliorative effects of herbal combinations in hyperlipidemia. *Oxidative Medicine and Cellular Longevity*, doi: 10.1155/160408
4. Purvesh B. Bharvad, J. S. S. Mohan, Rupal A. Vasant. A. V. R. L. Narasimhacharya, 2011. Antihyperlipaemic and antioxidant effects of aqueous and methanolic leaf extracts of *Schweinfurthia papilionacea* A. Br. In streptozotocin induced diabetes. *Pharmacologyonline*, 2: 312– 321
5. Rupal A. Vasant, A. V. R. L. Narasimhacharya 2011. Antioxidant potential of seasonal fruits in fluoride induced toxicity: an in vitro study, *Journal of Cell and Tissue Research*, 11 (2): 2789– 2794
6. Rupal A. Vasant, Doli M. Savalia, A. V. R. L. Narasimhacharya 2011. Plant extracts as biotermiticides. *Electronic Journal of Environmental Sciences*, 4: 73–77.
7. Rupal A. Vasant, A. V. R. L. Narasimhacharya, 2011. A multigrain protein enriched diet mitigates fluoride toxicity. *Journal of Food Science and Technology*, doi: 10.1007/S13197-011-0367-3
8. Rupal A. Vasant, Mona C. Khajuria, A. V. R. L. Narasimhacharya, 2011. Antioxidant and ACE enhancing potential of *Pankajasthuri* in fluoride toxicity: an in vitro study on mammalian lungs. *Toxicology and Industrial Health*, 27 (9): 793–801
9. Rupal A. Vasant, A. V. R. L. Narasimhacharya, 2011. Alleviation of fluoride– induced hepatic and renal oxidative stress in rats by the fruit of *Limonia acidissima*. *Fluoride*, 44 (1): 14– 20.
10. Rupal A. Vasant, Dhritagna R. Kotadiya, Krutika L. Bhole, A. V. R. L. Narasimhacharya 2010. Therapeutic benefits of glibenclamide in fluoride intoxicated diabetic rats. *Fluoride*, 43 (2): 141–149
11. Narasimhacharya A. V. R. L., Rupal A. Vasant and Pradeep C. Prajapati, 2010. Angiotensin–Converting Enzyme inhibition by certain fruits: an in vitro study. *Current Trends in Biotechnology and Pharmacy*, 4 (3): 801–808.
12. Narasimhacharya A. V. R. L., Nitesh V., Tejal D. 2010. *Prosopis juliflora* as an antihypercholesterolemic agent. *Journal of Herbal Medicine and Toxicology*, 4 (1): 31–34.
13. Bavarva, J.H., Narasimhacharya, A. V. R. L. 2010. *Leucas cephalotes* regulates carbohydrate and lipid metabolism and improves antioxidant status in IDDM and NIDDM rats. *Journal of Ethnopharmacology*, 127: 98–102.
14. Visavadiya N. P., Narasimhacharya A. V. R. L. 2009. Effect of *Asparagus Root* on Cholesterol Metabolism and Antioxidant Status in Cholesterol fed Rats. *Evidence–based Complementary and Alternative Medicine (eCAM)* 6: 219–226.
15. Mukesh H. Koladiya, Narasimhacharya A. V.R. L. 2009. Avifaunal diversity in and around Vallabh Vidyanagar– A Short term Survey. *PRAJNA* 17: 1–6
16. Bhargav B., Rupal A. V., Reddy, A. S, and Narasimhacharya, A. V. R. L., 2009. Antihyperglycemic and hypolipidaemic effects of *Adansonia digitata* L. on alloxan induced diabetic rats. *Journal of Cell and Tissue Research*, 9 (2): 1879–1882.
17. Rupal A. Vasant, A. V. R. L. Narasimhacharya. 2008. An investigation on the termiticidal effects of certain weed plants. *PRAJNA*, 16: 1–8.
18. Bavarva J.H., A.V.R.L. Narasimhacharya 2008. Preliminary study on antihyperglycemic and antihyperlipaemic effects of *Butea monosperma* in NIDDM rats. *Fitoterapia*, 79(5): 328–331.
19. Jasmin H Bavarva, A. V. R. L. Narasimhacharya 2008. Antihyperglycemic and hypolipidaemic effects of *Costus speciosus* in alloxan induced diabetic rats. *Phytotherapy Research*, 22: 620–626.
20. Nishant P. Visavadiya, A. V. R. L. Narasimhacharya 2008. Sesame as a hypocholesterolemic and antioxidant dietary component. *Food and Chemical Toxicology*, 46 (6): 1889–1895.
21. Jasmin H. Bavarva, Narasimhacharya A. V. R. L. 2007. Comparative antidiabetic, hypolipidaemic and antioxidant properties *Phyllanthus niruri* L. in normal, IDDM and NIDDM rats. *Pharmaceutical Biology*, 45(7): 569–574.

22. Nishant P. Visavadiya, A. V. R. L. Narasimhacharya 2007. Hypocholesteremic and antioxidant effects of *Withania somnifera* (Dunal) in hypercholesteremic rats. *Phytomedicine*, 14: 136–142.
23. NP Visavadiya, A. V. R. L. Narasimhacharya, 2007. Ameliorative effect of *Chlorophytum borivilianum* root on lipid metabolism in hyper-lipaemic rats. *Clinical and Experimental Pharmacology and Physiology*, 34: 244–249.
24. Jasmin H. B., Narasimhacharya, A. V. R. L. 2007. Reversal of experimental diabetes and its complications up on *Costus speciosus* treatment. *Medicinal Chemistry*, 15 (1/6):154.
25. Nishant P. Visavadiya, Amaravadi V. R. L. Narasimhacharya 2006. Hypocholesterolaemic and antioxidant effects of *Glycyrrhiza glabra* (Linn) in rats. *Molecular Nutrition and Food Research*, 50: 1080–1086.
26. Narasimhacharya A. V. R. L., Sujata S. Bhatt 2006. Effects of thiourea, cyproterone acetate and enheptin on plumage pigmentation and steroid dehydrogenase activities in the crown skin of male baya weaver bird (*Ploceus philippinus* L.). *Journal of Ornithology*, 147 (5): 218
27. Nishant Visavadiya and A. V. R. L. Narasimhacharya 2005. Preliminary investigations on hypolipidaemic properties of *Withania somnifera* (Linn) Dunnal and *Asparagus racemosus* Willd. *PRAJNA*, 13:29–34.
28. Nishant P. V., Narasimhacharya, A. V. R. L. 2005. Hypolidaemic and antioxidant effects of *Sesamum indicum* Linn. in hypercholesteremic rats. *Journal of Cell and Tissue Research* 5 (2): 465–469.
29. Bavarva J. H., Narasimhacharya, A. V. R. L., 2005. Antidiabetic and antihyperlipaemic effects of ethanolic extract of *Phyllanthus niruri* L. leaves. *Journal of Cell and Tissue Research* 5 (2): 461–464.
30. Visavadiya N. P., Narasimhacharya, A. V. R. L., 2005. Hypolipidaemic and antioxidant activities of *Asparagus racemosus* in hypercholesteremic activities. *Indian Journal of Pharmacology*, 37: 376–380.
31. S. S. Bhatt, A. V. R. L. Narasimhacharya 2005. Influence of testosterone propionate and cyproterone acetate on the pigmentation and integumentary metabolism in male baya weaverbird, *Ploceus philippinus* L. *PRAJNA*, 13: 1–11.
32. A. V. R. L. Narasimhacharya, Sudha Rani P., 2003. Histological and Histochemical studies on vent glands of seasonally breeding male blue rock pigeon, *Columba livia*. *Pavo* 40 & 41, Nos.1 & 2: 113–120
33. A. V. R. L. Narasimhacharya, Sudha Rani P., 2003. Seasonal variation in activity pattern of steroid dehydrogenases in uropygial gland of blue rock pigeon. *Pavo* 40 & 41, Nos.1 & 2: 121–126.
34. A. V. R. L. Narasimhacharya, 1998. Birds of Vallabh Vidyanagar. *PRAJNA*, 8: 29–30.
35. Sudha Rani P. Narasimhacharya A. V. R. L., 1998. Observations on histochemical profile on 17 β , 3 β and 3 α -hydroxysteroid dehydrogenases in vent glands of enthyroidic and hypothyroidic pigeons. *Indian Journal of Experimental Biology*, 36: 517–519.
36. Patel J. D., Reddy A.S., Rana B.C., Acharya A. V. R. L. N., 1995. Flora, Fauna, EIA and EM of SSP-command between Narmada and Sabarmati rivers. A project survey Reprot submitted to Narmada Planning Group SSNNL, Gandhinagar, Gujarat State, India.
37. Sudha Rani P., Narasimhacharya A. V. R. L., 1994. Influence of hypothyroidism on histophysiology of rectus of pigeon *PRAJNA*, 4: 21–25.
38. Sujata S Bhatt, Narasimhacharya A. V. R. L., 1994. Effects of thiourea and thyroxine on plumage pattern and integumentary metabolism in male baya, *Ploceus philippinus* L. *PRAJNA*, 4: 1–5.
39. Narasimhacharya A. V. R. L., 1991. Photoperiod and testicular activity in free-living male baya (*Ploceus philippinus* L.) *PRAJNA*, 1: 4–8.
40. Narasimhacharya A.V.R.L., Kotak V. C., 1991. Nuptial plumage forming crown skin of male baya weaverbird: histological and histophysiological observations. *Pavo*, 29: 1–7.
41. Narasimhacharya A. V. R. L., Kotak, V. C., 1989. Histochemical observations on the crown skin of male baya: lipids, lipase and phosphomonoesterases. *Journal of Biosciences*, 14: 385–390.
42. Narasimhacharya, A.V.R.L., Kotak V.C., Sharp P. J., 1988. Environmental and hormonal interactions in the

regulation of seasonal breeding in free-living male Indian Baya weaver birds (*Ploceus philippinus*). Journal of Zoology (London), 215: 239–248.

43. Acharya, A. V. R. L. N., Menon G.K., 1984. Observations on 17 β -hydroxysteroid dehydrogenase in the brood patch of house sparrow, *Passer domesticus* L. Current Science, 53: 160–162.

Dr. A.V.R.L.N. Acharya

Dissertations submitted (Post-Graduate Students):

1. A short term survey on the behaviour of Rosy Starling" – Miss. Bhakti R. Patel (2011)
2. Screening of certain plants for their insecticidal potential in stored grains"– Miss. Priyanka Savalia (2011)
3. Lovastatin improves hyperlipidaemia and oxidative stress in fluoride induced toxicity" Mr. Sanjay B. Pandavadara (2011)
4. Assessment of drinking water quality of selected villages of Nadiad and Anand Talukas (Gujarat)" Mr. Trunalkumar Yatindrabhai Gupte (2011)
5. Butterflies in winter in and around Vallabh Vidyanagar– A short term survey report" Miss Vibha R. Chudasama (2011)
6. Therapeutic potential of glibenclamide in diabetic rats exposed to fluoride toxicity: carbohydrate and lipid profiles– Krutika L Bhole (2010).
7. Glibenclamide improves antioxidant profiles of diabetic rats exposed to fluoride toxicity– Dhrutigna R Kotadiya (2010).
8. Bark extracts of certain plants as termiticides– Doli M Savalia (2010).
9. A term study on Goya Pond for its physico-chemical features and biological diversity– Gaurang A Trivedi (2010).
10. An in vitro investigation on the antioxidant and ACE activating potential of Pankajakasturi– An Aurvedic Drug– Mona C Khajuria (2009).
11. Effect of certain plants (leaves/fruits) on hepatic antioxidant profiles in fluoride-induced toxicity– an invitro study– Anita H Patel (2008).
12. Influence of certain leaf and fruit extracts on hepatic glucose uptake in fluoride-induced toxicity– an invtro study– Ankita G Patel (2008).
13. An invitro screening on ACE inhibitory/activator activity of certain fruits– Pradip C Prajapati (2008).
14. Birds of Vallabh Vidyanagar– A short term survey– Mukesh H Koladiya (2008).
15. Physico-chemical analysis of water from Verai Mata pond in Anand– A preliminary study– Sejal Ranpariya (2008).
16. Antioxidant potential of *Glycyrrhiza glabra* Linn.(Fabaceae) in alloxan induced diabetes – Chinnu Gopalakrishnan, (2007).
17. An investigation on the hypoglycaemic effects of *Glycyrrhiza glabra* Linn. In alloxan induced diabetic mice – Renu D. Gaharwar, (2007).
18. Hypolipidaemic effect of *Glycyrrhiza glabra* Linn. In alloxan induced diabetic mice. Niketa K. Patel, (2007).
19. Influence of *Tamarindus indicus* Linn. leaf powder as a dietary supplement on carbohydrate and lipid metabolism in fluoride toxicity.– Alpa V. Nakum, (2007).
20. Effect of *Tamarindus indicus* leaf powder on the antioxidative profiles in fluoride induced toxicity in mice. – Reshmi Pillai, (2007).

21. An investigation on the termiticidal effects of certain plants. Rupal A. Vasant, (2007).
22. Physicochemical analysis of potable water supplied in Sardar Patel University Campus. Kavita H. Modha, (2007).
23. Antidiabetic, hypolipidaemic and antioxidant properties of *Leucas cephalotes* Spr. In experimental diabetic rats– Sandeep G. Chovatiya, (2006).
24. A preliminary investigation on hypoglycemic and hypolipidaemic properties of *Amaranthus spinosus* Linn. In alloxan diabetic rats– Nitesh J. Mathukiya, (2006).
25. Physico–chemical analysis of the drinking water quality of ten villages surrounding Anand Taluka (Gujarat)– Ankur Patel, (2005).
26. Preliminary investigation of the effect of *Prosopis juliflora* on hypercholesterolemic mammals–Nitesh Vasoya, (2005).
27. Effect of *Prosopis juliflora* feeding on hypercholesterolemic rats– Tejal Desai, (2005).
28. Investigations on the Physico–chemical properties of ponds in Anand Taluka (Gujarat) – Girish Sadia, (2004).

Dr. A.V.R.L.N. Acharya

Meetings

1. Student Advisor in two day Symposium ISSPURSM– 2012, SPU, V. V. Nagar on 8th –9th January, 2012
2. Attended International Conference on New Horizons in Biotechnology–2011, Trivandrum, Kerala during 19th – 24th November, 2011.
3. Chaired a session in a One day State level Seminar on Innovative Approaches to Biological Sciences: Recent Perspectives organized by Gujarat University Botanical Society & Dept. of Biology, J. J. College of Science, Nadiad on 3rd January, 2011.
4. Chaired a session in National level Seminar on Biodiversity Conservation– Challenges Ahead, organized by Departments of Botany, Zoology & Environmental Science of M. S. University, Baroda on 19th –20th December, 2010.
5. Delivered two lectures in IV Workshop on Electron Microscopy, Sardar Patel University, Vallabh Vidyanagar, 19th –23rd December, 2010.
6. Chaired a session in XXIXth Conference of the International Society for fluoride Research, at Jaipur, University of Rajasthan on 2nd–5th December, 2010.
7. Compeered a one day workshop on "Knowledge Assets and its management in Indian Universities organized by Sardar Patel University, Vallabh Vidyanagar on 28th September, 2010
8. Attended a two day workshop on "Alternatives to use of Animals in Biological Sciences" organized by Zoology Department, Gujarat University, Ahmedabad on 22nd – 23rd September, 2010
9. Attended a CPCSEA Regional Workshop on "Role of CPCSEA in Education and Research" organized at Nirma University, Ahmedabad on 15th March, 2010
10. Co–organized and compeered A One Day Seminar on Uttarayan: Creating awareness and rescuing birds, BRD School of Biosciences in collaboration with Gujarat Forest Research Institute, Gandhinagar on 8th January, 2010.
11. Judge in the Section of Zoology at State level seminar Science Excellence–2010 organized by Department of Botany, Gujarat University, Ahmedabad on 9th January, 2010.
12. Judge and chaired a session at State level Seminar on 'Importance of trees in Conservation of Avian Diversity' organized by Zoology Department, M. S. University, Baroda on 13th September, 2009
13. Judge in the section of Animal Sciences, Human Health, Physiology and Biochemistry at National Seminar on

new Frontiers in Life Sciences organized by NV Patel College of Pure and Applied Sciences, Vallabh Vidyanagar on 19th December, 2009.

14. Attended National Seminar on New Frontiers of Life Sciences, Natubhai Patel College of Pure & Applied Sciences, V. V. Nagar, 2009
15. Attended a one-day meeting on Importance of Trees in Conservation of Avian Diversity, M. S. University, Baroda, 2009
16. Attended National Conference on Frontiers in Biological Sciences, SP University, VVNagar, 2009
17. Attended III GSA-VVN CSC Annual Science Meet. SP University, V. V. Nagar, 2008
18. Compeered 3rd Convention of BRSI & International Conference on Exploring Horizons in Biotechnology: A global venture, S. P. University, Vallabh Vidyanagar, 2006
19. Presented a paper in International Ornithological Congress, Hamburg, Germany, 2006
20. Attended Recent Advances in Reproduction, Endocrinology & Development and Associated Disorders, M. S. University, Vadodara, 2006
21. Attended Exploring the Current Trends in the Development of Science, One-Day Seminar, Gujarat Science Academy and Sardar Patel University, Vallabh Vidyanagar, 2006.
22. Attended a Seminar on Modern Laboratory Techniques, Gujarat Cancer Research Institute, Ahmedabad, 2005.
23. Plenary lecture in 7th Annual Conference of Society of Science & Environment, M. L. Sukhadia University, Udaipur, 2005.
24. Presented a paper in XXIII National Symposium on Reproductive Biology and comparative Endocrinology, Visva-Bharati University, Santiniketan, 2005
25. Presented a paper in XIX Gujarat Science Congress, Sardar Patel University, V. V. Nagar, 2005.
26. Attended a Two day national Seminar on Restructuring the Nation in the Era of Globalization, Sardar Patel University, V. V. Nagar, 2005.
27. Attended Workshop on Current status of Vultures in Gujarat, Bird Conservation Society, Gujarat, Anand Agricultural University, Anand, 2004
28. Attended National Symposium on Environmental Biotechnology and Biodiversity Conservation, Sardar Patel University, V. V. Nagar, 2003.
29. Attended National Seminar on WTO, GATS & Higher Education in India. Sardar Patel University, V. V. Nagar, 2003.
30. Attended II Gujarat State Research Meet, Sardar Patel University, V. V. Nagar, 2003
31. Attended Training Programme on Phytochemistry: Basics, Methods and Applications, Baroda, 2002.
32. Attended XIX National Symposium of the Society for Reproductive Biology and comparative Endocrinology, Baroda, 2001
33. Presented a paper in National Symposium on Reproduction and Comparative Endocrinology, Dharwad, India, 1999
34. Attended XII Gujarat Science Congress, V.V. Nagar, India, 1997
35. Attended XIV National Symposium on Reproductive Biology and Comparative Endocrinology, Ahmedabad, India, 1996
36. Presented a paper in X Annual Congress on Man and Environment, Goa, 1995.
37. Attended Training course on Reproductive Biomedicine, NIOHFW, New Delhi, 1994
38. Presented a paper in VII Gujarat Science Congress, Rajkot, 1993
39. Attended Instrumentation and recent techniques in Biology, Ahmedabad, 1992
40. Attended Workshop on Toxicology, Valvada, 1991
41. Attended UNESCO Regional workshop on Reproductive Toxicology, Udaipur, 1991

42. Acquired additional training in teaching techniques through refresher courses I and III at Gujarat University, Ahmedabad, India, (These included subjects– Cell & Radiation Biology, Cytogenetics, Molecular Biology, Genetic Counseling, Cell Physiology, Biological Chemistry and Developmental Biology), 1990.
43. Attended All India Symposium on Reproductive Biology and General Endocrinology, Baroda, 1990
44. Presented a paper in National Symposium on Current Trends in Biological Research, V.V. Nagar, 1989
45. Presented a paper in Indian Science Congress, Madurai, 1989
46. Training course on RIA techniques and applications, BARC, Mumbai, 1986.
47. Presented a paper in All India Symposium on Modern Trends in Comparative Animal Physiology, Gwalior, 1986.
48. Trained to use ultramicrotomes (Sorwall MT2 and C Reichert) and Electron Microscope (Philips EM 400), S.P. University, Vallabh Vidyanagar, 1982– 1987.

Dr. A.V.R.L.N. Acharya

Contributions in conferences/ Seminars/ Symposia:

1. Rupal A. Vasant, A. V. R. L. Narasimhacharya presented a paper (oral), "Natural products in amelioration of fluoride induced metabolic alterations" in ISSPURSM– 2012, SPU, VVNagar
2. Hetal Sanghani and A. V. R. L. Narasimhacharya presented a paper (oral), "Antioxidant and antioxidant enzyme profiles in normal and doxorubicin treated house lizard during tail regeneration" in ISSPURSM– 2012, SPU, VVNagar
3. Krutika L. Bhole and A. V. R. L. Narasimhacharya presented a paper (oral), "ACE inhibitors from natural sources and their isolated products– a review" in ISSPURSM– 2012, SPU, VVNagar
4. Sanjay S. Karn and A. V. R. L. Narasimhacharya presented a paper (oral), "Comparative beneficial effects of *Emblica officinalis* and *Mangifera indica* with formulated diets in fluoride induced toxicity" in ISSPURSM– 2012, SPU, VVNagar
5. Shyam D. Khandhedia, A. V. R.L. Narasimhacharya presented a paper (oral), "Effect of vincristine sulphate on antioxidant profile during tail regeneration in house lizard, *Hemidactylus flaviviridis* in ISSPURSM– 2012, SPU, VVNagar
6. Sanjay S. Karn and A. V. R. L. Narasimhacharya presented a paper (Poster), "Antioxidant potential of multigrain diets with Mango fruit powder in fluoride toxicity" in International Conference on New Horizons in Biotechnology–2011, Trivandrum, Kerala
7. Rupal A. Vasant and A. V. R. L. Narasimhacharya presented a paper (Poster) "Antioxidant effects of *Emblica officinalis* G. in fluoride induced toxicity and received THIRD PRIZE in National Seminar on Functional Foods: Emerging Health in Modern age, organized by Department of Home science, SPU, VV Nagar.
8. Sanjay S. Karn and A. V. R. L. Narasimhacharya presented a paper (Poster) "Antihyperlipaemic, hepato– and renal protective effects of *Mangifera indica* L. supplemented formulated diets in fluoride toxicity" in National Seminar on Functional Foods: Emerging Health in Modern age, organized by Department of Home science, SPU, VV Nagar.
9. Rupal A. Vasant and A. V. R. L. Narasimhacharya presented a paper (Poster) "Tamarind leaf powder supplementation alleviates fluoride toxicity" 15th ISCB Conference organized by Department of Chemistry, Saurashtra University and ISCB, Lucknow during 4th –7th February, 2011
10. Rupal A. Vasant and A. V. R. L. Narasimhacharya presented a paper (oral), "Star fruit as an antidote in fluoride toxicity" and received FIRST PRIZE in National Symposium on Trends in Biological Sciences", organized by BRD School of Biosciences, Sardar Patel University, Vallabh Vidyanagar on 28–29th January,

2011.

11. Sanjay S. Karn and A. V. R. L. Narasimhacharya presented a paper (oral), "Effect of formulated diets supplemented with *Emblica officinalis* on carbohydrate and lipid profiles in fluoride induced toxicity in rats and received SECOND PRIZE in National Symposium on Trends in Biological Sciences", organized by BRD School of Biosciences, Sardar Patel University, Vallabh Vidyanagar on 28–29th January, 2011.
12. Rupal A. Vasant and A. V. R. L. Narasimhacharya presented a paper (Poster), "Dietary intervention in fluoride toxicity in rats" in XXIXth Conference of the International Society for fluoride Research, at Jaipur, Rajasthan on 2nd –5th December, 2010.
13. Sanjay S. Karn and A. V. R. L. Narasimhacharya presented a paper (oral), "*Emblica officinalis* as a dietary supplement in fluoride toxicity" in XXIXth Conference of the International Society for fluoride Research, at Jaipur, Rajasthan on 2nd –5th December, 2010.
14. Rupal A. Vasant and A. V. R. L. Narasimhacharya presented a paper (Oral), "Beneficial effects of Wood Apple in fluoride toxicity" in Vth GSA–VVN CSC Annual Science Meet 'SCI –MEET 2010', at Department of Mathematics, Sardar Patel University, Vallabh Vidyanagar, 14th February, 2010
15. Rupal A. Vasant and A. V. R. L. Narasimhacharya presented a paper (Oral), "*Mangifera indica* fruit regulates lipid metabolism and amplifies antioxidant status in fluoride toxicity" and RECEIVED FIRST PRIZE in State Level Seminar Science Excellence–2010 organized by Department of Botany, Gujarat University, Ahmedabad, 9th January, 2010
16. Rupal A. Vasant and A. V. R. L. Narasimhacharya presented a paper (Oral), "Protective effects of *Limonia acidissima* fruit powder supplementation in fluoride intoxicated rats" and RECEIVED SECOND PRIZE in National Seminar on New Frontiers in Life Sciences organized by NV Patel College of Pure and Applied Sciences, Vallabh Vidyanagar on 19th December, 2009
17. Mona C. Khajuria, Rupal A. Vasant, A. V. R. L. Narasimhacharya presented a paper (Oral), "Pankajakasthuri, a herbal preparation, enhances antioxidant potential and ACE activity in fluoride toxicity– an in vitro study on mammalian lungs" in National Seminar on New Frontiers in Life Sciences organized by NV Patel College of Pure and Applied Sciences, Vallabh Vidyanagar on 19th December, 2009
18. Rupal A. Vasant and A. V. R. L. Narasimhacharya presented a paper (Oral), "Utility of fruits in fluoride toxicity amelioration – an in vitro study" and RECEIVED SECOND PRIZE in National Conference on Frontiers in Biological Sciences organized by BRD School of Biosciences, Sardar Patel University, Vallabh Vidyanagar on 27–28th February, 2009
19. Pradip C. Prajapati, Rupal A. Vasant and A. V. R. L. Narasimhacharya presented a paper (Oral), "Fruits as ACE inhibitors" in National Conference on Frontiers in Biological Sciences organized by BRD School of Biosciences, Sardar Patel University, Vallabh Vidyanagar on 27–28th February, 2009
20. Mukesh H. Koladiya, A. V. R. L. Narasimhacharya "A Short Term Bird Survey of Vallabh Vidyanagar" in National Conference on Frontiers in Biological Sciences organized by BRD School of Biosciences, Sardar Patel University, Vallabh Vidyanagar on 27–28th February, 2009
21. Rupal A. Vasant, A. V. R. L. Narasimhacharya presented a paper (Oral), "Plant Extracts as termiticides" IIIrd GSA–VVN CSC Annual Science Meet 'SCI –MEET 2010', at Department of Physics, Sardar Patel University, Vallabh Vidyanagar, 17th February, 2008
22. Jasmin H. Bavarva and A. V. R. L. Narasimhacharya presented a paper (Poster), "Reversal of experimental diabetes and its complications upon *Costus speciosus* treatment" in International Symposium on Current Trends in Drug Discovery Research (CTDDR) held on 17th – 21st February 2007 at Central Drug Research Institute (CDRI), Lucknow.
23. Nishant P. Visavadiya and A. V. R. L. Narasimhacharya presented a paper (Poster), "Plant–based formulation as hypolipidaemic and antioxidant agent: a single dietary portfolio study in hypercholesterolaemic rats" in 3rd

BRSI convention and international conference on exploring horizons in biotechnology: a global venture" held on 2nd to 4th November, 2006 at the BRD School of Biosciences, Sardar Patel University and Charutar Vidya Mandal, Vallabh Vidyangar

24. Jasmin H. Bavarva and A. V. R. L. Narasimhacharya presented a paper (Poster), "Therapeutic properties of Butea monosperma in experimental diabetes." in 3rd BRSI convention and international conference on exploring horizons in biotechnology: a global venture" held on 2nd to 4th November, 2006 at the BRD School of Biosciences, Sardar Patel University and Charutar Vidya Mandal, Vallabh Vidyanga
25. Nishant P. Visavadiya and A. V. R. L. Narasimhacharya presented a paper (Oral), "Therapeutic Potential of Sesamum Seed on Lipid and Antioxidant Profiles in Hypercholesterolaemic Rats" in One-Day seminar on Exploring Current Trends in Development of Science held on 29th January, 2006 at the Department of Electronics, S.P. University, Vallabh Vidyanagar
26. Nishant P. Visavadiya and Narasimhacharya A. V. R. L. presented a paper (Oral), "Hypocholesterolaemic and Antioxidant Properties of Glycyrrhiza glabra (Linn.)" and RECEIVED FIRST in XIXth Gujarat Science Congress Local Chapter held on 19th February, 2005 at Sardar Patel University, Vallabh Vidyanagar
27. Nishant P. Visavadiya and Narasimhacharya A. V. R. L. presented a paper (Oral), "Potential of Glycyrrhiza glabra (Linn) as Cholesterol Lowering and Antioxidant Agent" and RECEIVED award of Appreciation in 7th Annual Conference of Society of Science and Environment held on 17th and 18th September, 2005 at Department of Zoology, Mohanlal Sukhadia University, Udaipur
28. Nishant P. Visavadiya and Narasimhacharya A. V. R. L. presented a paper (Oral), "Effect of Sesamum Indicum Feeding on Lipid and Antioxidant Profiles in Hypercholesterolaemic Rats" in 7th Annual Conference of Society of Science and Environment held on 17th and 18th September, 2005 at Department of Zoology, Mohanlal Sukhadia University, Udaipur
29. Jasmin H. Bavarva and Narasimhacharya A. V. R. L. presented a paper (Oral), "Hypoglycemic and hypolipidaemic properties of ethanolic extract of Phyllanthus niruri L. in alloxan induced diabetic rats." In IVX Gujarat Science Congress (2005), Vallabh Vidyanagar, Gujarat.
30. Nishant P. Visavadiya and Narasimhacharya A. V. R. L. presented a paper (Oral), "Preliminary Investigation on Hypolipidaemic Properties of Withania somnifera (Linn) Dunal and Asparagus racemosus Willd" in 2nd Gujarat State Research Students Meet held on 26th February, 2003 at Sardar Patel University, Vallabh Vidyanagar

Dr. A.V.R.L.N. Acharya

Reviewed Research Papers For:

Indian Journal of Experimental Biology, Indian Journal Pharmacology, Journal Diabetes and its complications, Food and Chemical Toxicology, Nutrition, Evidence based Complimentary and Alternative Medicine (e-CAM), African Journal of Biochemistry Research, African Journal of Pharmacy and Pharmacology, Indian Journal of Hematology and Blood Transfusion, Current Trends in Biotechnology and Pharmacy, Chemico-Biological Interactions (CHEMBIONT), Natural Product Radiance, International Journal of Green Pharmacy, Iranian Journal of Pharmacology and Therapeutics, Plant Foods For Human Nutrition, African Journal of Food Science and Technology, Journal of Entomology and Nematology, Jordan Journal Biological Sciences, British Journal of Nutrition, International Research Journal of Plant Sciences, Cell Biochemistry and Function, Human and Experimental Toxicology, International Journal of Human Genetics, Journal of Chinese Integrative Medicine, Journal of Clinical Pathology and Forensic Medicine, Journal of Stored Products Research, Journal of Pharmacy and Pharmacology, Chinese Journal of Integrative Medicine,

Review of the research work (1982-)

I. Investigations on hormonal factors, Integument and certain aspects of breeding biology of the male Indian baya weaver bird, *Ploceus philippinus* L. Ph.D. Thesis– AVRIL Narasimhacharya 1987.

The interactions of environmental and endocrine factors in regulation of seasonal reproduction in the polygamous free-living Indian male weaverbird have been examined. Findings in brief are as followed:

While the photoperiodic stimulus is important in mediating gonadal recrudescence, nuptial plumage and breeding behavior in April, several rain-associated non-photoperiodic stimuli become increasingly essential in successful breeding effort, particularly after the onset of monsoon.

The pituitary and gonadal endocrine factors though are stimulated due to an increase in day length, their peak profiles did not appear until after a maximally stimulatory photoregime of 13h and, the onset of monsoon in June.

The thickened nuptial plumage bearing crown skin is metabolically a geared up system during the breeding season. Detailed electron microscopic work has shown that greater lipid turnover changes in this skin region are related to greater carotenoid retention which imparts yellow color to plumage. A strong circumstantial evidence exists which indicates that cellular proliferation, enzymatic, metabolic and subcellular changes in the yellow pigmented nuptial plumage bearing crown skin of male weaver birds in breeding season are related directly to an increased carotenoid content on one hand and elevated pituitary and gonadal hormones on the other.

II. Histological and histoenzymological studies on certain avian integumentary derivatives and glands, Ph.D. Thesis – P. Sudha Rani, 1997

1. Seasonal variations in histological and histoenzymological features of integumentary derivatives – cere and rictus and, integumentary glands– vent and uropygial were investigated in feral blue rock pigeons during non-breeding and breeding seasons.
2. The cere became hypertrophic and hyperplastic in breeding season with an increase in glycosaminoglycan and protein content. A substantial increase in lipogenic and lipolytic activities along with increased keratinization and increased steroid metabolizing potential in cere in breeding season appeared to be related to the breeding activity in pigeons of both sexes.
3. The rictus did not exhibit a significant hyperplasia and hypertrophy although epidermal cornification increased. As in cere both glycosaminoglycan and protein content increased in rictus. An increased lipogenesis and consequent lipid utilization marked the essential metabolic features of rictus in breeding season. An increase in mucopolysaccharides, proteins and keratin were correlatable with increased phosphomonoesterase activities in rictus in breeding season. As with cere, the rictus too exhibited an increased potential to metabolize steroid hormones.
4. The anal (vent) glands hypertrophied with distinct cellular profiles in breeding season that were markedly different from those in non-breeding season. The increased luminal contents of the glands showed PAS +ve GAGs and proteinaceous matter. A predominantly oxidative and HMP pathways were the salient features of the vent glands in breeding season with an increased lipid synthesis. However lipids did not seem to be the sole source of energy providers for the lipolytic activity of glandular cells as at a low key in breeding season. The vent glands also registered an increased steroid metabolic potential indicating their possible dependence on gonadal steroids for increased glandular activities in breeding seasons.
5. The uropygial glands registered hypertrophy, hyperplasia and showed increased luminal secretions in breeding seasons. Owing to increased cellular activities, the protein content increased in the glands. The glands appeared to synthesize higher amounts of lipids and also utilize lipids during breeding seasons.

Increased activities of steroid dehydrogenases in the uropygial glands indicated the ability of the glands to metabolize higher quantities of steroid hormones.

6. Suppression of thyroid activity (by thiourea treatment) resulted in cellular/glandular atrophy in all the derivatives. A noticeable reduction in all components (GAGs, proteins and lipids) and enzymatic activities (Carbohydrate, lipid and steroid metabolizing enzymes) was evident in hypothyroidic subjects. We believe that thyroid principles are involved and play an essential role in normal metabolism and maintenance of tissue/glands' structural integrity.

Dr. A.V.R.L.N. Acharya

III. Some Endocrine factors and physiology of the integument in male Indian Baya weaverbird, *Ploceus philippinus* L. Ph.D. Thesis – Sujata S. Bhatt 1998.

1. The influence of endocrine factors (Thyroxine, testosterone and estradiol – 17β) and hormone antagonists (thiourea, cyproterone acetate and enheptin/2 amino-5 nitrothioazole) on the nuptial plumage formation, histological and histoenzymological features of 'target' skin areas of male weavers was examined experimentally in non-breeding and breeding states of these birds exposed to varying photoperiodic regimes. The principal findings are as followed:
2. Administration of thyroxine to non-breeding male weavers resulted in emergence of dark blackish brown features on the crown and buff-colored feathers on the ventral aspects. Testosterone propionate (T.P.) injections inhibited feather growth on the crown but the feathers on the neck (ventral aspect) exhibited a small amount of carotenoid pigments. The beak in both experimental birds did not show any pigmentation. Both the crown and ventral skin regions exhibited marked hypertrophy and hyperplasia after T4 and TP treatments. Under the influence of thyroxine, the integument showed increased carbohydrate, lipid and pigment metabolism. Testosterone treatment moderately increased carbohydrate utilization, lipid synthesis and its utilization. However, in both experimental groups the steroid metabolizing ability of the nuptial plumage forming skin was moderate.
3. Administration of thiourea, cyproterone acetate (CPA), estradiol- 17β and enheptin to breeding male weaver birds:

Thiourea treatment induced yellow pigmentation in crown feathers but not in ventral feathers. The latter were white with brownish tinge. CPA treatment resulted in emergence of yellowish brown feathers on the crown, off-white feathers on the ventral aspect of the neck; estradiol- 17β administration brought about black feathers on the crown and off-white feathers on the ventral aspect of neck; enheptin treatment caused emergence of off-white colored feathers on the crown and brown feathers on the ventral part of the neck region. Except the estradiol- 17β treated breeding males, all other subjects exhibited black pigmentation of beak. The nuptial plumage forming crown and ventral skin regions were uniformly hypertrophic and hyperplastic with increased vascularization except in thiourea treated group where both epidermal and dermal thickness were reduced.

The integumentary lipid content in all groups increased appreciably; the lipid utilization was low in general in all groups except CPA treated group. The glycosaminoglycan content of the integument also increased except in thiourea treated birds. The Dopa oxidase activity was moderate to low in all the groups indicating a decreased integumentary pigment metabolism.

Thiourea and estradiol-17 β treatment caused a decrement in aerobic glycolytic metabolism while anaerobic glycolysis increased. On the other hand, both CPA and enheptin caused an appreciable increase in both anaerobic and aerobic glycolysis in the nuptial plumage forming regions. The activity of G-6 PDH, an indicator of HMP pathway was markedly high in the integument of enheptin treated birds only; in other groups the enzymatic activity was very low indicating the adverse effects of thiourea, CPA and estradiol-17 β on integumentary HMP pathway. The metabolic potential of the integument for steroid hormones decreased substantially except in CPA treated group where both 17 β - and 3 β -HSDHs registered high activities.

IV. Investigations on Hypolipidaemic and Antioxidant properties of Certain Medicinal Plants. Ph.D. Thesis- Nishant P Visavadiya, 2006

1. Roots of *Asparagus racemosus* (AR), *Chlorophytum borivilianum* (CB), *Glycyrrhiza glabra* (GG) and *Withania somnifera* (WS) and seed of *Sesamum indicum* (SI) have been selected for the investigation to study their effects on hypolipidaemic/ hypocholesteraeamic and antioxidant activities in rats. All selected plants are well known in Ayurvedic System of Medicine. However, no reports are available on their effects on normal and cholesterol-fed rats with reference to lipid (plasma and hepatic) and antioxidant profiles together. Therefore, the present work was undertaken to investigate the effects of roots/ seed powder feeding on hepatic cholesterol metabolism in animals and, relate them to plasma, hepatic and fecal sterol concentrations as well as to determine the hepatic lipid peroxidation and antioxidant status.
2. In general, all plants demonstrated that the hypolipidaemic/ hypocholesteraeamic and antioxidant effects. The phytochemical analyses of the plants (roots/ seed) revealed the presence of fibers, phytosterols, saponins, polyphenols, flavonoids and ascorbic acid. WS was found to be rich in fiber as compared to other plants used. The phytosterol, polyphenol and flavonoid contents were highest in GG compared to AR, CB, WS and SI while CB was rich in saponin content. A relatively higher amount of ascorbic acid was found in AR root compared to other test plants. When the hypercholesteraeamic animals fed with a diet supplemented with 5 gm% and 10 gm% root powder of AR, CB, GG and WS and 5 gm% and 10 gm% of SI seed powder, varying results were obtained with regard to their hypolipidaemic/ hypocholesteraeamic and antioxidant effects on hypercholesteraeamic rats. It was found that GG was most potent of the plants studied with reference to hypolipidaemic/ hypocholesteraeamic and antioxidant effects followed by WS, AR, CB and SI. However, all test plants definitely exhibited hypolipidaemic/ hypocholesteraeamic and antioxidant effects on hypercholesteraeamic rats and these plants did not overtly influence both the lipid levels and antioxidant profiles of normocholesteraeamic rats. This observation indicates the safety aspect of consumption of the root/ seed powder of the selected plants. The combination of root and seed powder of these plants (C-I, C-II and C-III, at 5 gm% dose) when administered to hypercholesteraeamic rats also led to several interesting observations. In general, C-I and C-II were more effective than C-III in reducing lipid levels and improving the antioxidant profiles in hypercholesteraeamic rats. These combinations of the test plants too proved to be beneficial. These observations were compared and discussed in chapter-6. It is concluded that all the plants selected for the present study were found to be useful in reducing cholesterol, TG, LDL and VLDL levels and in increased HDL levels. These beneficial effects were not limited to circulation alone but extended to tissue (hepatic) level.
3. The hypolipidaemic and antioxidant effects of the plants could be attributed to their phytometabolites. i.e., phytosterols, saponins, polyphenols, flavonoids and ascorbic acid. The internal component of the plants i.e., fiber is also known to be important as it helps reduce lipid absorption from intestine while the others exert

their actions as either hypolipidaemic/ hypocholesteraeamic or antioxidant agents. Thus, the plants studied in the present investigation were found to be pharmacologically potent feed supplements.

V. Identification and evaluation of antidiabetic, hypolipidaemic and antioxidant potential of certain medicinal plants. Ph.D. Thesis– Jasminkumar H Bavarva, 2008

1. Leaves of *Phyllanthus amarus* (PA), *Leucas cephalotes* (LC) and *Amaranthus spinosus* (AS) and seed of *Butea monosperma* (BM) and root of *Costus speciosus* (CS) have been selected for the present investigation to study their effects on carbohydrate and lipid metabolism and antioxidant profiles in type 1 and type 2 diabetic rats. All selected plants are well known in Ayurvedic System of Medicine. However, no detailed reports are available on their effects on both types of diabetic rats on comparative basis. Therefore, the present work was undertaken to investigate the effects of ethanolic extract of leaves/ seed/ root administration on carbohydrate and lipid metabolism in animals as well as hepatic lipid peroxidation and antioxidant levels in both type 1 (IDDM) and type 2 (NIDDM) diabetic laboratory models.
2. In general, all the plant extracts demonstrated antidiabetic, hypolipidaemic and antioxidant effects. PALEt was found to be a potent antidiabetic in type 1 only, and possesses independent hypolipidaemic effects with antioxidant properties in both types of diabetes. LCLEt was found to be most potent of the plants studied with reference to antidiabetic effects. LCLEt revealed antidiabetic effects even at low doses. Additionally, LCLEt was effective in reducing diabetes-associated dyslipidaemia and improved antioxidant profiles in both types of diabetic rats. These effects were comparable to standard drugs. ASLEt was found to be a potent hypolipidaemic agent in both types of diabetes with 300 and 450 mg kg⁻¹ doses. The antioxidant activity of ASLEt at maximum high dose was comparable to standard drugs. The CSREt significantly lowered glucose in type 1 with 300 and 450 mg kg⁻¹ doses; however, in type 2 it produced similar effect at higher dose. CSREt also registered lipid lowering and antioxidant properties in both type of diabetic animal models. The BMSEt produced significant antidiabetic, hypolipidaemic and antioxidant properties in both types of diabetic animals with 300 and 450 mg kg⁻¹ doses. However, its potency was lower compared to those of standard drugs.
3. It is concluded that all the tested plants have antidiabetic, hypolipidaemic and antioxidant properties. The effects were comparable to the standard drugs. PALEt has selective properties in type 1 diabetes. On the other hand, LCLEt has higher potency with all the aspects in both types of diabetes and the effects are comparable to those of standard drugs. The potency of rest of the plants is as followed: ASLEt > CSREt > BMSEt.