

Curriculum Vitae

Name in full: M. Rohan Fernando
 Work address: Director, Molecular Diagnostic Research Laboratory, Boys Town National Research Hospital,
 555 N 30th Street, Omaha NE 68116

Education

Ph.D, Molecular Medicine October 1989 to March 1994

Kyushu University School of Medicine, Fukuoka, Japan.

Dissertation- Functions of Thiol/Disulfide exchange enzymes in mammalian cells.

Advisor- Shigeki Minakami MD PhD

M.Phil, Clinical Biochemistry January 1987 to August 1989

Department of Biochemistry, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka.

Dissertation- An investigation of the oral hypoglycemic activity of medicinal plants used in Ayurvedic Medicine for the control of diabetes mellitus.

Advisor- M.I. Thabrew PhD

M.S., Food Science October 1982 to May 1985

Post Graduate Institute of Agriculture, University of Peradeniya, Peradeniya, Sri Lanka.

Dissertation- Some studies on quality control parameters of Food Powders.

Advisor- Upali Samarajeewa PhD

B.S., Biology October 1977 to August 1980

Faculty of Science, University of Peradeniya, Peradeniya, Sri Lanka.
 Subjects offered: Botany, Chemistry and Zoology.

Post-degree training

Senior Postdoctoral Research Associate October 2001 to December 2003
 Department of Veterinary & Biomedical Sciences
 University of Nebraska Lincoln

Academic appointments

Director July 2020 to present
 Molecular Diagnostic Research Laboratory
 Boys Town National Research Hospital
 555 N 30th Street
 Omaha NE, 68116

- Conduct research on Extracellular vesicle genome, transcriptome and proteome.
- Develop noninvasive cancer diagnostic assays using NGS technology.
- Conduct research on clinical utility of extracellular vesicles in human body fluids.
- Develop genetic tests for diagnosis of hearing loss in children.
- Securing funding for the operations of the laboratory.
- General laboratory and budgetary management.

Research Assistant Professor September 2014 to June 2020
 Department of Obstetrics/ Gynecology
 University of Nebraska Medical Center
 Omaha NE, 68198

- Conduct research on cell-free genome, transcriptome and proteome.
- Develop noninvasive prenatal and cancer diagnostic assays.
- Conduct research on clinical utility of extracellular vesicles in human body fluids.
- Train, supervise and mentor research associates and junior faculty.
- Securing funding for the operations of the laboratory.
- Writing patent applications to protect new inventions.
- Started a new startup company to commercialize new inventions.
- General laboratory and budgetary management.

Research Assistant Professor January 2004 to October 2007
 Department of Veterinary & Biomedical Sciences,
 University of Nebraska Lincoln NE, 68583-0905.

- Trained, supervised and mentored undergraduates, graduates and postdoctoral fellows.
- Taught a graduate level Animal Biochemistry course.
- Wrote manuscripts and grant applications.
- Reviewed grant applications and manuscripts.
- Served as the student adviser for the Sri Lanka Student Association of University of Nebraska-Lincoln.
- Maintained glutaredoxin-1 and glutaredoxin-2 knockout mouse colonies.
- Maintained cell culture laboratory.

- Compared age related cataract formation in eye lens in wild-type and glutaredoxin-1 knockout mouse model using a dynamic light scattering probe.
- Expression and purification of recombinant thioredoxin, glutaredoxin 1 and glutaredoxin 2.
- Identified the in vivo ascorbic acid recycling function of glutaredoxin-1 in human lens epithelial cells.
- Studied gene expression in eye lens in response to oxidative stress using pig lens as a model.
- Discovered glutaredoxin 2 as a peroxidase enzyme in mammalian cell mitochondria.
- Identified the anti-oxidant functions of glutaredoxin 2 in mammalian cells with special emphasis on lens epithelial cells.
- Elucidated structure-function relationship of the thioredoxin by utilizing gene cloning/expression, protein localization, purification, and enzyme functional assays.
- Cloning, expression, purification and characterization of thioredoxin-binding protein-2.
- Studied the cytokine like function of extracellular thioredoxin in cultured cells.
- Large scale purification of human recombinant thioredoxin, thioredoxin reductase, glutaredoxin 1 and glutaredoxin 2.
- Published 7 research papers in peer-reviewed journals and presented 10 abstracts during meetings and conferences.
- Conducted a contract research for a biopharmaceutical company.

Grade 1 Senior Lecturer (Associate Professor) in Molecular Biology
 Department of Microbiology, Faculty of Medical Sciences,
 University of Sri Jayewardenepura, Nugegoda, Sri Lanka.

October 1998 September 2001

- Conducted introductory and upper level molecular biology, bacterial genetics and general microbiology courses for basic science, medical laboratory science and medical students.
- Developed undergraduate and graduate labs to introduce students to current research trends in Molecular Biology.
- Supervised Graduate students and undergraduate research projects.
- Trained, supervised and mentored undergraduate and graduate students.
- Wrote manuscripts and grant applications.
- Reviewed research papers and grant applications.
- Worked as the Director of the University Animal Research Facility.
- Received 3 research grants.
- Published 3 research papers in peer-reviewed journals and presented 10 abstracts during meetings and conferences.
- Managed molecular diagnostic laboratory, developed new molecular diagnostic tools and supervised laboratory staff.
- Developed, optimized and validated a multiplex Reverse Transcriptase PCR for the detection of dengue virus serotypes in patient blood samples.
- Developed, optimized and validated a nested PCR reaction for the diagnosis of typhoid fever.

- Established mosquito cell cultures to propagate dengue virus serotypes.
- Conducted a research project on anti-bacterial properties of some medicinal plants.
- Followed a course on mammalian gene expression at the University of Occupational Health, Kitakyushu Japan.

Grade 2 Senior Lecturer in Biochemistry/Molecular Biology January 1985 to September 1998
 Department of Biochemistry, Faculty of Medicine,
 University of Ruhuna, Galle, Sri Lanka.

- Conducted following courses for medical graduates; basic molecular biology, carbohydrate metabolism, cell division and cell cycle, inborn errors of metabolism, vitamins, mineral metabolism.
- Conducted clinical biochemistry, molecular biology and cell biology labs for basic science and medical students.
- Established and managed Animal Research Facility at the Faculty of Medicine, University of Ruhuna, Sri Lanka.
- Completed an M Phil degree in clinical biochemistry at the Faculty of Medicine, University of Ruhuna, Sri Lanka.
- Investigated the hypoglycemic activity of *Asteracanthus longifolia*, *Ficus benghalensis*, *Osbekia octrandra* and *Artocarpus heterophyllus*.
- Studied on the possible toxicity of *Artocarpus heterophyllus*.
- Studied the effect of *Artocarpus heterophyllus* and *Asteracanthus longifolia* on Glucose tolerance in normal human subjects and in maturity onset diabetic patients.
- Investigated the possible toxicity of a medicinal plant, *Asteracanthus longifolia*.
- Studied the extra pancreatic actions of a hypoglycemic medicinal plant, *Artocarpus heterophyllus*.
- Received a full Fellowship to pursue a PhD degree program in molecular medicine at the Kyushu University School of Medicine.
- Published 10 research papers in peer-reviewed journals and presented 9 abstracts during meetings and conferences.
- Completed a PhD degree in molecular medicine at the Kyushu University School of Medicine.
- Completed a course on disease diagnosis at the International Center for Genetic Engineering & Biotechnology, New, Delhi, India from November to December 1996.
- Completed a WHO sponsored course on "Basics of Medical Education" at the Medical Education Centre, Faculty of Medicine, University of Kelaniya, Sri Lanka from August 3-14, 1998.

Experimental Officer

- Analyzed the nutritional quality of cereal samples for breeding programs.

Certificate Courses

Project Management fundamentals	University of Nebraska Omaha	August 2013
Project Management Applications	University of Nebraska Omaha	October 2013
Gene Expression Analysis	University of Occupational Health, Japan	September 1999
Basics of Medical Education	University of Kelaniya Sri Lanka	July 1997
Molecular Diagnostics	ICGB, New, Delhi, India	November 1996

Research Grants

Grant title: Development of genetic tests for childhood disease.

Funding agency: Ryan Foundation, Omaha NE.

Start and end dates: From July 2020 to July 2022.

Principal Investigator: M Rohan Fernando

Grant title: Development of noninvasive diagnostic methods based on cell free genome, transcriptome and proteome.

Funding agency: Ryan Foundation, Omaha NE.

Start and end dates: From April 2018 to June 2020.

Principal Investigator: M Rohan Fernando

Grant title: Blood exosomes as a source of biomarkers for diagnostic test development

Funding agency: University of Nebraska Foundation, Obstetrics and Gynecology Research Fund # 1712

Start and end dates: From September 2014 to March 2018

Principal Investigator: M Rohan Fernando

Grant title: To develop a DNA based diagnostic tool, a nested polymerase chain reaction for the early and accurate diagnosis of typhoid fever.

Funding agency: International Atomic Energy Agency

Start and end dates: From December 2000 to December 2001.

Principal Investigator: M Rohan Fernando

Grant title: Investigate the anti-bacterial activity of decoctions used in traditional medicine to treat blood and mucus diarrhea.

Funding agency: National Science Foundation of Sri Lanka

Start and end dates: From December 2000 to December 2001.

Principal Investigator: M Rohan Fernando

Grant title: To develop a molecular diagnostic tool based on Polymerase Chain Reaction (PCR) to diagnose dengue fever.

Funding agency: The Research grant Committee, University of Sri Jayewardenepura, Sri Lanka,

Start and end dates: From April 1999 to April 2002.

Principal Investigator: M Rohan Fernando

Patents and patent applications

1. Fernando M Rohan. Preservation of cell-free RNA in a blood sample. 2012 (US Patent 8304187)

2. Fernando M Rohan. Preservation of cell-free nucleic acids. 2013 (US Patent 8586306)

3. Fernando M Rohan. Methods for preservation of cell-free nucleic acids 2018 (US Patent 10144955)
4. Fernando M Rohan. Devices and compositions for preservation of cell-free nucleic acids 2018 (US Patent 9926590)
5. Fernando M. Rohan. Preservation of cell-free RNA in blood samples 2018 (US Patent 9657227)
6. Fernando M. Rohan, Ryan W. L and Hunsley B. Compositions and methods for stabilizing circulating tumor cell 2018 (US Patent 10091984)
7. Fernando M. Rohan and Chen Kate Chao-Wei. Preservation of fetal nucleic acids in maternal plasma 2016 (Canadian Patent CA2690651A1)
8. Fernando M. Rohan and Chen Kate Chao-Wei. Preservation of fetal nucleic acids in maternal plasma (European Patent EP2228453A1)
9. Fernando M Rohan. Preservation of cell-free nucleic acids 2019 (US 10294513)
10. Ryan Wayne L. and Fernando M Rohan Stabilization of RNA in intact cells within a blood sample. (US 20110111410-A1)
11. Ryan Wayne L., Fernando M Rohan and Das Kausik. Blood collection device for improved nucleic acid regulation (WO 2013/123030 A2)
12. Fernando M Rohan, Das Kausik and Qin Jianbing. Method for fixing and inactivating HIV in a blood sample. (A provisional application)
13. Ryan Wayne L., Fernando M Rohan and Jianbing Qin. Blood collection device for stabilizing cell-free RNA in blood during sample storage and shipping. (US 0199681).
14. Fernando M Rohan. Noninvasive Molecular Controls. Patent application (WO 2017/155894 A1)
15. Fernando M Rohan. A chemical composition to stabilize extracellular vesicles in a blood sample and methods of use thereof. Patent application (WO 2017/214310 A1).

Other Appointments

Senior R & D Scientist, Group Leader
 Nucleic acid & Protein Research Group
 Research & Development Division
 Streck Inc., Omaha NE 68128

November 2007 to August 2014

- Managed and led nucleic acid and protein based clinical diagnostic product development group.
- Established Nucleic acid & protein research project at Streck Inc.,
- Directing all nucleic acid & protein related research projects including new product development, improvement of current products and resolution of any product-related manufacturing/QC problems.
- Knowledge & experience in FDA design control process, 510(k) application process, ISO, GLP and GMP regulations, and institutional review board process for using human subjects in clinical research.
- Experience in molecular diagnostic assay development, optimization and validation.
- Invented a new reagent composition to stabilize cellular and cell-free mRNA in blood.
- Developed Streaks' patented Cell-Free RNA BCT blood collection device to preserve and stabilize cellular and cell-free RNA in blood.

- Invented a new methodology to preserve the original proportion of fetal cell-free DNA in maternal blood for noninvasive prenatal diagnosis.
- Developed Streaks' Cell-Free DNA BCT blood collection device to preserve and stabilize cellular and cell-free DNA in blood.
- Develop reagent compositions to stabilize proteins, DNA and RNA in circulating tumor cells.
- Conducted a collaborative research project on virus stabilization and inactivation with Dr. Charles Wood of Nebraska Center for Virology, University of Nebraska at Lincoln.
- Developed a droplet digital PCR assay to determine the quality of a plasma cell-free DNA sample.
- Developing methodologies to stabilize circulating cell-free blood metabolites for noninvasive diagnostic and prognostic test development.
- Published nine industry related research papers in peer-reviewed Journals and presented 7 abstracts at meetings and conferences.
- Developing methodologies to stabilize cell-free DNA in urine samples for noninvasive diagnostic and prognostic test development.
- Two US patents (8304187 and 8586306) and four patent applications.

Central Agricultural Research Institute,
Gannorowa, Peradeniya, Sri Lanka

April 1981- September 1982

Awards, Honors and Organizations

- Awarded Japanese Government Monbusho fellowship to pursue a PhD degree
- Awarded a fellowship to follow a course on disease diagnosis at ICGB, New Delhi, India.
- Awarded a fellowship to study gene expression by AIEJ, Japan at the University of Occupational and Environmental Health, Kitakyushu Japan
- Professional Member, American Association for the Advancement of Science
- Member, Association for Research in Vision and Ophthalmology
- The first prize for the research paper titled "Molecular Analysis of dengue virus isolates from Sri Lanka 1999-2001" presented at the Sri Lanka College of Microbiologists, 11th Annual Academic Sessions 7-9 June 2002.
- The second prize for the research paper titled "Development of a polymerase chain Reaction (PCR) for the detection of dengue virus and its serotypes." presented at the Sri Lanka College of Microbiologists, 11th Annual Academic Sessions 7-9 June 2002.
- Professor Rajasuriya award-2002 was awarded for the research paper presented on Comparison of serological tests, virus isolation and RT-PCR for diagnosis of dengue at the Sri Lanka Medical Association 115th Anniversary Academic Sessions, 21-24 March 2002.

Publications

Publications in refereed journals

1. **Fernando MR**, Jiang C, Krzyzanowski G, Ryan WL, Somer-Shely T. (2018) A novel approach to stabilize fetal cell-free DNA fraction in maternal blood samples for extended period of time. PLoS ONE 13(12): e0208508. <https://doi.org/10.1371/journal.pone.0208508>
2. **Fernando MR**, Jiang C, Krzyzanowski G, Ryan WL. (2018) Analysis of human blood plasma cell-free DNA fragment size distribution using EvaGreen chemistry based droplet digital PCR assays. Clin Chim Acta 483: 39-47.
3. **Fernando MR**, Jiang C, Krzyzanowski G, Ryan WL. (2017) New evidence that a large proportion of human blood plasma cell-free DNA is localized in exosomes. PLoS ONE 12(8) e0183915. <https://doi.org/10.1371/journal.pone.0183915>
4. Jianbing Q., Das K., Kwon E., Minhas V., and **Fernando M.R.** (2014) Stabilization of an RNA virus in blood samples using Cyto Chex BCT blood collection device. J Mol Genet Med 8:1 <http://dx.doi.org/10.4172/1747-0862.1000097>
5. Das K., Norton E.S., Alt J.R., Krzyzanowski G., Williams T., and Fernando M.R. (2014) Stabilization of Cellular RNA in Blood during Storage at Room Temperature: A comparison of Cell-Free RNA BCT® with K3EDTA Tubes Mol Diagn Ther. 18(6):647-53. doi: 10.1007/s40291-014-0118-z.
6. Jianbing Qin, Bassett C., and Fernando M. R. (2014) Preservation of circulating cell-free fetal RNA in maternal blood using a blood collection device containing a stabilizing reagent. J Mol Genet Med 14:23-28.
7. Jianbing Q., Williams T., Alt J.R., Hunsley, B., and **Fernando M.R.** (2013) A blood collection device that stabilize circulating tumor cells in blood at room temperature for up to 4 days. Cancer Cell International, 14: 23-30.
8. Kwon E., Minhas V., Phiri T., Wood C. and **Fernando M.R.** (2013) Inactivation and viral load quantification of Human Immunodeficiency Virus (HIV) in blood collected into Cyto-Chex BCT Blood Collection Device. Journal of Virological Methods, 196: pp 50-55.
9. Jianbing Q., Williams T., and **Fernando M.R.** (2013) A novel blood collection device stabilizes cell-free RNA in blood during sample shipping and storage. BMC Notes, 6: pp 380-388.
10. Norton, S.E., Lechner, J.M., Williams T., and **Fernando, M.R.** (2013) A stabilizing reagent prevents cell-free DNA contamination by cellular DNA in plasma during blood sample storage and shipping as determined by digital PCR. Clinical Biochemistry, 46: pp 1561-1565.
11. Das K., Wigginton S., Basiaga S., Williams T., and **Fernando M.R.** (2013) Effects of a novel cell stabilizing reagent on DNA amplification by PCR as compared to traditional stabilizing reagents. Acta Histochemica Jun 27. doi:pii: S0065-1281(13)00090-1. 10.1016/j.acthis.2013.05.002.
12. Norton, S.E., Luna, K.K., Lechner, J.M., Qin, J., and **Fernando, M.R.** (2013) A New Blood Collection Device Minimizes Cellular DNA Release during sample Storage and Shipping. Journal of Clinical Laboratory Analysis, 27: pp 305-311.
13. **Fernando, M.R.**, Norton, S.E., Luna, K.K., Lechner, J.M., and Qin, J. (2012) Stabilization of Cell-Free RNA in Blood Samples Using a New Collection Device. Clinical Biochemistry, 45: pp 1497-1502.

14. **Fernando, M.R.**, Chen, K., Norton, S., Krzyzanowski, G., Bourne, D., Hunsley, B., Ryan, W.L., and Bassett, C. (2010) A New Methodology to preserve the original proportion and integrity of cell-free fetal DNA in maternal Plasma during sample processing and storage. *Prenatal Diagnosis*, 30 (5) pp 418-424.
15. Lofgren, S., **Fernando, M.R.**, Xing, KY, Wang, Y, Kuszynski, CA, Ho, YS, and Lou, M.F. (2008) Effect of thioltransferase (glutaredoxin) deletion on cellular sensitivity to oxidative stress and cell proliferation in lens epithelial cells of thioltransferase knockout mouse. *Investigative Ophthalmology and Visual Sciences*, 49 (10) pp 4497-4505.
16. Liyanage, N. P. M., **Fernando, M. R.**, and Lou, M. F (2007) Regulation of thioredoxin by a specific thioredoxin binding protein in eye lens. *Experimental Eye Research* 85(2) pp 270-279.
17. Xing, K., Raza, A., Löfgren, S., **Fernando, M. R.**, Ho, Y., and Lou M. F. (2007) Low molecular weight protein tyrosine phosphatase (LMW-PTP) and its possible physiological functions of redox signaling in the eye lens. *Biochimica et Biophysica Acta*. 1774 (5) pp 545-555.
18. Velathanthiri, V.G.N.S., Fernando, S., **Fernando, R.**, Malavige, G.N., Peelawaththage, M., Jayaratne, S.D., and Aaskov, J. (2006) Comparison of serology, virus isolation and RT-PCR in the diagnosis of dengue viral infections in Sri Lanka. *Dengue Bulletin*, 30 pp 191-196.
19. Yan, H., Lou, M. F., **Fernando, M. R.**, and Harding, J. J. (2006) Thioredoxin, thioredoxin reductase and α -crystalline revive the inactivated glyceraldehydes 3-phosphate dehydrogenase in human aged and cataract lenses. *Molecular Vision*, 12 pp 1153-1159.
20. **Fernando, M. R.**, Lechner, J. M., Löfgren, S., Gladyshev, V. N., and Lou, M. F. (2006) Mitochondrial thioltransferase (glutaredoxin 2) has GSH-dependent and thioredoxin reductase-dependent peroxidase activities in vitro and in lens epithelial cells. *FASEB Journal*, 20 (14) pp 2645-2647.
21. Moon, S., **Fernando, M. R.**, and Lou, M. F. (2004) Induction of thioredoxin and thioltransferase in cultured pig lenses under oxidative stress. *Investigative Ophthalmology and Visual Sciences*, 47 (10) pp 3783-3789.
22. **Fernando, M. R.**, Satake M., Monnier V.M., and Lou M. F. (2004) Thioltransferase mediated Ascorbate recycling in human lens epithelial cells. *Investigative Ophthalmology and Visual Sciences*, 45 (1) pp 4313.
23. **Fernando, M. R.** and Thabrew, M.I. (2001) Extra pancreatic effects contributing to the hypoglycemic activity of *Artocarpus heterophyllus*. *Ceylon Journal of Medical Sciences*, 44(No. 1) pp 1-10.
24. **Fernando, M.R.**, Wickramasinghe, S.M.D.N. and Thabrew, M.I., (2000). Possible toxicity of a medicinal plant *Asteracantha longifolia*. *Ceylon Journal of Medical Sciences*, 43 (No.1) pp 1-6.
25. **Fernando, M.R.**, Wickramasinghe, N., and Thabrew, M.I., (1998). Extra pancreatic actions of *Hygrophyla longifolia*. *Pharmaceutical Biology*, Vol 36, No. 5 pp 352-356.
26. Thabrew, M.I., and **Fernando M.R.** (1994). An evaluation of the hypoglycemic potential of *Artocarpus heterophyllus*. *Ayurveda Sammekshawa*, I/VI, pp 141-146.
27. **Fernando, M.R.**, Sumimoto, H., Nanri, H., Kawabata, S., Iwanaga, S., Minakami, S., Fukumaki, Y., and Takeshige, K. (1994). Cloning and sequencing of the cDNA encoding human glutaredoxin. *Biochimica et Biophysica Acta*. 1218, pp 229-231.

28. Yoshitake, S., Nanri, H., **Fernando, M.R.** and Manakami, S. (1994). Thioltransferase involves in regeneration of oxidatively damaged proteins with different substrate specificity from thioredoxin. *Journal of Biochemistry*, 116, 42-46.
29. **Fernando, M.R.**, Nanri, H., Yoshitake, s., Nagata-Kuno, K. and Minakami, S. (1992). Thioredoxin regenerates proteins inactivated by oxidative stress in endothelial cells, *European Journal of Biochemistry*, 209, pp 917-922.
30. **Fernando, M.R.**, Wickramasinghe, N., Thabrew, M.I. and Karunanayake, E.H. (1991). Effect of *Artocarpus heterophyllus* and *Asteracanthus longifolia* on Glucose tolerance in normal human subjects and in maturity onset diabetic patients. *Journal of Ethnopharmacology*, 31, pp 277-282.
31. **Fernando, M.R.**, Thabrew, M.I. and Karunanayake, E.H. (1990). Hypoglycemic activity of some medicinal plants in Sri Lanka. *General Pharmacology*, 21 (No5) pp 779-782.
32. **Fernando, M.R.**, and Thabrew, M.I. (1989). Studies on the possible toxicity of *Artocarpus heterophyllus*. *Ceylon Journal of Medical Sciences*, 32 (No.1) pp 1-7.
33. **Fernando, M.R.**, Wickramasinghe, N., Thabrew, M.I. and Karunanayake, E. H. (1989). A preliminary investigation of the possible hypoglycemic activity of *Asteracanthus longifolia*. *Journal of Ethnopharmacology*, 27 pp 7-14.
34. **Fernando, M.R.**, Thabrew, M.I., and Karunanayake, E.H. (1987). Oral hypoglycemic activity of the stem bark of *Ficus benghalensis*. *Ceylon Journal of Medical Sciences*, 30 (No.8), pp 73-77.

Presentations at scientific conferences

1. **Fernando MR**, Jiang C, Krzyzanowski G.D. (2018) Stabilizing fetal cell-free DNA proportion in maternal blood samples at room temperature for 28 days without using crosslinking agents. Annual general meeting of American College Medical Genetics.
2. **Fernando MR**, Jiang C, Krzyzanowski G.D. (2017) Development of real cell-free DNA extraction control for noninvasive prenatal and cancer tests. Annual general meeting of American College Medical Genetics.
3. **Fernando MR**, Jiang C, Krzyzanowski G.D. (2017) Stabilizing cell-free DNA in a blood sample by means of inhibiting metabolic enzymes and proteases. Annual general meeting of American College Medical Genetics.
4. Das, K., **Fernando, M.R.**, Basiaga, S., Dumais, J., Krzyzanowski G.D. and Ryan, W.L. (2012) A cell stabilizing reagent in Cell-Free DNA™ BCT is formaldehyde free and has no adverse effects on DNA integrity. Proceedings of the 2012 Annual meeting of the American Association for clinical chemistry.
5. **Fernando, M.R.**, Norton, S., Luna, K., Lechner J. and Ryan, W.L. (2012) A novel blood collection device Minimizes cellular DAN release in blood during sample storage and shipping. Proceedings of the 2012 Annual meeting of the American Association for clinical chemistry.
6. **Fernando, M.R.**, Norton, S., Luna, K., Alt J.R. and Ryan, W.L. (2011) Stabilization of cellular RNA in blood samples for non-invasive Diagnosis and prognosis. Proceedings of the 2011 Annual meeting of the American Association for clinical chemistry.

7. **Fernando, M.R.**, Norton, S., and Ryan, W.L. (2010) Stabilization of Cell-Free RNA in plasma for non-invasive Diagnosis and prognosis. Proceedings of the 2010 Annual meeting of the American Association for clinical chemistry.
8. **Fernando, M.R.**, Chen, K., Norton, S., Krzyzanowski, G., Bourne, D., Hunsley, B., Ryan, W.L., and Bassett, C. (2009) Preservation and amplification of fetal cell-free DNA in maternal plasma for noninvasive prenatal Diagnosis. Proceedings of the 2009 Annual meeting of the American Association for clinical chemistry.
9. Lechner, J.M., Liyanage, N., **Fernando, M. R.**, and Lou, M.F. (2008) Effect of high glucose on cellular thioredoxin In the lens epithelial cells. Proceedings of the 2008 Annual meeting of the Association for Research in Vision and Ophthalmology.
10. **Fernando, M.R.**, Wang, Y., and Lou, M.F. (2007) Thioredoxin has a growth factor/cytokine-like activity that generate reactive oxygen species (ROS) and stimulate cell growth in human lens epithelial cells. Proceedings of the 2007 Annual meeting of the Association for Research in Vision and Ophthalmology.
11. Liyanage, N. P. M., **Fernando, M.R.**, and Lou, M.F. (2005) Cloning and sequencing of thioredoxin binding protein-2 (TBP-2) from human lens epithelial cells. Proceedings of the 2005 Annual meeting of the Association for Research in Vision and Ophthalmology.
12. Lofgren, S., **Fernando, M.R.**, and Lou, M.F. (2005) H₂O₂ stress sensitivity in cultured Primary Mouse lens epithelial cells derived from wild type and thioltransferase knockout mice. Proceedings of the 2005 Annual meeting of the Association for Research in Vision and Ophthalmology.
13. **Fernando, M.R.**, Lechner J. M., Gladyshev, V. N., and Lou, M.F. (2005) Nuclear and Mitochondrial isoform of thioltransferase (Grx2) has peroxidase activity in mouse lens epithelial cells. Proceedings of the 2005 Annual meeting of the Association for Research in Vision and Ophthalmology.
14. **Fernando, M.R.** Gladyshev, V. N., and Lou, M.F. (2004) Mitochondrial thioltransferase (Grx2) protects human lens epithelial cells from H₂O₂-induced apoptosis. . Proceedings of the 2004 Annual meeting of the Association for Research in Vision and Ophthalmology.
15. Lou, M. F., Xing, K., **Fernando, M.R.**, Moon, S., and Ho, Y-S. (2004) Thioltransferase knockout mouse: a new cataract model. Proceedings of the 2004 Annual meeting of the Association for Research in Vision and Ophthalmology.
16. Moon, S., **Fernando M. R.**, and Lou, M. F. (2003) The activation of thioltransferase in cultured pig lenses under oxidative stress. Proceedings of the 2003 Annual meeting of the Association for Research in Vision and Ophthalmology.
17. **Fernando, M.R.** Gladyshev, V. N., and Lou, M.F. (2003) Presence of mitochondrial thioltransferase (Grx 2) and its protective and regenerative roles of ascorbic acid in human lens epithelial cells. Proceedings of the 2003 Annual meeting of the Association for Research in Vision and Ophthalmology.
18. **Fernando, M.R.** and Lou, M.F. (2002) Thioltransferase can catalyze the reduction of dehydroascorbate in lens epithelial cells. Proceedings of the 2002 Annual meeting of the Association for Research in Vision and Ophthalmology.
19. Velathanthiri, N., **Fernando, M.R.**, Fernando, S. and Peellawaththage, M. (2002) Development of a Polymerase Chain Reaction (PCR) for the detection of dengue virus and its sero types 1999-2001. Proceedings of the 11th Annual Sessions of the Sri Lanka College of Microbiologists.

20. Velathanthiri, N., Aaskov, J, Fernando, S., **Fernando, M.R.** and Jayaratne, S.D., (2002) Molecular Analysis of Dengue virus isolates from Sri Lanka 1999-2001. Proceedings of the Sri Lanka Medical Association 115th Anniversary Academic Sessions.
21. Velathanthiri, N., Fernando, S., **Fernando, M.R.**, Jayaratne, S.D., Peellawaththage, M., Vitharana, U.T. and Aaskov, J. (2002) Comparison of Serological Tests, Virus isolation and RT-PCR in diagnosis of Dengue. Proceedings of the 11th Annual Sessions of the Sri Lanka College of Microbiologists.
22. Hewawasam, S., **Fernando, M.R.**, Fernando, S., Horadagoda, N. U., Jayasinghe J. A. P., Jiffry M.T.M., Dayangani, S., and Kapila P. (2001) Evaluation of toxicity of an Ayurvedic decoction commonly used to treat blood and mucus diarrhea. Proceedings of the 56th Annual Sessions of the Sri Lanka Association for the Advancement of Science.
23. Liyanage, N.P.M., **Fernando, M.R.** and Fernando, S. (2001) Development of a Nested Polymerase Chain Reaction for the diagnosis of typhoid fever. Proceedings of the 56th Annual Sessions of the Sri Lanka Association for the Advancement of Science.
24. Nanri, H., **Fernando M.R.**, and Ikeda, M. (2001) Anti-oxidant effects of thioredoxin and glutaredoxin on cadmium-mediated oxidative stress. Proceeding of the 73rd Annual Sessions of the Japanese Biochemical Society.
25. Hewawasam, S., Fernando, S., Liyanage, N.P.M., Pilapitiya, U., Jiffry, M.T.M., **Fernando, M.R.**, and Wadigamangawa L. (2000) Inhibitory effect of an Ayurvedic decoction against *Shigella sonnei*. Proceedings of the 11th Annual Sessions of the Sri Lanka College of Microbiologists.
26. Liyanage, N.P.M., S., Hewawasam, S., Mallikahewa, R., **Fernando, M.R.**, Jiffry, M.T.M., Vitharana, T. (2000). Age related seroprevalence of chickenpox in Colombo District. Proceedings of the 56th Annual Sessions of the Sri Lanka Association for the Advancement of Science.
27. Hewawasam, S., Fernando, S., Liyanage, N.P.M., Pilapitiya, U., Jiffry, M.T.M., **Fernando, M.R.**, and Wadigamangawa L. (2000) Inhibitory effect of an Ayurvedic decoction against *Shigella sonnei*. Proceedings of the 56th Annual Sessions of the Sri Lanka Association for the Advancement of Science
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Graduate and Postdoctoral Student Training

1. Niluka Velathanthiri	(M.S Student)	1999-2001
2. Sumudu Hewawasam	(M.S Student)	1999-2001
3. Namal Liyanage	(M.S Student)	1999-2005
4. S. Moon	(Postdoctoral Fellow)	2002-2004
5. S. Lofgren	(Postdoctoral Fellow)	2004-2006
6. M. J. Lechner	(Undergraduate student)	2004-2006

Committees

- The Secretary, Scholarships & Fellowships Committee, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka.
- Member, Nuclear Medicine Unit Advisory Committee, Faculty of Medicine, University of Ruhuna, Galle, Sri Lanka.
- The Secretary, Admissions and Scholarships Committee, Faculty of Medical Sciences, University of Sri Jayewardenepura, Nugegoda, Sri Lanka.
- Member, Animal Research Ethics Committee, Faculty of Medical Sciences, University of Sri Jayewardenepura.

Professional Organizations

- Member, American College of Medical Genetics
- Member, American Association for Advancement of Science

- Member, Association for Research in Vision and Ophthalmology
- Member, Sri Lanka Association for Advancement of Science

Administrative and Other Responsibilities

- Faculty adviser, Sri Lanka Student Association, University of Nebraska-Lincoln.
- Director, Animal Research Facility, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka (from 1999-2001).
- Acting Head, Department of Microbiology, Faculty of Medical Sciences, University of Sri Jayewardenepura. Four instances during the period between 1999-2001.
- Member, Western Province Advisory Council on Popularization of Science and Technology.
- Member, Board of Governors, Assemblies of God Bible College, Sri Lanka. (1997-2001).

Peer Reviewer for grant applications and research papers.

- I have reviewed grant applications and research papers for more than two decades. I have reviewed earmarked research grant applications for Hong Kong University Grants Commission since 1996.
- I have reviewed many research papers for multiple journals. Recently I have reviewed research papers for Biotechnology Journal, International Journal of Molecular Sciences, Journal of Veterinary Science & Animal Husbandry, Future Science OA, Biochemistry and Cell Biology and PLOS ONE journal.