

CURRICULUM VITAE

Prof. (Ms) W. Buddhika Gunawardana



I. BIOGRAPHICAL DATA

Name: **GUNAWARDANA, Wijesinghage Buddhika**

Contact info: Email: buddhikag@uom.lk

<https://scholar.google.com/citations?user=p1EZCsEAAAAJ&hl=en>

II. EDUCATION

a) Graduate (where, dates, degree(s)):

PhD, Civil Engineering, 2013

University of Auckland, Department of Civil and Environmental Engineering, Auckland, New Zealand

Master of Engineering (First Class Honours), Environmental Engineering, 2008

University of Auckland, Department of Civil and Environmental Engineering, Auckland, New Zealand

Master of Engineering Studies (First Class Honours), Environmental Engineering, 2007

University of Auckland, Department of Civil and Environmental Engineering, Auckland, New Zealand

b) Undergraduate (where, dates, degree(s) received):

Bachelor of Science in Engineering, Civil Engineering (First Class Honours), Department of Civil Engineering, 2002

University of Moratuwa, Katubedda, Moratuwa, Sri Lanka

c) Other (where, dates, qualification(s) received):

Chartered Institute of Management Accountants (CIMA), United Kingdom, 1996

Completed stage I of IV

d) Titles of theses for graduate degrees:

Pentachlorophenol dechlorination using Zero Valent Iron and Nickel-Iron Bimetallics

PhD; Department of Civil and Environmental Engineering, University of Auckland, New Zealand

Use of organic and inorganic amendments to enhance the uptake of copper, cadmium and lead by *Lolium perenne* from solution

Master of Engineering (Environmental Engineering), University of Auckland, New Zealand

e) Professional Accreditations/Certifications:

Institution of Engineers, Sri Lanka (IESL, Sri Lanka); **Associate Member**

<http://www.iesl.lk/>

Sri Lanka Association for the Advancement of Science (SLAAS); **Life Member**

<https://www.slaas.lk/>

Institution of Environmental Professionals, Sri Lanka (IEPSL, Sri Lanka); **Member**

<http://www.iepsl.lk/>

Auckland University Engineers Association (AUEA); **Member**

<http://www.engineering.auckland.ac.nz/uaa/>

International Water Association (IWA); **Member**

III. PROFESSIONAL EMPLOYMENT

Academic

University of Moratuwa, Sri Lanka

PROFESSOR, DEPARTMENT OF CIVIL ENGINEERING

DECEMBER 2019 - TO DATE

University of Moratuwa, Sri Lanka

SENIOR LECTURER, DEPARTMENT OF CIVIL ENGINEERING

JUNE 2013- NOVEMBER 2019

University of Moratuwa, Sri Lanka

LECTURER (PROBATIONARY), DEPARTMENT OF CIVIL ENGINEERING

FEBRUARY 2006- MARCH 2013 (ON STUDY LEAVE FOR POSTGRADUATE STUDIES)

University of Moratuwa, Sri Lanka

LECTURER (TEMPORARY & ON CONTRACT), DEPARTMENT OF CIVIL ENGINEERING

JANUARY 2003 – DECEMBER 2005

- Undergraduate Courses/papers teaching/Supervising:
 - **Fundamentals of Environmental Engineering** (Surface and Groundwater Pollution, Solid and Hazardous waste management, Environmental Quality)
 - **Environmental Engineering** (Water and Wastewater Treatment, Advanced water/wastewater treatment, Wastewater collection, Water supply and design of facilities)
 - **Design of Water and Wastewater treatment systems**
 - **Environmental Impact Assessment**
 - **Industrial Training** (Supervision)
 - **Survey Camp** (Supervision, Student welfare)
 - **Research Projects** (Teaching and Supervision)
 - **Comprehensive Design Project** (Teaching and Supervision)

- Postgraduate Courses teaching:
 - **Water Quality Management**
 - **Advanced Water Supply and Sanitation Systems for Engineering Applications**
 - **Advances in Water and Wastewater Treatment**
 - **Groundwater Engineering and Management**
 - **Groundwater Pollution and Control**
 - **Environmental Pollution Control**
 - **Surface water Pollution control**
 - **Sustainable Building and Infrastructure Design**
 - **Environmental Impact Assessment**
 - **Municipal Solid Waste Management**

University of Moratuwa, Sri Lanka

LECTURER, DEPARTMENT OF CIVIL ENGINEERING

2002-2006

- Courses/papers lectured:
 - Environmental Engineering Design
 - Water and Wastewater Treatment
 - Water Supply and Design of Facilities

- Involved in developing and implementing topic on Cleaner Production for Industries for a undergraduate course

VISITING LECTURER [INSTITUTE OF ENGINEERS (IESL), SRI LANKA]
2005

- Courses/ papers lectured
 - Engineering Course Part III: Building Services Engineering

VISITING LECTURER [UNIVERSITY OF SRI JAYAWARDANAPURA, SRI LANKA]
2015

- Courses/ papers lectured
Phytoremediation

- Postgraduate Projects supervision:

University of Moratuwa, Sri Lanka

- **M.Sc. research**

- Persistence of Glyphosate in water in CKDu (Chronic Kidney Disease of unknown etiology) affected areas and suitability of Ozonation as a Glyphosate removal technique – **Supervisor**, Completed 2018
- Defluoridation of Potable water in CKDu prevalent areas of Sri Lanka by Functionalized Modified-Fly ash – **Supervisor**, Completed 2019
- Defluoridation of potable water in the presence of hardness in CKDu prevalent areas of Sri Lanka by Functionalized modified fly ash using iron oxides – **Supervisor**, Completed 2020
- Removal of Nitrate from potable water using modified nano zero valent iron – **Supervisor**, ongoing 2019
- Removal of COD from textile dye wastewater using TiO₂-based reactive media – **Supervisor**, ongoing 2019
- Occurrence and distribution of Poly Aromatic Hydrocarbons (PAHs) in Urban watercourses-- **Supervisor**, ongoing 2019

- **PhD Research**

- Developing an effective, high performance water purification system for CKDu affected households for removal of heavy metals and pesticides- **Co-Supervisor**, Ongoing 2016 to-date
- Removal of Bisphenols in Leachate Generated from Open Dumps of Municipal Solid Waste (MSW) Using Nanomaterial-Incorporated Framework, **Co-Supervisor** , Ongoing January 2019 to-date

- **M.Phil Research**

- S. Suloshini, "Investigation on the Applicability of Bottom Ash for Restoration of Clay Mines in Sri Lanka", Department of Civil Engineering, University of Moratuwa, **Co-Supervisor**, Ongoing February 2019 to-date

- **Supervisor:** Problem Based Learning Projects on Water Quality Management-Ongoing

University of Auckland, New Zealand

RESEARCH ASSISTANT FOR TWO UNDERGRADUATE FINAL YEAR RESEARCH PROJECTS
2011

Topic: *Degradation of Tetra- Tri- and Di-chlorophenols using Zero Valent Iron*

Degradation of Tetra- Tri- and Di-chlorophenols using Bimetallic systems

Assisted the lead supervisor with monitoring the students' progress, provided guidance on experiment methodology, instrumentation, data analysis, and report writing

RESEARCH ASSISTANT FOR TWO UNDERGRADUATE FINAL YEAR RESEARCH PROJECTS
2010

Topic: *Degradation of 2,3,4,6 Tetrachlorophenol using Zero Valent Iron and bimetallic systems*
Degradation of 2,4,6 Tri-Chlorophenol using Zero Valent Iron and bimetallic systems

Assisted the lead supervisor with monitoring the students' progress, provided guidance on experiment methodology, instrumentation, data analysis, and report writing

TEACHING ASSISTANT (ENVIRONMENTAL ENGINEERING)
2006-2012

• Courses instructed:

- Environmental Engineering (ENVENG 341): Contaminant Transport studies, Solid Waste Management and Landfills
- Introduction to Environmental Engineering (ENVENG 244): Basic Environmental Engineering concepts, Water and Wastewater treatment techniques (e.g. Water and wastewater quality, Coagulation/Flocculation, Activated Sludge Process)

RESEARCH ASSISTANT FOR TWO UNDERGRADUATE FINAL YEAR RESEARCH PROJECTS
2007

Topic: *The effect of amendments on metal uptake in phytoremediation*

Phytoextraction of copper, cadmium and lead using Helianthus annuus from solution

- Provided assistance on experiment methodology, instrumentation, data analysis, and report writing

IV. PROFESSIONAL ACTIVITIES

a) Memberships in professional and learned societies

NEW ZEALAND

Auckland University Engineers Association (AUEA); **Member**

Postgraduate Students' Association (PGSA), University of Auckland; **Member**

The Institution of Professional Engineers New Zealand (IPENZ); **Student Member**

SRI LANKA

Institution of Engineers, Sri Lanka; **Associate Member (AMIE, Sri Lanka)**

Women Engineers Forum of the Institution of Engineers, Sri Lanka; **Former Committee Member**
(2003-2005)

INTERNATIONAL

International Water Association (IWA); **Member**

b) Academic or professional Grants awarded

Senate Research Committee (SRC) Short Term Grant – 2019

University of Moratuwa, Sri Lanka

Grant No: SRC/ST/2019/27 – Principal Investigator

Senate Research Committee (SRC) Short Term Grant – 2017

University of Moratuwa, Sri Lanka

Grant No: SRC/ST/2017/05 – Principal Investigator

National Science Foundation- Equipment Grant-2016

(RG/2016/EQ-HS/05, RG/2016/EQ-HS/06, RG/2016/EQ-HS/07)

Senate Research Committee (SRC) Long Term Grant - 2015

University of Moratuwa, Sri Lanka

Grant No: SRC/LT/2015/03 – Principal Investigator

National Research Council (NRC) – Investigator Driven Research Grant – 2015

National Research Council (NRC), Sri Lanka

Grant No: 15-056 - Principal Investigator

Senate Research Committee (SRC)– National Development Grant- 2015

University of Moratuwa, Sri Lanka

Grant No: SRC/ND/2015/01 – Co-Investigator

c) Academic or professional Awards/Scholarships

- Award of Excellence in Recognition of the Outstanding Research Performances for 2018 (University of Moratuwa) – awarded in 2019
- Award of Excellence in Recognition of the Outstanding Research Performances for 2019 – to be awarded in 2020
- New Zealand International Doctoral Research Scholarship (NZ-IDRS), University of Auckland, New Zealand – PhD studies (2008 – 2012)
- Asian Development Bank – Japan (ADB-Japan) Scholarship, University of Auckland, New Zealand – Master of Engineering degrees (2006 – 2008)
- Fellowship awarded by The Association for Overseas Technical Scholarship (AOTS) to participate in the 9th AOTS-AIT-EBARA International Training Course on “Planning and Design of Pumping Works” , Asian Institute of Technology (AIT) – Thailand (August 2005)

V. RESEARCH AND PROFESSIONAL RELATED SCHOLARLY ACTIVITIES

Research interests

Occurance, sources, and distribution of Contaminants of Emerging Concern (CECs), Persistence of Glyphosate and other pesticides/herbicides in water in CKDu (Chronic Kidney Disease of unknown etiology) affected areas; Distribution of emerging contaminants (e.g. Phthalates, PAHs) in Urban water courses; Surface water and Groundwater, potable water pollution and remediation techniques; Pesticides and Heavy metals Contaminated groundwater and soil remediation and modelling contaminant transport; Degradation of chlorinated aliphatic/aromatic compounds, pesticides, and emerging contaminants; Phytoremediation of heavy metals and organics from soil and water; Nanotechnology Applications for water purification in the CKDu Affected Areas; Developing effective, high performance water purification system for CKDu affected households for removal of heavy metals and pesticides; Water treatment and design of facilities; Advanced water and wastewater treatment for removal of CECs; Domestic and Industrial wastewater treatment; Contaminant characterisation, fate and transport; R & D work in transmission of COVID-19 virus by different modes and its control

Publications in Journals and Conference Proceedings

J. Kodikara, **B. Gunawardana**, M. Jayaweera, M. Sudasinghe, J. Manatunge (2020). *Nitrate removal in potable groundwater by nano zerovalent iron under oxidic conditions* **Water Practice and Technology**, First Online 10th September 2020, 15 (4): 1126–1143

M. Jayaweera, H. Perera, N. Bandara, G. Danushika, **B. Gunawardana**, C. Somaratne, J. Manatunge, K. Zoysa, T. Thathsara (2020). *Migration of phthalates from PET water bottle in events of repeated uses and associated risk assessment* **Environmental Science and Pollution Research**, First Online 08 July 2020, 27, pages39149–39163
(*Journal Impact Factor: 2.914*)

M. Jayaweera, H. Perera, **B. Gunawardana**, J. Manatunge (2020) *Transmission of COVID-19 virus by droplets and aerosols: A critical review on the unresolved dichotomy* **Environmental Research**, First Online 13 June 2020, 188: 109819
(*Journal Impact Factor: 5.026*)

B. Gunawardana, P.J. Swedlund, N. Singhal (2019). *Effect of O₂, Ni⁰ coatings, and iron oxide phases on pentachlorophenol dechlorination by zero-valent iron* **Environmental Science and Pollution Research** Volume 26, Issue 27, Pages 27687-27698, First Online 23 July 2019
(Journal Impact Factor: 2.914)

M. Jayaweera, **B. Gunawardana**, M. Gunawardane, A. Karunawardena, V. Dias, S. Premasiri, J. Dissanayake, J. Manatunge, N. Wijeratne, D. Karunarathne, S. Thilakasiri (2019). *Management of municipal solid waste open dumps immediately after collapse: A novel perspective from Meethotamulla open dump, Sri Lanka* **Waste Management** Volume 95, 15 July 2019, Pages 227-240
(Journal Impact Factor: 4.72)

M. Jayaweera, M. Sudasinghe, **B. Gunawardana**, A. Peiris, J. Manatunge (2019). *Use of CaO loaded mesoporous alumina for defluoridation of potable groundwater containing elevated calcium levels* **Environments** Volume 6, Issue 6, Page 66

M. Sudasinghe, M. Jayaweera, **B. Gunawardana**, J. Manatunge, G. Madhusanka (2019). *Defluoridation of calcium-rich groundwater using iron oxide nanoparticles* **Water Practice and Technology** volume 14, Issue 3, Pages 665-681

M. Jayaweera, G. Danushika, N. Bandara, J. Dissanayake, **B. Gunawardana**, J. Manatunge, K. Zoysa (2019). *Urban Watercourses in Peril: Implications of Phthalic Acid Esters on Aquatic Ecosystems Caused by Urban Sprawl* **Water** Volume 11, Issue 3, pages 519
(Journal Impact Factor: 2.069)

D. F. Shams, S. Islam, B. Shi, W. Khan, **B. Gunawardana**, M. Saad, M. Qasim, H. A. Javed, S. G. Afridi, M. Naeem, G. S. Khan (2019). *Characteristics of pipe corrosion scales in untreated water distribution system and effect on water quality in Peshawar, Pakistan* **Environmental Science and Pollution Research** Volume 26, Issue 6, pages 5794-5803
(Journal Impact Factor: 2.914)

MI Sudasinghe, **WB Gunawardana**, MW Jayaweera, RATN Ranasinghe (2019). *Seven-layer and Two-layer Domestic Filters for the Removal of Nephrotoxic Constituents in CKDu prevalent Areas, Sri Lanka: Are these Viable Options?* **Engineer: Journal of the Institution of Engineers, Sri Lanka**, Volume 52, Issue 01, pages 11-20

G. Danushika, M. Jayaweera, N. Bandara, J. Manatunge, **B. Gunawardana** (2019). *Use of Ultra-Violet assisted Titanium Dioxide Photocatalysis for the Removal of Di (2-ethylhexyl) Phthalate from Industrial Wastewaters* **Moratuwa Engineering Research Conference (MERCon)**, 5th International Multidisciplinary Engineering Research Conference, July 3 - July 5, 2019, pages 320-324

M. Jayaweera, H.P.I.D. Karunathilaka, U.A.A.G. Danushika, N.J.G.J. Bandara, **B. Gunawardana**, J. Manatunge (2019). *Use of Modified Coal-derived Fly Ash for di-(2-ethylhexyl) phthalate removal from wastewater*, IWA Water and Development Congress & Exhibition, 2019, Colombo, Sri Lanka.

B. Gunawardana, N. Singhal, P. J. Swedlund (2019). "Pentachlorophenol dechlorination water treatment with zero valent iron: Column study", Proceedings of the 75th Annual sessions of Sri Lanka Association for the Advancement of Science (SLAAS), 2019, Colombo, Sri Lanka.

S. U. Panagoda, N. J. G. J. Bandara, M. W. Jayaweera, **W. B. Gunawardana** (2019). "Management of Leachate generated from Long-term Degradables of Municipal Solid Waste (MSW) in Open Dumps using Effective Microorganisms (EM) Technology", Proceedings of the 24th International Forestry and Environment Symposium-2019, University of Sri Jayewardenepura, Sri Lanka.

A.M. Asarudeen, Tushara Chaminda, K.C. Ellawala, M.N.M. Shayan and **W.B. Gunawardana** (2019) "Evaluation of the water quality of community managed water supply schemes in Matara district", *ACEPS-2019, 7th International Symposium on Advances in Civil and Environmental Engineering Practices for sustainable development*, Faculty of Engineering, University of Ruhuna, Sri Lanka, pp 113-117.

B. Gunawardana, P.J. Swedlund, N. Singhal, M. K. Nieuwoudt (2018). *Pentachlorophenol dechlorination with zero valent iron: a Raman and GCMS study of the complex role of surficial iron oxides* **Environmental Science and Pollution Research** Volume 25, Issue 18, pages 17797-17806 (Journal Impact Factor: 2.914)

S. Gunarathna, **B. Gunawardana**, M. Jayaweera, J. Manatunge, Kasun Zoysa (2018). *Glyphosate and AMPA of agricultural soil, surface water, groundwater and sediments in areas prevalent with chronic kidney disease of unknown etiology, Sri Lanka.* **Journal of Environmental Science and Health, Part B; Pesticides, Food Contaminants, and Agricultural Wastes** Volume 53, Issue 11, pages 729-737 (Journal Impact Factor: 1.57)

M.I. Sudasinghe, M.W. Jayaweera, J. M. A. Manatunge, **W. B. Gunawardana**, K.G. L. Indrachapa (2018). *Faecal Decontamination of Potable Water using Silver Oxide Nanoparticles*, ACEPS-2018, 6th International Symposium on Advances in Civil and Environmental Engineering Practices for sustainable development, Faculty of Engineering, University of Ruhuna, Sri Lanka. (March 2018)

P.H.G. Perera, N.J.G.I. Bandara, U.A.A.G. Danushika, M.W. Jayaweera, M.C.W. Somaratne, S.K.T. Thathsara, B. Gunawardana, J.M.A. Manatunge (2018). "Migration of Phthalic Acid Esters from PET Water Bottles: Implications of Reusing Empty Bottles for Storing Ambient and Warm Water for Subsequent Consumption", Proceedings of the 23rd International Forestry and Environment Symposium-2018, University of Sri Jayewardenepura, Sri Lanka

S. Gunarathna, **B. Gunawardana**, M. Jayaweera, K. Zoysa (2017). *Risk Assessment of the active ingredient, Glyphosate of the herbicide Roundup present in water sources of CKDu prevalent areas for humans*, Annual Sessions of IESL, p.p [525-530], The Institution of Engineers, Sri Lanka

P.P. Jayasekara, S. Gunarathna, **B. Gunawardana**, M. Jayaweera, J. Manatunge, K. Zoysa (2017). *Use of Ozonation for Degradation of Glyphosate in Potable water of CKDu prevalent areas*, Proceedings of the KDU-IRC: International Research Conference, Kotelawala Defence University, Sri Lanka (August 2017)

P.P. Jayasekara, S. Gunarathna, **B. Gunawardana**, M. Jayaweera, J. Manatunge, K. Zoysa, (2017). Use of Photocatalysis for Degradation of Glyphosate in potable water of CKDu prevalent areas, *Proceedings of the 22nd International Forestry and Environment Symposium, University of Sri Jayewardenepura, Sri Lanka (October 2017)*

S. Y. S. Dulshan, M. I. Sudasinghe, M. W. Jayaweera, J. M. A. Manatunge, **W. B. Gunawardana** (2017). "Suitability of Clay Water Filter for the Removal of Nephrotoxic Constituents in CKDu Prevalent Areas", Proceedings of the 22nd International Forestry and Environment Symposium-2017, University of Sri Jayewardenepura, Sri Lanka.

B. Gunawardana, P. J. Swedlund, N. Singhal (2016). *Effect of Degree of Chlorination on Chlorophenols Dechlorination Water Treatment with Bimetallic Iron*; 8th International Perspective on Water Resources and the Environment American Society of Civil Engineers / Environmental and Water Resources Institute, January 4-6, 2016, Colombo, Sri Lanka

N. Ratnayake, **B. Gunawardana**, J. Manatunge, M. Jayaweera, M. Sudasinghe (2016). *Is commercially available Reverse Osmosis Filtration capable enough to protect the Health of subjects of Chronic Kidney Disease of unknown Etiology (CKDu)?*; 8th International Perspective on Water Resources and the Environment American Society of Civil Engineers / Environmental and Water Resources Institute, January 4-6, 2016 Colombo, Sri Lanka

J. Manatunge, N. Ratnayake, M. Jayaweera, **B. Gunawardana**, S. Imbulana, (2016). *Suitability of Domestic Reverse Osmosis units for Drinking Water purification in the Chronic Kidney Disease of unknown Etiology (CKDu) Prevalent Areas*; 8th International Perspective on Water Resources and the Environment American Society of Civil Engineers / Environmental and Water Resources Institute, January 4-6, 2016, Colombo, Sri Lanka

M. Jayaweera, N. Rathnayake, J. Manathunge, **B. Gunawardana**, S. Gunarathna (2016). *Removal Potential of Cadmium, Aluminum and Excessive hardness in Dietary intake (Water) in Chronic Kidney Disease of unknown Etiology (CKDu) Prevalent Areas by Household Nano- filtration units*; 8th International Perspective on Water Resources and the Environment American Society of Civil Engineers / Environmental and Water Resources Institute, January 4-6, 2016, Colombo, Sri Lanka

P. A. V. G. Jayathilaka, **W. B. Gunawardana** (2016). *Soil contamination by direct disposal of Reverse Osmosis reject water onto the ground in the Chronic Kidney Disease of unknown etology (CKDu) prevalent areas*. Proceedings of the Civil Engineering Research Symposium, University of Moratuwa, Sri Lanka (December 2016)

S.M. Imbulana, **B. Gunawardana**, M. Jayaweera, J. Manatunge, A. A. S.U. Gunarathna, M. I. Sudasinghe, (2015). *Removal of Fluoride and Hardness in Dietary Intake (water) in Chronic Kidney Disease of unknown Etiology (CKDu) Prevalent Areas by Domestic Reverse Osmosis Units*. Proceedings of the 20th International Forestry and Environment Symposium, University of Sri Jayewardenepura, Sri Lanka (October 2015)

S.T. Siriwardana, M. Jayaweera, J. Manatunge, **B. Gunawardana**, A.A.S.U. Gunarathna, M.I. Sudasinghe, *Removal of Fluoride and Hardness in Dietary intake (water) in Chronic Kidney Disease of Unknown Etiology (CKDu) Prevalent Areas by Nanofiltration*. Proceedings of the 20th International Forestry and Environment Symposium, University of Sri Jayewardenepura, Sri Lanka (October 2015)

J.A. M. Wijeratna, M. Jayaweera, J. Manatunge, **B. Gunawardana**, A.A.S.U. Gunarathna, M.I. Sudasinghe, *Use of Reverse Osmosis Reject Water for Value Addition in Coco Substrate Industry*. Proceedings of the 20th International Forestry and Environment Symposium, University of Sri Jayewardenepura, Sri Lanka (October 2015)

M. Sudasinghe, N. Ratnayake, M. Jayaweera, J. Manathunga, **B. Gunawardana**, P. Herath (2014). *Effects of consuming Reverse Osmosis purified water in CKDu affected areas: An application to Anuradhapura*. Proceedings of the 19th International Forestry and Environment Symposium, University of Sri Jayewardenepura, Sri Lanka (October 2014)

B. Gunawardana, P.J. Swedlund, Naresh Singhal (2014). *Effect of Degree of Chlorination on Chlorophenols Dechlorination Water Treatment with Zero Valent Iron*. Proceedings of the KDU-IRC: International Research Conference, Kotelawala Defence University, Sri Lanka (August 2014)

B. Gunawardana, P.J. Swedlund, Naresh Singhal (2014). *Effect of Nitrate on the Pentachlorophenol Dechlorination Water treatment with Zero Valent Iron*. Proceedings of the iPURSE: Peradeniya University International Research Sessions, Sri Lanka (July 2014)

B. Gunawardana, N. Singhal and P.J. Swedlund. (2011). *Degradation of Chlorinated Phenols by Zero Valent Iron and Bimetals of Iron: A Review*
Environmental Engineering Research. Volume 16, Issue 4, pages 187 – 203
(Journal Impact Factor: 1.31)

B. Gunawardana, N. Singhal and J-W. Park. (2011). *Dechlorination of Pentachlorophenol by Zero Valent Iron and Bimetals: Effect of Surface Characteristics and Bimetal Preparation Procedure*. Proceedings of the 27th Annual International Conference on Soils, Sediments, Water, and Energy, Amherst, MA, USA (October 2011)

B. Gunawardana, N. Singhal and A. Johnson. (2011). *Effects of amendments on copper, cadmium and lead phytoextraction by Lolium perenne from multiple-metal contaminated solution*.
International Journal of Phytoremediation. Volume 13, Issue 3, pages 215 – 232
(Journal Impact Factor: 1.939)

B. Gunawardana, N. Singhal and A. Johnson. (2010). *Amendments and their combined application for enhanced copper, cadmium, lead uptake by Lolium perenne*. **Plant and Soil**. Volume 329, Issue 1-2, pages 283 – 294
(Journal Impact Factor: 3.052)

A. Johnson, **B. Gunawardana**, and N. Singhal. (2009). *Amendments for enhancing copper uptake by Brassica juncea and Lolium perenne from solution*. **International Journal of Phytoremediation**. Volume 11, Issue 3, March, pages 215 – 234
(Journal Impact Factor: 1.939)

B. Gunawardana, N. Singhal and J-W. Park. (2009). *Enhanced Pentachlorophenol degradation by bimetallic and cationic surfactant modified Zero Valent Iron*. Proceedings of the 3rd IWA- ASPIRE Conference & Exhibition. October 18th – 22nd, Taipei, Taiwan

P. Paraskeva, E. Diamadopoulou, M. Balakrishnan, V.S. Batra, A. Kraslawski, Y. Avramenko, N. Ratnayake, **B. Gunawardana**, D. Gutierrez, O. Anson and T. Mungcharoen. (2007). *ED-WAVE: An educational software for training in wastewater technologies using virtual application sites*. International Journal of Engineering Education. Volume 23, No. 6, pp. 1172-1181, Great Britain.

O. Anson, D. Gutierrez, F.J. Seron, A. Muñoz, M. Balakrishnan, V.S. Batra, E. Diamadopoulou, P. Paraskeva, A. Kraslawski, Y. Avramenko, N. Ratnayake, **B. Gunawardana**, T. Mungcharoen. (2004). *ED-WAVE: An e-learning tool for training on technologies for efficient water use*. Proceedings of the IADIS International Conference e-Society. Ávila, Spain 16-19 July, Volume 1, pp. 347-354

Some of the Research Monographs

Design and operational performance evaluation of the effluent treatment plant for fabric and elastic dyeing of Best Pacific Vietnam Company Limited, Hai Duong, Vietnam (2019)

Compiled by Prof. Mahesh Jayaweera, **Dr. Buddhika Gunawardana**, and Mr. Mahesh Samanpriya

Report on detailed analysis of the standard quality tests of abandoned solid waste dump for the establishment of the proposed Madampitiya Wastewater Treatment Plant (2019)

Submitted to Geo Engineering Consultants (Pvt) Ltd. (2019)

Compiled by Prof. Mahesh Jayaweera and **Dr. Buddhika Gunawardana**

Proposal for the effluent treatment plant for fabric and elastic dyeing of Best Pacific Textiles Lanka (Pvt) Ltd, Wayamba Industrial Zone, Makandura, Gonawila (2019)

Compiled by Prof. Mahesh Jayaweera, **Dr. Buddhika Gunawardana**, and Mr. Mahesh Samanpriya

Proposal for the establishment of a wetland and a fishpond subsequent to the wastewater treatment plant for Naturub Group of Companies, Panadura (2016)

Compiled by Prof. Mahesh Jayaweera, **Dr. Buddhika Gunawardana**, and Ms. Madurangi Perera

Educational tool on technologies for efficient water use using virtual application sites”
(ED-WAVE)

Compiled by O. Anson, D. Gutierrez, F.J. Seron, A. Muñoz, M. Balakrishnan, V.S. Batra, E. Diamadopoulou, P. Paraskeva, A. Kraslawski, Y. Avramenko, N. Ratnayake, **B. Gunawardana**, T. Mungcharoen (2005).

M. Balakrishnan, P. Paraskeva, N. Ratnayake, **B. Gunawardana**, T. Mungcharoen et. al. (2005). *Course Notes-Technologies for efficient water use*

Newsletter Articles

- 1) “Could potable water in CKDu prevalent areas be contaminated with Glyphosate?”
Eng. (Dr) Buddhika Gunawardana, Digital SLEN, Sri Lanka Engineering News, The official E-Newsletter of The Institution of Engineers, Sri Lanka; Issue 43, January 2019.
<http://ioes18.wildapricot.org/ckdu>
- 2) “Is Aruwakkalu sanitary landfill a viable option for the garbage menace in Colombo?”
Eng. (Prof.) Mahesh Jayaweera and Eng. (Dr) Buddhika Gunawardana, Digital SLEN, Sri Lanka Engineering News, The official E-Newsletter of The Institution of Engineers, Sri Lanka; Issue 43, January 2019.
http://ioes18.wildapricot.org/article_landfill

- 3) "Perils of fecal contamination in Golden Mile of the Mount Lavinia beach: are we circumspect enough?"
Eng. (Prof.) Mahesh Jayaweera and Eng. (Dr) Buddhika Gunawardana, Digital SLEN, Sri Lanka Engineering News, The official E-Newsletter of The Institution of Engineers, Sri Lanka; Issue 44, March 2019.
<https://iesl.lk/SLEN/44/Golden-Mile-Mount-Lavinia.php>
- 4) "Intriguing levels of phthalic acid esters in coastal urban watercourses of Colombo and its suburbs: A bizarre situation caused by urban sprawl"
Eng. (Prof.) Mahesh Jayaweera, Eng. (Prof.) Jagath Manatunge, Eng. (Dr.) Buddhika Gunawardana, Prof. Nilanthi Bandara, Digital SLEN, Sri Lanka Engineering News, The official E-Newsletter of The Institution of Engineers, Sri Lanka; Issue 45, May/June 2019.
<https://iesl.lk/SLEN/45/Intriguing%20levels%20of%20phthalic%20acid%20esters%20in%20coastal%20urban%20watercourses%20of%20Colombo%20and%20its%20suburbs.php>
- 5) "Abounding levels of mercury in coastal urban watercourses of Colombo: an imminent impediment to aquatic ecological sustenance"
Eng. (Prof.) Mahesh Jayaweera, Eng. (Prof.) Jagath Manatunge and Eng. (Dr.) Buddhika Gunawardana, Sathsamudura-Marine Environment Protection Agency (MEPA) News Magazine – October 2019
- 6) "Glyphosate application in Sri Lankan agricultural Lands: do we circumvent Chronic Kidney Disease of unknown etiology?"
Dr. Buddhika Gunawardana and Prof. Mahesh Jayaweera, International Water Association (IWA) Publishing- IWA Blog on current environmental issues, October 2019
<https://iwa-network.org/chronic-kidney-disease-of-unknown-etiology-in-sri-lanka/>
- 7) "Engineers known for unknowns: Role of an Engineer in epidemiological context for fizzling out COVID-19": Imminent impediments faced by engineers for engineering work in 2021
Eng. (Prof.) Mahesh Jayaweera & Eng. (Professor) Jagath Manatunge & Eng. (Dr.) Buddhika Gunawardana, Digital SLEN, Sri Lanka Engineering News, The official E-Newsletter of The Institution of Engineers, Sri Lanka; Issue 49, December 2020.
<https://iesl.lk/SLEN/49/Engineers%20Known%20for%20Unknowns.php>
- 8) "Solving the Water Crisis in CKDu Prevalent Areas: Need for a New Technology Development for Water Purification." Rathnayake, N., Sudasinghe, M. I., Gunawardana, B., Jayaweera, M. W., Manathunga, J. M. A. (2015) E-Update, EWRI Currents Spring 2015, Environmental and Water Resources Institute (EWRI), American Society of Civil Engineers, published on 04th May 2015.
<https://issuu.com/asce-ewri/docs/springcurrentsissuu>

Research phase

- Developing an effective, high performance water purification system for Chronic Kidney Disease of unknown etiology (CKDu) affected households for removal of heavy metals and pesticides
- Persistence of herbicide (Glyphosate) in water in CKDu affected areas and its removal by commercially available techniques
- Precipitation induced fate of Glyphosate retained in soil medium
- Effect of phosphate fertilizers and hardness on mobilization of Glyphosate from soil to water
- Safe disposal techniques of concentrated water (waste) from Reverse Osmosis water treatment units
- Studies on water/soil pollution (pesticides, organic and inorganic contaminants) and design/development of effective treatment processes to alleviate these issues
- Investigation of mitigatory measures against pollution of surface and groundwater sources by pesticides, organic/inorganic contaminants
- Remediation of chlorinated compounds contaminated waters using passive treatment techniques (e.g. Permeable reactive barriers)
- Remediation of heavy metal contaminated waters using suitable treatment processes (e.g. phytoextraction)

Some of Conference/Seminar presentations

Invited Panel member at the Closing Session of the IWA Water and Development Congress, 2019 held in Colombo, Sri Lanka during 1-5 December 2019

Invited podium presenter to the 18th Intensive Environmental Impact Assessment (EIA) Training Program organized by the Sri Lanka Central Environmental Authority (October 2014)

Topic: Becoming a leader in Environmental Assessment: Gaining skills and expertise through sharing knowledge

19th International Forestry and Environment Symposium, University of Sri Jayewardenepura, Sri Lanka (October 2014)

Topic: Effects of consuming Reverse Osmosis purified water in CKDu affected areas: An application to Anuradhapura

KDU-IRC, International Research Conference, Kotelawala Defence University, Sri Lanka (August 2014)

Topic: Effect of Degree of Chlorination on Chlorophenols Dechlorination Water treatment with Zero Valent Iron

iPURSE: Peradeniya University International Research Sessions (July 2014)

Topic: Effect of Nitrate on the Pentachlorophenol Dechlorination water treatment with Zero Valent Iron

27th Annual International Conference on Soils, Sediments, Water, and Energy, Amherst, MA, USA (October 2011)

Topic: Dechlorination of Pentachlorophenol by Zero Valent Iron and Bimetals: Effect of Surface Characteristics and Bimetal Preparation Procedure

The University of Auckland, New Zealand, Department seminar (October 2010)

Topic: Comparison of performance of commercially available iron materials, effect of acid washing of iron on Pentachlorophenol degradation and statistical analysis of experimental data

The University of Auckland, New Zealand, Department seminar (March 2010)

Topic: Effect of presence of oxygen and iron oxides on Pentachlorophenol degradation by Zero Valent Iron and bimetallic media

The University of Auckland, New Zealand, Department seminar (October 2009)

Topic: Degradation of Pentachlorophenol by Zero Valent Iron media in permeable reactive barriers

The University of Auckland, New Zealand, Department seminar (July 2009)

Topic: Effect of use of chemical amendments on Pentachlorophenol degradation by Zero Valent Iron and bimetallic media

The University of Auckland, New Zealand, Department seminar (March 2009)

Topic: Comparison of performance of Zero Valent Iron materials and nickel coated iron particles on PCP degradation

3rd IWA- ASPIRE Conference & Exhibition, Taipei, Taiwan (October 2009)

Topic: Enhanced Pentachlorophenol degradation by bimetallic and cationic surfactant modified Zero Valent Iron

3rd Asia-Oceania Top University League on Engineering (AOTULE) Postgraduate Conference, New Zealand (November 2008)

Topic: Degradation of Pentachlorophenol (PCP) by Zero Valent Iron

The University of Auckland, New Zealand, Joint Project Progress meeting with academics from Hanyang University, South Korea (October 2008)

Topic: Degradation of Pentachlorophenol by Zero Valent Iron

The University of Auckland, New Zealand, Department seminars (2006 - 2008)

Topic: *Use of chemical amendments to enhance the uptake of copper, cadmium and lead by Lolium perenne and Brassica juncea from solution*

New Delhi, India, Training Workshop to introduce the project and CD developed under the project "Education Tool for Training on Technologies for Efficient Water Use Using Virtual Application Sites (ED-WAVE)" (February 2005)

Topic: *Introduction to the Reference Library (RL) and Treatment Advisor (TA) modules*

Chania, Greece, Training Workshop to introduce the project and CD developed under the project "Education Tool for Training on Technologies for Efficient Water Use Using Virtual Application Sites (ED-WAVE)" (October 2004)

Topic: *Wastewater treatment technologies*

Women Engineers' Forum, Institution of Engineers, Sri Lanka, Public Lecture (November 2003)

Topic: *Use of GIS for environmental planning in Kaduwela Pradeshiya Sabha Region, Sri Lanka*

Workshops/seminars (Organizer and/or Presenter)

Presented at the New Zealand Water Postgraduate Research Workshop, University of Canterbury, Christchurch, New Zealand (July 2011)

Title: *Dechlorination of chlorophenols by Zero Valent Iron and Bimetallics*

Organized and presented at the Training Workshop held at University of Moratuwa, Sri Lanka (March 2005)

Title: *Education tool for training on technologies for efficient water use using virtual application sites (ED-WAVE)*

Objective: Introduced the project and the associated software developed for this project to academics from different universities, postgraduate students and professionals from water and wastewater industries. This workshop also provided practical guidance on the software and computer applications to the multidisciplinary audience.

Organized and presented at the Training Workshop held in New Delhi, India (February 2005)

Title: *Education tool for training on technologies for efficient water use using virtual application sites (ED-WAVE)*

Objective: Project introduction and digital media development for the project title

Organized and presented at the Training Workshop held in Chania, Greece (October 2004)

Title: *Education tool for training on technologies for efficient water use using virtual application sites (ED-WAVE)*

Objective: To introduce the project and software developed for the project

Joint project progress meetings for Education Tool for Training on Technologies for Efficient Water Use Using Virtual Application Sites (ED-WAVE) held at Partner Countries (Finland, Greece, India, Spain, Sri Lanka, Thailand) (2003 - 2005)

VI. CONSULTING AND PROFESSIONAL (NATIONAL/INTERNATIONAL) SERVICES

PROFESSIONAL SERVICES-INTERNATIONAL

IWA World Water Congress & Exhibition 2020, 2022

Copenhagan, Denmark

PROGRAM ADVISORY COMMITTEE MEMBER

IWA Water and Development Congress & Exhibition 2019

Colombo, Sri Lanka

PROGRAM ADVISORY COMMITTEE MEMBER

**IWA Water and Development Congress & Exhibition 2019
Colombo, Sri Lanka**

LOCAL MAIN ADVISORY COMMITTEE MEMBER

**IWA World Water Congress & Exhibition 2020
Copenhagen, Denmark**

PROGRAM ADVISORY COMMITTEE MEMBER

PROFESSIONAL SERVICES-LOCAL/INSTITUTIONAL

Sri Lanka Association for the Advancement of Science (SLAAS)

ASSISTANT TREASURER- 2020

Sri Lanka Association for the Advancement of Science (SLAAS) – Section C (Engineering, Architecture, Surveying)

SECRETARY - 2019

Postgraduate Course Coordinator, M.Sc. /PG Diploma in Environmental Engineering and Management, M.Sc. /PG Diploma in Environmental Management, Environmental Engineering Division, Department of Civil Engineering, University of Moratuwa, Sri Lanka

(JANUARY 2015– to date)

Female Students' Hostel, Faculty of Engineering, University of Moratuwa, Sri Lanka

WARDEN, (AUGUST 2019 – to date)

Staff Student Liaison Committee, Faculty of Engineering, University of Moratuwa, Sri Lanka

MEMBER, (JANUARY 2015 – to date)

Student Counsellor, Faculty of Engineering, University of Moratuwa, Sri Lanka

(MARCH 2015 – to date)

Upliftment of University Games (Elle), University of Moratuwa, Sri Lanka

ACADEMIC COORDINATOR (JULY 2014 – to date)

Civil Engineering Society - Department of Civil Engineering, University of Moratuwa, Sri Lanka

STAFF ADVISOR (2017 – to date)

Technical Evaluation Committee (Purchase of Major Equipment – Gas Chromatograph/Mass Spectrophotometer), Department of Civil Engineering, University of Moratuwa, Sri Lanka

CHAIRPERSON (2013)

Civil Engineering Research Symposium, Department of Civil Engineering, University of Moratuwa, Sri Lanka

CO-SECRETARY (2015); ORGANIZING COMMITTEE MEMBER (2013)

SIIP (Solutions, Ideas, Inventions, Innovations & Products) Award Program, National Innovation Competition for students in Higher Education in conjunction with Ministry of Higher Education and National Invention Exhibition, Sri Lanka Inventors Commission (SLIC), Sri Lanka

ACADEMIC MENTOR, UNIVERSITY OF MORATUWA, SRI LANKA(2013)

University of Moratuwa, Sri Lanka

RESEARCHER, DIVISION OF ENVIRONMENTAL ENGINEERING, DEPARTMENT OF CIVIL ENGINEERING (2002 – 2006)

- Involved in numerous academic and research activities and consultancy work related to Civil and Environmental Engineering projects

- Worked on the “Development on Design Criteria for Anaerobic Treatment Technologies Applicable to High Strength Industrial Wastewater” research project funded by Senate Research Committee, University of Moratuwa, Sri Lanka
- Researched and analyzed Bolgoda Basin water quality data for the feasibility study on Weras Ganga Storm Water Drainage project, Sri Lanka

Central Environmental Authority, Sri Lanka

CONSULTANT/ENVIRONMENTAL ENGINEER (2015)

Project Objective: Preparation of Technical guidelines for rehabilitation of gravel pits

National Water Supply & Drainage Board, Sri Lanka

WORKING GROUP MEMBER (2005)

Project Objectives: *Review of standards for Mitigatory measures against pollution of drinking water sources*

NATIONAL/INTERNATIONAL PROJECTS UNDERTAKEN

Design and operational performance evaluation of the effluent treatment plant for fabric and elastic dyeing of Best Pacific Vietnam Company Limited, Hai Duong, Vietnam

ADVANCED WASTEWATER TREATMENT SPECIALIST OF THE PROJECT (2019)

Proposal for the effluent treatment plant for fabric and elastic dyeing of Best Pacific Textiles Lanka (Pvt) Ltd (a joint venture between Brandix Group, Sri Lanka and Best Pacific International Holdings Ltd., Hong Kong), Wayamba Industrial Zone, Makandura, Gonawila

ADVANCED WASTEWATER TREATMENT SPECIALIST OF THE PROJECT (2019)

Detailed analysis of the standard quality tests of abandoned solid waste dump for the establishment of the proposed Madampitiya Wastewater Treatment Plant - Geo Engineering Consultants (Pvt) Ltd.

ENVIRONMENT ENGINEER/SOLID WASTE MANAGEMENT SPECIALIST OF THE PROJECT (2019)

Environment Impact Assessment (EIA) Study for the proposed extension of pipe borne sewerage coverage for Dehiwela – Mt. Lavinia Municipal council area

WASTEWATER MANAGEMENT SPECIALIST/ENVIRONMENT ENGINEER/TECHINICAL COORDINATOR OF THE PROJECT (2016)

The Objective of this project is to find a feasible wastewater disposal system to Dehiwela –Mt. Lavinia Municipal council area.

Activities Performed;

Undertake technical assessments and feasibility of the proposed pump houses, locations, Construction methods, wastewater collection system, water quality analysis and possible Environmental impacts due to the proposed project activities, overall coordination with the team member

Initial Environment Examination (IEE) Study for the proposed wastewater disposal disposal system for Maharagama-Boralessgamuwa area

WASTEWATER AND SLUDGE MANAGEMENT SPECIALIST/ENVIRONMENT ENGINEER OF THE PROJECT (2016)

The Objective of this project is to find a feasible wastewater disposal system to Maharagama and Boralessgamuwa townships, while addressing the wastewater issues in the important institutions such as the National Cancer Institute, National Institute of Education, and the University of Sri Jayawardenapura etc.

Activities Performed:

Undertake technical assessments and feasibility of the proposed pump houses, locations, Construction methods, wastewater collection system, water quality analysis and possible Environmental impacts due to the proposed project activities, overall coordination with the team Members

Feasibility Study for the proposed Industrial Zone adjacent to the Magam Ruhunupura Mahinda Rajapaksa (MRMR) Port at Hambantota

HAZARDOUS WASTE MANAGEMENT SPECIALIST/ENVIRONMENT ENGINEER (2013-2014)

The Objective of the project was to carry out the preliminary and feasibility studies of the proposed industrial zone to be established in Hambantota.

Activities performed:

Undertake technical assessment, waste generation, waste characterization, wastewater collection and treatment, hazardous waste management, storm water drainage and estimate capital and operational costs, overall coordination with the team members for successful completion of the project on time

Initial Environmental Examination (IEE) Study for the proposed Industrial Zone adjacent to the Magam Ruhunupura Mahinda Rajapaksha (MRMR) Port at Hambantota

SOLID WASTE MANAGEMENT SPECIALIST/ENVIRONMENT ENGINEER (2013-2014)

The Objective of the project was to carry out the Initial Environmental Examination and technical feasibility of the proposed industrial zone to be established in Hambantota.

Activities performed:

Undertake technical assessment, water quality analysis and preliminary designs for water supply, Wastewater collection and treatment, solid and hazardous waste management, storm water drainage and estimate capital and operational costs, overall coordination with the team members for successful completion of the project on time

Preparation of Municipal Solid Waste Database for all the Local Authorities in Sri Lanka Funded by JICA supported National Solid Waste Management Support Centre Ministry of Local Government and Provincial Council

SOLID WASTE MANAGEMENT EXPERT (2013)

EU-Asia Link Programme Educational Tool on Technologies for efficient Water Use Using Virtual Application Sites (ED-WAVE); Contract Number ASI/B7 – 301/98/679 – 027, Sri Lanka

PRINCIPAL RESEARCHER representing THE UNIVERSITY OF MORATUWA, SRI LANKA

(June 2003 – May 2005)

A partnership between Finland, Greece, India, Spain, Sri Lanka, and Thailand to develop a sustainable framework for training technologies for conservation, reclamation, and reuse of natural resources; water used as an example.

Specific responsibilities: Curriculum development including providing educational software content on wastewater treatment technologies, Preparing monographs on wastewater treatment in Asia and Europe, Preparing the course content on “Technologies for Efficient Water Use”

VII. SPECIAL ACADEMIC PROGRAMS AND TRAINING

Advanced Training program on Ion Chromatography (2017)

Organized by Metrohm Middle East, Sharjah.

Central Environmental Authority, Sri Lanka (2013)

17th Intensive Environmental Impact Assessment (EIA) Training Program

(Co-ordinated and conducted jointly by the Central Environmental Authority, Ministry of Environment and Renewable Energy, Centre for Environmental Justice, International Union for Conservation of Nature (IUCN) and Centre for Environmental Studies of University of Peradeniya)

Centre for Academic Development, University of Auckland, New Zealand (2011)

Doctoral Academic Career Module

Selected to the 20 available places to all university postgraduate students and successfully completed

Department of Environmental Engineering, Technical University of Denmark (DTU), Lyngby, Denmark (2005)

E-Learning course

Topic: *Environmental management in tropics*

Asian Institute of Technology (AIT), Thailand (2005)

International Training Course

Topic: *Planning and design of pumping works*

British Council, Professional Training Centre, Sri Lanka (2005)

Comprehensive English Programme on teaching methodologies

Topic: *Teacher training methodology*

Institution of Engineers, Sri Lanka (2002)

Topic: *Presentation skills*

MAGA Engineering (Pvt) Ltd, Narahenpita, Sri Lanka (Nov. 2000 to April. 2001)

Industrial Training

Topic: *Training on concepts & practices in building design, construction & management at the "Lanka Apollo Hospital Project, Narahenpita, Sri Lanka"*

VIII. VOLUNTEER SERVICES, MOTIVATIONAL AND LEADERSHIP ACTIVITIES

University of Moratuwa, Sri Lanka

- Presented (on invitation) at the "Postgraduate Forum" organized by the Faculty of Engineering and Faculty Higher Degrees Committee, University of Moratuwa
Topic: *"How to overcome barriers and employ strategies to achieve desired project objectives."* (October 2014)
- Project team member responsible for assessment of water quality, water and sanitation concerns, damage assessment on water supply sources, and water/wastewater treatment facilities in Tsunami affected Sri Lanka regions (2004-2005)
- Civil Engineering Society organizing committee member (1999-2006)
- Participated as a staff member in B.Sc. Engineering degree Annual Residential Survey Camps for Civil Engineering students (2002- 2006, 2014)

Institution of Engineers, Sri Lanka (IESL)

- Annual General Meetings organizing member (2002-2006)

The University of Auckland, New Zealand

- PhD representative for the Civil and Environmental Engineering Department Staff Student Consultative Committee (2011)
- Volunteer member in organizing *Enginuity Day* for high school girls to explore the possibility of a career as an engineer through a day of activities to encourage women participation in Engineering (WIE) (2007 - 2009)
- Department of Civil and Environmental Engineering volunteer member in organizing *Courses and Careers Day* activities (2007-2009)

**Motivational and leadership activities-High school students (Young Women)
(2006 - TO DATE)**

- Guest presenter on motivational and leadership skills to high school students to encourage their pursuit for higher education to achieve their personal and professional goals as well as becoming an established leader covering the topics such as:
 - (1) personal development
 - (2) becoming leaders/leadership skills
 - (3) initiate positive actions for a sustainable future
 - (4) to enhance the value of children as strong family supporters and reputed community leaders