

## LAREEF ZUBAIR

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### Education

**Ph.D: Yale University**, Engineering, 1993.

- Thesis title: "Studies in Turbulence using Wavelet Analysis for data compression and scale separation". Courses in Engineering, Physics, Sociology, Political Science and Anthropology

**M.Sc: Yale University**, Chemical Engineering, 1990.

- Awarded University Fellowship, 1989-90.

**B.Sc: University of Peradeniya**, Sri Lanka, Chemical and Mechanical Engineering, 1987.

- First Class Honors, Prize for the best undergraduate research project, Valedictorian.

**University Consortium for Atmospheric Research, 2000 to 2001**

- *Post-Doctoral Research Scientist, on Climate Applications,*

**Yale University, U.S.A., 1993 - 1994**

- *Post-Doctoral Associate, Departments of Mathematics and Mechanical Engineering*

### Employment

**Foundation for Environment, Climate and Technology, Sri Lanka, (also in New York, Comoros, Maldives), 2002 to-date**

*Founder, Director, Principal Scientist*

**Columbia University, 2002 to date**

*Affiliate Researcher, Columbia University Water Center (2014 to date)*

*Adjunct Researcher, Department of Earth and Environmental Engineering, 2014-2017*

*Associate Research Scientist, International Research Institute for Climate and Society, Climate, Climate Adaptation and Climate Applications, (Jan. 2002-to 2012)*

**University of Peradeniya, Sri Lanka, 1995 – 1997**

*Visiting Lecturer and co-PI, Faculty of Arts, Masters in Development  
Senior Lecturer in Civil (Environmental) and Mechanical Engineering*  
**William C. Fulbright Scholarship Board, D.C., 2012 to 2013**  
*Senior Scholar, University of Peradeniya, Sri Lanka*  
**Institute of Fundamental Studies, Sri Lanka, 1997 – 1999**  
*Research Fellow, Computational Mathematics*  
**Yale University, U.S.A., 1993 - 1995**  
*Tutor in Mathematics and Science, Jonathan Edwards College*

### **Fellowships**

- *Fulbright Senior Fellowship, Sri Lanka and Maldives, 2012-2013*
- *Botswana Meteorological Service, Gaborone, Botswana, February 2007.*
- *Frontier Research System for Global Change, Yokohama, Japan, 2002.*
- *Visiting Eminent Scientist, Ministry of Science and Technology, Sri Lanka, 2002.*
- *Indian Institute for Tropical Meteorology, Pune, India, December 1999.*
- *International Institute for Theoretical and Applied Physics, Ames, Iowa, 1998.*
- *International Center for Theoretical Physics, Trieste, Italy, June 1998.*
- *Jawarlhalal Nehru Centre for Advanced Scientific Research and Indian Institute of Science, Bangalore, India, March 1997.*
- *NSF Pittsburgh Supercomputing Centre, Course on parallel programming for supercomputing, 1991.*

### **Editorial and Review Service**

#### **Reviewer**

Environmental Science and Technology	Journal of Geophysical Research
Experimental Thermal and Fluid Science	Journal of Hydrology
Geophysical Research Letters	Journal of Hydrometeorology
Hydrological Processes	Water Resources Research
Climatic Research	Pure and Applied Geophysics
International Journal of Climatology	
Journal of Climate	

#### **Editor**

Associate Editor: ASCE Journal of Energy Engineering - 2007 to 2014

### **Professional Associations and Service**

*Member:* American Geophysical Union, Indian, American Society of Civil Engineers, American Association of Environmental Engineering Professors, American Meteorological Society, Meteorological Society, Royal Meteorological Society, Agronomy Society of America, International Association for Ecology & Health.

*Founder:* Sri Lanka Meteorology, Oceanography and Hydrology Network.

### **Advisory and Capacity Building Programs**

- *Invited Expert, Comoros Ministry of Fisheries and Hairu Fisheries Development Project (Comoros), To develop climate research and its applications, Comoros. February 2014.*

- Invited Expert, *Small Earth Nepal*, and *Center for Capacity Building, University of Colorado*, Program for young scientists.
- Invited Adviser, *Ministry of Environment, Male Maldives*, To Develop a Program of Climate Research and Services, August 2008, with follow up programs in 2009, 2010, 2011 and 2012.
- UNDP Totken Fellowship, for Developing a Masters in Sustainable Development Practice, *University of Peradeniya, Sri Lanka* and *Maldives National University, Maldives*. 2009
- Trainer on Developing Climate Outlooks, Pretoria, South Africa and Gaborone, Botswana, 2008.
- Invited Expert, *International Centre for Theoretical Physics, Trieste, Italy*, Physics of Tsunami and its Impacts.
- Invited Expert, for Climate Diagnostics and Impacts on Malaria Transmission, *Botswana Meteorological Service*, 2008
- Invited Expert under Expatriate Scientist Program, *Ministry of Science and Technology, Sri Lanka*, Capacity Building at the Department of Meteorology and Conducted Course on Climate Diagnostics for Masters Students in Dynamical Meteorology at University of Colombo. January-February 2002.

## Computing Skills

Unix, Cray, PC and MacOS Systems, Fortran, C, html, GIS, Matlab, Ingrid and R.

## Publications

(Collaborators who were supervised are listed in italics)

### ENVIRONMENT AND SOCIETY

1. **Zubair, L.**, 2005, Modernization of Sri Lanka's Traditional Irrigation System and Sustainability, *Science, Technology and Society*, 10 (20): 161-195.
2. **Zubair, L.**, 2003, Development of Meteorological Studies in Sri Lanka, *Journal of the Institute of Engineers, Sri Lanka*, 35 (2): 14-18, 2002
3. **Zubair, L.**, 2002, An Assessment of Environmental Impact Assessment in Sri Lanka, *Environmental Impact Analysis Review*, 21(5): 469-478.
4. Agalawatte, P., Yahiya, Z., Viswanathan, J., Zubair, L. and Bell, M. (2016). Providing climate services for water management in Sri Lanka. In Climate Change Secretariat (Ed.), *NEELAHARITHA-The Climate Change Magazine of Sri Lanka* (pp.40-46). Sri Lanka: Ministry of Mahaweli Development and Environment.

### HAZARDS AND DISASTERS

5. B. Lyon, **Zubair, L.**, *V. Ralapanawe* and *Z. Yahiya*, 2009, Fine scale evaluation of drought hazard for tropical climates, *Journal of Applied Meteorology and Climatology*, 48 (1): 77-88.
6. **Zubair, L.**, *V. Ralapanawe*, *U. Tennakone*, *Z. Yahiya*, and *R. Perera*, 2006, Natural Disaster Risks in Sri Lanka: Mapping Hazards and Risk Hotspots, Chapter 4, in *Natural Disaster Hotspots Case Studies*, Washington, DC: World Bank 2006.
7. **Zubair, L.**, 2004, May 2003 disaster in Sri Lanka and Cyclone 01-B in the Bay of Bengal, *Natural Hazards*, 33: 303-318.
8. **Zubair, L.**, *U. Tennakone*, *Z. Yahiya*, *J. Chandimala* & *M.R.A. Siraj*, 2004, What led to the May 2003 Floods? *Journal of the Institute of Engineers, Sri Lanka*, XXXVI (3): 51 – 56.
9. **Zubair, L.**, and P. Wickramagama (Editors), *Proceedings of the Pinga Oya Symposium*,

Foundation for Environment, Climate and Technology, Kandy.

#### CLIMATE IMPACTS ON HEALTH

10. **Zubair, L.**, G. Galapaththy, H. Yang, J. Chandimala, Zeenas Yahiya, P. Amerasinghe, MN Ward, SJ Connor, 2009, Potential use of El Niño for malaria early warning in Sri Lanka, *Malaria Journal*, 7:140.
11. Briet, OJT, GNL Galapaththy, **L Zubair**, P Vounatsou, 2006, Rainfall as predictor of malaria in Sri Lanka, *EUROPEAN JOURNAL OF EPIDEMIOLOGY*, 21, 45, 2006

#### CLIMATE IMPACTS ON AGRICULTURE

12. S. Peiris, J. Hansen and **Zubair, L.**, Use of Seasonal Climate Information to Predict Coconut Production in Sri Lanka, *International Journal of Climatology*, 28 (1) : 103-110.
13. **Zubair, L.**, R. Perera and Z. Yahiya, 2004, Was the 2002/03 Maha bumper harvest due to El Nino? *Journal of the Institute of Engineers, Sri Lanka*, XXXVIII, (4): 63 – 70.
14. **Zubair, L.**, 2002, El Nino Influences on Rice Production in Sri Lanka, *International Journal of Climatology*, 22 (2):249-260
15. Fernando, N, **L. Zubair**, T.S.G. Peiris, C.S. Ranasinghe and J. Ratnasiri, 2004, Economic Value of Climate Variability Impacts on Coconut Production in Sri Lanka, *AIACC Working Paper No. 45*, Washington, DC: START.

#### CLIMATE ADAPTATION

16. Rosenzweig, C., J.W. Jones, J.L. Hatfield, C.Z. Mutter, S.G.K. Adiku, A. Ahmad, Y. Beletse, B. Gangwar, D. Guntuku, J. Kihara, P. Masikati, P. Paramasivan, K.P.C. Rao, and **L. Zubair**, (2012). The Agricultural Model Inter-comparison and Improvement Project (AgMIP): Integrated regional assessment projects. In *Handbook of Climate Change and Agroecosystems: Global and Regional Aspects and Implications*. D. Hillel, and C. Rosenzweig, Eds., ICP Series on Climate Change Impacts, Adaptation, and Mitigation Vol. 2. Imperial College Press, 263-280. Also a contributor to other papers in the volume on *Integrated Assessment of the Impact of Climate Change on Agriculture: An overview of the AGMIP regional research in South Asia and The AgMIP Coordinated Climate-Crop Modeling Project (C3MP): Methods and Protocols*
17. **L. Zubair**, et al. (2013). Climate Change Impacts on Rice Farming Systems in North Western Sri Lanka, In *Handbook of Climate Change and Agroecosystems: Global and Regional Aspects and Implications*. D. Hillel, and C. Rosenzweig, Eds., ICP Series on Climate Change Impacts, Adaptation, and Mitigation, Imperial College Press, forthcoming.
18. Zubair, L., Yahiya, Z., Agalawatte, P. and Lokuhetti, R. (2016). The El Nino event of 2015/16 in Sri Lanka: Predictions, Preparedness, Communication and Impacts. In *Climate Change Secretariat (Ed.), NEELAHARITHA-The Climate Change Magazine of Sri Lanka* (pp.40-46). Sri Lanka: Ministry of Mahaweli Development and Environment.

#### CLIMATE DIAGNOSTICS

19. Gadgil, S., M. Rajeevan, **L. Zubair** and P. Yadav, 2011, South Asian Monsoon: Inter Annual Variability, In Eds, Ding et al., *Global Monsoon System, Research and Forecast*, World Scientific Publications and World Meteorological Organization.
20. A.K. Srivastava, M. Rajeevan, **L. Zubair** and J. Revadekar, South Asia, in Blunden, Jessica, Derek S. Arndt, 2012: State of the climate in 2011. *Bull. Amer. Meteor. Soc.*, 93, S1–S282.

21. **Zubair, L., M. Siriwardhana, J. Chandimala, and Z. Yahiya**, 2008, Predictability of Sri Lankan Rainfall based on ENSO, *International Journal of Climatology*, 28 (1): 91-101.
22. **Zubair, L.** and C.F. Ropelewski, 2006, The strengthening relationship of ENSO and the North-East Monsoon rainfall over Sri Lanka and Southern India, *Journal of Climate*, 19 (8): 1567–1575.
23. **Zubair, L., S. C. Rao and Toshio Yamagata**, 2003, The Influence of the Indian Ocean Dipole on the Sri Lankan Maha rainfall, with *Geophysical Research Letters*, 10 (2): 1063-1066
24. **Zubair, L.**, Diurnal and Seasonal Wind Climate at Sita Eliya, Sri Lanka, *Theoretical and Applied Climatology*, 71 (1-2): 119-127.
25. **Zubair, L.**, 1998, *Diurnal and seasonal variation of surface winds at Hambantota*, Journal of the National Science Council, Sri Lanka, 25(3).235-245p.

#### HYDROCLIMATOLOGY AND WATER RESOURCES MANAGEMENT

26. **Chandimala, J. and L. Zubair**, 2008, Predictability of Streamflow and Rainfall for Water Resources Management in Sri Lanka, *Journal of Hydrology*, 335 (3-4), 303-312.
27. **Zubair, L. and J. Chandimala**, 2007, Epochal Changes in ENSO-Streamflow relations in Sri Lanka, *Journal of Hydrometeorology*, 7 (6):1237-1246.
28. **Zubair, L.**, 2004, Sensitivity of Kelani streamflow in Sri Lanka to ENSO, *Hydrological Processes*, 17 (12) 2439-2448.
29. **Zubair, L.**, 2003, ENSO influences on Mahaweli streamflow in Sri Lanka, *International Journal of Climatology*, 23(1):91-102.

#### CLIMATE AND HYDROLOGICAL MODELING

30. Qian, J.-H., and **L. Zubair**, 2011, The effects of grid-resolution and domain choice on the quality of simulations of the South Asian northeast monsoon rainfall, *Monthly Weather Review*. 138 (7): 2780-2802
31. Mahanama, S., Koster, R., Riehl, & **R. Zubair, L.** (2007), The role of soil moisture in seasonal streamflow predictability, *Advances in Water Resources*. 31 (3): 1333-1343.
32. Gunaratne, Ajith and L. Zubair (2015). **Fine Scale Evaluation of Tropical Wind Climatologies Using a Mass Consistent Model**. *International Journal of Numerical Methods and Applications*, 14 (2) 77-105, December 2015.
33. Agalawatte, P., Zubair, L. and Yahiya, Z. (2016). State of the art climate change assessments for Sri Lanka from CMIP5. In Climate Change Secretariat (Ed.), *NEELAHARITHA-The Climate Change Magazine of Sri Lanka* (pp.40-46). Sri Lanka: Ministry of Mahaweli Development and Environment.

#### FLUID DYNAMICS

34. **Zubair, L.**, 1995, Characterization of Intermittency in Turbulence, *Physics of Fluids*, 7 (8) pp. 2089.
35. **Zubair, L.**, K.R. Sreenivasan and M.V. Wickerhauser, 1991, *Compression of turbulence data and images using wavelet-packets*, In *Studies in Turbulence*, Springer-Verlag, eds. T. Gadsby, S. Sirkar and C. Speziale. pp. 489-513.

#### TERTIARY EDUCATION AND CAPACITY BUILDING

36. **Zubair, L.**, 2009, Engendering Multi-disciplinarity and Quality: Environmental Education at the University of Peradeniya, Chapter 2, In Ed. N. Hennanayake et al. *Traversing No Mans Land*, University of Peradeniya, 2009, ISBN 978-955-30-1526-6.

37. **Zubair, L.**, 2004, Towards Developing Weather and Climate Prediction for Sri Lanka, *Journal of the Institute of Engineers, Sri Lanka*, XXXVII, 2:53-58.
38. **Zubair, L.**, 2004, *Weather and Climate in Sri Lanka: A Reference Guide*, Natural Resources Management Services, Kandy, Sri Lanka ISBN 955-8968-00-5.

### **Grants**

- 2018 -2019: Climate Impacts on Tea Plantations in Sri Lanka, Dilmah Tea Company, \$70K, PI.
- 2015-2019: Can drought, flood and landslide hazard be skillfully assessed at fine spatial resolution from combining constrained streams of observed, remotely sensed and model predicted data in Sri Lanka and Maldives? from the *US National Academy of Sciences* (PI – P. Wickramagamage, L. Zubair, Zahid, *National Academy of Sciences*, \$240K (co-PI)
- 2015: El Nino Ready Nations, from the Center for Capacity Building, University of Colorado, Dr. Mickey Glantz (PI), Completed.
- 2014-2017: Developing monitoring tools for managing drought risk and addressing the riddle of increased drought tendency amidst the wetter climate change projections for Sri Lanka and the Maldives, *National Academy of Sciences*, \$180K (PI)
- 2012-2014: Modeling the impacts of a variable and changing climate on rice and sugarcane agricultural systems in Sri Lanka, *Agricultural Model Inter-comparison and Improvement Project (AgMIP), Joint DfID, USDA, Columbia University Program*, \$400K, (PI)
- 2012-2015: Intra-Seasonal Climate Prediction for Sri Lanka and Maldives for Water Resources Management, *National Academy of Sciences*, \$150K (PI)
- 2011-2012: Climate change impacts on seasonally and intermittently open tidal inlets in Sri Lanka and Thailand (CC-SIOTI), *UNESCO-IHE Institute for Water Education*. Subcontract \$20K, (I)
- 2010: The Impacts of El Niño Southern Oscillation (ENSO) Events on Cereal Production Area and Yield in South and South-East Asia *FAO-SEARO*, \$12K, (I)
- 2009-2013: Launching a Masters in Sustainable Development Practice at the University of Peradeniya with a focus on Sri Lanka and Maldives, *MacArthur Foundation*, \$200K, (co-PI)
- 2003 to 2008: Early Warning Systems for Malaria risk with the Anti-Malaria Campaign, the International Water Management Institute and several partners. *NOAA Climate Variability and Human Health Program*, Project Completed. \$390K total, (PI).
- 2004-2005: Assessing predictability of seasonal rainfall in the Kelani river basin in Sri Lanka, *International Foundation for Science*, Sweden, \$12K, Supervisor.
- 2002 to 2003: A case study on Sri Lanka for the Global Disaster Hotspots project, *World Bank/ Earth Institute at Columbia University*, sub-contract, \$25K (PI).
- 2002 to 2005: Adaptation and Climate Change in Sri Lanka, in collaboration with Sri Lanka Department of Meteorology, Coconut Research Institute, Tea Research Institute, *Adaptation to and Impact Assessment of Climate Change, START, Washington, D.C.*, \$233K total, Completed. (co-PI).
- 2001 to 2003: Climate Impacts on Wildlife was developed in collaboration with CEISIN and CERC. *IRI/Earth Institute at Columbia University*, \$50K, Work completed. (PI).

### COMPLETED GRANT REPORTS

- Zubair, L., Zahid, Yahiya, Z., Agalawatte, P. and Lokuhetti, R. (2016). The Maldives. In Michael H. Glantz (Ed.), *A STEPPING STONE TOWARD ENSO RELATED DRR*

*LESSONS LEARNING: Lessons Learned Portal Project for ENRNs (El Niño Ready Nations)* (pp. 26 – 31). US: CCB/INSTAAR, University of Colorado.

- Zubair, L., Yahiya, Z., Agalawatte, P. and Lokuhetti, R. (2016). Sri Lanka. In Michael H. Glantz (Ed.), *A STEPPING STONE TOWARD ENSO RELATED DRR LESSONS LEARNING: Lessons Learned Portal Project for ENRNs (El Niño Ready Nations)* (pp. 26 – 31). US: CCB/INSTAAR, University of Colorado.
- **L. Zubair (PI)**, S.J. Connor, N. Ward, J. Shaman, M. Stieglitz, M. Cane, H. Yang, G. N. L. Galapaththy, S. Mahanama, H.M. Faizal, U. Tennakoon, Z. Yahiya, S. Razick, M. Siriwardhana, *Analysis of Impacts of Climate Variability on malaria transmission and the development of an early warning system*, IRI Technical Report 2010.
- **L. Zubair (PI)**, J. Hansen, Z. Yahiya, M. Siriwardhana, J. Chandimala, S. Razick, U. Tennakoon, K. Ariyaratne, I. Bandara, H. Bulathsinhala, T. Abeyratne and T.D.M.A. Samuel, *Adaptation and Impact Assessment to Climate Change (AIACC) project on Plantation Agriculture in Sri Lanka*, Component incorporated into final report submitted to START secretariat, 2005, IRI Technical Report 2010.
- **L. Zubair (PI)**, B. Blumenthal, O. Ndiaye, R. Perera, N.Ward, J. Chandimala, V. Ralapanawe, U. Tennakoon, M.R.A. Siraj, Z. Yahiya, H. Manthirithillake and W.L. Hendawitharna, *Evaluation of Climate and Habitat Interactions Affecting the Conservation and Management of Asian Elephants in South-East Sri Lanka*, International Research Institute for Climate Prediction Technical Report, 2010.
- **L. Zubair (PI)**, R. Perera, B. Lyon, V. Ralapanawe, U. Tennakoon, U. Tennakoon, Z. Yahiya, J. Chandimala and S. Razick, *Fine Scale Natural Hazard Risk and Vulnerability Identification Informed by Climate in Sri Lanka*, International Research Institute for Climate Prediction, Technical Report, 2010.

## Teaching, Supervision and Mentoring

### GRADUATE EDUCATION

#### Courses Taught or Co-Taught

- *Climate Change in South Asia*, Masters in Development Practice, University of Peradeniya, Coordinated by Earth Institute at Columbia University, 2013
- *Climate Change*, Global Classroom, Masters in Development Practice, 2010, 2011, 2012
- *Climate Impact Assessment*, Masters in Climate and Society Program, Department of Earth and Environmental Sciences, Columbia University, 2005 onwards.
- *Climate Adaptation, Climate and Water Resources Management*, Environmental Science and Policy Practicum, School of International and Policy Affairs, Columbia University. 2004, 2007, 2008.
- *Environmental Impact Assessment*, Masters in Engineering, Water and Environmental Resources Engineering, University of Peradeniya, Sri Lanka, 2002.
- *Climate and Disaster Risk Management*, Post-Graduate Institute of Science, Sri Lanka
- *Climate Diagnostics*, Department of Physics, University of Colombo, 2002.

### UNDERGRADUATE EDUCATION

#### Courses Taught or Co-Taught

- *Fluid Dynamics, Thermodynamics, History of Technology, Energy, Control Systems, Engineering Design, Environmental Impact Assessment* (Faculty of Engineering, University of Peradeniya)
- Dynamics, Yale University

#### THESES SUPERVISED

- N. Fernando, *Climate Impacts on Water Scarcity in the Deduru Oya Basin of Sri Lanka*, M.A., Climate and Society, Columbia University, August 2006.
- L. K. Warren, *Predicting Malaria Risk Using Climate Parameters: Evaluation of Methods*, Senior Thesis, Columbia University, May 2006.
- L.V. Reyes, *Vulnerability to Malaria in Sri Lanka*, Senior Thesis, Barnard College, May 2006.

#### THESES CO-SUPERVISED

- N. Ramesh, A., *Climate Change Impacts on Evapo-transpiration in India*, M.Sc, Earth System Science and Policy, University of North Dakota, June 2006.
- H. Bulathsinhala, *Climate Forecasting for Water and Environmental Management in Sri Lanka*, M.Sc., Civil Engineering, University of Moratuwa, Sri Lanka, March 2005.
- K. Ariyaratne, *Numerical Model for Simulating Shoreline Change*, M.Sc, Oceanography, Post Graduate Institute of Science, University of Peradeniya, Sri Lanka, May 2005.

#### RESEARCH MENTORING

- Shaky Sherpas, Mailman School of Public Health, Columbia University, Research in Climate and Infectious Diseases, May 2009 – December 2010.
- Anna Lochard, L'Ecole de Mines de Paris, Research Supervision, March to October, 2010, M.Sc in Environmental Engineering, Climate and hydropower production, January – June 2010.
- Research Supervisor for Columbia University students in Climate Diagnostics and Climate Adaptation:
  - S. Hirsh (Ph.D Candidate, University of Sydney),
  - H. Yang, (MD program, Harvard University Medical School)
  - N. Fernando (Post Doctoral Research Scientist, University of Texas, Austin, Geography),
  - L. V. Reyes (Natural Resources Defense Council),
  - S. Partridge (Climate Action California, Physics),
  - A. Layns (Program Manager, NOAA NESDIS)
  - D. Bader. (Center for Climate Change Studies, Columbia University)
  - S. Sherpas (Ph.D candidate, City University of New York, Geography)
- Research supervisor before Columbia University for
  - Kusalika Ariyaratna (Ph.D, Texas Tech, Civil Engineering),
  - M. Siriwardhana (Ph.D candidate, University of Western Ontario, Chemical and Energy Engineering),
  - A.U.K. Gunaratne (now Associate Prof. at Florida A&M University, Applied Mathematics),
  - S. Ramanayake (Lecturer, Sri Lanka Technical Training Institute, Mathematics),
  - J. Ratnayake (Ph.D candidate, University of Indiana, Mathematics),
  - A. Somasundera, (Lecturer, Community Medicine, Faculty of Medicine, University of Peradeniya),

### **Presentations and Conference Contributions**

**2018**

- Zubair, L. (2018) *Social Science Needs for Climate Studies in the Indian Ocean Islands*. University of Dar-Es-Salaam, Tanzania. Panel on Indian Ocean, Social Science Research Council.



- Zubair, L. (2018) *Keynote address on Climate Change and Impacts in Sri Lanka*, Inaugural Meeting of the Colombo Chapter of the Peradeniya Engineering Faculty Alumni Association, Colombo.

#### 2017

- Lokuhetti, R., Zubair, L., Visvanathan, J., M., Nijamdeen, A. (2017). *Drought Monitoring for Sri Lanka: Spatial Extent and Temporal Evolution during the 2016-17 Drought*. International Roundtable on the Impact of Extreme Natural Events: Science and Technology for mitigation IRENE 2017. (pp.29). Sri Lanka: South Eastern University.
- Nijamdeen, A., Zubair, L., Dharmadasa, M., Najimuddin, N., P. and Malge, C. (2017). *Seasonal Impact of Climate on Tea Production in Sri Lanka*. International Roundtable on the Impact of Extreme Natural Events: Science and Technology for mitigation IRENE 2017. (pp.25). Sri Lanka: South Eastern University.
- Lokuhetti, R., Zubair, L., Visvanathan, J., M., Nijamdeen, A. (2017) *Cyclonic Storm Roanu and the Orographic Rainfall Mechanism triggered the Landslide in Aranayaka in May 2016*. International Roundtable on the Impact of Extreme Natural Events: Science and Technology for mitigation IRENE 2017. (pp 52). Sri Lanka: South Eastern University.

#### 2016

- Zubair, L., Wickramagamage, P., Yahiya, Z., Visvanathan, J., Chandrasekera, S. and Agalawatte, P. (2016). “*Environmental Management Challenges under Rapid Urbanization: Lessons from Pinga Oya catchment of Sri Lanka's Mahaweli River*”. IPWE 2016 8<sup>th</sup> International Perspective on Water Resources and the Environment, workshop of the American Society of Civil Engineers; 4-6 January 2016, IPWE conference paper no: 261.
- Agalawatte, P., Yahiya, Z., Zubair, L. and Nawarathna, B. (2016). “*Intra-Seasonal Climate Predictions for Water Resources Management in Sri Lanka*”. IPWE 2016 8<sup>th</sup> International Perspective on Water Resources and the Environment, workshop of the American Society of Civil Engineers; 4-6 January 2016, IPWE conference paper no: 266.
- Yahiya, Z., Zubair, L., Agalawatte, P., Viswanathan, J., Wijeratne, K., Zahid, M., Mizna Mohamed, Majeeda Mohamed, and Rasheed, M. (2016). “*Operational Island-Scale Water Scarcity Assessment for the Maldives*”. IPWE 2016 8<sup>th</sup> International Perspective on Water Resources and the Environment, workshop of the American Society of Civil Engineers; 4-6 January 2016, IPWE conference paper no: 264.
- Agalawatte, P., Zubair, L., Zahid, Viswanathan, J., Yahiya, Z. & Bell, M. (2016). “The Monthly Climate Advisory for Maldives – a resource for marine Scientists”. Maldives Marine Science Symposium; 27 October 2016, Maldives Marine Science Abstract Booklet, pp (39).

#### 2015

- September 2015 – Lareef Zubair, Keynote address at the *Workshop on Climate and Water Scarcity in the Maldives*, at the Maldivian National University, Male, Maldives on 13<sup>th</sup> September 2015.
- Zubair, L. et al. *Relative roles of climate and societal factors in water scarcity and flooding in Sri Lanka and Maldives and its implications*. 2015 International Conference on Green Development in Tropical Regions, Andalas University, Indonesia. 28<sup>th</sup> – 31<sup>st</sup> October 2015.
- Zubair, L. *Climate Variability and Change in the Tropical Indian Ocean Islands: Implication for Water Security and Green Development*. 2015 International Conference on Green Development in Tropical Regions, Andalas University, Indonesia. 28<sup>th</sup> – 31<sup>st</sup> October 2015.

- Zubair, L. “*Environmental Threats to Kandy, the Mahaweli river basins and Sri Lanka*” at Kandy American Corner for the World Water Day organized by USAID in Kandy, on March 21<sup>st</sup> 2015.
- Zubair, L. “Climate, Water Security and Dengue in the Maldives” at Columbia University Water Center, New York, in August 2015.

#### 2014

- *Potential for Using Climate, Oceanic and Environmental Information for Fisheries Hazard Risk Management and Fisheries Prospecting in Comoros*, for Master Fishermen and Officials, Ministry of Fisheries – Hairu Engineering Company Fisheries Program, Moroni, February 7, 2014.
- *Climate Change Impacts On Rice Farming Systems in North Western Sri Lanka, **Finish-line Workshop of the Agriculture Model Inter-comparison Program***, Arusha, Tanzania. January 30-February 4, 2014.

#### 2013

- *Current State of Knowledge on Characterizing Climate Variability and Climate Change and its Impacts*, Sri Lanka Association for the Advancement of Science, Theme Seminar on Climate Change, Invited Lecture, Colombo, Sri Lanka. December 4, 2013.
- *Impact Assessment and Adaptation to Climate Change in North-West Sri Lanka, **American Agronomy Association Annual Meeting***, Tampa, Florida, 3-6, November 2013
- *Climate Change Impacts On Rice Farming Systems in North Western Sri Lanka, **Global Meeting of the Agriculture Model Inter-comparison Program***, Columbia University, New York, October 28-30, 2013
- *Intra-seasonal climate predictions for Sri Lanka and Maldives and its application for Water Resources Management, **USAID/National Academy of Science conference*** for Principal Investigators, USAID/RDMA, Bangkok, September 30-October 5, Bangkok, Thailand.
- *Climate Adaptation: Lessons from Working with the State, **South And Central Asia Conference of the Fulbright Program and Sri Lanka National Conference*** of the Fulbright program, Kochi, India and Colombo, Sri Lanka, March 2013

#### 2012

- *Climate Change Impact Assessment for Rice and Sugarcane Agricultural Systems in Sri Lanka, **AgMIP South Asia Program Launch Workshop***, Colombo. November 2012.
- *Crop yield forecasting for Sri Lanka*, by CCAFS Theme 3 conference on Crop Yield Forecasting, International Water Management Institute, Negombo, April 19, 2012
- *The Use of Climate Information in the Tropics: Learning from Practice*, Department of Environmental Science Seminar, **State University of New York**. Albany, NY.
- *Climate services for Sugarcane in Sri Lanka*, Invited Lecture, Annual Sessions of the **Sugarcane Research Institute**, Udawalawe, 15-16 March, 2012

#### 2011

- *Climate and Renewable Energy, Invited Address, **Global Forum of Sri Lankan Scientists***, National Foundation for Science, Sri Lanka, December 2011.
- *Climate and Agriculture in South Asia, **AgMIP Program Launch Workshop***, ICRISAT, India, March 2011.

#### 2010

- *Hydro-Climatic Diagnosis and Modeling to support Adaptation to Tropical Climate Variability, **SEAS Colloquium in Climate Science (SCiCS)***, Fu Foundation School of Engineering and Applied Sciences, Columbia University. December 6, 2010.

- *Rates of Regional Ecosystem Change, Can Societies Adapt?* International Graduate Conference on Climate Change and People, **Small Earth Nepal and Center for Capacity Building**, University of Colorado, Boulder. November 2010.
- *Climate Adaptation for Integrated Water Resources Management : Learning from Practice in Sri Lanka*, **International Development Research Center, Ottawa, Canada**. October 21, 2010.
- *Does tropical climate adaptation need advanced climate science?* Division of Ocean and Climate Physics seminar, **Lamont Doherty Earth Observatory**, October 15, 2010.
- *Climate justice in relation to adaptation and Ecohealth in Southern South Asia*, **EcoHealth Conference**, London, August 2010.

#### 2009

- *The Use of Climate Information in the Tropics: Learning from Practice*, School of Marine and Atmospheric Sciences, **State University of New York**. Stony Brook.
- *Developing Climate Services and Climate Risk Management for Maldives*, Male, **Maldives Ministry of Environment**.
- *Sustainability Practice in Sri Lanka*, Peradeniya, Sri Lanka, Launch Workshop on the Masters in Development Practice at the **University of Peradeniya**.
- *Adaptation for Integrated Water Resources Management in the Tropics*, Department of Engineering Systems, **Massachusetts Institute of Technology**, Cambridge, MA., School of Engineering.

#### 2008

- *Analysis of Impacts of Climate on Malaria for Risk Predictions*, **EcoHealth Conference**, Merida, Mexico, December, 2008.
- *Malaria Risk Prediction using Climate and Environment Monitoring and Prediction: Demonstration in Sri Lanka*, **EcoHealth Conference**, Mexico, December 2008.
- Soil Moisture Memory and Predictability of Seasonal Streamflow in Sri Lanka, **Western Pacific Geophysics Conference**, Cairns, Australia, July 2008
- *Inter-Annual Variability and Decadal Change of the North-East Monsoon Rainfall over South Asia*, **Western Pacific Geophysics Conference**, Cairns, Australia, July 2008.

#### 2007

- (1) Some Climate and Malaria Linkages in Sri Lanka, (2) Climate and Hydrological Monitoring and Prediction for Sri Lanka, NOAA Climate and Malaria Project Conclusion Workshop. **International Water Management Institute**, Colombo, Sri Lanka, September 2007.
- Fine-scale analysis for malaria risk prediction, **Greater Horn of African Climate Outlook Forum and Malaria Outlook Forum**, Nairobi, Kenya. March 5-10, 2007.
- Developing a Suite of Climate Information for Applications for Sri Lanka, **ESSIC, University of Maryland**, Silver Spring, Maryland. February 16, 2007.

#### 2006

- Hydroclimatological Simulation over Sri Lanka Using Global Reanalyses, **American Geophysical Union Annual Conference**, San Francisco.
- Progress in Developing a Climate based Malaria Early Warning System in Sri Lanka, **Climate Predictions and Applications Sciences Workshop**, Tucson, 21-24 March 2006.
- Using Climate Information for River Basin Management in Sri Lanka, **Invited Presentation, Annual Meeting of the American Meteorological Society**, Atlanta, February 2, 2006.

- *Human Elephant Conflict in Sri Lanka: Climate Impacts on Water and Fodder. International Conference on Humid Tropical Ecosystems: Changes, Challenges, Opportunities*, UNESCO and National Science Foundation. 4-9 December, Kandy, Sri Lanka, 2006.

#### 2005

- *Climate Risk Management: Case Studies in Public Health, Natural Disasters and Renewable Energy, Biennial Conference of the Association of Environmental Engineering and Science Professors*, Clarkson University, Potsdam, New York, July 23-27.
- *Using Climate Information for Disaster Risk Identification in Sri Lanka, Climate Prediction Applications Science Workshop*, March 15-17, 2005, Palisades, New York.

#### 2004

- Complementary Dynamical and Statistical Downscaling from a GCM: Maha rainfall over Sri Lanka, *Annual Meeting of the American Geophysical Union*, San Francisco.
- Using Climate Information for Disaster Risk Identification in Sri Lanka, *Annual Meeting of the American Geophysical Union*, San Francisco.
- Malaria and Climate Variability in Sri Lanka, *Principal Investigators Meeting of the Joint Program on Climate Variability and Human Health*, Atlanta, Georgia,.
- Using Climate Information for Disaster Risk Identification in Sri Lanka, *Climate Prediction Applications Science Workshop*, March 15-17, 2005, Palisades, New York.
- *Climate Change Assessments for Sri Lanka from Quality Evaluated Data, International Conference on Sustainable Water Resources Management in the Changing Environment of the Monsoon Region*, United Nations University, Colombo, Sri Lanka.
- *Weather, Climate Variability and Climate Change, Workshop Report, Synthesis Workshop on Climate Variability, Climate Change and Health in Small-Island States*, pages 13-14, World Health Organization, Bandos, Maldives.

#### 2003

- Sustainable River Basin Management under Climate Variability and Change, School of Engineering, *UNITEC Institute of Technology, Auckland*, New Zealand.
- Climate Prediction for Water Resources Management in Sri Lanka, *Office of the Minister of Water Resources and Irrigation*, Colombo.
- Seasonal Climate Predictions and its Applications in Sri Lanka, *International Water Management Institute*, Colombo.
- Using Climate Information for Mahaweli river basin management, *World Water and Environmental Resources Congress 2003*, Philadelphia.
- Assessment of High-Risk Natural Disaster Hotspots of Sri Lanka, *Open Meeting of the Human Dimensions of Global Environmental Change*, Montreal, Canada, 2003.

#### 2002

- El Nino's impacts half a world away: Stories from Southern Asia, *Lamont Doherty Earth Observatory Open House*, Palisades.
- Application of Climate Information and Prediction, *Frontier Research System for Global Change Research*, Yokohama.
- Climate Variability, Climate Change and Water Resources, *Frontier Research System for Global Change Research*.

#### 2001

- **IRI Seminar** on “Lessons from Last ENSO in Sri Lanka”, International Research Institute for Climate Prediction, Palisades.
- Sri Lanka Water Resources Project, *International Scientific and Technical Advisory Committee*, International Research Institute for Climate Prediction, Palisades, New York.

- IRI Water Resources Applications Project in Sri Lanka, *NOAA Office of Global Programs*, Maryland.
- Seasonal Streamflow Predictions from Global Sea Surface Temperatures: Applications to the Mahaweli River in Sri Lanka, *Climate Diagnostics Workshop*, San Diego, October 2001.
- 1997-99 El Nino / La Nina Episode in Sri Lanka: Forecasts, Communication, Responses and Impacts in an Indebted and Peripheral Country., *Open Meeting of the Human Dimensions of Global Environmental Change Research Community*, Rio de Janeiro, Brazil, 2001.

#### 2000

- A dynamical model for orographic rainfall in monsoonal Sri Lanka, *NOAA 25<sup>th</sup> Climate Diagnostics Workshop*, New York.
- ENSO influences on rice production in Sri Lanka, *Forum on Agriculture, Climate and Development*, New York, pp 179-184.
- Climate Prediction for Water Resources Management, *International Water Management Institute*, Colombo, Sri Lanka.

#### 1999

- Orographic Rainfall Modelling in a Monsoonal Climate, *Indian Institute of Tropical Meteorology*, Pune, India, 1999.
- A dynamical orographic rainfall model for Sri Lanka, *Geophysical Fluid Dynamics Laboratory*, Princeton, New Jersey, 1999.
- A dynamical orographic rainfall model for Sri Lanka, Department of Atmospheric Sciences and International Institute for Theoretical and Applied Physics, *Iowa State University*, Ames, Iowa, 1999.
- Orographic Rainfall Modeling for Sri Lanka, *International Centre for Theoretical Physics*, Trieste, Italy. 1999

## Popular Publications

Websites for publications where available are listed:

- ❖ Daily Newspapers:
  - The Island (<http://www.island.lk>),
  - Daily Mirror (<http://www.mirror.lk>),
  - Ceylon Daily News (<http://www.dailynews.lk>),
  - Sunday Observer (<http://www.sundayobserver.lk> )
  - New York Times (<http://www.nytimes.com>),
  - Yale Daily News (<http://www.yaledailynews.com/> )
- ❖ Magazines:
  - TIEMPO, UK, (<http://www.cru.uea.ac.uk/tiempo/> )
  - LINES, New York, (<http://www.lines-magazine.org/> )
  - FRONTIER MAGAZINE, Japan (<http://www.jamstec.go.jp/frcgc/eng/publications/>)
- ❖ University Publications:
  - University of Peradeniya, Sri Lanka
  - University of Moratuwa, Sri Lanka,
- ❖ Professional Society Publications
  - Newsletter of the Institution of Engineers, Sri Lanka

## Climate

- Dec 5, 2007: *The Language of Climate in Sri Lanka*, *The Island*.
- July 2004: [Empowering the Vulnerable](#), *TIEMPO*, 52:3-6, University of East Anglia, UK, [pdf version](#)

- Aug 2002, *Saving Weather Data*, **TIEMPO**, 49:16-22, University of East Anglia, UK.
- May 2002: [Questions for Climate Science from the Mahaweli Water Managers](#), **Frontier Newsletter**, Volume 19.
- June 2002: *Climate Change and National Security*, **The Island**, June 22, 2002.
- August 2001: FAQ on “Drought in Sri Lanka” published in **Lanka Academic** Website.
- December 2001: Essay on “Cricket and Climate in Sri Lanka”, **Ceylon Daily News**.

### **Environment and Development**

- August 2005: *Sethusamudaram Canal: Sri Lanka and Tamil Nadu at risk*, **Daily Mirror**, 1 August, 2005, **The Island**, 5 October 2005.
- August 2004, *Hazards from excavating the Palk Straits for Shipping*, **The Island**, 5 August, 2004.
- May 1999: *Lessons for South Asia from Nuclear Deterrence in the West*, **Pugwash Conference on Science and Ethics in the New Millenium**, San Diego, California.
- April 1999: *Hazards for Tamil Nadu and Sri Lanka from the excavation of the Palk Straits*, **Ceylon Daily News**, 07-04-99 and **Island**, 29-03-1999.
- May 1997: *Visions of Development*, **Vortex Magazine**, Faculty of Engineering, University of Peradeniya.
- March 1993: *An illusion of prosperity in Ghana*, **New York Times**.

### **Technology**

- April 1999: *Windmills and Trojan Horses*, **Sri Lanka Engineering Newsletter** and **Peradeniya Engineering Faculty Alumni Association Newsletter**.
- January 1998: *Traditional Chemical Technology in Sri Lanka: Learning from John Davy*, **Cheminique**, University of Moratuwa.
- June 1989: *Technology and development in under-developed countries: the case of Chemical Technology in Sri Lanka*, **Student Pugwash Panel on Technology, Development and the Environment**. Boulder.
- May 1986: *The future of the urea plant in the balance*, **The Island**.

### **Energy**

- July 20, 2016: *Zubair, Is the air pollution analysis for the Sampur Coal Plant credible? (Financial Times) and (Sri Lanka Guardian, Ground Views)*
- May 2002: *Why Government Institutions fail to Conserve Energy*, **The Island**, May 27, 2002.
- August 2002: *Conserving Energy at Home*. **Ceylon Daily Mirror**, August 08, 2002
- October 1997: *Energy Audit of the University of Peradeniya*, **Cheminique**,\_University of Moratuwa.
- August 1996: *Conservation as an energy source*, **Ceylon Daily News**, August 19, 1996.

### **University Education**

- May 1999: *Plagiarism in the Faculty of Engineering*, **Peradeniya Engineering Faculty Alumni Association Newsletter**.
- Dec 1998: *The Study of Motion at Peradeniya*, **Sri Lanka Engineering Newsletter**.
- March 1998: *Why Some Students at Peradeniya Rag*, **Ceylon Daily News**.
- March 1998: *Ragging at Peradeniya: the harsh truths*, **Ceylon Daily News**.

- July 1995: *Laced with Wit and Wry Humour: A Review of the History of the Faculty of Engineering, University of Peradeniya, 1951-71* by Prof. S. Mahalingam, **Sunday Observer**.
- November 1991: *Restructuring Engineering at Yale*, **Yale Daily News**.

### **Tsunami**

- March 2005: *Science, Disaster Management and the Tsunami in Sri Lanka*, International Centre for Theoretical Physics, Trieste, Italy, **ICTP webcast**.
- February 2005: *The geography of vulnerability and destruction*, **Lines Magazine**
- August 2005: *Six Months On –An Editorial from the GeoLanka/RecoverLanka administrators*, **The Island**, 5 August 2005.
- January 2005: *The Tsunami, Science and Disaster Management*, **The Island**, 27 January.
- Team Leader for many features in Tsunami Relief, Recovery and Reconstruction Websites that were widely cited and accessed: [www.tropicalclimate.org/recoverlanka](http://www.tropicalclimate.org/recoverlanka)

### **Press Reports**

*Websites for outlets where available:*

- ❖ Magazines:
  - NYAS Update, New York Academy of Sciences (<http://www.nyas.org/publications/update/>)
- ❖ Websites:
  - Science for Development, SciDev.net (<http://www.scidev.net/>)
  - Earth Institute at Columbia University (<http://www.earth.columbia.edu/>)
  - International Research Institute for Climate and Society (<http://iri.columbia.edu/>)
- May 2007: F. Fiondella, Mapping Natural Hazard Risks in Sri Lanka, **International Research Institute for Climate and Society website**, May 21, 2007.
- June-August 2005: Sheri Fink, Understanding the Tsunami's Destruction: The Role of Science, **New York Academy of Sciences Update Magazine**. P. 3-4, [http://www.nyas.org/publications/update/05\\_update\\_06.pdf](http://www.nyas.org/publications/update/05_update_06.pdf)
- July 2004: SciDev.Net staff, Communities facing climate change need local science, **SciDev.net**, <http://www.earth.columbia.edu/news/2003/story02-18-03.html>
- Feb 2003: Jennifer Freeman, Sachs Visit Boosts IRI Research, **Earth Institute website** (<http://www.earth.columbia.edu/news/2003/story02-18-03.html>)