

# Eeswaran Rasu, PhD

Department of Biosystems Engineering and Soil Science  
University of Tennessee  
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## 1. EDUCATION

- Dec. 2020 **MICHIGAN STATE UNIVERSITY** East Lansing, MI, United States  
Overall GPA: 3.77  
**Doctor of Philosophy in Crop and Soil Sciences**  
**Dissertation title:** INNOVATIVE APPROACHES TO GAUGE RESILIENCE OF MANAGED RAINFED AGRICULTURAL SYSTEMS  
**Committee members:** Prof. Pouyan Nejadhashemi (Chair), Prof. Alexandra Kravchenko, Prof. Shu-Guang Li, Prof. Steven R. Miller  
**Relevant courses:** Cropping Systems, Crop Modeling, Agricultural Climatology, Remote Sensing, Groundwater Modeling, Water Resources Systems Analysis and Modeling, Community-Based International Natural Resources Management, Agricultural Benefit-Cost Analysis, Teaching College Science
- Jan. 2018 **UNIVERSITY OF PERADENIYA** Peradeniya, Sri Lanka  
Overall GPA: 3.98  
**Master of Philosophy in Crop Science**  
**Thesis title:** EVALUATION OF A CLIMATE-RESILIENT AGRONOMIC PACKAGE FOR SELECTED UPLAND ANNUAL CROPS UNDER FARMERS' FIELD CONDITIONS OF THE NORTHERN PROVINCE OF SRI LANKA  
**Committee members:** Prof. W.A.J.M. De Costa (Chair), Prof. D.M. De Costa, Prof. W.S. Dandeniya  
**Relevant courses:** Climate Change and Crop Production, Crop Physiology, Plant Water Relationships, Crop Ecology, Crop Management Techniques
- Oct. 2012 **UNIVERSITY OF PERADENIYA** Peradeniya, Sri Lanka  
Overall GPA: 3.68  
**Bachelor of Science in Agricultural Technology and Management**  
**Major:** Crop Science and Biostatistics  
**Undergraduate research thesis:** GROWTH AND YIELD OF MUNG BEAN (*Vigna radiata* (L.) Wilczek) GENOTYPES AS AFFECTED BY IRRIGATION REGIMES DURING THE YALA SEASON IN THE LOW COUNTRY DRY ZONE OF SRI LANKA  
**Committee members:** Prof. U. R. Sangakkara (Chair), Dr. W.M.W. Weerakoon

## **2. EMPLOYMENT**

Mar. 2024 – Present

### **UNIVERSITY OF TENNESSEE**

Department of Biosystems Engineering and Soil Science,  
UT Institute of Agriculture,  
2506 E J. Chapman Dr, Knoxville,  
TN 37996, United States.

#### **Postdoctoral Research Associate**

**Research areas:** Agronomy, Resilience in Agricultural Systems, Crop Modeling, Long-term Agricultural Experiments

Jun. 2022 – Present

### **UNIVERSITY OF JAFFNA**

Department of Agronomy,  
Faculty of Agriculture,  
Ariviyal Nagar, Kilinochchi 44000, Sri Lanka.

#### **Senior Lecturer in Agronomy**

**Research areas:** Agronomy, Climate Risk Management, Crop Physiology, Crop Modeling, Long-term Agricultural Experiments

**Teaching areas:** Principles of Crop Production, Agronomy of Field Crops, Crop Physiology, Crop Modeling, Climate Resilient Agriculture, Crop Production Technologies

Mar. 2021 – Jun. 2022

### **EASTERN UNIVERSITY, SRI LANKA**

Department of Crop Science,  
Faculty of Agriculture,  
Chenkalady 30350, Sri Lanka.

#### **Lecturer in Crop Science**

**Research areas:** Agronomy, Climate Risk Management, Crop Physiology, Crop Modeling, Long-term Agricultural Experiments

**Teaching areas:** Agronomy of Field Crops, Crop Physiology, Crop Modeling, Climate Resilient Agriculture, Crop Production Technologies

Jan. 2021 – Mar. 2021

### **MICHIGAN STATE UNIVERSITY**

Department of Biosystems and Agricultural Engineering,  
524 S Shaw Lane, East Lansing,  
MI 48824, United States.

#### **Research Fellow**

##### **Research areas:**

- Digital Geospatial Farming Systems Tools Consortium – *building a new era of Predictive Agricultural Innovation to improve the livelihood of smallholder farmers*
- Mapping of fishponds in Bangladesh using remote sensing and artificial intelligence

***Duties involved:***

- Worked on the USAID funded research project “Digital Geospatial Farming Systems Tools Consortium”
- Disseminate research findings through peer-reviewed manuscripts and conference presentations
- Collaborated and oversaw the research of graduate and undergraduate students
- Prepared and submitted reports to grant agencies and corporate partners

Jan. 2017 – Dec. 2020

**MICHIGAN STATE UNIVERSITY**

Department of Plant, Soil and Microbial Sciences,  
1066 Bogue Street, East Lansing,  
MI 48824, United States.

**Graduate Research Assistant/Teaching Assistant**

***Duties involved:***

- Conducted dissertation research to design innovative approaches to gauge climate resilience in rainfed agricultural systems
- Collaborated with the dissertation committee to prepare and submit proposals to secure research grants and fellowships
- Teaching assistant: BE 481: Water Resources Systems Analysis and Modeling-Fall 2018, Department of Biosystems and Agricultural Engineering (BAE)
- Disseminate research findings through peer-reviewed manuscripts and conference presentations
- Mentored and oversaw undergraduate student assistants

Sep. 2013 – Dec. 2016

**UNIVERSITY OF PERADENIYA**

Postgraduate Institute of Agriculture,  
Old Galaha Road, Peradeniya 20400, Sri Lanka.

**Graduate Research Assistant**

***Duties involved:***

- Conducted thesis research to evaluate climate-resilient agronomic package for upland crops in the regions vulnerable to climate change in Sri Lanka
- Organized and conducted awareness programs to farmers and extension officers on climate change, its impacts and possible adaptation options for the upland cropping system in Sri Lanka
- Delivered technical expertise to the Northern Provincial Department of Agriculture on climate risk management in agriculture

Nov. 2012 – Aug.  
2013

**UNIVERSITY OF PERADENIYA**

Department of Crop Science,  
Peradeniya 20400, Sri Lanka.

**Lecturer (Temporary) in Crop Science**

***Duties involved:***

- Conducted practical and tutorials on the subject areas of crop science, biostatistics and basic mathematics
- Evaluated continuous assessments of undergraduates
- Organized and coordinated field visits
- Assisted academics in their research projects

**3. PROFESSIONAL QUALIFICATIONS**

- Certificate in Geographical Information Systems (GIS), Department of Geography, University of Colombo, Sri Lanka (2016)
- Certificate in Human Resource Management, Institute of Personnel Management (IPM), Sri Lanka (2012)
- Certificate in Environmental Awareness, Center for Environmental Studies, University of Peradeniya, Sri Lanka (2010)

**4. PROFESSIONAL TRAINING**

- Training on Outreach Activities in Agriculture – Tamil Nadu Agricultural University, India (Dec. 06 – Dec. 10, 2023).
- Graduate Student Leadership Conference, ASA-CSSA-SSSA International Meeting, San Antonio, Texas, United States (Nov. 9-10, 2019).
- Citizen’s Police Academy, Michigan State University Police Department, Michigan State University, United States (Sep. 11 – Oct. 20, 2019).
- International Student Association Leadership Retreat, W.K. Kellogg Biological Station, Michigan State University, Hickory Corners, MI, United States (Oct. 12-13, 2019).
- Navigating the PhD: Writing Processes & Strategies for Academic Writing, The Graduate School, Michigan State University, East Lansing, MI, United States (Oct. 11, 2019).
- First International Summer School on Statistical Analysis of Spatial Data in Agro-Environmental Research, Lake Como School of Advanced Studies, Como, Italy (Aug. 26-30, 2019).
- Workshop on Writing Winning Grant Proposals – Michigan State University, United States (Jan. 3, 2019).
- Training on Laboratory Security Awareness – Michigan State University, United States (Jan. 24, 2018).
- Training on Chemical Hygiene, Laboratory Safety, and Hazardous Waste Initial – Michigan State University, United States (Jan. 24, 2018).
- Short course on “Data analysis using R” – Postgraduate Institute of Agriculture, University of Peradeniya, Sri Lanka (Nov. 11-13, 2015).
- Workshop on Water Conflicts Resolution, Treatment and Desalination organized by the Faculty of Engineering, University of Jaffna, Sri Lanka (Apr. 18-19, 2015).
- UN-CECAR Training on Climate change Downscaling Approaches and Applications (CCDAA) Course 2 – Impacts on Rice Production conducted by the United Nations University Institute for the Advanced Study of Sustainability, Tokyo, Japan at SLIIT, Colombo, Sri Lanka (Apr. 06-10, 2015).

- UN-CECAR Training on Climate change Downscaling Approaches and Applications (CCDAA) Course 1 – Downscaling Methods conducted by the United Nations University Institute for the Advanced Study of Sustainability, Tokyo, Japan at SLIIT, Colombo, Sri Lanka (Mar. 30-Apr. 03, 2015).
- Workshop on Site Specific Nutrient Management: Way Forward jointly convened by Postgraduate Institute of Agriculture, University of Peradeniya, and International Plant Nutrition Institute (IPNI) at the Postgraduate Institute of Agriculture, University of Peradeniya, Sri Lanka (Apr. 23, 2015).
- Workshop of the United Nations University Project on Strategy to enhance resilience to climate and ecosystem changes utilizing traditional bio-production systems in rural Asia (CECAR-ASIA) at Galadari Hotel, Colombo, Sri Lanka (Feb. 26, 2014).
- First National Workshop on Scientific Data Management, Analysis and Interpretation, Postgraduate Institute of Science, University of Peradeniya, Sri Lanka (Feb. 20-21, 2014).

## **5. EXPERTISE AND SKILLS**

### **5.1 Areas of Research Expertise:**

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|--------------------------------|--------------------------------------|
| • Agronomy                     | • Resilience in Agriculture          |
| • Sustainable Cropping Systems | • Long-term Agricultural Experiments |
| • Climate Risk Management      | • Statistical Data Analysis          |
| • Crop Physiology              | • Water Resources Modeling           |
| • Crop Modeling                |                                      |

### **5.2 Computer and Analytical Skills:**

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| • DSSAT – Crop Modeling                  | • WEAP – Water Resources Modeling                              |
| • MAGNET 4 Water – Groundwater Modeling  | • MINITAB – Statistical Data Analysis                          |
| • R – data analysis and creating figures | • STATA – Survey data analysis                                 |
| • SAS – Statistical data analysis        | • Microsoft – Word, Excel, PowerPoint, Access, Mail, Publisher |

### **5.3 Linguistic Skills: English, Tamil and Sinhala**

## **6. RESEARCH PUBLICATIONS**

### **6.1 Peer-reviewed Journal Publications**

1. Moller, K., Nejadhashemi, A.P., Talha, M., Chikafa, M., **Eeswaran, R.**, Junior, N.V., Carcedo, A.J.P., Ciampitti, I., Bizimana, J.C., Diallo, A. and Prasad, P.V. 2024. Unveiling the resilience of smallholder farmers in Senegal amidst extreme climate conditions. *Food and Energy Security*, 13(1), p.e523.
2. Abhiram, G., Diraj, R., and **Eeswaran, R.** 2023. Optimization of Black Tea Drying Temperature in an Endless Chain Pressure (ECP) Dryer. *AgriEngineering*, 5(4), 1989-1999.
3. Yin, J., Yang, Y., **Eeswaran, R.**, Yang, Z., Ma, Z., & Sun, F. 2023. Irrigation scheduling for potatoes (*Solanum tuberosum* L.) under drip irrigation in an arid region using AquaCrop model. *Frontiers in Plant Science*, 14.
4. Moller, K., **Eeswaran, R.**, Nejadhashemi, A.P. and Hernandez-Suarez, J.S., 2023. Livestock and aquaculture farming in Bangladesh: Current and future challenges and opportunities. *Cogent Food & Agriculture*, 9: 2241274.
5. Abhiram, G., Briyangari, A. and **Eeswaran, R.**, 2023. Drying of *Gymnema sylvestre* Using Far-Infrared Radiation: Antioxidant Activity and Optimization of Drying Conditions. *AgriEngineering*, 5(1), pp.611-622.
6. **Eeswaran, R.**, Nejadhashemi, A.P., Faye, A., Min, D., Prasad, P.V. and Ciampitti, I.A., 2022. Current and Future Challenges and Opportunities for Livestock Farming in West Africa: Perspectives from the Case of Senegal. *Agronomy*, 12(8), p.1818.
7. **Eeswaran, R.**, Nejadhashemi, A.P., Kpodo, J., Curtis, Z.K., Adhikari, U., Liao, H., Li, S.G., Hernandez-Suarez, J.S., Alves, F.C., Raschke, A. and Jha, P.K., 2021. Quantification of resilience metrics as affected by conservation agriculture at a watershed scale. *Agriculture, Ecosystems & Environment*, 320:107612.
8. Ferriby, H., Nejadhashemi, A.P., Hernandez-Suarez, J.S., Moore, N., Kpodo, J., Kropp, I., **Eeswaran, R.**, Belton, B. and Haque, M.M., 2021. Harnessing Machine Learning Techniques for Mapping Aquaculture Waterbodies in Bangladesh. *Remote Sensing*, 13(23): 4890.
9. **Eeswaran, R.**, Nejadhashemi, A.P. and Miller, S.R., 2021. Evaluating the climate resilience in terms of profitability and risk for a long-term corn-soybean-wheat rotation under different treatment systems. *Climate Risk Management*, 32:100284.
10. **Eeswaran, R.**, Nejadhashemi, A.P., Alves, F.C. and Saravi, B., 2021. Evaluating the applicability of soil moisture-based metrics for gauging the resiliency of rainfed agricultural systems in the midwestern United States. *Soil and Tillage Research*, 205:104818.
11. Schillaci, C., Perego, A., Valkama, E., Märker, M., Saia, S., Veronesi, F., Lipani, A., Lombardo, L., Tadiello, T., Gamper, H.A., Tedone, L., Moss, C., Pareja-Serrano, E., Amato, G., Kühn, K., Dămățircă, C., Cogato, A., Mzid, N., **Eeswaran, R.**, Rabelo, M., Sperandio, G., Bosino, A., Bufalini, M., Tunçay, T., Ding, J., Fiorentini, M., Tiscornia, G., Conradt, S., Botta, M. and Acutis, M. 2021. New pedotransfer approaches to predict soil bulk density using WoSIS soil data and environmental covariates in Mediterranean agro-ecosystems. *Science of The Total Environment*, 780: 146609.
12. Yin, J., Sun, X., Zhao, R., Qiu, X. and **Eeswaran, R.**, 2021. Application of uniform design to evaluate the different conditions on the growth of algae *Prymnesium parvum*. *Scientific Reports*, 11(1):1-12.
13. Yin, J., Deng, Z., Ines, A.V.M., Wu, J. and **Eeswaran, R.**, 2020. Forecast of short-term daily reference evapotranspiration under limited meteorological variables using a hybrid bi-directional long short-term memory model (Bi-LSTM). *Agricultural Water Management*, 242:106386.

14. Attanayake, R., **Eeswaran, R.**, Rajapaksha, R., Weerakkody, P. and Bandaranayake, P. C., 2018. Biochemical composition and expression of anthocyanin biosynthetic genes of a yellow peeled and pinkish ariled pomegranate (*Punica granatum* L.) cultivar are differentially regulated in response to agro-climatic conditions. *Journal of Agricultural and Food Chemistry*, 66(33):8761-8771.
15. **Eeswaran, R.**, De Costa, W.A.J.M., De Costa, D.M., Dandeniya, W.S., Sivakumar, S. and Suriyagoda, L.D.B., 2016. Evaluation of a climate change-adaptive, eco-friendly agronomic package for potato (*Solanum tuberosum* L.) cultivation in the farmer fields of the Jaffna District of Sri Lanka. *Tropical Agricultural Research*, 27(2):190-202.

## **6.2 Book Chapters**

1. Abhiram, G. and **Eeswaran, R.**, 2022. Legumes for efficient utilization of summer fallow. In *Advances in Legumes for Sustainable Intensification* (pp. 51-70). Academic Press.
2. **Eeswaran, R.**, 2018. Climate change impacts and adaptation in the agriculture sector of Sri Lanka: What we learnt and way forward. In *Handbook of Climate Change Communication: Vol. 2* (pp. 97-110). Springer, Cham.

## **6.3 Extended Abstracts**

1. **Eeswaran, R.**, Weerakoon, W.M.W. and Sangakkara, U.R., 2014. Grain legumes for global food security-an adaptability study of mung bean (*Vigna radiata* (L.) Wilczek) genotypes for water deficit tropical environments. *Proceedings of the Jaffna University International Research Conference (JUICE 2014)*. University of Jaffna, Sri Lanka. pp. 1- 4.
2. **Eeswaran, R.**, Schmidli, A., Walter, A. and Sangakkara, U.R., 2014. Application of Near Infra-Red (NIR) imaging to elucidate canopy growth and yield of a tropical maize-mung bean intercropping system. *Proceedings of the International Symposium on Agriculture and Environment (ISAE 2014)*, University of Ruhuna, Sri Lanka. pp. 335-338.
3. **Eeswaran, R.**, Weerakoon, W.M.W. and Sangakkara, U.R., 2013. Genotypic variations on yield and yield related parameters of mung bean (*Vigna radiata* (L.) Wilczek) under water stress in the low country dry zone of Sri Lanka. *Proceedings of the International Symposium on Agriculture and Environment (ISAE 2013)*, University of Ruhuna, Sri Lanka. pp. 249-252.
4. **Eeswaran, R.**, Weerakoon, W.M.W. and Sangakkara, U.R., 2012. Growth and yield of mung bean (*Vigna radiata* (L.) Wilczek) genotypes as affected by irrigation regimes during the Yala season in the low country dry zone of Sri Lanka. *Proceedings of the final year students research session 2012*, Faculty of Agriculture, University of Peradeniya, Sri Lanka. pp. 14-16.

## **6.4 Abstracts Presented in the Conferences**

1. Jayathilini, D.L.D.C., **Eeswaran, R.** and Srikrishnah, S., 2023. Review of the Responses of Various Soil Amendments in Sandy Soils. *International Forestry and Environment Symposium 2023*, 27<sup>th</sup> – 28<sup>th</sup> January 2023, University of Sri Jayewardenepura, Sri Lanka.
2. Joynirogan, J., Geretharan, T., Srikrishnah, S., Raveenthira, V. and **Eeswaran, R.**, 2023. Effect of Defoliation on Growth and Yield of Okra (*Abelmoschus esculentus* L.). *International Conference on Multidisciplinary Research (ICMR 2023)*, 3<sup>rd</sup> – 4<sup>th</sup> January 2023, Eastern University, Sri Lanka.
3. Nawarathne, N.M.U.G.H.M., **Eeswaran, R.** and Srikrishnah, S., 2022. National assessment of the impacts of COVID-19 pandemic on the vegetable crop production in Sri Lanka.

- International Symposium on Agriculture and Environment 2022*, 16<sup>th</sup> June 2022. University of Ruhuna, Sri Lanka.
4. Dasanayaka, D.R.M.K.M., **Eeswaran, R.** and Srikrishnah, S. (2022). Evaluating the Impacts of COVID -19 Pandemic on the Production of Other Field Crops (OFCs) in Sri Lanka. 5<sup>th</sup> *National Symposium on Agriculture*, 30<sup>th</sup> March 2022, Faculty of Agriculture, Eastern University, Sri Lanka.
  5. Boyle, P., Tancredi, M.T. and **Eeswaran, R.**, 2021. Promoting Justice, Equity, Diversity, and Inclusion (JEDI)-Efforts of the Agronomy, Crop and Soil Sciences Graduate Student Committee. *Poster presented at ASA-CSSA-SSSA Annual Meeting*, 7<sup>th</sup> – 10<sup>th</sup> November 2021, Salt Lake City, Utah, USA.
  6. Sukeerthan, S., Sujeevan, E.B., Anuja, S., **Eeswaran, R.** and Silva, G.L.L.P., 2020. Goat diseases and their association with the rainfall pattern in the Maruthankerny veterinary range of the Jaffna peninsula. *Oral Presentation at 72nd Annual Scientific Sessions of the Sri Lanka Veterinary Association*, 3<sup>rd</sup> – 5<sup>th</sup> July 2020, Peradeniya, Sri Lanka.
  7. **Eeswaran, R.**, De Costa, W.A.J.M., De Costa, D.M. and Dandeniya, W.S., 2019. Testing of a Climate-Resilient and Eco-Friendly Crop Management Package on a Representative Range of Crops through Farmer-Participatory Adaptive Research in the Northern Province of Sri Lanka. *Oral Presentation at ASA-CSSA-SSSA Annual Meeting*, 10<sup>th</sup> – 13<sup>th</sup> November 2019. San Antonio, Texas, USA.
  8. **Eeswaran, R.** and Ines, A.V.M., 2019. Analysis of Temporal Stability of Soil Moisture in a Long-Term Agroecological Research Experiment. *Poster presented at ASA-CSSA-SSSA Annual Meeting*, 10<sup>th</sup> – 13<sup>th</sup> November 2019. San Antonio, Texas, USA.
  9. Ines, A.V.M., Singh, M., Chilvers, M., Han, E., Kpodo, J., Jha, P.K., **Eeswaran, R.** and Fusilier, K., 2019. Development of a decision support model for the management of fungal ear rot and associated mycotoxin contamination in corn grain. *Poster presented at AGU Fall Meeting*, 09<sup>th</sup> – 13<sup>th</sup> December 2019. San Francisco, California, USA.
  10. **Eeswaran, R.** and Ines, A.V.M., 2018. Temporal Stability of Soil Moisture across Long Term Agricultural System Experiments. *Poster presented at LTER All Scientists Meeting*, 01<sup>st</sup> – 04<sup>th</sup> October 2018. Pacific Grove, California, USA.
  11. **Eeswaran, R.**, Ines, A.V.M., Han, E., Lyon, B., Baroang, K. and Rola, A., 2017. Modeling water management options for Lake Buhi in Bicol River basin of the Philippines under climate change scenarios. *Oral Presentation at ASA-CSSA-SSSA Annual Meeting*, 23<sup>rd</sup> – 25<sup>th</sup> October 2017. Tampa, Florida, USA.
  12. **Eeswaran, R.**, Schmidli, A., Walter, A. and Sangakkara, U.R., 2016. Near infra-red imaging to monitor the canopy growth in an annual intercropping system – A study from maize-mung bean intercropping in Sri Lanka. *Proceedings of the 23rd Annual Sessions of the Jaffna Science Association*. 04<sup>th</sup> – 06<sup>th</sup> May 2016, University of Jaffna, Sri Lanka. pp 9.
  13. **Eeswaran, R.**, De Costa, W.A.J.M., De Costa, D.M., Dandeniya, W.S., Suriyagoda, L.D.B., Sivakumar, S. and Arasakesary, S.J., 2015. Performance of a climate change-resilient agronomic package for chilli (*Capsicum annuum* L.) in comparison to the existing crop management in the Northern Province of Sri Lanka. *International Conference on Dry Zone Agriculture (ICDA 2015)*, 15<sup>th</sup> – 16<sup>th</sup> October 2015. Faculty of Agriculture, University of Jaffna, Sri Lanka. pp 32-33.
  14. **Eeswaran, R.**, Schmidli, A., Sangakkara, U.R. and Walter, A., 2014. Yield and productivity of open pollinated and hybrid maize under inter cropping with mung bean in the mid country intermediate zone of Sri Lanka. *Proceedings of the Wayamba International Conference (WinC 2014)*. 29<sup>th</sup> – 30<sup>th</sup> August 2014. pp 253.



15. **Eeswaran, R.**, De Costa, W.A.J.M., De Costa, D.M. and Dandeniya, W.S., 2014. Adaptive research to test climate change-resilient agronomic practices for the upland cropping systems in the Northern Province of Sri Lanka. *Proceedings of the HETC Symposium 2014*. Organized by Higher Education for the Twenty First Century (HETC) Project, Ministry of Higher Education, Sri Lanka. 07<sup>th</sup> – 08<sup>th</sup> July 2014. pp 92.
16. De Mel, V.N., **Eeswaran, R.** and Weerakkody, W.A.P., 2014. Improving shelf-life by shrink wrapping and controlled atmospheric storage of greenhouse vegetables; broccoli, cauliflower and iceberg lettuce. *International Peradeniya University Research Sessions (iPURSE 2014)*. 04<sup>th</sup> – 05<sup>th</sup> July 2014. pp 515.
17. **Eeswaran, R.**, Weerakoon, W.M.W. and Sangakkara, U.R., 2012. Physiological and yield responses of mung bean (*Vigna radiata* (L.) Wilczek) genotypes under irrigated and rainfed water regimes during minor rainy season (*Yala*) in the low country dry zone of Sri Lanka. *Peradeniya University Research Sessions (PURSE 2012)*. Vol 17:8. pp 8.
18. **Eeswaran, R.**, Raveendra, S.A.S.T. and Beneragama, C.K., 2012. Detecting the effect of methyl viologen on photosystem II of Euglena by O-J-I-P chlorophyll fluorescence transients. *Peradeniya University Research Sessions (PURSE 2012)*. Vol 17:235. pp 235.

### **6.5 Magazines/ Newsletters**

1. **Eeswaran, R.** and Bernstein, R., 2020. Data Science in Agriculture: Part I: Introduction. CSA News, Volume 65, Issue 6. <https://doi.org/10.1002/csan.20145>.
2. **Eeswaran, R.** and Bernstein, R., 2020. Data Science in Agriculture: Part II: Applications, Advancements, and Future Prospects. CSA News, Volume 65, Issue 7. <https://doi.org/10.1002/csan.20204>.

## **7. DISTINCTIONS, SCHOLARSHIPS, AWARDS AND FELLOWSHIPS**

- Dissertation Completion Fellowship awarded from the College of Agriculture and Natural Resources, Michigan State University, USA (Fall, 2020).
- Ecological Food & Farming Systems (EFFS) Travel Scholarship to attend the presentation at the ASA, CSSA, SSSA Annual Meeting, San Antonio, Texas, USA (Nov. 2019).
- Research Enhancement Award from MSU Graduate School and a Travel Award from MSU College of Agriculture and Natural Resources to attend First International Summer School on Statistical Analysis of Spatial Data in Agro-Environmental Research, Lake Como School of Advanced Studies, Como, Italy (Aug. 2019).
- George. H. Lauff Scholarship tuition award to enrol the course PLB 809 Sec 433: Enhancing Linkages between Math and Ecology (ELME) – Introduction to Meta-Analysis in Ecology from the W.K. Kellogg Biological Station, Michigan State University, USA (Summer, 2019).
- Graduate Office Fellowship awarded by the Crop and Soil Science Graduate Programs Committee at Michigan State University for the continued academic performance in the PhD program (Spring, 2019).
- Council of Graduate Students (COGS) grant to attend Writing Winning Grant Proposals Workshop at Michigan State University, USA (Jan. 3, 2019).
- NSF Travel award to attend and present to LTER All Scientists Meeting 2018 in Asilomar Conference Grounds, Pacific Grove, California, USA (October 1st - 4th 2018).
- NSF Travel Grant for the short course on Thermo-TDR Sensors, North Carolina State University, USA (Jun. 2018)

- KBS-LTER/NSF/MSU Summer Research Fellowship, W.K. Kellogg Biological Station, Michigan State University, USA (May-Aug. 2018)
- Outstanding international student gold medal and honor membership, Phi Beta Delta – Alpha Alpha Chapter, Michigan State University, USA (Mar. 13, 2018)
- C.S.Mott Predoctoral Fellowship in Sustainable Agriculture, Michigan State University, USA (2017-2019)
- Ecological Food & Farming Systems (EFFS) Travel Scholarship for an Oral presentation at the ASA, CSSA, SSSA Annual Meeting, Tampa, Florida, USA (Nov. 2017)
- Fellowship for the Training on Climate change downscaling approaches and applications (CCDAA), UNU-IAS, Tokyo, Japan (Mar. 2015).
- HETC/QIG/Window3/PGIA Scholarship from the World Bank through the Ministry of Higher Education, Sri Lanka, Postgraduate Institute of Agriculture, University of Peradeniya, Sri Lanka (2013-2015).
- Best presenter, Final year research sessions, Department of Crop Science, Faculty of Agriculture, University of Peradeniya, Sri Lanka (2012).
- Mahapola Higher Education Undergraduate Scholarship-Merit Basis from Mahapola Higher Education Scholarship Trust Fund, Ministry of Higher Education, Sri Lanka (2008-2012).

## **8. TEACHING EXPERIENCE**

- Followed an Induction Training for University Academics, Staff Development Center, University of Jaffna, Sri Lanka (2022-2023).
- Graduate Student Evaluator (*Oral Session: Agriculture and Animal Sciences*) for the University Undergraduate Research and Art Forum (UURAF), Michigan State University, USA (Apr. 5, 2019).
- Evaluator for the undergraduate poster session at the LTER All Scientists Meeting, Pacific Grove, California, USA (Oct. 02, 2018).
- Teaching Assistant for BE 481: Water Resources Systems Analysis and Modeling, Department of Biosystems and Agricultural Engineering, Michigan State University, USA (Fall, 2018).
- Completed Technology Orientation for Teaching, MSU IT & The Academic Advancement Network, Michigan State University, USA (Aug. 22, 2018).
- Completed Teaching Assistant Institute, The Graduate School, Michigan State University, USA (Aug. 17, 2018).
- Completed International Teaching Assistant Orientation, The Graduate School, Michigan State University, USA (Aug. 17-18, 2018).
- Completed Quick Start for Teaching and Learning, The Academic Advancement Network & the Graduate School, Michigan State University, USA (Aug. 16, 2018).
- Graduate Student Evaluator (*Session: Biosystems and Agricultural Engineering*) for the mid-Michigan Symposium for the Undergraduate Research Experiences (Mid-SURE), Michigan State University, USA (Jul. 24, 2018).
- Graduate Student Evaluator (*Poster Session: Agriculture and Animal Sciences*) for the University Undergraduate Research and Art Forum (UURAF), Michigan State University (Apr. 13, 2018).
- Completed ISE 870: Teaching College Science (2 credit course) – Michigan State University, USA (Spring, 2018).

- Completed MSU College Teaching Institute, The Graduate School, Michigan State University, USA (May. 11-12, 2017).
- Teaching Assistant in Crop Science and Biostatistics, Department of Crop Science, University of Peradeniya, Sri Lanka (2012-2013).

## **9. RESEARCH SUPERVISION**

### **9.1 Undergraduate degree (B.Sc. in Agriculture, Eastern University, Sri Lanka)**

1. Miss. D. R. M. K. Madhushika Dasanayaka (2022); Thesis title: Evaluating the impacts of COVID – 19 pandemic on production of other field crops in Sri Lanka.
2. Miss. D. L. Dushani Chanika Jayathilini (2022); Thesis title: Reviewing the performances of cropping systems in response to different soil amendments in sandy soils
3. Miss. N. M. U. G. Hansika Madushani Nawarathne (2022); Thesis title: Using national statistics to assess the impacts of COVID-19 pandemic on the vegetable crop production in Sri Lanka

## **10. OUTREACH ACTIVITIES**

### **10.1 Resource person for Training/ Workshop**

- Training on “Agricultural Crop Planning Based on the Consumer Demand Curves” for the Agricultural Instructors of the Northern Provincial Department of Agriculture at the District Agriculture Training Centre at Thirunelvely, Jaffna on 12<sup>th</sup> January 2023 – organized by Hector Kobbekadduwa Agrarian Research and Training Institute (HARTI), Provincial Department of Agriculture (Northern Province) and Food and Agriculture Organization of the United Nations (FAO).
- Training on “Climate Resilient Agriculture” for the Agricultural Instructors of the Northern Provincial Department of Agriculture at the District Agriculture Training Centre at Vaddakachchi, Kilinochchi on 27<sup>th</sup> January 2023 – organized by Hector Kobbekadduwa Agrarian Research and Training Institute (HARTI), Provincial Department of Agriculture (Northern Province) and Food and Agriculture Organization of the United Nations (FAO).

### **10.2 Invited Talks**

- Current and Future Challenges and Opportunities for Livestock Farming in West Africa: Case Study of Senegal, USAID project on Digital Geospatial Farming Systems Tools Consortium, Feed the Future Innovation Lab, Kansas State University, USA (Aug. 2021). Available at <https://www.youtube.com/watch?v=TIUnxNabR2A>

## **11. PEER REVIEW SERVICES, AFFILIATIONS AND VOLUNTEERING**

- Reviewer for the following indexed international journals
  - Agronomy for Sustainable Development (Springer)
  - Crop Science (Wiley)
  - Journal of Environmental Management (Elsevier)
  - Soil and Tillage Research (Elsevier)

- Water Resources Management (Springer)
- Plos One
- Agronomy (MDPI)
- Agriculture (MDPI)
- Horticulturae (MDPI)
- Remote Sensing (MDPI)
- Applied Science (MDPI)
- Journal of Hydrologic Engineering (American Society of Civil Engineers-ASCE)
- Reviewer for the following local journals
  - Journal of Dry Zone Agriculture (JDZA), University of Jaffna, Sri Lanka
  - Vingnanam Journal of Science, University of Jaffna, Sri Lanka
- Reviewer for the papers submitted to the following conferences
  - 6<sup>th</sup> National Symposium on Agriculture (NSA-2024), Eastern University, Sri Lanka
  - International Conference on Dry Zone Agriculture – ICDA 2022, University of Jaffna, Sri Lanka
  - International Research Conference of Uwa Wellessa University (IRCUWU 2022), Uwa Wellessa University of Sri Lanka, Badulla, Sri Lanka
  - 5<sup>th</sup> National Symposium on Agriculture (NSA-2022), Eastern University, Sri Lanka
  - SLIIT International Conference on Advancements in Sciences and Humanities (SICASH-2021), Sri Lanka Institute of Information Technology, Colombo, Sri Lanka
  - International Conference on Dry Zone Agriculture – ICDA 2021, University of Jaffna, Sri Lanka
  - Second National Symposium on Agro Technology and Rural Sciences - NSATRS 2021, University of Colombo Institute for Agro-technology and Rural Sciences (UCIARS), Weligatha, Hambantota, Sri Lanka
  - National Conference on Undergraduate Research (NCUR) 2021, Council on Undergraduate Research (CUR), Washington, DC, USA.
- Graduate Student Board Representative – Crop Science Society of America (CSSA), Madison, WI, United States (2019-2021)
- Delivering technical expertise to the Northern Provincial Department of Agriculture, Sri Lanka on climate risk management in agriculture
- Association for Crop and Soil (ACRS)'s Representative to the Council of Graduate Students (COGS), Michigan State University, USA (2019 – 2020)
- Vice President – Sri Lankan Student Association (SLSA), Michigan State University, USA (2017-2019)
- Member of the program committee and moderator of an oral session – Plant Science Graduate Student Research Symposium (PSGSRS) 2018, Michigan State University, USA

## **12. POSITIONS HELD**

- Chairperson, Section B (Applied Sciences), The Jaffna Science Association (JSA), Sri Lanka.
- Chairperson, Student Mentoring Committee, Faculty of Agriculture, University of Jaffna, Sri Lanka (March, 2023 – March, 2024)
- Student Counsellor, Faculty of Agriculture, University of Jaffna, Sri Lanka (March, 2023 – March, 2024)
- Member, University Ranking Enhancement Committee (UREC), Faculty of Agriculture, University of Jaffna, Sri Lanka (August, 2022 – March, 2024)
- Coordinator, Internal Quality Assurance Cell (IQAC), Faculty of Agriculture, University of Jaffna, Sri Lanka (August, 2022 – March, 2024)

- Coordinator, Industrial Training, Faculty of Agriculture, University of Jaffna, Sri Lanka (August, 2022 – March, 2024)
- Student Counsellor, Faculty of Agriculture, Eastern University, Sri Lanka (January – June, 2022)
- Editor, Faculty Newsletter 2021, Faculty of Agriculture, Eastern University, Sri Lanka (2021)
- Committee member of conducting the proposal presentation for final year students (Academic Year 2015/2016), Faculty of Agriculture, Eastern University, Sri Lanka (July 2021)
- Coordinator for the orientation program for new batch of students (Academic Year 2019/2020), Faculty of Agriculture, Eastern University, Sri Lanka (July 2021)

### **13. PROFESSIONAL MEMBERSHIPS**

- American Society of Agronomy (ASA), Madison, WI, United States
- European Geosciences Union (EGU), Munich, Germany
- Phi Beta Delta – Alpha Alpha Chapter, Michigan State University, East Lansing, MI, United States
- Young Scientists Forum (YSF) of the National Science and Technology Commission (NASTEC), Sri Lanka.
- Alumni Association of University of Peradeniya (AAUP), Peradeniya, Sri Lanka
- The Jaffna Science Association (JSA), Jaffna, Sri Lanka

### **14. REFERENCES**

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I certify that the information provided herein is true and accurate to the best of my knowledge.

Eeswaran Rasu, PhD.

15 March 2024