

# Dr. MUDASSAR MARSO

(BSc. Chem. Sp., PhD)



Official address: **Department of Chemical Sciences**  
**Faculty of Applied Sciences**  
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## PERSONAL STATEMENT

My career objective is to become a knowledgeable professional, while learning and gaining teaching, research, and administrative experience in a challenging environment with opportunities for growth for a long and rewarding career through commitment.

## SKILLS AND COMPETENCIES

### Strong theoretical, practical, and teaching background in the following areas

- Petroleum-based and Bio-based Fuel and Lubricant Analysis
- Biodiesel Production Technology
- Statistical Methodologies for Chemical analysis
- Laboratory Quality Management as per ISO 17025

Knowledge and experience in the following Analytical Techniques

- Chromatographic Techniques
- Spectroscopic Techniques
- Electro Analytical Techniques
- Surface Analytical Techniques

## ACADEMIC QUALIFICATIONS

- **DOCTOR OF PHILOSOPHY**  
Postgraduate Institute of Science, University of Peradeniya, Sri Lanka, 2014-2018  
Board of Study - Chemical Sciences
- **BACHELOR OF SCIENCE (CHEMISTRY SPECIAL)**  
Faculty of Science, University of Peradeniya, Sri Lanka, 2008 - 2012  
Second Class Honors (Lower Division) in English Medium
  - Major Subject: Chemistry
  - Subsidiary Subjects: Geology and Statistics
- **SCHOOL EDUCATION**  
St. Sylvester's College, Kandy, Sri Lanka, 1994 - 2007
  - G.C.E. Ordinary Level: Passed - 2004
  - G.C.E. Advanced Level: Passed (Physical Science Stream) - 2007

## PROFESSIONAL EXPERIENCE

- **LECTURER (UNCONFIRMED) IN CHEMISTRY (2021/12/22 TO DATE)**  
Department of Chemical Sciences  
Faculty of Applied Sciences, South Eastern University of Sri Lanka
- **SENIOR LECTURER IN CHEMISTRY - VISITING (2018/08/04 TO DATE)**  
M.Sc. (Analytical Chemistry) degree program  
Postgraduate Institute of Science, University of Peradeniya, Sri Lanka
- **SENIOR RESEARCH SCIENTIST (2021/03/04 TO 2021/12/21)**  
Modern Petroleum and Lubricant Testing Laboratory (PLTL)  
Industrial Technology Institute, Sri Lanka

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- **SENIOR LECTURER IN CHEMISTRY - CONTRACT (2019/06/01 TO 2021/02/28)**  
Bachelor of Education degree program (Biological Science)  
Faculty of Education, Horizon Campus, Malabe, Sri Lanka
- **LECTURER IN CHEMISTRY - VISITING (2018/06/10 TO 2019/05/31)**  
Bachelor of Education degree program (Biological Science)  
Faculty of Education, Horizon Campus, Malabe, Sri Lanka
- **ACADEMIC INSTRUCTOR - TEMPORARY (2017/05/15 TO 2017/09/10)**  
Environmental Engineering Laboratory  
Department of Civil Engineering, University of Peradeniya, Sri Lanka
- **DEMONSTRATOR (VISITING) (2016/06/06 TO 2017/06/06)**  
M.Sc. (Analytical Chemistry) degree program  
Postgraduate Institute of Science, University of Peradeniya, Sri Lanka
- **RESEARCH FELLOW (2014/03/21 TO 2017/03/21)**  
National Research Council, Sri Lanka (Grant Number: NRC 13 -15)
- **ACADEMIC DEMONSTRATOR - TEMPORARY (2013/07/08 TO 2014/01/15)**  
Department of Chemistry, University of Peradeniya, Sri Lanka
- **JUNIOR CHEMIST (2013/02/18 TO 2013/06/27)**  
C & T Worldwide (Pvt. Ltd.), Ethul-Kotte, Sri Lanka
- **TRAINEE CHEMIST (2011/10/03 TO 2011/11/18)**  
Lanka Indian Oil Corporation (Pvt. Ltd.) Trincomalee, Sri Lanka
- **TRAINEE GEOLOGIST (2010/07/12 TO 2010/08/29)**  
Holcim Lanka (Pvt. Ltd.) Puttalam, Sri Lanka
- **Ph.D. RESEARCH PROJECT**  
**Thesis title:** Utilization of environmental pollutants and biomass and for the production of biofuels and industrial chemicals using heterogeneous catalysts
  - **Principal Supervisor:** Prof. (Mrs.) M. Y. Udugala-Ganehenege
  - **Co-Supervisor:** Dr. C.S. Kalpage
- **B.Sc. RESEARCH PROJECT**  
**Thesis title:** Development of a cost-effective analytical method for detection of Aloin  
**Supervisor:** Prof. (Mrs.) A.N. Navaratne
- **RESEARCH PROJECT FOR B.Sc. INDUSTRIAL TRAINING PROGRAMME at Lanka Indian Oil Corporation (Pvt. Ltd.), Sri Lanka**  
**Research title:** Development of an analytical method to determine the total base number (TBN) in lubricant products
- **RESEARCH PROJECT FOR B.Sc. INDUSTRIAL TRAINING PROGRAMME (GROUP WORK) at Holcim Lanka (Pvt. Ltd.), Sri Lanka**  
**Project title:** Geological case study in Aruwakalu, Sri Lanka
- **B.Sc. ACADEMIC COURSE WORK PROJECT (GROUP WORK)**  
**Project title:** Geological case study in Aniwaththa tunnel, Kandy, Sri Lanka

### RESEARCH EXPERIENCE

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## PUBLICATIONS & PATENTS

### PUBLICATIONS

- **Marso T.M.M.**, Kalpage C.S., and Ganehenege M.Y.U; Metal modified graphene oxide composite catalyst for the production of biodiesel via pre-esterification of *Calophyllum inophyllum* oil. *Fuel*. 2017 (Impact Factor: 4.908);199:47–64
- **Marso T.M.M.**, Kalpage C.S., and Ganehenege M.Y.U; Application of Chromium and Cobalt Terephthalate Metal-Organic Frameworks as Catalysts for the Production of Biodiesel from *Calophyllum inophyllum* Oil in High Yield Under Mild Conditions. *Journal of Inorganic and Organometallic Polymers and Materials*. 2019 (Impact Factor: 1.637); 30(4): 1243-1265
- **Marso T.M.M.**, Kalpage C.S., and Ganehenege M.Y.U; ZnO/CuO composite catalyst to pre-esterify waste coconut oil for producing biodiesel in high yield. *Reaction Kinetics, Mechanisms, and Catalysis*. 2021 (Impact Factor: 2.081); 132(2): 935-966
- Nanayakkara T. M., Wijelath W. A. G. E., **Marso T. M. M.**; Deep-fat Frying of Vegetable Oils: Major Chemical Reactions and Effect of Natural Extracts on Oxidative Stability - A Review. *Sri Lankan Journal of Agriculture and Ecosystems*. 2020; 2(2): 81–102

### PATENT

- **Marso T.M.M.**, Kalpage C.S., and Ganehenege M.Y.U. (2021). A method for preparing biodiesel by using Chromium Terephthalate and Cobalt Terephthalate Metal-Organic Frameworks as heterogeneous catalysts (Sri Lanka Patent No. 19568). The National Intellectual Property Office of Sri Lanka. <https://www.nipo.gov.lk>

## COMMUNICATIONS

- **Marso T.M.M.**, Herath H.M.C.H., Kalpage C.S and Ganehenege M. Y. U. (2017, Miami, FL, USA) Utilization of microalgae; *Chlorella* Sp. for water purification and biodiesel production; in laboratory scale, *The 7<sup>th</sup> International Conference on Algal Biomass, Biofuels, and Bioproducts*
- Ganehenege M.Y.U, Peiris M.C.R., and **Marso T.M.M.** (2017, Manchester, United Kingdom) Carbon dioxide activation and environmental bio-waste utilization for the production of industrial chemicals and biofuels, *Challenges in Inorganic Chemistry, ISACS- Royal Society of Chemistry*
- **Marso T.M.M.**, Kalpage C.S. and Ganehenege M.Y.U. (2017) Utilization of environmental pollutants, biomass, and by-products of biomass for the production of biodiesel using heterogeneous catalysts, *Sri Lankan Academy of Young Scientists Open Forum 2017*
- **Marso T.M.M.**, Kalpage C.S. and Ganehenege M.Y.U. (2016) Production of biodiesel from microalgae; *chlorella* sp. in laboratory scale, *16<sup>th</sup> Conference of Asian Science Council 2016*
- **Marso T.M.M.**, Kalpage C.S. and Ganehenege M.Y.U. (2015) Heterogeneous ZnO/CuO composite as a catalyst for pre-esterification of high free fatty acid-containing Coconut oil: for the production of biodiesel, *International Peradeniya Research Session 2015*
- **Marso T.M.M.**, Kalpage C.S and Ganehenege M.Y.U. (2015) Growth and lipid content of chlorella sp. in outdoors: for the production of biodiesel, *Research Congress - 2015 - Postgraduate Institute of Science, University of Peradeniya*
- **Marso T.M.M.**, Ganehenege M.Y.U and Kalpage C.S. (2014) Production of a sustainable energy source from microalgae: A review, *International Conference on Sustainable Built Environment 2014*
- **Marso T.M.M.**, Welegedara A.P and Navaratne A.N. (2013) Development of cost-effective analytical method for detection of Aoin, *International Peradeniya Research Session 2013*

## MAGAZINE AND NEWSPAPER ARTICLES

- **Marso T.M.M.**, Peiris M.C.R., Udugala-Ganehenege M.Y. Moving Towards Sustainability, Synthetic Research Laboratory. HANTANA VISION, Research Magazine of the University of Peradeniya. 2015 May; 12.

## AWARDS

- National Science Foundation Travel Grant for Young Scientists - Value 200,000.00 LKR
- President's Awards for Scientific Research, Sri Lanka – 2017

## WORKSHOPS AND CONFERENCES

- e-ITEC Training program on “**Fundamental of Petroleum Refining Technology**”, organized by Government of India and CSIR-Indian Institute of Petroleum, September 13 to October 1, 2021

## Dr. MUDASSAR MARSO

(BSc. Chem. Sp., PhD)

- Certificate course in Teaching in Higher Education, conducted by Staff Development Center, South Eastern University of Sri Lanka, 2022

### LEADERSHIP EXPERIENCE & EXTRACURRICULAR ACTIVITIES

#### AN ACTIVE CONTRIBUTOR AND A TEAM LEADER IN SEVERAL CLUBS AND ASSOCIATIONS

- President: Young Researchers' Forum - Postgraduate Institute of Science, University of Peradeniya, Sri Lanka (2015/2016)
- Member: Chief Organizing Committee- Annual Research Congress 2016, Postgraduate Institute of Science, University of Peradeniya, Sri Lanka
- Committee Member: Young Researchers' Forum - Postgraduate Institute of Science, University of Peradeniya, Sri Lanka (2014/2015)
- President: Foundation of Astronomical Studies and Exploration - Sri Lanka (2011/2012)

#### UNIVERSITY LEVEL

- Chief Organizer: University Chemical Society (CHEMSOC) (2011/2012)
- Member: University Geological Society
- Member: University Islamic Majlis
- Member: University Al-Hiqma (Graduate and Undergraduate Association Sri Lanka)

#### SCHOOL-LEVEL

- President: College Astronomical Society (2006-2007)
- Treasurer: Rocket and Space Science Society- Kandy branch (2006-2007)
- Secretary: College Wild Life Foundation (2002)
- Member: College Junior Prefect Guild (2002)
- Member: College Chess Team
- Member: College Scout Troop (39<sup>th</sup> Kandy)  
The Best Patrol Leader (2004) / The Best Junior Scout (2002)

**PERSONAL PROFILE**

**Name in Full** : Tuan Mohammed Mudassar Marso  
**Date of Birth** : 20<sup>th</sup> of July, 1988  
**Gender** : Male  
**Nationality** : Sri Lankan  
**NIC Number** : 198820201700  
**Marital Status** : Married

### REFEREES

#### Prof. (Mrs.) MANAWADEVI Y. UDUGALA-GANEHENE

The Head of the Department

Department of Chemistry, University of Peradeniya, Sri Lanka

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The Dean

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I do hereby certify that the above-mentioned particulars are true and correct to the best of my knowledge.

Date: 7/10/2021

Marso T.M.M.