Krishnan Prabhakaran, Ph. D.

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***Education***

* Postdoctoral training: Parmacology & Toxicology, Purdue University, West Lafayette, Indiana
* Ph.D., Physiology, 1995, University of Madras, India
* M.Phil., Physiology, 1987, University of Madras, India
* M.S., Biology, 1985, Bharathiar University, India
* B.S Biology, 1983, University of Madras, India

***Experience:***

*May 2024 – Present* ***Associate Professor***

*Norfolk State University, Department of Biology, Norfolk, VA 23504*

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| *Sep 2017- May 2024*  *Aug 2013 – July 2017* | **Assistant Professor**  Norfolk State University, Department of Biology, Norfolk, VA 23504  **Assistant Professor**  Elizabeth City State University, Pharmacy & Health Professions  Elizabeth City, NC, USA |
| *Apr 2011 – Sep 2012* | **Assistant Research Professor**  Hampton University, Skin of Color Research Institute  Hampton, VA, USA |
| *Sep 2007 – Mar 2011* | **Staff Scientist**  Wright-Patterson Air Force Base, Naval Medical Research Unit  Dayton, OH, USA |
| *Aug 2000 – Sep 2007* | **Research Scientist**  Purdue University, Department of Medicinal Chemistry and Molecular Pharmacology (MCMP), West Lafayette, IN, USA |

**Teaching: Courses taught since 2013**

1. BIO 165 Anatomy & Physiology-I
2. BIO 166 Anatomy & Physiology-II
3. BIO 165L Anatomy & Physiology-I Lab
4. BIO 166L Anatomy & Physiology-II Lab
5. BIO 100 Biological Science
6. BIO 100 Biological Science Lab
7. BIO 110 General Biology
8. BIO 272 Human Anatomy
9. BIO 272L Human Anatomy Lab
10. BIOL 215 Anatomy & Physiology-I
11. BIOL 216 Anatomy & Physiology-II
12. PHSC 200 Intro to Pharmaceutical Science
13. PHSC 300 Principles of Pharmacology
14. PHSC 360 Pathophysiology
15. PHSC 499 Clinical Research Seminar
16. PHSC 451 Independent Research
17. CHEM395 Introduction to Neuroscience
18. GE 155 Principles of Biological Sciences

**Undergraduate Student Mentoring**

*Independent directed research*

Gressia Torres Vargas

Nicole Nazario Bayon

Lydia Smith

Kidist Degafe

Dominiq Jones

Sequoia Williams

. Talisa Thomas

Resamarie Bullard

Amanda Raulerson

Curtis Vinson

. Alyanna Sergeon

. Cidney Marie Hart

*Louis Stokes Alliances for Minority Participation (LSAMP) Program*

Tinisha Pearson

Damion Spellman

*MARC Undergraduate Student Training*

Tanvi Patel

Ama Agyapong

Leon Williams

Anusha Lynch

***Expertise / Research Area:***

My research focus is on environmental, chemically induced neurodegenerative processes capable of producing CNS disorders such as Parkinson’s and Alzhimer’s Disease. I have made several fundamental advances in signal transduction mechanisms associated with cell death processes by exposure to the chemicals such as cyanide and manganese. Mitochondrial dysfunction is an early event in the neurodegenerative processes induced by these select agents. Reduced ATP levels, increased reactive oxygen species (ROS), impaired calcium homeostasis, and altered mitochondrial permeability are characteristic mitochondrial defects (Prabhakaran et al., 2005). In many neurodegenerative disorders, specific subsets of neurons degenerate while others are unaffected (Bossy-Wetzel et al., 2008). Despite the clear association of mitochondrial dysfunction with neurodegenerative disease the molecular mechanisms of selective vulnerability are poorly understood. The primary focus of my research is on selective vulnerability of the nervous system to neurotoxic agents such as Cyanide, Manganese and Engineered Nano Materials and identification of novel therapeutic agents to treat neurodegenerative conditions.

***Awards & Grants***

* Identification of Cancer Protein Biomarkers in Lung Epithelium Exposed to Multiwall Carbon Nanotube

**Role: Principal Investigator, 2023-2024**

Agency: Hampton Roads Biomedical Research Consortium

* VIVA Course redesign Grant: Adaption of OpenStax Anatomy and Physiology by Preparing a Lab Manual for Nursing and Allied Health Students at Norfolk State University

**Role: Co-PI/Author, 2019 – 2022**

* Biocompatibility studies of carbon Nano Particles. Norfolk State University, Faculty Research Grant. **Role: Principal Investigator/Mentor, 2019**.
* Cyanide Induced Neurotoxicity. Norfolk State University, Provost Tenure Readiness Summer Research Grant **Role: Principal Investigator/Mentor, 2023-2024**
* Molecular Mechanisms of Skin Disorders. Hampton University Faculty Research Grant

**Role (CO-Principal Investigator), 2011.**

* Manganese Induced Neurotoxicity. Defense Health Program In-House Grant, Naval Medical Research Unit/Dayton, **Role: Lead Scientist- 2007-2009.**
* In Vitro Neurotoxic Potential of Afghanistan Sand Particulate Matter Defense Health Program In-House Grant, Naval Medical Research Unit/Dayton, **Role: PI, 2010**
* Visiting Scientist Fellowship from Japan Science and Technology Agency (Japan), 1998-2000.
* Professor N. Padmanabhan Memorial award from Indian Association of Biomedical Scientists, 1993.
* Research Fellowship from Indian Council of Medical Research, 1993
* Senior Research Fellowship from Council for Scientific and Industrial Research (India), 1989.

**Professional Activities**

# ***Editorial Board***

Brain Sciences

## Frontiers in Neuroscience

Neurodegeneration

Life

## Mayfeb Journal of Biology & Medicine

## International Journal of Research in Pharmaceutical Technology

International Journal of Pure and Applied Zoology

## *Reviewer*

## Frontiers in Neurodegeneration

## Cellular Neuroscience

## Frontiers in Non- Neuronal cells

## Frontiers in Cellular Neuropathology

## Journal of Neurochemistry

## Toxicological Sciences

## Brain Research Bulletin

## Journal of Alzhimer’s Disease

## Advances in Toxicology

## Molecular Neurobiology

Neuroscientist

## PROFESSIONAL SOCIETY SCIENTIFIC AFFILIATION

Society for Neuroscience, USA;

Society of Toxicology, USA

Virginia Academy of Science: Richmond, Virginia, US

Human Anatomy & Physiology Society

International Brain Research Organization

**PUBLICATIONS**

1. **Krishnan Prabhakaran**, Kidist W Degefa, Pravisha A Ramesh, Nithin Krisshna Gunasekaran

and Joseph C Hall. Molecular Signaling Pathway in Manganese-Induced Neurotoxicity. Biomed J Sci & Tech Res 54(1)-2023.

2. Bayon, N. N., Fortuno, P., Keene, D., Gunasekaran, N. K., Noginova, N, **Krishnan Prabhakaran** and Ramesh, G. T. (2024). TiN Nanoparticles for Biosensing Applications. J Nanosciences Research & Reports. 6: 1-4.

3. Gunasekaran, N. K., Tumkur, P. P., Bayon, N. N., Koehne, J. E., Arasho, W. D., **Prabhakaran, K**. and Ramesh, G. T. (2023). Cerium Oxide Nanoparticles: Synthesis and Characterization Using Curcuma longa (Turmeric Rhizome). J Energy and Environment Focus. 7: 83–89.

4. Bayon, N. N., Gunasekaran, N. K., Tumkur, P. P., Lamani, B. R., Koehne, J. E., Arasho, W. D., **Prabhakaran K** & Ramesh, G. T. (2022). Synthesis and characterization of titanium nitride nanoparticles. J Materials Express. 12(9): 1211-1215.

5. Tumkur, P.P., Gunasekaran, N.K., Lamani, B.R., Nazario Bayon, N., **Prabhakaran, K**., Hall, J.C. and Ramesh, G.T., 2021. Cerium oxide nanoparticles: Synthesis and characterization for biosafe applications, J Nanomanufacturing, 1(3), pp.176-189.

6. Tumkur, PP., Bayón, NN., Babu, RL., **Prabakaran, K**., Hall, JC., and Ramesh, GT (2020) “Cellulose Nanoparticles: Synthesis, Characterization and Biocompatibility Studies", J NanoSci Res Rep, 2, 1-5.

7. Barodia, S. K., **Prabhakaran, K**., Karunakaran, S., Mishra, V., Tapias, V., (eds). Mitochondria and Endoplasmic Reticulum Dysfunction in Parkinson’s disease. Lausanne: Frontiers Media SA. doi: 10.3389/978-2-88963-334-0, 2020.

8. Prathima P Tumkur, Nicole N Bayón , Babu R Lamani, , **Krishnan Prabhakaran**, Joseph C. Hall, and Govindarajan T Ramesh. Evaluation of Cellulose Nanoparticles Synthesized by Acid Hydrolysis for Safe Applications. Journal Nanosciences Research & Report, 2020.

9. SK Barodia, V Tapias, **K Prabhakaran**, V Mishra, S Karunakaran. Mitochondria Associated Membranes (MAMs) and their pathological significance in Parkinson’s disease. Frontiers in Neuroscience 13, 11711, 2019.

10. Potential of cellulose nanoparticles in biomedical applications. PP Tumkur, NN Bayon, **K Prabhakaran,** GT Ramesh. ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY 257, 2019.

11. Prathima Prabhu Tumkur, Tejaswini Ronur Praful, Babu R Lamani, Nicole Nazario Bayn, **Krishnan Prabhakaran,** Joseph C Hall, and Govindarajan T Ramesh. Enzymatic Synthesis, Characterization and Biocompatibility Studies of Cellulose Nanoparticles from Cotton Fibers. Advances in Nanoscience and Nanotechnology, August 2018.

12. An investigation to study the role of novel rhenium compounds on onco miR's and oncogenes involved in epithelial mesenchymal transition of prostate cancer cell lines derived. HN Banerjee, J Joyner, A Barfield, B Morris, D Bell, W Kahan, **K Prabhakaran**. Cancer Research 76 (14 Supplement), 4831-4831, 2016.

13. Ruthenium (II)-arene complexes with naphthalimide-tagged N, O-and N, N-chelating ligands: Synthesis and biological evaluation. K Ghebreyessus, A Peralta, M Katdare, **K Prabhakaran**, S Paranawithana. Inorganica Chimica Acta 434, 239-251, 2015.

14. Antioxidants and NOS inhibitors selectively targets manganese-induced cell volume via Na–K–Cl cotransporter-1 in astrocytes. KA Alahmari, H Prabhakaran, **K Prabhakaran**, HC Chandramoorthy, .Brain research 1610, 69-79, 2015.

15. The role of miR-146a and novel Rhenium compounds on prostate cancer cell lines derived from African Americans and European American patients. M Stevenson, J Joyner, K Dildar, O Adedeji, **K Prabhakaran,** HN Banerjee, Cancer Research 75 (15 Supplement), 4840-4840, 2015.

16. In vitro cytotoxic potential of Afghanistan sand extract. **K Prabhakaran**, PG Gunasekar

NAVAL MEDICAL RESEARCH UNIT DAYTON WRIGHT-PATTERSON AFB OH 2, 2013.

17. Na-K-Cl Cotransporter-1 as a Regulator of Manganese-induced Astrocyte Swelling. R Ramakrishnan, HL Raghavendra**, K Prabhakaran**, AG Kanthasamy. Science, Technology and Arts Research Journal 2 (4), 14-19, 2013.

18. Emerging contaminants: presentations at the 2009 Toxicology and Risk Assessment Conference. G Murnyak, J Vandenberg, PJ Yaroschak, L Williams, **K Prabhakaran**. Toxicology and applied pharmacology 254 (2), 167-169, 2011.

19. α-Synuclein overexpression enhances manganese-induced neurotoxicity through the NF-κB-mediated pathway. **K Prabhakaran**, GD Chapman, PG Gunasekar. Toxicology mechanisms and methods 21 (6), 435-443, 2011.

20. BNIP3 up-regulation and mitochondrial dysfunction in manganese-induced neurotoxicity**. K Prabhakaran,** GD Chapman, PG Gunasekar. Neurotoxicology 30 (3), 414-422, 2009.

21. Interaction of cyanide and nitric oxide with cytochrome c oxidase: implications for acute cyanide toxicity. HB Leavesley, L Li, **K Prabhakaran**, JL Borowitz, GE Isom. Toxicological Sciences 101 (1), 101-111, 2008.

22. Molecular mechanism of manganese exposure-induced dopaminergic toxicity**. K Prabhakaran**, D Ghosh, GD Chapman, PG Gunasekar. Brain Research Bulletin 76 (4), 361-367, 2008.

23. 1α,25‐dihydroxyvitamin D3 attenuates cyanide‐induced neurotoxicity by inhibiting uncoupling protein‐2 up‐regulation. L Li, **K Prabhakaran**, X Zhang, L Zhang, H Liu, JL Borowitz, GE Isom. Journal of neuroscience research 86 (6), 1397-1408, 2008.

24. HIF-1α activation by a redox-sensitive pathway mediates cyanide-induced BNIP3 upregulation and mitochondrial-dependent cell death. L Zhang, L Li, H Liu, **K Prabhakaran**, X Zhang, JL Borowitz, GE Isom

Free Radical Biology and Medicine 43 (1), 117-127, 2007.

25. Upregulation of BNIP3 and translocation to mitochondria mediates cyanide-induced apoptosis in cortical cells. **K Prabhakaran**, L Li, L Zhang, JL Borowitz, GE Isom. Neuroscience 150 (1), 159-167, 2007.

26. Uncoupling protein-2 up-regulation and enhanced cyanide toxicity are mediated by PPARα activation and oxidative stress. X Zhang, L Li, **K Prabhakaran**, L Zhang, HB Leavesley, JL Borowitz, and GE Isom. Toxicology and applied pharmacology 223 (1), 10-19, 2007.

27. Trimethyltin-induced apoptosis is associated with upregulation of inducible nitric oxide synthase and Bax in a hippocampal cell line. L Zhang, L Li, **K Prabhakaran**, JL Borowitz, GE Isom. Toxicology and applied pharmacology 216 (1), 34-43, 2006.

28. Inducible nitric oxide synthase up‐regulation and mitochondrial glutathione depletion mediate cyanide‐induced necrosis in mesencephalic cells. **K Prabhakaran**, L Li, JL Borowitz, GE Isom. Journal of Nuroscience research 84 (5), 1003-1011, 2006.

29. PPARα-mediated upregulation of uncoupling protein-2 switches cyanide-induced apoptosis to necrosis in primary cortical cells. L Li, **K Prabhakaran**, X Zhang, JL Borowitz, GE Isom. Toxicological Sciences 93 (1), 136-145, 2006.

30. Enhancement of cyanide-induced mitochondrial dysfunction and cortical cell necrosis by uncoupling protein-2. L Li**, K Prabhakaran**, EM Mills, JL Borowitz, GE Isom. Toxicological Sciences 86 (1), 116124, 2005.

31. Up-regulation of uncoupling protein 2 by cyanide is linked with cytotoxicity in mesencephalic cells. **K Prabhakaran,** L Li, EM Mills, JL Borowitz, GE Isom. Journal of Pharmacology and Experimental Therapeutics 314 (3), 1338-1345, 2005.

32. A short-term diabetes induced changes of catecholamines and p38-MAPK in discrete areas of rat brain. R Ramakrishnan, D Kempuraj, **K Prabhakaran**, AR Jayakumar, RS Devi. Life sciences 77 (15), 1825-35, 2005.

33. Involvement of Ca2+/calmodulin‐dependent protein kinase II in the modulation of indolamines in diabetic and hyperglycemic rats. R Ramakrishnan, **K Prabhakaran**, AR Jayakumar, P Gunasekaran, Journal of neuroscience research 80 (4), 518-528, 2005.

34. Caspase inhibition switches the mode of cell death induced by cyanide by enhancing reactive oxygen species generation and PARP-1 activation. **K Prabhakaran**, L Li, JL Borowitz, GE Isom. Toxicology and applied pharmacology 195 (2), 194-202, 2004.

35. Calcineurin-mediated Bad translocation regulates cyanide-induced neuronal apoptosis. Y Shou, LI Li, **K Prabhakaran**, JL Borowitz, GE Isom. Biochemical Journal 379 (3), 805-813, 2004.

36. Receptor mechanisms mediating cyanide generation in PC12 cells and rat brain. PG Gunasekar**, K Prabhakaran,** L Li, L Zhang, GE Isom, JL Borowitz. Neuroscience research 49 (1), 13-18, 2004.

37. Cyanide enhancement of dopamine-induced apoptosis in mesencephalic cells involves mitochondrial dysfunction and oxidative stress. DC Jones, **K Prabhakaran**, L Li, PG Gunasekar, Y Shou, JL Borowitz, and Isom GE. Neurotoxicology 24 (3), 333-342, 2003.

38. p38 Mitogen-activated protein kinase regulates Bax translocation in cyanide-induced apoptosis. Y Shou, L Li, **K Prabhakaran**, JL Borowitz, GE Isom. Toxicological Sciences 75 (1), 99-107, 2003.

39. Involvement of caspase-3 protease in dopaminergic degeneration following exposure to methylcyclopentadienyl manganese tricarbonyl (MMT). PG Gunasekar, GT Ramesh, **K Prabhakaran**, JE Klaunig. TOXICOLOGICAL SCIENCES 72, 352-352, 2003.

40. Caspase inhibition switches the mode of death produced by cyanide in cortical neurons. **K Prabhakaran,** L Li, JL Borowitz, GE Isom. TOXICOLOGICAL SCIENCES 72, 352-352, 2003.

41. Rescue of cortical neurons from cyanide-induced apoptosis: Demanstrates Bax translocation in the apoptotic process. L Li, **K Prabhakaran**, JL Borowitz, GE Isom. TOXICOLOGICAL SCIENCES 72, 356-356, 2003.

42. Cyanide induces different modes of death in cortical and mesencephalon cells**. K Prabhakaran**, L Li, JL Borowitz, and GE Isom. Journal of Pharmacology and Experimental Therapeutics 303 (2), 510-519, 2002.

43. Oxidative stress and cyclooxygenase-2 induction mediate cyanide-induced apoptosis of cortical cells. L Li, **K Prabhakaran**, Y Shou, JL Borowitz, GE Isom. Toxicology and applied pharmacology 185 (1), 5563, 2002.

44. Mechanisms of the apoptotic and necrotic actions of trimethyltin in cerebellar granule cells

P Gunasekar, L Li, **K Prabhakaran**, V Eybl, JL Borowitz, GE Isom. Toxicological Sciences 64 (1), 83-89, 2001

45. Modulation of non-specific immunity by hippocampal stimulation. RS Devi, A Namasivayam, **K Prabhakaran.** Journal of neuroimmunology 42 (2), 193-197, 1993.

46. Effects of methyl isocyanate on renal function. S Sundaramoorthy, **K Prabhakaran**, A Namasivayam. Current Science, 526-527, 1990.

47. Biochemical changes in acute noise stress in rats. **K Prabhakaran**, N Suthanthirarajan, A Namasivayam. Indian J Physiol Pharmacol 32 (2), 100-104, 1988.

**PRESENTATIONS / CONFERENCES**

1.Hypoxia Inducible Factor-1 alpha (HIF1-alpha) Mediates Manganese-Induced Apoptosis. Society of Toxicology, San Diego, 2022.

2. Neurotoxicity of DEHP: Role of Oxidative Stress. International Webinar on Pharmacology & Toxicology, April 2022.

3.Titanium Nitride Nanoparticles: Synthesis, Characterization and Biocompatibility Studies,” Emerging Researchers National (ERN) Conference, February 3-5 2022, Washington D.C.

4.Synthesis, Characterization, and Biocompatibility Studies of Titanium Nitride Nanoparticles,” RISE 2022: Research and Innovation Symposium and Exhibition, April 2022, Norfolk, VA.

5.Cerium oxide nanoparticles: Turmeric mediated synthesis and characterization”, RISE 2022: Research Innovation Symposium and Exhibition, April 2022, Norfolk, VA.

6.Titanium Nitride Nanoparticles for Plasmonic Applications,” Material Research Society (MRS), 6-8 December 2022, virtual.

7.Titanium Nitride Nanoparticles for Biological Applications,” WASET ICNMR, July 2022, Toronto, Canada.

8.Characterization and Biocompatibility studies of Cerium Oxide Nanoparticles synthesized using Turmeric extract”, Emerging Researchers National (ERN) Conference, February 9-11 2023,

9.Prathima Prabhu Tumkur, Nicole Nazario Bayon, Krishnan Prabhakaran, Joseph C Hall and Govindarajan T. Characterization of Cellulose Nanoparticles Synthesized from Waste Cotton”, Emerging Researchers National (ERN) Conference in STEM, Washington, D.C., February 6-8, 2020.

10. Prathima Prabhu Tumkur, Nicole Nazario Bayon, Nithin Krisshna Gunasekaran, Krishnan Prabhakaran, Joseph C Hall and Govindarajan T. Gold Nanoparticles: Green Synthesis, Characterization and Biocompatibility Studie, Materials Research Society (MRS), Phoenix, Arizona, April 13-17, 2020.

11. Prathima Prabhu Tumkur, Nicole Nazario Bayon, Nithin Krisshna Gunasekaran, Babu R Lamani, Krishnan Prabhakaran, Joseph C Hall and Govindarajan T. Cytotoxicity and Wound Healing Studies of Chemically Synthesized Cellulose Nanomaterials. SPIE Nanoscience + Engineering, San Diego, California, August 23 – 27, 2020.

12. Prathima Prabhu Tumkur, Nicole Nazario Bayon, Nithin Krisshna Gunasekaran, Babu R Lamani, Krishnan Prabhakaran, Joseph C Hall and Govindarajan TCellulose Nanoparticles in Energy Storage Applications”, MRS, November 27-December 4, 2020.

13. Prathima Prabhu Tumkur, Babu R Lamani, Krishnan Prabhakaran, Joseph C Hall and Govindarajan T. Study on toxicity, biocompatibility and antioxidant activity of cerium oxide nanoparticles in human lung epithelial cells. SPIE BIOS, Feb 2nd – 7th, SanFrancisco, CA, 2019.

14. Prathima Prabhu Tumkur, Nicole Nazario Bayon, Krishnan Prabhakaran, Joseph C Hall and Govindarajan T. Potential of Cellulose nanoparticlesin biomedical applications. ACS Mar 31st – Apr 4th, Orlando, FL 2019.

15. Nicole Nazario Bayon, Aida Prybylski, Prathima Prabu Tumkur, Joseph C Hall Krishnan Prabhakaran, and Govindarajan T. Synthesis, characterization and biocompatibility of nanocellulose. Emerging Researchers National (ERN) conference, 23r Feb, Washington DC, 2018.

16. Nicole Nazario Bayon, Grecia Torres Vargas, Krishnan Prabhakaran, and Govindarajan T. Material characterization and biocompatibility studies of single walled carbon nanotubes, STARS Summer Research, Norfolk State University, Norfolk, 19 th July 2018.

17.Tinisha Pearson, Damion Spellman & Krishnan Prabhakaran. DEHP induces cytotoxicity in mouse astrocytes through oxidative stress. NC-VA alliance for minority research participation, Charlotttesville, April 2016.

18.Talisa Thomas, Resamarie Bullard, Amanda Raulerson, Curtis Vinson & Krishnan Prabhakaran. Curcumin Protects Manganese-Induced Neurotoxicity in Astrocytes. ECSU Research week, April 2015.

19. Prabhakaran, K., Gunasekar, P., & Stockelman, M. Use of microarray to examine neurotoxic potential of Middle Eastern sand: Relevance to exposed U.S. military troops. Poster presented at the 2nd Annual Navy Medicine Research Conference, Uniformed Services University of the Health Sciences, Bethesda, MD, 2011.

20. K. Prabhakaran, G.D. Chapman and P.G. Gunasekar. Manganese Neurotoxicity is associated with Proteasome Dysfunction in α-synuclein overexpressing Neuronal cells. Toxicologist, Salt Lake City, 2010.

21. Krishnan Prabhakaran, David Dorman, Melanie Struve, Shawn McInturf, Michael Stockelman, Richard Erickson, Palur Gunasekar. In vitro Cytotoxic Potential of Middle Eastern Sands: Relevance to Exposed U.S. Military Troops. Navy Medical Research Symposium, Landsdowne, VA, 2010.

22. Krishnan Prabhakaran. Potential Toxic Effects of Manganese from Environmental Materials - Mechanism of Neurodegeneration. Force Health Protection (FHP) conference, Albuquerque, New Mexico, 2009.

23. Krishnan Prabhakaran. Mechanisms of Manganese Neurotoxicity. Toxicology and Risk Assessment conference, Cincinnati, OH, 2009.

24. K. Prabhakaran, G.D. Chapman and P.G. Gunasekar. Expression of alpha syneuclein in rat dopaminergic cells increased susceptibility to manganese linked to oxidative stress, MAP kinases and NFkB-mediated neuronal injury. Toxicologist, Baltomore, MD, 2009.

25. D.R. Mattie, R.J. Godfrey, T.A. Bausman, M.J. Wagner, L.N. Talton, P.Gunasekar, K.Prabhakaran, N.M. Schaeublin and S.M. Hussain. Examination of potential dermal irritation for different sizes of metal nanoparticles. Toxicologist, Baltimore, MD, 2009.

26. K. Prabhakaran, G.D. Chaman and P.G. Gunasekar. Manganese neurotoxicity involves upregulation of BNIP3 and mitochondrial dysfunction in dopaminergic cells. Society for Neuroscience, Washington DC, 2008.

27. H.B. Leavesley, L. Li, K. Prabhakaran, L. Zhang, X.Zhang, J.L. Borowitz and G.E. Isom. Nitrite-mediated antagonism of cyanide inhibition of cytochrome c oxidase. Toxicologist, Seattle, WA, 2008.

28. X.Zhang, L. Li, , K. Prabhakaran, L. Zhang, H.B. Leavesley, J.L. Borowitz and G.E. Isom. Uncoupling protein-2 up-regulation enhances mitochondrial glutathione depletion in cyanide-induced cytotoxicity. Toxicologist, Seattle, WA, 2008.

29. L. Li, X.Zhang, K. Prabhakaran, L. Zhang, H.B., Leavesley J.L. Borowitz and G.E. Isom. Cyanide neurotoxicity: Involvement of UCP-2 upregulation, mitochondrial glutathione depletion and BNIP3. Toxicologist, Seattle, WA, 2008.

30. K. Prabhakaran; L. Li; L. Zhang; X. Zhang; H. B. White Leavesley; J. L. Borowitz; G. E. Isom Cyanide induces mitochondrial dysfunction and death in mesencephalic dopaminergic cells expressing bnip3. Toxicologist, Charlotte, NC, 2007.

31. H. B. Leavesley; L. Li; K.Prabhakaran; J. L. Borowitz; G. E. Isom. Interaction of cyanide and nitric oxide at the cytochrome c oxidase binuclear center binding site. Toxicologist, Charlotte, NC, 2007.

32. L. Zhang; L. Li; K. Prabhakaran; X. Zhang; H. B. Leavesley; J. L. Borowitz; G. E. Isom. Cyanide induced HIF-1alpha accumulation leads to BNIP3 activation via a redox-mediated pathway. Toxicologist, Charlotte, NC, 2007.

33. L. Li; K. Prabhakaran; X. Zhang; L. Zhang; H. B. Leavesley; J. L. Borowitz; G. E. Isom. 1alpha, 25-dihydroxyvitamin D3 blocks cyanide-induced neurotoxicity by altering PPARα-mediated UCP-2 expression. Toxicologist, Charlotte, NC, 2007.

34. X. Zhang; L. Li; K. Prabhakaran; L. Zhang; H. B. Leavesley; J. L. Borowitz; G. E. Isom. Up-regulation of uncoupling protein-2 by wy14,643 in dopaminergic cells involves pparalpha-dependent and independent mechanisms. Toxicologist, Charlotte, NC, 2007.

35. L. Li, K. Prabhakaran, X. Zhang, L. Zhang, H.B. Leavesly, J.L. Borowitz, G.E. Isom. Neurotoxicity of peroxisome proliferator-activated receptor- agonist wy14643 is linked with upregulation of uncoupling protein 2. Soc.Neuroscience, Program No. 785.8. , Washington DC, 2005.

36. X. Zhang, L. Li, K. Prabhakaran, J.L. Borowitz, G.E. Isom. PPAR α activation enhances cyanide-induced neurotoxicity by upregulation of UCP2. Abstract # 1543, Toxicologist 2005.

37. L. Zhang, L. Li, K. Prabhakaran, J.L. Borowitz, G.E. Isom. TMT toxicity in hippocampal cells is associated with induction of BAX and iNOS expression. Abstract # 2279, Toxicologist, 2005.

38. K. Prabhakaran, L. Li, E.M. Mills, J.L. Borowitz, G.E. Isom. The bcl-2 family protein BNIP-3 mediates cyanide induced apoptosis in cortical cells. Soc.Neuroscience, program No. 687.9. , San Diego, CA, 2004.

39. L. Li, X. Zhang, K. Prabhakaran, E.M. Mills, J.L. Borowitz, G.E. Isom. Overexpression of uncoupling protein 2 mediates mitochondrial dysfunction and death in dopaminergic cells Soc.Neuroscience, program No. 908.18., San Diego, CA, 2004

40. Gunasekar, P.G., Prabhakaran, K. Activation of Nitric Oxide Synthase During Modulation with Manganese Toxicity Involves Early Signaling Transcription Factor, NF-kB: Implication for Cell Death. Toxicologist, 2004

41. Li,L., Prabhakaran,K., Borowitz,J.L. and Isom,G.E.: Rescue of cortical neurons from cyanide-induced apoptosis: Demonstrates Bax translocation in the apoptotic process. Toxicologist, 2003

42. Prabhakaran,K., Li.L., Borowitz,J.L.and Isom,G.E.: Caspase inhibition switches the mode of cell death induced by cyanide in cortical neurons. Toxicologist, 2003.

43. Prabhakaran,K., Li.L., Zang,C., Mills, E.M., Borowitz,J.L.and Isom,G.E. Uncoupling protein 2 potentiates necrotic death in mesencephalic cells. Soc. Neurosci, 2003.

44. Li.L., Prabhakaran,K., Zang,C., Mills, E.M., Borowitz,J.L.and Isom,G.E. Uncoupling Protein-2 Switches the Mode of Cyanide-induced Death From Apoptosis to Necrosis In Cortical Cells. Neuroscience 2003.

45. Gunasekar, P.G., Prabhakaran, K and Ghosh, D. Dopamine Potentiation of Manganese Toxicity Involves Oxidative Stress and Inducible Nitric Oxide Synthase: Key Mechanism for Dopamine Modulation of Manganese Induced Mesencephalic Cell Death. Soc. Neurosci, 2003.

46. Prabhakaran K., Li.L, Borowitz,J.L.and Isom,G.E.: Differential role of cellular factors in cyanide-induced apoptotic or necrotic cell death. Toxicologist 2002.

47. Li L., Prabhakaran,K., Borowitz,J.L. and Isom,G.E.: Cyanide-induced reactive oxygen species generation upregulate cyclooxygenase-2 expression in cortical cells. Toxicologist, 2002.

48. Li L., Prabhakaran,K., Borowitz,J.L. and Isom,G.E Role of Cyclooxygenase-2 in cyanide-induced apoptotic cell death in cultured cortical cells. Soc.Neurosci, San Diego, CA, 2001

49. Prabhakaran,K., Li.L., Borowitz,J.L.and Isom,G.E.: Cyanide induces different modes of death in cortical and mesencephalic cultures. Soc.Neuroscience, San Diego, CA, 2001

50. K.Prabhakaran, M.Kabuto and A Namasivayam. Cardiovascular and biochemical changes in chronic noise stress. 7th International Congress on noise as a public health problem, Sydney, Australia, 1998.

51. K Prabhakaran and A.Namasivayam. Cardiovascular effects of acute auditory stress. In XXXVIII annual conference of Association of Physiologists and Pharmacologists of India held at J N U, New Delhi, India, 1992.

52. K.Prabhakaran and A.Namasivayam. Some extra auditory effects of noise stress. In XIIIth annual conference of Indian Association of Biomedical Scientists, Trivandrum Medical College, India, 1992.

53. K Prabhakaran, A Namasivayam and R Sheela Devi. Modulation of certain non-specific immune parameters by dorsolateral hippocampus. In XXXVII annual conference of Physiologists and Pharmacologists of India held at Bangalore Medical College, Bangalore, India, 1991.

54. K Prabhakaran and A.Namasivayam. Low cost pulse transducer to use with Polyrite. In Xith annual conference of Indian Association of Biomedical Scientists held at T.N.Medical college, Bombay, India, 1990.

55. K Prabhakaran, S Adi Narayanan, N Suthanthirarajan and Namasivayam A. Noise induced immunological changes in albino rats. In XXXIV annual conference of Physiologists and Pharmacologists of India held at B.J.Medical College, Pune, India, 1988.

56. K Prabhakaran, N Suthanthirarajan and Namasivayam A. Biochemical changes in acute noise stress in albino rats. In VIIIth annual conference of Indian Association of Biomedical Scientists held at Annamalai University, India, 1987.