



# Oscar Kithsiri Dissanayake | Professor

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## PROFESSIONAL PROFILE

**Dynamic and accomplished Professor of the Faculty of Engineering, University of Moratuwa with expertise in Mining Engineering, Extraction Metallurgy, Geoscience, Environmental Science, Remote Sensing and GIS, Business Administration, Computer Technology, Human Resource Management, and Law. Highly experienced in leading public sector regulatory authorities as a record-breaking successful administrator in Sri Lanka. Boasts a remarkable history of achievement in teaching, research, industry engagement, and public service, consistently delivering excellence while fostering innovation and collaboration.**

- Leadership
- Creativity
- Results-driven
- Problem solving
- Communication
- Planning
- Analysis
- Flexibility
- Decision Making
- Customer confidentiality

## CAREER SUMMARY

**Dec 2021 – Present, University of Moratuwa, Moratuwa**  
**Professor**

### Outline

Educate, inspire, and guide students while contributing to the advancement of knowledge in the fields of Geoscience, Mining Engineering, Mineral Processing, Extraction Metallurgy, Environmental Science, Remote Sensing and GIS, Business Administration, Computer Technology and Law. Shaping the intellectual and professional development of the students, as well as contributing to the broader academic community through teaching, research, and service.

### Key Responsibilities

- Designing and delivering undergraduate and graduate courses, leading discussions, developing assignments and assessments, and providing feedback to students.
- Mentoring graduate students and providing guidance and support as they work towards their degrees.
- Collaborating with industry partners and other researchers to provide expert knowledge and develop and test new technologies and practices.
- Spearheading the inception of mining and mineral processing projects and overseeing the execution of Environmental Impact Assessments (EIA) or Initial Environmental Examination Reports (IEER) for significant mining-related endeavors as a Senior consultant.
- Contributing to the university community through service activities such as serving on committees, participating in outreach programs, and engaging in professional organizations.

### Key Achievements

- Published a large number of research papers in the leading academic journals and established the Department of Earth Resources Engineering, as a leading research institution, and attracted funding for future research projects.
- Developed innovative technologies to reduce the environmental impact of mining, processing, and extraction operations that can improve the industry.
- Won several prestigious awards for recognition of teaching, research, service, dedication, and contributions to the field and enhanced the reputation of the University.
- Produced high-quality graduates to land a job in a top engineering firm or pursue their postgraduate studies in well-reputed international universities.
- Collaborated with industry partners and other researchers to provide expert knowledge and develop and test new technologies and practices as a consultant.

**Sep 2000 - Dec 2021, University of Moratuwa, Moratuwa**  
**Senior Lecturer**

### Outline

In my capacity as a Senior Lecturer, I fulfilled a multifaceted role that encompassed delivering lectures, hands-on practical sessions, tutorial sessions, administering examinations, organizing field visits, and industrial excursions. Additionally, I provided oversight for undergraduate and postgraduate research projects across a diverse range of disciplines, including Geoscience, Mining Engineering, Mineral Processing, Extraction Metallurgy, Environmental Science, and Remote Sensing and GIS. Moreover, I offered guidance and mentorship to our students to facilitate their academic and professional development. Furthermore, my role extended beyond the classroom, as a senior consultant appointed by the Department of Earth Resources Engineering, I have provided crucial consultancy services to a diverse range of industry stakeholders. My role primarily involves spearheading the inception of mining and mineral processing projects and overseeing the execution of Environmental Impact Assessments (EIA) or Initial Environmental Examination Reports (IEER) for significant mining-related endeavors.

### Key Responsibilities

- My responsibilities included the development and presentation of lectures and practical, tutorials, the creation and assessment of assignments and exams, engagement in research activities, fieldwork, and the organization of industrial visits. Moreover, I provided invaluable academic guidance and support to students.
- Successfully secured research grants and funding to bolster various research initiatives.
- Earned exceptional student evaluations and commendations for course delivery, assessments, and the overall quality of teaching.
- Contributed significantly to the enhancement of the university's research standing by publishing high-impact research articles in esteemed national and international academic journals.
- Pioneered the introduction of cutting-edge courses and programs to the existing degree curriculum, underscoring a steadfast dedication to continuous enhancement and a pursuit of excellence in both teaching and research.

### Key Achievements

- Assumed the role of Head of the Department of Earth Resources Engineering, commencing on August 1, 2003, and serving for a three-year term.
- Garnered esteemed academic honors annually, acknowledging excellence in teaching, research, and valuable industry contributions.
- Successfully secured a substantial grant of SLR 100,000,000.00 for the Department of Earth Resources Engineering through a proposal submitted under the Improving Relevance and Quality of Undergraduate Education (IRQUE) initiative, funded by the World Bank in 2006.

**Sep 1992 - Aug 2000, University of Moratuwa, Moratuwa**  
**Lecturer (Probationary)**

**Outline**

I delivered lectures, facilitated practical sessions, conducted tutorials, organized field excursions, and managed industrial site visits for undergraduate students. Additionally, I oversaw and guided undergraduate research initiatives, including the creation and assessment of assignments, while also offering academic guidance and support to students. Furthermore, I actively contributed to the department's administrative and organizational functions.

**Key Responsibilities**

- As a Lecturer (Probationary) my responsibilities were designing and delivering lectures, preparing and grading assessments, conducting research, providing academic guidance and support to undergraduate students, and participating in administrative and organizational tasks of the department.

**Key Achievements**

- Received the National Institute for International Development Scholarship from the Government of the Republic of Korea to pursue Postgraduate studies leading to Ph.D at Seoul National University in 1995.

**Jun 2007 - Jun 2010, Geological Survey and Mines Bureau, Dehiwala**  
**Director/Director General**

**Outline**

In my capacity as the Director/Director General of the Geological Survey and Mines Bureau, I held the responsibility for overseeing the comprehensive technical operations and management of the Bureau, a government agency dedicated to geological survey, mineral exploration, mining, and related endeavors.

**Key Responsibilities**

- Directed the comprehensive technical operations and management of the Bureau.
- Formulated and executed policies and initiatives pertaining to geological survey, mineral exploration, mining, processing, storage, transportation, trade, export, and associated activities.
- Upheld strict adherence to legal and regulatory prerequisites concerning mining and mineral exploration.
- Engaged in research efforts and contributed technical proficiency concerning the nation's geology and mineral resources.
- Fostered and sustained relationships with stakeholders in the mining and mineral exploration sector, encompassing government entities, private sector firms, and local communities.
- Effectively managed the Bureau's budget and financial resources.

**Key Achievements**

- In 2007, I successfully transformed the organization into a self-financing institution, no longer reliant on treasury funding, and significantly bolstered its annual revenue.
- Authored Geological Maps at a 1:100,000 scale, including Map 9 (Kathiraveli - Kalkuddha), Map No.04 (Mankulam-Kokilai), Map No. 15 (Padiyathalawa-Tampaddi), Map No. 06 (Vavunia-Trincomali), Map No. 3 (Talaimannar-Palampiddi), and Map No. 05 (Silawaturai).
- Undertook a comprehensive revision of Mines and Minerals Act No. 33 of 1992, which had remained unrevised for 17 years. The revised Act, Mines and Minerals Act No. 66 of 2009, was published and enacted on November 17, 2009, accompanied by the issuance of new regulations.
- Established two seismic monitoring stations at Mahakanadarawa and Hakmana, fostering the monitoring of regional tectonic activities and the assessment of tsunami threats to the country through a Memorandum of Understanding signed with the Republic of Germany.

**Jun 2010 - Apr 2013, Sri Lanka Sustainable Energy Authority, Colombo 07**  
**Chairman**

**Outline**

In my capacity as the Chairman, I spearheaded the SLSEA in the formulation and execution of policies, initiatives, and endeavors concerning renewable energy, energy efficiency, and energy conservation. This role entailed close collaboration with the government, private sector, and civil society to advocate for sustainable energy advancements and guarantee the nation's energy security.

**Key Responsibilities**

- In my capacity as the Chairman, I assumed the responsibility of overseeing and managing the Authority's operations.
- Formulated strategic blueprints and policies, exercised oversight over budgets and financial resources, and optimized the operational efficiency and effectiveness of the Authority.
- Championed the cause of sustainable energy advancement within Sri Lanka, with a particular focus on diminishing the nation's reliance on fossil fuels and enhancing the accessibility of clean and cost-effective energy for all.
- Elevated the proportion of renewable energy within the nation's energy portfolio, enhanced energy efficiency across all sectors, and endorsed energy conservation initiatives.
- Ensured that Sri Lanka met its international commitments concerning sustainable energy development, including adherence to agreements such as the Paris Agreement and the Sustainable Development Goals.

**Key Achievements**

- In 2013, I successfully oversaw the establishment of Sri Lanka's inaugural grid-connected, commercial-scale solar energy park in Hambantota. This groundbreaking endeavor was made possible through grants from the Governments of Japan and the Republic of Korea. The project boasted a total capacity of 1,200kW, with a Japanese contribution of USD 14.5 million and a Korean component amounting to USD 4.5 million.
- Introduced a cost-reflective, technology-driven feeding tariff system for Nonconventional Renewable Energy (NRE) resources.
- Pioneered the introduction of new regulations governing on-grid Renewable Energy Projects and issued a comprehensive guide outlining the approval process for the development of such projects.
- Facilitated the necessary approvals and support for NRE developers, ultimately overseeing the commissioning of approximately 85 NRE power plants, collectively possessing a capacity of 224MW. These power plants are privately owned and operated, with the exception of a 3MW wind power plant in Hambantota, owned by CEB. The portfolio comprises 181.35MW of small hydro, 30.35MW of wind, 11MW of wind biomass, and 1.237MW of solar energy.

**Jun 2013 - Dec 2014, Sri Lanka Standards Institution, Colombo 08**  
**Chairman**

**Outline**

In my role as Chairman of the Sri Lanka Standards Institution (SLSI), my foremost duty was to formulate policy to guarantee the alignment of products, services, and procedures with both national and international standards. I led the SLSI in the creation and upkeep of standards across diverse sectors, encompassing agriculture, construction, manufacturing, and services.

**Key Responsibilities**

- My responsibilities as the head of the Institution encompassed the management and supervision of its activities. This entailed tasks such as formulating strategic plans and policies, overseeing budgets and financial resources, and ensuring the Institution's operational efficiency and effectiveness.
- My initiatives aimed at advancing quality, safety, and dependability throughout all sectors of the economy through the establishment and application of both national and global standards.
- I was instrumental in the development and ongoing maintenance of a spectrum of standards centered on product and service excellence, safety, and environmental sustainability.
- I actively advocated for the adoption of national and international standards by businesses, consumers, and governmental agencies, with the aim of enhancing competitiveness, safeguarding public health and safety, and promoting environmental sustainability.

**Key Achievements**

- Initiated the signing of a memorandum of understanding (MOU) with Iraq to facilitate tea testing, thereby elevating the standards and facilitating tea exports.
- Spearheaded the expansion of the laboratory facilities at SLSI by overseeing the construction of the 8th floor within the main building.
- Launched efforts to secure land for the construction of a new national laboratory dedicated to standards testing for exports, imports, and industrial items in Malabe, Western Province, Sri Lanka.
- Led the development and execution of national and international standards geared towards fostering quality, safety, and trustworthiness across various economic sectors.

**Jan 2015 - Jun 2017, Geological Survey and Mines Bureau, Pitakotte**  
**Chairman**

**Outline**

In my capacity as the Chairman of the Geological Survey and Mines Bureau (GSMB) in Sri Lanka, my core responsibility involved formulation of policies to oversee and govern the nation's mineral resources sector. As Chairman, I provided leadership to the GSMB in the execution of geological surveys, the assessment of mineral resources, and the issuance of mining licenses and permits.

### **Key Responsibilities**

- I held the overarching responsibility for the management and supervision of the Bureau's operations.
- Formulated strategic plans and policies, managed financial resources and budgets, and meticulously ensured the Bureau's efficient and effective functioning.
- Safeguarded the sustainable and responsible development of the country's mineral resources, while simultaneously maximizing economic advantages for the nation.
- Spearheaded the encouragement of mineral resource exploration and development, with a steadfast commitment to adhering to environmental and social regulations. I also championed the adoption of contemporary mining technologies and practices aimed at minimizing adverse environmental impacts.
- Advocated for transparency and accountability within the sector, ensuring that mining activities were conducted in an open and responsible manner. Furthermore, I was dedicated to the effective and transparent management of revenues generated by the sector.

### **Key Achievements**

- In 2016, despite numerous challenges, GSMB achieved its highest recorded revenue since its inception, surpassing the previous fiscal year by an impressive Rs. 567,703,967.20. Consequently, the Bureau generated more than Rs. 2,283,508,758.00 through its operational activities and contributed Rs. 1,010 million to the General Treasury.
- In 2017, the projected income exceeded Rs. 3 billion, and this milestone was reached within the first six months. However, I stepped down from GSMB in June 2017 to take on the role of Chairman of the National Gem and Jewelry Authority.
- Pioneered the signing of an MOU with the German Government to monitor regional tectonic activities and assess potential tsunami threats to the country.
- Initiated the expansion of existing laboratory facilities while simultaneously constructing a new laboratory complex adjoining the main building, featuring six floors in alignment with international standards.
- Attained ISO 9001 certification for the existing laboratory, ensuring the provision of top-quality laboratory services to clients.
- Recognized with the People's Leader in Engineering National Award for 2016 by the Institute of Personnel Management (IPM), Sri Lanka, in acknowledgment of contributions made to the nation while serving as Chairman of GSMB.

### **Jun 2017 - May 2018, Gem and Jewellery Authority in Sri Lanka, Colombo 02 Chairman**

#### **Outline**

In my role as Chairman of the National Gem and Jewelry Authority (NGJA) of Sri Lanka, my primary duty revolved around the advancement and oversight of the nation's gem and jewelry industry. As Chairman, I provided leadership to the NGJA in the formulation and execution of policies and regulations aimed at fostering the industry's growth and progress, while also upholding quality and ethical standards compliance among industry stakeholders.

#### **Key Responsibilities**

- Directed and supervised the Authority's operations.
- Formulated strategic plans and policies, managed budgets and financial resources, and diligently upheld the efficient and effective functioning of the Authority.
- Advocated for the sustainable advancement and progress of Sri Lanka's gem and jewelry industry, all the while safeguarding the interests of various stakeholders, including local communities and environmental conservation.
- Championed the adoption of ethical and sustainable practices within the industry, guaranteeing adherence to quality standards, and actively endorsing the industry's products and services in both local and international markets.
- Actively promoted transparency and accountability within the industry, ensuring that industry participants conducted their activities in a transparent and responsible manner and managed generated revenues with effectiveness and transparency.
- Orchestrated several noteworthy international exhibitions and fairs to explore international markets for Sri Lankan gems.
- Supported and sponsored the technical training of personnel across all facets related to the gem and jewelry industry, with a particular emphasis on areas like heat treatment and gem cutting, aiming to foster the development of these industries.

#### **Key Achievements**

- Implemented a hallmark and certification system for the Jewelry Industry.
- Introduced a systematic, mechanized gem mining approach to enhance the Sri Lankan gem industry.
- Pioneered the initiation of the Kimberley Process Certification Scheme (KPCS) to curb unlawful imports and exports of diamonds in Sri Lanka.

### **Dec 1991 - Sep 1992, Bogala Graphite Lanka Limited, Aruggammana Mining Engineer**

#### **Outline**

Throughout my tenure at Bogala Graphite Lanka Limited, I held the responsibility for the comprehensive management of mining operations. This encompassed the planning, coordination, and oversight of mining and processing activities, ensuring safety and regulatory compliance, optimizing operations, managing equipment and resources, and overseeing reporting and documentation.

#### **Key Responsibilities**

- **Mining Operations:** I actively participated in the planning, coordination, and oversight of mining operations. This encompassed supervising activities like drilling, blasting, excavation, and graphite ore transportation. My collaboration with the mining team ensured the achievement of optimal production levels while upholding stringent safety standards.
- **Safety and Compliance:** I assumed a pivotal role in ensuring adherence to safety regulations and the implementation of best safety practices within the mine. This involved conducting regular safety inspections, identifying potential hazards, and implementing corrective measures to minimize risks. I also conducted safety training for mine workers, fostering a culture of safety awareness.
- **Production Planning and Optimization:** I worked closely with the production team to devise mining plans and schedules. I conducted feasibility studies, evaluated ore reserves, and executed strategies to enhance production efficiency. Through effective planning and coordination, I contributed to the maximization of graphite ore extraction while minimizing operational costs.
- **Equipment and Resource Management:** I effectively managed and maintained mining equipment, guaranteeing their efficient performance and adherence to maintenance schedules. Additionally, I monitored the consumption of resources, such as fuel and explosives, to optimize utilization and curtail waste. My responsibilities also extended to liaising with suppliers and contractors to ensure the timely provision of required equipment and services.
- **Reporting and Documentation:** I systematically prepared routine reports concerning mining operations, encompassing production levels, safety incidents, and equipment performance. Furthermore, I maintained precise records and comprehensive documentation related to mining activities, permits, and regulatory compliance.

#### **Key Achievements**

- **Production Enhancement:** I effectively introduced strategies to boost production efficiency within the mining operation. Through comprehensive analysis and meticulous planning, I pinpointed areas ripe for improvement and executed measures to elevate graphite ore extraction while simultaneously reducing operational costs. This resulted in a marked upswing in overall production levels and operational efficacy.
- **Safety Upliftment:** Ensuring safety remained paramount throughout my tenure at Bogala Graphite Lanka Limited. I actively instilled a culture of safety awareness throughout the mine and instituted various enhancements to safety standards. By way of routine inspections, hazard identification, and well-structured training programs, I significantly curtailed the number of safety incidents and bolstered the overall safety performance.
- **Cost-Efficiency:** In my role as a Mining Engineer, I concentrated on the identification of cost-saving opportunities without compromising productivity or safety. Through judicious resource management and the optimization of equipment utilization, I effectively curtailed operational expenditures while sustaining high production levels. This accomplishment had a positive impact on the company's profitability and competitive position.
- **Process Refinement:** I spearheaded process improvements across various facets of mining operations. Through a meticulous analysis of workflows, identification of bottlenecks, and streamlining of procedures, I heightened operational efficiency and productivity. These enhancements translated into smoother operations, reduced downtime, and amplified throughput.
- **Collaborative Synergy:** I fostered robust working relationships and engaged in effective collaboration with cross-functional teams. My coordination with production, maintenance, and safety teams ensured seamless communication and alignment of objectives. This collaborative approach led to improved coordination, streamlined operations, and an overall boost in performance.

## **EDUCATION**

- **Ph.D in Electrochemical Engineering** [Seoul National University, South Korea (Aug 1995 - Aug 2000)] A Ph.D. in Electrochemical Engineering is a research-oriented program that focuses on the study of electrochemical phenomena, principles, and technologies. It is a highly specialized field of engineering that involves the application of chemical principles to the design and development of electrochemical systems and devices. The program covered a broad range of topics related to electrochemistry, including electrochemical thermodynamics, electrode kinetics, transport phenomena, electrocatalysis, electroanalytical chemistry, and electrochemical energy conversion and storage. My Ph.D research was "Combined Electrodialysis /Electrowinning Process for Recovery of hazardous heavy metals available in the Electroplating Effluents".
- **M.Sc in Environmental Sciences** [Open University of Sri Lanka (Aug 2014 - Aug 2016)] The program covers a broad range of topics related to environmental science, including environmental chemistry, ecology, biodiversity, environmental health, climate change, and environmental policy and management. The primary goal of the program is to equip students with the knowledge and skills needed to identify and solve environmental problems, with a focus on promoting sustainable development and protecting natural resources. The program was delivered through a combination of lectures, seminars, laboratory sessions, field trips, and independent research. My M.Sc research topic was "Develop a demand estimation model to predict future sand requirements and identify suitable alternatives to address the environmental issues related to excessive river sand mining in Sri Lanka".

- **MBA** [ University of Colombo (Aug 2015 - Aug 2017)] This MBA program is designed for professionals seeking to advance their careers in the fields of business, management, and finance. The program covers a wide range of topics related to business and management, including accounting, finance, marketing, human resources, operations management, strategy, and entrepreneurship. Students will learn about the latest theories, principles, and practices in business management, as well as develop critical thinking and problem-solving skills. The primary goal of the program is to equip students with the knowledge and skills needed to become effective managers and leaders in a variety of organizational settings. The program was delivered through a combination of lectures, case studies, group projects, and independent research.
- **PG Diploma in Remote Sensing and GIS** [ Indian Institute of Remote Sensing, Dehradun, India (Sep 2004 - May 2005) The program covers a wide range of topics related to remote sensing and GIS, including satellite imaging, digital image processing, data analysis, spatial modeling, GIS database management, and application development. Students will learn about the latest tools and techniques used in remote sensing and GIS, including software packages like ERDAS Imagine, ArcGIS, and ENVI. The primary goal of the program is to equip students with the knowledge and skills needed to analyze and interpret satellite images and spatial data, and to develop GIS applications for various purposes, such as environmental monitoring, urban planning, resource management, and disaster management. The program is delivered through a combination of lectures, practical sessions, and independent research.
- **B.Sc Engineering in Mining and Minerals Engineering** [ University of Moratuwa, Sri Lanka ( Aug 1985 - Nov 1991)]The program covers a wide range of topics related to mining and minerals engineering, including mineral exploration, mine design, rock mechanics, drilling and blasting, mineral processing, and mine safety. The primary goal of the program is to produce graduates who are equipped to work in the mining and minerals industry as mining engineers or mineral processing engineers. Graduates will have a strong foundation in the fundamentals of engineering, as well as a deep understanding of the specific technical and operational aspects of the mining and minerals industry. Students will also gain practical experience through laboratory work, field trips, and a final year project.
- **LLB** [ Buckinghamshire New University, Buckinghamshire, UK (Aug 2017 - Dec 2019)] The LLB degree program offered by Buckinghamshire New University in the UK is a three-year undergraduate program designed to provide students with the necessary knowledge and skills to practice law in the UK or internationally. The program covers a wide range of legal topics, including criminal law, contract law, tort law, property law, and human rights law.
- **Diploma in Management** [ Open University of Sri Lanka ( Aug 1992 - Aug 1993) ] The Diploma in Management course offered by the Open University of Sri Lanka is a one-year diploma program that provides students with a solid foundation in the principles of management. The program covers a wide range of topics, including organizational behavior, marketing, accounting, finance, human resource management, and operations management. Students learn about the various functions of a business and how they work together to achieve organizational objectives. They also develop skills in leadership, problem-solving, decision-making, communication, and teamwork.
- **PG Diploma in Computer Technology** [University of Colombo ( Aug 1993 - Aug 1994 ) The Postgraduate Diploma in Computer Technology course offered by the University of Colombo is a one-year program designed to provide students with advanced knowledge and skills in computer technology. The program covers a wide range of topics, including computer architecture, operating systems, databases, programming languages, software engineering, computer networks, and information security. Students learn about the latest developments in computer technology and gain practical experience in using various computer systems and software applications. The Postgraduate Diploma in Computer Technology program is delivered through a combination of lectures, tutorials, seminars, and practical exercises such as programming assignments and laboratory work.

## ADDITIONAL

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### Hobbies & Interests

Hiking, Swimming, Traveling, Volunteering, Sports team, Public speaking

### Software

Microsoft office, Excel, Word, PowerPoint, Outlook, Google Mail, Skype, Microsoft Teams, Microsoft Windows, Microsoft Project, Adobe Photoshop, Adobe Illustrator

### Hardware

Mobile, Desktops, LAN, Printers, Routers

### Programming Languages

Python, Java, Voulcon, Maptek Vulcan, Petrel, TechLog, Petrel Reservoir Engineering, ECLIPSE, Arc GIS, ERDAS

### Languages

English, Sinhala, Korean

## PUBLICATIONS

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### International Refereed Journal.

1. The potential of REEs in the Eppawala Phosphate Deposit, Sri Lanka: REE enrichment, mineralization, and economic significance, *Environmental Earth Sciences* (2023) 82:446 <https://doi.org/10.1007/s12665-023-11135-3>.
2. Geochemical exploration for prospecting new rare earth elements (REEs) sources: REE potential in lake sediments around Eppawala Phosphate Deposit, Sri Lanka, *Journal of Asian Earth Sciences*, Volume 243, March 2023, 105515.
3. Recovery Potential of Rare Earth Elements (REEs) from the Gem Mining Waste of Sri Lanka: A Case Study for Mine Waste Management, *Journal of Minerals*, Volume 12, 1411, November 2022.
4. Constraints to rare earth elements supply diversification: Evidence from an industry survey *Journal of Cleaner Production*, Volume 331, January 2022.
5. Leaching of Rare Earth Elements (REEs) from Lake Sediments around Eppawala Phosphate Deposit, Sri Lanka: A Secondary Source for REEs *Journal of Hydrometallurgy*, Volume 205, November 2021, 105751.
6. Evaluation of the Multi-Criteria Approach on Rail Route Planning, *Journal of Remote Sensing & GIS*, Volume 12, Issue 3, 2021.
7. Investigation of groundwater prospecting zones of the Giri River catchment of the Himachal Pradesh and its quality suitability for human consumption, *Journal of Water Resources and Ocean Science*, Volume 10(4):78-91, September 2021.
8. Urbanization of Colombo City and Its Impact on Land Surface Temperature from 2001- 2019, *American Journal of Environmental Protection*, Vol. 10, No. 3, July 2021, pp. 66-76.
9. Properties of Compressed Interlock Earth Blocks Manufactured from Locally Available Lateritic Soil for Low-Cost Housing Projects, *Advanced Engineering Forum*, Vol 39, February 2021 pp 85-94.
10. A comparison of global rare earth element (REE) resources and their mineralogy with REE prospects in Sri Lanka, *Journal of Asian Earth Sciences*, Volume 200, September 2020, 104455.
11. The story of rare earth elements (REEs): Occurrences, global distribution, genesis, geology, mineralogy and global production, *Ore Geology Reviews*, Volume 135, July 2020, 103521.
12. Analysis of the abundance of abandoned tanks in Hambantota District, Sri Lanka using GIS techniques, *The Egyptian Journal of Remote Sensing and Space Sciences (EJRS)*, Volume 15, Issue 2, December 2012, pp 143-150, 103521.
13. Site suitability analysis for reservoirs in Suriyawewa by using GIS techniques" *Journal of Remote Sensing and GIS*, Volume 3, Issue 2, April 2012, pp 60-78.
14. An approach to delineate groundwater recharge potential sites in Ambalantota, Sri Lanka using GIS techniques, *Geoscience Frontiers*, Volume 7, Issue 1, January 2006, pp. 115-124.
15. Sieve Area Calculation for the Beneficiation of Marawila Silica Sand for Glass Industry in Sri Lanka, *Journal of Institute of Engineers*, December 1993, Volume XXI, No 2, pp 31-38.

### Peer Reviewed Presentations at National/International Conferences/Symposia

#### (a) Published as full papers

1. Remote Sensing and GIS Approach to Monitor the Land-Use and Land-Cover Change in Kaduwela Metropolitan Area, Moratuwa Engineering Research Conference (MERCon), 27th-29th July 2022, IEEE Xplore: 04 October 2022, ISBN: 978-1-6654-8786-3.

2. Rare Earth Element Enrichment in Intrusive Rocks of Sri Lanka as a Potential Low-Grade Source, Moratuwa Engineering Research Conference (MERCon), 27th-29th July 2022, IEEE Xplore: 04 October 2022, ISBN: 978-1-6654-8786-3.
3. Upgrading Low-Grade Graphite Tailing into High-Grade Graphite Using Agglomeration, Moratuwa Engineering Research Conference (MERCon), 27-20 July 2021, IEEE Xplore: 14 September 2021, ISBN:978-1-6654-3753-0.
4. Extraction of Copper from Seruwila Copper Magnetite Deposit, Moratuwa Engineering Research Conference (MERCon), 28-30 July 2020, IEEE Xplore:03 September 2020, ISBN:978-1-7281-9975-7.
5. Recovery of Copper from Concentrated Seruwila Copper Magnetite Ore from Chloride Electrolyte in the Presence of Hydrochloric Acid, Moratuwa Engineering Research Conference (MERCon), 28-30 July 2020, IEEE Xplore: 03 September 2020, Electronic ISBN:978-1-7281-9975-7.
6. Ecological Evaluation of Urban Heat Island Effect in Colombo City, Sri Lanka Based on Landsat 8 Satellite Data, Moratuwa Engineering Research Conference (MERCon), 28-30 July 2020, IEEE Xplore: 03 September 2020, Electronic ISBN:978-1-7281-9975-7.
7. Prospecting for Rare Earth Element (REE) potential in offshore sources around Sri Lanka, First Research Symposium of the Ocean University of Sri Lanka, Colombo, 18th December 2019.
8. Upgrading low-grade graphite tailing into high-grade graphite in pilot scale using agglomeration, Proceedings of International Symposium on Earth Resources Management and Environment 23rd August 2019, pp 1-6, ISSN 2630-7677.
9. Identification of soil property impacts on manufacturing of high strength soil bricks in selected areas of Hambantota and Ratnapura Districts, Proceedings of International Symposium on Earth Resources Management and Environment, 23rd August 2019, pp, ISSN 2630-7677.
10. Use of Cement Sand Admixture to produce High Strength Soil Bricks for Low Cost Housing Projects, Proceedings of the International Symposium on Earth Resources Management and Environment 24th August 2018, pp 179-188, ISSN 2630-7677.
11. Characteristics Studies on Engineering Properties of River Sand Substitute for Conventional Concrete and Mortar Works, Proceedings of the International Symposium on Earth Resources Management and Environment 29th August 2017, pp 137-143, ISBN 978-955-9027-65-2.
12. Demand Estimation Model to Forecast the Building Material Requirement for the Construction and Allied Industries in Sri Lanka, Proceedings of the International Symposium on Earth Resources Management and Environment 29th August 2017, pp 203-209, ISBN 978-955-9027-65-2.
13. Identifications of most suitable locations for rock quarrying to supply aggregate requirements of the Colombo Port City Development Project, Proceedings of Earth Resources Engineering Annual Conference 08th July 2016, pp 29-34 ISSN 1 800-346X.
14. Identifications of most suitable location in Kaduwela Area to Establish a mega Quarry site to supply Aggregate Requirements of Mega projects in Colombo, Proceedings of Earth Resources Engineering Annual Conference 08th July 2016, pp 35-39 ISSN 1 800-346X.
15. Tsunami Modelling and Risk Assessment of Hambantota, Sri Lanka Using Integrated Remote Sensing Techniques, Proceedings of National Conference on Earth Resources Management 30th July 2015, pp80-87, ISSN 1 800-346X.
16. Development of an Algorithm for optimum allocation of multiple teams to bore hole drilling sites, Proceedings of National Conference on Earth Resources Management 25th July 2014, pp22-26, ISSN 1 800-346X.
17. Integrated Remote Sensing and GIS Approach for Demarcation of Ground Water Potential Zones in Ambalantota Divisional Secretariat, Proceedings of National Conference on Earth Resources Management 25th July 2014, pp 49-55, ISSN 1 800-346X.
18. Integrated Remote Sensing and GIS in lineament mapping for groundwater exploration - A case study in Ambalantota, Sri Lanka, SAITM Research Symposium on Engineering Advancements, April 2014, pp 62-65.
19. Remote Sensing and GIS based assessment of water scarcity - A case study from Hambantota District, Sri Lanka, Proceedings of 34th Asian Conference on Remote Sensing, October 2013, Volume 1 of 5, pp 2478-2485.
20. Development of an Algorithm to find the optimum Dredging Region for Short Term Scheduling, National Conference on Earth Resources Management Annual Conference 28th June 2013, pp 58-62, ISSN 1 800-346X, 9.
21. Economic Feasibility of Copper Extraction from Seruwila Copper Magnetite Deposit, Proceedings of the National conference on Earth Resources Management 28th June 2013, pp 52-57, ISSN 1 800-346X.
22. Site Suitability Analysis for Groundwater Recharging Structures I Hambantota District by using Remote Sensing and GIS Techniques, Proceedings of the 17th Annual Symposium, September 2011, pp 200-204 Research for Industry, Engineering Research Unit, University of Moratuwa, ISSN 1391-3999.
23. Design a Gravity Wheel for Mineral Transport and Power Generation, Proceedings of the conference of the 6th Annual Conference on Minerals and Innovative thinking, 25th November 2011, pp 1-4, ISSN 1 800-346X.
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30. Generation of user-friendly spatial information system for the rehabilitation and restoration of small scale irrigation schemes in selected 5 divisional secretariat in Hambantota Districts, Proceedings of the conference on mining for sustainable development, 17th October 2006., pp 20-25, ISSN 1800-346X.
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32. Effect of Soil and Water Conservation Measures on Land Use and Land Cover in Karso Watershed, Geo-Information for Future of Sri Lanka, Proceedings of The Second National Symposium on Geo-Informatics, August 2006, pp 131-144.
33. Remote Sensing and GIS approach for Delineating Groundwater Potential Zones in a Hard Rock Terrain, Geo-Information for Future of Sri Lanka, Proceedings of The Second National Symposium on Geo-Informatics, August 2006, pp 109-118.
34. A Case Study of Road Failure along an Irrigation Canal in Bangkok Plain, Annual Transactions of IESL, 2005, pp29-36.
35. Natural and enhanced remediation of chromium contaminated water, Proceedings of the 11th Annual Symposium, September 2005, pp 199-210 Research for Industry, Engineering Research Unit, University of Moratuwa, ISSN 1391-3999.
36. Treatment of Silver (Ag) containing effluents using electrodialysis, together with Silver recovery, Annual Transactions of IESL, 2004, pp29-36.

#### Published in abstract form at National and International Conferences.

1. Leaching Potential of Rare Earth Elements (Rees) From Eppawala Phosphate Deposit, Sri Lanka For Sustainable Critical Metals Recovery, Proceedings of the 39th Technical Session of Geological Society of Sri Lanka, 2023Published Online-24th February 2023, GSSL2023-T1-S1/02.
2. REE Potentials in Carbonate Deposits: A Case study of Eppawala Carbonate, Proceedings of International Symposium on Earth Resources Management and Environment 22nd December 2020, pp 14, ISSN 2630-7677.
3. Remote Sensing Analysis of Urban Heat Island Effect in Colombo City from 2001-2019, Proceedings of International Symposium on Earth Resources Management and Environment 22nd December 2020, pp 14, ISSN 2630-7677.
4. Feasibility of Extraction of Cerium Dioxide (CeO<sub>2</sub>) from Monazite at Pulmoddai, Proceedings of International Symposium on Earth Resources Management and Environment 22nd December 2020, pp 14, ISSN 2630-7677.
5. Selective Precipitation of Lanthanum and Neodymium oxide from Pulmuddai Monazite, Sri Lanka, Proceedings of International Symposium on Earth Resources Management and Environment 22nd December 2020, pp 14, ISSN 2630-7677.
6. Radioactive Challenges in Exploration and Extraction of Rare Earth Elements (REEs) in Sri Lanka, Proceedings of the 2nd International conference on environmental monitoring and management (EMM2020), Center for Environmental Studies, University of Peradeniya, 23rd October 2020, pp 53.
7. Assessment of tsunami damage using Remote Sensing and GIS and expected benefits of disaster early warning systems to tsunami vulnerable areas, Book of Abstracts, Comprehensive Nuclear- Test-Ban Treaty: Science and Technology 2011, Hofburg Palace, Vienna, Austria, 8-10 June 2011.
8. Geothermal Energy Potential from Hotwater Springs at Padiyathalawa Proceedings of 24th Annual Sessions of Geology for Safe and Sustainable Society, February 2008, pp 12.
9. Structural and Textural Significance of Tsunami Sediments, Proceedings of 24th Annual Sessions of Geology for Safe and Sustainable Society, February 2007, pp 9.
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11. Study on the Suitability of Cation Selective Membrane and the Effect on Current Density for Electrodialytic Removal of Heavy Metal Ions, Proceedings of the 9th Annual Symposium, August 2003, pp B9-B10 Research for Industry, Engineering Research Unit, University of Moratuwa, ISSN 1391-3999.

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1. "Study on the Suitability of Cation Selective Membrane and the Effect on Current Density for Electrodialytic Removal of Heavy Metal Ions", Proceedings of the 9th Annual Symposium, August 2003, pp B9-B10 Research for Industry, Engineering Research Unit, University of Moratuwa, ISSN 1391-3999.
2. "Treatment of Silver (Ag) Containing Effluents Using Electrodialysis", 10th Annual Symposium, August 2004, pp A5-A6 Research for Industry, Engineering Research Unit, University of Moratuwa, ISSN 1391-3999.
3. "Structural and Textural Significance of Tsunami Sediments", Proceedings of 24th Annual Sessions of Geology for Safe and Sustainable Society, February 2007, pp 9.
4. "Geothermal Energy Potential from Hotwater Springs at Padiyathalawa", Proceedings of 24th Annual Sessions of Geology for Safe and Sustainable Society, February 2008, pp 12.
5. "Land of Solar and Wind Potentials, International Conference on Circular Economy", Rhineland-Palatine, Environmental Campus, Birkenhead, University of Applied Sciences, Germany 6th December 2011.
6. "Solar Energy Development in Sri Lanka" International conference on "SOLAR 2011 CONFERENCE" Raleigh, Paleigh, North Carolina, USA, 15- 21 May, 2011.
7. "REE Potentials in Carbonate Deposits: A Case study of Eppawala Carbonate", Proceedings of International Symposium on Earth Resources Management and Environment 22nd December 2020, pp 14, ISSN 2630-7677.
8. "Remote Sensing Analysis of Urban Heat Island Effect in Colombo City from 2001-2019", Proceedings of International Symposium on Earth Resources Management and Environment 22nd December 2020, pp 14, ISSN 2630-7677.
9. "Feasibility of Extraction of Cerium Dioxide (CeO<sub>2</sub>) from Monazite at Pulmoddai", Proceedings of International Symposium on Earth Resources Management and Environment 22nd December 2020, pp 14, ISSN 2630-7677.
10. "Selective Precipitation of Lanthanum and Neodymium oxide from Pulmuddai Monazite, Sri Lanka", Proceedings of International Symposium on Earth Resources Management and Environment 22nd December 2020, pp 14, ISSN 2630-7677.

#### Scholarly Work (Chapters and Books of Scholarly Work (other than Textbooks) published in the relevant field)

1. Chapter: "Mineral Resources and sustainable use (Chapter 6) Book Title: Natural Resources of Sri Lanka. Publisher: National Science Foundation 47/5, Maitland Place, Colombo 7, 2018 ISBN: 987-955-590-129-1.
2. Map Title: "Geological Map of Silawatturai -Tantirimale" Publisher: Geological Survey and Mines Bureau 569 B120, Epitamulla Road Sri Jayawardenepura Kotte 10100 ISBN: 978-955-9323-61-7, August 2009.
3. Map Title: "Geological Map of Talaimannar-Palampiddi" Publisher: Geological Survey and Mines Bureau 569 B120, Epitamulla Road Sri Jayawardenepura Kotte 10100 ISBN: 978-955-9323-60-0, March 2009.
4. Map Title: "Geological Map of Kathiraveli-Kalkudai" Publisher: Geological Survey and Mines Bureau 569 B120, Epitamulla Road Sri Jayawardenepura Kotte 10100 ISBN-978-955-9323-57-0, November 2008.
5. Map Title: Geological Map of Padiyathalawa-Tampaddi Publisher: Geological Survey and Mines Bureau 569 B120, Epitamulla Road Sri Jayawardenepura Kotte 10100 ISBN-978-955-9323-58-7, October 2008.
6. Map Title: "Geological map of Mankulam - Kokilai" Publisher: Geological Survey and Mines Bureau 569 B120, Epitamulla Road Sri Jayawardenepura Kotte 10100 ISBN-978-955-9323-56-6, May 2008
7. Chapter: "Remote Sensing and GIS for Tsunami Damage Assessment" (Section 10, 671-678) Book Title: New Technologies for Urban Safety of Mega Cities in Asia Publisher: International Center for Urban Safety Engineering (ICUS), Institute of Industrial Science The University of Tokyo, Japan ISBN 4-903661-22-9.

#### AWARDS

1. Awarded the Mahapola Higher Education Scholarship from the Mahapola Higher Education Thrust Fund to pursue undergraduate studies at University of Moratuwa in 1985.
2. Awarded the National Institute for International Development Scholarship from the Government of the Republic of Korea to pursue Postgraduate studies leading to Ph.D. at Seoul National University (1995).
3. Awarded the Scholarship from the Indian Institute of Remote Sensing, Government of India to pursue Postgraduate studies in Remote sensing and GIS in 2004.
4. People Leader Awards Engineering 2016, Nation Leader in HRM awarded by IPM Sri Lanka
5. President's Award for Scientific Publications in 2016.
6. Merit Award of Excellence for outstanding research performances in recognition of the outstanding research performance for the year ending 31st December 2020.
7. Merit Award of Excellence for outstanding research performances in recognition of the outstanding research performance for the year ending 31st December 2021.

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I hereby certify that the forgoing particulars of my CV are true and correct.



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