CURRICULUM VITAE – DR. DARSHANA KOTTAHACHCHI

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PERSONAL INFORMATION

Full Name: Darshana Udakara Kottahachchi

Date of Birth: 03.11.1967

Citizenship: Sri Lankan

School Attended: Royal College, Colombo 7, Sri Lanka

Civil Status: Married

Permanent Address: "Darshana", Vidyala Mawatha, Uggalbada, Kalutara, Sri Lanka

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OBJECTIVE(S)

I would like to share my university administration & academic experience with local & foreign universities and institutions in order to upgrade the field of Medical Laboratory Science (MLS), Bio Medical Science (BMS). I very much like to introduce an advanced technologies that I used in my Ph.D. research to the medical research in Sri Lanka. Furthermore, I would like to share my foreign medical research experience in Cancer Proteomics with leading research groups and cancer centers in locally and overseas.

PRESENT OCCUPATION & PLACE(S)

- Dean, Faculty of Allied Health Sciences (FAHS), General Sir John Kotelawala Defence University (KDU), Werahera, Sri Lanka from 13.08.2019 to date.
- Senior Lecturer Grade II, Department of Medical Laboratory Sciences (MLS), FAHS, KDU, Werahera, Sri Lanka from 01.10.2014. (http://www.kdu.ac.lk/faculty-of-allied-health-sciences/staffs/staff/department-of-medical-laboratory-sciences).
- Engage in teaching of undergraduates in Hematology, Transfusion Medicine, Immunology and Advanced Clinical Hematology at Department of MLS, FAHS.
- Head, Department of MLS, FAHS, KDU from March 2016 to August 2019 and actively engaged in administrative work of the program efficiently.
- Engaged in cover up duties as an Acting Dean, FAHS, KDU since June 2017 to August 2019.
- Engage in the collaborative program between Bachelor's program of Bio Medical Laboratory Science, Department of Natural Sciences, Faculty of Engineering and Science, University of Agder (UIA), Norway (https://www.uia.no/en/kk/tlf?dep=31&fag=&search=) and MLS Degree Program, KDU, Sri Lanka. (http://www.kdu.ac.lk/collaborative-program-between-departments-of-medical-laboratory-sciences-mls-faculty-of-allied-health-sciences-fahs-kdu-and-bio-medical-laboratory-sciences-degree-program-department-of-natural/)
- Member of the Academic Promotion Board and Study Leave Board chaired by Deputy Vice Chancellor, KDU.
- Participated in KDU By-laws revision and presently actively engage in implementation process in FAHS and KDU.
- Actively coordinated and presently engage in monitoring of Sri Lanka Medical Council (SLMC) registration process in FAHS.
- Engage in teaching of final year undergraduates at Departments of Pharmacy and Physiotherapy, FAHS, KDU.

- Visiting Lecturer and examiner in Advanced Hematology, Medical Laboratory Science (MLS) Degree Program, Department of Health Sciences, Faculty of Natural Sciences, Open University, Nawala, Sri Lanka.
- Participate as Resource person in Continuous professional Development (CPD) programs for Medical Laboratory Professionals organized by College of Medical Laboratory Science Sri Lanka.

EDUCATION

❖ **Ph.D. Degree** – Obtained from University of Colombo, Sri Lanka collaboration with Translational Proteomics Research Group, Turku Centre for Biotechnology, University of Turku, Finland funded by Exchange by Promoting Quality Education, Research and Training in South and South-East Asia (EXPERTSASIA), University of Goettingen, Germany & International Science Program, Uppsala Sweden.

Thesis Title – "*Identification, quantification and characterization of some of erythrocyte membrane proteins in Sri Lankan Polycythemia Vera (PV) patients and healthy controls using One Dimensional Sodium Dodecyl Sulphate Polyacrylamide Gel Electrophoresis (1-D-SDS-PAGE) and Liquid Chromatography Electrospray-quadrupole Time-Of-Flight Mass Spectrometry (LC-ESI-qTOF-MS/MS)"*

Fields – Experimental Hematology with Mass Spectrometry based Proteomics

Effective date – 01.07.2014

❖ **M.Phil. Degree** – Obtained from University of Colombo, Sri Lanka collaboration with Angstrom Laboratory in Uppsala University Sweden funded by International Science Program, Uppsala Sweden.

Dissertation titled: *"A study of some of the Erythrocyte membrane Associated Proteins in Healthy Individuals and Leukemia Patients using One Dimensional Sodium Dodecyl Sulfate Poly Acrylamide Gel Electrophoresis (1D-SDS-PAGE) and Matrix Assisted Laser Desorption Ionization Time of Flight mass spectrometry"*

Fields – Experimental Hematology, Biochemistry & Protein chemistry, Mass Spectrometry based Proteomics

Effective date – 01.07.2007

- **Bachelor of Science (General Degree**) – Obtained from University of Peradeniya (External), Sri Lanka.

  Effective date – 01.11.2000

  Subjects – Chemistry, Physics, Pure Mathematics

- **Diploma in Medical Laboratory Technology** – Obtained from Ministry of Health, Sri Lanka on successful completion of two years full time course of Medical Laboratory Technology (MLT) at Medical Research Institute (MRI), Colombo, Sri Lanka.

  Effective date: February, 1994.

  Subjects – Hematology & Blood Bank Serology, Chemical Pathology, Microbiology, Parasitology & Entomology, Histopathology Techniques & Laboratory Management

PROFESSIONAL EMPLOYMENT

- **Cancer Hospital (Teaching), Sri Lanka – New Apeksha Hospital**
  - More than 11 years of service as a Medical Laboratory Technologist. Enrolled in work related to both Histopathology (One and half years) & Hematology (around 10 years).
  - Member of the 1st Peripheral Blood Stem Cell Transplantation (PBSCT) in Sri Lanka, which was conducted in 1998. Participated in another three PBSCT's that was successfully completed in the period of year 1998 – 2001.
  - Engaged in histological work, tissue embedding, tissue section cutting, H&E staining at department of Histopathology (1994-1995) and have good practical knowledge.

- Engaged in special and heavy routine hematological work of inward patients and out patients department, Cancer Hospital, (1995 – 2005). Sound clinical, pathological and practical knowledge in blood & hematological diseases.

  (http://www.ncisl.health.gov.lk/?page_id=2053)

➢ **National Institute of Health Sciences (NIHS), Kalutara, Sri Lanka**

- Have 3 ½ years' experience as a full time member of the teaching staff, School of Medical Laboratory Technology, National Institute of Health Sciences (NIHS), Nagoda, Kalutara, Sri Lanka.

  (http://www.srilankacourse.com/national-institute-of-health-sciences-kalutara/)

- Have more than 3 years' experience as a part time member of the teaching staff. National Institute of Health Sciences (NIHS), Nagoda, Kalutara, Sri Lanka.
- Successfully conducted the theory and practical of 2004 – 2006 batch students' which was conducted by the Ministry of Health.
- Conducted theory and participated as an assistant examiner in Hematology of 2005 – 2007 & 2007 - 2009 batch students' final examination.
- Participated as a resource person of the in-service training program for Medical Laboratory Technologists in Hematology.
- Conducted lectures and practical sessions in the "Maldivivian Social workers Program" at NIHS in 2007.

UNIVERSITY TEACHING EXPERIENCE

University of Ruhuna, Sri Lanka

- Have more than 4 years' experience (2008 -2011& 2013-2014) as a Visiting lecturer & External examiner in Bachelor of Science in Medical Laboratory Science (BSc in MLS) Degree Program, Faculty of Allied Health Science,

University of Ruruna, Galle, Sri Lanka by conducting lectures and practical in Hematology and Transfusion Medicine.

(http://www.medi.ruh.ac.lk/index.php/home-mls)

- Delivered series of lectures and conducted practicals of Hematology and Transfusion Medicine.
- Appointed as an external examiner and conducted all the summative and main examinations in BSc in MLS degree program that includes setting essay, structured essay, single best response questions, setting practical, and conduct of practical examination, correction of answer scripts and assessment of answers.

The Open University, Colombo, Sri Lanka

- Engaged in Teaching as Visiting Lecturer & External Examiner Medical Laboratory Science (MLS) Degree Program, Department of Health Sciences, Faculty of Natural Sciences, The Open University Sri Lanka (OUSL).
- Have more than one year experience (2009-2010) as a Consultant & Coordinator, Department of health Sciences, Faculty of Natural Sciences, OUSL.

  The following work has been carried out; Setting up the initial work of this program, Reappoint the advisory board members and modify the curriculum, Modification of the present curriculum and preparation of detailed curriculum, Approval of the detailed curriculum, Appointments of course writers and editors, Completion of the course writing.
  The program was started on 19.06.2013.
  (http://www.ou.ac.lk/home/index.php/ousl/faculties-institutes/health-sciences/office-of-the-dean/study-programmes/506-bachelor-of-medical-laboratory-sciences)

British College of Applied Studies (BCAS) Campus, Colombo, Sri Lanka

- Senior Lecturer cum Academic Leader at BTEC HND in Bio Medical Science (BMS) degree program, British College of Applied Studies (BCAS) Campus, Colombo, Sri Lanka (2013-2014).

- Engaged in teaching of Clinical Chemistry, Biochemistry and Immunology.
- Actively engaged in the commencing work of BSc (Hons) Bio Medical Science (BMS) undergraduate degree program, collaboration between Faculty of Science and Engineering Biomedical Science and Physiology, University of Wolver Hampton and BCAS Campus and the program was started in October 2014. (http://www.bcas.lk/programs-2-5-42.html)

RESEARCH EXPERIENCE

Previous Research

Ph.D. research: Engaged in full time multi-disciplinary research, mainly focused on Biomarker development of Polycythemia Vera (a blood cancer) and Prostate cancer using advanced protein analysis technologies during the period of 2011 – 2013. The following projects were conducted at Translational Proteomics, Turku Centre for Biotechnology, Turku, Finland (http://www3.btk.fi/proteomics/services/).

Project 1: *"Study of erythrocyte membrane associated proteins in patients of JAK2 mutated Polycythemia Vera using One Dimensional Sodium Dodecyl Sulphate Polyacrylamide Gel Electrophoresis (1-D-SDS-PAGE) and Liquid Chromatography - Electrospray - Mass Spectrometry (LC- ESI - MS/MS)".*

Project 2: *"Development of proteomic analysis method for tissue substructure analysis using Laser Capture Micro Dissection (LCM), Gas Phase Fractionation (GPF) and nano LC – ESI- q TOF MS/MS"*

M.Phil. research: Multi-disciplinary medical research for the M.Phil. Degree was carried out at Department of Plant sciences & Physics, University of Colombo, Sri Lanka and Department of Analytical Chemistry & Ludwig Institute for Cancer Research (LICR), Bio Medical Centre (BMC), Uppsala University, Sweden (http://www.bmc.uu.se/). Modern human protein analysis techniques were applied to Leukemia patients during the research and it was the first time in Sri Lanka to my knowledge.

Research Topic: *"A study of some of the erythrocyte membrane associated proteins in healthy individuals and leukemia patients using One Dimensional Sodium Dodecyl Sulfate Polyacrylamide Gel Electrophoresis (1 D SDS – PAGE) and Matrix-Assisted Laser Desorption Ionization Time Of Flight (MALDI – TOF) mass spectrometry"*

Current Research

Research Grants / Post Graduate Research Supervision

Research Grant 1

Project Name: Accelerating Higher Education Expansion and Development (AHEAD)

Project Type: AHEAD Development Oriented Research (DOR) Projects

Implementing Agency: Faculty of Medicine, University of Colombo

Grant Value: Rs. 370, 00000.00

Contribution: As a collaborator and co supervisor of the project

Research Project: Analysis of cell protein profiles of plasma cells in patients with multiple myeloma and investigating the effects of decoctions used in indigenous medicine to treat cancers on multiple myeloma cells.

Research Activities: The advanced technology based medical research pertaining to Multiple myeloma, a type of blood and bone cancer is conducted in collaboration with Faculty of Medicine, University of Colombo, Sri Lanka. One Ph.D. student and one M.Phil. student are being supervised as one of the co supervisors of the project.

Research Grant 2

Project Type: A collaborative Research Project between Department of MLS, KDU, Sri Lanka and Department of Natural Sciences, Faculty of Engineering and Science, University of Agder (UIA), Norway

Implementing Agency: UiA, Norway

Grant Value: Rs. 51, 000,000 (at present and further foreign training for students will be expected)

Contribution: As a program coordinator and Chief supervisor of the project (PI)

Research Project: To investigate the effect of low dose folic acid on the biomarkers of one carbon metabolism and redox aminothiol status in patients with type 2 diabetes with or without chronic kidney disease (CKD).

Research Grant 3

Project Type: Short Project at Department of Pharmacy and Department of Medical Laboratory Sciences, FAHS, KDU, Sri Lanka.

Implementing Agency: KDU, Rathmalana, Sri Lanka

(Grant No: KDU/RG/2020AAHS/005)

Grant Value: Rs. 475,000.00

Contribution: Chief supervisor of the project (PI)

Research Project: Investigating the changes of hematological parameters and membrane stability on peripheral blood samples of COVID 19 confirmed and recovered patient at Navy camp, Welisara treated in vitro with leave extract of *Lantana camara.*

Research Supervision (Ongoing) – Postgraduate (M.Phil.)

As a chief supervisor,

Project1:

Type: An international collaborative project with the collaboration of Department of Biochemistry, Faculty of Medical Sciences, University of Sri Jayawardenapura, Sri Lanka and will be carried out at Faculty of Engineering and Science, UiA Faculty of Engineering and Science, UiA, Norway.

Title: Effect of folic acid supplementation on selected biochemical markers associated with one carbon metabolism and redox amino thiol status in type 2 diabetes mellitus patients without kidney disease: A proof of concept double randomized clinical trial

Project2:

Type: An international collaborative project with the collaboration of Department of Biochemistry, Faculty of Medical Sciences, University of Sri Jayawardenapura, Sri Lanka and will be carried out at Faculty of Engineering and Science, UiA Faculty of Engineering and Science, UiA, Norway.

Title: Analysis of biomarkers of one carbon metabolism and redox aminothiol status following folate supplementation and the effect of genetic polymorphisms of selected genes involved with one carbon metabolism in diabetic patients with CKD.

Project3:

Type: A local collaborative project with the collaboration of Department of Plant sciences, Faculty of Science, University of Colombo, Cancer Hospital (Apeksha hospital), Maharagama and KDU Care, KDU, Sri Lanka

Title: FLT3/FL system – A Target for Non-Hodgkin's Lymphoma Treatment Assessing.

As a co supervisor,

Project1:

Type: A local collaborative project with the collaboration of Department of Biochemistry, Department of Pathology, Faculty of Medicine, University of Colombo, Sri Lanka.

Title: In vitro study on anti proliferative activity of selected plant extracts on multiple myeloma cells and the mechanism of action.

Project2:

Type: A local collaborative project with the collaboration of Department of Pathology, Department of Biochemistry, Faculty of Medicine, University of Colombo, Sri Lanka.

Title:: Comparison of Membrane Protein Profiles of Plasma Cells in Multiple Myeloma and Non-Multiple Myeloma subjects.

Other Projects (Ongoing)

Type: A short project with the collaboration of Department of Para Clinical Sciences, Faculty of Medicine (FOM), KDU and Department of Pharmacy, FAHS, KDU, Sri Lanka Faculty of Sciences, University of Colombo, Sri Lanka Cancer Hospital (Apeksha hospital), Maharagama, Sri Lanka.

Title: Investigating the changes of hematological parameters and membrane stability on peripheral blood samples of COVID 19 confirmed and recovered patient at Navy camp, Welisara treated in vitro with leave extract of *Lantana camara.*

Projects supervised

As a chief supervisor,

Successfully supervised the following undergraduate research projects at Faculty of Sciences, University of Colombo and Department of Information Technology, Faculty of Computing, General Sir John Kotelawala Defence University (KDU).

Project 1:

> **Title:** "Analysis of plasma membrane protein profiles of plasma cells in patients with multiple myeloma"
>
> **Period:** June 2016 to February 2017.

Project 2:

> **Title:** "An Image Processing Application for Diagnosing Acute Lymphoblastic Leukemia (ALL)"
>
> **Period:** June 2016 to February 2017.

As a co supervisor,

Successfully supervised the following 14 undergraduate research projects at Department of Medical Laboratory Science (MLS), Faculty of Allied Health Sciences (FAHS), General Sir John Kotelawala Defence University (KDU) during the period of January 2017 to March 2019.

Project 1: A Study of the Association of Red Cell Distribution Width (RDW) and Coronary Artery Disease (CAD) in Teaching Hospital, Kurunegala, Sri Lanka.

Project 2: Investigation of Osmotic Fragility in Erythrocytes of Chronic Myeloid Leukaemia Patients Associated with Anaemia in Colombo North Teaching Hospital, Ragama, Sri Lanka.

Project 3: Association of childhood leukaemia with parental alcoholism and smoking at the onset of disease in Apeksha Hospital, Maharagama, Sri Lanka

Project 4: A feasible study to develop a rapid method to investigate Erythrocyte Sedimentation Rate (ESR) among patients in Apeksha Hospital Maharagama, Sri Lanka

Project 5: A study on association of plasma C reactive protein and Neutrophil Lymphocyte ratio among pulmonary tuberculosis patients at Central Chest Clinic Colombo, Sri Lanka

Project 6: Study on the association of mean platelet volume and platelet distribution width among coronary artery disease patients in Teaching Hospital, Kurunegala, Sri Lanka

Project 7: Correlation between Platelet count and Platelet Indices among Dengue Patients at the Colombo North Teaching Hospital - Ragama, Sri Lanka

Project 8: Study the effect of in-vitro hemolysis in Prothrombin Time test results using photo optical method in warfarin patients and healthy controls at hematology laboratory, teaching hospital, Jaffna, Sri Lanka

Project 9: Compatibility study of Sodium Lauryl Sulfate method for hemoglobin estimation in pregnant women; antenatal clinic in De Soysa Maternity Hospital, Colombo 8, Sri Lanka

Project 10: Extraction and purification of antigen A1 detecting lectin from Dolichos biflorus by ammonium sulfate precipitation method and the study of its activity against A1 A2 blood groups, conducted at National Transfusion Service, Narahempita, Sri Lanka

Project 11: Establishment of reference interval for Hemoglobin (Hb) for pregnant women visiting to antenatal clinics in their first trimester at General Hospital Kalutara, Sri Lanka

Project 12: Determination of Bilirubin interference on the Creatinine estimation methods and establish correction factors to Patients who attending the Department of Biochemistry, Medical Research Institute, Sri Lanka

Project 13: Correlation between Hemoglobin concentration and Absolute reticulocyte count among Iron Deficiency Anemic Patients at the Colombo North Teaching Hospital, Sri Lanka

Project 14: Application of I & J Giemsa staining method to stain CSF smears consisting of abnormal malignant cells, to be conducted at Apeksha Hospital, Maharagama, Sri Lanka.

Undergoing Research projects (Ongoing)

Presently, the following undergraduate research projects at Department of MLS, FAHS, KDU, Sri Lanka have been planned and will be conducted the period of August 2019 to February 2020.

Project 1

Title: Hematological indices and their correlation with fasting blood sugar level in type2 Diabetes Mellitus patients in Karapitiya Teaching Hospital, Galle, Sri Lanka.

Project 2

Title: Evaluation of iron overload and its complications by investigating laboratory parameters of beta thalassemia major patients : A cross sectional study(Kurunegala project)

Research fellowships

For Ph.D. studies

Two consecutive fellowships have been granted for my Ph.D. research from 2011 to 2013 (two years full time).

1) The fellowship 1 has been funded by International Science programs (ISP), Uppsala University, Sweden.

   Period: April 2011 – December 2011

   Supervisor: Professor Garry Corthals

Place: Translational Proteomics Research Group, Turku Centre for Biotechnology, University of Turku, Finland.

Activity: Initial step of the research including mass spectrometry training have been conducted. Participated in theory courses; Cell Biology related to the study.

2) The fellowship 2 has been funded by Exchange by Promoting Quality Education, Research and Training in South and South-East Asia (EXPERTSASIA), University of Goettingen, Germany.

Period: December 2011– April 2013

Supervisor: Professor Garry Corthals

Place: Translational Proteomics Research Group, Turku Centre for Biotechnology, University of Turku, Finland.

Activity: Engaged in human blood associated biomarker development of Polycythemia Vera (PV), a hematological malignancy and, human tissue & prostate cancer research using modern protein identification technology of Laser Capture Microdissection (LCM), liquid chromatography & mass spectrometry (LC-MS/MS).

For M.Phil. studies

The following fellowships have been funded by International Science programs (ISP), Uppsala University, Sweden.

1) **Period:** August 2002 – December 2002

Supervisor: Professor Peter Roepstorff

Places: Protein Research Group, Department of Bio-Chemistry & Molecular Biology, University of Odense, Southern Denmark. (https://www.sdu.dk/en/Om_SDU/Institutter_centre/Bmb_biokemi_og_molekylaer_biologi/Forskning/Forskningsgrupper/Protein.aspx).

Activity: Obtained knowledge in Proteomics, access of databases and followed theory courses; Protein Purification, Biochemistry according to the scope of the research.

2) **Period:** January 2005 – April 2005

Supervisors: Professor Per Hankinson, Professor Ulf Hellman, Professor Jonas Bergquist.

Places: Department of Ion Physics, Angstrom Laboratory, Department of Analytical Chemistry, Bio MedicalCenter (BMC), Ludwig Institute for Cancer Research (LICR), Bio Medical Center (BMC), Uppsala University, Sweden.

Activity: Part of the research was carried out & conducted research applications with MALDI TOF & FTICR Mass spectrometry.

As an Academic member of KDU

Participated in 10 days scholarship at Department of Natural Sciences, Faculty of Engineering and Science, University of Agder (UIA), Norway (https://www.uia.no/en/kk/tlf?dep=31&fag=&search=). The aim of the scholarship was to address the BMLS students, to present research activities as a platform for possible collaborations of research as well as student & staff exchange.

Foreign training (Research Workshops)

a) Participated in the workshop of "Genomics and Proteomics Approaches in Cancer Research" was held in 05th – 11th September 2010. This was hosted by ICGEB (International Center for Genetic Engineering and Biotechnology), Cape Town, South Africa.

b) Participated in the EuPA/BSPR 2012 Scientific Congress – New Horizons and Applications for Proteomics, July 2012, Glasgow, United Kingdom.

c) Participated in the 5th Annual FinnProt Symposium – Challenges in Proteomics, June 2012, Porvoo, Finland.

d) Participated in the one day workshop of 2ndFinnProt Proteomics Student day - Publishing in Proteomics, June 2011, Espoo, Finland.

e) Participated in the one day workshop of 2ndFinnProt Proteomics - Protein identification by MS/MS, October 2011, Helsinki, Finland.

f) Participated in the "Bio center Finland Infrastructure Day in Turku Science Park, October 2011, MaunoKoivisto Centre, Turku, Finland.

Research Positions

Chairperson of the Allied Health Sciences Technical Session "Holistic approach to national growth and security" at 13th International Research Conference (IRC) KDU in October 2020.

Research Article Reviewing

- Appointed 6 consecutive times as a reviewer for selected research articles of Allied Health Science Sessions at 13th, 12th, 11th, 10th, 9th & 8th International Research Conferences (IRCs) held in KDU 2016 - 2020.
- Appointed as an external reviewer for final year undergraduate research project, BSc. (Hons.) Physiotherapy Degree Programme, FAHS, KDU.

PUBLICATIONS, PRESENTATIONS, TEXT BOOKS & ACHIEVEMENTS

Publications

International Journal publications

1) Darshana Kottahachchi, Lallindra Gooneratne, Anil Jayasekera, Dorota Muth-Pawlak, Robert Moulder, Susumu Y. Imanishi, Ari Ariyaratne, Anne Rokka, Garry L. Corthals. (2015) ***Quantitative analysis of the erythrocyte membrane proteins in polycythemia vera patients treated with hydroxycarbamide,*** Eupa Open Proteomics, Volume 7, June 2015, Pages 43–53. (http://www.sciencedirect.com/science/article/pii/S2212968515000100)

2) D. U. Kottahachchi, T. R. Ariyaratne, G. A. U. Jayasekera (2014) ***Mass spectrometry based analysis of erythrocyte membrane associated proteins in chronic myeloid leukemia patients in Sri Lanka,*** International Letters of

Chemistry, Physics and Astronomy, 19(1): 74-86. (DOI: 10.18052/www.scipress.com/ILCPA.38.74)

3) Bhawani Alvitigala, Darshana Kottahachchi, Namal Wijesinghe (2018) ***A study of association between platelet volume indices and ST elevation myocardial infarction,*** International Journal of Cardiology: Heart & Vasculature. (https://authors.elsevier.com/tracking/article/details.do?aid=273&jid=IJCHA&surname=Alvitigala)

4) JKC Shyalika, PPNV Kumara, DU Kottahachchi (2019) Statistical morphological analysis based supervised classification algorithm for diagnosing acute lymphoblastic leukemia, Journal of Theoretical and Applied Information Technology,98(18): 3741-3755.

(https://www.researchgate.net/publication/344466528)

International Conference Proceedings (Full paper)

Chathurangi Shayalika, Nandana Pathirage and Darshana Kottahachchi (2017) ***An Image Processing Application for Diagnosing Acute Lymphoblastic Leukemia (ALL),*** Published on the 10th International Research Conference on "Changing dynamics in the global environment: Challenges & Opportunities" to be held on 3rd & 4th August 2017 at General Sir John Kotelawala Defence University (KDU), Ratmalana, Sri Lanka.
(https://www.researchgate.net/publication/332549962_An_Image_Processing_Application_for_Diagnosing_Acute_Lymphoblastic_Leukemia_ALL/link/5cbc6c4092851c8d22fad8a0/download)

Local Journal publication

D. U. Kottahachchi (2010) – **Review: *Mass Spectrometry – A new technique for Biomarker discovery,*** Journal of the Association of Medical Laboratory Technologists (SLAMLT - 2009), in 2010.

International conferences – Abstracts

1) Narmada Wijaysiri, Sandamini Bandara, , Darshana Kottahachchi, Yasintha Costa (2018) ***Investigation of Osmotic Fragility in Erythrocytes of Chronic Myeloid Leukemia Patients Associated with Anemia***, International Student Congress Of (bio)Medical Sciences (ISCOMS) 2018 in the Haematology and Vascular Medicine, Groningen, the Netherlands, June 2018

2) Chathurangi Shayalika, Nandana Pathirage and Darshana Kottahachchi (2017), ***An Image Processing Application for Diagnosing Acute Lymphoblastic Leukemia (ALL),*** The Sixth International Conference on Advancement of Development Administration 2017- Social Sciences and Interdisciplinary Studies (The 6th ICADA 2017—SSIS), June, 2017, National Institute of Development Administration (NIDA), Bangkok, Thailand.

3) D. U. Kottahachchi, L. V. Gooneratne, D. D. N. B. Daya, G. A. U. Jayasekera, T. R. Ariyaratne, S. Y. Imanishi, A. Rokka and G. L. Corthals (2012), ***Comparison of Erythrocyte Membrane Proteins Expression Levels in Polycythemia Vera Patients and Healthy Controls,*** EuPA/BSPR 2012 Scientific Congress – New Horizons and Applications for Proteomics, July 2012, Glasgow, United Kingdom.

(http://www.bspr.org/sites/default/files/bspr2012/EUPA2012Abstracts_final.pdf (P039))

4) D. U. Kottahachchi, L. V. Gooneratne, D. D. N. B. Daya, G. A. U. Jayasekera, T. R. Ariyaratne, S. Y. Imanishi, A. Rokka and G. L. Corthals (2012), ***Proteomics applications in blood cancer - Polycythemia Vera***, Cancer Proteomics – part of System Biology (Europe), 16-17, October 2012, Madrid, Spain.

5) D. U. Kottahachchi, L. V. Gooneratne, D. D. N. B. Daya, G. A. U. Jayasekera, T. R. Ariyaratne, S. Y. Imanishi, A. Rokka and G. L. Corthals (2012), ***Erythrocyte Membranes and proteomics – An Ideal Link to Study Polycythemia Vera,*** The 22nd Annual BioCity Symposium, August 2012, Turku, Finland.

Local journal paper abstracts

1) D. U. Kottahachchi, S. C. A. Abeyakoon, D. D. N. B. Daya, G. A. U. Jayasekera, T. R. Ariyaratne (2006), ***Investigations of the changes in the erythrocyte membrane***

associated proteins in Chronic Myeloid Leukemia (CML) using One Dimensional Sodium Dodecyl Sulfate Poly Acrylamide Gel Electrophoresis (1D SDS – PAGE) & Matrix Assisted Laser Desorption Ionization Time Of Flight (MALDI – TOF) mass spectrometry, The Sri Lanka College of Haematologists, 6th Annual Academic Sessions. (https://www.res.cmb.ac.lk/physics/barlo-daya/pubs/investigation-of-the-changes-and-identification-of-erythrocyte-membrane-associated-proteins-in-healthy-individuals-and-chronic-myeloid-leukemia-cml-patients-using-one-dimensional-sodium-dodecyl-sulp/)

2) D. U. Kottahachchi, S. C. A. Abeyakoon,, D. D. N. B. Daya, G. A. U. Jayasekera, T. R. Ariyaratne (2005), ***Matrix Assisted Laser Desorption Ionization Time Of Flight (MALDI – TOF) mass spectrometric identification of human erythrocyte membrane associated proteins separated by one dimensional gel electrophoresis,*** Place - Sri Lanka Association for the Advancement of Science (SLAAS) – 613 / E2.

Conference Proceedings (Local) - Abstracts

1) A. M. Wickramasuriya L. Welikanna, S. Gunasekera, E.M.M.M.B. Ekanayake, A. Katuwawala, G. A. U. Jayasekera, T. L. S. Tirimanne, S. M. T. Jayasena, P. Soysa, D. Perera, D. Kottahachchi, L. Gooneratne (2020) ***In silico characterization of putative uncharacterized protein FLJ37218 and its association with multiple myeloma*** Annual Research Symposium 2020, Faculty of Medicine, University of Colombo.

2) A. Jayasiri, D. Perera, , D. U. Kottahachchi, S. Jayasena, P. Soysa, M. A. Wijesekara, L. V. Gooneratne (2020) ***In vitro screening of total phenolic content, flavonoid content, free radical scavenging capacity, and inhibition of lipid peroxidation of Cleistanths collinus,*** Annual Research Symposium 2020, Faculty of Medicine, University of Colombo (https://med.cmb.ac.lk/res-sym2020/)

3) A. Jayasiri, D. Perera, , D. U. Kottahachchi, S. Jayasena, P. Soysa, M. A. Wijesekara, L. V. Gooneratne (2020) ***In vitro screening of antioxidant capacity, inhibition of lipid peroxidation, inhibition of protein oxidation, and cytotoxicity of different extracts of Bauhinia purpurea on human bone marrow cells,*** Annual Research Symposium 2020, Faculty of Medicine, University of Colombo (https://med.cmb.ac.lk/res-sym2020/)

4) R.M.D.K Rathnayaka , R.M.D Seneviratne, D. Kottahachchi and Y. Costa (2020) ***Correlation between Hemoglobin Concentration and Absolute Reticulocyte count of adolescent female iron deficient patients at Colombo North Teaching Hospital,*** 13th International Research Conference on "Holistic Approach to National Growth and Security", General Sir John Kotelawala Defence University (KDU), Ratmalana, Sri Lanka.

5) Anisha Fernando, Rasarathnam Ganesananthan, T Sooriyakumar, Darshana Kottahachchi (2019) ***Study the effect of In-vitro haemolysis in Prothrombin Time test results using photo-optical method in warfarin patients and healthy controls at Department of Haematology Teaching Hospital Jaffna***, 12th International Research Conference (IRC), General Sir John Kotelawala Defence University (KDU), Ratmalana, Sri Lanka.

6) A. I. Katuwawala, L. V. Gooneratne, S. S. B. D. P Soysa, D. Kottahachchi, Jayasekera, G. A. U. (2017) ***Analysis of protein profiles of plasma cells in patients with multiple myeloma,*** Technology for Environmental Sustainability - The First Annual Research Symposium of the Faculty of Technology, December, 2017

7) D. U. Kottahachchi and R. S. Jayatilake (2016), ***Case Report: The First Peripheral Blood Stem Cell Transplantation for Multiple Myeloma in Sri Lanka,*** 9th International Research Conference on "Professional Integration for a secure Nation" held on 8th & 9th September 2016 at General Sir John Kotelawala Defence University (KDU), Ratmalana, Sri Lanka.

8) D. U. Kottahachchi and T. R. Ariyaratne (2010), ***Feasibility study to identify human plasma proteins using Matrix Assisted Laser Desorption Ionization Time Of Flight (MALDI-TOF) Mass Spectrometry,*** Annual research symposium (postgraduate), University of Colombo.
(http://archive.cmb.ac.lk:8080/research/handle/70130/371)

Publication(s) under Review

Review article: A. Jayasiri, D. Perera, , D. U. Kottahachchi, S. Jayasena, P. Soysa, M. A. Wijesekara, L. V. Gooneratne (2020) Natural products as therapeutic agents in multiple myeloma, OncoTargets and Therapy Dove medical press.
(Abstract accepted and Article on review process)

Text Books/e-Books (Chapters):

As an Editor

D.U. Kottahachchi (2019), **Advanced Hematology** (Course Unit MLU 3245 - 8 e-book chapters) – Department of Health Science, Open University of Sri Lanka

As a Co author

(1) D.U. Kottahachchi et al. (2009), **Advanced Hematology** (Course Unit MLU 3245) – Department of Health Science, Open University of Sri Lanka.

(2) D.U. Kottahachchi et al. (2009), **Immunology** (Course Unit MLU 3144) – Department of Health Science, Open University of Sri Lanka.

(3) D.U. Kottahachchi et al. (2009), **Principles of Laboratory Management** (Course Unit MLU 3242) – Department of Health Science, Open University of Sri Lanka.

(4) D. U. Kottahachchi et al. (2009), **Basic Hematology** (Course Unit MLU 1148) – Department of Health Science, Open University of Sri Lanka.

(5) D. U. Kottahachchi et al. (2009), **Basic Principles of Physics and Laboratory Instrumentation** (Course Unit MLU 1143) – Department of Health Science, Open University of Sri Lanka.

6) D. U. Kottahachchi et al. (2009), **Pathology** (Course Unit NSU 1116) – Department of Health Science, Open University of Sri Lanka.

Presentations:

Participated and presented abstracts at the research conferences/symposiums in following,

International conferences/symposiums (poster presentations)

- Cancer Proteomics – part of System Biology (Europe), 16-17, October 2012, Madrid, Spain.
- The 22nd Annual BioCity Symposium, August 2012, Turku, Finland.

Local conferences/symposiums (Oral presentations)

- 9th International Research Conference on "professional Integration for a secure Nation" held on 8th & 9th September 2016 at KDU, Sri Lanka..
- Annual Research Symposium (postgraduate), Proceedings, University of Colombo, May, 2010.
- The Sri Lanka College of Haematologists, 6th Annual Academic Sessions, Waters Edge, Capital City, 2006.
- Workshop on Emerging Technologies and the Sri Lankan Prospective, Centre for Instrument Development, Department of Physics, University of Colombo, Sri Lanka, October, 2005.
- Sri Lanka Association for the Advancement of Science (SLAAS), Proceedings of the 61st Annual Sessions, The Open University of Sri Lanka (OUSL), December, 2005.

Research Talks:

1) Participated as a Guest speaker in the 8th Annual Conference of Sri Lanka Society for Medical Science (SLSMLS) – 2016 "Harmonizing Science, Engineering and Technology towards Quality Medical Laboratory Service" held at Sri Lanka Exhibition and Convention Centre (SLECC). (The conference is a joint effort with Sri Lanka Lab Expo and Medical Show 2016)

   Topic: "Integrating Analytical Techniques for Accurate Disease Diagnosis"

2) Participated as a Resource person in In-service Refresher Training for medical laboratory Technologists at National Sexually Transmitted Diseases (STD)/AIDS Control Programme, STD Clinic, Colombo 8, Sri Lanka, August 2015.

   Topic–"InvasionofCD4+ Cells by HIV. Are there Multiple Receptors Involving?"

3) The Association of Medical Laboratory Technologists, 5th Annual Academic Sessions, Aldo Castellani auditorium, Medical Research Institute (MRI), Sri Lanka, April, 2010.

Topic – "Mass Spectrometry – A new technique for Biomarker discovery"

4) The Association of Medical Laboratory Technologists, 10th Annual Academic Sessions, Aldo Castellani auditorium, Medical Research Institute (MRI), Sri Lanka, June, 2013.
   Topic – "Future of Hematological Disease Diagnosis"
5) Emerging Technologies and the Sri Lankan prospective at faculty of Science, University of Colombo, Colombo 3. Sri Lanka.
   Topic – "Application of SDS-PAGE and MALDI mass spectrometry in cancer research"
6) Centre for Instrument Design (CID), Department of Physics, University of Colombo, Colombo 3, Sri Lanka.
   Topic – "Application of Mass Spectrometry in Disease Diagnosis"

Academic achievements:

- Felicitated by Sri Lanka Society for Medical Science with the participation of His Excellency the President at the felicitation ceremony held on 20th August 2016, The World Medical Laboratory Day for the contributions and achievements which shine professions of medical laboratory sciences.
- Participated as a resource person in CTHE program at Staff Development Center, KDU, Sri Lanka from 2016-2019 and conducted lectures and group activities on "Pressure to Change, Resistance to Change and Success Factors in Curriculum Development".
- Participated as a resource person in CTHE program at Staff Development Center, Sri Jayawardenapura University, Sri Lanka in August 2017 and conducted lectures & group activities on "Fundamentals and Elements of a Curriculum"

TECHNICAL EXPERIENCE

In addition, I have sound knowledge and experience in using basic medical laboratory instruments as well as advanced instruments. My skills are mainly based on working

with human materials especially in human blood and tissue substructures. I also have sound practical knowledge in blood picture examination as well as tissue cutting and staining. I have broad experience in working with analytical instruments such as Gel electrophoresis (1 D SDS PAGE, 2 D PAGE), Liquid Chromatography, Mass Spectrometry (MALDI –TOF, GC-MS, QstarElite, QExactive, Orbitrap Velos, Tripple Quadrupole MS), SRM applications, Quantitative Proteomics Data Analysis using Scaffold and Progenesis software, Uniprot, Blast search, PDB structures, Ribbon Cartoons and sound working knowledge in isolation and purification of proteins.

OTHER ACTIVITIES CONDUCTED AT KDU

- Actively coordinated Sri Lanka Medical Council (SLMC) registration process in FAHS during the period of 2016-2018.
- Academic Coordinator of the Department of MLS from May 2015 to May 2016 and Coordinator of the curriculum development process held in July to December 2015.

MEMBERSHIPS

- Member of the "Association of Medical Laboratory Technologists (AMLT)", Sri Lanka – From 1995.
- Member of the J'Pura Toastmasters Club, Sri Jayawardenapura, University, Gangodawila, Nugegoda, Sri Lanka from December 2015 to date.

REFEREES

1) Professor, Dr. Garry Corthals, Van 't Hoff Institute for Molecular Sciences (HIMS), University of Amsterdam, PO Box 94157, 1090 GD Amsterdam.
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2) Associate Professor Susumu Y. Imanishi, Faculty of Pharmacy, Meijo University, 150 Yagotoyama, Tempaku-ku, Nagoya 468-8503, Japan.
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3) Dr. L.V. Gooneratne, Consultant, Hematologist, Senior Lecturer & Head, Department of Pathology, Faculty of Medicine,University of Colombo, Sri Lanka.
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4) Dr. G. A. U. Jayasekera, Senior Lecturer, Department of Plant Sciences, Faculty of Science, University of Colombo, Colombo 03, Sri Lanka.
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5) Professor, Dr. D. D. N. B. Daya, Associate Professor, Department of Physics, Faculty of Science, University of Colombo, Colombo 03, Sri Lanka.
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30.12.2020 **D. U. Kottahachchi**