# CURRICULUM VITAE

## Dr. Luminda Gunawardhana: Expert in Hydrology and Hydrogeology

## I. PERSONAL INFORMATION

Full name : HEWAWASAM GAMAGE LUMINDA NIROSHANA GUNAWARDHANA
Date of Birth : 24 August 1978
Current Affiliation: Senior Lecturer, Department of Civil Engineering, University of Moratuwa, Sri Lanka
Telephone : +94-719859604
Nationality : Sri Lankan
Email address : lumindang@uom.lk or gunawardhanaluminda@gmail.com
Google Scholar : https://scholar.google.com/citations?hl=en&user=gvLCSsMAAAAJ&view_op=list_works&sortby=pubdate

## II. EDUCATIONAL INFORMATION

- **Graduate School of Environmental Studies, Tohoku University, Japan, 2006-2010**

  Ph.D. in Environmental Studies, 2010, Area of Specialization: Hydrology and Climate Change

  Grade: Exceptional

- **The Urban Environmental Management field, Asian Institute of Technology, Thailand, 2004-2006**

  M.Sc. in Environmental Management, 2006, Area of Specialization: Urban Environment Management

  GPA: 3.89 out of 4.00

  Thesis Grade: Excellent

- **Faculty of Engineering, University of Peradeniya, Sri Lanka, 1999-2003**

  B.Sc. in Civil Engineering, 2003, Area of Specialization: Civil Engineering

  Grade: II Upper Division

## III. EMPLOYMENT INFORMATION

- **Department of Civil Engineering, University of Moratuwa, Sri Lanka, July 1, 2021-up to date:**
  Senior Lecturer Grade 1: Department of Civil Engineering
- **College of Engineering, Sultan Qaboos University, Oman, July 1, 2020-June 30, 2021:**
  Associate Professor, Department of Civil and Architectural Engineering.

- **College of Engineering, Sultan Qaboos University, Oman, February 10, 2013-June 30, 2020:** Assistant Professor, Department of Civil and Architectural Engineering.
- **Graduate School of Environmental Studies, Tohoku University, Japan, 2012-2013:**

  Postdoctoral fellowship for foreign researchers funded by the Japan Society for the Promotion of Science (JSPS).
- **Graduate School of Environmental Studies, Tohoku University, Japan, 2010-2012:**

  Postdoctoral research fellow for the S-8 project funded by the Ministry of the Environment, Japan.
- **Faculty of Civil Engineering, University of Peradeniya, Sri Lanka, 2003-2004:**

  Instructor: Department of Civil Engineering

## IV. PROJECTS

1. **Consultant:** Preparation of integrated tourism master plan of Chilika Lake, Odisha, India, Sustainable Tourism Ventures, 2021-2022, **(2670 USD).**
2. **Consultant:** Climate Risk Vulnerability Assessment (CRVA) Study for SEZAD Area in Oman, Civil Technology Engineering Consultancy, 2020, 5000 OMR **(13000 USD).**
3. **Co-Investigator**: Evaluation of groundwater quality in Al-Khoud water supply well-field, and formulation of remediation strategies (Phase 1: Characterizing Red and Orange zones), Ministry and Environment and Climate Affairs, Sultanate of Oman (CR/ENG/CAED/19/01), 2019-2020, 110000 OMR **(286000 USD).**
4. **Consultant:** Hydrology Study for Duqm Pipeline Project, HMR Environmental Engineering Consultant, 2018-2019, 5000 OMR **(13000 USD).**
5. **Consultant:** Characterizing and modeling of groundwater level increase in Muscat Airport area, Oman Airports Management Company SAOC (CR/ENG/CAED/17/01), 2018-2019, 1800 OMR **(4680 USD).**
6. **Principle Investigator:** Trend between the renewal rate of the aquifer and the extreme climate events, funded by the Internal Research Grant, Sultan Qaboos University (IG/ENG/CAED/16/02), 2016-2018, 6375 OMR **(16575 USD)**.
7. **Consultant**: Oman National Climate Change Strategy, funded by Ministry of Environment & Climatic Affairs (CR/ART/GEOG/14/01), 2014-2016, 5000 OMR **(13000 USD)**.
8. **Postdoctoral Research Fellow:** Comprehensive Study on Impact Assessment and Adaptation for Climate Change, Ministry of the Environment and Grants-in-Aid for Scientific Research, Japan, 2010-2012.

## V. AWARDS AND RECOGNITION

- 2020: Distinguished Academician award for the teaching during 2019-2020 on the occasion of the 20$^{th}$ university day of the Sultan Qaboos University.

- 2012: 2-years Postdoctoral Fellowship Japan Society for the Promotion of Science (JSPS).
- 2010: 2-years Postdoctoral Fellowship granted by the Environment Research and Technology Development Fund (S-8) of the Ministry of the Environment, Japan.
- 2006: 3-years scholarship for Doctor Program at Tohoku University granted by the Japanese Government (MONBUKAGAKUSHO Scholarship).
- 2004: 2-years scholarship for Master Program at Asian Institute of Technology granted by the Norwegian Agency for International Development Cooperation (NORAD).

## VI. TEACHING

- **Senior Lecturer:** Department of Civil Engineering, University of Moratuwa, 2021-up to date.
  Hydraulics Engineering II (BSc), Hydraulic Design (BSc), Research Methodology for Water Resources Engineering and Management (MSc), RS & GIS for Planning and Management (MSc) and Advance Surface and Groundwater Hydrology (MSc)
- **Associate Professor:** Department of Civil and Architectural Engineering, Sultan Qaboos University, 2013-2021.
  Fluid Mechanics (BSc), Hydraulics (BSc), Engineering Hydrology (BSc), Surface water Hydrology (MSc) and Groundwater hydraulics (MSc)
- **Teaching Assistant:** Graduate course for Watershed Environment, Tohoku University, 2010-2013.
  Substitute lectures, tutorial classes and assignments, emphasis on general hydrology, groundwater-surface water interactions, climate change impacts on coastal fresh-water resources and international river basin management.
- **Teaching Assistant:** Undergraduate course for English ability, Tohoku University, 2009
  Substitute lectures, presentations and assignment evaluations.
- **Instructor:** Department of Civil Engineering, Peradeniya University, 2003-2004.
  Undergraduate courses for Hydrology & Environmental Engineering, Surveying and Theory of Structures & Strength of Materials with sole responsibility for practical sessions, design classes and survey camps.

## VII. SUPERVISIONS

- **Supervision of PhD students**

  Sharifa Al Hashmi, Assessment of protection zones in Al-Khoud water supply wellfield and sources of groundwater pollution. Completed in June 2020.

- **Supervision of MSc students**

  1. Basma Al Hadi, Estimating the effect of aerial recharge on the pumping test results using MODFLOW numerical model. Completed in May 2021.
  2. Fatma Al Harthi, Estimation of aquifer properties from pumping tests in Muscat Airport area. Completed in June 2020.
  3. Ruqaya Al Hadhrami, Simulating climate change impacts on wadi-flow variation in Al-Khoud watershed. Completed in December 2019.

4. Al Mundhar Khamis Al Nasri, Estimation of groundwater renewal rate in Al-Khoud area using MODFLOW numerical model. Completed in December 2019.
5. Mahmoud Mohammed Ali Bani Uraba, Quantification of the climate change-induced variations in Intensity-Duration-Frequency curves in Salalah, Oman. Completed in December 2016**.**

- **Co-Supervision of MSc students**

1. Ahmed Al Naamani, Evaluation of operational performance of water distribution systems in Sultanate of Oman, Completed in June 2020.
2. Fathiya Al Azri, Development of flood risk maps for Wadi Mayh catchment area in Muscat Governorate, Sultanate of Oman. Completed in December 2018.
3. Sheikha Al Malki, Development of regional Intensity-Duration-Frequency (IDF) curves for Sultanate of Oman. Completed in December 2018
4. Bushra Al Abri, Investigation of the rainfall-runoff relationships for Wadi Dayqah catchment. Completed in December 2016.
5. Prerana Chitrakar, Transient groundwater flow modeling of Al Batinah coastal region (Barka), Completed in December 2014.

- **Supervision of BSc students:** 15 students have completed their 2-semesters long research projects.

## VIII. SERVICES

- **University administration and committees**

1. ABET Accreditation Committee (2014-2021)
2. Focus group coordinator for Water and Environment group (2014-2020)
3. Postgraduate Studies and Research Committee (2019-2021)
4. Student Advising and Appeal Committee (2015-2019)
5. Undergraduate Curriculum Revision Committee (2017-2019)
6. Examination committee (2019-2021)

- **Member of the Advisory Board of Water Research Center** (SQU), 2017-2021.

- **Member of editorial board in International Journals**

  Associate Editor for the Hydrological Research Letters Journal
  http://www.hrljournal.org/editors

- **Review book proposal** (2019) "Climate Change and Extreme Events" for **ELSEVIER**.

- **Organization of Conferences**

1. Scientific committee member of the 1st National Conference on Civil & Architectural Engineering (NCCAE 2018), SQU, Oman.
2. Scientific committee member and an editor of the book of abstracts of the Fifth International Conference on Estuaries and Coast (ICEC, 2015), SQU, Oman.

## IX. SCHOLARLY ACHIEVEMENTS

- **International refereed journals as the first and corresponding author**

1. **Gunawardhana, L.N.**, Al-Harthi, F., Sana, H., Baawain, M.S. (2021). Analytical and numerical analysis of constant-rate pumping test data considering aquifer boundary effect. ***Environmental Earth Sciences***, 80: 543, pp. 1-13. https://doi.org/10.1007/s12665-021-09833-x
2. **Gunawardhana, L.N.**, Al-Rawas, G.A., Baawain, M.S. (2020). Spatial regression approach to estimate synthetic unit hydrograph by geomorphic characteristics of watersheds in arid regions. ***Journal of Arid Land***, Vol. 12, pp. 950-963. https://doi.org/10.1007/s40333-020-0101-y
3. **Gunawardhana, L.N.**, Al-Rawas, G.A. (2020). Investigating meteorological effect on river flow recession rate in an arid environment. ***Hydrological Sciences Journal***, Vol. 65, pp. 2249-2255. https://doi.org/10.1080/02626667.2020.1798009
4. **Gunawardhana, L.N.**, Al-Rawas, G.A., Ghadeer Al-Hadhrami. (2018). Quantification of the changes in intensity and frequency of hourly extreme rainfall attributed to climate change in Oman. ***Natural Hazards***, Vol. 92, pp. 1649-1664. https://doi.org/10.1007/s11069-018-3271-6
5. **Gunawardhana, L.N.**, Al-Rawas, G.A., Kwarteng, A.Y., Al-Wardy, M., and Charabi, Y. (2018). Potential changes in the number of wet days and its effect on future intense and annual precipitation in northern Oman. ***Hydrology Research***, Vol. 49 (1), pp. 237-250. https://doi.org/10.2166/nh.2017.188
6. **Gunawardhana, L.N.**, Al-Rawas, G.A., and Kazama S. (2017). An alternative method for predicting relative humidity for climate change studies. ***Meteorological Applications***, Vol. 24 (4), pp. 551-559. https://doi.org/10.1002/met.1641
7. **Gunawardhana L.N.** and Kazama S. (2017). The potential role of urban green areas for controlling ground surface and subsurface warming. ***Urban Water***, Vol. 14 (1), pp. 34-44. https://doi.org/10.1080/1573062X.2015.1057177
8. **Gunawardhana, L.N.**, Al-Rawas, G.A., Kazama, S. and Al-Najar, K.A. (2015). Assessment of future variability in extreme precipitation and the potential effects on the wadi flow regime. ***Environmental Monitoring and Assessment***, Vol. 187 (10), pp. 1-19. https://doi.org/10.1007/s10661-015-4851-5
9. **Gunawardhana, L.N.**, Kazama, S. and Al-Rawas, G.A. (2015). Simulating thermal pollution caused by a hypothetical groundwater heat pump system under different climate, operation and hydrogeological conditions. ***Geothermal Energy***, Vol. 3 (1), pp. 1-15. https://doi.org/10.1186/s40517-015-0037-1
10. **Gunawardhana L.N.** and Kazama S. (2012). Using subsurface temperatures to derive the spatial extent of the land use change effect. ***Journal of Hydrology***, Vol. 460-461, pp. 40-51. https://doi.org/10.1016/j.jhydrol.2012.06.042

11. **Gunawardhana L.N.** and Kazama S. (2012). Statistical and numerical analyses of the influences of climate variability on aquifer water levels and groundwater temperatures: The impacts of climate change on aquifer thermal regimes, ***Global and Planetary Change***, Vol. 86-87, pp. 66-78. https://doi.org/10.1016/j.gloplacha.2012.02.006
12. **Gunawardhana L.N.** and Kazama S. (2012). A water availability and low-flow analysis of the Tagliamento River discharge in Italy under changing climate conditions, ***Hydrology and Earth System Science***, Vol. 16, pp. 1033-1045. https://doi.org/10.5194/hess-16-1033-2012
13. **Gunawardhana L.N.** and Kazama S. (2011). Climate change impacts on groundwater temperature change in the Sendai plain, Japan. ***Hydrological Processes***, Vol. 25, pp. 2665-2678. https://doi.org/10.1002/hyp.8008
14. **Gunawardhana L.N.,** Kazama S. and Kawagoe S. (2011). Impact of urbanization and climate change on aquifer thermal regimes. ***Water Resources Management***, Vol. 25, pp. 3247-3276. https://doi.org/10.1007/s11269-011-9854-6
15. **Gunawardhana L.N.** and Kazama S. (2009). Tidal effects on aquifer thermal regime: An analytical solution for coastal ecosystem management, ***Journal of Hydrology***, Vol. 377, pp. 377-390. https://doi.org/10.1016/j.jhydrol.2009.08.035

**International refereed journals by the supervised MSc and PhD students**

1. Al Mundhar Al Nasri, **Gunawardhana L.N.,** Al-Rawas, G.A., Baawain M. and Sana A. (2022). Multi-layer groundwater flow simulation in Al-Khoud lower catchment in Oman. ***Journal of Applied Water Engineering and Research***, Vol. 10, pp. 250-260. https://doi.org/10.1080/23249676.2021.1982027
2. Al-Hashmi S., **Gunawardhana L.N.,** Sana A. and Baawain M. (2020). Application of groundwater flow model in assessing aquifer layers interaction in arid catchment area. ***International Journal of Environmental Science and Technology***, Vol. 17, pp. 4577-4588. https://doi.org/10.1007/s13762-020-02805-x
3. Al-Hashmi S., **Gunawardhana L.N.,** Sana A. and Baawain M. (2020). A numerical groundwater flow model of Wadi Samail Catchment using MODFLOW software. ***International Journal of GEOMATE***, Vol. 18, pp. 30-36. https://doi.org/10.1007/s13762-020-02805-x
4. Uraba, M.B., **Gunawardhana, L.N.**, Al-Rawas, G.A., Baawain, M.S. (2019). A downscaling-disaggregation approach for developing IDF curves in arid regions. ***Environmental Monitoring and Assessment***, Vol. 191 (245), pp. 1-17. https://doi.org/10.1007/s10661-019-7385-4

**International refereed journals as one of the co-authors of the collaborative studies**

1. Rangsiwanichpong, P., Kazama, S., Ekkawatpanit, C. and **Gunawardhana, L.** (2019). Evaluation of cost and benefit of sediment based on landslide and erosion models. ***Catena***, 173: 194-206. https://doi.org/10.1016/j.catena.2018.10.010
2. Rangsiwanichpong, P., Kazama, S., and **Gunawardhana, L.** (2018). Assessment of sediment yield in Thailand using revised universal soil loss equation and geographic

information system techniques. ***River Research and Applications***, 34: 1113-1122. https://doi.org/10.1002/rra.3351

3. Amano, A., Sakuma, T., Kazama, S. and **Gunawardhana, L.** (2013). Evaluation of diarrhea disease risk attributed to inundation water use on a local scale in Cambodia using hydrological model simulations. ***River Systems,*** 20:185-196. DOI: 10.1127/1868-5749/2012/0064

4. Kazama S., Aizawa T., Watanabe T., Ranjan P., **Gunawardhana L.N.*** and Amano A. (2012). A quantitative risk assessment of waterborne infectious disease in the inundation area of a tropical monsoon region, ***Sustainability Science***, Vol. 7, pp. 45-54 (* as the corresponding author). https://doi.org/10.1007/s11625-011-0141-5

5. Thi M.M., **Gunawardhana L.N.** and Kazama S. (2012). A comparison of historical land-use change patterns and recommendations for flood plain developments in three delta regions in Southeast Asia, ***Water International***, Vol. 37, pp. 218-235. https://doi.org/10.1080/02508060.2012.687511

6. Ono K., Akimoto T., **Gunawardhana L.N.*,** Kazama S. and Kawagoe S. (2011). Distributed specific sediment yield estimations in Japan attributed to extreme-rainfall-induced slope failures under a changing climate, ***Hydrology and Earth System Science***, Vol. 15, 197-207 (* as the corresponding author). https://doi.org/10.5194/hess-15-197-2011

**Regional and other refereed journals**

1. **Gunawardhana L.N.** and Ghazi Al-Rawas (2016). A comparison of trends in extreme rainfall using 20 years data in three major cities in Oman. ***The Journal of Engineering Research***, Vol 13 (No. 2), pp. 137-148. http://www.tjer.net/site/issue13-2/Paper4.pdf

2. Mohammed Al-Habsi, **Luminda Gunawardhana**, Ghazi Al-Rawas, (2014). Trend Analysis of Climate Variability in Salalah, Oman. ***International Journal of Students Research in Technology & Management***, Vol. 2 (05), pp. 168-171. http://giapjournals.com/index.php/ijsrtm/article/view/132

3. Mohammed Al-Housni, **Luminda Gunawardhana**, Ghazi Al-Rawas (2014). Wadi Flow Simulation Using Tank Model in Muscat, Oman. ***International Journal of Students Research in Technology & Management***, Vol. 2 (05), pp. 178-182. http://giapjournals.com/index.php/ijsrtm/article/view/134

4. Abdulaziz Al-Ghafri, **Luminda Gunawardhana**, Ghazi Al-Rawas, (2014). An Assessment of Temperature and Precipitation Change Projections in Muscat, Oman from Recent Global Climate Model Simulations. ***International Journal of Students Research in Technology & Management***, Vol. 2 (03), pp. 109-112. http://giapjournals.com/index.php/ijsrtm/article/view/120

5. Morizawa, K., Asaoka, Y., Kazama, S., and **Gunawardhana L. (**2013). Temporal glacier area changes correlated with the El Niño/La Niña Southern Oscillation using satellite imagery. ***Hydrological Research Letters,*** 7:18-22. http://doi.org/10.3178/hrl.7.18

6. Ono, K., Kazama, S., and **Gunawardhana,** L. **(**2013). An investigation of extreme daily rainfall in the Mekong River Basin using a gridded precipitation dataset. ***Hydrological Research Letters****,* 7:66-72. http://doi.org/10.3178/hrl.7.66
7. **Gunawardhana, L.N.** and Kazama, S. (2012). hydrological response to future climate change in the Tagliamento River in Italian Alps. ***Journal of Japan Society of Civil Engineers***, Vol. 68, pp. 241-246. http://doi.org/10.2208/jscejhe.68.I_241
8. Ono K., Kazama S., Kawagoe S., Yokoo Y. and **Gunawardhana L.N.** (2011). Possible earthen dam failure mechanisms of Fujinuma reservoir due to the Great East Japan Earthquake of 2011. ***Hydrological Research Letters***, Vol. 5, pp. 69-72 (* as the corresponding author). http://doi.org/10.3178/hrl.5.69
9. **Gunawardhana, L.N.** and Kazama, S. (2011). Snow and Glacier contribution from Italian Alps for seasonal river discharge in Tagliamento River. Journal of Japan Society of Civil Engineers, Vol. 55, pp. 67-72. http://doi.org/10.2208/jscejhe.67.I_67

**International refereed conferences**

1. **Gunawardhana L.N.**, Baawain M., and Sana A. (2019). Groundwater level rise in Muscat Airport area and ways of managing the issue. The 5th International Conference on Science, Engineering and Environment (SEE), Bangkok, Thailand, on November, 11-13, 2019.
2. Al-Hashmi S., **Gunawardhana L.N.**, Sana A., and Baawain M. (2019). Steady state groundwater flow model of Wadi Samail Catchment. The 5th International Conference on Science, Engineering and Environment (SEE), Bangkok, Thailand, on November, 11-13, 2019.
3. **Gunawardhana L.N.**, and Ghazi Al-Rawas (2018). Parameterization of the Snyder Unit Hydrograph method for arid regions. The 8th International Conference on Fluid Mechanics (ICFM8, 2018), Sendai, Japan, on September 25-28, 2018.
4. **Gunawardhana L.N.**, Ghazi Al-Rawas and Kazama S. (2016). Assessment of wadi-flow variations attributed to climate change in Muscat, Oman. 20th Congress of the Asia Pacific Division of the International Association for Hydro Environment Engineering and Research (IAHR APD 2016), Colombo, Sri Lanka, on August 28-31, 2016.
5. Al-Shibani S., **Luminda Gunawardhana**, Ghazi Al-Rawas (2015). An assessment of trends in extreme temperature in five regions in Oman. 5th International Conference on Estuaries and Coasts (ICEC2015), Sultan Qaboos University, Oman, on November 2-4, 2015.
6. Al-Salhi A., **Luminda Gunawardhana**, Ghazi Al-Rawas (2015). Assessment of future variability in extreme precipitation in Muscat, Oman. 5th International Conference on Estuaries and Coasts (ICEC2015), Sultan Qaboos University, Oman, on November 2-4, 2015.
7. **Luminda Gunawardhana**, Ghazi Al-Rawas, So Kazama, (2015). River Discharge Variations Attributed to Extreme Rainfall in Oman. 2nd International Symposium on Water Environment Systems, Tohoku University, Japan, on January 30-31, 2015.
8. **Gunawardhana, L.N** and Al-Rawas, G.A. (2014). Trends in Extreme temperature and precipitation in Muscat, Oman, In: Castellarin, A., Ceola, S., Toth, E. and Montanari, A. (Eds.) Evolving Water Resources Systems: Understanding, Predicting and Managing Water-

Society Interactions, *IAHS Publ*, Vol. 364, pp. 57-63 http://www.proc-iahs.net/364/57/2014/piahs-364-57-2014.pdf

9. Al-Rawas, G., **Hewawasam, L.**, Silva, A., Santo, F., and Pires, V. (2014). Rainfall Temporal Variability Analysis and the Use of Standardized Precipitation Index to Identify Dry and Wet Periods in Oman. *European Geosciences Union General Assembly 2014*, Vienna, April 27-May 2, 2014.
10. **Gunawardhana L.N.** and Kazama S. (2012). The relationship between ground surface warming and land-use change in Kanto plain, Japan. 4th International Conference on Estuaries and Coasts (ICEC2012), Water Resources University, Vietnam, on October 8-11, 2012.
11. **Gunawardhana L.N.** and Kazama S. (2011). Groundwater temperature as a tracer to estimate anthropogenic impacts: past, present and future, Conceptual and Modelling Studies of Integrated Groundwater, Surface Water, and Ecological Systems, *IAHS Publ.* Vol. 345, pp. 10-16 http://iahs.info/redbooks/345.htm.
12. **Gunawardhana L.N.** and Kazama S. (2011). Groundwater temperature as a proxy to estimate ground surface warming attributed to anthropogenic impacts in 20th century in Japan, Proceedings of the *4th IWA-ASPIRE Conference and Exhibition,* in Tokyo, Japan, pp. 1-8
13. **Gunawardhana L.N.** and Kazama S. (2011). The effects of sea water and fresh groundwater temperatures change on heat transport in inter- mediate zone in the coastal aquifers, Proceedings of the *25th IUGG General Assembly* in Melbourne, Australia, pp. 1936.
14. Kazama S., **Gunawardhana L.N.** and Kawagoe S. (2011). Water disaster impact of climate change and its adaptation, Proceedings of the *International Symposium Promoting Synergies Among Adaptation Networks in the Asia-Pacific Region*, in Ibaraki, Japan, pp. 3-12.

**Other refereed conferences**

1. **Gunawardhana L.N.** and Ghazi Al-Rawas (2018) Regionalization of the Snyder UH method for watersheds in Oman. The 1st National Conference on Civil & Architectural Engineering, Sultan Qaboos University, Oman, pp. 7-8.
2. Ahmed Almaharbi, **Gunawardhana L.N.** and Ghazi Al-Rawas (2018) Simulation of wadi flow in Al-Awabi Catchment using Snyder UH method. The 1st National Conference on Civil & Architectural Engineering, Sultan Qaboos University, Oman, pp. 55-56.
3. Said Almashaykhi, **Gunawardhana L.N.** and Ghazi Al-Rawas (2018) Modeling rainfall-runoff relationship in Al-Khoud Catchment area. The 1st National Conference on Civil & Architectural Engineering, Sultan Qaboos University, Oman, pp. 69-70.
4. **Gunawardhana L.N.** and Kazama S. (2012) Winter river discharge timing and low-flow frequency under changing climate conditions in the Tagliamento River basin in Italy. JSCE-Shibu conference, Tohoku, Japan, pp. ll-20.
5. **Gunawardhana L.N.** and Kazama S. (2011) Aquifer warming attributed to land-use change in Japan. JSCE-Shibu conference, Tohoku, Japan, pp. ll-12.

**Technical Reports**

1. **Luminda Gunawardhana** (2020). Climate Change-Identification of Risks and Impacts, Duqm Special Economic Zone, The report for Civil Technology Engineering Consultancy, Sultanate of Oman.

2. Mahad Baawain, **Luminda Gunawardhana**, and Ahmed Sana (2020). Evaluation of groundwater quality in Al-Khoud water supply well-field, and formulation of remediation strategies (Phase 1: Characterizing Red and Orange zones), The report for Ministry of Environment & Climate Affairs (MECA), Sultanate of Oman.
3. **Luminda Gunawardhana**, Ghazi Al-Rawas (2019). Flood study for wadi crossings along the pipe line route from Raz Markaz to Duqm Refinery. The report for HMR Environmental Engineering Consultants.
4. **Luminda Gunawardhana** (2019). Trend between the renewal rate of the aquifer and the extreme climate events. The report for Deanship of Research, Sultan Qaboos University.
5. Mahad Baawain, **Luminda Gunawardhana**, and Ahmed Sana (2019). Characterizing and modeling groundwater level increase in Muscat Airport area. The report for Oman Airports Management Company.
6. **Luminda Gunawardhana**, Ghazi Al-Rawas (2015). Spatio-temporal analysis of extreme rainfall events in the Sultanate of Oman base on hourly data base from 2000-2014. The report for "Oman National Climate Change Strategy", funded by Ministry of Environment & Climatic Affairs (MECA).

## X. REFERENCES

Prof. So Kazama
Tohoku University, Japan
PhD thesis supervisor
Email: so.kazama.d3@tohoku.ac.jp
Tel: +81-22-795-7458

Dr. Ghazi Al-Rawas
Sultan Qaboos University
Assistant Dean of the College of Engineering
Email: ghazi@squ.edu.om
Tel: +968-9922-2048