S.N. Murthy, Ph.D.

Highlights of work

- Published over 50 peer reviewed papers and 4 book chapters with close to 100 presentations in meetings.
- Experienced in *in vivo* work, and over the years used animal models of disease such as insulin resistance and pulmonary hypertension; conducted nutritional studies using rats and mice.
- Worked on a surrogate marker of cardiovascular disease (I/M ratio); several pharmaceutical compounds were evaluated in the context of recovery from carotid artery/vascular injury.
- Conversant with microsurgical methods, balloon catheter mediated injury of the carotid artery, catheterization of veins and arteries for injection of compounds and hemodynamic measurements (systemic arterial blood pressure, pulmonary arterial blood pressure)
- Used tail vein injections, particularly of monocrotaline for inducing pulmonary hypertension, and measurement by right heart catheterization
- Familiar with amino acid analysis, protein purification, sub-cellular fractionation, and various chromatographic methods such as Paper, Ion-exchange, Affinity, Gel filtration and HPLC.
- Extensively used immunological methods, immunohistochemistry, bactericidal activity of leukocytes (using *E.coli*), and microbiological assays
- Supervision/Instruction of research work of graduate students, fellows in endocrinology and training them in various aspects of research and methodologies in addition to teaching classes.
- Have been teaching special topics in Environmental Toxicology since fall 2012 for ENTX PhD program in addition to teaching a class on Research Practicum. While at Tulane, jointly coordinated Advances in Pharmacology course apart from letting graduate students rotate in my lab; recognized in over 50 PhD, several MD and MS theses over the years.
- Flair for editorial work; writing and reviewing manuscripts, thesis corrections, preparation of reports, grant proposals, and meeting materials
- Very well experienced in using Slide write, ISIS Draw, Chem Draw, Symyx Draw, MS Word, Excel, Power point, and other computer applications

CV follows

CURRICULUM VITAE

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PERSONAL INFORMATION

Residence: 3444 E Parc Green St., Harvey, LA 70058

IMMIGRATION STATUS

Citizenship: United States

EDUCATION

1970: **BSc** Osmania University, Hyderabad, India.

1986: **MSc** in Food Science; Central Food Technological Research Institute (Council of Scientific and Industrial Research), University of Mysore, Mysore, India**.**
'Effect of feeding infant food formulations on the free amino acid levels in blood & fatty acids in the erythrocyte membrane'.

1996: **PhD** in Biochemistry; National Institute of Nutrition (Indian Council of Medical Research) Osmania University, Hyderabad, India.
'Studies on the enzymatic conversion of L-lysine to pipecolic acid: Identification of L-amino acid oxidase in mouse brain'.

PROFESSIONAL EXPERIENCE

07/73 to 12/97: National Institute of Nutrition, Hyderabad, India.
09/89 to 12/97: Technical Officer, National Institute of Nutrition (NIN), Hyderabad, India.
01/98 to 06/99: Post Doctoral Res Associate, College of Pharmacy, Oregon State Univ., Corvallis, OR
07/99 to 09/01: Res Associate, College of Pharmacy, Univ. of Louisiana at Monroe, Monroe, LA
10/01 to 05/05: Post Doctoral Researcher, Tulane University School of Medicine, New Orleans, LA
06/05 to 12/10: Assistant Professor/Research, Dept of Medicine, Tulane Univ. School of Medicine.
06/05 to 12/10: Adjunct Assistant Professor, Dept of Pharmacology, Tulane Univ. School of Medicine.
01/11 to 06/12: Associate Professor/Research, Dept of Medicine, Tulane Univ. School of Medicine.
01/11 to 06/12: Adjunct Associate Professor, Dept of Pharmacology, Tulane Univ. School of Medicine.
07/12–Present: Associate Professor, Southern University and A&M College, Baton Rouge, LA

HONORS & AWARDS

1. 1964, Sept: Best Teacher Award- in High School on Self-Government day.
2. 1983 to 85: Secretary of CUBS - a scientific organization of graduate students at the NIN.
3. 2000, Nov: Travel Award of the American College of Toxicology.
4. 2001, Sept: Best Poster Award (co-author) South Central Chapter, Society of Toxicol., Oxford, MS.
5. 2006, Octo: Co-Chairperson (session); Global Conference on Heart Health & Disease, Winnipeg, Ca.

PROFESSIONAL MEMBERSHIPS

1. Society of Biological Chemists (India).
2. Nutrition Society of India- Life Member.
3. Neuroscience Society of India- Life Member.

SCIENTIFIC/RESEARCH INTERESTS

To continuously learn new and relevant aspects in Intermediary Metabolism, Biochemistry, Nutrition, Insulin Resistance, Pulmonary Hypertension and allied areas for contributing to further the understanding of some processes related to human health.

TEACHING ACTIVITIES

1979 - 1989: National Institute of Nutrition, Hyderabad, India- trained graduate students in enzyme/protein purification, amino acid analysis, microbiological assays, bactericidal activity of leukocytes and related work.

09/89-1996: National Institute of Nutrition, Hyderabad, India 'Annual Training Program of Endocrinological Techniques and their Applications' (lst August to 15th September)-Engaged in training Teachers from medical colleges and research institutions about radio iodination of insulin with ^{125}I, titre determinations and RIA of hormones and related aspects. Coordinated between participants and faculty for successful completion of the annual training program.

01/98-06/99: As a postdoctoral faculty member in Oregon State University, regularly participated in seminar clubs and group meetings and made presentations. Also, provided research and writing support to graduate students.

07/99-09/01: Participated in teaching the graduate students and incoming postdoctoral fellows about the animal experimentations, chromatographic methods like HPLC, GLC, ion-exchange, and toxicological analysis and use of several pieces of equipments.

10/01-05/05: Taught one class on Research Methods for MS Pharmacology. On an average annually 3-4 undergraduate and graduate students rotated in the lab. The emphasis was on ultracentrifugation approaches for the isolation of sub-cellular particles.

06/05-06/12: Moderator in Problem based learning programs. Annually 3-4 undergraduate and graduate students rotate in the lab to learn about micro surgical methods viz., isolation and catheterization of arteries (carotid, femoral, pulmonary/right heart catheterization) and veins and several *in vitro* techniques. Also, teach about balloon catheter mediated injury of carotid artery and evaluation of drugs in recovery process. Among others, protein purification and immunohistochemistry methods are also dealt with.

06/05-06/12: Teaching fellows in endocrinology about labeling of hormones, titre determination, RIA, EIA, and related methodologies; jointly coordinate Advances in Pharmacology course.

December 09: Foreign faculty in the 'Training Workshop on Non-invasive Techniques in Small Laboratory Animal Physiology' at the National Institute of Nutrition, Hyderabad, India (Dec 15 to 19).

January 2014-Environmental Toxicology PhD Program, Southern University and A&M College, Baton Rouge, LA
ENTX 721 Principle of Toxicology
ENTX 736 Special Topics
ENTX 724 Advanced Biochemistry II
ENTX 799 Research Practicum

Recognized in about 50 PhD theses and several MS theses for help rendered in planning of scientific experiments, problem solving, discussions and thesis preparations.

Ph.D. THESIS COMMITTEE MEMBER

1. Rose-Claire St Hilaire (2007) "Inhibition of vascular smooth muscle cell proliferation in vitro by adenoviral transfer of vasoactive intestinal peptide (VIP) gene."
2. Joel A Greco (2007) "Analysis of cardiovascular responses to active products of ACE and ACE2."
3. David B Casey (2011) "Response of sodium nitrite in the vascular bed of the rat mediated by xanthine oxidoreductase and aldehyde dehydrogenase-2."
4. Adeleke M Badejo Jr. (2011) "The role of Rho kinase in the regulation of tone in the pulmonary vascular bed in the intact chest rat."
5. Edward A Pankey (2013) "Role of soluble guanalyl cyclase in the regulation of pulmonary vascular tone in the intact chest rat."

THESIS SUPERVISOR FOR MS PHARMACOLOGY

1. Neal W Bost (2009) "The effect of salsalate on balloon catheter injury in the carotid artery of the Zucker fatty rat."

MS PHARMACOLOGY THESIS COMMITTEE MEMBER (partial list)

1. Lasker George
2. Rao Ashwin
3. Nguyen Diem
4. Nwosu Desire
5. Tran Kelvin
6. Haider Umair
7. Jackson Andrew
8. Leonard Sean
9. McCutcheon John
10. Das S
11. Chris Hodnette

GRADUATE STUDENTS AND MEDICAL DOCTORS WHO ROTATED IN THE LAB

1. Promil Kukreja
2. Demian Obregon
3. Anil S Matta
4. Angelle Gifford
5. Siddaraju Boregowda
6. Edward Pankey
7. George Lasker

BIBLIOGRAPHY:

1. Somanna NK, Wörner PM, **Murthy SN**, Pankey EA, Schachtele D, St Hilaire RC, Jansen D, Chafin AE, Nossaman BD, Alt EU, Kadowitz PJ, Izadpanah R. Intratracheal Administration of Cyclooxygenase-1 Transduced Adipose Tissue Derived Stem Cells Ameliorates Monocrotaline Induced Pulmonary Hypertension in Rats. *Am J Physiol Heart Circ Physiol.* August 22, 2014.
2. Lasker GF, Pankey EA, Dhaliwal JS, Stasch JP, **Murthy SN** and Kadowitz PJ. Analysis of the Erectile Response to BAY 41-8543 and Muscarinic Receptor Stimulation in the Rat. *J Sex Med.* 2013 Mar;10(3): 704-18. Epub 2012 Sep 18.
3. Lasker GF, Pankey EA, Allain AV, **Murthy** SN, Stasch JP, Kadowitz PJ. The Selective Rho-kinase Inhibitor Azaindole-1 Has Long-lasting Erectile Activity in the Rat. *Urology*. 2013 Feb;81(2):465.e7-465.
4. **Murthy SN**. Effects of insulin detemir on balloon catheter injured carotid artery in Zucker fatty rats. *The Journal of Diabetes and Its Complications.* 2012; 26(6):470–5. Epub 2012 Jul 4.
5. Valente A, Yoshida T, **Murthy SN**, Sakamuri S, Katsuyama M, Clark R, Delafontaine P, and Chandrasekar B. Angiotensin-II enhances AT1-Nox1 binding, and stimulates arterial smooth muscle cell migration and proliferation through AT1, Nox1, and interleukin-18. *Am J Physiol Heart Circ Physiol.* 2012 Aug;303(3):H282-96. Epub 2012 May 25.
6. Allain AV, Hoang VT, Lasker GF, Pankey EA, **Murthy SN**, Kadowitz PJ. Role of nitric oxide in developmental biology in plants, bacteria and man. *Curr Top Pharmacol*. 2011;15(2):25-33.
7. Nossaman BD, Pankey EA, Badejo AM Jr, Casey DB, Uppu S, **Murthy SN**, Kadowitz PJ. Analysis of responses to glyceryl trinitrate and sodium nitrite in the intact chest rat. *Nitric Oxide.* 2012 May 15;26(4):223-8. Epub 2012 Mar 29.
8. Pankey EA, Badejo AR, Casey DB, Lasker GF, Riehl RA, **Murthy SN**, Nossaman BD, and Kadowitz PJ. Effect of Chronic Sodium Nitrite Therapy on Monocrotaline-Induced Pulmonary Hypertension. *Nitric Oxide.* 2012 Jun 30;27(1):1-8. Epub 2012 Mar 14.
9. Pankey EA, Byun RJ, Smith WB II, Bhartiya M, Bueno FR Jr, Badejo AR Jr, Stasch JP, **Murthy SN**, Nossaman BD, Kadowitz PJ. Bay77-7549, an azaindole-based Rho kinase inhibitor has long-acting vasodilator activity in the pulmonary vascular bed of the intact chest rat. *Can J Physiol Pharmacol.* 2012; 90(7):825-35. Epub 2012 May 16.
10. Casey DB, Pankey EA, Badejo AR Jr, Bueno FR Jr, Bhartiya M, **Murthy SN**, Uppu RM, Nossaman BD, Kadowitz PJ. Peroxynitrite has potent pulmonary vasodilator activity in the rat. *Can J Physiol Pharmacol.* 2012 Apr;90(4):485-500. Epub 2012 Mar 27.
11. Alt EU, Senst C, **Murthy SN**, Slakey DP, Dupin CL, Chaffin AE, Kadowitz PJ, Izadpanah R. Age-Related Effects on Gene Regulation and Regenerative Potential of Tissue Resident Stem Cells. *Stem Cell Research.* 2012 Mar;8(2):215-25. Epub 2011 Nov 15.
12. Pankey EA, Bhartiya M, Badejo AM, Haider U, Stasch JP, **Murthy SN**, Nossaman BD, and Kadowitz PJ. Pulmonary and Systemic Vasodilator Responses to the Soluble Guanylyl Cyclase Activator, Bay 60-2770, are Nitric Oxide and Heme-Independent in the Rat. *Am J Physiol Heart Circ Physiol.* 2011; 300(3):H792-802. Epub 2011 Jan 7. [Epub ahead of print]
13. **Murthy SN**, Desouza CV, Bost NW, St Hilaire RC, Casey DB, Badejo AM, Dhaliwal JS, McGee J, McNamara DB, Kadowitz PJ, Fonseca VA. Effects of salsalate therapy on recovery from vascular injury in female Zucker fatty rats. *Diabetes.* 2010; 59(12):3240-6. Epub 2010 Sep 28.
14. **Murthy SN,** St Hilaire RC, Casey DB, Badejo AM Jr., McGee J, McNamara DB, Kadowitz PJ and Fonseca VA. The synthetic analog of GLP-1, exenatide reduces intimal hyperplasia in insulin resistant rats. *Diabetes and Vascular Disease Research*, 2010; 7(2):138-44. Epub 2010 Mar 2**.**
15. Lasker GF, Badejo AM Jr., Casey DB, Dhaliwal JS, Matt CJ, **Murthy SN,** Kadowitz PJ. Intracavernosal administration of sodium nitrite as an erectile pharmacotherapy. *Can J Physiol Pharmacol*. 2010; 88(7):770-6.
16. Freisinger E, Cramer C, Xia X, **Murthy SN**, Slakey D, Chiu E, Newsome E, Alt E, Izadpanah R. Hematopoietic Potential of Adult Mesenchymal Stem Cells. *J Cellular Physiology.* 2010; 225(3):888-97. 2010 Jul 15. [Epub ahead of print].

17. Badejo AM Jr, Hodnette C, Dhaliwal JS, Casey DB, Pankey EA, **Murthy SN**, Nossaman BD Hyman AL, and Kadowitz PJ. Mitochondrial Aldehyde Dehydrogenase Mediates Vasodilator Responses of Glyceryl Trinitrate and Sodium Nitrite in the Pulmonary Vascular Bed of the Rat. *Am J Physiol Heart Circ Physiol.* 2010; 299(3):H819-26. Epub 2010 Jun 11.
18. Badejo, AM Jr., Nossaman VE, Pankey EA, Bhartiya M, Kannadka CB, **Murthy SN**, Nossaman BD, and Kadowitz PJ. Pulmonary and Systemic Vasodilator Responses to the Guanylyl Cyclase Stimulator, Bay 41-8543, are attenuated by L-NAME. *Am J Physiol Heart Circ Physiol.* 2010;299:H1153-9. Epub 2010 Jul 16.
19. St. Hilaire RC, **Murthy SN**, Kadowitz PJ, Jeter, Jr. JR. Role of VPAC1 and VPAC2 in VIP mediated inhibition of rat pulmonary artery and aortic smooth muscle cell proliferation. *Peptides* 2010; 31(8):1517-1522. Epub 2010 May 7.
20. **Murthy SN**, *Nossaman, BD, and Kadowitz PJ. New approaches to the treatment of pulmonary hypertension: from bench to bedside. Cardiol Rev*. 2010 March/April; 18(2): 76-84.
21. Casey DB, Badejo AM, Dhaliwal JS, Sikora JL, Fokin A, Golwala NH, Greco AJ**, Murthy SN**, Nossaman BD, Hyman AL, Kadowitz PJ. Analysis of responses to the Rho-kinase Inhibitor Y-27632 in the Pulmonary and Systemic Vascular Bed of the Rat. *Am J Physiol Heart Circ Physiol.* 2010; 299(1):H184-92. Epub 2010 Apr 30. 2010.
22. Nossaman BD, Scruggs BA, **Murthy SN**, Kadowtiz PJ. History of Right Heart Catheterization: 100 years of Experimentation and Methodology Development. *Cardiology in Review*. 2010 March/April; 18(2): 94-101.
23. Deng W, Bivalacqua TJ, Champ*ion* HC, Hellstrom WJ, **Murthy SN**, Kadowitz PJ. Superoxide dismutase – a target for gene therapeutic approach to reduce oxidative stress in erectile dysfunction. *Methods Mol Biol.* 2010; 610:213-27.
24. Deng W, Bivalacqua TJ, Champion HC, Hellstrom WJ, **Murthy SN**, Kadowitz PJ. Gene therapy techniques for the delivery of endothelial nitric oxide synthase to the lung for pulmonary hypertension. *Methods Mol Biol*. 2010; 610:309-21.
25. Sathishkumar K, Gao X, Raghavamenon AC, **Murthy SN**, Kadowitz PJ, Uppu RM. Determination of glutathione, mitochondrial transmembrane potential, and cytotoxicity in H9c2 cardiomyoblasts exposed to reactive oxygen and nitrogen species. *Methods Mol Biol*. 2010; 610:61-61.
26. Nossaman BD, Nossaman VE, **Murthy SN,** Kadowtiz PJ. The role of the RhoA/Rho-kinase pathway in the regulation of pulmonary vasoconstrictor function. *Can J Physiol Pharmacol.* 2010; 88(1):1-8.
27. **Murthy SN,** Donald LA Jr., I-Li C, Thomas OA Jr, Raphael S, Fonseca VA, Kadowitz PJ, McNamara DB. U74389F, A 21 Aminosteroid antioxidant, improves neoendothelial morphology, but not neointimal thickening following balloon catheter injury. *Can J Physiol Pharmacol* 2009; 87(12):1102-9.
28. **Murthy SN,** Sukhanov S, McGee J, Greco JA, Chandra S, Delafontaine P, Kadowitz PJ, McNamara DB, Fonseca VA. Insulin Glargine reduces carotid intimal hyperplasia after balloon catheter injury in Zucker fatty rats possibly by IGF-1 mediated reduction in oxidative stress. *Mol Cell Biochem*. 2009; 330(1-2):1-8. Epub 2009 Apr 10.
29. Golwala NH, Hodenette C, **Murthy SN,** Nossaman BD, Kadowitz PJ. Vascular responses to nitrite are mediated by xanthine oxidoreductase and aldehyde dehydrogenase in the rat. *Can J Physiol Pharmacol.* 2009; 87(12):1095-101.
30. Raghavamenon AC, Gernapudi R, Babu S, D'Auvergne O, **Murthy SN**, Kadowitz PJ, Rao MU. Intracellular Oxidative Stress and Cytotoxicity in Rat Primary Cortical Neurons Exposed to Cholesterol Secoaldehyde. *Biochem Biophys Res Commun*. 2009; 386:170-4. Epub 2009 Jun 6.
31. Chandra S, **Murthy SN**, Mondal D, Agrawal KC. Therapeutic effects of *Nigella sativa* on chronic HAART-induced hyperinsulinemia in rats. *Can J Physiol Pharmacol.* 2009; 87(4):300-9.
32. Dhaliwal JS, Casey DB, Badejo AM Jr., **Murthy SN**, Kadowitz PJ. Analysis of Pulmonary Vasodilator Responses to SB-772077-B a Novel Aminofurazan Based Rho-kinase inhibitor. *J Pharmacol Exp Ther*. 2009; 330(1): 334-41. Epub 2009 Apr 15.
33. McNamara DB, **Murthy SN**, Fonseca AN, Desouza CV, Kadowitz PJ, and Fonseca VA. Animal models of catheter-induced intimal hyperplasia in type 1 and type 2 diabetes and the effects of pharmacologic intervention. *Can J Physiol Pharmacol*. 2009. 87(1):37-50.
34. Casey DB, Badejo AM Jr., Dhaliwal JS, **Murthy SN**, Hyman AL, Nossaman BD, Kadowitz PJ. Pulmonary vasodilator responses to sodium nitrite are mediated by an allopurinol-sensitive mechanism in the rat. *Am J Physiol Heart Circ Physiol.* 2009; 296(2):H524-33. Epub 2008 Dec 12.

35. Dabisch PA, Liles JT, Baber SR, Golwal**a** NH**, Murthy SN,** and Kadowitz PJ. Analysis of L-NAME dependent and resistant responses to acetylcholine in the rat. *Am J Physiol Heart Circ Physiol*. 2008; 294(2):H688-98. Epub 2007 Nov 21.
36. Dhaliwal JS, Casey DB, Greco AJ, Badejo AM Jr, Gallen T, **Murthy SN**, Nossaman BD, Hyman AL and Kadowitz PJ. Rho-kin**a**se and Ca++ entry mediate increased *pulmonary and systemic vascula*r resistance in *L-NAME treated rats. Am J Physiol Lung Cell Mol Physiol*. 2007; 293(5):L1306-13.
37. Uppu RM, Nossaman BD, Greco AJ, Fokin A, **Murthy SN**, Fonseca VA, and Kadowitz PJ. Cardiovascular effects of peroxynitrite. *Clinical and Experimental Pharmacol and Physiol*. 2007; 34(9):933-7.
38. Liles JT, Baber SR, Deng W, Porter JR, Corll C, **Murthy SN**, Thomas SA, and Kadowitz PJ. Pressor responses to ephedrine are not impaired in dopamine β-hydroxylase knockout mice. *British Journal of Pharmacology* 2007; 150(1):29-36.
39. Sathishkumar K, **Murthy SN**, and Uppu RM. Cytotoxic Effects of Biologically Active Oxysterols Produced During Ozonolysis of Cholesterol in Murine GT1-7 Hypothalamic Neurons. *Free Radical Research* 2007; 41(1):82-8.
40. Bivalacqua TJ, Deng W, Kendirci M, Usta MF, Robinson C, Taylor BK, **Murthy SN**, Champion HC, Hellstrom WJ, Kadowitz PJ. Mesenchymal stem cells alone or ex vivo gene modified with endothelial nitric oxide synthase reverse age-associated erectile dysfunction. *Am J Physiol Heart Circ Physiol.* 2007; 292(3):H1278-90.
41. Baber SR, Deng W, Master RG, Bunnell BA, Taylor BK, **Murthy SN**, Hyman AL, Kadowitz PJ. Intratracheal mesenchymal stem cell administration attenuates monocrotaline-induced pulmonary hypertension and endothelial dysfunction. *Am J Physiol Heart Circ Physiol.* 2007; 292(2):H1120-8.
42. Pradhan L, Dabisch PA, Liles JT, **Murthy SN**, Baber SR, Simpson SA, Agrawal KC and Kadowitz PJ. Effect of binge cocaine treatment on blood flow responses to vasoactive factors in the hind limb vascular bed of male SD rats. *J Appl Toxicol.* (2005) 25(6):479-90.
43. **Murthy SN,** Fonseca VA, and McNamara DB. Hyperhomocysteinemia Exacerbates the Development of Intimal Hyperplasia in Sprague Dawley rats; Alleviation by Rosiglitazone. *Experimental and Clinical Cardiology* (2005) 10 (3): 154-159.
44. **Murthy SN**, Obregon DF, Chattergoon NN, Fonseca NA, Mondal D, Dunne BJ, Diez J, Jeter Jr JR, Kadowitz PJ, Agrawal KC, McNamara DB, and Fonseca VA. Rosiglitazone reduces serum homocysteine levels, smooth muscle proliferation and initmal hyperplasia in Sprague Dawley rats fed a high methionine diet. *Metabolism* (2005) 54 (5): 645-652.
45. Anand SS, **Murthy SN**, Mumtaz MM and Mehendale HM. Dose-dependent liver tissue repair in chloroform plus thioacetamide acute hepatotoxicity. *Environ. Toxicol. Pharmacol.* (2004) 8: 143–148.
46. Desouza CV, **Murthy SN**, Diez J, Dunne BJ, Matta AS, Fonseca VA, McNamara DB. Differential effects of peroxisome proliferator activator receptor α and γ ligands on intimal hyperplasia after balloon catheter induced vascular injury in Zucker rats. *J. Cardiovasc. Pharmacol. Therapeut.* (2003) 8(4): 297-306.
47. Asnani S, Chan E, **Murthy SN**, McNamara DB, Fonseca VA. Effect of pharmacological treatments for diabetes on homocysteine. *Metabolic syndrome and related disorders.* (2003) 1(2):149-158.
48. **Murthy SN**, Matta AS, Mondal D, McNamara DB. Methods in assessing homocysteine metabolism. *Metabolic syndrome and related disorders.* (2003) 1(2): 129-140.
49. Anand SS, **Murthy SN**, Vaidya VS, Mumtaz MM, and Mehandale, H.M. Tissue repair plays pivotal Role in final outcome of Supra-Additive liver injury after Chloroform and Allyl alcohol Binary mixture. *Food Chem Toxicol.* (2003) 41(8): 1123-32.
50. Obregon DF**, Murthy SN**, McNamara DB, Fonseca VA. Novel approaches to the treatment of hyperhomocysteinemia. *Expert Opinion on Therapeutic Patents.* (2003) 13(7): 1023-35.
51. Anand SS, Soni MG, **V**aidya VS, **Murthy SN**, Mumtaz MM, and Mehendale HM. Extent and Timeliness of Tissue Rep**a***ir determines the Dose-Related Hepatot*oxicity of Chloroform, *Internat. J Toxicol*. (2003) 22(1): 25-33.
52. Asnani S, Desouza C, Homan J, **Murthy SN**, McNamara DB, Fonseca VA: Hormones and homocysteine. *Minerva Endocrinol.* (2002) 27:141–155.

53. Fonseca VA, Keebler M, Dicker–Brown A, DeSouza CV, Poirier LA, **Murthy SN** and McNamaraDB. The effect of troglitazone on plasma homocysteine, hepatic and red cell S-adenosyl methionine and s-adenosyl homocysteine and enzymes in homocysteine metabolism in Zucker rats. *Metabolism* (2002) 51(6): 783-6.
54. **Murthy SN** and Janardanasarma MK. Identification of L-amino acid/L-lysine oxidase in mouse brain. *Mol Cell Biochem*. (1999)197: 13-23.
55. Hariharan K, Rao VS, Daniel VA, Kurien S and **Murthy SN**. Essential fatty acids in infant nutrition. *Proc. Nutr. Soc. India. (*1989*)* 35: 16-26.
56. Lakshminarayana G, Rao SK, Narasinga Rao BS and **Murthy SN**. Amino acid compositions of some lesser-known oil seeds. *J. Oil Tech.* Assoc. *India. (*1987) 42: 93.
57. Raghunath M, **Murthy SN** and Narasinga Rao BS. Protein digestion in vivo: Peptides and free amino acids in the jejunum of rats fed different dietary proteins. *J. Clin. Biochem. & Nutr*. (1987) 3:217-226.
58. Vijayasarathy C, Siddiqui LK, **Murthy SN** and Bamji MS. Rise in plasma trimethyl lysine levels in humans after oral lysine load. *Amer. J. Clin. Nutr* (1987) 46: 772-777.

PARTIAL LIST OF OVER 60 PRESENTATIONS (ORAL AND POSTER) AT NATIONAL AND INTERNATIONAL MEETINGS

1. **Murthy SN**. Amino acid analysis of protein hydrolysates and physiological fluids using a single column with lithium citrate buffers. Annual meeting of Soc. of Biol. Chem. (Ind.) Hyderabad, India1992.
2. **Murthy SN** & Narasinga Rao BS. Spectrophotometric measurement of pipecolic acid without interferences from cysteine & proline. Annual meeting of the Soc. of Biol. Chem. (Ind.) Hyderabad, India 1992.
3. Janardanasarma MK, and **Murthy SN**. Optimization of membrane preparation procedure for solubilization of opiate receptor from sheep brain striatum. P10-19, 377, 16th International Cong. of Biochemistry an**d** Molecular Biology. New Delhi, India1994.
4. **Murthy SN**, and Janardanasarma MK. Enzymatic α-deamination of L-lysine to α-keto-ε-amino caproic acid in mouse brain. 2nd Meeting of the Asian Pacific Society for Neurochemistry, 1994. *J. Neurochem*. 63, Suppl. [2] S 28 D.
5. **Murthy SN**, & Sarma MKJ. Detection of the cyclized product of the α-keto acid of lysine-precursor for the formation of pipecolic acid. Annual Meeting of the Soc. of Biol. Chem. (Ind.) Bangalore, India1996.
6. Vaidya VS, Soni MG, Mumtaz MM, Clewell H, **Murthy SN** and Mehendale HM. Role of tissue repair in modulating dose related increase in toxicity of chloroform. *Internat. J. Toxicol*, 18(6): 429, 1999.
7. **Murthy SN**, Blanchard DL and Zabriskie TM. Inhibitors and Alternate Substrates of L-Pipecolate Oxidase. North Western Regional Meeting of the Amer. Chem. Soc. 20-23 June 1999 Portland, OR.
8. **Murthy SN**, Vaidya VS, Soni MG, Mumtaz MM, Clewell H,, Bucci TJ and Mehendale HM. Dose related increases in liver injury of binary mixtures of chloroform with allyl alcohol and thioacetamide are modulated by tissue repair. *Internat. J. Toxicol*, 19(6): 32, 2000.
9. McNamara DB, **Murthy SN**, Dunne BJ, Kadowitz PJ, Fonseca VA. Serum homocysteine levels and intimal hyperplasia are reduced by rosiglitazone in high methionine diet fed SD rats. The 2nd World Congress of the International Conf of International Acad of Cardiovascular Sci. July 14-16, 2005 Sapporo, Japan.

BOOK CHAPTERS

1. **Murthy SN,** Fonseca VA, and McNamara DB (2005). Intimal Hyperplasia after Balloon Catheter Induced Carotid Artery injury in Zucker Rats: Effects of Peroxisome proliferator activator receptor ligands α and γ. *Pharmacotherapy of Heart Failure*: S.K. Gupta, Pawan K. Singal and S.S. Agrawal (Eds). Anamaya Publishers, New Delhi, India.
2. **Murthy SN**, Fonseca VA, and McNamara DB (2005). Peroxisome proliferator activator receptor α and γ ligands differentially affect intimal hyperplasia after balloon catheter induced vascular injury in Zucker rats. Diabetes Mellitus Epidemic *Combat the Challenge*. B. Mukherjee & PK Debnath (Chief. Eds). Tata McGraw-Hill Publishing Co. New Delhi, India.
3. Nossaman BD, **Murthy SN**, and Kadowitz PJ (2008). Disruption of the Nitric Oxide Signaling System in Diabetes. V.A. Fonseca (Ed): Humana Press.
4. **Murthy SN**, Kadowitz PJ and McNamara DB (2011). Cellular and Molecular Mechanisms Associated with Salicylate Inhibition of Intimal Hyperplasia Following Balloon Catheter-Induced Vascular Injury. Molecular Defects in Cardiovascular Disease; Dhalla NS, Nagano M and Ostadal B (Eds) Part 3, 305-314 Springer Link Publishers

EDITORIAL ASSIGNMENTS:

1. **Book** on 'Free Radicals and Antioxidant Protocols Series: Methods in Molecular Biology', Uppu RM; **Murthy SN**; Pryor WA; Parinandi NL. (Eds.); Humana Press.

AD HOC JOURNAL REVIEWER

1. Diabetes
2. British Journal of Nutrition
3. Journal of Diabetes and Its Complications
4. Molecular and Cellular Biochemistry
5. Canadian Journal of Physiology and Pharmacology
6. Frontiers in Bioscience.

DEPARTMENTAL AND INSTITUTIONAL COMMITTEES

1. 2008- 2012 Institutional Animal Care and Use Committee, Tulane University School of Medicine
2. 2007-2012 Interviewer for endocrinology fellowship program
3. 2009-2012 Interviewer for admission into MD
4. 2010-2012 Interviewer for admission into PhD program

COURSES AND WORKSHOP ATTENDED

1. MCB 525 *Techniques in Molecular and Cellular Biology* - Molecular and Cell Biology Program, Oregon State University, Corvallis, OR (7-19 September 1998).
2. Workshop on *Modern techniques in Neurosciences*, at Indian Institute of Science and National Institute of Mental Health and Neurosci. Bangalore, India. (12-25 Dec.1993).
3. Workshop on *Affinity Chromatography*, at Primate Research Laboratory, Indian Institute of Science, Bangalore, India. (1-7 August 1993).
4. *Hormone assays and their clinical applications*, at National Institute of Health and Family Welfare, New Delhi, India. (31st July-18th Aug 1989).

RESEARCH GRANTS (COMPLETED)

Investigator in the following projects:

1. NIH RO1 HL62000; **Cardiopulmonary Surgery Research-**PI: Dr. P.J. Kadowitz. The major goal is to improve our current understanding of the regulation of the pulmonary circulation by COX-1 & 2.
2. NIH RO1 HL77421; **Stem cell therapy for pulmonary hypertension-**PI: Dr. P.J. Kadowitz. The major goal of this project is to improve our current understanding of the use of mesenchymal stem cells for the therapy of pulmonary hypertension.
3. Louisiana Board of Regents; **Development of peptide therapeutics for pulmonary hypertension** PI: Dr. P.J. Kadowitz
4. The effect of insulin Lantus (Insulin Glargine) and Apidra (Insulin Glulisine) on intimal hyperplasia following balloon catheter injury in insulin resistance and early diabetes-PI: Dr. V.A. Fonseca.
5. The effect of Exenatide on intimal hyperplasia following balloon catheter injury in insulin resistance and early diabetes [Zucker fatty rats]-PI: Dr. V.A. Fonseca.
6. The effect of Welchol on intimal hyperplasia following balloon catheter injury in insulin resistance and early diabetes [Zucker fatty rats]-PI: Dr. V.A. Fonseca.

GRANT APPLICATION ATTEMPTS (Partial List)

1. Feb 2011, NIH R21-PI- SN Murthy-Cardiovascular benefits of insulin in insulin resistant rats
2. Feb 2010, NIH R21-PI- SN Murthy-Salsalate therapy reduces cardiovascular risk factors and inflammation by SIRT1 upregulation mediated suppression of NFκB
3. Feb 2006, March 2007, March 2008-NIH R21-PI- SN Murthy-Protective role of rosiglitazone on intimal hyperplasia in SD and Zucker fatty rats fed a high methionine and high cholesterol (or oxidation products) diet
4. Jul 2008, ADA Research Award-PI- SN Murthy- Cardiovascular benefits of insulin in diabetic rats
5. Feb 2008, Phase II Tulane Research Grants-PI- SN Murthy- Effect of rosiglitazone on balloon catheter injured carotid artery in Zucker diabetic fatty rat with experimental hyperhomocysteinemia and hypercholesterolemia
6. Mar 2011, Ajinomoto Amino Acid Research Program-PI- SN Murthy- Studies on the dietary effects of homoarginine on endothelial function
7. Mar 2009, Ajinomoto Amino Acid Research Program-PI- SN Murthy- Dietary intervention with acetyl-L-carnitine and lipoic acid for reducing monocrotaline induced pulmonary hypertension in rats
8. Mar 2009, Ajinomoto Amino Acid Research Program-PI- SN Murthy- Dietary intervention with acetyl-L-carnitine and lipoic acid for reducing monocrotaline induced pulmonary hypertension in rats
9. Mar 2008, Ajinomoto Amino Acid Research Program-PI- SN Murthy-Studies on recovery from vascular injury using amide conjugates of non steroidal anti-inflammatory drugs with L-cysteine ethyl ester.
10. Mar 2007, Ajinomoto Amino Acid Research Program-PI- SN Murthy- The unexplored potential of Casokinines; effect of Val-Pro-Pro and Ile-Pro-Pro in pulmonary hypertension, and recovery after balloon angioplasty

RESEARCH EXPERIENCE

10/01-06/12: Tulane University School of Medicine; Involved in works on animal models of insulin resistance and modulation of IR by PPAR-γ and α agonists, restenosis following balloon catheter injury. Following the harvesting of the carotid artery after the experimental period, neo-intimal thickening is evaluated by microscopic methods. Additionally, involved in studies on pulmonary hypertension and rat mesenchymal stem cell therapeutic approaches; experienced in isolation of various vessels like carotid and femoral arteries and jugular and femoral veins for catheterization (right heart) and hemodynamic measurements and various dosing methods including tail vein injections, ip, sc and oral gavage.

07/09-09/01: College of Pharmacy, University of Louisiana at Monroe, LA: Engaged in the toxicological studies of binary mixtures of chloroform, thioacetamide, trichloroethylene, and allyl alcohol. Both, injury (ALT, AST, SDH) as well as tissue repair responses (isolation of DNA after pulse chase with ^{3}H-thymidine) were studied. Involved in preparing project proposals/reports and manuscripts, and supporting graduate students.

01/98-06/99: College of Pharmacy, Oregon State University, Corvallis, OR: Isolation and purification of L-pipecolic acid oxidase from yeast (*R. glutinis)* and primate sources were regularly carried out for conducting inhibitor studies. Routine chromatographic methods including hydrophobic interaction, ion exchange, HPLC etc., were used for purification purposes.

07/73-12/97: National Institute of Nutrition (Indian Council of Med. Res) Hyderabad-500007: Experienced in preparative ultra-centrifugation methods both differential centrifugation and density gradient methods. Experienced in the synthesis of N-t-boc and N-dansyl amino acids. Used the amino acid analyzer for over 10 years. Improved the acid ninhydrin method for the estimation of pipecolic acid. A definite interference from cysteine was detected; conditions were worked out to overcome this and interference from proline rendering the method specific for pipecolic acid.

TECHNIQUES EXTENSIVELY USED

Amino acid analysis, determination of trace elements using atomic absorption spectrophotometers, preparative ultra-centrifugation, spectrophotometric methods, radio iodination of Insulin & peptide hormones, radio-immuno assay of insulin (raising of anti-bodies, titre determinations). Familiar with affinity chromatography, Size exclusion, Paper chromatography, Ion-exchange chromatography, hydrophobic interaction chromatography (HIC), HPLC, GLC, TLC, and PAGE methods. Extensively used sub-cellular fractionations, immunological methods, bactericidal activity of leukocytes, microbiological assays, etc. Extensively experienced in animal experimentations using rat, mouse, guinea pigs and rabbits (for raising the antisera), and monkey liver and brain tissue for enzyme studies. Among others, experienced in balloon catheter injury of the carotid arteries in rats and isolation of various vessels like carotid and femoral arteries and jugular and femoral veins for catheterization (right heart) for hemodynamic measurements.