

Biography of NARASIMHAM PARINANDI (pAri)



Narasimham L. Parinandi (pAri) is an Associate Professor in Department of Internal Medicine, The Ohio State University College of Medicine. Parinandi received his B.Sc. (Hons) in botany with chemistry, zoology, English and M.Sc. in Botany with Environmental Biology in Berhampur University, India in 1975-77. From 1977-80, he was a research fellow in Environmental Sciences at the Andhra University, India. He earned his Ph.D. (1986) at the University of Toledo, Toledo, OH in Biology & Toxicology under the tutelage of Prof. Woon H. Jyung, an established zinc metabolism expert and aging biologist. During his graduate training at Toledo, he was exposed to the field of lipids by Prof. Max Funk, an expert lipoxygenase enzymologist from the lineage of Prof. Ned Porter. He did his post-doctoral fellowship (1986-90) at the Hormel Institute, University of Minnesota, the premier lipid institute in USA where he was trained with Prof. Harald Schmid, a celebrity in the area of ether lipids and a pioneer in anandamide chemistry. At the Hormel Institute of the University of Minnesota, Parinandi was associated with Prof. Ralph T. Holman (Member of the National Academy of Sciences and Pioneer in Fatty Acid and Lipoxygenase Biochemistry who also coined the name “Omega-3 Fatty Acid”) and conducted studies on omega-3 fatty acid dynamics in humans. He was also a research scientist/junior faculty at the Johns Hopkins University School of Medicine (1998-2002) under the mentorship of Prof. V. Natarajan, renowned lipid signaling expert and Prof. Joe G.N. (Skip) Garcia, a celebrated lung vascular biologist. Parinandi has published nearly 125 peer-reviewed original scientific papers, reviews, and book chapters, and edited books on Free Radicals and Antioxidant Protocols with Prof. William Pryor, the legendary Free Radical and Lipid Peroxidation Scientist and Mitochondria in Lung Health and Disease with Prof. Natarajan, a lipid signaling celebrity. Parinandi collaborated and published original research papers with the Nobel Laureate, Prof. Louis Ignarro on the pharmacology of NO donor drug. Currently, Parinandi is editing a Springer book on the Methods of Determination of Oxidative Stress with Prof. Lawrence Berliner of Denver University, a legendary scientist of Biological EPR Spectroscopy and Imaging. Parinandi has given more than 50 invited scientific lectures at the national level in the US and international institutions and conferences. He has also conducted and chaired several scientific conferences and symposia in the areas of oxidative stress and lipidology. He has teaching and mentoring experience of more than 35 years and mentored over 75 students, technicians, fellows, and junior faculty in his laboratory. He served as an editor of the Chemical Abstracts of the American Chemical Society. He has been a reviewer of nearly 70 peer-reviewed journals in the area of biochemistry, molecular biology, cell biology and Lipidomics. Parinandi has been on the editorial board of the Molecular Biology Reports (Springer), Frontiers of Pharmacology, World Journal of GI Pharmacology, Current Chemical Research, Cell Biophysics and Biochemistry (Associate Editor), and The Protein Journal. He has also received extramural funding from the National Institutes of Health (NIH), Department of Defense (DOD), American Thoracic Society (ATS), and International Academy of Oral Medicine and Toxicology (IAOMT) as a principal investigator (PI) and co-investigator (Co-I). Parinandi also serves as a reviewer of grant proposals of the NIH, AHA, DOD, US Universities, Government of Israel, Government of Austria, and Government of South Africa. Parinandi has received awards including the Gold Medal for securing the highest GPA in the M.S. class of 1975-77 of the Berhampur University, India, the Outstanding Teaching Assistant Award of the Biology Department of the University of Toledo in 1986, Distinguished Mentor Award of the Davis Heart & Lung Research Institute of the Ohio State University Wexner Medical Center in 2008, and the Distinguished Undergraduate Mentor Award of the Ohio State Undergraduate Research Program in 2009.

Teaching, Mentoring, and Research Interests

Teaching & Mentoring: Teaches wide variety of topics in Life Sciences and Biochemistry and Environmental Sciences. Passionate and committed to mentor undergraduate and graduate students on independent projects in fundamental research in Biological Sciences and Biochemistry.

Research: Biochemistry & Toxicology; Lipidomics of Phospholipases and Bioactive Lipids; Lipid Signaling in Regulation of Secretory Phenomena; Heavy Metal and Lipid Bilayer Interactions; Oxidized Lipidome; Translational Lipidomics of Chronic Diseases; Analytical Biochemistry; Methods of Teaching and Mentoring Research.

Narasimham L. Parinandi (*pArī*), Ph.D.

Associate Professor

Division of Pulmonary, Critical Care, and Sleep Medicine
Department of Internal Medicine, College of Medicine
Division of Pharmacology, College of Pharmacy (Adjunct)
Dorothy M. Davis Heart & Lung Research Institute
Lipid Signaling, Lipidomics, and Vasculotoxicity Laboratory
GRAVES HALL – The Ohio State University Wexner Medical Center
Room: 2130-B [Office]; 2130-H (Lab)
333 W 10th Ave; Columbus, OH 43210
(614) 292-8577 [office]; (614) 292-4298 [Lab]
(614) 204-9463 [Cell]
narasimham.parinandi@osumc.edu
Parinandi.3@osu.edu

Education

- Research Associate (NIH)**, Johns Hopkins University School of Medicine, Baltimore, MD, 1998-2002
(Mentors: V. Natarajan, Ph.D. & Joe G.N. Skip Garcia, M.D.)
Oxidant Lipid Signaling in Lung Vascular Endothelium and Epithelium
- Postdoctoral Research Fellow/Associate (NIH)**, Hormel Institute, University of Minnesota, Austin, MN, 55912, 1986-1990
(Mentor: Harald H. O. Schmid, Ph.D.)
Oxygen Radicals and Membrane Lipid Biochemistry
- Doctoral: Ph.D.** University of Toledo, Toledo, Ohio, 43606, 1980-1986
(Mentor: Woon H. Jyung, Ph.D.)
Biology and Toxicology
Doctoral Specialization: Toxicological and Nutritional Aspects of Trace Elements at the Biochemical and Molecular Levels.
Ph.D. Dissertation: Trace Element-induced Lipid Peroxidation in the Rat Brain, with a special reference to vanadium and chromium.
- Post-Graduate: Pre-doctoral Training** 1977-1980, University of Andhra, India, 1977-1980
Environmental Sciences
- Masters: M.Sc.** University of Berhampur, Orissa, India, 1975-1977
Botany and Environmental Biology
Dissertation: Pesticide Toxicity in Seed Physiology of Germination and Growth
- Undergraduate: B.Sc. (Honors)**. University of Berhampur, Orissa, India, 1971-1975
Botany, Chemistry, Physics, Zoology, and English

Current Position(s)

Associate Professor (Tenured)

Division of Pulmonary, Critical Care, and Sleep Medicine, Department of Internal Medicine, College of Medicine, College of Pharmacy, Division of Pharmacology (Adjunct), The Ohio State University, Columbus, OH 43210

Professional Experience

Associate Professor (tenured), Department of Internal Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine, The Ohio State University, Columbus, OH 43210 Adjunct Associate Professor, Division of Pharmacology, College of Pharmacy, The Ohio State University, Columbus, OH 43210	2008-Present
Chair of Education, Davis Heart & Lung Research Institute, College of Medicine, The Ohio State University Columbus, OH 43210	2006 – 2010
Assistant Professor, Department of Internal Medicine, Division of Pulmonary, Critical Care, and Sleep Medicine, The Ohio State University, Columbus, OH 43210	2002- 2008
Research Associate, Division of Pulmonary and Critical Care Medicine, Department of Medicine, Johns Hopkins University School of Medicine, Baltimore, MD 21224	1998-2002
Associate Editor, Biochemistry – Toxicology, Scientific Information Chemical Abstracts Service, American Chemical Society, Columbus, OH 43202	1992-1998
Assistant Editor, Biochemistry – Toxicology, Scientific Information Chemical Abstracts Service, American Chemical Society, Columbus, OH 43202	1990-1992
Research Associate, Hormel Institute, University of Minnesota, Austin, MN 55912	1989-1990
Research Fellow, Hormel Institute, University of Minnesota, Austin, MN 55912	1986-1989
Graduate Teaching Assistant, Department of Biology, University of Toledo, Toledo, OH 43606	1980-1986
Junior Research Fellow, Council of Scientific and Industrial Research (CSIR, India), University of Andhra, Waltair, India	1977-1980

Current Research Interests & Specialization

Oxidative Lipidomics and Lipid Signaling; Lung Vascular and Epithelial Biology; Oxygen Biology and Oxidative Stress; Environmental Lung Diseases; Heavy Metal and Lipid Interactions; Adiposity and Metabolic Disorders; Omega-3 Fatty Acids in Health and Disease; Redox biology of Lipophilic Phytochemicals; Mitochondrial Membrane Lipid Remodeling; Analytical Biochemistry (emphasis on Chromatography, Mass Spectrometry, Electron Paramagnetic Resonance Spectroscopy).

Professional Memberships and Activities

American Chemical Society (ACS) Active in Chemical Education, Conducting Workshops, Conducting Annual ACS Lectures and Felicitating Chemist of the Year.	1995-1998
International Academy of Oral Medicine & Toxicology (IAOMT) Active in Toxicology Giving Lectures at the Annual Meetings	2008 - Present

Editorial Board Appointments

Associate Editor: Cell Biophysics Biochemistry (Springer): 2016-Current

Review Editor: Frontiers of Pharmacology: 2019-Current

Editor: Special Edition on "Microvesicles and Exosomes in Vascular Biology", Published by "Vessel Plus" (peer-reviewed journal) – Projected date: December 31, 2019

Member of the Editorial Board: Vessel Plus: 2016-current

Member of the Editorial Board: Journal of Protein Science (Springer): 2017-Current

Member of the Editorial Board: Cardiovascular & Hematological Agents in Medicinal Chemistry (Bentham): 2017-Current

Co-Editor: Natarajan V. and Parinandi NL: "Mitochondrial Function in Lung Health and Disease". Series of "Respiratory Medicine", Ed. Rounds SIS. Springer (2013-14)

Member of the Editorial Board: Molecular Biology Reports (Springer): 2013-Current

Co-Editor: "Antioxidants in Longevity and Medicine" [Special Edition, 2013]

Co-Editor: "Antioxidants in Longevity and Medicine" [Special Edition, 2014]

Member of the Editorial Board: World J. of Gastrointestinal Pharmacology & Therapeutics (2010-2018)

Member of the Editorial Board: Current Chemical Research (2010)

Executive Editor: "Diabetes & Metabolism" (Omics) (2012)

Co-Editor: Uppu R, Pryor W, Murthy SN, Parinandi NL. Free Radicals and Antioxidant Protocols (Methods in Molecular Biology), Humana Press, January 2010

Co-Editor: Bulletin (Chemical Record) of American Chemical Society (Columbus Chapter) (1989-1990)

Co-Editor: Berliner LJ and Parinandi NL: "Measuring Oxidants and Oxidative Stress in Biological Systems". Springer International Publishing AG, Gewerbestrasse 11, 6330 Cham, Switzerland. [Projected date of release: 2019]

Co-Editor: Chakraborti S, Parinandi NL, Ghosh R, Ganguly NK, Chakraborti T: "Oxidative Stress in Lung Diseases – Volume-II" .. Springer Nature Singapore Pte Ltd, Singapore. [Published: July 2019]

Journal Peer Review Activities (Past & Present)

- 1) American Journal of Respiratory Cell and Molecular Biology
- 2) American Journal of Physiology Cell Biology
- 3) Antioxidants and Redox Signaling
- 4) Chemistry & Physics of Lipids
- 5) Lipids
- 6) Journal of Lipid Research
- 7) Progress of Lipid Research
- 8) Free Radical Biology Medicine
- 9) Proceedings of National Academy of Sciences
- 10) Journal of Biological Chemistry
- 11) Journal of Cellular and Molecular Biochemistry
- 12) Magnetic Resonance in Medicine
- 13) Microvascular Research
- 14) Wound Healing Handbook
- 15) International Journal of Toxicology
- 16) Human Experimental Toxicology
- 17) Comparative Biochemistry and Physiology
- 18) Respiratory Research (BMC)
- 19) Experimental Lung Research
- 20) Molecular Biology Reports (Springer)
- 21) Toxicology Mechanisms Methods
- 22) Molecular Carcinogenesis
- 23) Current Chemical Research
- 24) Cell Biochemistry Biophysics
- 25) Gene
- 26) Oxidative Medicine & Cellular Longevity
- 27) PlosOne
- 28) Environmental Molecular Mutagenesis
- 29) Current Genomics
- 30) Indian Journal of Biochemistry Biophysics
- 31) Cell Biology Toxicology
- 32) Journal of Pathology
- 33) Nutrition Reviews
- 34) Nutrients
- 35) Frontiers of Pharmacology
- 36) Vascular Medicine
- 37) Environmental Molecular Mutagenesis
- 38) Free Radical Research
- 39) World Journal of Gastrointestinal Pharmacology and Therapeutics
- 40) Molecular Cellular Biochemistry
- 41) Chemical Biology and Drug Design
- 42) Biochimica Biophysica Acta (BBA-Lipids Section)
- 43) Molecules
- 44) The Protein Journal (Springer)
- 45) Life Sciences

Committee Assignments and Administrative Services

Member of the Committee of the Academic Misconduct (COAM), The Ohio State University Senate (2018-2021)

Advisor: The Ohio State University Bioethics Society (Student-Organized) (2010-12)

Chair/Director, Education Committee, Davis Heart and Lung Research Institute (2005-2010)

Co-chair, Pulmonary Research Day, OSU College of Medicine (2006)

Member of the OSU College of Medicine Animal Protocol Review Com (2006)

Organizer: Scientific Writing Workshop, Davis Heart and Lung Research Institute and Department of Medicine, OSU (2003)

Member: Education Committee, Davis Heart and Lung Research Institute, OSU (2002-2005)

Member of the institutional animal welfare committee (ILACUC) (2004-2005)

Designer and coordinator of the Web Page of the Research Faculty, Division of Pulmonary and Critical Care Medicine, Johns Hopkins University School of Medicine (2000)

Webmaster of the Toxicology Web Page of the Biochemistry Department, Chemical Abstracts Service, American Chemical Society, Columbus, OH (1996 – 1998)

Subject Resource Person for consultation in “Toxicology”, Chemical Abstracts Service, American Chemical Society, Columbus, OH (1994 –1998)

“Meeting Facilitator”, Chemical Abstracts Service, Columbus, OH (1996 – 1998)

Evaluator of Annual Progress of Team Members, Toxicology Team, Biochemistry Department, Chemical Abstracts Service, Columbus, OH (1995 – 1998)

Member of the SciFinder Scientific Information Searching Database building Team, Chemical Abstracts Service, Columbus, OH (1994 – 1996)

Member of the Combinatorial Libraries/Bioinformatics Team, Chemical Abstracts Service, American Chemical Society, Columbus, OH (1994 – 1995)

Member of the Quality Assurance Team, Chemical Abstracts Service, American Chemical Society, Columbus, OH (1997 – 1998)

Conference Organizer

Member of the Organization Committee and Chair of a session, H3C Health Sciences Innovation Conference, The Ohio State University and The All India Institute of Medical Sciences, Mumbai, January 15-17, 2015

Chaired a session of young investigators' presentation, International Conference on Recent Advances in Research and Treatment of Human Diseases and 4th Annual Meeting of Indian Academy of Biomedical Sciences, 9-11th January 2015, Hyderabad, India

Member of the Organization Committee, International Conference on Recent Advances in Research and Treatment of Human Diseases and 4th Annual Meeting of Indian Academy of Biomedical Sciences, 9-11th January 2015, Hyderabad, India

Chaired a session, International Conference on Inherited Blood Diseases, Kalyani, India (2013)

Chaired a Session, International Conference of the Korean Society of Toxicology, S. Korea (2012)

Organizer: Annual Research Day, Davis Heart & Lung Research institute, The Ohio State University Medical Center (2006-2009)

Co-chair: Annual Pulmonary Research Day, The Ohio State University Medical Center, Division of Pulmonary, Critical Care, and Sleep Medicine (2006)

Organizer: Scientific Writing Workshop at the Davis Heart & Lung Research Institute (2004)

Secretary: International Electron Paramagnetic Resonance (EPR) Society Annual Meeting, Columbus, OH (2005)

Organizer: High School Students' Honors Chemistry Students and Teachers Meet at Columbus, OH (1997). Sponsor: American Chemical Society, Columbus, OH.

Organizer: Annual Lecture in Chemistry, American Chemical Society (Columbus Chapter) (1997). Sponsor: American Chemical Society, Columbus, OH

Organizer: Lecture Series in Biochemistry, Chemical Abstracts Service, American Chemical Society, Columbus, OH. Sponsor: Department of Biochemistry, Chemical Abstracts Service, Columbus, OH (1995-97)

Educational Activities

Teaching

1. Instructor & Developer of the Course – “**Endocrinology**” for Physiology and Cell Biology Course (10-12 lectures), Department of Physiology and Cell Biology, The Ohio State University Wexner Medical Center (Winter 2016 and 2017).
2. Instructor & Developer of the Course – “**Drug Discovery**” (2010-14), the entire semester-long course for Senior Undergraduates in Pharmacy, OSU College of Pharmacy Course. I taught the entire course for the last three years (2010-2014; semester long course).
3. Instructor – “Independent Senior **Undergraduate Research**” study (2002-Current, ongoing)
4. Instructor and Developer of the Course (Co-instructor: Dr. Phil Binkley) – “**Scientific Writing**” Class, College of Public Health, Ohio State University
5. Instructor – “**Seminars on Research In Progress**” Class, Davis Heart & Lung Research Institute, Ohio State University College of Medicine (2008-2010).
6. Instructor & Developer of the Course: Basic Science for Fellows of the Sleep Medicine Program, Division of Pulmonary & Critical Care, The Ohio State University College of Medicine – Gave Lectures on the “**Basic Science Aspects of Sleep Medicine**” with an

emphasis on the biochemical and molecular aspects of metabolomics and lipidomics (2008-2012)

7. Instructor & Developer: Taught “**Lipid Peroxidation**” for the Graduate Students in the Department of Nutrition, College of Human Ecology, Ohio State University (2006)
8. Instructor & Developer: Taught “**Fundamentals of Toxicology**” for the MPH students at the College of Public Health, Ohio State University (2008-2010)
9. Instructor & Developer: Taught the Graduate Biophysics Program classes in Autumn Semester at the Ohio State University on “**Membrane Biology**” (2008-2012)
10. Instructor & Developer: Taught the IBGP integrated physiology classes in “**Vascular Biology**” for 5 years at the Ohio State University College of Medicine (2008-2013)
11. Instructor & Developer: Taught “**Redox Biology and Signaling**”, Department of Pharmacology, Ohio State University (Spring, 2007)
12. Instructor & Developer: Gave lectures on “**Oxidative Stress and Antioxidants**” for the graduate students of College of Public Health, The Ohio State University (2003).
13. Instructor & Developer: Gave lectures on “**Vascular Biology**” for the graduate class of the Biomedical Engineering Department, The Ohio State University (2002).
14. Instructor & Developer: Taught Undergraduate “**Radiation Biology**” (Spring 1984 and Spring 1985), Biology Department, University of Toledo, Toledo, OH 43606.
15. Instructor: Taught “Human Physiology” for nursing majors (Winter 1983), Biology Department, University of Toledo, Toledo, OH 43606.
16. Instructor: Taught Undergraduate “**Physiology**” (Spring 1981 – 1986), Biology Department, University of Toledo, Toledo, OH 43606.
17. Instructor: Taught Undergraduate “**Animal Nutrition**” (Winter 1982), Biology Department, University of Toledo, Toledo, OH 43606.
18. Instructor: Taught “**History of Biology**” for non-science majors (Winter, 1983), Biology Department, University of Toledo, Toledo, OH 43606.
19. Instructor: Taught Undergraduate and Graduate “**Field Botany**” (Spring 1980 and Summer 1984), Biology Department, University of Toledo, Toledo, OH 43606.
20. Instructor: Taught “**Basics of Life Sciences**” for non-science majors (Fall 1980), Biology Department, University of Toledo, Toledo, OH 43606.
21. Instructor: Taught Undergraduate “Fundamentals of Biology” (Fall and Summer 1980-1986), Biology Department, University of Toledo, Toledo, OH 43606.
22. Taught graduate “**Environmental Pollution**” (1977-1980), University of Andhra, Waltair, S. India.
23. Taught graduate “**Environmental Biology**” (1977-1980), University of Andhra, Waltair, S. India.

Mentoring

During the last 35 years, I have been seriously focusing on developing a strong undergraduate biomedical educational and research program. Ever since my graduate training, I have worked at the University of Toledo, University of Minnesota, Johns Hopkins University, and the Ohio State University, and I have been fortunate to interact with and mentor several undergraduate students, graduate students, post-doctoral scientists, and technicians.

1. **Tamra Price, B.S.** – Undergraduate Research Trainee, Department of Biology, University of Toledo, Toledo, OH43606 (1984). Tamra worked on the “Determination of Lipid Peroxidation in Brain Membranes”. Present Position – Nurse.
2. **Elizabeth Brown, B.S.** – Undergraduate Research Student, Department of Biology, University of Toledo, Toledo, OH 43606 (1984-1986, Full Time). Liz worked on “Metal-induced Peroxidative Damage of Brain Membranes”. Present Position – Engineer, Michigan.
3. Trained **High School Science Teachers** during summer of 1984 under “High School Science Faculty Improvement Program”, University of Toledo, Toledo, OH 43606. The Science Teachers worked on the “Toxicity of Artificial Sweetener In Rats”.
4. **Mohan K. Kumar, M.S.** – Graduate Student (M.S.), Department of Biology, University of Toledo, Toledo, OH 43606 (1984-1986). Kumar worked on “Trace Metal-induced Aging in Fruit Fly”. Present Position – Information Scientist, AT&T, Chicago, Illinois.
5. **Barbara K. Weis** – Research Technician, Hormel Institute, University of Minnesota, Austin, MN55912 (1986-1990). Barb was my technician who specialized “HPLC separation of Phospholipids” and especially she was instrumental to establish a method on HPLC “Separation and Determination of Peroxidized Cardiolipin of Mitochondrial Membranes”. Present Position – Food Quality Technician, Hormel Company, Austin, MN 55912.
6. **Vivek Atluri, B.A., M.B.A.**– Freshman College Student, Division of Pulmonary and Critical Care Medicine, Johns Hopkins University School of Medicine, Bayview Campus (Summer 1999 and 2000). Vivek worked on separation of phospholipids in tissues. Present Position – finished MBA and works for a financial firm in West Coast.
7. **Terry Welsh, B.S.** – Senior College Student, Division of Pulmonary and Critical Care Medicine, Johns Hopkins University School of Medicine, Bayview Campus (Summer 2000). Terry worked on cytokine secretion by vascular endothelial cells. Graduated from the University of North Carolina.
8. **Kelvin Chan, B.S.** – Junior, Johns Hopkins University, Baltimore, MD (2001). Was trained in phospholipase A₂ enzymology towards undergraduate research training. Kelvin attended Medical School.
9. **Tonya Watkins, B.S.** – Laboratory Technician, Johns Hopkins University, Baltimore, MD (2001-2002). Trained and supervised in routine biochemical analysis and ongoing research projects. Finished Ph.D. at the Johns Hopkins University Medical School and is a research faculty in Biomedical Sciences at the Johns Hopkins University, Baltimore, MD.
10. **Ashish Sharma, M.D., M.P.H.** – Graduate Research Assistant, Ohio State University, College of Medicine and Public Health (2002-2004). Worked on a research project aimed at the oxidant activation of phospholipases in vascular endothelial cells. Graduated from the OSU. He did residency in Medicine and is currently a physician in the US.

11. **Andrew Jeanblac, B.S.** – Undergraduate Student (2003). Was trained in membrane biochemistry. Graduated from the OSU.
12. **Lawson Courtney, B.S., D.V.M.** – Research Assistant, The Ohio State University, Columbus, OH (2002-2004). Undergraduate Honors Student. Was trained in biochemical analysis and ongoing research projects. Graduated with Honors and Distinction from the Ohio State University and submitted the Honors Dissertation. Present Position – Veterinary Doctor, finished DVM at the OSU College of Veterinary Science and practicing veterinary medicine in the East Coast of US.
13. **Emily Steinhour, B.S.**– Research Assistant, The Ohio State University, Columbus, OH (2003-2006). Undergraduate Honors Student. Trained in lipid signaling. Graduated with Honors and Distinction from the Ohio State University and submitted the Honors Dissertation in 2006. Present Position: Finished Undergraduate Degree in Circulation Technology at the OSU and currently a Circulation Technologist in Connecticut.
14. **Alex Liaugminas, B.S., M.D.**– Research Assistant, The Ohio State University, Columbus, OH. (2003-2005) – Worked on the permeability and electrical resistance changes in vascular endothelial cells exposed to oxidants. Present Position: Received MD degree from the Medical College of the University of Toledo, OH. He is currently a physician in Florida.
15. **Alex Rekhman, B.S.** – Undergraduate Honors Student, The Ohio State University, Columbus, OH. (2003-2005) – Conducted studies on redox-active antioxidants and endothelial barrier disruption. – Present Position: Graduate Student at the Cornell University.
16. **Vivek Kuppusamy, B.S., M.B.A.** – High School Senior, New Albany High School, OH (2003-2005). Worked on the Cytotoxicity of heavy metals in the vascular endothelial cells and submitted his high school honors science thesis – Received BS in engineering from the University of Maryland, Baltimore, MD, received MBA from the University of Cincinnati, and currently he is working at the Proctor & Gamble as an engineer in Cincinnati.
17. **Aditya Gummadavelli, B.S.** – Undergraduate, Biochemistry, OSU (2004) – Worked on the bleomycin-induced endothelial barrier dysfunction. Currently working as a financial analyst at the Federal Reserve.
18. **Anal Parikh, B.S.** – Undergraduate, Chemical Engineering, OSU (2004) – Worked on analysis of lipid peroxidation products. Graduated from the OSU.
19. **Bindu Mikkilineni, M.D.** – Medical Student, NEOCOM (2004 Summer) – Conducted studies on mercury-induced activation of phospholipase A₂ in vascular endothelium. Received MD degree from the NEOUCM, Ohio and currently practicing medicine in the Pittsburgh area.
20. **Anil Tumu, M.D.** - Medical Student, NEOCOM (2004 Summer) – Worked on the NO-induced oxidation of phospholipids. Currently practicing medicine in the US.
21. **Joe Hild, B.S., M.D.** – Undergraduate, Biology, Miami University (2004 Summer) – Conducted studies on mercury-induced activation of phospholipase D in vascular endothelium. Received MD degree from the University Of Kentucky College Of Medicine and practicing medicine in the US.

22. **Ramya Rajappan, M.S.** (2004-2006) – Senior Research Associate, Division of Pulmonary and Critical Care and Sleep Medicine, The Ohio State University – worked on the obesity and oxidative stress (Collaborative project with Dr. Uly Magalang, MD). Currently working for a private company in Columbus, OH.
23. **Jessica Mazerik, B.S., Ph.D.** (2004-2007). Research Associate, The Ohio State University (2005-Current) – Worked on phosphatidic acid formation and signaling effects, mercury regulation of phospholipase A₂, and advanced glycation end products modulation of phospholipases D and A₂ signaling in endothelial and neuronal cells. Received PhD from the Vanderbilt University Biomedical Graduate Program and working at the Washington DC as a Scientific Writer.
24. **Lynn Sauers, B.S., M.D.** (2004-2007). Undergraduate Biology/Pre-Med Major. Worked on the heavy metal-induced barrier dysfunction and cytoskeletal reorganization in lung vascular endothelial cells. Graduated with MD degree at the Ohio State University College of Medicine and did fellowship at the Mayo Clinic, Rochester, MN and is currently an Assistant Professor of Internal Medicine in the Division of Pulmonary and Critical Care Medicine of the Ohio State University Wexner Medical Center.
25. **Bhavesh Patel, B.S., M.D.** – Undergraduate Honors Biology Major, The Ohio State University (2005-2008) – Worked on structural alterations of oxidized phospholipids. Graduated from the Ohio State University, did residency at Ohio State University Wexner Medical Center, and is currently a physician.
26. **Bruce Kaufman, B.S., M.D.** – Undergraduate Biology Major, The Ohio State University (2005-2006) – Worked on regulation of phospholipase D in vascular endothelium. Finished MD at the medical college of the University of Toledo, Toledo. Completed residency at the University of Michigan College Of Medicine and currently practicing medicine in the Midwestern US.
27. **Thomas Hagele, B.S., B.B.A., M.B.A., M.D.** – Undergraduate Honors Biology Major, The Ohio State University (2005-2007)- Worked on the involvement of phospholipases in cytotoxicity. Finished BS in Biology and pursuing BBA in accounting. Graduated with Honors and Distinction and submitted the Honors dissertation in 2007. Finished MD, MBA at the Medical School at the Wright State University, Dayton, OH. Finished residency at the University of Florida and currently practicing dermatology in Ohio.
28. **Saradhadevi Varadharaj, Ph.D.** Post-Doctoral Fellow (2003-2005) - Worked on the NO/oxidant and Phospholipase D interactions in vascular endothelium. Currently working as a Research Scientist in the Ross Laboratories, Columbus, OH.
29. **Ulysses Magalang, M.D.** Professor of Pulmonary, Critical Care and Sleep Medicine (2004-2006) – Worked on adiponectin in hyperoxia and sleep regulation during intermittent hypoxia in animal models and humans and signaling in obesity. Currently is a professor of pulmonary, critical care, and sleep medicine and director of the sleep medicine program at the Ohio State University. Uly is a collaborator and Co-PI on NIH RO1 grant.
30. **Valorie Ciapala, B.S.** (2005-2006). Senior Research Associate. Worked on the redox antioxidants and lipid signaling in cell culture models. Also, pursuing M.S. in Public Health at the Ohio State University and currently working as a pathology technician at the Ohio State University Medical Center.
31. **Priya Patel, B.S.** (2005-2006). Undergraduate Biology Major. Mechanisms of mercury-induced cytotoxicity in vascular endothelial cells.

32. **Alon Peltz, B.S., B.B.A., M.D.** – Undergraduate Honors Biology and Accounting Major (2005-2007). Worked on the role of calcium in endothelial phospholipase A₂ activity. Graduated with Honors and Distinction and submitted the Honors Dissertation in 2007. Finished MD at the Vanderbilt University College of Medicine. Did residency at the Harvard University School of Medicine and was also a fellow at the Yale University Medical School. Currently, Alon is a physician in the East Coast.
33. **Anita Gregory** – Undergraduate (2005-2007). Worked on the agricultural PM-induced oxidative stress in macrophages and lung epithelial cells.
34. **Muthulakshmi Kuppusamy** (2005-2009). Research Associate. Worked on the cell culture systems. Currently a senior research associate in the stem cell lab at the Dartmouth College Medical School.
35. **Michelle Kline, B.S., M.D.** (2005-2008). Undergraduate Honors Biology Major. Worked on the cholesterol lipid rafts and endothelial cell viability. Graduated with Honors and Distinction and submitted the Honors Dissertation in 2008. Finished MD degree at the Wright State University, Dayton, OH. Currently working as a clinician at the Riverside Hospital, Columbus, OH.
36. **Adam Hinzey, B.S., M.D., Ph.D.** (2005-2008). Undergraduate Physics Major. Worked on the cholesterol rafts and cytoskeletal integrity in the vascular endothelial cells. Currently pursuing the combined M.D. Ph.D. program at the Ohio State University College of Medicine. Adam is doing residency at Maine.
37. **Susie Butler, B.S.** (2006-2012). Senior Research Associate. Currently working on the GC-MS separation and characterization of lipids and oxidized fats. Graduated in Education while working as a research technician. Currently working as a science teacher in Dublin School System, OH.
38. **Keisha Milum, B.S.** (2007-2008). Senior Undergraduate Researcher. Worked on the cholesterol oxidation product-induced vascular endothelial cell alterations. Currently working as a research technician at the Ohio State University College of Medicine.
39. **Shariq Sherwani, M.S., M.B.A.** (2006-2008). Senior Research Associate. Worked on lipid signaling in vascular endothelium and epithelium and also on hyperoxic lung damage and insulin resistance during intermittent hypoxia. Sherwani was a research scientist at the Ohio State University College of Medicine in Dr. Ulysses Magalang's Laboratory. Now, Sherwani is pursuing Ph.D. in Medical Communication at the Ohio University, Athens, OH.
40. **Sheila Pabon, B.S., M.D.** (2007). Senior Undergraduate Researcher. Worked on the phospholipase crosstalk in the vascular endothelial cells under stress. Sheila received MD degree from the Case Western Reserve University College of Medicine.
41. **Jason Cruff, B.S., D.O.** (2006-2008). Research Associate. Worked on the adiponectin protection against hyperoxia-mediated lung damage and intermittent hypoxia and insulin resistance. Finished D.O. degree at the Virginia Technology Institute. Jason finished residency in Pennsylvania and currently is doing fellowship in Detroit.
42. **Sean Silman, B.S., M.P.H., D.O.** (2006-2009). Research Associate. Worked on the advanced glycation end product-induced endothelial cytoskeletal alterations and cell viability. Submitted a dissertation towards fulfillment of the MPH degree at the Ohio State University in 2009. After finishing residency at the University of California Medical School, Sean is now a fellow in Cardiology at the Arizona University Medical Center.

43. **Aruna Gavini, M.D.** (2006-2007). Research Student. Worked on the oxidant-induced endothelial barrier dysfunction. After undergoing residency training in Rhode Island, Gavini is practicing medicine in California.
44. **Travis Gurney, B.S.** (2007-2014). Finished B.S. in biology. Worked on the role of iron in the advanced glycation end product-mediated endothelial cytoskeletal reorganization and barrier dysfunction and Sickle Cell Disease associated vascular dysfunction as a research technician in our lab. Currently, Travis is a scientist in a Microscopy Company in North Carolina.
45. **Brooke Loar, B.S.** (2008-2010). Worked on the omega fatty acid-regulated lipid signaling in vascular endothelial cells. Received B.S. in biology, pursued MBA at the Xavier University in Cincinnati.
46. **Rishi Patel, B.S., D.O.** (2008-2013). Undergraduate Biochemistry Honors Student. Worked on the bleomycin-induced lung microvascular endothelial cell phospholipase D lipid signaling and its relevance to pulmonary fibrosis. Graduated with Honors and Distinction and submitted the Honors Dissertation in 2010. Graduated in the D.O. program at the Ohio University, Athens, OH and now Rishi finished residency in Florida and is practicing medicine in Florida.
47. **Samatar Alinoor, B.S.** (2008-2010). Received BS in biology at the Ohio State University. Worked on the natural product, NDGA-induced cytotoxicity in the lung vascular endothelial cells. Currently pursuing MBA.
48. **Nicholas Kefauver, B.S.** (2009-2011). BS Physics Major. Worked on the mechanisms of formation of nano-tubes and nano-tube communication in the vascular endothelial cells. Nicholas is now currently working as a mathematical modeler at the Ohio State University.
49. **Krishna Vellanki** (2009-2010). 7-Year Medical Student at the Ohio State University College of Medicine. Worked on the efficacy of novel chelation drug, NBMI, on mercury-induced cytotoxicity in the vascular endothelial cells.
50. **Jordan Secor, B.S., M.S., M.D.** (2009-2012). Undergraduate Biology Major and Graduate Student. Worked on the redox stabilization and mercury-induced activation of phospholipase D activation in the vascular endothelial cells and received his MS in pathology by research. After finishing MD at the University of Illinois Medical School, Jordan is currently doing residency at the Harvard University Medical School.
51. **Sayyid Muzzamil, B.S., D.V.M.** (2008-2009). BS in biology. Worked on mercury-induced loss of cell viability in vascular endothelial cells. After finishing DVM, Sayyid is currently practicing veterinary medicine in the West Coast.
52. **Kayte Bryant** (2008-2009). Undergraduate Biology Major. Worked on the Statin Myotoxicity and Myalgia.
53. **Aarti Vala, B.S., M.D.** (2009-2012). Undergraduate Microbiology Major. Worked on the "Thimerosal-induced barrier dysfunction in the gastrointestinal epithelial cell monolayers". Graduated with Honors and submitted Honors Dissertation. After finishing MD at the Wright State University College of Medicine, Arati finished residency in Florida and practicing medicine.
54. **Jamie Abbott** (2009-2012). Research Technician. Worked on the lipid extractions and thin-layer chromatographic separation of lipids. Jamie worked in the College of Dentistry, the Ohio State University and then established her own business in Columbus, OH.

55. **Kanchen Loganathan** (2009). Undergraduate Biology Honors Student at the Ohio State University.
56. **Smitha Malireddy, M.S.** (Biotechnology) (2007-2013). Smitha conducted research on the agricultural airborne dust-induced inflammatory cytokine release by lung epithelial cells and role of lipid signaling. Currently working as an independent biostatistician in Columbus, OH.
57. **Akash Vasireddy, M.D., M.P.H.** (2007-2010). Graduated with MPH degree from the OSU College of Public Health and working on a project entitled "Efficacy and Adverse Effects of Statins" towards partial fulfillment of the MPH degree. After finishing fellowship training at Chicago, Akash is currently working as a pulmonologist in Cincinnati, OH.
58. **Dr. Byeong Ha, M.D., Ph.D.** (2010) Post-doctoral research scientist. Worked on the mechanisms of redox regulation in lung damage. Currently is on the faculty of the IUPUC Medical Center, Indianapolis as an assistant professor of hematology.
59. **Ramy Amer** (2010). Undergraduate business major and biology minor. Ramy worked on the vasculotoxicity of bisphenol-A in the endothelial cells in our lab and finished his BBA at the Fisher College. Currently, Ramy is pursuing his MA in Political Science.
60. **Meena Kollipara, B.S.** (2005-2011). Graduated from the Ohio State University. Pursued research on the novel antioxidant inhibition of lipid peroxidation in model fatty acid systems and membranes in our laboratory. Currently doing MD.
61. **Andrew Blake Shelton, B.S.** (2009-2013). Research Technician. Worked on the lipidcentric mechanisms of anti-leishmanial actions of phytochemicals in our laboratory. Blake is planning on pursuing graduate study in biomedical sciences.
62. **Latha Rao, M.S.** (2013-2015). Research Technician. Worked on phospholipid remodeling in respiratory epithelium in our laboratory. Currently, Latha is working as a clinical coordinator in the CCC, The Ohio State University.
63. **Ormachea Kori, B.S.** (2010-2016). Research Technician. Working on the antioxidant and lipoxygenase inhibition properties of the novel lipophilic thiol-redox chelator. Graduated from the Capital University, Columbus, OH in 2014. Currently, Kori is pursuing MD at the Indiana Medical Center.
64. **Mounika Rao** (2014-2015). Senior at the Worthington High School, Worthington, OH. Mentoring Mounika's science project on bisphenol-A toxicity to plant systems. Mounika presented her findings at the upcoming district science fair in 2015. Mounika is an undergraduate at the Ohio State University.
65. **Sridivya Kosuri, M.D.** (2014-2016). Researcher. Worked on the anti-cancer actions of omega-3 fatty acids on breast cancer cells. Kosuri worked as a clinical coordinator in the CCC of the Ohio State University Wexner Medical Center. Currently, Kosuri is doing clinical residency in Seattle.
66. **Eric Tretter, B.S., M.D.**(2011-2015). Undergraduate Microbiology Honors Student. Worked on the lipid signaling mediation of statins in the smooth muscle cells. Graduated with Honors upon submitting the Honors Dissertation. Finished M.D. at the Ohio State University Wexner Medical Center and doing his residency.
67. **Andy Wu, B.S., M.D.** (2011-2014). Undergraduate Microbiology Honors Student. Worked on "Iron overload in Sickle Cell Disease and Novel Iron Chelator Protection" and

submitted his honors thesis and graduated with honors. Received M.D. from the Northwestern University College of Medicine and doing residency now.

68. **Sainath Kotha, M.D.** (2007-2015). Research Scientist. Worked on the lipid signaling by phospholipases in lung endothelial and epithelial cells. Currently works as a clinical coordinator at the Ohio State University Comprehensive Cancer Center.
69. **Phil Kauffman, B.S.** (2015-2018). Researcher. Phil worked on redox-active antioxidant-mediated killing of lung cancer cells and heme-induced damage of lung vascular endothelial cells. Phil has joined the Ph.D. program in the OSU Department of Biochemistry in 2018 and pursuing PhD in biochemistry.
70. **Pooja Patel** (2016-2017). Pooja was undergraduate Neuroscience Major who worked on the Oxidative Lipidomics of Neuronal Injury towards her Undergraduate Research.
71. **Vikram Vegesna** (2016-current). Vikram was undergraduate Biology Major who worked on Curcumin anticancer actions on lung cancer cells. Currently, has joined the Ross Medical College to pursue MD.
72. **Anita Yenigalla** (2013-current). Anita is a scientist and currently working on the Lipid Signaling Mechanisms of Cytotoxicity Induced by Oxidants.
73. **Surya Kodali** (2016-current). Surya is undergraduate chemical engineering major at the Ohio State University who works on the Chemical Hypoxia and Redox Dysregulation in Skeletal Muscle Cells. Surya is planning to go medical school after completion of his undergraduate degree.
74. **Sukruthi Arutla** (2017-current). Sukruthi is a neuroscience undergraduate major at the Ohio State University working on heme-induced damage of neuronal cells towards understanding the mechanisms and protection of heme-mediated damage in stroke.
75. **Ahmed Kamr, Ph.D.** (2018). Ahmed, an Egyptian post-doctoral scholar worked on vitamin D protection against oxidant-mediated injury in vascular endothelial cells. Currently, Ahmed is a post-doctoral fellow in the College of Veterinary Sciences, the Ohio State University, Columbus, OH.
76. **Steven J. Campbell, M.D.** (2016-2018). Steven was a pulmonary T32 fellow of the Ohio State University Division of Pulmonary, Critical Care, and Sleep Medicine. Steven worked on the Heme-induced lung vascular endothelial damage with an overall goal to understand the oxidant mechanisms of pulmonary hypertension. Steven is currently practicing pulmonary medicine in Kentucky.
77. **Sonal Pannu, M.D.** (2016-current). Sonal is an Assistant Professor in the Division of Pulmonary, Critical Care, and Sleep Medicine. Sonal is conducting research on the Oxidative Lipidomic Biomarkers of Hyperoxic Lung Injury. Sonal collaborates with us and works on the analysis of oxidized lipids in lung fluids arising from oxygenation.

Dissertation Committees (Ohio State University and Foreign)

- 1) Member and Examiner of Doctoral Dissertation Committees (Chemistry and Biochemistry, Biophysics, IBGP, Nutrition, Pathology, Psychology, and Colleges of Optometry, Veterinary Sciences, Agricultural Sciences, Dentistry, and Engineering of the Ohio State University).
- 2) Examiner of Undergraduate Honors Dissertation (Colleges of Biological Sciences and Medicine, OSU)
- 3) Examiner of PhD Dissertation (Nizam Institute of Medical Sciences, India, 2012)

- 4) Examiner of PhD Dissertation (University of Madras, India, 2010)
- 5) Examiner of PhD Dissertation (University of Madras, India, 2003)

Mentored High School Science Projects

- 1) **Vivek A. Kuppusamy** (2003-2005)
- 2) **Aaditya Siddham** (2007-2008)
- 3) **Partha Unnava** (2010)
- 4) **Miles Magalang** (2013-2014)
- 5) **Sanika Satoskar** (2013-2015)
- 6) **Timothy Magalang** (2014)
- 7) **Monica Satoskar** (2013-2015)
- 8) **Mounika Rao** (2014-2015)
- 9) **Ramya Boggavarapu** (2016-2018)

Mentored Honors and Graduate Dissertations

- 1) **Cortney Lawson** (2003)
- 2) **Emily Steinhour** (2006)
- 3) **Thomas Hagele** (2006)
- 4) **Alon Peltz** (2007)
- 5) **Michelle Kline** (2008)
- 6) **Sean Sliman** (2009)
- 7) **Rishi B. Patel** (2010)
- 8) **Aarti Vala** (2012)
- 9) **Jordan Secor** (2012)
- 10) **Yizhou Wu** (2014)
- 11) **Eric Tretter** (2015)

Mentored Post-Doctoral and M.D. Fellows & Faculty

- 1) **Saradhadevi Varadharaj, Ph.D.** Post-Doctoral Fellow, Division of Pulmonary, Critical Care, and Sleep Medicine, Ohio State University (2003-2005)
- 2) **Ulysses Magalang, M.D.** Professor, Division of Pulmonary, Critical Care, and Sleep Medicine, Ohio State University (2004-2006)
- 3) **Aruna Gavini, M.D.** Research Student, Division of Pulmonary, Critical Care, and Sleep Medicine, Ohio State University (2006-2007)
- 4) **Akash Vasireddy, M.D., M.P.H.** Research Student, Division of Pulmonary, Critical Care, and Sleep Medicine, Ohio State University (2007-2010)
- 5) **Byeong Ha, M.D., Ph.D.** Post-doctoral research scientist (2010)
- 6) **Sridivya Kosuri, M.D.** Researcher (2014-2016).
- 8) **Sainath Kotha, M.D.** Research Scientist (2007-2015).
- 9) **Ahmed Kamr, Ph.D.** Egyptian post-doctoral scholar (2018).
- 10) **Steven J. Campbell, M.D.** OSU Pulmonary T32 fellow (2016-2018).
- 11) **Sonal Pannu, M.D.** Assistant Professor, Division of Pulmonary, Critical Care, and Sleep Medicine, OSU (2016-current).

Students, Staff, and Fellows Who Won Awards, Honors, and Scholarships

- 1) **Emily Steinhour**: Won the OSU Denman Award (2005-Second Place) in Environ. Sci.
- 2) **Thomas Hagele**: Won the OSU Denman Award (2006 – First Place) in Environ. Sci.
- 3) **Vivek A. Kuppusamy**: Finalist in the High School Science Project Competition (2005)
- 4) **AlonPeltz**: Won the Pre-Doc Research Award in the Annual Pulmo Res Day (2006)
- 5) **Emily Steinhour**: Awarded the Circulation Technology Scholarship (2005).
- 6) **Emily Steinhour**: Awarded the National Circulation Technology Research Presentation Award for Undergraduate Research Project (2005)
- 7) **AlonPeltz**: Awarded the OSU's Meyers Undergraduate Research Scholarship (2006).
- 8) **Valorie Ciapala**: Awarded the Davis Heart & Lung Research Institute Distinguished Research Staff Award (2006)
- 9) **Keisha Milum**: Awarded the Dean's Undergraduate (College of Biological Sciences) Research Award (2007, Winter)
- 10) **Sheila Pabon**: Awarded the College of Biological Sciences Scholarship (2006-2007)
- 11) **Muthulakshmi Kuppusamy**: Awarded the Davis Heart & Lung Research Institute Distinguished Research Staff Award (2007)
- 12) **Michelle Kline**: Awarded the State of Ohio Student Employee of the Year Award (2008)
- 13) **Rishi Patel**: Awarded the College of Biological Sciences Scholarship (2008)
- 14) **Rishi Patel**: Won the OSU Denman Award (2009 – Third Place) in Environ. Sci.
- 15) **Aaditya Siddham**: Won the Intel Scholarship for High School Science Project (\$16,000) [2007]
- 16) **Shariq I. Sherwani**: Awarded the Davis Heart & Lung Institute "Outstanding Research Poster Presentation Award" in DHLRI Annual Research Day (2008)
- 17) **Travis Gurney**: Awarded the Davis Heart & Lung Institute Best Poster Presentation Award in undergraduate category, DHLRI Annual Research Day (2010).
- 18) **Sainath R. Kotha, M.D.**: "Distinguished Post-Doctoral Fellow Award" of the Davis Heart & Lung Research Institute (2012).
- 19) **Susie Butler**: Received Honorable Mention in the U.S. Environmental Protection Agency's (EPA) 2012 Scientific & Technological Achievement Award Competition for the research publication.
- 20) **Rishi Patel**: Received Honorable Mention in the U.S. Environmental Protection Agency's (EPA) 2012 Scientific & Technological Achievement Award Competition for research publication.
- 21) **Sainath Kotha**: Received Honorable Mention in the U.S. Environmental Protection Agency's (EPA) 2012 Scientific & Technological Achievement Award Competition for research publication.
- 22) **Yizhou Wu**: Awarded the Summer Undergraduate Research Scholarship, OSU (2013).
- 23) **Eric Tretter**: Awarded the Honorable Mention (4th Place) for the research presentation in the 2013 Ohio State University Denman Undergraduate Research Forum.
- 24) **Yizhou Wu**: Awarded the Honorable Mention (4th Place) for the research presentation in the 2013 Ohio State University Denman Undergraduate Research Forum.
- 25) **Yizhou Wu**.and **Eric Tretter**: Selected to present his research at the National Undergraduate Research Forum, 2013 & 2014.
- 26) **Sanika Satoskar & Monica Satoskar**: Won the Sigma Xi Award (2014).
- 27) **Eric Tretter**: Awarded the Ohio State University Undergraduate Scholarship (2014).
- 28) **Ramya Boggavarapu**: Finalist, New Jersey Junior Science Symposium, Rutgers University (March 5, 2018)
- 29) **Ramya Boggavarapu**: Recognition for participation in the 56th National Junior Science and Humanities Symposium, Hunt Valley, Maryland (May 2-5, 2018)

Honors and Awards

1. **Distinguished Undergraduate Mentor Award** (2009): Ohio State University Undergraduate Forum, Ohio State University, Columbus, OH [For mentoring undergraduate science majors and honors students – university wide]
2. **Distinguished Mentor Award** (2008): Davis Heart and Lung Research Institute, The Ohio State University College of Medicine, Columbus, OH [For mentoring students, post-doctoral fellows, researchers, staff, and junior faculty].
3. **U.S. Environmental Protection Agency (EPA) 2012 Honorable Mention** in Scientific & Technological Achievement Award Competition for Research Publication, “Vascular and Cardiac Impairments in Rats Inhaling Ozone and Diesel Exhaust Particles” in Environmental Health Perspectives.
4. **Recognized by the American Chemical Society** (Columbus Chapter, Columbus, OH) for the services to the society (1997-1998).
5. **Recognized by the “Quality Assurance Program”** of the Chemical Abstracts Service, Columbus, OH for evaluating the quality of the Biochemistry Database (1997-1998).
6. **Recognized by the Chemical Abstracts Service**, Columbus, OH for participation in the development of SciFinder PC Scientific Database Search Package (1994-1996).
7. **Awarded the “Outstanding Teaching Assistant Award”** for Excellence in Teaching in Biology by the Department of Biology, University of Toledo, Toledo, OH, 43606 (1986).
8. **Awarded the “Post-Graduate GOLD MEDAL”** by the University of Berhampur, India, for securing the Highest GPA in Master’s work in Botany (1975-1977).
9. **Awarded the “Junior Research Fellowship”** by the Council of Scientific and Industrial Research, Government of India, to carry out doctoral research in the department of Environmental Sciences, University of Andhra, India (1979-1980).
10. **Awarded the “National Merit Scholarship”** by the Ministry of Education, Government of India for securing the Highest GPA in the Bachelor of Science study (1975-1977).
11. **Awarded the Bachelor of Science degree with Honors and Distinction** by the University of Berhampur, India (1975).

Grants and Contract Awards

ACTIVE FUNDING

National Institutes of Health (NIH) 02/01/2019 - 01/31/2024

Principal Investigator: McDaniel, Jodi C. (College of Nursing, OSU);

Co-Investigator: Narasimham L. Parinandi

RO1 GRT00051479

Title: *Impact of Omega-3 fatty acid oral therapy on healing of chronic venous leg ulcers in older adults*

Amount: \$3,045,750.00

Role: Co-Investigator (10% Effort).

National Institutes of Health

RO1 (P.I. Kudryashov, Dmitri S; Co-I: Narasimham Parinandi)

04/01/2015 - 03/31/2020

Title: *Actin oligomers as novel toxins targeting key steps of actin dynamics.*

R01 (PI: Kurdryashov) 09/01/2015-08/31/2020 0.6 calendar

NIH \$249,996

Actin oligomers as novel toxins targeting key steps of actin dynamics

The goal of this project will be to investigate novel mechanisms of pathogenicity of Actin Crosslinking Domain (ACD) family of proteins acting via inhibition of formins and other actin assembly factors and to utilize these discoveries for creating novel tools for cell biology.

Role: Co-Investigator

GRANTS CONCLUDED

National Institutes of Health

RO1 (P.I. Chandan Sen; Co-I: Narasimham Parinandi)

R01NR015676 (PI: Sen) 05/06/2015-02/29/2020 0.6 calendar

Title: *Wound Healing Endpoint and Recurrence.*

NIH \$350,000

Wound Healing Endpoint and Recurrence

This project seeks to repurpose a FDA approved topical emulsion with the goal to take such defectively repaired skin in patients to fully functional closure.

Role: Co-Investigator

Department of Defense (DOD)

GRANT11498899 (P.I. Abhay Satoskar/Co-I: Narasimham Parinandi)

Project Duration: 36 months (November 2014-August 2017)

Total Budget Requested: \$1,108,260

Effort: 0.48 Calendar

Includes: One technician Salary; \$18,000/year Lab Supplies

Title: *Development of Novel Therapeutics for Neglected Tropical Disease Leishmaniasis*

The Primary focus of this application is to develop and test novel antileishmanial compounds originally isolated from the plant Pentalinon andrieuxii. The primary sterols with the most promising activity obtained in preliminary investigations are 6,7-dihydroneeridienone (DNER) and pentalinosterol (PEN), which are the focus of this study.

National Institute of Neurological Diseases & Stroke

R01NS042617 (P.I. Chandan Sen; Co-I.: Narasimham Parinandi)

01/01/2010 - 06/30/2014

\$553,876.67 Total Costs Requested
Effort: 0.6 Calendar

Title: Vitamin E neuroprotection: Novel molecular mechanisms
National Institute of Diabetes & Digestive & Kidney Diseases (64000005)
R01 DK076566 (P.I. Sashwati Roy; Co-I: Narasimham Parinandi)

02/01/2010 - 07/31/2014

\$638,257.06 Total Costs Requested
Effort: 0.84 Calendar

Title: Mechanisms underlying impaired diabetic wound healing

R01 HL 093463 (P.I. Parinandi/Magalang)
(NIH)/NHLBI

10/01/2010-11/30/2014

Annual Direct Costs:\$1,506,700.00
EFFORT: 1.8 Calendar

Title: Intermittent hypoxia, adiponectin, and insulin resistance in cardiovascular risk

The major goals of this project are to establish the protective role of adiponectin against the intermittent hypoxia-induced cardiovascular risk in the mouse model and clinical human subjects with a focus on adiponectin receptors, lipotoxicity, insulin resistance in skeletal and cardiovascular muscles, and cardiovascular risk.

Research Grant (P.I. Parinandi) project # 60033750 06/01/2012-06/30/2014

IAOMT Intl Acad of Oral Medicine & Toxicology Annual direct Costs: \$25,000

Effort: 0.12 Calendar

Title: Pre-clinical screening of novel lipophilic heavy metal chelator-antioxidant drug modulating the drug- metabolizing enzymes in liver with a special emphasis on the autistic leaky vascular and gut syndrome

The major goal of this project is to determine modulation of the drug-metabolizing enzymes by a novel lipophilic thiol-redox heavy metal chelator drug in liver focusing on the leaky blood vessel and gut as encountered in the autistic spectrum disorders

Research Grant (P.I. Parinandi) project # 60041520 01/01/2014 - 01/01/2015

IAOMT Intl Acad of Oral Medicine & Toxicology Annual direct Costs: \$10,000

Effort: 0.12 Calendar

Title: Mercury cardiovascular toxicity protection by novel membrane-targeted Thiol chelator-cum-redox antioxidant drug, NBMI

The goal of this project will be to determine the cardiovascular protective actions of the novel lipophilic thiol-redox and heavy metal chelating drug against the cardiovascular toxicity of mercury.

Research Grant

4/1/04 -3/31/08

R01 CA 102264: Co-Investigator (PI: Kuppusamy)

NIH/NCI

\$205,000/year (direct costs only)

Co-Investigator: Narasimham L. Parinandi

30% Effort

Title: In vivo EPR imaging of redox status and thiols in tumor

The goal is to investigate the role of thiols in the treatment of human ovarian cancer. Transplanted solid tumor xenografts in mice will be studied.

Overlap: None

Research Grant
R01 EB004031-01: Co-Investigator (PI: Kuppusamy)
NIH

7/1/04-6/30/09

\$250,000
Co-Investigator: Narasimham L.
Parinandi
20% Effort

Title: Development of spin probes for cell-tagging and oximetry

The goal is to develop submicron paramagnetic probes for noninvasive and repeated measurement of oxygen concentration and in tissues

Overlap: None

DHLRI Thematic Program Award (Parinandi: PI and Magalang: Co-PI)

Period of funding. July 2007-July 2008

Source and amount of funding. DHLRI Thematic Program, \$50, 000.

Title: "Adiponectin in Hyperoxic Lung Injury"

This grant is awarded to me jointly with Dr. Ulysses Magalang, M.D. to investigate the role of Adiponectin in the protection of hyperoxia-mediated lung injury. This is a multiple PI project between a basic scientist and clinician scientist to generate data for the submission of an RO-1 grant to the NIH. My effort is 50% in this project. I am one of the originators of this grant. My role is to design and investigate the mechanisms of adiponectin-mediated attenuation of hyperoxic lung injury.

R01 CA 78886-08: Co-Investigator (PI: Kuppusamy)
NIH/NCI

7/1/04-6/30/09

\$250,000
Co-Investigator: Narasimham L.
Parinandi
10% Effort

Title: EPR imaging of tumor heterogeneity and oxygenation (Competitive Renewal of CA 78886)

Measurement of oxygen concentration in tumor and normal tissues using EPR and MRI techniques. The role of oxygen in radiation-induced skin fibrosis will be investigated

Overlap: None

PM Star Grant (NIEHS)

(P.I. Joe G.N. Garcia) 06/01/06

Paid External Consultant

Title: Urban particulate matter cardiopulmonary toxicity.

University of Chicago Medical School

RO1, NIOSH

Title: Organic dust pulmonary toxicity

Co-Investigator (5%)

(P.I. Debra Rhomberger) 2006- 2011.

University of Nebraska Medical Center,
Nebraska, Omaha

NIHRO1, NS042617-06

Title: Vitamin E Neuroprotection

P.I. Chandan K. Sen (2009 – 2013); Co-Investigator: Narasimham Parinandi (4%)

NIDDK, Award # R01 DK76566

Title: Mechanisms underlying impaired diabetic wound healing (RO1)

Co-Investigator (8%)

P.I. Sashwati Roy (2008-2013)

International Academy of Oral Medicine and Toxicology, USA

Title: *Mechanisms of mercury vasculotoxicity*

P.I. (2%)

2009-2010 (\$10,000).

Readisorb Company, California

Title: *Redox modulation by Readisorb*

P.I. (No Effort)

2009 (\$10,000)

International Academy of Oral Medicine and Toxicology, USA

Title: *Bioactive Lipid Biomarkers in Mercury-induced Vasculotoxicity*

P.I. (No Effort)

2010-2011 (\$25,000).

International Academy of Oral Medicine and Toxicology, USA

Title: *Mercury Dental Amalgams and Health Care Outcome in Parker-Hannifin Employees*

P.I. (No effort)

2012 (\$10,000).

The Alan D. Clark, M.D. Memorial Research Foundation

P.I. (No effort)

Philanthropic Educational & Research Fund - 2012 (\$12,000; 2010).

The Alan D. Clark, M.D. Memorial Research Foundation (Joplain, Missouri) was established to provide grants to physicians and researchers striving to prevent, protect and reverse the devastating effects of mercury, particularly when used in medicine. This fund will be used to train undergraduates in research towards understanding the protection of redox drugs against metal and oxidant cellular injury.

American Lung Association (ALA – Maryland Chapter)

PI – Narasimham L. Parinandi

Title: *“Role of Phospholipase D in Urban Particulate Matter-induced Interleukin-8 Secretion in Bronchial Epithelial Cells.”* June, 2000 – June, 2001. (\$10, 000) [15%].

NIEHS Johns Hopkins Center in Urban Environmental Health “Urban Ambient Particulate Matter

PI – Narasimham L. Parinandi

Title: *(CAPs)-induced Secretion of Interleukin-8 by Bronchial Epithelial Cells and role of Phospholipase D.* March, 2000 – March, 2001. (\$15,000). [15%].

Publications

(Only Peer-Reviewed Publications)

1. **Parinandi, N.L.** and Raju, P.A. (1980). Plant insecticides. *Science Reporter (CSIR, India)*.17(2):110-111.
2. **Parinandi, N.L.** and Raju, P.A. (1981). Crassulacean plants in arid environment. *Science Reporter (CSIR, India)*.Oct. 540-542.
3. **Parinandi, N.L.** and Schmid, H.H.O. (1988). Effects of long-chain N-acylethanolamines on lipid peroxidation in cardiac mitochondria. *FEBS Lett.*237(1-2):49-52.
4. **Parinandi, N.L.**, Weis, B.K., and Schmid, H.H.O. (1988). Assay of cardiolipin peroxidation by high-performance liquid chromatography. *Chem. Phys. Lipids* 49(3):215-220.
5. **Parinandi, N.L.**, Weis, B.K., Natarajan, V., and Schmid, H.H.O. (1990). Peroxidative modification of phospholipids in myocardial membranes. *Arch. Biochem. Biophys.*280(1):45-52.
6. **Parinandi, N.L.**, Thompson, Ed.W., and Schmid, H.H.O. (1990). Diabetic heart and kidney exhibit increased resistance to lipid peroxidation. *Biochem. Biophys. Acta*1047(1):63-69.
7. **Parinandi, N.L.**, Zwizinski, C.W., and Schmid, H.H.O. (1991). Free radical-induced alterations of myocardial membrane proteins. *Arch. Biochem. Biophys.*289(1):118-123.
8. Natarajan, V., Mohiuddin, M., Roehm, B., **Parinandi, N.L.**, Schmid, H.H.O., Kiss, Z., and Garcia, J.G.N. (1993). Activation of endothelial cell phospholipase D by hydrogen peroxide and fatty acid hydroperoxide. *J. Biol. Chem.*268(2):930-937.
9. Vepa, S., Scribner, W.M., **Parinandi, N.L.**, English, D., Garcia, J.G.N., and Natarajan, V. (1999). Hydrogen peroxide stimulates tyrosine phosphorylation of focal adhesion kinase in vascular endothelial cells. *Am. J. Physiol.* 277(Pt 1):L150-158.
10. **Parinandi, N.L.**, Scribner, W.M., Vepa, S., Shi, S., and Natarajan, V. (1999). Phospholipase D activation in endothelial cells is redox sensitive. *Antioxidants & Redox Signaling*1(2):193-210.
11. Shi, S., Garcia, J.G.N., Roy, S., **Parinandi, N.L.**, and Natarajan, V. (2000). Involvement of c-Src in diperoxovanadate-induced endothelial barrier dysfunction. *Am. J. Physiol. Lung Cell Mol. Physiol.* 279:L441-L451.(Editorial Focus Paper).
12. Natarajan, V., Scribner, W.M., Morris, A.J., Roy, S., Vepa, S., Yang, J., Wadgaonkar, R., Reddy, S.P.M., Garcia, J.G.N., and **Parinandi, N.L.** (2001). Role of p38 mitogen activated protein kinase in diperoxovanadate-induced phospholipase D activation in endothelial cells. *Am. J. Physiol. Lung Cell Mol. Physiol.*281, L435-L449.
13. **Parinandi, N.L.**, Roy, S., Cummings, R., Morris, A.J., Garcia, J.G.N., and Natarajan, V. (2001). Role of Src kinase in diperoxovanadate-mediated activation of phospholipase D in endothelial cells. *Arch. Biochem. Biophys.* 396(2), 231-243.
14. Cummings, R., **Parinandi, N.L.**, Zaiman, A., Wang, L., Garcia, J.G.N., and Natarajan, V. (2001): Phospholipase D activation by sphingosine-1-phosphate regulates interleukin-8 secretion in human bronchial epithelial cells. *J. Biol. Chem.*16;277(33):30227-35, 2002.
15. Cummings R, **Parinandi NL**, Wang L, Usatyuk P, Natarajan V. (2002).Phospholipase D/phosphatidic acid signal transduction: role and physiological significance in lung. *Mol Cell Biochem.* 234-235(1-2):99-109.

16. **Parinandi NL**, Kleinberg MA, Usatyuk P, Cummings RJ, Pennathur A, Cardounel AJ, Zweier JL, Garcia JGN, and Natarajan V. (2003). Hyperoxia-induced NAD[P]H oxidase activation and regulation by MAP kinases in human lung endothelial cells. *Am J Physiol Lung Cell Mol Physiol.* 284(1):L26-38. (**Editorial Focus Paper**).
17. Roy, S., **Parinandi, N.L.**, Zeigelstein, R., Hu, Q., Pei, Y., Travers, J.B., and Natarajan, V. (2003). Hyperoxia alters phorbol ester-induced phospholipase D activation in bovine lung microvascular endothelial cells. *Antioxidants & Redox Signaling.* 5(2):217-28.
18. Byrnes, C.K., Bahadursing, A., Akhter, N., **Parinandi, N.L.**, Natarajan, V., Montgomery, E., Tihan, T., Duncan, M.D., Nass, P.H., Harmon, J.W. (2003). Duodenal Reflex Produces Hyperproliferative Epithelial Esophagitis – A Possible Precursor to Esophageal Adenocarcinoma in the Rat. *Gastrointest Surg.* 7(2):172-80.
19. Usatyuk PV, Vepa S, Watkins T, He DH, **Parinandi NL**, Natarajan V. (2003). Redox regulation of reactive oxygen species-induced p38 MAP kinase activation and barrier dysfunction in lung microvascular endothelial cells. *Antioxid Redox Signal.* 5(6):723-30.
20. Pandian R, **Parinandi NL**, Illangoan, G, Zweier JL, Kuppusamy P. (2003). Novel particulate spin probe for targeted determination of oxygen in cells and tissues. *Free Radical Biol. Med.* 1;35(9):1138-48.
21. Pandian R, Kutala VK, **Parinandi NL**, Zweier JL, Kuppusamy P. (2003). Measurement of oxygen consumption in mouse aortic endothelial cells using a microparticulate oximetry probe. *Arch. Biochem. Biophys.* 1;420(1):169-75.
22. Rizzi C, Samouilov A, **Parinandi NL**, Zweier JL, Kuppusamy P. (2003). Application of a trityl-based radical probe for measuring superoxide. *Free Radical Biol. Med.*, 15;35(12):1608-18.
23. Kutala V, **Parinandi NL**, Pandian R, Kuppusamy P. (2004). Simultaneous measurement of oxygenation in extracellular and intracellular compartments of lung microvascular endothelial cells. *Antioxidants Redox Signal.* 6(3):597-603.
24. Kutala V., **Parinandi NL**, Zweier JL, and Kuppusamy P. (2004). Reaction of superoxide with trityl radical: implications for the determination of superoxide by spectrophotometry. *Arch. Biochem. Biophys.* 424(1), 81-88.
25. Varadharaj S, Watkins T, Cardounel AJ, Joe G.N. Garcia, Zweier JL, Kuppusamy, P., Natarajan V, **Parinandi NL**. (2005). Vitamin C-induced loss of redox-dependent viability in lung microvascular endothelial cells. *Antioxidants Redox Signal.* 7(1-2):287-300.
26. Varadharaj, S., Sakthivel, R., Vedamoorthyrao, S., **Parinandi, N.L.** (2005). Alterations in band 3 protein and anion exchange in red blood cells of renal failure patients. *J. Mol. Cell. Biochem.* 2005 May; 273(1-2):11-24.
27. Chowdhury AK, Watkins T, **Parinandi NL**, Saatian B, Kleinberg ME, Usatyuk PV, Natarajan V. (2005). Src-mediated tyrosine phosphorylation of p47phox in hyperoxia-induced activation of NADPH oxidase and generation of reactive oxygen species in lung endothelial cells. *J Biol Chem.* 2005 May 27; 280(21):20700-11.
28. Pandian, R., Kutala, V.K., Liaugminas, A., **Parinandi, N.L.**, Kuppusamy, P. (2005). Lipopolysaccharide-induced alterations in oxygen consumption and generation of superoxide and nitric oxide in endothelial cells. *J. Mol. Cell. Biochem.* 2005 Oct; 278(1-2):119-27.

29. Martin SF, Chatterjee S, **Parinandi NL**, Alevriadou BR. (2005). Rac1 inhibition protects against hypoxia/reoxygenation-induced lipid peroxidation in human vascular endothelial cells. *Vascul Pharmacol.* 2005 Sep;43(3):148-56.
30. Zhou Y, Varadharaj S, Zhao X, **Parinandi NL**, Flavahan NA, Zweier JL. (2005). Acetylcholine causes endothelium-dependent contraction of mouse arteries. *Am J Physiol Heart Circ Physiol.* 289(3):H1027-32.
31. Khanna S, Roy S, Slivka A, Craft TKS, Chaki S, Rink C, Notestine M, DeVries CA, **Parinandi NL**, Sen C. (2005). Neuroprotective properties of the natural vitamin E alpha-tocotrienol. *Stroke.* 2005 Oct;36(10):2258-64.
32. Khan M, Varadharaj S, Shoba JC, Naidu MU, **Parinandi NL**, Kutala VK, Kuppusamy P. (2005). C-Phycocyanin ameliorates doxorubicin-induced oxidative stress and apoptosis in adult rat cardiomyocytes. *J Cardiovasc Pharmacol.* 2006 Jan;47(1):9-20.
33. Khan M, Varadharaj S, Ganesan LP, Shobha JC, Naidu MU, **Parinandi NL**, Tridandapani S, Kutala VK, Kuppusamy P. (2006). C-phycocyanin protects against ischemia-reperfusion injury of heart through involvement of p38 MAPK and ERK signaling. *Am J Physiol Heart Circ Physiol.* 2006 May;290(5):H2136-45.
34. Varadharaj S, Steinhour E, Hunter M, Watkins T, Baran C, Magalang U, Kuppusamy P, Marsh C, Zweier JL, Natarajan V, **Parinandi NL**. (2006) Vitamin C-induced activation of phospholipase D in lung endothelial cells: Regulation by MAP kinases. *Cell Signaling.* 2006 18(9):1396-407.
35. Bratasz A, Weir NM, Parinandi NL, Zweier JL, Sridhar R, Ignarro LJ, Kuppusamy P. (2006) Reversal to cisplatin sensitivity in recurrent human ovarian cancer cells by NCX-4016, a nitro derivative of aspirin. *Proc Natl Acad Sci U S A.* 2006, 7;103(10):3914-9. **(With Nobel Laureate, Dr. Ignarro).**
36. Magalang U, Rajappan R, Hunter MG, Kutala VK, Kuppusamy P, Wewers MD, Marsh CB, **Parinandi NL**. (2006) Adiponectin inhibits superoxide generation by human polymorphonuclear neutrophils. *Antioxid Redox Signal.* 2006, 8(11-12):2179-86.
37. Zhou Y, Mitra S, Varadharaj S, **Parinandi N**, Zweier JL, Flavahan NA. (2006) Increased expression of cyclooxygenase-2 mediates enhanced contraction to endothelin ETA receptor stimulation in endothelial nitric oxide synthase knockout mice. *Circ Res.* 2006, 9;98(11):1439-45.
38. **Parinandi NL**, Sen CK, Kuppusamy P. (2006) Joint International Conference on EPR Spectroscopy and wound healing. *Antioxid Redox Signal.* 2006 Jul-Aug;8(7-8):1385-1387.
39. Khanna S, Roy S, **Parinandi NL**, Maurer M, Sen CK. (2006) Characterization of the potent neuroprotective properties of the natural vitamin E alpha-tocotrienol. *J Neurochem.* 2006 Sep;98(5):1474-1486.
40. Usatyuk PV, **Parinandi NL**, Natarajan V. (2006) Redox regulation of 4-HNE-mediated endothelial barrier dysfunction by focal adhesion, adherens and tight junction proteins. *J Biol Chem.* 2006 Nov 17;281(46):35554-66.
41. **Parinandi NL**, Sharma A, Eubank TD, Kaufman BF, Kutala VK, Marsh CB, Ignarro LJ, Kuppusamy P. (2007). Nitroaspirin, NCX-4016, is antiangiogenic through induction of loss of redox-dependent viability and cytoskeletal reorganization in endothelial cells. *Antioxid Redox Signal.* 2007 Nov;9(11):1837-49. **(With Nobel Laureate, Dr. Ignarro).**

42. Hagele TJ, Mazerik JN, Gregory A, Kaufman BF, Magalang U, Kuppusamy M, Marsh CB, Kuppusamy P, **Parinandi NL**. (2007). Mercury activates vascular endothelial cell phospholipase D through thiols and oxidative stress. *Int. J. Toxicol.* 2007 Jan-Feb;26(1):57-69.
43. Usatyuk PV, Romer L, He D, **Parinandi NL**, Kleinberg ME, Zhan S, Jacobson JR, Dudek S, Garcia JGN, Natarajan V. (2007). Regulation of hyperoxia-induced NADPH oxidase activation in human lung endothelial cells by the actin cytoskeleton and cortactin. *J Biol Chem.* 2007 Aug 10;282(32):23284-95.
44. Mazerik JN, Mikkilineni H, Kuppusamy VA, Steinhour E, Peltz A, Marsh CB, Kuppusamy P, **Parinandi NL**. (2007). Mercury activates phospholipase A₂ and induces formation of arachidonic acid metabolites in vascular endothelial cells. *Toxicol. Mech. Methods.* 2007, 17: 541-557.
45. Mazerik JN, Hagele T, Sherwani S, Ciapala V, Butler S, Kuppusamy ML, Hunter M, Kuppusamy P, Marsh CB, **Parinandi NL**. (2007). Phospholipase A₂ activation regulates cytotoxicity of methylmercury in vascular endothelial cells. *Int J Toxicol.* 2007 Nov-Dec;26(6):553-69.
46. Pope AJ, Druhan L, Guzman JE, Forbes SP, Murugesan V, Lu D, Xia Y, Chicoine LG, **Parinandi NL**, Cardounel AJ. (2007). Role of DDAH-1 in lipid peroxidation product-mediated inhibition of endothelial NO generation. *Am J Physiol Cell Physiol.* 2007 Nov;293(5):C1679-86.
47. Steinhour E, Sherwani S, Mazerik JN, Ciapala V, Butler S, Cruff JP, Magalang U, Parthasarathy S, Sen CK, Marsh CB, Kuppusamy P, **Parinandi NL**. (2008). Redox-active antioxidant modulation of lipid signaling in vascular endothelial cells: Vitamin C induces activation of phospholipase D through phospholipase A₂, lipoxygenase, and cyclooxygenase. *Mol Cell Biochem.* 2008 Aug;315(1-2):97-112.
48. Forbes SP, Druhan LJ, Guzman JE, **Parinandi NL**, Zhang L, Green-Church KB, Cardounel AJ. (2008). Mechanism of 4-HNE mediated inhibition of hDDAH-1: implications in NO regulation. *Biochemistry.* 2008 Feb 12;47(6):1819-26.
49. Oliver SR, Wright VP, **Parinandi NL**, Clanton TL. (2008). Thermal tolerance of contractile function in oxidative skeletal muscle: no protection by antioxidants and reduced tolerance with eicosanoid enzyme inhibition. *Am J Physiol Regul Integr Comp Physiol.* 2008 Nov;295(5):R1695-705.
50. Khan M, Iyyapu KM, Kutala V, Kotha S, **Parinandi NL**, Hamlin RL, Kuppusamy P. (2009). Sulfaphenazole protects heart against ischemia-reperfusion injury and cardiac dysfunction by overexpression of iNOS leading to enhancement of nitric-oxide bioavailability and tissue oxygenation. *Antioxid Redox Signal.* 2009 Apr;11(4):725-38.
51. Magalang UJ, Cruff JP, Rajappan R, Hunter MG, Patel T, Marsh CB, Raman SV, **Parinandi NL**. (2009). Intermittent hypoxia suppresses adiponectin secretion by adipocytes. *Exp. Clin. Endocrinol. Diabetes* 2009, 117(3):129-134.
52. Magalang UJ, Richards K, McCarthy B, Fathala A, Khan M, **Parinandi NL**, Raman SV. (2009). Continuous positive airway pressure therapy reduces right ventricular volume in patients with obstructive sleep apnea: A cardiovascular magnetic resonance study. *J. Clinical Sleep Med.* 2009, 5(2): 1-5.
53. Sathishkumar K, Gao X, Raghavamenon AC, **Parinandi NL**, Pryor WA, Uppu RM. (2009). Cholesterol secoaldehyde induces apoptosis in H9c2 cardiomyoblasts through reactive oxygen species involving mitochondrial and death receptor pathways. *Free Radic Biol Med.* 2009 Sep 1;47(5):548-58.

54. Peltz A, Sherwani SI, Kotha SR, Mazerik JN, O'Connor Butler ES, Kuppusamy ML, Hagele T, Magalang UJ, Kuppusamy P, Marsh CB, **Parinandi NL**. (2009). Calcium and calmodulin regulate mercury-induced phospholipase D activation in vascular endothelial cells. *Int J Toxicol*. 2009 May-Jun;28(3):190-206.
55. Sliman SM, Eubank TD, Kotha SR, Kuppusamy ML, Sherwani SI, Butler ES, Kuppusamy P, Roy S, Marsh CB, Stern DM, **Parinandi NL**. (2009). Hyperglycemic oxoaldehyde, glyoxal, causes barrier dysfunction, cytoskeletal alterations, and inhibition of angiogenesis in vascular endothelial cells: aminoguanidine protection. *Mol Cell Biochem*. 2010 Jan;333(1-2):9-26.
56. Khanna S, **Parinandi NL**, Kotha SR, Roy S, Rink C, Bibus D, Sen CK. (2010). Nanomolar vitamin E alpha-tocotrienol inhibits glutamate-induced activation of phospholipase A₂ and causes neuroprotection. *J Neurochem*. 2010 Mar;112(5):1249-60.
57. Rennolds J, Butler S, Maloney K, Boyaka PN, Davis IC, Knoell DL, **Parinandi NL**, Cormet-Boyaka E. (2010). Cadmium regulates the expression of the CFTR chloride channel in human airway epithelial cells. *Toxicol Sci*. 2010 Jul;116(1):349-58.
58. Sansom SE, Nuovo GJ, Martin MM, Kotha SR, **Parinandi NL**, Elton TS. (2010). miR-802 regulates human angiotensin II type 1 receptor expression in intestinal epithelial C2BBE1 cells. *Am J Physiol Gastrointest Liver Physiol*. 2010 Sep;299(3):G632-42.
59. Patel RB, Kotha SR, Sherwani SI, Sliman SM, Gurney TO, Loar B, O'Connor Butler S, Morris AJ, Marsh CB, **Parinandi NL**. (2011). Pulmonary fibrosis inducer, bleomycin, causes redox-sensitive activation of phospholipase D and cytotoxicity through formation of bioactive lipid signal mediator, phosphatidic acid, in lung microvascular endothelial cells. *Int J Toxicol*. 2011 Feb;30(1):69-90.
60. Kodavanti UP, Thomas R, Ledbetter AD, Schladweiler MC, Shannahan JH, Wallenborn JG, Lund AK, Campen MJ, Butler EO, Gottipolu RR, Nyska A, Richards JE, Andrews D, Jaskot RH, McKee J, Kotha SR, Patel RB, **Parinandi NL**. (2011). Vascular and cardiac impairments in rats inhaling ozone and diesel exhaust particles. *Environ Health Perspect*. 2011 Mar;119(3):312-8.
61. Crouser ED, **Parinandi N**. (2011). Mitochondrial mechanisms are at the 'heart' of novel ischemia-reperfusion therapies. *Crit Care Med*. 2011 Mar;39(3):593-5.
62. Kotha SR, Patel RB, Elton TS, Davidson MH, **Parinandi NL**. (2011). Lipidomics – A novel strategy for probing into systems biology operations: Networking between glycome, lipidome, proteome, and genome. *J. Glycomics and Lipidomics*. 2011, 1 (1):1-2.
63. Secor JD, Kotha SR, Gurney TO, Patel RB, Kefauver NR, Gupta N, Morris AJ, Haley BE, **Parinandi NL**. (2011). Novel lipid-soluble thiol-redox antioxidant and heavy metal chelator, N,N'-bis(2-mercaptoethyl)isophthalamide (NBMI) and phospholipase D-specific inhibitor, 5-fluoro-2-indolyl des-chlorohalopemide (FIPI) attenuate mercury-induced lipid signaling leading to protection against cytotoxicity in aortic endothelial cells. *Int J Toxicol*. 2011 Dec;30(6):619-38.
64. Uppu RM and **Parinandi NL**. (2011). Insulin Sensitization and Resistance Interrelationship Revisited with a Quantitative Molecular Model Approach. *J. Diabetes Metab*. 2011, 2:106e. doi:10.4172/2155-6156.1000106e.
65. Wang Y, Mo X, Piper MG, Wang H, **Parinandi NL**, Guttridge D, Marsh CB. (2011). M-CSF induces monocyte survival by activating NF-κB p65 phosphorylation at Ser276 via protein kinase C. *PLoS One*. 2011;6(12).
66. Rennolds J, Malireddy S, Hassan F, Tridandapani S, **Parinandi NL**, Boyaka PN, Cormet-Boyaka E. (2012). Curcumin regulates airway epithelial cell cytokine responses to the pollutant cadmium. *Biochem Biophys Res Commun*. 2012 Jan 6;417(1):256-61.

67. Patel RB, Kotha SR, Sauers LA, Malireddy S, Gurney TO, Gupta NN, Elton TS, Magalang UJ, Marsh CB, Haley BE, **Parinandi NL**. (2012). Thiol-redox antioxidants protect against lung vascular endothelial cytoskeletal alterations caused by pulmonary fibrosis inducer, bleomycin: comparison between classical thiol-protectant, N-acetyl-L-cysteine, and novel thiol antioxidant, N,N'-bis-2-mercaptoethyl isophthalamide. *Toxicol Mech Methods*. 2012 Jun;22(5):383-96.
68. Ganesh K, Das A, Dickerson R, Khanna S, **Parinandi NL**, Gordillo GM, Sen CK, Roy S. (2012). Prostaglandin E₂ induces oncostatin M expression in human chronic wound macrophages through Axl receptor tyrosine kinase pathway. *J Immunol*. 2012 Sep 1;189(5):2563-73.
69. Achary VM, **Parinandi NL**, Panda BB. (2012). Aluminum induces oxidative burst, cell wall NADH peroxidase activity, and DNA damage in root cells of *Allium cepa* L. *Environ Mol Mutagen*. 2012 Aug;53(7):550-60.
70. Hinzey AH, Kline MA, Kotha SR, Sliman SM, Butler ES, Shelton AB, Gurney TR, **Parinandi NL**. (2012). Choice of cyclodextrin for cellular cholesterol depletion for vascular endothelial cell lipid raft studies: cell membrane alterations, cytoskeletal reorganization and cytotoxicity. *Indian J Biochem Biophys*. 2012 Oct;49(5):329-41.
71. Achary VMM, **Parinandi NL**, Panda BB. (2013). Calcium channel blockers protect against aluminium-induced DNA damage and block adaptive response to genotoxic stress in plant cells. *Mutat Res*. 2013 Mar 18;751(2):130-8.
72. **Parinandi NL**, Magalang UJ. (2013). Avatars of adipose tissue: the saga of transformation of white fat, the villain into brown fat, the protector. Focus on "Inflammation induced by RAW macrophages suppresses the UCP1 mRNA induction via ERK activation in 10T1/2 adipocytes". *Am J Physiol Cell Physiol*. 2013 Apr 15;304(8):C715-6.
73. Usatyuk PV, Kotha SR, **Parinandi NL**, Natarajan V. (2013). Phospholipase D signaling mediates reactive oxygen species-induced lung endothelial barrier dysfunction. *Pulm Circ*. 2013 Jan;3(1):108-15.
74. Sherwani SI, Pabon S, Patel RB, Muzzammil MS, Hagele T, Kotha SR, Magalang UJ, Maddipati KR and **Parinandi NL**. (2013). Eicosanoid signaling of methylmercury-induced phospholipase D activation in vascular endothelial cells: Bioactive lipid-mediated cytotoxicity of methylmercury. *Cell Biochem Biophys*. 2013 Nov;67(2):317-29.
75. Kotha SR, Piper MG, Patel RB, Sliman S, Malireddy S, Baran CP, Nana-Sinkam SP, Wewers MD, Romberger D, Marsh CB, **Parinandi NL**. (2013). Phospholipase A2 activation by poultry particulate matter is mediated through extracellular signal-regulated kinase in lung epithelial cells: Regulation of interleukin-8 release. *Cell Biochem Biophys*. 2013 Nov;67(2):415-29.
76. Sliman SM, Patel RB, Cruff JP, Kotha SR, Newland CA, Schrader CA, Sherwani SI, Gurney TO, Magalang UJ, **Parinandi NL**. (2013). Adiponectin protects against hyperoxic lung injury and vascular leak. *Cell Biochem Biophys*. 2013 Nov;67(2):399-414.
77. Malireddy M, Lawson C, Steinhour E, Hart J, Kotha SR, Patel RB, Zhao L, Wilkins JR, Marsh CB, Magalang UJ, Romberger D, Wewers MD, **Parinandi NL**. (2013). Airborne Agricultural Particulate Matter Induces Inflammatory Cytokine Secretion by Respiratory Epithelial Cells: Mechanisms of Regulation by Eicosanoid Lipid Signal Mediators. *Indian J Biochem Biophys*. 2013 Oct;50(5):387-401.

78. Sherwani SI, Adin C, Aldana, Usmani S, Kotha SR, Eubank T, **Parinandi NL**, Magalang UJ. (2013). Intermittent Hypoxia Exacerbates Pancreatic β -cell Dysfunction in a Mouse Model of Type 2 Diabetes Mellitus. *Sleep*. 2013 Dec 1;36(12):1849-58.
79. Lezama-Dávila CM, Pan L, Isaac-Márquez AP, Terrazas C, Oghumu S, Isaac-Márquez R, Pech-Dzib M, Barbi J, Calomeni E, **Parinandi N**, Kinghorn AD, Satoskar AR. (2014). *Pentalinon andrieuxii* Root Extract is Effective in the Topical Treatment of Cutaneous Leishmaniasis Caused by *Leishmania mexicana*. *Phytother Res*. 2014 Jun;28(6):909-16.
80. Huang LS, Mathew B, Li H, Zhao Y, Ma SF, Noth I, Reddy SP, Harijith A, Usatyuk PV, Berdyshev EV, Kaminski N, Zhou T, Zhang W, Zhang Y, Rehman J, Kotha SR, Gurney TO, **Parinandi NL**, Lussier YA, Garcia JG, Natarajan V. (2014). The mitochondrial cardiolipin remodeling enzyme lysocardiolipin acyltransferase is a novel target in pulmonary fibrosis. *Am J Respir Crit Care Med*. 2014 Jun 1;189(11):1402-15.
81. **Parinandi NL**, Maulik N, Thirunavukkarasu M, McFadden D. Antioxidants in longevity and medicine. *Oxidative Medicine and Cellular Longevity*, 2015.
82. Gupta G, Peine KJ, Abdelhamid D, Heidi H, Shelton AB, Rao L, Kotha SR, Huntsman AC, Varikuti S, Oghumu S, C. Naman CB, Pan L, **Parinandi NL**, Papenfuss TL, A. Kinghorn AD, Bachelder EM, Ainslie KM, Fuchs JR, and Satoskar AR. A Novel Sterol Isolated from a Plant Used by Mayan Traditional Healers Is Effective in Treatment of Visceral Leishmaniasis Caused by *Leishmania donovani*. *ACS Infect. Dis.*, 2015, 1 (10), pp 497–506.
83. Heisler DB, Kudryashova E, Grinevich DO, Suarez C, Winkelman JD, Birukov KG, Kotha SR, **Parinandi NL**, Vavylonis D, Kovar DR, Kudryashov DS. ACTIN-DIRECTED TOXIN. ACD toxin-produced actin oligomers poison formin-controlled actin polymerization. *Science*. 2015 Jul 31;349(6247):535-9.
84. Panda KK, Achary VMM, Phaomiec G, Sahu GHK,1, **Parinandi NL**, Panda BB. Polyvinyl polypyrrolidone attenuates genotoxicity of silvernanoparticles synthesized via green route, tested in *Lathyrus sativus* L.root bioassay. *Mutation Research* 806 (2016) 11–23.
85. Das A, Ghatak S, Sinha M, Chaffee S, Ahmed NS, **Parinandi NL**, Wohleb ES, Sheridan JF, Sen CK, Roy S. Correction of MFG-E8 Resolves Inflammation and Promotes Cutaneous Wound Healing in Diabetes. *J Immunol*. 2016 Jun 15;196(12):5089-100.
86. Panda KK, Golari D, Venugopal A, Achary VMM, Phaomei G, **Parinandi NL**, Sahu HK, Panda BB. Green Synthesized Zinc Oxide (ZnO) Nanoparticles Induce Oxidative Stress and DNA Damage in *Lathyrus sativus* L. Root Bioassay System. *Antioxidants* (Basel). 2017 May 18;6(2).
87. McDaniel JC, Szalacha L, Sales M, Roy S, Chafee S, **Parinandi N**. EPA + DHA supplementation reduces PMN activation in microenvironment of chronic venous leg ulcers: A randomized, double-blind, controlled study. *Wound Repair Regen*. 2017 Aug;25(4):680-690.
88. Oghumu S, Varikuti S, Saljoughian N, Terrazas C, Huntsman AC, **Parinandi NL**, Fuchs JR, Kinghorn AD, Satoskar AR. Pentalinosterol, a Constituent of *Pentalinon andrieuxii*, Possesses Potent Immunomodulatory Activity and Primes T Cell Immune Responses. *J Nat Prod*. 2017 Sep 22;80(9):2515-2523.

89. Krause K, Kopp BT, Tazi MF, Caution K, Hamilton K, Badr A, Shrestha C, Tumin D, Hayes D Jr, Robledo-Avila F, Hall-Stoodley L, Klamer BG, Zhang X, Partida-Sanchez S, **Parinandi NL**, Kirkby SE, Dakhlallah D, McCoy KS, Cormet-Boyaka E, Amer AO. The expression of Mirc1/Mir17-92 cluster in sputum samples correlates with pulmonary exacerbations in cystic fibrosis patients. *J Cyst Fibros*. 2018 Jul;17(4):454-461.
90. **Parinandi, NL**, Liaugminas, A., Vardharaj, S., Campbell S., Steinhour, E., Kotha, S., Kutala, V., Yenigalla, S., McDaniel, J., Maddipati, R., Kuppusamy, P. Classic Phytochemical Antioxidant and Lipoxygenase Inhibitor, Nordihydroguaiaretic Acid, Activates Phospholipase D through Oxidant Signaling and Tyrosine Phosphorylation Leading to Cytotoxicity in Lung Vascular Endothelial Cells. (Under Review). *Vessel Plus*. 2019.

REVIEWS

91. Kulkarni A, Kuppusamy P, **Parinandi NL**. (2007). Oxygen: The lead actor in the pathophysiological drama: Enactment of the trinity of normoxia, hypoxia, and hyperoxia in disease and therapy. *Antioxid Redox Signal*. 2007 Oct;9(10):1717-30.
92. Malireddy S, Kotha SR, Secor JD, Gurney TO, Abbott JL, Maulik G, Maddipati KR, **Parinandi NL**. (2012). Phytochemical antioxidants modulate mammalian cellular epigenome: implications in health and disease. *Antioxid Redox Signal*. 2012 Jul 15;17(2):327-39.
93. Elton TS, Selemon H, Elton SM, **Parinandi NL**. (2013). Regulation of the MIR155 host gene in physiological and pathological processes. *Gene*. 2013 Dec 10;532(1):1-12.
94. Maulik N, McFadden D, Otani H, Thirunavukkarasu M, **Parinandi NL**. Antioxidants in longevity and medicine. (2013). *Oxid Med Cell Longev*. 2013;820679. doi: 10.1155/2013/820679.
95. Joshi M, Kotha SR, Malireddy S, Selvaraju V, Satoskar AR, Palesty A, McFadden DW, MD, **Parinandi NL**, Maulik N. (2014). Conundrum of Pathogenesis of Diabetic Cardiomyopathy - Role of Vascular Endothelial Dysfunction, Reactive Oxygen Species, and Mitochondria. *Mol Cell Biochem*. 2014 Jan;386(1-2):233-49.
96. Selvaraju V, **Parinandi NL**, Adluri RS, Goldman JW, Hussain N, Sanchez JA, McFadden DW, Maulik N. (2014). Molecular mechanisms of action and therapeutic uses of pharmacological inhibitors of HIF-prolyl 4-hydroxylases (PHDs) for treatment of ischemic diseases. *Antioxid Redox Signal*. 2014 Jun;20(16):2631-65.

BOOK CHAPTERS

97. Kutala VK, **Parinandi NL**, Khan M, Iyyapu KM, Kuppusamy P. (2007). Spirulina - A Blue-green Alga with Novel Therapeutic Actions. *Recent Progress in Medicinal Plants*, Volume 22, Editor J.N. Govil, Stadium Press LLC, P.O. Box 722200, Houston, Texas 2007.
98. Kutala VK, Iyyapu KM, Khan M, **Parinandi NL**, Kuppusamy PK. (2007). Drug-induced nephrotoxicity protection by Spirulina. In *Spirulina in Human Nutrition and Health*, Editors: Gershwin E and Belay A, CRC Press, Taylor & Francis Group, Boca Raton, FL, 2007, 151-172.
99. Sathishkumar K, Gao X, Achuthan C. Raghavamenon AC, **Parinandi NL**, and Rao M. Uppu. (2010). Determination of Glutathione, Mitochondrial Transmembrane Potential, and Cytotoxicity in H9c2 Cardiomyoblasts Exposed to Reactive Oxygen and Nitrogen Species. *Free Radicals and Antioxidant Protocols*, 2nd Edition for Methods in Mol Biol Series, Humana Press, Totowa, Methods Mol Biol. 2010;610:263-84.

100. Kline MA, O'Connor Butler ES, Hinzey A, Sliman S, Marsh CB, Rao M. Uppu, and **Parinandi NL**. (2010). A Simple Method for Effective and Safe Removal of Membrane Cholesterol from Lipid Rafts in Vascular Endothelial Cells: Implications in Oxidant-Mediated Lipid Signaling. *Free Radicals and Antioxidant Protocols*, 2nd Edition for Methods in Mol Biol Series, Humana Press, Totowa, Methods Mol Biol. 2010;610:201-11.
101. Butler S, Mazerik JN, Cruff JP, Sherwani SI, Weis BK, Marsh CB, Raghavamenon A, Rao M Uppu, Schmid HHO, **Parinandi NL**. (2010). Lipoxygenase-catalyzed phospholipid peroxidation: Preparation, purification, and characterization of phosphatidylinositol peroxides. *Free Radicals and Antioxidant Protocols*, 2nd Edition for Methods in Mol Biol Series, Humana Press, Totowa, NJ, Methods Mol Biol. 2010;610:387-401.
102. Dhawan K, Das AM, Kotha SR, **Parinandi NL**, Magalang UJ. (2011). Adipokines and Sleep Disorders. In *Modern Insights into Disease From Molecules to Man: Adipokines*. Edited by Victor R. Preedy. UK (2011).
103. Selvaraju V, Joshi M, Kotha SR, **Parinandi NL**, Maulik N. (2012). Resveratrol Emerges as a Miracle Cardioprotective Phytochemical Polyphenol and Nutraceutical. *Cardiovascular Diseases: Nutrition and Therapeutic Interventions*, Taylor & Francis Group, 2012.
104. Kotha SR, Secor JD, Malireddy S, Gnanasekaran G, **Parinandi NL**. (2012). Bioactive Phospholipid Mediators of Inflammation. *Chronic Inflammation - Molecular Pathophysiology, Nutritional and Therapeutic Interventions*. Eds. Sashwati Roy, Debasis Bagchi, and Siba P . Raychaudhuri. CRC Press 2012, Pages 67–76, Print ISBN: 978-1-4398-7211-6.
105. Ananatha H, Kanteti P, Fu P, Kotha SR, **Parinandi NL**, Natarajan V. (2014). Role of mitochondrial reactive oxygen and nitrogen species in respiratory diseases. *Mitochondria in Lung Diseases*. Eds. Natarajan V and Parinandi NL. Springer (2014).
106. Kotha SR, Gurney TO, Hund T, Magalang M, Mohler PJ, Natarajan V, **Parinandi NL**. (2014). Lipid peroxidation in lung mitochondria – Underlying mechanism of lung diseases. *Mitochondria in Lung Diseases*. Eds. Natarajan V and Parinandi NL. Springer (2014).
107. Kodali, S., Kauffman, P., Kotha, S., Yenigalla, A., Pannu, S., Campbell S., Hund, T., Satoskar, A., Maddipati R., McDaniel, J., **Parinandi, NL**. Lipid Peroxidation as the Prime Index of Oxidative Stress – Choice of Methods from Spot tests to Oxidative Lipidomics. (Invited Book Chapter – under revision). In *Measuring Oxidants and Oxidative Stress in Biological Systems*. Editors: Lawrence Berliner and Narasimham Parinandi. Springer Nature, 2019. (In Revision)

BOOKS EDITED

108. Uppu R, Pryor W, Murthy SN, **Parinandi NL**. (Editors) (2010). *Free Radicals and Antioxidant Protocols*. (Methods in Molecular Biology), Humana Press, January 2010.
109. Natarajan V and **Parinandi NL**. (Editors) (2014). *Mitochondrial Function in Lung Health and Disease*. Under the series of “Respiratory Medicine”, Ed. Rounds SIS. Springer (2014).
110. Chakraborti, S., **Parinandi, N.L.**, Ghosh, R., Ganguly, N.K., Chakraborti, T. (Editors). *Oxidative Stress in Lung Diseases (Volume 2)*. Springer (2019).
111. Berliner L. and **Parinandi NL**. *Measuring Oxidants and Oxidative Stress in Biological Systems*. Springer (2020).

Oral Presentations (Invited Presentations - National/International Meetings)

- 1) INDIANA CENTER FOR REGENERATIVE MEDICINE & ENGINEERING (ICRME), Department of Surgery, School of Medicine, May 16-17, 2019. Lecture on: **“Membrane Phospholipids In Cell Survival and (Anti)Inflammation: Mediation by Phospholipases and Lipid Vesicles (Exosomes)”**.
- 2) National Research Foundation (NRF), South Africa. Invited Expert to participate in Infrastructure Funding Support for the **National Equipment Programme (NEP)**: 2018 Panel Meetings and Discussions. 18-20 September, 2018. Pretoria, South Africa.
- 3) University of Connecticut Medical Center, Connecticut, Aug. 20-27, 2016. Discussion Lectures on: **“Oxidative Stress in Cardiovascular System and Role of Mitochondria with an emphasis on Nanotechnology”**.
- 4) International Conference: H3C Health Sciences Innovation Conference, Hosted by the Ohio State University, Columbus, OH, USA and The All India Institute of Medical Sciences, New Delhi, India, Mumbai, India, January 15-17, 2015. Topic: **“Lipids in Health and Disease”**.
- 5) International Conference on Recent Advances in Research and Treatment of Human Diseases and the 4th Annual Meeting of Indian Academy of Biomedical Sciences, Hyderabad, India, January 9-11, 2015. Topic: **“Indoor Airborne Dust/Particulate Matter Cause Respiratory Diseases: Novel Lipidocentric Mechanism of Airway Inflammation”**.
- 6) Wayne State University Lipidomics Conference, Wayne State University, Detroit, MI, November 5th, 2014. Topic: **“Phospholipase D, a Stress-Activated Lipid Signaling Enzyme, is a Potent Drug Target in Vascular Diseases”**.
- 7) International Workshop and Conference on “Inherited Diseases and Metabolic Disorders” – Organized by the International Union of Biochemistry and Kalyani Medical College, India. Topic: **“Lipidomics of Inherited Diseases”**, March 2013, Kalyani, West Bengal, India.
- 8) International Workshop and Conference on “Inherited Diseases and Metabolic Disorders” – Organized by the International Union of Biochemistry and Kalyani Medical College, India. Topic: **“How To Evolve into a Successful Scientist”**, March 2013, Kalyani, West Bengal, India.
- 9) Piramal Corporation (Pharmaceutical Company), Mumbai, India. Topic: **“Phytochemical-mediated Bioactive Lipid Signaling in Vascular Endothelium”**. Mumbai, India, March 2013.
- 10) International Academy of Oral Medicine & Toxicology, Annual Conference. **“Novel Lipophilic Drugs Protect against Mercury Vasculotoxicity”**, 2012. Tulsa, Oklahoma.
- 11) Korean Society of Toxicology/Korean Environmental Mutagen Society **“Bioactive lipids and inflammation - Implications in lung injury”** – 27th Annual Meeting, November 3rd - 4th, 2011. Jeju Island, South Korea.
- 12) National Seoul University, S. Korea. Department of Pharmacology. **“How to Evolve as a Young Scientist”**. November 6th, Seoul, S. Korea.
- 13) Lee Gil Ya Cancer and Diabetes Institute, Incheon, S. Korea, November 6th. Topic: **“Advanced Glycation End Products and Vascular Endothelial Injury”**.

- 14) University of Connecticut Medical Center, Department of Surgery, Connecticut, August 25th-27th. Visiting Scientist. Topic: **“Oxidative Stress and Vascular Endothelial Signaling”**.
- 15) Society for Free Radical Research, Annual Conference, Chennai, India – Invited Talk – **“Advanced Glycation Endproducts in Vascular Endothelial Dysfunction through Iron Involvement”** [January 2011].
- 16) Society for Free Radical Research, Annual Conference, Chennai, India – Plenary Talk – **“How to Evolve as a Successful Scientist”** [January, 2011].
- 17) Annual Conference of the IAOMT, San Diego, CA. **“Novel Thiol Antioxidant and Metal Chelator, Bis(mercaptoethyl)isophthalamide (BMI) is an Effective Cytoprotective Agent against Cytotoxicity induced by Mercury and Oxidative Stress”** [Sep 24-26, 2010]
- 18) Parker-Hannifin Corporation (Fortune-200 Company), Cleveland, OH. **“Health Care Outcomes of Parker-Hannifin Employees with a special reference to Mercury-containing Dental Amalgams”** [Aug. 30, 2010]
- 19) Autism One/Generation Rescue, Annual Conference, Chicago. **“Novel Sulfhydryl Protective Compound For Leaky Gut Syndrome”** [May 24-30, 2010]
- 20) International Academy of Oral Medicine & Toxicology, London, UK – England Chapter. Invited Talk at the Royal Society of Medicine, London, UK. **“Mercury-induced Lipid Signaling – A membrane basis for mercury toxicity”**[February 6-7, 2010]
- 21) Society for Free Radical Research, Annual Conference, Hyderabad, India – Invited Talk – **“Adipose Tissue Protects Against Hyperoxic Lung Damage”** and **“How to Evolve as a Successful Scientist”**[January 11-13, 2010]
- 22) Wright State University, Dayton, OH, Department of Biochemistry & Molecular Biology. **“Lipid Oxygenases Regulate Phospholipase D Activation Under Redox Modulation in Endothelial Cells”** [October 2009]
- 23) CTI Science Inc., Lexington, Kentucky; Host: Dr. Boyd Haley, Ph.D., Professor Emeritus, Department of Chemistry, University of Kentucky. **“Metals, Oxidative Stress, Antioxidants and Vascular Endothelium.”** [October 2009]
- 24) Silver Jubilee Celebrations of The International Academy of Oral Medicine & Toxicology (IAOMT, USA), JW Marriott, Las Vegas, Nevada, September 10-12, 2009. **“Mercury-induced Vasculotoxicity and Impairment of Angiogenesis”**.
- 25) Harvard Medical School, Brigham and Women’s Hospital, Center for Experimental Therapeutics and Reperfusion Injury, Department of Anesthesiology, Perioperative and Pain Medicine, July 7 , 2009. **“Phospholipase D, a Redox-Sensitive Lipid Signalase in Lung Endothelial Cells, Regulates Vascular Permeability and Vasculotoxicity.”**
- 26) Biological Dentistry & Integrated Dental Health, International Academy of Oral Medicine and Toxicology (South Africa) (IAOMT SA) held at the Cape Town Convention Centre (CTICC), Cape Town, South Africa, 15-17 May 2009. Gave the Inaugural Lecture on **“Biochemistry of Mercury Toxicity”** and 3 Special Lectures on (1) **“Lipidomics of Mercury-induced activation of Lipid Signaling Enzymes in Vascular Endothelium – A Novel Mechanism of Mercury Vasculotoxicity”**; (2) **“Regenerative Medicine”**; and (3) **“Redox Regulation”**. [International Conference].

- 27) 21st Annual Conference of the Indian Society of Atherosclerosis Research Conference (ISARCON), December 8th -10th, 2008 at Annamalai University, Annamalainagar, Chidambaram, Tamil Nadu, India. **“Signaling Lipidomics in Vascular Endothelial Cells”** [International Conference - Plenary Lecture].
- 28) International Academy of Oral Medicine and Toxicology (IAOMT) Annual Conference, 5th-6th September, 2008; Charlotte, North Carolina, USA. **“Heavy Metal-Mediated Phospholipase Lipid Signaling: Role of Arachidonic Acid Metabolites and Phosphatidic Acid in Vascular Endothelial Dysfunction.”** [International Conference – Plenary Lecture].
- 29) US-Japanese EPR Core-to-Core Redox Mini Symposium, May 25th – 27th, 2008, The Ohio State University. **“Redox Homeostasis and Redox Stress at Crossroads – Conundrum of Redox Regulation in Disease”**. [International Conference].
- 30) Michigan Regional Chapter of the Society of Toxicology. Friday, November 9, 2007 at the Kellogg Center on the campus of Michigan State University. **“Lipidomics of Phospholipases and Bioactive Lipid Mediators in Endothelial Cells”** [Plenary Lecture]
- 31) Department of Biological Sciences, University of Toledo, Toledo, OH (April, 2007). **“Nitric oxide-mediated lipid signaling in the vascular endothelium and the barrier dysfunction”**.
- 32) Society of Free Radical Biology and Medicine (November, 2006). Topic: **“Agricultural Particulate matter-induced inflammatory cytokine secretion regulation by A₂ in lung epithelial cells.”** Denver, CO, SFRBM Annual Conference, 2006.
- 33) Department of Cardiology, Medical College of Virginia, Richmond. (April, 2006). Topic: **“Redox-active antioxidant-mediated Lipid Signaling”**.
- 34) Division of Pulmonary and Critical Care Medicine, University of Nebraska, College of Medicine (November, 2004), Topic: **“Signaling mechanisms of agricultural dust-induced inflammatory cytokine release by respiratory tract epithelial cells.”**
- 35) Department of Nutrition, College of Human Ecology, The Ohio State University (November, 2006). Topic: **“Lipidomics of phospholipase cross-talk in vascular endothelium.”**
- 36) American Oil Chemists' Society (AOCS), Topic: **“Electron Paramagnetic Resonance Spectroscopic Analysis of Lipid Peroxidation”**. (94th AOCS Annual Meeting on Global Business Forum on Fats, Oils, Surfactants, Lipids and Related Materials, May 4-7, 2003, Kansas City, Missouri).
- 37) College of Pharmacy, The Ohio State University, Columbus, OH. Topic: **“Oxidant Activation of Phospholipase D in Vascular Endothelium and Respiratory Tract Epithelium”**. (Summer, 2002).
- 38) Division of Pulmonary and Critical Care, The Ohio State University, Columbus, OH. Topic: **“Phospholipase and Protein Kinase Network in Pulmonary Endothelial Cell Oxidant Signaling”**. (Pulmonary Research Conference, 8/29/2002).
- 39) School of Public Health, Johns Hopkins University, Baltimore, MD. Topic: **“NAD[P]H Oxidase-mediated Generation of Reactive Oxygen Species during Hyperoxia in Vascular Endothelial Cells”**. (October, 2001).
- 40) Lung Seminar Series, Johns Hopkins University, Baltimore, MD. Topic: **“Particulate Matter Respiratory Toxicity – Present State”**. Organized by the Division of Pulmonary and Critical Care Medicine, Johns Hopkins University, Baltimore, MD. (February, 2001).

- 41) Maryland Thoracic Society, Baltimore, MD. Topic: **“Role of Phospholipase D in Urban Particulate Matter-induced Interleukin-8 Secretion by Bronchial Epithelial Cells.”** (March, 2001).
- 42) Chemical Abstracts Service, American Chemical Society, Columbus, OH. Topic: **“Signal Transduction and Kinases”**. (July, 2000).
- 43) Combined Research Seminar Series, Johns Hopkins University, Baltimore, MD. Topic: **“Involvement of Src Kinase in Oxidant-mediated Activation of Phospholipase D in Vascular Endothelial Cells”**. Organized by the Division of Pulmonary and Critical Care Medicine and School of Public Health, Johns Hopkins University, MD. (February, 1999).
- 44) Division of Pulmonary and Critical Care Medicine, IUPUC Medical Center, Indianapolis, IN. Topic: **“Oxidative Stress and Lipid Peroxidation in Myocardium”**. (June, 1990).
- 45) Annual Conference on Trace Substances in Environmental Health, Cincinnati, OH. Topic: **“Mechanisms of Vanadium-induced Free Radical-mediated Lipid Peroxidation in Rat Brain”**. (July, 1990).
- 46) Peripheral Neuropathy Division, Mayo Clinic, Rochester, MN. Topic: **“Lipid Peroxidation in Sciatic Nerve during Ischemia and Reperfusion”**. (July, 1989).
- 47) American Diabetes Association, Minnesota Chapter, Minneapolis, MN. Topic: **“Diabetic Heart and Kidney exhibit Increased Resistance to Oxidative Stress”**. (August, 1989).
- 48) Hormel Institute Seminar Series, The Hormel Institute, University of Minnesota, Austin, MN. Topic: **“Biochemical and Molecular basis of Circadian Rhythms”**. (June, 1988).
- 49) Andhra University, Waltair, India, Department of Environmental Sciences. Topic: **“Free Radicals – Biology, Biochemistry and Toxicity”**. (Educational Lectures, Summer, 1988).
- 50) Hormel Institute Seminar Series, The Hormel Institute, University of Minnesota, Austin, MN. Topic: **“Lipid Peroxidation – Fact or Fiction”**. (July, 1987).
- 51) The Ohio Academy of Sciences, Annual Conference, Toledo, OH. Topic: **“Vanadium-induced Lipid Peroxidation in the Rat Brain”**. (Summer, 1986).
- 52) The Hormel Institute, University of Minnesota, Austin, MN. Topic: **“Trace Metal-induced Lipid Peroxidation in Rat Brain and Mechanisms”**. (February, 1986).
- 53) Analytical Chemistry and Industrial Processing Workshop Symposium, Department of Chemistry, University of Toledo, Toledo, OH. Topic: **“Catecholamines as Model Systems to Study Metal-induced Free Radical Oxidations”**. (July, 1985).
- 54) Sigma XI Annual Graduate Symposium. Topic: **“Antioxidants for Vanadium-induced Lipid Peroxidation in the Rat Brain in vitro”**. University of Toledo, Toledo, OH. (Spring, 1985).

Other Creative Products

1) In this video, Narasimham Parinandi, PhD presents "**Lipidomics in Clinical and Translational Research**"

Ohio State CCTS.

Published on Jun 6, 2012

"Lipidomics in Clinical and Translational Research: Catching the Greasy Biomarkers of the Metabolome"

Narasimham L. Parinandi, PhD

Associate Professor, Pulmonary, Allergy, Critical Care & Sleep, Division of Pharmacology, College of Pharmacy, The Ohio State University

YouTube Presentation

<https://www.youtube.com/watch?v=Nzex4Hs4fpw>

2) In this video, Narasimham Parinandi, PhD from the Ohio State University's College of Medicine talks about yet another damaging complication of mercury exposure: mercury-induced vasculotoxicity and impairment of angiogenesis.

"Mercury-induced Vascular Impairments and Disease"

IAOMT - International Academy of Oral Medicine and Toxicology

YouTube Presentation

<https://www.youtube.com/watch?v=kQnleceBg2Y>

3) In this video, Narasimham Parinandi, PhD of the Ohio State University Medical Center talks about ***"A Promising Cytoprotective Agent"***

IAOMT - International Academy of Oral Medicine and Toxicology

Published on Apr 1, 2012

Watch Narasimham Parinandi, PhD talk and discuss about a very promising Cytoprotective agent in this video.

YouTube Presentation

<https://www.youtube.com/watch?v=-YIkJH35pGM>

Other Scholarly Products

Grant Reviewer

- 1) **Tobacco Research Institute** "New Investigator" Grant Review (2000).
- 2) **American Heart Association (AHA)**: Grant-in-Aid Review, Baltimore, MD (2000).
- 3) **OSU Division of Pulmonary, Allergy, Critical Care, and Sleep Med** Grant Review (2006)
- 4) **Davis Heart & Lung Research Institute (DHLRI)** Intramural Grant Review (2006).
- 5) Member of the **DHLRI Grant Review Committee** (2005).
- 6) **Roessler Grant** Reviewer, The Ohio State University College of Medicine (2008-2009)
- 7) **Center for Clinical and Translational Science (CCTS)**, OSU – Pilot Grant Reviewer (2009)
- 8) **CCTS** Grant Review, Ohio State University (2012)
- 9) **National Institutes of Health (Thrombosis Study Section)** [2012]

- 10) **University of Alabama Pilot Grants** [2012]
- 11) **CCTS Grant Review**, Ohio State University (2013)
- 12) **Israel Science Foundation Grants**, Israel [2013]
- 13) **Austrian Science Fund**, Austria [2014]
- 14) **National Institutes of Health** (2014 July; Special Emphasis Panel; Lung Cellular, Molecular, and Immunobiology Study Section)
- 15) **Israeli Ministry of Science**, Technology & Space Grants, Israel [2015]
- 16) **Department of Defense** Grant Reviews (Respiratory Pathology Study Sections, 2015 & 2016).
- 17) **National Institutes of Health (NIH)** Grant Reviewer – “NIH Population Sciences and Epidemiology”. October 2017. [On Pulmonary Fibrosis].
- 18) **Department of Defense (DoD)** Congressionally Directed Medical Research Programs (CDMRP) Grant Reviewer. Pre-application, Respiratory Diseases (PRE-RD) peer review panel of the 2018. July 2018 [On Respiratory Diseases].
- 19) **Department of Defense (DoD)** Grant Reviewer. “Metal Toxicity in Warfield and Respiratory Diseases in Veterans” – Peer Review Panel 2018. July 2018 [On Metal Toxicity in Respiratory and Cardiovascular Diseases].
- 20) **National Equipment Program (NEP): 2018 Panel, South African Government** National Grants Reviewer, NEP Advisory Panel meeting in August 16-20, 2018, all three panels (Physics/Chemistry/Biological/Health Sciences/Engineering/Geology/Computer Science) in Rein Arndt Boardroom, 1st Floor, WEST WING (NRF, Pretoria), South Africa.
- 21) **Department of Defense (DoD)** Grant Reviewer. “Metal Toxicity in Warfield and Respiratory Diseases in Veterans” – Peer Review Panel 2018. June 2019 [On Respiratory and Diseases].
- 22) **Department of Defense (DoD)** Grant Reviewer of Grant Proposals on Respiratory Diseases” – Final Review Panel 2019. August 2019 [Washington, DC].

Faculty Tenure Evaluation Committee

The Ohio State University, Department of Internal Medicine
University of Pittsburg, Pittsburg
Cleveland Clinic and Case Western Reserve University, Cleveland

Industrial Advisory Committee

CTI Science, Lexington, KY (2010-2015).

Workshops Conducted (2002-2005)

- (1) Tools of Trade – Scientific Writing Workshop (year-long, once every 3 weeks), Davis Heart & Lung Research Institute, The Ohio State University College of Medicine
- (2) Grant Writing Workshop – for Junior Scientists and Faculty Members

Patents and Technology Transfer

Patents

1) Patent Title: **NANOPARTICULATE PROBE FOR IN VIVO MONITORING OF TISSUE OXYGENATION**

Inventors: KUPPUSAMY, Periannan [US/US]; 6971 Cunningham Dr., New Albany, Ohio43054 (US).

PANDIAN, Ramasamy P. [IN/US]; 5056 Cobblestone Dr., Apt. F, Columbus, Ohio43220 (US).

PARINANDI, Narasimham L. [IN/US]; 2754 Clifton Ave., Upper Arlington, Ohio43221 (US).

ZWEIER, Jay L. [US/US]; 2858 Colts Neck Rd., Blacklick, Ohio43004 (US).

Publication Number: WO/2005/024442

International Application No.:PCT/US2004/028821

Publication Date: 17.03.2005

International Filing Date: 07.09.2004

Int. Class.: A61B 10/00 (2006.01), A61B 5/055 (2006.01), A61K 31/40 (2006.01), A61K 31/555 (2006.01), C07B 47/00 (2006.01)

Applicants: THE OHIOSTATE UNIVERSITY RESEARCH FOUNDATION [--/US]; 1960 Kenny Road, Columbus, Ohio43210 (US) (All Except US). KUPPUSAMY, Periannan, PANDIAN, Ramasamy P., PARINANDI, Narasimham L., ZWEIER, Jay L.

[Note: This material is being manufactured and sold in the market.]

2) Patent Title: **STEROLS AS NOVEL IMMUNOMODULATORY AGENTS AND THEIR USE AS VACCINE ADJUVANTS**

Patent Filed (OSU Intellectual Property Office).

Application No.:62/549,600

Filing Date: August 24, 2017

Patent Originators: Abhay R. Satoskar, a United States citizen, residing at 3056 Edgefield Road, Upper Arlington, Ohio 43211; James F. Fuchs, a United States citizen, residing at 7874 Foxfield Court, Columbus, Ohio 43235; Alan Douglas Kinghorn, a United States citizen, residing at 1 Miranova Place, #2025, Columbus, Ohio 43215; Li Pan, a United States citizen, residing at 2117 Harwitch Road, Upper Arlington, Ohio 43221; Eric Bachelder, a United States citizen, residing at 6221 Rockland Drive, Dublin, Ohio 43017; and **Narasimham L. Parinandi**, a United States citizen, residing at 2754 Clifton Road, Upper Arlington, Ohio 43221, (hereinafter "Assignors") hereby sell, assign and transfer to Ohio State Innovation Foundation, a non-profit corporation, with offices located at 1524 North High Street, Columbus, Ohio 43201 (hereinafter "Assignee"), its successors, assigns and legal representatives, the entire right, title and interest, in and to any and all inventions which are disclosed in.

RESEARCH ACTIVITIES (Present & Past): Basic, Translational, and Clinical

PRESENT COLLABORATIONS

With Investigators at the OSU's Wexner Medical Center and The Ohio State University

- (1) Collaborating as Co-PI with **Dr. Ulysses Magalang, M.D.** (Professor, The Ohio State University Wexner Medical Center, Department of Internal Medicine, Division of Pulmonary, Allergy, Critical Care, and Sleep Medicine) since 2004 on (a) the role of adiponectin protection against the hyperoxic lung damage and (b) the role of adiponectin in obesity, intermittent hypoxia, and sleep disorders. **[This collaboration has led to a successful NIH RO1 grant (2010 for 4 years) on the adiponectin modulation of the intermittent hypoxia-mediated insulin resistance with an emphasis on sleep apnea in which Parinandi and Dr. Magalang are Co-PIs. Also, this collaboration has led to intramural funding, several publications, and a strong research program on the role of adipokines and lipids in sleep disorders and hyperoxic lung damage.]**
- (2) Collaborating with **Dr. Pannu Sonal, M.D.** (Assistant Professor, Division of Pulmonary, Critical Care, and Sleep Medicine) of the Ohio State University on Oxidative Lipidomics and Biomarkers of Hyperoxic Exposure of Lung. This is also a mentorship-collaboration towards the professional development of Dr. Pannu.
- (3) Collaborating with **Dr. Eric Kraut, M.D.** (Professor, The Ohio State University Wexner Medical Center, Department of Internal Medicine, Division of Hematology) since 2009 on the secretory phospholipases A₂ in blood and its relationship in sickle cell disease (SCD) acute chest syndrome and inflammatory eicosanoid generation in patients. This project is geared towards understanding the lipid mediator (eicosanoid)-mediated inflammation in sickle cell disease for novel and effective treatments for SCD pain crisis and iron overload.
- (4) Collaborating with **Dr. Jodi McDaniel**, OSU College of Nursing. For nearly 6 years, Jodi and I have been collaborating on the Omega-3 fatty Acid Supplementation in Humans for Wound Healing Outcome. I am also a Co-I on Jodi's latest proposal submitted to NIH for RO1 funding that has received a fundable score. We have published papers together as co-authors.
- (5) Collaborating with **Dr. Abhay R. Satoskar, M.D., Ph.D.** (Professor, The Ohio State University Wexner Medical Center, Department of Pathology) on the Lipidomics of Mechanisms of Actions of Novel Plant-derived Anti-Leishmanial Drugs. **[This collaboration has led to a funded DOD grant (August 2014), an RO1 grant application that is under preparation for submission] and we are co-authors on publications in peer-reviewed journals].**
- (6) Collaborating with **Dr. Loren Wold**, College of Nursing, The Ohio State University. Loren and I have been collaborating on the Agricultural PM-induced Pulmonary Damage. We submitted a proposal as Co-PIs to NIOSH in 2014 for RO1 equivalent funding and we resubmitted a grant proposal in August 2018 to the NIEHS for funding.
- (7) Collaborating with **Dr. Chandan Sen, Ph.D.** (Professor, The Ohio State University Wexner Medical Center, Department of Surgery) on phospholipase A₂ regulation of glutamate-induced neurotoxicity. **[This collaboration has led to a funded joint NIH RO1 funding in which Parinandi is a co-investigator.]** Also, Dr. Sen and Parinandi have published several papers as co-authors in peer-reviewed journals.
- (8) Collaborating with **Dr. Noah Weisleder**, Department of Physiology, The Ohio State University Wexner Medical Center. Noah and I have been conducting collaborative studies on Lipidomics of Muscle Damage & Repair for nearly 6 years. We are planning to submit a proposal to NIH for RO1 funding in 2019.

- (9) Collaborating with **Dr. Sashwati Roy, Ph.D.** (Professor, The Ohio State University Wexner Medical Center, Department of Surgery) on the advanced glycation end product(s) modification of phospholipids and down-stream signaling events in wound healing. **[This collaboration has led to a funded joint NIH RO1 and DOD grants in which Parinandi is a co-investigator.]** Dr. Roy and Parinandi have published several papers as co-authors in peer-reviewed journals.
- (10) Collaborating with **Dr. Mark Wewers, M.D.** (Professor, The Ohio State University Wexner Medical Center, Department of Internal Medicine, Division of Pulmonary, Allergy, Critical Care, and Sleep Medicine) on the (a) airborne organic particulate matter-induced inflammatory cytokine release by the pulmonary epithelium and also lipid rafts in immune cells and (b) role of cholesterol rafts in inflammatory cell signaling. Dr. Wewers and Parinandi have published several papers as co-authors in peer-reviewed journals.
- (11) Collaborating with **Dr. Peter Mohler, Ph.D.** (Professor of Physiology and Cardiovascular Medicine, Department of Internal Medicine) on lipid signaling in cardiac fibroblasts to understand the mechanisms of myocardial fibrosis. In collaboration with Dr. Mohler, Parinandi submitted a RO1 proposal to NIEHS for funding in 2015 and this proposal will be resubmitted in 2019 for extramural funding.
- (12) Collaborating with **Dr. Amal Amer, M.D., Ph.D.** (Associate Professor, Microbial Infection and Immunity, The Ohio State University) on the Role of Mitochondria in Cystic Fibrosis. This Collaboration has led to the submission of a pilot grant for funding by the Cystic Fibrosis Organization in 2017 and NIH RO-1 application in 2017. Dr. Amer and Parinandi have published papers together as co-authors.
- (13) Collaborating with **Dr. Dmitri Kudryashov, Ph.D.** (Assistant Professor, The Ohio State University, Department of Chemistry & Biochemistry) on the mechanisms of toxin-induced intestinal epithelial cell tight-junction alterations. Parinandi is a Co-I on Dr. Kudryashov's NIH funded RO1 grant in 2015. Dr. Kudryashov and Parinandi have published papers together as co-authors.
- (14) Collaborating with **Dr. Douglas Kinghorn, Ph.D.** (Professor, College of Pharmacy, The Ohio State University) on novel phytochemicals and their antioxidant actions. Dr. Kinghorn, Dr. Satoskar, and Parinandi are Co-PIs on the NIH RO1 grant application submitted for funding (2014). Also, Dr. Kinghorn and Parinandi are Co-Is on the currently funded DOD grant (2014) led by Dr. Satoskar on the anti-leishmanial actions of phytosterols. Dr. Kinghorn and Parinandi are also co-authors on publications in peer-reviewed journals.
- (15) Collaborating with Dr. Thomas Hund, Ph.D. (Professor of Biomedical Engineering and Internal Medicine, The Ohio State University) on the lipidomics of cardiac fibroblasts in relation to cardiac arrhythmia. Dr. Hund and Parinandi have published papers together.

With Investigators at Other Institutions in the USA

- (1) Collaborating with **Dr. Periannan Kuppusamy, Ph.D., M.D.** (Hon). (Dartmouth College at New Hampshire, a world renowned expert on biological EPR spectroscopy) on the Electron Paramagnetic Resonance (EPR) (a) determination and mapping of Redox behavior of normal and neoplastic cells under oxidative and (b) on particulate EPR oximetry spin probes to determine intracellular oxygen concentrations. **[Over the past 15 years, this collaboration has led to 2 funded NIH RO1 grants in which Parinandi was a co-investigator and more than 20 publications and one patent.]**
- (2) Collaborating since 1998 with **Dr. Andrew Morris, Ph.D.** (Professor of Medicine, University of Kentucky, a leading expert on phospholipase D enzymology) on the regulation of activation of phospholipase D isoforms by oxidants. **[This collaboration has led to important**

- publications in the field and also has created an opportunity to screen the newly synthesized unique phospholipase D inhibitor towards a therapeutic strategy in combating diseases wherein phospholipase D plays a crucial role.]** Dr. Morris and Parinandi together as co-authors have published several papers in peer-reviewed journals.
- (3) Collaborating with **Dr. Douglas Bibus, Ph.D.** (University of Minnesota & Lipid Technologies, LLC) on omega fatty acid metabolism in lung epithelium and vascular endothelium. Dr. Bibus and Parinandi have been collaborating on Lipidomics since 1990 and have published papers together as co-authors.
 - (4) Collaborating with **Dr. Rao K. Maddipati, Ph.D.** (Wayne State University, Department of Pathology) on Eicosanomics of lung and vascular systems. **[This collaboration has led to the successive analysis of lipid mediator (eicosanomics) biomarkers by LC-MS in lung and vascular systems which can be used in assessing the stage of the tissue damage and disease states.]** Together, Dr. Rao and Parinandi have submitted an NIEHS RO1 proposal in October 2012 (pending). Dr. Rao and Parinandi have been publishing papers together and working on collaborative projects.
 - (5) Collaborating with **Dr. David Stern, M.D., Ph.D.** (University of Tennessee School of Medicine, a world renowned expert on AGEs and RAGE) on the advanced glycation end products during hyperglycemia on vascular endothelial dysfunction. **[This collaboration has led to fundamental observations on how advanced glycation end products cause alterations in vascular endothelial barrier dysfunctions and cytoskeletal reorganization. Currently, we are collaborating on the role of iron in diabetic vascular complications and bioactive lipid signaling. Dr. Stern is Parinandi's advisor/mentor.]**
 - (6) Collaborating with **Dr. Boyd Haley, Ph.D.** (Professor of Chemistry, University of Kentucky, a prominent organic chemist who synthesized a novel lipophilic heavy metal chelating thiol drug, NBMI and a redox-stabilizer and GSH enhancer) on the protection of heavy metal toxicity *in vitro* and *in vivo*. **[This collaboration has led to the extramural support from the International Academy of Oral Medicine and Toxicology and the Dr. Alan Clark Foundation in the last 5 years. With Dr. Haley as Co-I, Parinandi submitted a NIEHS RO1 proposal in October 2012 (pending)].** Dr. Haley and Parinandi have been publishing papers. Dr. Haley has been one of Parinandi's advisors/mentors.
 - (7) Collaborating with **Dr. Urmila Kodavanti, Ph.D.** (Scientist, Environmental Protection Agency, Raleigh, NC) on the airborne PM-induced cardiovascular and pulmonary damage. **[This alliance has led to a publication and continued research on environmental cardiopulmonary/vascular toxicity and diseases.]**
 - (8) Collaborating with **Dr. Joe (Skip) Garcia, M.D. (Professor of Medicine, University of Arizona)** on the molecular mechanisms of lung vascular permeability during oxidative stress. Dr. Garcia and Parinandi together have published papers in peer-reviewed journals. Dr. Garcia has been one of Parinandi's mentors.
 - (9) Collaborating with **Dr. Viswanathan Natarajan, Ph.D.** (Professor of Medicine, University of Illinois at Chicago) on the regulation of the enzymology of phospholipases and identification/characterization of novel phospholipids. **[Dr. Natarajan has been my mentor since 1986. Dr. Natarajan and Parinandi together have published papers and still have been collaborating on projects.]**

PAST COLLABORATIONS

Postdoctoral Training (NIH), University of Minnesota, The Hormel Institute, Austin, MN and Research Associate, Johns Hopkins University, Baltimore, MD (1986 – 2002).

- (1) Worked under the mentorship of **Dr. Harald H.O. Schmid, Ph.D.** on lipids [N-acyl lipids and ether lipids], lipid peroxides, and oxidative stress in the heart during ischemia and reperfusion (Hormel Institute, University of Minnesota).
- (2) Collaborated with **Dr. Ralph T. Holman, Ph.D.** (Member of the US National Academy of Sciences) on omega-3 fatty acid status in humans (Hormel Institute, University of Minnesota).
- (3) Carried out studies on lipid peroxidation and free radical-mediated lipid abnormalities in heart and kidney during diabetes in rats (Hormel Institute, University of Minnesota).
- (4) Collaborated with the peripheral neuropathy research center of the Mayo Clinic, Rochester, MN on lipid peroxidation in rat sciatic nerve during diabetes and ischemia.
- (5) Worked under the tutelage of **Dr. Viswanathan Natarajan, Ph.D.**, Professor, Division of Pulmonary and Critical Care Medicine, Johns Hopkins University on (a) Oxidants and signaling in vascular endothelium with a special reference to phospholipase D and protein kinases (protein tyrosine kinases and MAP kinases); (b) Protein – protein interactions between various protein kinases and phospholipase D isoforms using overexpressing cell systems; (c) Characterization of plasma membrane oxidases such as NAD(P)H oxidase (NOX) in vascular endothelial cells and airway epithelial cells; (d) and Signaling mechanisms in hyperoxic cellular damage.
- (6) Worked under the mentorship of **Dr. Joe (Skip) Garcia, M.D.**, Professor of Medicine, Division of Pulmonary & Critical Care Medicine, Johns Hopkins University, University of Chicago, and University of Illinois at Chicago on the molecular mechanisms of lung vascular permeability during oxidative stress.
- (7) Collaborated with **Dr. William E. Spannhake, Ph.D.**, Professor, School of Public Health, Johns Hopkins University on ozone toxicity to airway epithelium and underlying signaling events.
- (8) Collaborated with **Dr. Harman, M.D.**, Professor, Department of Surgery, Johns Hopkins University on esophageal cancer and oxidative stress.
- (9) Collaborated with **Dr. Subha Raman, M.D.** (Professor, The Ohio State University Wexner Medical Center, Department of Internal Medicine, Division of Cardiovascular Medicine) on lipid metabolism and cardiovascular diseases.
- (10) Collaborated with **Dr. Deliang Guo, Ph.D.** (Assistant Professor, Department of Radiation Oncology, James Comprehensive Cancer Center, The Ohio State University) on cholesterol and lipid dynamics in glioma. Parinandi helped Dr. Guo with his project on lipid analysis in human glioma samples. Parinandi was a Co-I on Dr. Guo's ACS grant (2014) application.
- (11) Collaborated with **Dr. Clay Marsh, M.D.** (Professor, The Ohio State University Wexner Medical Center, Department of Internal Medicine, Division of Pulmonary, Allergy, Critical Care, and Sleep Medicine) on the (a) molecular aspects of lipid signaling during pulmonary fibrosis and (b) role of phospholipase A2, phospholipase D, and eicosanoids in lung vascular disorders. Over the past several years, this collaboration led to more than 15 publications. This collaboration is ongoing.

Graduate Training,

University of Toledo, Toledo, OH (1980 – 1986)

- (1) Conducted studies on the free radical-mediated damage in biological membranes and model lipid membranes.
- (2) Carried out investigations on metal toxicity, free radical mechanisms, and the role of antioxidants in aging process of fruit fly.
- (3) Worked on the neurotoxicity of trace metals in rat brain with a special emphasis on associated oxidative stress.
- (4) Conducted studies on the poikilohydric physiology and biochemistry of the resurrection fern (*Polypodiump olypodoides*) during dehydration and rehydration states and on the ecology of knotweed (*Polygonumaviculare*).
- (5) Participated in a research project on the effect of artificial sweetener (Nutrasweet; Aspartame) on drinking and feeding behavior of rats.

Junior Research Fellow (CSIR, India), Department of Environmental Sciences, University of Andhra, Waltair, India (1978 – 1980)

- (1) Carried out investigations on the effects of a local alum factory and zinc smelter Effluents on the physiological aspects of crop plants.
- (2) Conducted studies on the phenological and bio-climatological aspects of local Vegetation in the University of Andhra Campus, India.
- (3) Participated in the public health and occupational health studies of the atmospheric oil pollutants in the local diesel locomotive shed in Waltair, India.

Post-Graduate Study, Department of Botany, University of Berhampur, India (1975 – 1977)

Conducted studies on the effects of two commercial organophosphorus insecticides on the germination physiology of an oil seed, *Sesamum indicum*, for the partial fulfillment of Master's degree.

Professional Community Activities

- (1) Demonstrate Science Experiments in Local Schools of Columbus to inculcate interest in science among middle school and high school students.
- (2) Mentor high school students in their science projects.
- (3) Delivered lectures on various aspects of Natural Sciences for Middle and High School Students. (Austin, MN and Columbus, OH, 1987 – 1998).
- (4) Boy Scout Merit Badge Evaluator for Biology and Environmental Sciences, Upper Arlington, OH. (1994 – 1998).
- (5) Worked as the Joint-Secretary and Secretary of the Federation of Asian Indian Association, Columbus, OH. (1995 – 1997).
- (6) Member of the Editorial Board of the Telugu Magazine of North America (TANA Patrika). (1998 – 2001).
- (7) Member of the ECO Foundation Executive Committee, Pleasanton, California.
- (8) Taught Biology for Path Finders Organization, Columbus, OH. (1994).
- (9) Participated in Food Drive for Poor, Chemical Abstracts Service, Columbus, OH. (1996).
- (10) Involved in Literary Activities such as Short Story and Poetry Writing, Focusing on South Asian Languages and English Translations. Columbus, OH and Detroit, MI.

Hobbies

Poetry and Short Story Writing
Popular Science Writing/Discourses (especially for school students & undergraduates)
Natural History and Botany (Wild Life Ecology)
Teaching Language and Science for Underprivileged Middle & High School Students
Mentoring High School Students on Science Projects

References

Andrew J. Morris, Ph.D.

Professor of Medicine & Biochemistry
University of Kentucky
Lexington, KY
a.j.morris@uky.edu

Viswanathan Natarajan, Ph.D.

Professor of Medicine
University of Illinois at Chicago Medical School
Chicago, IL
visnatar@uic.edu

Nilanjana Maulik, Ph.D.

Professor of Surgery
University of Connecticut Medical School
Connecticut
nmaulik@uchc.edu

Lawrence Berliner, Ph.D.

Professor of Chemistry
Department of Chemistry
University of Denver
Denver, CO
berliner@du.edu

Periannan Kuppusamy, Ph.D.

Professor of Radiology and Medicine
601 Rubin Building
One Medical Center Dr
Dartmouth University
Lebanon NH 03756
Phone: 603-653-3577
Email: kuppu@dartmouth.edu

David Stern, M.D., Ph.D.

Robert Kaplan Executive Dean and Vice-Chancellor for Clinical Affairs
University of Tennessee's College of Medicine
University of Tennessee Health Sciences Center
Memphis, TN 38163
Phone: 901-448-5529
dstern@uthsc.edu